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# City of El Segundo

## GENERAL PLAN

## DRAFT ENVIRONMENTAL IMPACT REPORT

VOLUME ONE

SCH# 91041092

SECTIONS 1-4.7
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(1)

EIP ASSOCIATE

DECEMBER199

# *City of El Segundo*

## GENERAL PLAN

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EIP ASSOCIATES

DECEMBER 1991

# *City of El Segundo*

## GENERAL PLAN

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VOLUME ONE

SCH# 91041092

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DECEMBER 1991

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# 1. INTRODUCTION

# 1. INTRODUCTION

## GENERAL PLAN HISTORY AND UPDATE PROCESS

The General Plan has been described as the "Constitution" for a city's development: the foundation upon which all development decisions are to be based. The general plan is a statement of the community's vision of its long-term or ultimate physical form. Each city and county in California is required by State law to have a General Plan. It contains goals for a city's development and implementation measures to move the city towards achievement of those goals. A general plan is a guide to decision making. A city's ordinances and regulations adopted to guide private and public development must be consistent with and implement the General Plan.

A General Plan is required by State law to discuss seven topics, usually referred to as Elements of the General Plan: Land Use, Circulation, Housing, Conservation, Open Space, Noise and Safety. The El Segundo 1991 General Plan has incorporated these seven mandatory topics and has added two additional topics: Air Quality and Economic Development, for a total of nine General Plan Elements.

El Segundo's first General Plan was adopted in 1975, mainly as a response to the adoption of the California General Plan consistency requirements of 1971. The consistency requirements increased the importance of planning by requiring zoning and subdivision approvals to be consistent with the General Plan. Both the Housing and Circulation Elements of the 1975 General Plan were amended in 1984. The issues facing the City in the past and for the foreseeable future reflect the increased involvement and necessity of planning for accommodating growth.

In August of 1986, the El Segundo City Council adopted a 17-member Citizens Advisory Committee to assist the City in preparation of a General Plan update and revision. The adoption of this committee marked the beginning of the update program. The committee identified issues and goals, objectives and policies to be contained in the final document. Furthermore, the Development Services Department created a detailed background report which documents all available data and focuses attention on significant trends and problem areas that needed to be addressed in the update program. The background report functioned as the primary source of information and data about the City of El Segundo and the surrounding region.[1]

Through implementation and update of the General Plan, the City is attempting to enhance revenue sources while alleviating the negative impacts of growth and development.

## ENVIRONMENTAL REVIEW AND THE STRUCTURE OF THE EIR

The California Environmental Quality Act (CEQA) defines the adoption or amendment of a General Plan as a project that requires environmental review. As a result of such review, if any aspect of the proposed General Plan can be defined as having, either individually or cumulatively, significant impacts on the environment, then an Environmental Impact Report (EIR) must be prepared. EIR's for General Plans may be prepared as separate documents or as an integral part of the General Plan. The City of El Segundo has chosen to prepare a separate EIR. In such cases, the State Guidelines for General Plan preparation states that the EIR should contain a summary of the major policies and objectives. A summary of the proposed actions is contained in the Project Description section. The CEQA Guidelines recognize that an EIR on a General Plan will not be as specific as an EIR on a development proposal. Section 15146(a) of the CEQA guidelines states: "The degree of specificity required in the EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR."

Therefore, this EIR for the El Segundo 1991 General Plan acts as a "program" EIR, that is, an EIR that summarizes the effects of the series of actions that the City will need to undertake to implement the General Plan. These actions are characterized by a uniform geographical and regulatory context as required by CEQA Guidelines Section 15168. However, it must be emphasized that separate, specific environmental reviews will be required for specific future private or public development projects which would implement this General Plan. A new EIR, Supplemental EIR, Addendum or Negative Declaration may be required depending on the results of the initial assessment prepared for any specific project.

This EIR has been prepared in conformance with CEQA and the CEQA Guidelines. Each evaluation of a potential impact category begins with a Setting section that defines the environmental context for that area. Impacts that can be foreseen under the new policies of the General Plan and the growth related to those policies are evaluated. Additionally, the EIR will be analyzing impacts that would occur under an "Alternative Land Use Plan", which assumes a higher floor area ratio (FAR) for the Urban Mixed Use designation than allowed under the proposed General Plan. For the purposes of this EIR, the El Segundo 1991 General Plan will be referred to as the "Preferred Plan", and the higher FAR alternative as the "Alternative Plan". Policy implications for both Plans are the same. As a result, discussion of the "Alternative Plan and it's impacts focus on resultant increases in population and development. Mitigation measures for both alternatives are then listed in the form of actions, policy recommendations or additional studies that should be required.

The main focus of the EIR is on the land use aspects of the El Segundo 1991 General Plan which will be the primary source and main reference point of environmental impacts. To a large extent, the General Plan actions and implementing activities are intended to be self-mitigating; that is, many of the policies in other elements are designed to alleviate environmental impacts anticipated with the projected growth allowed in the Land Use Element. As result, many of the mitigation measures in this EIR are drawn from the policies and implementation programs of the General Plan itself. Additional mitigation is also

included, in some instances, to address those impacts not sufficiently addressed by the proposed policies and implementation actions. These measures will be considered by the City for potential incorporation into the General Plan.

## MITIGATION MONITORING

The California Environmental Quality Act, with the changes as incorporated by Assembly Bill 3180 (effective January 1, 1989) requires that for each significant environmental impact identified in an Environmental Impact Report, one or more measures mitigating that impact be identified in the document. When the EIR on the General Plan is certified by the City Council, the findings and Statement of Overriding Considerations would list the mitigation measures to be implemented as a part of the General Plan adoption process. The City of El Segundo as a "Lead Agency" will adopt a "reporting or monitoring program" to ensure that the mitigation measures proposed in this EIR are carried out. The mitigation measures proposed in Chapter 4 of this document will form the basis of the City's Mitigation Monitoring Program.

## ENDNOTES

1. Lightfoot Planning Group, Draft General Plan, October 18, 1991

# 2. PROJECT DESCRIPTION

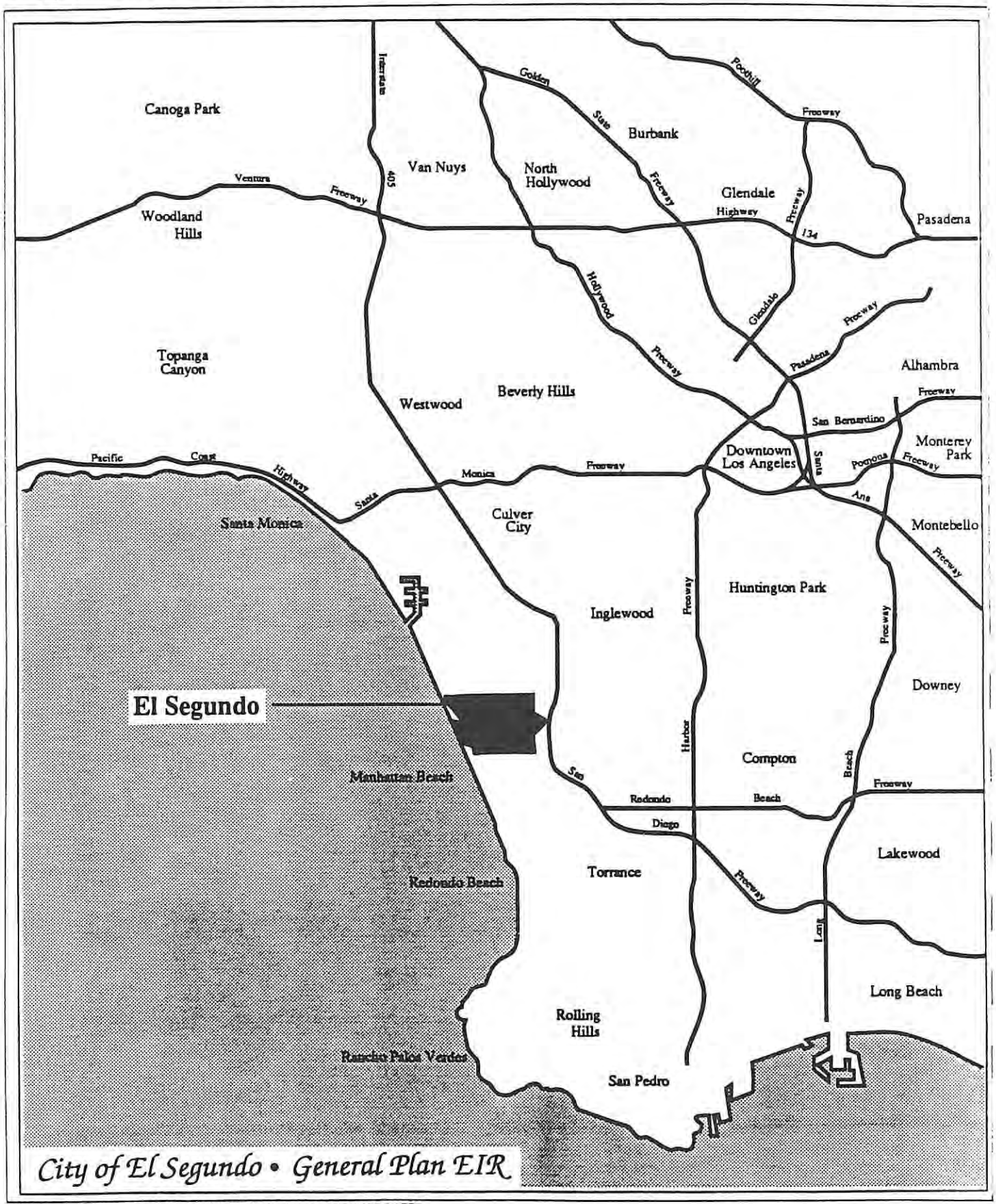
# 2. PROJECT DESCRIPTION

## PROJECT LOCATION

The City of El Segundo encompasses 5.46 square miles (3,494.4 acres) in the urbanized South Bay area of Los Angeles County (see Figure 2-1). The Los Angeles International Airport (LAX) is adjacent to the City on the north, the City of Manhattan Beach is located directly to the south, and the Pacific Ocean and portions of the City of the Los Angeles are located adjacent to the City on the west. A 0.8 acre area of the City, privately owned by Chevron, also defines the City's western edge. Both the City of Los Angeles Hyperion Wastewater Treatment Plant and the Department of Water and Power Scattergood Generating Station are located within the area to the west of the City. Hawthorne and unincorporated areas of Los Angeles County border El Segundo to the east. Regional access to the City is currently via the San Diego Freeway (405) which runs north/south and is located just east of the City limits. The Century Freeway (I-105) currently under construction, is anticipated to open by 1993, and will provide access from Norwalk, Downey, and other cities to the east. The location and boundaries of the City of El Segundo are shown in Figure 2-2).

# Regional Location Map

# Figure 2-1




SOURCE: AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA/EIP ASSOCIATES

No Scale

90345

eip

# Vicinity Map

**Figure 2-2**




*City of El Segundo • General Plan EIR*

SOURCE: USGS

90345

No Scale

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# PROJECT DESCRIPTION

Although there are hundreds of policies and programs contained within the El Segundo 1991 General Plan, the foundation of the plan is set out in 49 specific goals established for each of the major subject areas contained in the General Plan. This section summarizes the goals, objectives and policies of the elements of the El Segundo 1991 General Plan.

The El Segundo 1991 General Plan contains nine major subject chapters or elements. Issues for each of the Elements are identified and discussed in a set of Existing Conditions Reports, that serve as appendices to the General Plan. Each Element summarizes these planning issues and contains a set of goals and objectives intended to address and resolve the issues. These elements are further augmented with specific policies and implementation actions.

The following description summarizes the goals of each General Plan Element. Implicit in these goals are objectives, policies, and implementation programs which are discussed in detail in the individual environmental issue sections. Impacts of the specific policy implementation actions are discussed in the Impacts and Mitigation Measures sections of this EIR.

## SUMMARY OF EL SEGUNDO 1991 GENERAL PLAN GOALS

### Land Use Goals

The Land Use Element, in combination with the General Plan Land Use Map, provides the opportunity to set forth the community's desired balance among residential, commercial, industrial, public facility and open space uses; the community's framework for planning urban infrastructure; and the legal basis for development regulations and procedures, such as those found in zoning and subdivision ordinances. The land uses designated in the Land Use Element are intended for the approximate eighteen year life span of the General Plan and for the years beyond 2010 subject to changes in the General Plan over time. The Land Use Element establishes the long-range configuration of El Segundo in terms of its urbanized areas and open space. The various land use classifications are detailed in Section 4.4, Land Use.

The key issues identified in the Land Use Element Existing Conditions Report include the encouragement of planning and development that preserves the "small town" feel that contributes to El Segundo's desirability as a place to live, investigation of trends toward the reduction of manufacturing and heavy industrial uses, the increase in commercial and professional uses, the limited availability of land and the potential for commercial uses that serve the daytime population; the revision of land use areas to more effectively address current trends. The goals in the Land Use Element include the following.

Goal LU-1 Maintain El Segundo's "Small Town" atmosphere and provide an attractive place to live and work.

Goal LU-2 Preserve and enhance the City's cultural heritage and buildings or sites that are of cultural, historical, or architectural importance.

Goal LU-3 Promote the health, safety, and well-being of the people of El Segundo by adopting standards for the proper balance, relationship and distribution of the residential land uses.

Goal LU-4 Promote a stable tax base for the City through development of new commercial uses, primarily within a mixed use environment without adversely affecting the viability of downtown.

Goal LU-5 Retain and attract clean and environmentally safe industrial uses that help provide a stable tax base and create a minimum negative impact on the City.

Goal LU-6 Maintain and upgrade the existing excellent parks, recreation and open space facilities within the City of El Segundo.

Goal LU-7 Provide the highest quality public facilities, services, and public infrastructure possible to the community.

As implementation of the El Segundo 1991 General Plan proceeds, many of these policies will create clear physical and environmental changes in the City, the effects of which are discussed in detail in Chapter 4, Environmental Setting, Impacts and Mitigation Measures.

**Economic Development Goals**

The Economic Development Element provides the City's policy for encouragement of the economic health of the commercial and industrial uses in the City. The Element focuses on expanding and maintaining the City's economic base and enhancing the City's business climate. The goals listed below are designed to maximize the City's economic development potential.

Goal ED-1 Create a strong, healthy economic community in which all diverse stakeholders may benefit.

Goal ED-2 To provide a supportive and economically profitable environment as the foundation of a strong local business community.

Goal ED-3 To preserve and improve the business environment and image of Downtown El Segundo.

### Circulation

The policies and programs in the Circulation Element are intended to assist the City in providing a safe, convenient and efficient circulation system. The Element identifies physical improvements that will be needed to attain the Circulation Goals and Objectives, as well as alternative techniques to improve the City's circulation system.

The goals of the Element are stated as follows:

Goal C-1 Provide a safe, convenient, and cost-effective circulation system to serve the present and future needs of the El Segundo community.

Goal C-2 Provide a circulation system that incorporates alternatives to the single-occupant vehicle, to create a balance among travel modes based on travel needs, costs, social values, user acceptance and air quality considerations.

Goal C-3 Develop a balanced General Plan, coordinating the Circulation Element with all other Elements, ensuring that the City's decision making and planning activities are consistent among all City departments.

Goal C-4 Ensure that the City of El Segundo remains in compliance with all Federal, State and Regional regulations, remains consistent with the plans of neighboring jurisdictions and thus remains eligible for all potential transportation improvement programs.

### Housing Goals

The Housing Element provides the data and policies that are intended to assist El Segundo in reaching the goal of decent and safe housing for all of its citizens. Housing production and affordability are affected by many factors, including federal and state public policies (e.g., housing, monetary, and tax policies), the health of the national and regional economy, and the regional distribution of income. While many of these factors fall outside the control of the City of El Segundo, local government's police powers enable the City to author a variety of development policies which address housing supply and quality, affordability problems, and the needs of all residents through its housing programs and land use regulations.

Issues identified in the Jobs/Housing Balance Background Report focus on achieving a better balance of jobs and housing in the City by investigating land use measures that could promote housing growth. Measures to be considered include down-zone of commercial and industrial areas; promoting higher density residential zones by encouraging accessory units, granny flats and unit splits; streamlining review and approvals for residential development/redevelopment; allowing mixed use with a residential component; and converting commercial/industrial uses to residential.

Specific goals include:

Goal H-1 All El Segundo housing opportunities (ownership and rental, fair market and assisted) will be in conformance with open housing policies and free of discriminating practices.

Goal H-2 New housing will be developed with a diversity of types, prices, tenures, densities, and locations and in sufficient quantity to meet the demand of anticipated City growth.

Goal H-3 Preserve and protect the existing housing stock with special attention to housing located in the City's older neighborhoods.

Goal H-4 Create new and redeveloped housing which conserves natural resources, in particular, energy and water.

Goal H-5 Provide sufficient new, affordable housing opportunities in the City to meet the needs of groups with special requirements, and, in particular, the needs of current military, lower and moderate income households.

**Open Space and Recreation Goal**

The Open Space and Recreation Element provides policy guidance for conserving the City's major open space and recreational resources. The community has a common belief that these resources need to be protected and, wherever feasible, created for recreation, beautification and maintenance of the quality of life of the community.

The goal of the Open Space and Recreation Element is stated as follows:

Goal OS-1 Provide and maintain high quality open space and recreational facilities that meet the needs of the existing and future residents and employees within the City of El Segundo.

## Conservation Goals

The Conservation Element is concerned with a range of environmental issues including coastal resources, water resources, biotic resources, and mineral resources. The following goals reflect the community's needs and values and are intended to guide efforts for the conservation, development, and utilization of the City's natural and manmade resources.

Goal CN-1 Ensure long term public access to a safe, clean beach environment within and adjacent to the City.

Goal CN-2 Assist in the maintenance of a safe and sufficient water supply and distribution system that provides for all of the water needs within the community.

Goal CN-3 Protect groundwater and coastal waters from contamination.

Goal CN-4 Protect the rare and endangered El Segundo Blue Butterfly.

Goal CN-5 Develop programs to protect, enhance, and increase the amount and quality of the urban landscape to maximize aesthetic and environmental benefits.

## Air Quality Goals

The Air Quality Element is intended to address the problems of unacceptable air pollution levels, reduce the health and economic impacts of air pollution, comply with air quality requirements for the South Coast Air Basin, and increase awareness of local community and governmental responsibility for air quality. Goals include the following:

Goal AQ-1 Person work trip reduction for private employees.

Goal AQ-2 Person work trip reduction for local government employees.

Goal AQ-3 Vehicle work trip reduction for private employees.

Goal AQ-4 Reduce motorized transportation.

Goal AQ-5 Vehicle work and non-work trip reduction.

Goal AQ-6 Reduction in peak-period truck travel and number and severity of truck-involved accidents.

Goal AQ-7 Reduce vehicle emissions through traffic flow improvements.

Goal AQ-8 Reduction in tailpipe emissions from local government vehicle fleets.

Goal AQ-9 Reduction in length of vehicle trips.

Goal AQ-10 Reduction in particulate emissions from paved and unpaved roads, parking lots, and road and building construction.

Goal AQ-11 Reduce emissions associated with government energy consumption.

Goal AQ-12 Reduction in residential and commercial energy consumption.

Goal AQ-13 Increase recycling of solid waste and use of recycled materials by glass and paper manufacturers.

Goal AQ-14 Prevent exposure of people, animals, and other living organisms to toxic air pollutants.

Goal AQ-15 Prevent exposure of people, animals and other living organisms to unhealthful levels of air pollutants.

**Noise Goal**

The Noise Element is concerned with minimizing the exposure of community residents to existing and foreseeable noise impacts. Noise problems identified and appraised in the Element focus on noise from mobile sources, such as automobiles and aircraft, stationary sources such as industrial uses and construction equipment, and approaches to noise abatement that would reduce exposure of residents to excessive noise levels. The goal of the Element is stated as follows:

Goal N-1 An environment within all parts of the City of El Segundo where the public's health, safety, and welfare is not adversely affected by excessive noise.

**Public Safety Goals**

The Public Safety Element is intended to reduce existing and potential hazards and nuisances and increase the range of services relating to safety and health. The issues addressed in the Element focus on geology and seismicity, flooding, fire, petroleum storage, and hazardous materials. Goals include the following:

Goal PS-1 Protect the health and safety and minimize the social and economic impacts associated with geologic hazards.

Goal PS-2 Minimize injury and loss of life, property damage, and social, cultural and economic impacts caused by earthquake hazards.

Goal PS-3 Reduce threats to public health and safety from hazardous materials, especially threats induced by earthquakes and accidental leaks and spills.

Goal PS-4 Protect public health, safety, and welfare from natural and man-made flood and inundation hazards. Minimize injury, loss of life, property damage and economic and social disruption caused by flood and inundation hazards.

Goal PS-5 A fire safe community.

Goal PS-6 Protect public health, safety, and welfare from natural and man-made hazards such as: earthquakes, fire, flood, and hazardous materials. Minimize the amount of loss of life, injury, property damage and disruption of vital services resulting from earthquakes, hazardous material incidents and other natural and man-made disasters.

The stated goals and their objectives and policies are evaluated in the following sections. The impacts and mitigation measures stemming from these goals, objectives and policies, and the potential for growth under the El Segundo 1991 General Plan are also evaluated in the Impact and Mitigation Measures sections, respectively.

# 3. SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

# 3. SUMMARY

## SUMMARY OF PROPOSED ACTION

This EIR evaluates the environmental impacts of the proposed City of El Segundo 1991 General Plan. The proposed General Plan provides the long-term goals and policies necessary to guide growth and development in the City for the upcoming 15-20 years. There are seven mandatory Elements, and two optional Elements in the proposed General Plan. Each of the Elements identifies goals, and sets objectives, policies, and implementation actions to move the City toward achieving those goals. The main focus of the EIR analysis is on the land use aspects of the General Plan which will be the primary reference point of the environmental impacts. For the most part, the General Plan policies and implementation actions are intended to be self-mitigating, and are designed to alleviate impacts anticipated with the growth projected in the Land Use Element. However, in some instances additional mitigation is provided to address those impacts not sufficiently addressed by the proposed policies and implementation actions.

## SUMMARY OF IMPACTS

This summary provides an overview of the analysis contained in Chapter 4, Environmental Setting, Impacts and Mitigation Measures. This summary includes discussions of: a) significant impacts; b) mitigation measures to avoid or reduce identified significant effects; c) unavoidable significant impacts; d) alternatives to the proposed project.

### a) Significant Impacts

Under CEQA, a significant effect on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. Adoption of the proposed General Plan and implementation of it's policies has the potential to generate environmental impacts in several areas. Impacts in the following areas would be significant without the implementation of mitigation measures: however, they would be reduced to a less-than-significant level if the mitigation measures noted in this report are adopted: geology, hydrology, traffic, land use, noise, air, population, housing and employment, public safety, visual quality and aesthetics, public services and utilities, and cultural resources.

**b) Mitigation Measures to Avoid or Significantly Reduce Identified Significant Impacts**

The EIR discusses mitigation measures that would be implemented by the City. Generally, these include implementation of the proposed General Plan policies, adoption of additional policies, and/or adopting more specific measures not mitigated by the General Plan. The mitigation measures presented in this EIR will form the basis of the Mitigation Monitoring Program.

**c) Unavoidable Significant Impacts**

Impacts in the following areas would be significant and unavoidable: transportation and circulation (impacts at intersections and along roadway segments), noise (increases in ambient noise levels), geology (increased exposure to seismic hazards), and air (increases in criteria pollutants).

**d) Alternatives to the Proposed El Segundo 1991 General Plan**

The alternatives to the proposed El Segundo 1991 General Plan that are analyzed in this Draft EIR include:

1. Alternative Land Use Plan. This alternative is analyzed in the main sections of the EIR following the discussion of the proposed General Plan or "Preferred Plan". This alternative assumes that the Urban Mixed Use designation would increase from a floor area ratio (FAR) of 0.9 under the Preferred Plan to a FAR of 1.5. This results in a difference of 8.2 million square feet of floor area. Residential land use does not differ from that proposed for the Preferred Plan.

2. Existing Trends. Assumes that growth would continue to follow existing trends. This alternative allows six million square feet of development above that allowed under the Preferred Plan. This amount accounts for permitting nonconforming development to remain, although new development would conform to the Preferred Plan.

3. No Project (No Growth). This alternative assumes that no new development would occur in the City. Impacts would solely be based upon existing environmental influences that exist in the City or that are created outside of the City (such as traffic generation).

## SUMMARY TABLE

Information in the following Table, 3-1, Summary of Environmental Impacts, has been organized to correspond with environmental issues discussed in Chapter 4. The Summary Table is arranged in four columns: 1)environmental impacts; 2)potential level of significance without mitigation; 3)recommended mitigation measures; and 4) the level of significance after implementation of mitigation measures. A series of mitigation measures are noted where more than one mitigation measure may be required to reduce the impact to a less-than-significant level.

**TABLE 3-1**

**SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| **4.1 Geology, Seismicity and Soils** | | | | | |
| 4.1-1 | **New development in the City would involve grading activities that may alter natural topography resulting in excess cut or fill material. This is a potentially *significant impact.*** | PS | 4.1-1 | *Implementation of the Public Safety policies related to geo-seismic hazards would reduce this impact to a less-than-significant level.* | LS |
| 4.1-2 | **Preferred Plan Impact 4.1-1 applies to the Alternative Plan.** | PS | 4.1-2 | *Preferred Plan Mitigation Measure 4.1-1 applies to the Alternative Plan.* | LS |
| 4.1-3 | **Grading in areas primarily east of Sepulveda with shallow groundwater levels could cause grading, drainage, and slope stability problems.** | S | 4.1-3 | *Implementation of the proposed Public Safety policies related to geo-seismic hazards would reduce this impact to a less-than-significant level.* | LS |
| 4.1-4 | **Preferred Plan Impact 4.1-3 applies to the Alternative Plan.** | S | 4.1-4 | *Preferred Plan Mitigation Measure 4.1-3 applies to the Alternative Plan.* | LS |
| 4.1-5 | **New development may create or increase slope instability and related hazards. This is a *significant impact.*** | S | 4.1-5. | *Implementation of the proposed Public Safety policies related to geologic hazards would reduce this impact to a less-than-significant level.* | LS |
| 4.1-6 | **Preferred Plan Impact 4.1-5 applies to the Alternative Plan.** | S | 4.1-6 | *Preferred Plan Mitigation Measure 4.1-5 applies to the Alternative Plan.* | LS |

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TABLE 3-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| 4.1-7 | **Construction activities would expose soil to erosion; dust would be generated during demolition, clearing, hauling, earthmoving, and grading. This is a *Significant Impact.*** | S | 4.1-7 | *Implementation of the proposed Public Safety policies related to geo-seismic hazards would reduce this impact to a less-than-significant level.* | LS |
| 4.1-8 | **Preferred Plan Impact 4.1-7 applies to the Alternative Plan.** | S | 4.1-8 | *Preferred Plan Mitigation Measure 4.1-7 applies to the Alternative Plan.* | LS |
| 4.1-9 | **Soils or bedrock with expansive or non-cohesive properties could damage building foundations and slabs. This is a *significant impact.*** | S | 4.1-9 | *Implementation of proposed Public Safety policies PS11.1 AND PS11.2 would reduce this impact to a less-than-significant level.* | LS |
| 4.1-10 | **Preferred Plan Impact 4.1-9 applies to the Alternative Plan.** | S | 4.1-10 | *Preferred Plan Mitigation Measure 4.1-9 applies to the Alternative Plan.* | LS |
| 4.1-11 | **Development in the City could result in the loss, or partial loss, of access to mineral resources, particularly petroleum resources. This is a *less-than-significant impact.*** | LS | 4.1-11 | *None required.* | LS |
| 4.1-12 | **Preferred Plan Impact 4.1-11 applies to the Alternative Plan.** | LS | 4.1-12 | *Preferred Plan Mitigation Measure 4.1-11 applies to the Alternative Plan.* | LS |
| 4.1-13 | **Construction of projects in zones of high seismic risk could result in structural damage from groundshaking, exposing** | SU | *4.1-13* | *Implementation of the proposed Public Safety policies related to geo-seismic hazards would reduce the potential for impacts; however,* | SU |

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TABLE 3-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| | **additional people to hazard from earthquakes. Implementation of the General Plan would expose additional people to hazard from earthquakes. This is a *significant unavoidable impact.*** | | | *impacts from seismic events remains significant and unavoidable.* | |
| 4.1-14 | **The higher allowed FAR under the Alternative Plan would increase risks associated with seismic structural damage and liquefaction, thus exposing greater numbers of people to hazard. This is a *significant unavoidable impact.*** | SU | 4.1-14 | *Preferred Plan Mitigation Measure 4.1-13 applies to the Alternative Plan.* | SU |
| **4.2 Hydrology and Water Quality** | | | | | |
| 4.2-1 | **Implementation of the proposed General Plan would result in changes to the amount of surface flow generated. This is a *less-than-significant impact.*** | LS | 4.2-1 | *Implement Conservation Element Policies CN2.11 and CN 5.8 and coordinate with the Los Angeles County Flood Control District and Caltrans to ensure that drainage needs are assessed on an on-going basis.* | LS |
| 4.2-2 | **Preferred Plan Impact 4.2-1 applies to the Alternative Land Use Plan.** | LS | 4.2-2 | *Preferred Plan Mitigation Measure 4.2-1 applies to the Alternative Plan.* | LS |
| 4.2-3 | **Development occurring under the proposed General Plan would potentially result in** | PS | 4.2-3 | *An erosion and sedimentation control plan shall be submitted to the City of El Segundo* | LS |

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TABLE 3-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| | **increased erosion from construction activities and increased site runoff. This is a *potentially significant impact.*** | | | *by the project proponent prior to grading. This plan may include, but not be limited to, the following erosion control methods:*<br><br>*i. During construction, soil on graded slopes shall be revegetated as soon as possible following disruption.*<br><br>*ii. Use of interceptor ditches or drainage swales to intercept storm runoff from transporting sediment into stormwater drainage and to prevent sediment-laden runoff from leaving the disturbed area.*<br><br>*iii. Silt fences shall be constructed to prevent sheet flow across the adjacent slopes and down slope into stormwater drainages.*<br><br>*These and further measures shall be implemented by the contractor prior to mass grading and other soil disturbing construction activities onsite.* | |
| 4.2-4 | **Preferred Plan Impact 4.2-3 applies to the Alternative Land Use Plan.** | PS | 4.2-4 | *Preferred Plan Mitigation Measure 4.2-3 applies to the Alternative Plan.* | LS |
| 4.2-5 | **Development occurring under the Preferred General Plan may require permitting from** | LS | 4.2-5 | *None required.* | LS |

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TABLE 3-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

| | Impact | Level of Significance Without Mitigation | Mitigation Measures | | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| | **the Regional Water Quality Control Board. This is a *less-than-significant impact.*** | | | | |
| 4.2-6 | **Preferred Plan Impact 4.2-5 applies to the Alternative Land Use Plan.** | LS | 4.2-6 | *Preferred Plan Mitigation Measure 4.2-5 applies to the Alternative Plan.* | LS |
| 4.2-7 | **Groundwater contamination at various locations within the City could affect groundwater quality underlying the proposed project area. This is considered a *potentially significant impact.*** | PS | 4.2-7 | *Implement Mitigation Measure 4.2-3.* | LS |
| 4.2-8 | **Preferred Plan Impact 4.2-7 applies to the Alternative Land Use Plan.** | PS | 4.2-8 | *Preferred Plan Mitigation Measure 4.2-7 applies to the Alternative Plan.* | LS |
| **4.3 Biological Resources** | | | | | |
| 4.3-1 | **Buildout of the proposed General Plan will result in loss of the remaining ruderal fields found within the City of El Segundo. This is a *less-than-significant-impact.*** | LS | 4.3-1(a) | *Consistent with proposed Policy OS15.1 of the El Segundo General Plan, it is recommended that the City investigate the feasibility of implementing a restoration plan for remaining portions of the City's sand dune ecosystem in coordination with City of Los Angeles restoration efforts.* | LS |

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TABLE 3-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| | | | 4.3-1(b) | *Implement proposed Policies OS15.3 and CN4.1-4 of the El Segundo General Plan.* | |
| 4.3-2 | **Preferred Plan Impact 4.3-1 applies to the Alternative Land Use Plan.** | LS | 4.3-2 | *Preferred Plan Mitigation Measure applies to the Alternative Land Use Plan.* | LS |
| **4.4 Land Use** | | | | | |
| 4.4-1 | **Density and intensity standards to be provided in the General Plan will allow considerable growth in some areas. This is a *potentially significant impact.*** | PS | 4.4-1(a) | *A specific plan shall be prepared for any site currently designated Heavy Industrial at such time as redevelopment of such a site is contemplated. This measure will reduce potential impacts associated with unanticipated growth in heavy industrial areas to a less than significant level.* | LS |
| | | | 4.4-1(b) | *The City shall monitor market absorption of general commercial uses, and consider alternative uses for areas designated commercial at a later date if demand does not materialize. This measure will reduce potential impacts associated with overbuilding of commercial uses to a less than significant level.* | |

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TABLE 3-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| 4.4-2 | **Impacts of the alternative land use plan would be the same as those for the proposed plan, except that the increased FARs permitted in Urban Mixed Use areas would permit the development of a maximum of 23,561,473.3 square feet of exclusive office use or equivalent traffic generators, rather than the 17,397,167.0 square feet permitted under the Preferred Plan. This is a *potentially significant impact.*** | PS | 4.4-2 | *Preferred Plan Mitigation Measures 4.4-1(a) and 4.4-1(b) apply to the Alternative Plan.* | LS |
| 4.4-3 | **Implementation of the proposed plan will result in a decrease in areas devoted exclusively to parking. *This is a potentially significant impact.*** | PS | 4.4-3 | *Implementation of proposed General Plan Circulation Element policies C3.2.1 and C3.2.2 would ensure the provision of adequate on-site parking for new development which would reduce this impact to a less than significant level.* | LS |
| 4.4-4 | **Preferred Plan impact 4.4-3 applies to the Alternative Plan.** | PS | 4.4-4 | *Preferred Plan Mitigation Measure 4.4-3 applies to the Alternative Plan.* | LS |

**Policy LU13.1**

Develop appropriate overlay zoning districts for the area east of Sepulveda Boulevard which permit the continued operation, remodeling and expansion of existing nonconforming uses.

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| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| **Impact** | | | | | |
| 4.4-5 | **This policy could lead to development intensities in excess of those currently existing and in excess of those provided in the adopted plan. This is a *potentially significant impact.*** | PS | 4.4-5 | *Limit overlay districts to intensities and peak hour traffic generation provided under the adopted plan. This will reduce this impact to a less than significant level.* | LS |
| **Policy LU43.2** | | | | | |
| | Encourage mixed use developments within one quarter mile of the Green Line stations. | | | | |
| **Policy LU44.5** | | | | | |
| | Consider allowing residential uses within the Urban Mixed Use area when proposed as part of a specific plan of sufficient magnitude to address and provide the service requirements of the proposed residents. | | | | |
| **Policy LUAQ91.2** | | | | | |
| | It is the policy of the City of El Segundo that the City consider encouraging housing in close proximity to the Green Line transit corridor and employment centers. | | | | |

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| Impact | Level of Significance Without Mitigation | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|
| **Impact** | | | |
| 4.4-6 **These policies could result in the introduction of residential uses into areas previously utilized exclusively for commercial and industrial uses. Land use conflicts could result at the residential/commercial or residential/industrial interface. This is a *potentially significant impact.*** | PS | 4.4-6 *Land Use Element policies LU41.3 and LU55.1 require buffering of residential uses through the use of walls, landscaping, and open space. Implementation of these policies would reduce this impact to a less than significant level.* | LS |
| **Policy C4.2.4** | | | |
| Monitor and incorporate planning and development of Los Angeles International Airport (LAX) into all aspects of the City's planning. | | | |
| **Impact** | | | |
| 4.4-7 **The effects of development at LAX on circulation patterns could lead to removal of residential uses in certain areas or need for additional street rights-of-way and associated reduction in land available for adjacent uses. This is a *potentially significant impact.*** | PS | 4.4-7(a) *Monitor planning and development proposals at LAX to protect the City from undue noise effects and other potential land use conflicts.*<br>4.4-7(b) *Work with the Los Angeles Airport Commission to achieve acceptable planning for LAX.*<br>4.4-7(c) *Incorporate measures into City planning programs to reduce cut-through traffic and* | LS |

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TABLE 3-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

| Impact | Level of Significance Without Mitigation | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|
| | | *other adverse impacts of airport activities on the City.*<br><br>These measures will reduce the impact of Policy C4.2.4 to a *less-than-significant level.* | |
| **Policy ED12.1**<br><br>Seek to expand El Segundo's retail and commercial base so that the diverse needs of the City's business and residential communities are met. | | | |
| **Policy ED12.2**<br><br>Maintain and promote land uses that improve the City's tax base, balancing economic development and quality of life goals. | | | |
| **Policy ED21.4**<br><br>Continue to invest in infrastructure that encourages commercial and industrial development. | | | |
| **Impact** | | | |
| 4.4-8 **These policies would lead to increased commercial growth. This is a *potentially significant impact.*** | PS | 4.4-8 *Implementation of General Plan policies LU15.4 through 15.6 and LU41.4 and 43.3, concerning community design and City* | LS |

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TABLE 3-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

| Impact | Level of Significance Without Mitigation | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|
| | | *beautification, would reduce this impact to a less-than-significant level.* | |
| **Policy AQ91.1**<br>It is the policy of the City of El Segundo that the City's Land Use and Housing Element and any subsequent Specific Plans incorporate measures that will promote a better balance of jobs and housing within the City. | | | |
| **Policy AQ91.3**<br>It is the policy of the City of El Segundo that the City participate in subregional efforts to develop mutually beneficial approaches to improving the balance of jobs and housing. | | | |
| **Impact** | | | |
| 4.4-9 **These policies could place the City in a position in which it could be forced to take measures to increase the production of housing in order to improve the City's jobs/housing balance. This could result in the conversion of single family areas to higher density use or conversion of commercial and industrial areas to residential use. This is a *potentially significant impact.*** | PS | 4.4-9(a) *Implement Land Use Element Policy LU32.4 which provides for the preservation of low density areas and careful investigation of zone changes to higher density use to ensure land use compatibility.*<br>4.4-9(b) *Develop policies and implement policies to achieve Objective LU31, which call for the preservation, protection, and possible extension of single-family uses.* | LS |

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| Impact | Level of Significance Without Mitigation | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|
| | | Implementation of the above measures will reduce this impact to a *less than significant level.* | |
| **Policy N11.4**<br>Consider noise impacts from traffic arterials and railroads, as well as aircraft when identifying new areas for residential land use.<br>**Policy N11.8**<br>Continue to develop zoning, subdivision, and development controls to prevent future encroachment of noise-sensitive uses into present or planned industrial system or transportation system noise-impacted zones.<br>**Policy N11.10**<br>Require all proposed development to meet El Segundo's land use compatibility guidelines. | | | |
| **Impact** | | | |
| 4.4-10 **These Noise Element policies could restrict development of residential uses in many areas of the City, and could impede development of mixed use areas if noise impacts on specific projects could not be** | PS | 4.4-10(a) *Implement Noise Element policies N11.3, N11.5, N11.6, N11.7, and N21.1 which are designed to alleviate noise from traffic and other causes at their source.* | LS |

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| Impact | Level of Significance Without Mitigation | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|
| **reduced to acceptable levels. Depending upon how these policies were to be interpreted in the future, it could also prevent redevelopment of existing residential sites for residential use where noise compatibility was an issue. This is a particular issue in portions of the northwest quadrant of the City subject to aircraft noise. This is a *potentially significant impact.*** | | 4.4-10(b) *Implement Noise Element Policies N11.9, N11.11, and N31.3 and Programs N11.9A, N11.10A, and N11.11A which provide for the incorporation of noise reduction features in new construction.*<br><br>Implementation of these measures will reduce noise conflicts related to land use and will reduce impacts associated with the above policies to a *less-than-significant level.* | |
| **Policy N31.2**<br><br>Work to remove non-conforming land uses (mixed usage such as a residential dwelling on either CM, M-1, or M-2 zones) which result in noise incompatibility. | | | |
| **Program N31.2A**<br><br>The City shall develop strategies for the orderly implementation of mitigation measures for present noise-impacted areas, such as the R1, R2, and R3 uses adjacent to the M1 uses. | | | |
| **Impact**<br><br>4.4-11 **Noise Element policy N31.2 and implementation program N31.2A could result in the elimination of existing** | PS | 4.4-11 *Develop City programs to incorporate noise reduction measures into existing residential developments.* | LS |

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| | Impact | Level of Significance Without Mitigation | Mitigation Measures | | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| | **residential uses in some areas. This is a *potentially significant impact.*** | | | | |
| **4.5 Population, Housing and Employment** | | | | | |
| 4.5-1 | **The Preferred Plan allows potential growth of 597 new housing units and 1,281 new residents to the City of El Segundo. This is a *potentially significant impact.*** | PS | 4.5-1(a) | *The City should work with the Air Force to encourage the development of military housing in the City.* | LS |
| | | | 4.5-1(b) | *Implementation of Air Quality Element Policies AQ91.1, AQ91.2 and AQ91.3, and Land Use Element Policy LU44.5 would reduce this impact to a less than significant level.* | |
| 4.5-2 | **Preferred Plan Impact 4.5-1 applies to the Alternative Land Use Plan.** | PS | 4.5-2 | *Preferred Plan Mitigation Measure 4.5-1(a) and (b) apply to the Alternative Land Use Plan.* | LS |
| 4.5-3 | **The Preferred Plan allows potential growth of 35,215 jobs and 28.6 million square feet of commercial and industrial floor area by the year 2010. This is a *potentially significant impact.*** | PS | 4.5-3 | *Implementation of the Air Quality Element Policies AQ91.1 and AQ91.3, and the Land Element Policy LU44.5 would reduce this impact to a less-than-significant level.* | LS |

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| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| 4.5-4 | **The Alternative Land Use Plan allows potential growth of 53,358 jobs and 36.8 million square feet of commercial and industrial floor area by the year 2010. This is a *potentially significant impact.*** | PS | 4.5-4 | *Preferred Plan Mitigation Measure 4.5-3 applies to Alternative Land Use Plan Impact 4.5-4.* | LS |
| 4.5-5 | **The Preferred Plan could adversely impact the availability of affordable housing in the City of El Segundo. This is a *potentially significant impact.*** | PS | 4.5-5 | *The City should study the impact of recent development on its housing market by household and occupation type and use the results of this study as a basis for expanding the in-lieu fee housing programs to include the effects of commercial and industrial development in El Segundo on housing demand in the City. Fees collected under this "linkage" program could be used to provide new capital for existing City -sponsored affordable housing funds.* | LS |
| 4.5-6 | **Preferred Plan Impact 4.5-5 applies to the Alternative Land Use Plan.** | PS | 4.5-6 | *Preferred Plan Mitigation Measure 4.5-5 and Housing Element policies apply to the Alternative Land Use Plan.* | LS |
| 4.5-7 | **Implementation of the Preferred Plan would provide an inadequate number of needed housing units to maintain a jobs/housing balance in the Santa Monica** | PS | 4.5-7 | *Preferred Plan Mitigation Measures 4.5-1 and 4.5-3 apply to the Preferred Plan.* | LS |

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| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| | **Bay subregion. This is a *potentially significant impact.*** | | | | |
| 4.5-8 | **Implementation of the Alternative Land Use Plan would provide an inadequate number of needed housing units to maintain a jobs/housing balance in the Santa Monica Bay subregion. This is a *potentially significant impact.*** | PS | 4.5-8 | *Preferred Plan Mitigation Measures 4.5-1 and 4.5-3 and Circulation and Air Quality Element policies apply to the Alternative Land Use Plan.* | LS |
| **4.6 Utilities** | | | | | |
| 4.6-1 | **Buildout under the preferred plan would result in the consumption of approximately 1,039,383,948 kilowatt hours (Kwh) per year of Electricity. This would result in a net increase in consumption of 183,565,476 Kwh per year or a 4.6 percent increase over existing levels. This is a *less-than-significant impact.*** | LS | 4.6-1 | *None required.* | NA |
| 4.6-2 | **Implementation of the alternative land use plan would result in the consumption of approximately 1,123,810,428 kilowatt hours (Kwh) per year of electricity. This would result in a net increase of 267,991,956 Kwh per year over existing levels of** | LS | 4.6-2 | *None required.* | NA |

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TABLE 3-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

| | Impact | Level of Significance Without Mitigation | Mitigation Measures | | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| | **consumption. This is a *less-than-significant impact.*** | | | | |
| 4.6-3 | **The El Segundo General Plan would result in the consumption of approximately 342,255,947 cubic feet per month of natural gas. This would represent a net increase of 45,475,901 cubic feet per month of natural gas over existing levels of consumption. This is a *less-than-significant impact.*** | LS | 4.6-3 | *None required.* | NA |
| 4.6-4 | **The Alternative Plan would result in the consumption of approximately 362,968,689 cubic feet of natural gas per month. This represents a net increase in consumption of approximately 5.5 percent or 66,288,643 cubic feet per month over existing levels. This is a *less-than-significant impact.*** | LS | 4.6-4 | *None required.* | NA |
| 4.6-5 | **The proposed General Plan would result in the consumption of approximately 21,976,828 gallons per day (gpd). This represents a net increase in water use of approximately 4,839,212 gpd. This is a *significant impact.*** | S | 4.6-5(a) | *Require dual plumbing systems in large new developments and high-rise structures, as reclaimed water becomes available over the next ten years;* | LS |
| | | | 4.6-5(b) | *Reclaimed water where appropriate and feasible should be used as a water source for* | |

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|---|---|---|---|---|---|
| | | | | *industrial use and to irrigate large landscaped areas.* | |
| | | | 4.6-5(c) | *Implementation of Conservation Element Policies for water, and the above mitigation measures, would reduce this impact to a less-than-significant* level. | |
| 4.6-6 | **The Alternative Plan would result in the consumption of approximately 23,075,669 gpd. This represents a net increase in water use of approximately 5,938,053 gpd over existing levels. This is a *significant impact.*** | S | 4.6-6 | *Preferred Plan Mitigation Measures 4.6-5(a) through 4.6-3(c) apply to the Alternative Land Use Plan.* | LS |
| 4.6-7 | **The Preferred Plan would result in the generation of approximately 12.4 million gallons per day (mgd). Existing land uses currently generate approximately 10.8 mgd. This would result in a net increase of 1.6 mgd or a 7.75 percent increase over current generation. This is a *significant impact.*** | S | 4.6-7(a) | *Future development projects must comply with the provisions of all interim or future agreements or ordinances regarding sewer capacity allotment in the City of El Segundo.* | LS |
| | | | 4.6-7(b) | *Implement Land Use Element Policy LU71.2 regarding public facilities.* | |
| 4.6-8 | **The Alternative Land Use Plan would result in the generation of approximately 13.1 million gallons per day (mgd). Existing land use currently generates 10.8** | S | 4.6-8 | *Preferred Plan Wastewater Mitigation Measures 4.6-7(a) and 4.6-7(b) apply to the Alternative Plan.* | LS |

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|---|---|---|---|---|---|
| | **mgd. The net increase in wastewater generation under the alternative land use plan would be approximately 2.3 mgd. This is a *significant impact.*** | | | | |
| 4.6-9 | **Under the proposed General Plan update, approximately 596,274 pound per day (298.14 tons) of solid waste would be generated. This is an increase of 80,962 pounds per day, or 15.7 percent, over current generation rates. This is a *significant impact.*** | S | 4.6-9 | *The City of El Segundo shall implement all necessary programs to meet the source reduction requirements of AB939.* | LS |
| 4.6-10 | **The Alternative Land Use Plan would generate approximately 662,220 pounds per day (311.1 tons) of solid waste. This is an increase of 146,908 pounds per day, or 28.5 percent, over the amount of solid waste generated by existing land uses.** | S | 4.6-10 | *Preferred Plan Solid Waste Mitigation Measure 4.6-9 applies to the Alternative Plan.* | LS |
| | **4.7 Public Services** | | | | |
| 4.7-1 | **Buildout under the proposed General Plan would result in a need for approximately 36.5 additional police officers. This is a significant impact.** | S | 4.7-1 | *Implementation of Land Use Element Policy LU.71.1 would reduce this impact to a less-than-significant level.* | LS |

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SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| 4.7-2 | **The Alternative Plan would result in a need for approximately 54.5 additional police officers. This is a *significant impact.*** | S | 4.7-2 | *Implementation of Preferred Plan Impact 4.7-1 applies to the Alternative Plan.* | LS |
| 4.7-3 | **Increases in population and employment under the proposed General Plan would increase the need for fire protection and emergency services, requiring additional emergency responses and the need for additional fire protection personnel, fire prevention personnel, and related support facilities. This is a *significant impact.*** | S | 4.7-3 | *Implementation of Public Safety Element policies PS51-1, PS51-2 and PS51-3, would reduce this impact to a less-than-significant level.* | LS |
| 4.7-4 | **Preferred Plan Impact 4.7-3 applies to the Alternative Plan.** | S | 4.7-4 | *Preferred Plan Mitigation Measure 4.7-3 applies to the Alternative Plan.* | LS |
| 4.7-5 | **Buildout of the proposed General Plan and associated increases in population would increase the demand for library services. This is a *significant impact.*** | S | 4.7-5 | *Implementation of Land Use Element Policy LU71.5, Provision of Quality Infrastructure, would reduce this impact to a less-than-significant level.* | LS |
| 4.7-6 | **Preferred Plan Mitigation Measure 4.7-5 applies to the Alternative Plan.** | S | 4.7-6 | Preferred Plan Mitigation Measure 4.7-5 applies to the Alternative Plan. | LS |
| 4.7-7 | **Based on a parkland to population ratio of 5 acres/1000 population, buildout of the proposed general plan would increase the** | LS | 4.7-7 | *Implement proposed Open Space and Recreation Element Policies OS11 Provision and* | NA |

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| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| | **number of park users in the City by 1,281 persons. This is a less-than-significant impact.** | | | *Maintenance of Open Space and Recreational Facilities, OS12 Private Facilities, OS13 Recreation Programs, OS14 Utilities Corridors, and OS15 Natural Resources.* | |
| 4.7-8 | **Preferred Plan Impact 4.7-7 applies to the Alternative Plan.** | LS | 4.7-8 | *Preferred Plan Park and Recreation Mitigation Measure 4.7-7 applies to the Alternative Plan.* | NA |
| 4.7-9 | **Buildout under the proposed general plan would result in an increase of approximately 269 children in the El Segundo School District. This is a *significant impact.*** | S | 4.7-9 | *Project proponents shall pay school impact fees under the provisions of AB 2926. Currently these fees are set at $1.58 per square foot of residential space, and $0.26 per square foot of commercial space.* | LS |
| 4.7-10 | **Preferred Plan Impact 4.7-9 applies to the Alternative Plan.** | S | 4.7-10 | *Preferred Plan Mitigation Measure 4.7-9 applies to the Alternative Plan.* | LS |
| | **4.8 Transportation/Circulation** | | | | |
| 4.8-1 | **Growth projected under the Preferred Plan would increase traffic within the City over existing conditions. This is considered to be a *significant impact.*** | S | 4.8-1(a) | *Implementation of the Circulation Element Policies summarized in this section.* | SU |

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| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| | | | 4.8-1(b) | *A policy should be added to the El Segundo 1991 General Plan Circulation Element stating that the City aggressively pursue implementation of all Circulation element Policies such that all roadways are upgraded and maintained at acceptable levels of service.* | |
| | | | 4.8-1(c) | *A policy should be added to the El Segundo 1991 General Plan Circulation Element that states that no new project should be approved that cannot mitigate impacts on the existing and future circulation system such that daily roadway operation cannot be maintained at acceptable levels of service.* | |
| 4.8-2 | **Growth projected under the Alternative Land Use Plan would increase traffic within the City over existing conditions. This is considered to be a *significant impact.*** | S | 4.8-2 | *Preferred Plan Mitigation Measure 4.8-1(a) through (c) apply to the Alternative Plan.* | SU |
| **4.9 Air Quality** | | | | | |
| 4.9-1 | **Construction activities would temporarily increase PM10 concentrations and could lead to violations of the Federal and State** | PS | 4.9-1 | *Develop and implement a policy specifying that all new development projects meet or exceed requirements of the South Coast Air Quality Management District for reducing* | LS |

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| | Impact | Level of Significance Without Mitigation | Mitigation Measures | | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| | **24-hr average PM10 standards. This is *a potentially significant impact.*** | | | *vehicle and dust emissions during construction.* | |
| 4.9-2 | **Higher $PM_{10}$ concentrations and more frequent violations of Federal and State 24-hour average $PM_{10}$ standard would result with implementation of the Alternative Plan versus the Preferred Plan.** | SU | 4.9-2 | Preferred Plan Mitigation Measure 4.9-2 applies to the Alternative Plan. | LS |
| 4.9-3 | **Implementation of the Preferred Plan would increase $NO_x$, ROG and CO emissions as a result of construction-related activities. This is a short-term *significant unavoidable* impact.** | SU | 4.9-3 | *Preferred Plan Mitigation Measure 4.9-2 applies.* | LS |
| 4.9-4 | **Increases of criteria air pollutant emissions associated with implementation of the General Plan would hinder the regional attainment goals of the AQMP. This is a *significant impact.*** | S | 4.9-4 | *Implementation of the Air Quality Element Policies summarized in this section and implementation of the proposed Air Quality Action Plan programs would reduce this impact and assist in the attainment of regional goals for air quality.* | SU |
| 4.9-5 | **Preferred Plan Impact 4.9-5 applies, however, the total level of pollutants would be approximately 12 percent higher than the estimates.** | S | 4.9-5 | *Preferred Plan Mitigation Measure 4.9-5 applies.* | SU |

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| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| 4.9-6 | **The implementation of the General Plan could result in increases in toxic air emissions in the City. This is a *potentially significant impact.*** | PS | 4.9-6 | *Implementation of the Air Quality Element Policies and Air Quality Action Plan programs proposed under the revised General Plan would reduce this impact to a less-than-significant level.* | LS |
| **4.10 Noise** | | | | | |
| 4.10-1 | **The Preferred Plan would increase traffic-generated noise at various locations in the City. This is a *significant impact.*** | S | 4.10-1 | *The City shall implement policies N-11.4, through N-11.9 and N-21.1 and N-31.1 of the Noise Element of the El Segundo 1991 General Plan.* | LS |
| 4.10-2 | **Preferred Plan Impact 4.4-1 applies to the alternative plan. However, the high FAR allowed under the Alternative Plan would result in the generation of more vehicular noise (See Table 4.4-7). This is a *significant impact.*** | S | 4.10-2 | *Preferred Plan Mitigation Measure 4.10-1 applies to the Alternative Plan.* | LS |
| 4.10-3 | **New development allowed under the Preferred Plan would cause construction noise impacts to surrounding areas. This is a *significant impact.*** | S | 4.10-3 | *Implementation of Noise Element policies N21.1, N31.1, N31.3, N31.4, and N31.5 would reduce this impact to a less-than-significant level.* | LS |

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| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| 4.10-4 | **Preferred Plan Impact 4.10-3 applies to the alternative plan. However, the higher FAR allowed under the Alternative Plan would result in more short-term impacts from construction activities. This is a *significant impact.*** | S | 4.10-4 | *Preferred Plan Mitigation Measure 4.4-3 applies to the Alternative Plan.* | LS |
| 4.10-5 | **The transition of heavy manufacturing uses to Mixed Use and Corporate Office Uses proposed under the 1991 General Plan, may create incompatible noise/land use relationships for existing and new developments. This is a *potentially significant impact.*** | PS | 4.10-5 | *Implementation of the Noise Element policies summarized in this section would reduce this impact to a less-than-significant level.* | LS |
| 4.10-6 | **Preferred Plan Impact 4.10-5 applies to the alternative plan. However, the higher FAR allowed under the Alternative Plan would result in a greater potential for incompatible noise/land use relationships. This is a *significant impact.*** | S | 4.10-6 | *Preferred Plan Mitigation Measure 4.10-5 applies to the Alternative Plan.* | LS |
| 4.10-7 | **Increases in vehicular traffic noise, due to the implementation of the Preferred Plan may combine with aircraft noise to raise ambient noise levels to unacceptable levels. This is a *significant unavoidable impact.*** | SU | 4.10-7 | *Implementation of Noise Element policies N11.1, N11.2, N11.3, N31.1, and N31.3 would reduce the ambient noise levels and minimize potential noise impacts.* | SU |

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|---|---|---|---|---|---|
| 4.10-8 | **Preferred Plan Impact 4.10-7 applies to the alternative plan. However, the higher FAR allowed under the Alternative Plan would result in the generation of more vehicular traffic. This is a *significant impact.*** | S | 4.10-8 | *Preferred Plan Mitigation Measure 4.10-7 applies to the Alternative Plan.* | LS |
| **4.11 Cultural Resources** | | | | | |
| 4.11-1 | **Development of the proposed project has the potential to disturb historic resources. This is a *significant impact.*** | S | 4.11-1 | *Implementation of the Land Use Element Policies pertaining to historic sites as summarized in this section would reduce this impact to a less-than-significant level.* | LS |
| 4.11-2 | **Preferred Plan Impact 4.11-1 applies to the Alternative Land Use Plan.** | S | 4.11-2 | *Preferred Plan Mitigation Measure 4.11-1 applies to the Alternative Land Use Plan.* | LS |
| 4.11-3 | **Implementation of the General Plan has the potential to disturb prehistoric archaeological resources. This is a *significant impact.*** | S | 4.11-3(a) | *A certified archaeologist shall be present during initial project (mass) grading and all soil disturbances of development sites in order to monitor any significant archaeological findings for projects over two acres in size.* | LS |
| | | | 4.11-3(b) | *If evidence of subsurface archaeological resources is found, excavation and other construction activity in the area shall cease, and the site archaeologist shall evaluate* | |

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SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| | | | | *findings in accordance with standard practice and applicable regulations. Consultation with the Native American Heritage Commission and data/artifact recovery, if deemed appropriate, shall be conducted.* | |
| 4.11-4 | **Preferred Plan Impact 4.11-3 applies to the Alternative Plan.** | S | 4.11-4 | *Preferred Plan Mitigation Measures 4.11-3(a) and 4.11-3(b) apply to the Alternative Plan.* | LS |
| 4.11-5 | **Development of the proposed project has the potential to disturb vertebrate and invertebrate resources. This is a *significant impact.*** | S | 4.11-5 | *A paleontologist shall be present during initial project (mass) grading and all soil disturbances of development sites to monitor any potential findings for projects over two acres in size.* | LS |
| 4.11-6 | **Preferred Plan Impact 4.11-5 applies to the Alternative Plan.** | S | 4.11-6 | *Preferred Plan Mitigation Measure 4.11-5 applies to the Alternative Plan.* | LS |
| **4.12 Aesthetics/Visual Quality** | | | | | |
| 4.12-1 | **Intensification of development with the recycling of older underutilized properties has the potential to alter views and degrade the visual quality of the City. This is a *significant impact.*** | S | 4.12-1(a) | *Implementation of Conservation, Open Space and Recreation, and Land Use policies of the El Segundo 1991 General Plan mitigate potential visual impacts and may result in an improvement in visual quality.* | LS |

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| | Impact | Level of Significance Without Mitigation | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|
| | | | 4.12-1(b) *The City should monitor the Century Freeway Project and take appropriate steps to provide or insure the provision of landscape buffers and wide setbacks between the freeway and any new developments proposed in the area.* | |
| 4.12-2 | **Preferred Plan Impact 4.12-1 applies to the alternative plan. However, the higher FAR allowed under the Alternative Plan would result in greater overall density of development. This is a *significant impact.*** | S | 4.12-2 *Preferred Plan Mitigation Measures 4.12-1(a) through 4.12(c) apply to the Alternative Plan.* | LS |
| 4.12-3 | **Development occurring under the proposed General Plan would increase light and glare in the City. This is a *significant impact.*** | S | 4.12-4(a) *New developments in the City should use minimally reflective glass and all other materials used on building exteriors should be selected with attention to minimizing reflective glare.*<br><br>4.12-4(b) *All exterior lighting shall be designed and located to avoid intrusive effects on residential development and other sensitive receptors. Low-intensity street lighting and other exterior lighting shall be used throughout the new developments. Spill-over light shall be minimized by using exterior light standards which are focused and directional.* | LS |

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| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| **4.13 Public Health and Safety** | | | | | |
| 4.13-1 | **Construction of future projects adjacent to existing rail lines would expose residents to potential rail road accidents. This is considered a *potentially significant impact.*** | PS | 4.13-1 | *Prior to the acceptance of final maps, for new development proposals adjacent to the railroad shall provide a minimum 60-foot setback from the centerline of the track, for safety in the event of an accident.* | LS |
| 4.13-2 | **Preferred Plan Impact 4.13-1 applies to the Alternative Land Use Plan.** | S | 4.13-2 | *Preferred Plan Mitigation Measure 4.13-1 applies to the Alternative Land Use Plan.* | LS |
| 4.13-3 | **Development of new projects could present risks associated with contaminated soil and groundwater. This is a *significant impact.*** | S | 4.13-3(a) | A Phase I site assessment, by qualified personnel in accordance with applicable regulation, should be conducted to confirm or deny the presence of any soil or groundwater contamination on the site of a proposed development. | LS |
| | | | 4.13-3(b) | If the potential for contamination is suspected, sampling shall be conducted by qualified personnel, in accordance with all applicable regulations to determine the constituent levels and the extent of the contamination. | |
| | | | 4.13-3(c) | *If contamination is identified, remediation and disposal procedures shall be conducted by qualified personnel, in accordance with all* | |

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| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| | | | | *applicable regulations to determine, and in coordination with all applicable regulatory agencies.* | |
| 4.13-4 | **Preferred Plan Impact 4.13-3 applies to the Alternative Land Use Plan.** | S | 4.13-4 | *Preferred Plan Mitigation Measure 4.13-3 applies to the Alternative Land Use Plan.* | LS |
| 4.13-5 | **Future development within the City of El Segundo could expose construction workers and the public to health hazards associated with development adjacent to oil production facilities, storage facilities, and abandoned wells. This is considered to be a *significant impact.*** | S | 4.13-5(a) | *Prior to development of new projects adjacent to existing oil wells, the State Department of Conservation Division of Oil and Gas shall be contacted to confirm the status of such wells.* | LS |
| | | | 4.13-5(b) | *In the event that a project is to be located above or adjacent to a previously abandoned well, the project proponent shall consult with the Division of Oil and Gas to determine whether it will be necessary to reabandon the well to meet current Division specifications. Section 3208.1 of the Public Resources Code authorizes the State Oil and Gas Supervisor to order the re-abandonment of any previously abandoned well when construction of any structure over or adjacent to the well could result in a hazard.* | |
| | | | 4.13-5(c) | *If construction over an abandoned well is unavoidable, an approved gas venting system* | |

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| | Impact | Level of Significance Without Mitigation | | Mitigation Measures | Level of Significance With Mitigation |
|---|---|---|---|---|---|
| | | | | *should be placed over the well to prevent the buildup of gas and possible explosion.* | |
| 4.13-6 | **Preferred Plan Impact 4.13-5 applies to the Alternative Land Use Plan.** | S | 4.13-6 | *Preferred Plan Mitigation Measure 4.13-5 applies to the Alternative Land Use Plan.* | LS |
| 4.13-7 | **Future development may expose residents to hazardous materials used in adjacent industrial and commercial operations. This is considered a *significant impact.*** | S | 4.13-7 | *Implementation of proposed Petroleum Resources/Hazardous Materials and Waste Programs PS31.1A, 2A, 3A, 3B, 3C, 3D, and 4A of the Public Safety Element of the City of El Segundo General Plan.* | LS |
| 4.13-8 | **Preferred Plan Impact 4.13-7 applies to the Alternative Land Use Plan.** | S | 4.13-8 | *Preferred Plan Mitigation Measure 4.13-7 applies to the Alternative Land Use Plan.* | LS |
| 4.13-9 | **Development as proposed under the preferred plan would increase the demand for emergency services. This is a *potentially significant impact.*** | PS | 4.13-9 | *Implementation of proposed Emergency Preparedness Programs PS61.1A, 1B, IC, PS61.2A, PS61.3A, PS61.4A, and PS 61.5A of the Public Safety Element of the City of El Segundo General Plan.* | LS |
| 4.13-10 | **Preferred Plan Impact 4.13-9 applies to the Alternative Land Use Plan.** | S | 4.13-10 | *Preferred Plan Mitigation Measure 4.13-9 applies to the Alternative Land Use Plan.* | LS |

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# 4. ENVIRONMENTAL IMPACT ANALYSIS

# 4.1 GEOLOGY, SOILS, AND SEISMICITY

# 4.1 GEOLOGY, SEISMICITY, AND SOILS

## INTRODUCTION

This section discusses geologic hazards in the City of El Segundo. Topography, geology, faulting, seismicity, and soils are summarized as a basis for discussion of geotechnical constraints associated with implementation of the proposed El Segundo 1991 General Plan update.

Information for this section of the EIR was extrapolated from the Safety Element of the City's General Plan, the Safety Element of the Los Angeles County General Plan, and earlier geologic reports by California Division of Mines and Geology (Hart, 1988[1]). Additional data was also summarized from the U. S. Department of Agriculture Soil Conservation Service soil map of Los Angeles County, and the U.S. Geological Survey Map MF-585 (1974) prepared by J. I. Ziony, C. M. Wentworth, and others.

## SETTING

### GEOLOGY

#### Regional Geology

The geotectonics of Southern California is composed of several large plates which move relative to each other.[2] The primary line of contact between these plates is the San Andreas Fault Zone, lying about 45 miles northeast of the project area. The area west of the San Andreas Fault known as the Pacific Plate is moving north relative to the North American Plate on the east side of the fault. Each large plate is composed of smaller plates which are also moving relative to each other. The relative movements and collisions of these plates have resulted in differing orientations of the structural and geomorphic fabrics. A province consists of a plate or group of plates with similar orientations of geomorphic and tectonic fabric.

The City of El Segundo is in the northwestern corner of the Los Angeles Basin in the transition zone between the Transverse Range (TRSP) and the Peninsular Range (PRSP) Structural Provinces of southern California. The TRSP consists of a series of hills and ranges with intervening long narrow valleys which trend east-west and include many of the higher peaks in southern California such as San Gorgonio (11,502 feet) and San Antonio (Old Baldy, 10,604 feet). The east-west geomorphic fabric of the TRSP is crosswise to the more prevailing northwesterly fabric of PRSP. Consisting of areas of uplifted basement rocks, these mountainous blocks of the PRSP are transected by north-west trending faults. The Newport-Inglewood Fault system located 4 miles east of the City is one of these series of fractures.

## Topography and Geology

The topography of El Segundo is characterized by a series of northwest trending rounded hills consisting of stabilized sand dunes rising above the main coastal plain. The elevation rises from sea level along the southwestern border to approximately 160 feet above mean sea level (msl) in the northern sections. Some of the northern area of the City retains the natural dune landscape. In the southern portion of the City more of the natural topography has been altered. A series of stabilized sand dunes referred to as the El Segundo Sand Dunes and Sand Hills cover the western part of the City. The eastern section is flat, almost sea level; the surface represents the original erosion terrace of the Torrance Plain on which the coastal sand dunes were deposited.

The Torrance Plain is underlain by marine and non-marine sediments of the Lakewood Formation. The Lakewood Formation consists of fine to medium grained sandstones, gravelly sandstones and clays which weather into clays and silty clays. The western section of the City is underlain by dune sands in varying stages of consolidation.

Current groundwater levels are at 20 feet below surface or deeper. However, the piezometric surface (lines of equal groundwater pressure) indicates that groundwater pressure is continuous between the eastern and western portions of the City. The Los Angeles County Safety Element maps groundwater levels in the western and central portion of the City as between 10 and 30 feet below surface (Plate 3 of County Safety Element Technical Appendix Vol. 2). Based on these maps, natural groundwater levels east of Sepulveda, between Sepulveda-Nash and Park Place-Avalon Blvd., would generally be expected to be less than 10 feet below surface. Seasonal groundwater levels could therefore be expected to be less than 10 feet below surface.

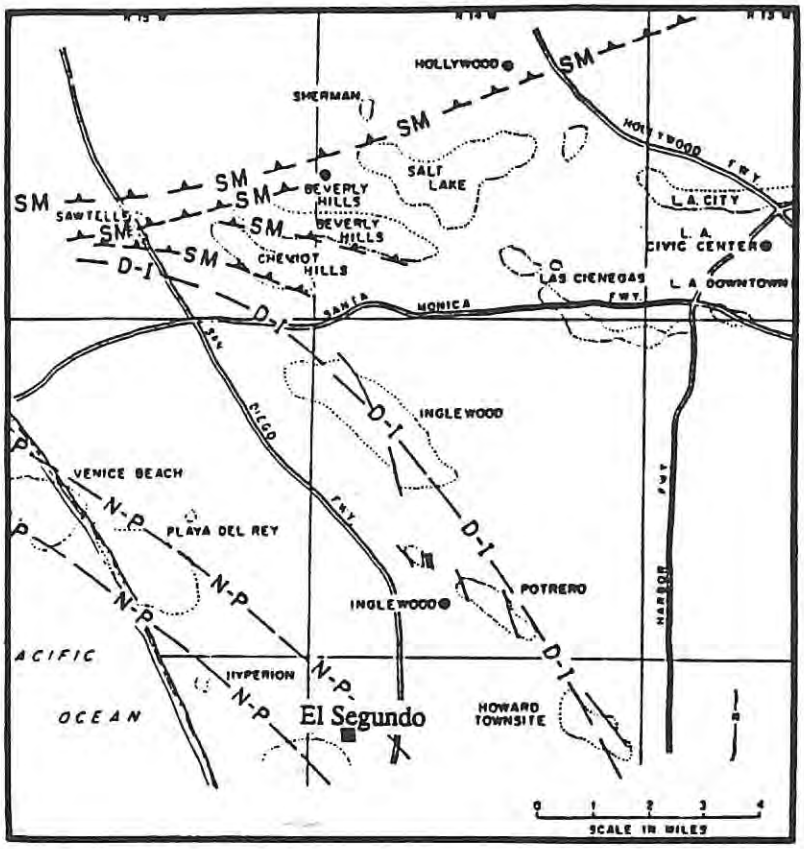
## FAULTING AND SEISMICITY

The City of El Segundo is in a region of historic seismic activity. A number of active and potentially active faults traverse the southern California region, particularly following the prominent topographic breaks at the boundaries between the alluvial valleys and the adjacent hills and mountains (Figure 4.1-1). Estimated maximum earthquake magnitudes resulting from potential seismic activity on various active and potentially active faults in southern California are shown in Table 4.1-1. All the faults listed are within 50 miles of the City. Unless otherwise specified, all earthquake magnitudes are on the Richter Scale.

# Fault Map

# Figure 4.1-1

## Faults and Oilfields of Southwest Los Angeles

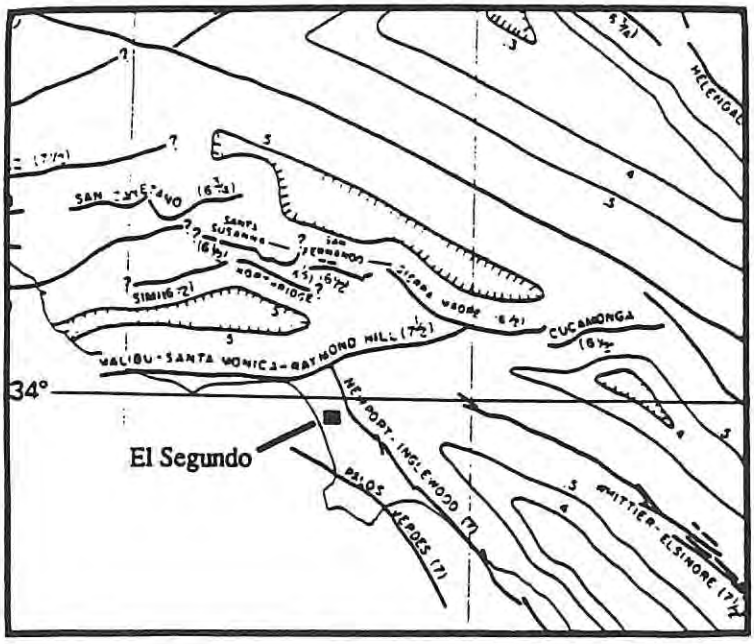



### Legend

- SM — Santa Monica Fault Zone
- D-1 — Dominguez-Inglewood "Branch" of the Newport-Playa Del Rey Trend
- N-P — Newport-Dominguez-Playa Del Rey Trend
- H-T — Huntington Beach-Wilmington-Torrance Series of Anticlines
- Oil Fields

SOURCE: CALIFORNIA DIVISION OF MINES; SR114, 1974

## Regional Fault Map




### Legend

- CUCAMONGA (6½) — Active/ Potentially Active Fault With Expected Magnitude
- 5 — Bedrock Acceleration

SOURCE: CALIFORNIA DIVISION OF MINES; SP42, 1988

*City of El Segundo • General Plan EIR*

No Scale

90345

eip

**TABLE 4.1-1**
**MAXIMUM CREDIBLE EARTHQUAKE**
**FOR SELECTED SOUTHERN CALIFORNIA FAULTS**

| Fault | Magnitude |
|---|---|
| San Andreas (central section) | 8.25 |
| Garlock | 7.75 |
| Malibu/Santa Monica/Raymond | 7.50 |
| San Andreas (south section) | 7.50 |
| San Jacinto | 7.50 |
| Whittier/Elsinore | 7.50 |
| Newport-Inglewood | 7.00 |
| Palos Verdes | 7.00 |
| Simi | 6.50 |
| Northridge | 6.50 |
| Santa Susana | 6.50 |
| Verdugo | 6.50 |
| San Fernando | 6.50 |
| Sierra Madre | 6.50 |
| Cucamonga | 6.50 |

Source: California Division of Mines and Geology Map Sheet 23

## Fault Systems

### Active Faults

Active faults are defined as those which have had surface displacement within Holocene time (about the last 11,000 years). The most significantly known active faults in the vicinity of the City include the San Andreas, Newport-Inglewood, San Fernando, Sierra Madre, and Verdugo faults. Characteristics of the major faults are described below.

**San Andreas Fault Zone:** This fault zone, approximately 45 miles northeast of the study area, is the dominant active fault in California. It is the principal surface boundary between the Pacific and the North American plates and borders the San Gabriel Mountains on the northeast and the southern edge of the San Bernardino Mountains.[3] The 1857 Tejon earthquake (Richter Magnitude 8.25+) was the most recent earthquake along this portion of this fault. The maximum expected earthquake from this fault zone is 8.25 (Richter magnitude).

**Newport-Inglewood Fault Zone:** Segments of this fault zone, approximately 4 miles east of the City, trend southeastward from near Santa Monica across the Los Angeles Basin to Newport Beach. Movement along the southern segments of this fault zone produced the 1933 Long Beach earthquake (Richter Magnitude 6.3). Numerous smaller earthquakes have been recorded along various segments of this fault zone. The maximum expected earthquake from this fault is 7.0 (Richter magnitude).

**Cucamonga Fault Zone:** This fault zone, located approximately 18 miles northeast of the City, consists of two or three subparallel strands in a zone 1 mile wide. It trends east-west for about 25 miles ending abruptly at the San Jacinto fault system. Holocene offsets in alluvial deposits indicate activity. The maximum expected earthquake is 6.5 (Richter magnitude).

**Whittier-Elsinore Fault Zone:** The Whittier Fault trace consists of a number of sub-parallel strands in a zone 1.5 to 2.5 miles wide. The zone stretches from approximately 2 miles north of Whittier and continues southeasterly along the southern base of Puente Hills through Temescal Valley where it merges with the Elsinore fault trace through Lake Elsinore. It's total length exceeds 100 miles. The Whittier section forms the northeastern boundary of central block of the Los Angeles Basin. The trace is about 18 miles east of the City. The maximum expected earthquake from this fault zone is 7.5 (Richter magnitude).

**San Jacinto Fault Zone:** This fault trace, about 40 miles north of the City, is at least 100 miles long. It trends northwesterly, parallel to the Whittier-Elsinore fault zone. The southern section has been active with numerous small quakes (Claremont, 1918 and 1923; Casa Loma, 1939; Glen Helen, 1899 and 1907). The California Division of Mines and Geology estimates that the maximum probable earthquake expected from this fault zone is 7.5 (Richter magnitude).

**Potentially Active Faults**

Potentially active faults are those which show evidence of Pleistocene displacement (during the past two million years) without evidence of Holocene displacement (during the past 11,000 years). Such displacement can be recognized by the existence of scarps in alluvium, terraces, or other Quaternary units, offset stream courses, the alignment of depressions (sag ponds, fault troughs, and fault saddles), and the existence of markedly linear steep mountain fronts. Faults which are considered potentially active include the San Gabriel, Santa Susana, Northridge Hills and Granada Hills-Mission Hills Faults. Characteristics of potentially active faults within the Los Angeles region are described below.

**San Fernando Fault Zone:** This east-west trending fault zone approximately 26 miles in length, traverses the northern margins of the San Fernando Valley 10 miles to the north. Localized ground rupture occurred along this fault during the San Fernando (Sylmar) earthquake of 1971 (Richter Magnitude 6.6). It is possible that an event larger than this quake may have occurred along this fault in the past 300 years.

**Sierra Madre Fault Zone:** Approximately 20 miles northeast of the City, this fault zone follows the southern border of the San Gabriel Mountains for approximately 40 miles. This fault, the Santa Susana

and San Fernando fault zones are closely linked segments of the same system. Evidence indicates that it is connected to the Whittier fault system on the east. Historical evidence suggests that earthquakes occurred along this fault in 1769 (estimated Richter magnitude 7.0+) and 1892 (estimated Richter magnitude 6.0 to 7.0).

**Verdugo Fault Zone:** This northwest-trending fault zone, approximately 16 miles northeast of the City, lies at the southwest boundary of the Verdugo Mountains. It is probably responsible for the 1,000m of relief between the mountain crest and the base of the alluvial fill to the south.[4] Scattered small earthquakes have occurred near the trace, but identified offset occurred during Holocene time.

**Malibu Coast-Santa Monica-Hollywood Fault:** The City is situated near the juncture of two important faults, the Santa Monica Fault Zone, containing the Malibu Coast/Santa Monica/Raymond/Sierra Madre/Cucamonga fault zone and the Newport-Inglewood fault. The Santa Monica segment of the Santa Monica fault is buried from Las Flores Canyon to South Pasadena; however it appears to roughly parallel the base of the Santa Monica Mountains forming the southern limit of the Transverse Ranges. The Newport-Inglewood fault terminates northwest of the City in the vicinity of Beverly Hills[5]. The Santa Monica fault is considered to be "potentially" active; its western section (Potrero Canyon Fault) is known to displace late Pleistocene age deposits (approximately 120,000 years old) northwest of the City at Potrero Canyon in Santa Monica.

**Palos Verdes Fault:** South of the Inglewood section of the Newport-Inglewood fault and parallel to it are two Quaternary faults: the Palos Verdes and the Cabrillo faults. They consist of several echelon strands that have been traced from Redondo Beach to San Pedro. They disappear offshore and are considered to join the Newport-Inglewood fault.

## Seismic Conditions

Seismic events are statistical events that are generally expressed in terms of probability of occurrence within a given time limit. The likelihood of a seismic event is generally expressed in terms of probability of occurrence within a given time limit. A probability of 20 percent or less is considered "low probability or unlikely;" a probability within the range of 20 to 60 percent is considered "moderate or likely," and probability of 60 percent or higher is considered "high or very likely."

The expected ground motion characteristics of future earthquakes at a given location depend on (a) distance of the causative fault or source of the earthquake to the site, (b) the characteristics of the generating fault (intensity of the earthquake and duration of shaking), and (c) the site-specific geologic conditions. All other conditions being equal, the severity of groundshaking increases with proximity to the epicenter of the earthquake. However, given similar location and seismic energy output, the least amount of damaging vibration would occur on a site that was completely composed of bedrock. A site underlain by major thicknesses of alluvium would experience considerably more damaging vibration because of the soil's tendency to deform to a greater degree than the bedrock.The intensity of

groundshaking ( maximum ground acceleration) is measured relative to acceleration due to gravity 'g'. In the Uniform Building Code standard engineering designs can be applied to accelerations less than 0.4g. Special designs are necessary for values above 0.4g.

There are no known active fault systems located within the limits of the City; thus, no part of the City has been designated under the Alquist-Priolo Act as a Special Study Zone. However, a number of active or potentially active fault systems can be considered as affecting the El Segundo area. The capabilities of the nearest faults are listed in Table 4.1-1.

The most likely source of strong earthquake shaking within the City would be a major earthquake (up to a magnitude of 8.25) on the San Andreas fault located to the northeast. This fault is classified as active with a reoccurrence interval of 100 to 200 years. At over 50 miles distance, the maximum ground acceleration would be less than 0.2g.

Maximum potential earthquakes postulated for other faults classified as active in the region are of the 7.0 magnitude originating from the Newport-Inglewood fault (5 miles to the west), and the Whittier-Elsinore fault (18 miles to the northwest). At 5 miles distance, the expected acceleration from the Newport-Inglewood fault would exceed 0.55g. The active Whittier-Elsinore fault, a northwest trending fault, produced an earthquake of magnitude 6.0 on the Richter scale during 1987, and is capable of producing a 7.5 magnitude earthquake.

**SOILS**

The soils of the El Segundo area belong to four major groups: the Cropley, the Oakley, the Chino, and the Ramona-Placentia associations (Figure 4.1-2).[6]

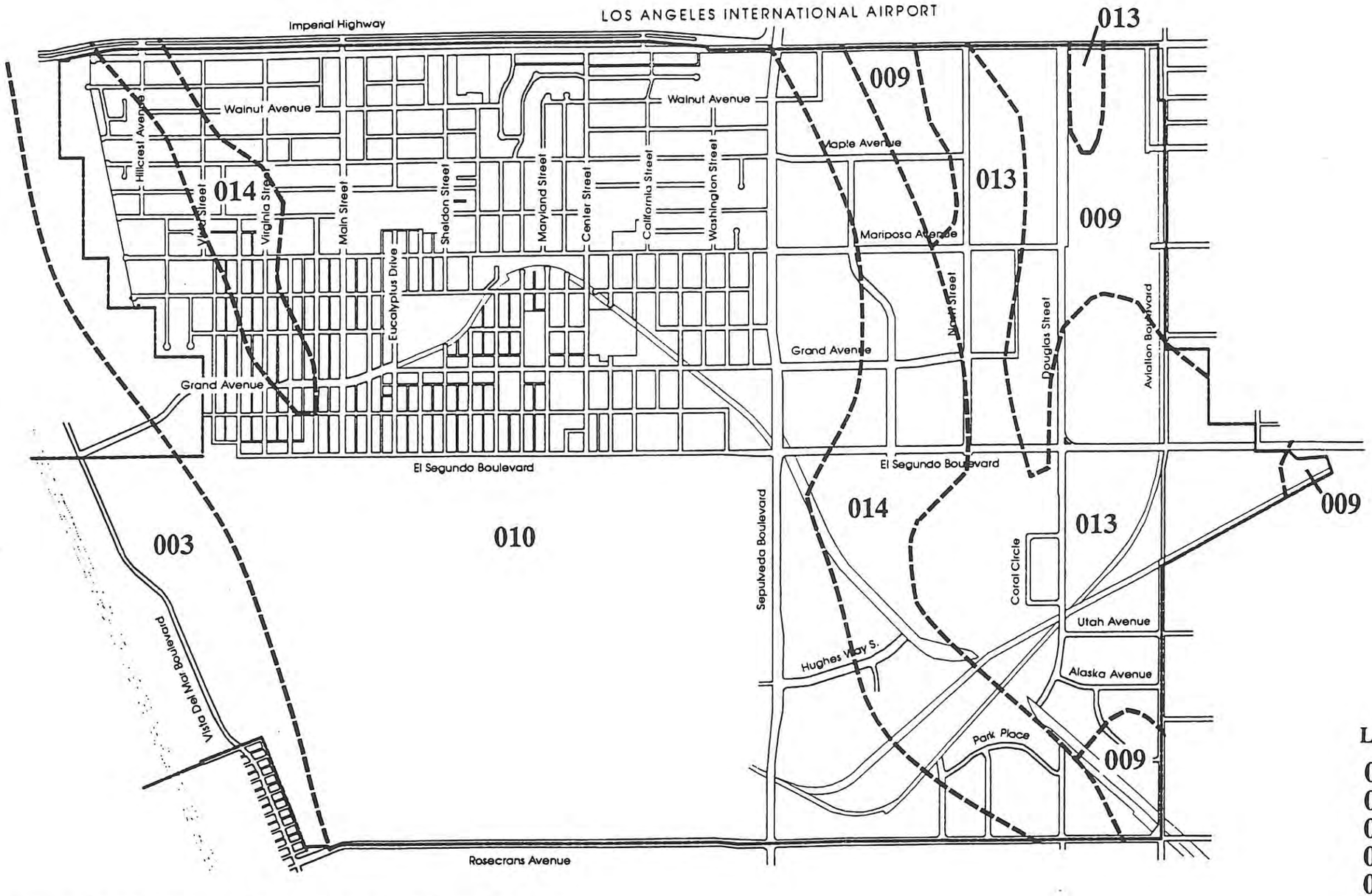
The Cropley association occurs in the area east of Douglas Street. It consists of dark gray soil underlain by calcareous clay subsoil. The mildly to moderately alkaline well drained surface soils are underlain by slowly draining clay subsoils. Although inherent fertility is high, most locations have been converted to urban use.

The Chino and Oakley associations are the predominant soils of the City. The area west of Sepulveda Boulevard is underlain by Chino soils. These soils belong to the general Oceano Unit of soils and are made up of gray and dark gray loam, silty sands, silt loam, or clay loam. These soils are associated with high water tables. They are composed of loosely bound grains formed by wind processes. The coastal portions include sand dunes. This soil can be affected by a high water table which restricts rooting and saline-alkali conditions. While inherent fertility is high, the natural flora (salt grass, sedges, wire grass) reflects this alkalinity.

Occurring in the southeastern portion of the community, the Ramona-Placentia association is a brown to reddish-brown heavy loam, loam, or sandy loam. Subsoils consist of similarly colored clay and clay loam.

## Soil Classification

**Figure 4.1-2**

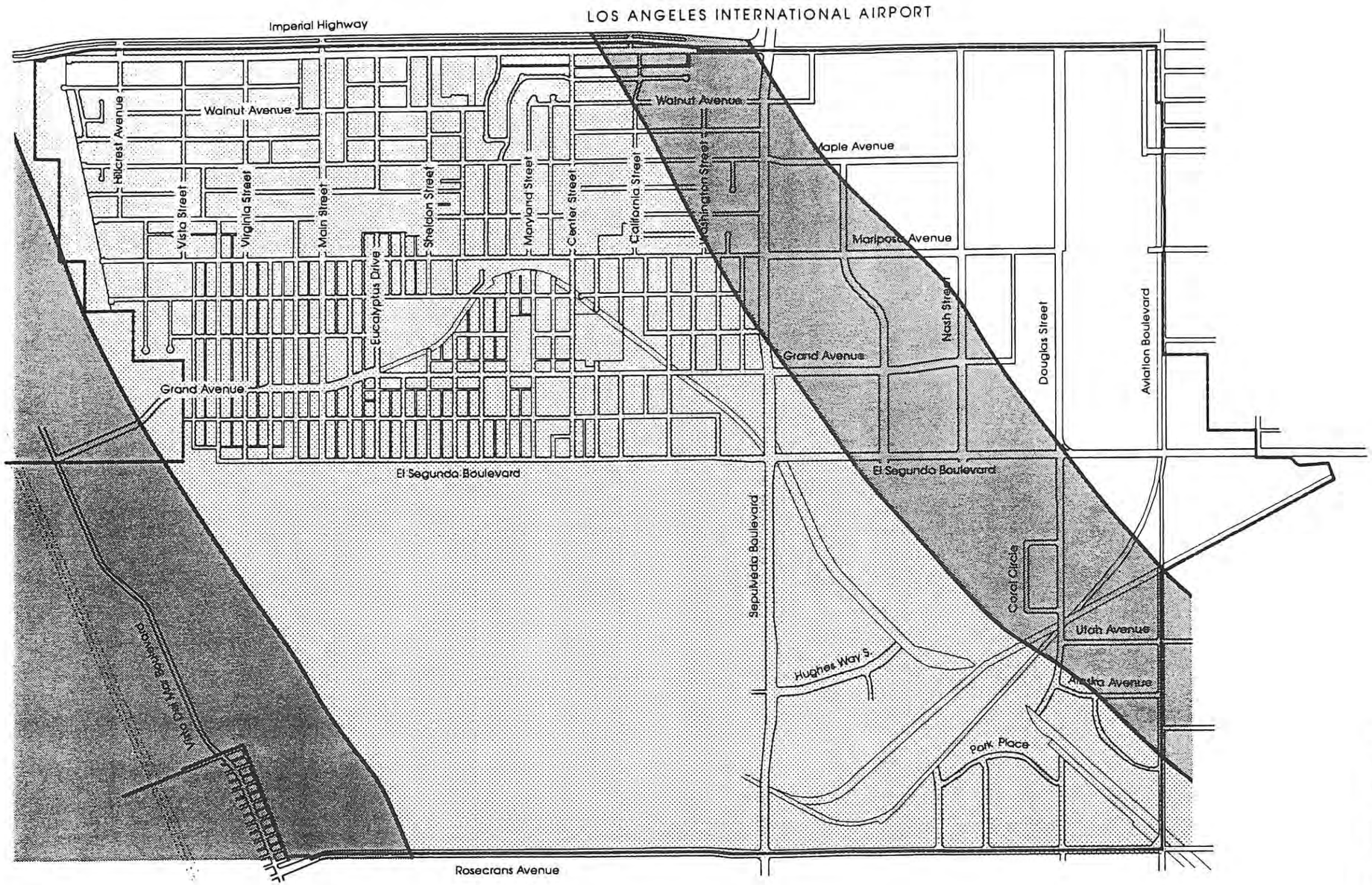



SOURCE: EL SEGUNDO GENERAL PLAN 2005 BACKGROUND REPORT

No Scale

# Liquefaction Potential

**Figure 4.1-3**




**Legend**

1 High Liquefaction

2 Medium Liquefaction

3 Low Liquefaction

SOURCE: EL SEGUNDO GENERAL PLAN 2005 BACKGROUND REPORT

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### Petroleum Resources

There are three active oil fields, Hyperion, El Segundo and Lawndale, located within and adjacent to the City. The El Segundo field underlies the City. Between 1935 and 1987, seventy-six wells were drilled in this field and it produced over 13.6 million barrels of oil. At the present time, the majority of the remaining active wells are located in Smoky Hollow and the Refinery areas. Oil reservoirs and sump facilities occupy most of the southeastern quadrant of the City. A summary of the production from the three fields in January, 1991 is shown in Table 4.1-2. Further discussion of laws and regulations guiding petroleum resources is included in the Safety Section 4.13 of this EIR.

**TABLE 4.1-2**
**SUMMARY OF OIL AND GAS PRODUCTION FROM ADJACENT OIL/GAS FIELDS, JANUARY 1991**

| | Number of Wells | | Daily Production | |
|---|---|---|---|---|
| Oil/Gas Field | Producing | Shut-in | Oil (bbl) | Gas (mcf) |
| Hyperion | 1 | 0 | 28 | 5 |
| El Segundo | 5 | 2 | 72 | 17 |
| Lawndale | 1 | 1 | 23 | -- |

Source: Monthly Oil and Gas Production and Injection Report, California Division of Mines and Geology, Publication No. PRO4, January, 1991.

## GEOLOGIC HAZARDS

Primary hazards associated with seismicity include surface rupturing and groundshaking. The major secondary effects of groundshaking is landsliding and tsunamis; other potential effects include settlement and liquefaction. Bedrock geology and soil conditions constitute a very important factor in the overall effect of seismicity.

### Surface Rupturing and Groundshaking

Surface rupturing along the trace of a fault affects all types of material; however, it does not always show clearly in loose soils. Therefore, in dune areas such as occur in the western portions of the City, faults may not be evident.

Damage due to surface rupturing is limited to the actual location of the fault-line break, unlike damage from ground-shaking which can occur at great distances from the fault. Even a moderate earthquake can be accompanied by enough surface rupturing to damage foundations and bury utility lines or pipelines that have not been adequately protected where they cross fault traces.

Under the Alquist-Priolo Special Studies Zone Act of 1972, the State Geologist is required to delineate "Special Studies Zones" along known active faults in California. The purpose of the Act is to regulate development near active faults so as to mitigate the hazard of surface fault-rupture. Cities and counties affected by the zones must regulate certain development "projects" within these zones.[7] Within these Special Studies Zones, specific studies are required prior to building structures for human occupancy. In compliance with the Act, no structure for human occupancy is permitted to be placed across or within fifty feet of an active fault, unless a geological report proves the project site is not underlain by an active fault trace. No Special Studies zone has been delineated in the City.

Groundshaking during an earthquake presents the primary seismic hazard for El Segundo. Bedrock formations and soils exhibit different responses to seismically induced groundshaking. All other conditions being equal, the severity of groundshaking increases with proximity to the epicenter of the earthquake. However, given similar location and seismic energy output, the least amount of damaging vibration would occur on a site that was completely composed of bedrock. A site underlain by major thicknesses of alluvium would experience considerably more damaging vibration because of the soil's tendency to deform to a greater degree than the bedrock. The most severe shaking during an earthquake would be experienced in areas of the City underlain by sand dune and sand hill formations.

In a developed city such as El Segundo, where ground shaking is the primary hazard, most property damage and personal injury would be expected from structural damage and collapse. Structural hazards are typically classified as critical facilities, potentially hazardous facilities, and hazardous buildings for the purpose of seismic safety planning and policy. Standard definitions are as follows:

**Critical Facility** - Includes facilities housing or serving many people or otherwise posing unusual hazards in case of damage from or malfunction during an earthquake, such as, hospitals, fire, police, and emergency service facilities, utility "lifeline" facilities, such as water, electricity, gas supply, sewage disposal, and communications and transportation facilities. Within El Segundo, critical facilities include primarily fire and police stations, utility lines, and power plants, communication systems, and transportation routes.

**Potentially Hazardous Facility** - Includes dams and reservoirs, nuclear reactors, tall buildings, other buildings housing many people, such as schools, prisons, and hospitals, and other structures containing large quantities of potentially explosive or toxic materials. Local potentially hazardous facilities would include high-rise and high-occupancy buildings, including local schools, larger restaurants, and hotels. The Chevron Oil Refinery, Allied Chemical, and Air Products Chemical plants would be of concern in regard to storage of large quantities of potentially explosive or toxic materials.

**Hazardous Building** - A building that may be hazardous to life in the event of an earthquake because it:

- Was constructed prior to the adoption and enforcement of local codes requiring earthquake resistant design of buildings;

- Is constructed of unreinforced masonry; or,

- Exhibits any one of the following characteristics:
  a. Exterior parapets and ornamentation that may fall on passers-by;
  b. Exterior walls that are not anchored to the floors, roof, or foundation;
  c. Sheeting on roofs or floors incapable of withstanding lateral loads;
  d. Large openings in walls that may cause damage from torsional forces; or,
  e. Lack of an effective system to resist lateral forces.

Hazardous buildings may include older masonry structures in the Richmond Street area, as well as modern facilities which were engineered under older versions of seismic design criteria of the Uniform Building Code.

Another structural hazard is the movement of objects within or adjacent to a structure, such as residential water heaters, bookshelves, etc.

## Subsidence

Subsidence is the downward settling of surface materials caused by natural or artificial removal of underlying support. No major large areas of subsidence have occurred within the City, but subsidence could potentially occur due to extraction activities within the City boundaries.

Land subsidence would occur from one or more of several causes including withdrawal of fluids (oil, gas, or water) or the application of water to moisture-deficient unconsolidated deposits. Subsidence is a relatively slow process, that may continue for several decades. However, it may produce conditions or stresses that trigger some instantaneous events such as failure of dams and bridges. Compaction due to wetting causes near-surface subsidence, which is superimposed on the compaction of the saturated deposits. The amount of compaction due to wetting is dependent mainly on the overburden load, natural moisture conditions, and the type and amount of clay. Near-surface subsidence in areas of the San Joaquin Valley has made crop irrigation difficult and destroyed or damaged ditches, canals, roads, pipelines, electricity transmission towers, and buildings.

## Landslides

The California General Plan Guidelines recommends an appraisal of mudslides, landslides, and slope stability as geologic hazards that should be considered simultaneously with other hazards such as surface

ruptures from faulting. Areas at risk from these geologic hazards typically have steep slopes, 15% or greater, unstable rock or soil characteristics, or other geologic evidence of instability.

Some soil materials, such as clay minerals, have a great capacity to absorb water. The result is a reduction of shear strength. The force of gravity can cause landsliding when the shear strength of a saturated clay is reduced below its minimum stability threshold. Earthquake-induced landsliding of steep slopes can occur in either bedrock or soils. Firm bedrock can usually stand in steeper, more stable slopes than what soils are able to maintain, but rock type, grain size, degree of consolidation and angle of the beds all contribute to the strength or weakness of a bedrock hillside. Shales and deeply weathered rocks are very susceptible to slope failures. The presence of excessive amounts of water, or the lack of shear strength in the soil or at the soil/rock interface can also contribute to unstable soil conditions. Each of these conditions is observable in the City.

**Liquefaction and Slope Failure**

A response to severe groundshaking that can occur in loose soils is liquefaction. This transformation from solid state to liquid state ("quicksand"), as a response to seismically induced groundshaking, can cause structures supported on the soils to tilt or settle (sometimes very violently and rapidly) as the supporting capabilities of the soils diminish with the increases in the time of groundshaking. For example, during the 1971 San Fernando earthquake, liquefaction induced ground failures resulted in irreparable damage to the San Fernando Valley Juvenile Hall and the partly completed Jensen Water Filtration Plant in Sylmar.[8]

Ground failures from liquefaction are limited to certain geologic and hydrologic conditions and certain types of materials. The soil characteristics of a liquefaction-prone deposit are saturated conditions; loose, uniformly fine sand; and little or no clay-size particles to act as binders. A threshold seismic shaking is also required to induce ground failure to increase pore water pressure beyond the shear strength of the sand particles.

By this criteria, water saturated clay-free sediments in the most recent Holocene unit generally are expected to have a high susceptibility to liquefaction.[9] Liquefaction is therefore more likely to occur in sand dune areas, as is quake-triggered slope failure. Areas of the City with high liquefaction potential are shown in Figure 4.1-3.

**Tsunami and Seiche**

A hazard associated with seismicity near a large body of water is the generation of seiches, commonly known as sloshing or surge waves. These waves result from the repeated oscillation of the water in a lake, reservoir, or bay either directly from groundshaking or from large landslides cascading into the water. They can cause devastating damage along shore areas, similar to that caused along ocean-fronts by tsunamis.

The beach front area in El Segundo has been identified by the State as a tsunami hazard area. However, exposure is limited to non-residential uses only with the residential portions of the City located above the potential hazard area.

Relevant Policies of the El Segundo to 2010 1991 General Plan

There are 7 policies within the Public Safety Element of the proposed General Plan that address geo-seismic hazards. These policies are briefly summarized below.

Policy PS11.1 would continue the review of proposals for new development and for the expansion of existing development in areas of potential geological hazards.

Policy PS11.2 would enforce, monitor, and improve development standards which place the responsibility on the developer, with advice from qualified engineers and geologists, to develop and implement adequate mitigation measures for project approval.

Policy PS21.1 would continue to cooperate with and support Federal, State and County Agencies in the development and enforcement of regional and local health and safety laws and environmental controls.

Policy PS21.2 would assist the prevention of structural damage in areas with a high potential for liquefaction, landslides and mudslides by requiring geotechnical studies for new development to mitigate potential impacts.

Policy PS21.3 would develop standards and restrictions limiting the type, intensity/density of land use in areas subject to geologic hazards.

Policy PS21.4 would insure adequate public safety and the preservation and reuse of historic buildings by continuing to enforce requirements for structural strengthening of older brick and masonry buildings.

Policy PS21.5 Identify potential high-risk inundation coastal areas and manage them to reduce risk.

## IMPACTS AND MITIGATION MEASURES

**Standards of Significance**

Section 15126 (a) of the CEQA Guidelines stipulates that the EIR analyze "significant environmental effects the project might cause by bringing development or people into the area affected." Section 15382 of the guidelines defines a significant effect on the geologic environment as a " substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project."

In accordance with the CEQA Guidelines, impacts are considered significant if one or more of the following conditions would result from implementation of the proposed project:

- Exposure of people or structures to geologic hazards, soil and/or seismic conditions so unfavorable that they could not be overcome by special design using reasonable construction and/or maintenance practices.

- Location of the site within an Alquist-Priolo Special Studies Zone, or a known active fault zone, or an area characterized by surface rupture that might be related to a fault.

- Construction on substrate that consists of material subject to liquefaction or other secondary seismic hazards in the event of groundshaking.

- Increase in wind or water erosion of soils, either on or off site.

- Landsliding or excessively steep slopes that could result in slope failure.

- Deformation of foundations by expansive soils (those characterized by shrink-swell potential).

- Under the State of California Mining and Reclamation Act (SMARA), the location of a site within an area classified as MRZ-2 which may affect long-term supply of mineral and\or petroleum resources.

Evaluation of the significance of potential impacts resulting from implementation of the General Plan Update in relation to this criteria is provided in the following discussion.

In general, it is the responsibility of a project applicant (sponsor, developer, or owner) to implement mitigation measures through the planning, design, construction and occupation phases of individual projects. Specific mitigation measures would be approved at the time of filing of Tentative Maps, and would be required as part of the grading/construction permits. It is the responsibility of a lead agency, City of El Segundo, to monitor the mitigation measures through plan checking, periodic reporting procedures, and on-site inspections. Many "monitoring" programs already exist in the form of planning

policies, required standards of construction, and permit approval procedures that are administered routinely by the City Engineer.

Detailed recommendations regarding specific techniques and designs to reduce, eliminate or avoid geotechnical hazards would be provided by the reports of geotechnical investigations for specific projects within the City. Field inspection and site observation are also part of the mitigation of geotechnical effects. Completed site development plans would be reviewed by the City to determine conformance with specific recommended geotechnical procedures. Final field inspection of the mitigation measures would be performed by a Certified Engineering Geologist (CEG) during earthwork and construction operations. The observation of cut, fill, backfill, foundation excavations, and the preparation of pavement subgrades would take place during these phases of site development to insure that the recommendations of required geotechnical reports are implemented.

Policies in the El Segundo 1991 General Plan have been reviewed as to whether or not their implementation would expose people in the City to greater, lesser, or the same geologic hazards that could currently be caused by seismically induced groundshaking, secondary ground failure, rock or soil instability, or other adverse geo-seismic conditions. The review has concluded that the addition of a number of new, more specific, policies should reduce the exposure of people in the City to geologic hazards. The policies included in the El Segundo 1991 General Plan, reduce, eliminate or avoid the potential geo-seismic effects associated with development occurring under the revised General Plan.

Preferred Plan Impact

4.1-1 **New development in the City would involve grading activities that may alter natural topography resulting in excess cut or fill material. This is a potentially *significant impact.***

New and infill development in the City would result in the grading and excavation of earth material to create building pads, road systems, and parking lots. Although there are very few steep slopes in the City, grading impacts on topography would be long-term and irreversible.

Preferred Plan Mitigation Measure

4.1-1 *Implementation of the Public Safety policies related to geo-seismic hazards would reduce this impact to a less-than-significant level.*

Alternative Plan Impact

4.1-2 **Preferred Plan Impact 4.1-1 applies to the Alternative Plan.**

Alternative Plan Mitigation Measure

4.1-2 *Preferred Plan Mitigation Measure 4.1-1 applies to the Alternative Plan.*

Preferred Plan Impact

4.1-3 **Grading in areas primarily east of Sepulveda with shallow groundwater levels could cause grading, drainage, and slope stability problems.**

As previously stated, the 1990 Los Angeles County groundwater map indicates that the depth to groundwater is less than 10 feet below surface in the area east of Sepulveda (Figure 4.1-2). Not only could these shallow groundwater levels cause drainage problems in that portion of the City, they could also cause grading and slope stability problems during the construction phase.

Preferred Plan Mitigation Measure

4.1-3 *Implementation of the proposed Public Safety policies related to geo-seismic hazards would reduce this impact to a less-than-significant level.*

Alternative Plan Impact

4.1-4 **Preferred Plan Impact 4.1-3 applies to the Alternative Plan.**

Alternative Plan Mitigation Measure

4.1-4 *Preferred Plan Mitigation Measure 4.1-3 applies to the Alternative Plan.*

Preferred Plan Impact

4.1-5 **New development may create or increase slope instability and related hazards. This is a *significant impact.***

Although natural slopes in the City are generally less than 10:1 and there are no major slope instability problems, the potential for unstable slope conditions does exist.

Preferred Plan Mitigation Measures

4.1-5. *Implementation of the proposed Public Safety policies related to geologic hazards would reduce this impact to a less-than-significant level.*

Alternative Plan Impact

4.1-6 **Preferred Plan Impact 4.1-5 applies to the Alternative Plan.**

Alternative Plan Mitigation Measure

4.1-6 *Preferred Plan Mitigation Measure 4.1-5 applies to the Alternative Plan.*

Preferred Plan Impact

4.1-7 **Construction activities would expose soil to erosion; dust would be generated during demolition, clearing, hauling, earthmoving, and grading.**

Exposed earth surfaces would be subject to wind and rain action. If slopes and exposed surfaces are not protected by vegetation, cut slopes in uncemented Chino soils could experience rapid erosion during heavy precipitation.

Large areas of the City west of Sepulveda Boulevard are underlain by dune sands. Dune sands due to their size and shape are susceptible to wind transport and lack of cementing material. During construction, dust would be stirred up and transported by the wind to neighboring areas. During heavy rainfall, exposed surfaces would be subject to increased erosion.

Preferred Plan Mitigation Measure

4.1-7 *Implementation of proposed Public Safety policies PS11.2, PS21.1, and PS21.2 would reduce this impact to a less-than-significant level.*

Alternative Plan Impact

4.1-8 **Preferred Plan Impact 4.1-7 applies to the Alternative Plan.**

Alternative Plan Mitigation Measure

4.1-8 Preferred Plan Mitigation Measure 4.1-7 applies to the Alternative Plan.

Preferred Plan Impact

4.1-9 **Soils or bedrock with expansive or non-cohesive properties could damage building foundations and slabs. This is a *significant impact.***

The soils in the eastern portion of the City belong to the Cropley and Ramona-Placentia associations which include silty loams and loamy sands. Shrink swell potential of loamy and sandy loam soils tend to be high because of their high clay content.

The failure to recognize areas underlain by compressible and/or collapsible soils could result in the eventual settlement of overlying fills causing costly damage to structures and other improvements.

Most of the western section of the City is underlain by dune sands in the early stages of consolidation. The construction of 5-story or higher facilities on a substrate of uncemented dune sands may cause settlement problems. The failure to recognize areas underlain by dune sands may cause soil consolidation and/or foundation distress to occur during grading and construction operations.

Preferred Plan Mitigation Measure

4.1-9 *Implementation of proposed Public Safety policies PS11.1 and PS11.2 would reduce this impact to a less-than-significant level.*

Alternative Plan Impact

4.1-10 **Preferred Plan Impact 4.1-9 applies to the Alternative Plan.**

Alternative Plan Mitigation Measure

4.1-10 *Preferred Plan Mitigation Measure 4.1-9 applies to the Alternative Plan.*

Preferred Plan Impact

4.1-11 **Development in the City could result in the loss, or partial loss, of access to mineral resources, particularly petroleum resources. This is a *less-than-significant impact.***

Access to undeveloped regional oil fields would not be affected by the elimination of an area the size of the proposed developments in the City. The City is already developed therefore no new field is being withdrawn from natural resource exploitation. If necessary, new wells could still be developed within the City during the life of proposed Preferred and Alternate Plans without disrupting planned buildup of the City.

Preferred Plan Mitigation Measure

4.1-11 *None Required.*

Alternative Plan Impact

4.1-12 **Preferred Plan Impact 4.1-11 applies to the Alternatives Plan.**

Alternative Plan Mitigation Measure

4.1-12 *None Required.*

Preferred Plan Impact

4.1-13 **Construction of projects a zones of high seismic risk could result in structural damage from groundshaking exposing additional people to hazard from earthquakes. This is a *significant unavoidable impact.***

The proposed plan would incrementally contribute to the number of people who would be exposed to landsliding, groundshaking, and associated hazards that commonly occur in a seismically-active area.

The proximity of several active faults indicates the likelihood that the area will be subjected to at least moderate ground motion from earthquakes occurring during the life of the proposed plan. The maximum probable earthquake along the Newport-Inglewood fault would be on the order of Richter magnitude 7.0. The San Andreas fault is capable of producing a maximum credible earthquake of Richter magnitude 8.25. The Palos Verdes fault is capable of producing a maximum credible earthquake of Richter magnitude 6.5.

Ground acceleration from the San Andreas Fault, Newport-Inglewood, Whittier-Elsinore and the Palos Verdes fault may cause damage to surrounding properties, residents, and people in the city. Although there are no known active faults going through the City, the City lies within 5 miles of two active and potentially active faults. Potential impacts from groundshaking from surrounding earthquakes could be reduced through engineering design. No geologic conditions or soil types have been identified which would preclude development within the City, as long as geotechnical precautions are heeded. Pursuant to CEQA guidelines, soil engineering studies would be required to determine suitable foundation requirements and to insure compliance with the Uniform Building Code prior to construction.

In El Segundo, the greatest potential damage and loss of life would most likely result from structural failure and collapse due to ground shaking. In sand dune areas and low water table of the City, liquefaction and slope failure may produce damage and injuries. Along the City's beach area, tsunamis are of low to moderate concern as possible seismic hazards.

Of particular concern during a seismic event are the structural integrities of older or poorly designed buildings and hazards related to the movement of objects within a building.

Preferred Plan Mitigation Measure

*4.1-13 Implementation of the proposed Public Safety policies related to geo-seismic hazards would reduce the potential for impacts; however, impacts from seismic events remains significant and unavoidable.*

Alternative Plan Impact

4.1-14 **The higher allowed FAR under the Alternative Plan would increase risks associated with seismic structural damage and liquefaction, thus exposing greater numbers of people to hazard. This is a *significant unavoidable impact.***

Alternative Plan Mitigation Measure

4.1-14 *Preferred Plan Mitigation Measure 4.1-13 applies to the Alternative Plan.*

## ENDNOTES

1. Hart, Earl W. (1988); Fault-Rupture Hazard zones in California. California Division of Mines and Geology, Special Publication 42.

1. Ziony, J.I. (Ed.) Evaluating Earthquake Hazards in the Los Angeles Region: An Earth-Science Perspective pages 25-42. U. S. Geological Survey Professional Paper 1360.

3. Map Showing Late Quaternary Faults and 1978-84 Seismicity of the Los Angeles Region, California, By J.I. Ziony and L.M. Jones, Miscellaneous Field Studies Map, Map MF-1964, 1989.

4. U.S. Geological Survey Professional Paper 733, p.13.

5. Final Environmental Impact Report, Anderson Graduate School of Management and Related Projects, University of California, Los Angeles, April, 1989, page 85.

6. Report and General Soil Map, Los Angeles County, California. Soil Conservation Service, 1979.

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

8. Liquefaction Potential Map of San Fernando Valley, California, by T.L. Youd et. al., in "Progress on Seismic Zonation in the San Francisco Bay Region", U.S. Geological Survey Circular 807.

9. U.S. Geological Survey Circular 807, p.40.

# 4.2 HYDROLOGY AND WATER QUALITY

# 4.2 HYDROLOGY AND WATER QUALITY

## INTRODUCTION

This section describes the potential impacts of the proposed update to the El Segundo General Plan on regional hydrological resources, including surface runoff, groundwater resources, and water quality. Reports and data from the County of Los Angeles Flood Control District, California State Water Resources Control Board, the City of El Segundo and the Federal Emergency Management Agency, were used as information sources for the analyses in this section of the EIR.

## SETTING

### HYDROLOGY

The City of El Segundo is located within the Los Angeles Coastal Plain, adjacent to Santa Monica Bay. The City ranges in elevation from approximately 20 feet to 150 feet above mean sea level. Surface water flow through the city is not concentrated within any natural occurring streams or channels. Urbanization has lead to the collection of natural surface waters in a complex storm water drainage system.

#### Storm drain system

The City can be divided into three separate drainage systems: (i) the general area located west of Sepulveda Boulevard and north of El Segundo Boulevard; (ii) the Chevron Refinery located south of El Segundo Boulevard and west of Sepulveda Boulevard; and (iii) the general area located east of Sepulveda Boulevard.

The first drainage area is maintained by the City of El Segundo and the Los Angeles County Flood Control District (LACFD) and discharges to Santa Monica Bay without any treatment of the stormwaters. The Chevron area is drained by a privately owned and operated system which discharges to Santa Monica Bay after pre-treatment in a facility located on the Refinery Property. The third drainage area is collected by a drainage system which connects to the Dominguez Channel and eventually discharges to San Pedro Bay.

Several isolated areas located west of Sepulveda Boulevard drain by discharging to the City sanitary sewer system, which is carried to the City of Los Angeles Hyperion treatment Plant, for treatment and ultimate discharge to Santa Monica Bay.

## Storm drain capacities

The specific capacity of each of the drainage facilities is unknown at this time. However, capacity problems are reported to the Los Angeles County Department of Public Works. Future facilities are designed to County Standards. Major drains are required to handle 50 year storms and local drains 10 year storms.

The City and Flood Control District facilities operate together and, as such, have generally handled most storms. The only recent record of overloading occurred several years ago at Pump Station No. 19 where, due to mechanical and electrical equipment failure, there was local flooding. At present, Pump Station 19 operates as an auxiliary pump station to replace No. 19 and No. 15 (at arena) to improve persistent flooding problems and drainage capacities in Smoky Hollow.

Within the 1988 General Plan 2005 Background Report certain storm drain deficiencies are identified. Since 1988, the City, Los Angeles County Flood Control District and Caltrans have proceeded with projects to alleviate several of the deficiencies identified in the 1988 Background Report. At present, LACFCD is upgrading drains on Acacia/Cedar Street (Acacia Drain) and Hillcrest (Southport Drain). Sump areas at these two locations have reported flooding problems. Drains would be constructed to take surface flow to the nearest drain. The Acacia Drain is restricted by the downstream connector. An underground detention basin of 0.4 AF would be constructed to store the increased inflow that would not be able to pass through the downstream drain under full flow conditions.[1]

Plans for future improvements include the replacement of storm drains that empty into the sewer system. These lines would be connected to the storm drain systems.

## Flooding

The City area has been reviewed by the Federal Emergency Management Agency (FEMA) and found not to be subject to their Flood Hazard Insurance programs,[2] that is, apart from the coastal storm surges, the City is not prone to flooding during 100-year storm events.

## Surface water quality

In the amendments to the 1987 Clean Water Act, Congress mandated schedules to achieve the long-standing "fishable," "swimmable," and "drinkable" goals of the Act. Stormwater discharge while legally permitted to be regulated under previous amendments was not addressed by the EPA until now. The EPA, using the results of the recently completed Nationwide Urban Runoff Program studies of commercial and residential stormwater characteristics, has developed the permitting strategy described in the draft stormwater permitting regulations. Individual industrial users and construction grading activities will be regulated under individual National Pollution Discharge Elimination Systems permits, as will as municipal systems.

The proposed regulations address two sizes of municipalities: large (population 250,000 or above) and medium (population 100,000 to 250,000). The EPA plans to adopt regulations for small municipalities (populations less than 100,000) by 1992, while industries that have direct stormwater discharges to navigable waters are required to obtain permits. Under these definitions, the City of El Segundo is not yet regulated under the EPA regulations. However, as part of the urban area of Los Angeles, the City is co-permittee with the County of Los Angeles to regulate discharges to Santa Monica Bay.

The City along with the LACFCD is in the first year of a 5-year program to comply with federal regulations on non-point discharge of storm waters. Depending upon the outcome of certain sampling and testing of the systems over the next two years, pre-treatment facilities may have to be constructed before city drainage water can be discharged to the Santa Monica and San Pedro bays.[3]

## GROUNDWATER

El Segundo is located within the West Coast Groundwater Basin, a relatively small groundwater basin underlying the southwestern portion of the Los Angeles Central Plain. It is bounded on the north by the Ballona Escarpment, on the east by the Newport-Inglewood Uplift, and on the south and west by the Pacific Ocean (Figure 4.2-1)[4]. Seawater intrusion became a problem within the basin in the 1960's. At that time, legal action was taken to halt overdraft and prevent serious damage to the Basin. Today, groundwater use is monitored by a Court-appointed Water Master, the Department of Water Resources (DWR). The DWR controls groundwater use in the basin and reports all significant water-related events to the Superior Court of Los Angels County and parties to the West Coast Basin judgement.

Natural replenishment of the Basin's groundwater supply is limited to the underflow from the Central Basin, which bounds the West Coast Basin on the east, and limited local precipitation. Water spread in the Central Basin percolates into aquifers there and eventually some crosses the Newport-Inglewood Uplift to supplement the groundwater supply in the West Coast basin.

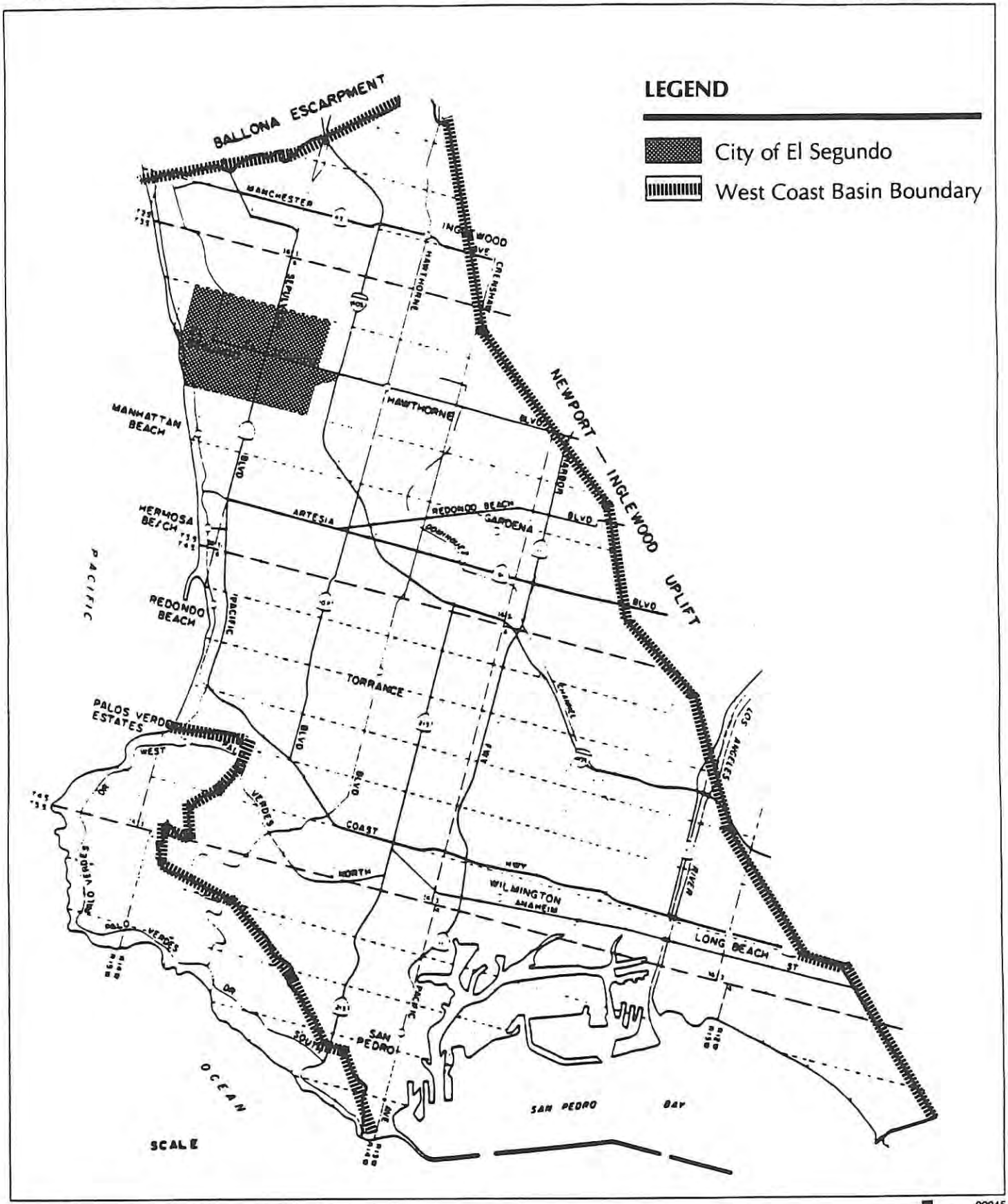
The volume of groundwater stored in the West Coast Basin is constantly changed by variations in subsurface inflow and outflow, artificial recharge, extractions, and to a lesser degree precipitation. Measurements of groundwater surface elevations are shown in Figure 4.2-2.

Sea water intrusion in the West Coast Basin along Santa Monica bay has been effectively halted by the west Coast Basin Barrier Project, which consists of a line of 144 injection wells that parallel the coastline from Los Angels Airport to Palos Verde Hills. The northern section of the barrier runs through El Segundo on a north-south axis near Sepulveda Boulevard. This portion of the barrier consists of 36 injection wells with depths of 280 to 460 feet.

The Los Angeles County Department of Public Works which operates the project injects State Water Project and Colorado River water into the barriers to create a pressure ridge that impedes the inland

# West Coast Groundwater Basin

# Figure 4.2-1

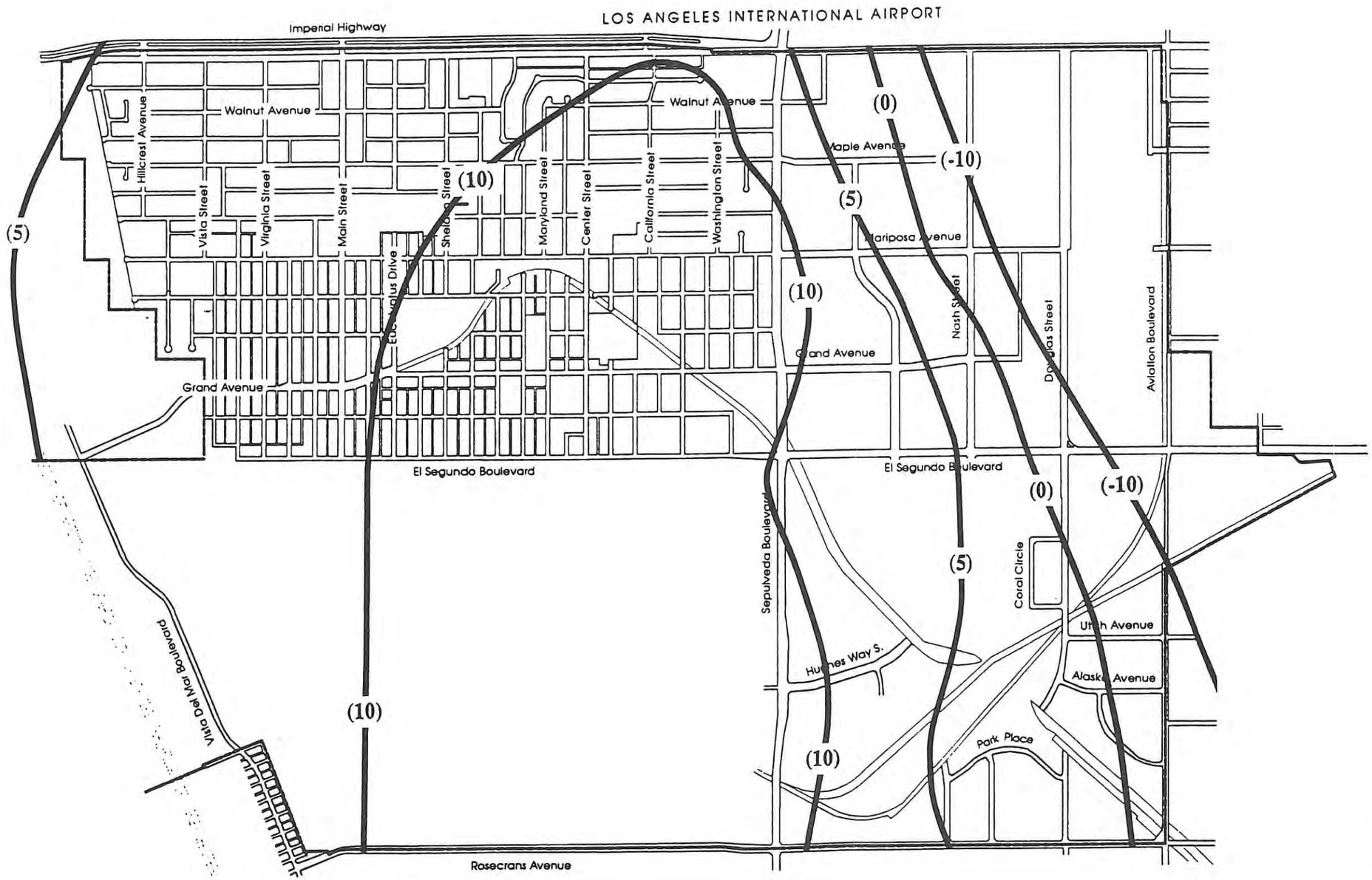



Source: California Depart. of Water Resources

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# Groundwater Surface Elevations

Figure 4.2-2




**Legend**

Piezometric Surface/ Groundwater Surface

(5)

SOURCE: LOS ANGELES COUNTY DEPARTMENT OF PLANNING

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movement of a salt water front and maintains protective groundwater elevations in the Silverado and "200-foot sand" aquifers.

A Draft EIR is currently being reviewed for the proposed West Basin Water Reclamation Program which includes a plant located on the Chevron site in El Segundo. It is proposed that reclaimed secondary-treated effluent from Hyperion Treatment Plant will be used for injection within the West Coast Basin Barrier Project, for oil refinery use and for green belt irrigation. The project will have a daily capacity of 62.5 million gallons (70,000 AFY).

## GROUNDWATER QUALITY

Seawater intrusion has been effectively controlled by the operation of the West Coast Barrier project. The average chloride, sulfate, hardness and total dissolved solids (TDS) concentrations in the groundwater tested during 1989 are shown with Drinking Water Standards in Table 4.2-1. Water quality within the basin underlying El Segundo is also affected by the occurrence of industrial contaminant sources. A list of contaminated sites within El Segundo is presented in Appendix D of the Hazardous Material and Waste Management Element adopted by the City of El Segundo in January 1991. The Public Health and Safety Section, Section 4.12 of this document summarizes the hazardous waste sites within the City and the status of the sites.

**TABLE 4.2-1.**
**GROUNDWATER QUALITY**

| Quality Factor | Average from 12 wells (mg/l) | State Drinking Water Standards (mg/l) |
|---|---|---|
| Chloride | 88 | 250 |
| Sulfate | 59 | 250 |
| Hardness (CaCO3) | 216 | |
| TDS | 421 | 500 |

[1] California Drinking Water Standards, Secondary Recommended Levels
Source: Department of Water Resources, 1990[5]

Relevant Policies of the El Segundo 1991 General Plan

There are six (6) policies within the Conservation Element of the El Segundo general Plan addressing water resources or water quality issues. These policies are briefly summarized below:

Policy CN1.2 Monitor coastal water ordinances and compliance with state and regional requirements.

Policy CN1.3 Monitor beach erosion and contamination clean up.

Policy CN2.11 Encourage development techniques which minimize surface runoff and allow replenishment of soil moisture.

Policy CN3.1 Identify any source contamination originating within the City limits.

Policy CN3.2 Require written notification to the City by any State or regional permitting agency.

Policy CN5.8 Increase the quantity of plant material to increase the percolation of water into soil and to decrease run-off and evapotranspiration.

## IMPACTS AND MITIGATION MEASURES

### Introduction

This section addresses the project-specific impacts of the proposed General Plan on hydrological resources, including surface runoff, groundwater resources, and water quality. Changes in land use and development occurring under the proposed plan would result in changes in surface water generation, would impact existing drainage facilities, and may potentially affect groundwater resources.

Background information was collected from topographical maps of the area and reports prepared by the Department of Water Resources, the U.S. Geological Survey, the Regional Water Quality Control Board, the City of El Segundo, and the Los Angeles Flood Control District. This information in conjunction with a field survey was used to determine the existing land use patterns in relation to drainage facilities. Impacts of the proposed plan were then determined by assessing what changes would result in streamflow, sediment generation, groundwater conditions and potential water quality concerns.

### Standards of Significance

Based upon EIP's professional judgement and reflective of Appendix G of the CEQA Guidelines, impacts are considered significant if one or more of the following conditions would result from implementation of the proposed project:

- Significant change in rate and amount of surface runoff or change in amount of water in any water body.
- Substantial degradation of water quality.
- Contamination or substantial reduction of a public water supply.
- Substantial degradation or depletion of groundwater resources.
- Substantial interference with groundwater recharge or direction and rate of groundwater flow.

- Location of facilities within a flood-prone area or alterations to the course or flow of floodwater.
- Substantial flooding, erosion or siltation.
- Alteration of stream flow characteristics which result in erosion, sedimentation or flooding downstream.

Evaluation of the significance of project-specific impacts in relation to this criteria is provided in the following discussion.

Preferred Plan Impact

4.2-1 **Implementation of the proposed General Plan would result in changes to the amount of surface flow generated. This is a *less-than-significant impact.***

The preferred plan will result in a decrease of the acreage of heavy industrial (297 acres) and an increase in light industrial (269 acres) and urban mixed-use (MU3) (350 acres) above the presently existing land uses. The generation of storm water runoff is dependent upon the percent of impervious area; that is, the percentage of total site area covered by asphalt parking areas and building area. Industrial and commercial areas are anticipated to have a coverage of impervious area of 80 to 90 percent, while multi-family residential may vary in the range of 45 to 90 percent and single family residential from 10 to 55 percent, dependent upon lot size. Many underutilized properties are likely to be recycled to higher intensity use so that newly designated light industrial areas may ultimately have greater coverage than presently exists.

It is anticipated that the reduction of heavy industrial acreage would be offset by the increase in light industrial land. The increase in urban mixed-use will result in a decrease in surface runoff compared to the existing land uses; however, adequate drainage must be provided to new land uses to ensure that localized flooding does not occur. Future development must also take into account existing capacity problems. These problems must be addressed as new development proceeds.

Implementation of Policies CN2.11 and CN5.8 would reduce the amount of surface runoff generated and reduce the level of significance of this impact; however, coordination with the Los Angeles County Flood Control District and Caltrans would be required to ensure that drainage needs are assessed on an ongoing basis as new development occurs.

Preferred Plan Mitigation Measure

4.2-1 *Implement Conservation Element Policies CN2.11 and CN 5.8 and coordinate with the Los Angeles County Flood Control District and Caltrans to ensure that drainage needs are assessed on an on-going basis.*

Alternative Plan Impact

4.2-2 **Preferred Plan Impact 4.2-1 applies to the Alternative Land Use Plan.**

Under the Alternative Land Use Plan, higher FAR in the Mixed Use designation would occur. A higher FAR result in increased building heights but would not necessarily increase the building site coverage. The percentage of impermeable surfaces would remain comparable to that identified for the Preferred General Plan above.

Alternative Plan Mitigation Measure

4.2-2 *Preferred Plan Mitigation Measure 4.2-1 applies to the Alternative Plan.*

Alternative Plan Impact

4.2-3 **Development occurring under the proposed General Plan would potentially result in increased erosion from construction activities and increased site runoff. This is a *potentially significant impact.***

During future project construction, runoff from disturbed areas would likely contain silt and debris, resulting in short-term increases in the sediment load of drainage systems within the City. The significance of this impact would vary depending upon the level of construction activity, weather conditions, soil conditions, and the increased sedimentation of drainage systems within the area. Ultimate discharge of increased sediment loads to Santa Monica Bay or San Pedro Harbor must be considered a potentially significant impact.

Preferred Plan Mitigation Measure

4.2-3 *An erosion and sedimentation control plan shall be submitted to the City of El Segundo by the project proponent prior to grading. This plan may include, but not be limited to, the following erosion control methods:*

*i. During construction, soil on graded slopes shall be revegetated as soon as possible following disruption*

*ii. Use of interceptor ditches or drainage swales to intercept storm runoff from transporting sediment into stormwater drainage and to prevent sediment-laden runoff from leaving the disturbed area.*

*iii. Silt fences shall be constructed to prevent sheet flow across the adjacent slopes and down slope into stormwater drainages.*

*These and further measures shall be implemented by the contractor prior to mass grading and other soil disturbing construction activities onsite.*

Alternative Plan Impact

4.2-4 **Preferred Plan Impact 4.2-3 applies to the Alternative Land Use Plan.**

Alterative Plan Mitigation Measure

4.2-4 *Preferred Plan Mitigation Measure 4.2-3 applies to the Alternative Plan.*

Alternative Plan Impact

4.2-5 **Development occurring under the Preferred General Plan may require permitting from the Regional Water Quality Control Board. This is a *less-than-significant impact.***

Under EPA regulations (40 CFR Part 122), discharge associated with industrial activity, medium and large municipal separate storm sewer system and discharge which is determined to contribute to a violation of a water quality standard. This includes construction activity, such as, clearing, grading and excavation activities for areas greater than five acres.

The City is presently co-permittee with Los Angeles County and is undergoing studies for the permitting process. As individual projects are approved under the General Plan, permits will be required and regulated by the RWQCB.

Preferred Plan Mitigation Measure

4.2-5 *None required.*

Alternative Plan Impact

4.2-6 **Preferred Plan Impact 4.2-5 applies to the Alternative Land Use Plan.**

Alternative Plan Mitigation Measure

4.2-6 *Preferred Plan Mitigation Measure 4.2-5 applies to the Alternative Plan.*

Preferred Plan Impact

4.2-7 **Groundwater contamination at various locations within the City could affect groundwater quality underlying the proposed project area. This is considered a *potentially significant impact.***

Though groundwater quality is shown to be of reasonable condition compared to existing water quality standards, the presence of a number of contaminated sites within the City boundary in conjunction with high water table may result in potentially significant groundwater contamination problems. Implementation of Policies CN3.1 and CN3.2 would identify groundwater contamination problems however further investigation and remediation would be needed to ensure that contamination does not migrate to other portions of the basin. Mitigation measures for contaminated soil and groundwater are specified within Section 4.12, Public Health and Safety.

Preferred Plan Mitigation Measure

4.2-7 *Implement Mitigation Measure 4.2-3.*

Alternative Plan Impact

4.2-8 **Preferred Plan Impact 4.2-7 applies to the Alternative Land Use Plan.**

Alternative Plan Mitigation Measure

4.2-8 *Preferred Plan Mitigation Measure 4.2-7 applies to the Alternative Plan.*

## ENDNOTES

1. Richard Yribe, Los Angeles Department of Public Works, Planning, personal communication, October 23, 1991.

2. Ken Putnam, Public Works Director, City of El Segundo, personal communication, October 24, 1991.

3. Public Infrastructure and Facilities, Lightfoot Planning Group, October 1991.

4. California State Department of Water Resources, Southern District, Watermaster Service in the West Coast Basin, Los Angeles County, July 1, 1989 through June 30, 1990, September 1990.

5. California Department of Water resources, Watermaster service in the West Coast Basin, Los Angeles County, July 1, 1989 - June 30, 1990, September, 1990.

# 4.3 BIOLOGICAL RESOURCES

# 4.3 BIOLOGICAL RESOURCES

## INTRODUCTION

This section analyzes potential impacts to biological resources associated with revisions to the El Segundo General Plan. The analysis is based on information obtained from the Conservation and Open Space and Recreation Element of the El Segundo 1991 General Plan; the California Natural Diversity Data Base (CCNDDB) species account records; and several reconnaissance level surveys of the area. A survey of the City of El Segundo was conducted on March 20, 1991. The survey was intended to catalog habitats that may potentially be influenced through policy and land use changes to the El Segundo General Plan. The following discussion addresses the specific biological resources located within the City of El Segundo.

## SETTING

### VEGETATION

El Segundo is largely developed and supports very little native habitat. Ornamental landscaping and naturalized exotic species including grasses and thistles are the most common forms of vegetation in El Segundo. Portions of the City's older residential areas contain mature trees and shrubs, which provide limited habitat for native and introduced species which have adapted to urban environments, including birds and small mammals.

In general, the older industrial areas of the City are sparsely landscaped. However, the perimeter of the Chevron refinery is landscaped. A 2,500-foot row of mature eucalyptus trees border the refinery on the north and south, and a nearly landscaped berm borders the refinery along Sepulveda Boulevard.

In the coastal portions of El Segundo, there are remnants of the coastal strand community, including the southern dune scrub. This once vast sand dune community (originally some 22,400 acres) has been reduced by urbanization to a 277-acre site west of the Los Angeles International Airport, a 1.6-acre sanctuary at the Chevron refinery within El Segundo, and a 4-acre park in Manhattan Beach. Remnant dunes adjacent to the Hyperion Treatment Plant, including the Los Angeles Department of Water and Power right-of-way, may also contain dune scrub habitat. This dune scrub habitat contains many endemic insect species including the endangered El Segundo blue butterfly.

The following is a description of the vegetation communities found within El Segundo. Figure 4.3-1 displays the distribution of vegetation communities found within the City of El Segundo.

### Annual Grasslands/Ruderal Fields

This is a naturalized plant community, consisting of exotic annual grasses and forbs. These non-native plants have effectively out-competed the native perennial grassland community in California. Grazing practices have also contributed to the extirpation of the native grass species. These exotics are now so extensive, they are considered to be a naturalized climax community in California.[1]

Factors influencing the distribution of annual grasslands include: soil nutrients, moisture content, aspect, and grazing pressure. Typically, areas dominated by forbs indicate an early successional stage, while a dense stand of tall grasses represents the climax stage. Annual grasslands range from dense to sparse cover depending on weather patterns and agricultural practices.[2]

Annual grasses generally germinate in late fall and grow, flower, and seed through the winter and spring months. The plant finishes its lifecycle in one year, leaving its seed to repopulate the species during the following growing season. The most common species include wild oats (*Avena* spp.), rye grass (*Lolium* spp.), barley (*Hordium* spp.), brome (*Bromus* spp.), fileree (*Erodium* spp.), California Poppy (*Eschscholzia californica*), and fescue grass (*Festuca* spp.).[3] Grasslands/Ruderal Fields are limited to the few remaining open fields in El Segundo.

### Southern Dune Scrub

The southern dune scrub plant community exists on the stabilized dunes and flat terraces of the El Segundo Dunes. This unique plant community is identified by the CNDDB as a Sensitive Natural Community. Within El Segundo, this community is limited to the sanctuary established at the Chevron refinery and potentially the disturbed dunes east of Hyperion. Common species include *Ericameria ericoides*, lupine (*Lupinus chamissonis*), bladderpod (*Isomeris arborea*), lemonade berry (*Rhus integrifolia*), and buckwheat (*Eriogonum parvifolium*).[4]

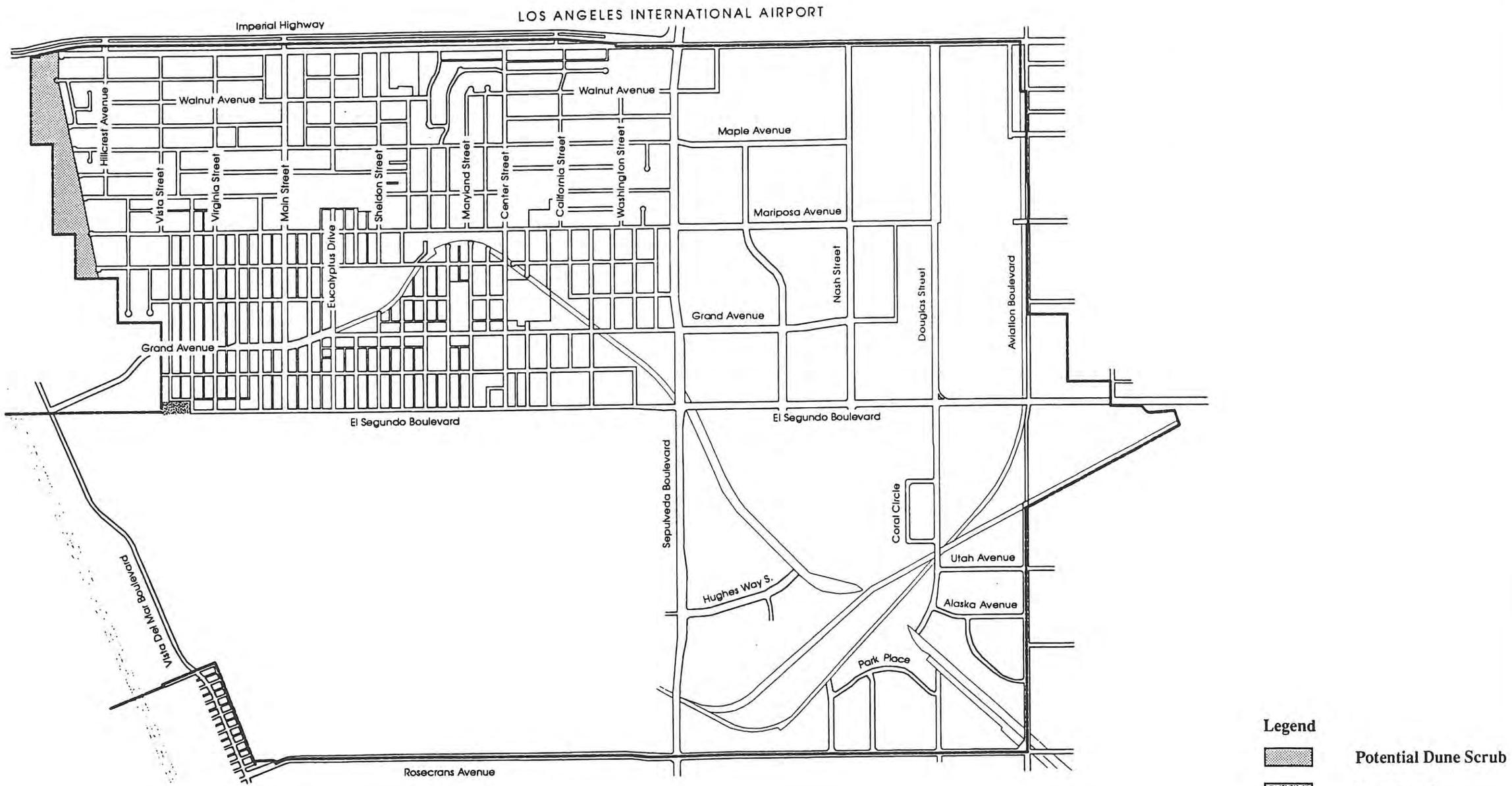
## WILDLIFE

Due to the urbanized nature of El Segundo, there are limited wildlife resources within the City. Common mammal and reptile species found in the area are the California ground squirrel (*Spermophilus beccheyi*), house mouse (*Mus musculus*), and Western fence lizard (*Sceloporous occidentalis*).

Many bird species feed and rest in the near-shore waters of El Segundo (see Table 4.3-1). Coastal birds are not expected to nest along the El Segundo coast because of its disturbed nature and lack of habitat.

# Vegetation Communities

**Figure 4.3-1**




*City of El Segundo • General Plan EIR*

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**TABLE 4.3-1**
**POTENTIAL BIRDS OF EL SEGUNDO**

| Common Name | Scientific Name | Common Name | Scientific Name |
|---|---|---|---|
| Double-crested cormorant | *Phalacrocorax auritus* | Killdeer | *Charadrius vociferus* |
| Brandt's cormorant | *P. penicellatus* | Ruddy turnstone | *Arenaria interpres* |
| Black turnstone | *Arenaria melanocephalus* | Whimbrel | *Numenius phaeopus* |
| Western gull | *Larus occidentalis* | Marbled godwit | *Limosa fedoa* |
| California gull | *L. californicus* | Glaucus-winged gull | *Larus glaucescens* |
| Mew gull | *L. canus* | Herring gull | *L. argentatus* |
| Heerman's gull | *L. heermanni* | Ring-billed gull | *L. delawarensis* |
| Least tern | *Sterna albifrons* | Bonaparte's gull | *L. philadelphia* |
| Burrowing owl | *Athene cunicularia* | Forster's tern | *Sterna forsteri* |
| Anna'a hummingbird | *Calypte anna* | Elegant tern | *Thalasseus elegans* |
| Black brandt | *Branta bernicia* | Rock dove | *Columba livia* |
| White-winged scooter | *Melanitta fusca* | Common scooter | *Melanitta fusca* |
| Surf scooter | *M. perspicillata* | Parasitic jaeger | *Stercorarius parasiticus* |
| European starling | *Sturnus vulgaris* | Northern mockingbird | *Mimus polyglottos* |
| Common loon | *Gavia immer* | Loggerheaded shrike | *Lanius ludovicianus* |
| Artic loon | *G. arctica* | House finch | *Carpodacus mexicanus* |
| Red-throated loon | *G. stellata* | White-crowned sparrow | *Zonotrichia leucophrys* |
| Western grebe | *Aechmophorus occidentalis* | Pied-billed grebe | *Podilymbus podiceps* |
| Brown pelican | *Pelecanus occidentalis* | Willet | *Catoptrophorus semipalmatus* |
| Western sandpiper | *Calidris mauri* | Sanderling | *Calidris alba* |

Source: Conservation Element, El Segundo General Plan Update, 1991.

## THREATENED AND ENDANGERED SPECIES

The list of sensitive species known to occur in the vicinity of El Segundo was derived from the Natural Diversity Data Base and the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California. A complete list of these species is included in Table 4.3-2.

**TABLE 4.3-2**
**RARE, THREATENED, OR ENDANGERED SPECIES**
**KNOWN TO OCCUR IN THE VICINITY OF EL SEGUNDO**

| Taxa[A] | Status (State/Fed/CNPS)[B] | Notes[C] |
|---|---|---|
| **PLANTS** | | |
| Beach spectacle pod (*Dithyrea maritima*) | T/C2/1B | Found along the coastal strand. Flowers much of the year. |
| Los Angeles sunflower (*Helianthus nuttallii parishii*) | -/C1/1A | This plant occurs in areas with wet soils. It flowers August through October at elevations between 1,000 and 1,500 feet. Thought to be extinct in California. |
| Braunton's milk vetch (*Astragalus brauntonii*) | -/C2/1B | Found in chaparral below 1,500 feet. Flowers February through June. |
| Ventura marsh milk vetch (*A. pycnostachyus lanosissimus*) | -/C1/1A | Occurs in coastal salt marshes. Flowering time is uncertain. Thought to be extinct in California. |
| Mexican flannelbush (*Fremontodendron mexicanum*) | R/C2/1B | Found along dry canyons to 1,500 feet in chaparral and woodland communities. Flowers March through June. |
| California orcutt grass (*Orcuttia californica*) | E/C1/1B | Found within drying mud flats (vernal pools) and grasslands. Flowers May through June. |
| Pacific pocket mouse (*Perognathus longimembris pacificus*) | -/C2/- | Inhabits the coastal plain from the Mexican border to El Segundo. Seems to prefer fine alluvial sands near the ocean. |
| California black rail (*Lateralus jamaicensis coturniculus*) | T/C1/- | Inhabits salt, fresh water, and brackish marshes. Suitable habitat not found in El Segundo. |
| Western snowy plover (*Charadrius alexandrius nivosus*) | CSC/C2/- | Found primarily in flat, dry sand just above the tide line. This species is unlikely to inhabit El Segundo because of the disturbed nature of City's coastline. |
| California least tern (*Sterna antillarum browni*) | E/E/- | Colonial breeder on bare or sparsely vegetated substrates along sand beaches, alkali flats, or land fills. This species may feed along or fly over the near-shore waters or beach areas. There have not been any nest sites observed in El Segundo. |

**TABLE 4.3-2**
**RARE, THREATENED, OR ENDANGERED SPECIES**
**KNOWN TO OCCUR IN THE VICINITY OF EL SEGUNDO**

| Taxa[A] | Status (State/Fed/CNPS)[B] | Notes[C] |
|---|---|---|
| Burrowing owl (*Athene cunicularia*) | CSC/-/- | Found in open nearly flat grassland where it is dependent upon large burrowing mammals, such as the California ground squirrel for its burrows. A possible resident of vacant fields within El Segundo. |
| California gnatcatcher (*Polioptila californica*) | CSC/C2/- | Prefers low, dense coastal sage scrub in arid washes, on mesas, and on slopes of coastal hills; habitats not found in El Segundo. |
| Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) | E/C2/- | Nests in pickleweed on and above tidal flats within salt marshes. Habitat not found in El Segundo. |
| San Diego horned lizard (*Phrynosoma coronatum blainvillei*) | -/C2/- | Inhabits coastal sage scrub and chaparral, either of which are found in El Segundo. |
| Globose dune beetle (*Coelus globosus*) | -/C2/- | Inhabitant of coastal sand dunes from Sonoma County to Ensenada, Mexico. Is most common beneath dune vegetation |
| Langes El Segundo dune weevil (*Onchobarus langei*) | -/C2/- | Inhabits the El Segundo Sand Dunes. |
| Dorothy's El Segundo dune weevil (*Trigonoscuta dorothea dorothea*) | -/C2/- | Inhabitant of coastal dunes. |
| Hennes eucosman moth (*Eucosma hennei*) | -/C2/- | Endemic to the El Segundo Dunes. Larvae feed on woody stems and upper root parts of *Phacelia ramosissima austrolitoralis*. |
| Saltmarsh skipper (*Panoquina errans*) | -/C2/- | Inhabits coastal salt marshes and grassy areas along the coastal strand. Host plant is salt grass (*Distichlis spicata*). |
| Palos Verdes blue butterfly (*Glaucopsych lygdamus palosverdesensis*) | -/E/- | Restricted to the seaward side of the Palos Verdes Hills. Host plant is *Astagalus trichopodus lonchus*. |
| El Segundo blue butterfly (*Euphilotes battoides allyni*) | -/E/- | Restricted to remnant dune habitats of southern California. Larvae feed only on the flowers and seeds of *Eriogonum parvifolum*. Adults use the same plant as a major nectar source. |

## Table 4.3-2 (Continued)

[A] Source:
California Natural Diversity Data Base.

[B] State/Federal/Other:

State:
California Endangered Species Act (1984), Native Plant Protection Act (1977), and the California Environmental Quality Act, as amended June, 1986.
R = Rare. Plants that although not currently Threatened are in such small numbers or restricted habitats that they may become Threatened or Endangered if present conditions continue.
T = Threatened. Plants or animals likely to become Endangered in the foreseeable future in the absence of protection action(s).
E = Endangered. Seriously in danger of becoming extinct.
CCE = California Candidate for listing as Endangered.
CCT = California Candidate for listing as Threatened.
CSC = California Department of Fish and Game Species of Special Concern.
CFP = A California Department of Fish and Game "fully protected" species, as described in Section 4700 of Chapter 8, Section 5050 of Chapter 2, Division 6, and Chapter 1, Section 5515.

Federal:
Federal Endangered Species Act of 1973, as amended.
E = Taxa formally listed as Endangered.
T = Taxa formally listed as Threatened.
C1 = Candidate taxa for which there is enough information to support the biological appropriateness of proposing to list as Threatened or Endangered.
C2 = Candidate taxa for which there is biological information that indicates that proposing to list the taxa as Threatened or Endangered is possibly appropriate, but for which substantial data on biological vulnerability and threat(s) is not currently known or on file to support the immediate listing.
C3 = Taxa that are no longer under consideration for listing. There are three subcategories, depending on the reason(s) for removal from consideration:
- 3A = Taxa believed to be extinct.
- 3B = Taxa with taxonomic problems that do not meet the Endangered Species Act definition of a "species".
- 3C = Taxa that are too common or widespread and/or those not subject to any identifiable threat(s).

PE = Proposed Endangered.
FSS = Federal (BLM and USFS) Sensitive Species.
1 = Category 1 Candidate for Federal listing. (Taxa for which the U.S. Fish and Wildlife Service has sufficient biological information to support a proposal to list as Endangered or Threatened.)
2 = Category 2 Candidate for Federal list. (Taxa which existing information indicates may warrant listing, but for which substantial biological information to support a proposed rule is lacking.)
W= Watch list. Location information for these taxa is not computerized. The NDDB is currently collecting distribution information but maintains manual files only.

Other:
Section 15380 of the California Environmental Quality Act [CEQA (September, 1983)] has a discussion regarding non-listed (State) taxa. This section states that a plant (or animal) must be treated as Rare or Endangered even if it is not officially listed as such. If a person (or organization) provides information showing that a taxa meets the State's definitions and criteria, then the taxa should be treated as such in an EIR.

The California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants (1985).
List 1 = Plants of Highest Priority.
List 1A = Plants presumed Extinct in California.
List 1B = Plants Rare or Endangered in California and elsewhere.
List 2 = Plants Rare or Endangered in California, more common elsewhere.
List 3 = Plants for which more information is needed.
List 4 = Plants of limited distribution (a watch list).

Priority:
1. Face immediate extirpation in California.
2. Definitely in decline.
3. Vulnerable to extirpation due to small natural range.

[C] Notes:

Smith, Jr., James P. and Berg, Ken (eds.), *Inventory of Rare and Endangered Vascular Plants of California*, California Native Plant Society Special Publication No. 1 (4th ed.), 1988.

Munz, Philip A., *A Flora of Southern California*, University of California Press, Los Angeles, California. 1974.

Animal Species of Concern Taken from the California Natural Diversity Data Base.

### Plants

The majority of sensitive plant species known to occur in the vicinity of El Segundo are typically found in plant communities that do not exist within the City. An exception is the beach spectacle pod, a member of the mustard family (Brassicaceae). An herb, this perennial plant has purplish to yellowish flowers which bloom much of the year and can be found along the coast between Los Angeles and San Luis Obispo as well as on San Nicholas Island.[5] It has historically been observed in the City of El Segundo. According to the NDDB, it was last observed in El Segundo in 1932. There were no plants observed in El Segundo during a survey taken in 1983.

### Animals

As with the plants, the majority of sensitive wildlife species listed in Table 4.3-2 inhabit habitats not found within El Segundo. Only the pacific pocket mouse and the El Segundo blue butterfly were identified in the NDDB within the City of El Segundo. The Pacific pocket mouse (*Perognathus longimembris pacificus*) is seasonally active, and feeds on seeds which it stores for inactive periods. This subspecies has been observed several times in the El Segundo area.[6]

The El Segundo blue butterfly is an endangered species endemic to the El Segundo Dunes. The larvae of this species feed only on the flowers and seeds of its host plant, buckwheat (*Eriogonum parvifolium*). The adults use the nectar from this plant species as their major food source. This species is declining due to introduced exotic plants which have caused the decline of its host plant. Population numbers are low, which may result in inbreeding and eventual genetic abnormalities.

Five other sensitive insect species are known to occupy the El Segundo Dunes and could potentially inhabit the Chevron sanctuary or the dunes east of the Hyperion Treatment Plant. The hennes eucosman moth and the Langes El Segundo dune weevil are endemic to the El Segundo Dunes. The rest are endemic to coastal sand dunes and include the loras abnoras moth, globose dune beetle, and Dorothy's El Segundo dune beetle.

### Relevant Policies of the El Segundo 1991 General Plan

There are four policies within the Conservation Element and the Open Space and Recreation Element of the El Segundo 1991 General Plan addressing biological issues. These policies are summarized briefly below:

OS15.1 would study the potential for expansion of the natural dune habitat in the Department of Water and Power in a manner compatible with development of its recreation potential.

OS15.3 would continue to support programs for the protection of the El Segundo blue butterfly.

CN4.1 would support environmental protection policies that protect sensitive habitat areas, including coordination with state and federal agencies having jurisdiction over such areas.

CN4.2 would protect the habitat of the El Segundo blue butterfly.

CN4.3 would require working with the Chevron Refinery and appropriate community organizations to monitor the condition of coastal habitat areas of the El Segundo blue butterfly.

CN4.4 would designate the habitat of the El Segundo blue butterfly as open space in the Land Use Element.

## IMPACTS AND MITIGATION MEASURES

This section addresses the potential impacts that may result due to the proposed revisions to the El Segundo General Plan. Impacts will be considered for vegetation communities, wildlife, and sensitive species that occur or potentially occur within the City of El Segundo.

### Methodology

The potential for significant impacts resulting from policy and land use changes proposed under the General Plan update were assessed by evaluating the importance of the habitat in relation to species observed or expected to inhabit the City. The examination was based on field surveys, existing literature, including *A Guide to Wildlife Habitats of California* and *Terrestrial Vegetation of California*, and a report from the California Natural Diversity Data Base.

### Standards of Significance

Impacts on biological resources are considered significant if implementation of the project would result in one or more of the following conditions:

- Substantial effect, reduction in numbers, restricted range, or loss of habitat for a population of a state or federally listed threatened or endangered species.
- Substantial interference with the movement of any resident or migratory fish or wildlife species.
- Substantially diminished or reduced habitat for fish, wildlife, or plants.
- Substantially diminished habitat that has significant human use for scientific or educational purposes.
- Disturbance of wetlands, marshes, riparian woodlands, and other wildlife habitats.

- Drop in fish or wildlife populations below self-sustaining levels.

- Loss of a native wildlife habitat or a plant community that is considered to be regionally unique or rapidly declining. For example, erosion or Hyperion activities resulting in disturbance or degradation to the dune scrub ecosystem will be considered significant.

- Threaten elimination of a native plant or animal community.

Evaluation of the significance of project-specific impacts in relation to this criteria is provided in the following discussions.

Preferred Plan Impact

4.3-1 **Buildout of the proposed General Plan will result in loss of the remaining ruderal fields found within the City of El Segundo. This is a *less-than-significant-impact.***

As discussed earlier, the annual grassland/ruderal field communities are expected to have limited habitat value because of their isolated location within an urban environment.

While no specific mitigation measures are required for biological resources, it is recommended that the City of El Segundo follow the example of Los Angeles and implement a restoration plan for the remaining sand dune ecosystem located within the City. There may be the potential to restore the open space area located in the northwest corner of the City. The City of Los Angeles is moving forward with a restoration plan for dune sites at the neighboring Hyperion Treatment Plant. Implementing such a program would give the City of El Segundo an opportunity to provide a biological and educational reserve in what otherwise is a fully urban environment.

Preferred Plan Mitigation Measure

4.3-1(a) *Consistent with proposed Policy OS15.1 of the El Segundo General Plan, it is recommended that the City investigate the feasibility of implementing a restoration plan for remaining portions of the City's sand dune ecosystem in coordination with City of Los Angeles restoration efforts.*

4.3-1(b) *Implement proposed Policies OS15.3 and CN4.1-4 of the El Segundo General Plan.*

Alternate Plan Impact

4.3-2 **Preferred Plan Impact 4.3-1 applies to the Alternative Land Use Plan.**

Alternative Plan Mitigation Measure

4.3-2 *Preferred Plan Mitigation Measures 4.3-1(a) and (b) apply to the Alternative Land Use Plan.*

## ENDNOTES

1. Lenz, Lee W. and Dourley, John, *California Native Trees and Shrubs*, Rancho Santa Ana Botanic Garden, Claremont, California, 1981.

2. Barbour, Michael and Major, Jack (eds.), *Terrestrial Vegetation of California*, California Native Plant Society Special Publication No.9, 1988, pp. 501-510.

3. Sauer, J.D., *Plant Migration*, California, 1988.

4. Natural Diversity Data Base, March 6, 1991.

5. Munz, P.A., *A Flora of Southern California*, California, 1974.

6. Ibid.

# 4.4 LAND USE

# 4.4 LAND USE

## INTRODUCTION

This section examines the land use impacts associated with the adoption of the proposed General Plan revision in the light of existing land uses and existing city and regional planning programs. The analysis is based on a review of existing General Plan and zoning documents for the City of El Segundo, the proposed General Plan, and the various General Plan background reports.

## SETTING

### EXISTING GENERAL PLAN

The existing Land Use Element of the El Segundo General Plan designates the land use categories shown on Table 4.4-1 and in Figure 4.4-1. The existing General Plan does not specify residential densities or land use intensities for nonresidential uses, and land use intensity is controlled by the underlying zoning designation. The zoning intensities shown are those which would typically be applied to the given general plan land use category. Land use intensities for residential uses are expressed in dwelling units (d.u.) per acre, while nonresidential intensities are expressed as Floor Area Ratios (FARs). FARs indicate the ratio of building area to land area, with a FAR of 1.0 indicating that one square foot of building space is permitted for each square foot of lot area.

### EXISTING USES

The City of El Segundo contains a mix of single family detached dwellings, duplexes, and multi-family residential complexes, local and visitor serving commercial uses, offices, research and development, and industrial uses (Table 4.4-2). The City is 97 percent built out and contains just 103 acres of vacant land.[1]

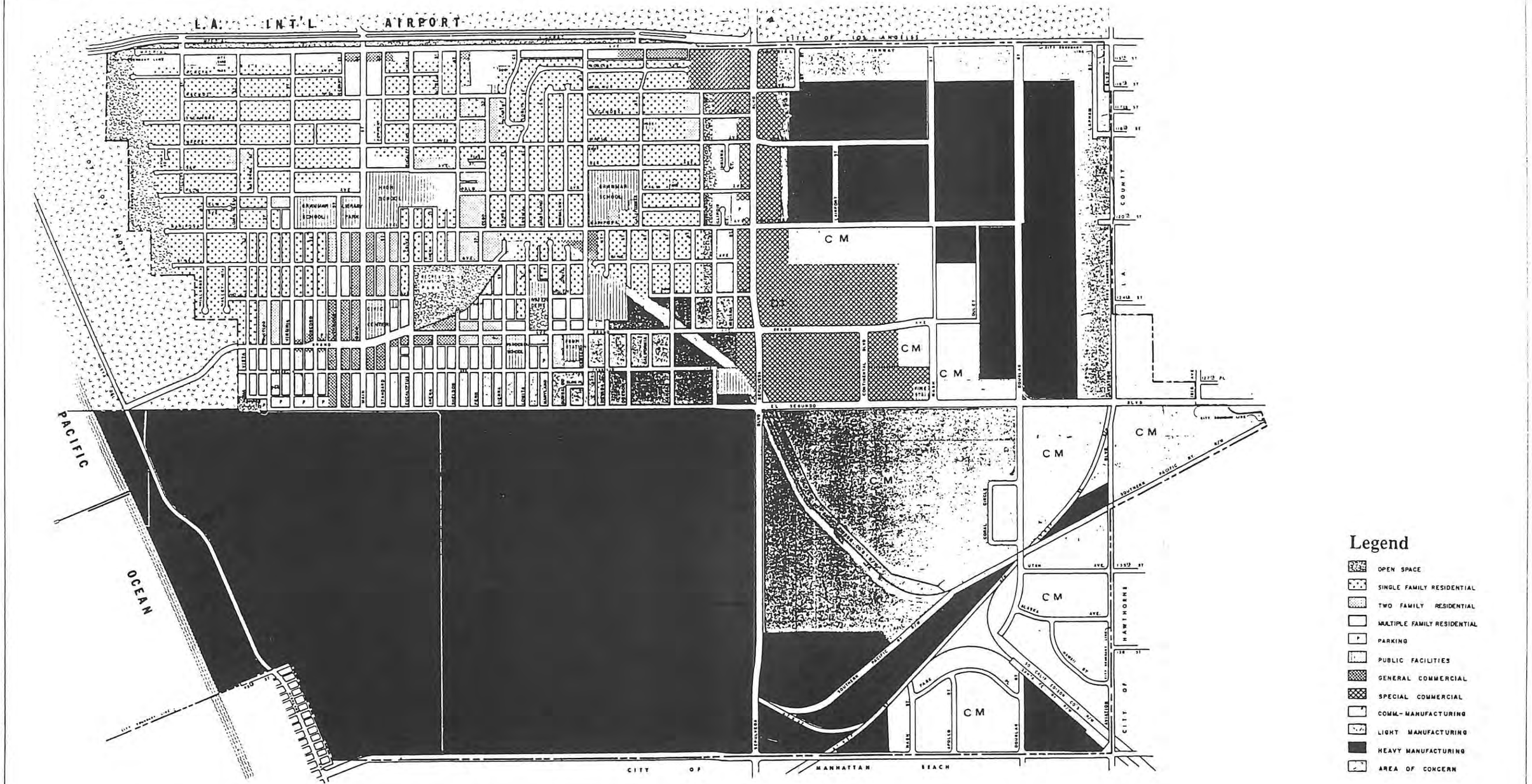
**TABLE 4.4-1**
**EXISTING LAND USE CATEGORIES**

| Designation | Permitted Uses | Zoning Intensity |
|---|---|---|
| Single Family Residential | One dwelling unit per residential lot | 8 d.u./acre |
| Two Family Residential | Two dwelling units per residential lot | 17 d.u./acre |
| Multiple Family Residential | Three or more dwelling units per residential lot | 29 d.u./acre |
| Open Space | Active and passive open space uses both publicly and privately owned | Not applicable |
| Parking | Vehicular parking | Not applicable |
| Public Facilities | Publicly owned facilities including schools, maintenance yards, the Civic Center and library | Not specified |
| General Commercial | Retail uses and offices providing personal services to the general public | Maximum FAR of 1.0 |
| Special Commercial | Retail uses, offices, and hotels | 100-200 ft. height limit and maximum FAR of 2.0 east of Sepulveda; 40-45 foot height limit and maximum FAR of 1.0 west of Sepulveda |
| Commercial Manufacturing | Retail and wholesale sales, offices, hotels, industry | Maximum FAR of 1.0 |
| Light Manufacturing | Light manufacturing, research and development, and related offices | Maximum FAR of 1.0 |
| Heavy Manufacturing | Heavy manufacturing, factories, construction yards, generating stations, extraction of raw materials, and refineries | Maximum FAR of 1.0 |

City of El Segundo 1975 General Plan

# Existing General Plan Map-1975

Figure 4.4-1




*City of El Segundo • General Plan EIR*

SOURCE: CITY OF EL SEGUNDO PLANNING DEPARTMENT, 1975

90345

**TABLE 4.4-2**
**CITY OF EL SEGUNDO**
**SUMMARY OF LAND USES ACRES**

| Land Use Category | Existing Land Use |
|---|---|
| Single Family Residence | 397.9 |
| Two Family Residence | 45.7 |
| Multifamily Residence | 89.2 |
| Neighborhood Commercial | 41.9 |
| General Commercial | 21.3 |
| Light Industrial | 469.8 |
| Heavy Industrial | 1,266.4 |
| Corporate Office | 235.2 |
| Urban M.U. | 0.0 |
| Open Space | 162.7 |
| Parking | 61.1 |
| Public Facilities | 80.2 |
| Federal Government | 96.5 |
| Vacant/Non Designated | 83.9 |
| Streets & RR-ROW's | 442.6 |
| City Totals | 3,494.4 |

City of El Segundo 1991

**TABLE 4.4-2 (Continued)**
**CITY OF EL SEGUNDO**
**SUMMARY OF LAND USES**
**DWELLING UNITS**

| Land Use Category | Existing Land Use |
|---|---|
| Single Family Residence | 3,183.2 |
| Two Family Residence | 809.6 |
| Multifamily Residence | 3,197.3 |
| Total Dwelling Units | 7,190.1 |

City of El Segundo 1991

**TABLE 4.4-2 (Continued)**
**CITY OF EL SEGUNDO**
**SUMMARY OF LAND USES**
**SQUARE FEET**

| Land Use Category | Existing Land Use |
|---|---|
| Neighborhood Commercial | 899,514.0 |
| General Commercial | 1,207,766.4 |
| Light Industrial | 10,232,244 |
| Heavy Industrial | 4,510,638.0 |
| Corporate Office | 10,573,425.9 |
| Urban M.U. | 0.0 |
| Total Sq. Ft. | 27,423,588.3 |

City of El Segundo 1991

For discussion purposes, the City has been divided into four quadrants divided by Sepulveda Boulevard, running in a north/south direction and El Segundo Boulevard, running in and east/west direction. These four areas are described as follows:

## Northwest Quadrant

The northwest quadrant contains the residential sector of the City, the downtown area, and the Smoky Hollow Industrial Area. The 25 acre downtown area is centered on Main Street. It contains a mixture of single and multi-family residential uses, retail, restaurant and office commercial uses, and the Civic Center. The area primarily serves the local community and functions as a downtown for the City. Commercial development is typically one story with an average floor area ratio (FAR) of 0.5.[2]

The 99 acre Smoky Hollow industrial area is located on the northerly side of El Segundo Boulevard. Manufacturing and industrial uses account for approximately 75 percent of the area. The typical FAR for these uses is 0.45.[3] There is also a sprinkling of vacant land, commercial development and residential uses, including a block of newer town homes at the northerly edge of this area.

The remainder of the northwest quadrant is a 687 acre area predominantly in residential use. Approximately 60 percent of the area is devoted to single family residential use, with the remainder developed with duplexes, multi-family residential uses, and public uses supportive of the residential use. The latter include schools, parks, and a library.[4]

## Northeast Quadrant

The northeast quadrant of the City is a 628 acre commercial area typified by large corporate offices and research and development facilities. The westerly portion of the quadrant contains the Sepulveda Boulevard "super-block" of high-rise, high-tech development dominated by large aerospace firms. Other

commercial uses in the area include major hotels. Additional office and hotel uses have been approved for a number of vacant sites in the area.

Development in the easterly portion of the quadrant tends to be mid to low-rise in nature with property divided amongst smaller individual users to a greater extent than in the westerly portion of the quadrant. Floor Area Ratios for office uses in the northeast quadrant are in the range of 1.11 to 1.19, with FARs for manufacturing and warehouse uses averaging .44.[5]

### Southeast Quadrant

The southeast Quadrant is a 620 acre area predominantly used for light industry, offices, and research and development. Heavy industrial uses such as the chemical industry, also exist in the area. The average FAR in the area is .49 for office/industrial uses and .38 for manufacturing/warehouse uses.[6] Development is typically one to two stories and tends to have smaller individual users than the large corporations dominating the northeast quadrant.

### Southwest Quadrant

The southwest quadrant contains the 955 acre Chevron Refinery site and the 50 acre Coastal Zone. The refinery is surrounded by landscaped areas and earth berms in order to help buffer it from the surrounding community. The Coastal Zone is occupied by the Chevron Refinery's marine terminal and effluent treatment plant, the Southern California Edison Company Generating Plant, a Chevron service station and a three acre, privately owned beach.

### Surrounding Uses

Los Angeles International Airport (LAX) is immediately adjacent to the El Segundo City limits on the north. Aviation activity at LAX has significant effects on surrounding land uses due to aircraft noise and height limits imposed under Federal Aviation Regulations Part 77. Adjacent to the City on the west, is the Hyperion Treatment Plant. This wastewater treatment plant handles wastewater from the region for ultimate discharge into the ocean. The plant has in the past caused odor, noise, and visual impacts that have affected the City of El Segundo. Other areas adjacent to the City of El Segundo are predominantly in residential use, with commercial uses lining Aviation Boulevard in the City of Hawthorne east of El Segundo and in Manhattan Village southeast of the intersection of El Segundo and Sepulveda Boulevards.

## EXISTING TRENDS

In recent years, a number of land use trends have become apparent. The number of single family homes has decreased while multi-family residential development has increased, and the size of single family homes has increased. Non-residential development has been characterized by an increase in commercial and professional uses and a reduction in manufacturing and industrial uses. In addition, an increased potential exists for ancillary commercial uses designed to serve the daytime population.

### GENERAL PLAN CONFORMITY

Under the existing General Plan, there is considerable potential for intensification of residential uses in the City, with approximately one third of all Two Family Residential sites in single family use as of 1987.[7] Considerable single family uses also exist in areas designated for Multi-family Residential use. At the same time, residential units have been established as a secondary use in the downtown commercial area and numerous duplexes exist in Single Family Residential areas.

Over the years, numerous uses have been established which do not conform to the existing General Plan. These include hotel and office uses in areas designated for industrial use as well as the residential uses discussed above. In addition, many uses have been established at an intensity exceeding that permitted under the existing zoning. Thus, if all parcels were built out at currently permitted intensities and nonconforming uses permitted to remain, the total development at buildout would exceed the overall ceiling provided by the General Plan as shown under Existing General Plan Trends in Table 4.4-2.

### LOCAL COASTAL PROGRAM

State coastal policy is intended to provide for preservation of coastal resources and coastal dependent uses and enhance public access to the shoreline. Consistent with these goals, the El Segundo Local Coastal Program (LCP) provides for public access, including a walkway, along the private beach. Land use designations under the LCP are reflective of existing uses.

## IMPACTS AND MITIGATION MEASURES

A planning program would be considered to have a significant impact on land use if the proposed plan results in:

- uses incompatible with surrounding uses,
- uses out of character with the surrounding area, or
- a change of existing or planned land use patterns in the area.

The following types of impacts on land use could result from adoption of the proposed General Plan:

- Redefinition of land use categories, including incorporation of density and intensity standards into the Land Use Element, consistent with requirements of Section 65302 a of the California State Government Code.
- Changes in the area devoted to specific land uses
- Adoption of policies which may ultimately affect land use.
- Incompatibility with existing planning programs

**Discussion of Impacts**

For purposes of this analysis, two lead alternatives will be discussed. These alternatives differ in the land use intensity permitted for the Urban Mixed Use Category.

Generally, both the Preferred Plan and the Alternative Plan follow existing land use trends toward a small reduction in single family homes in favor of duplexes and multi-family development, increased office, commercial, and light industrial uses with a reduction in heavy industry, and increased mixed use. Land use categories under the proposed General Plan are shown in Table 4.4-3 and the Land Use Plan in Figure 4.4-2. With the exception of the Urban Mixed Use category, the land uses provided in the various categories are roughly equivalent to those provided in existing categories. Urban Mixed Use is a new designation providing for a mixture of office, retail, and hotel uses. In addition, residential uses may be permitted upon the approval of a specific plan providing for such use.

Density and intensity standards will be provided in the General Plan as shown in Table 4.4-3. The inclusion of density and intensity standards in the Land Use Element of the General Plan is required under Section 65302 of the California Government Code. The density and intensity standards proposed are generally consistent with average densities and intensities in recent development. However, existing individual developments may have a higher or lower intensity. The intensities proposed under both the Preferred Plan and Alternative Plan are similar to those provided under current zoning for residential areas and are generally lower than those permitted under current zoning for most commercial and industrial uses.

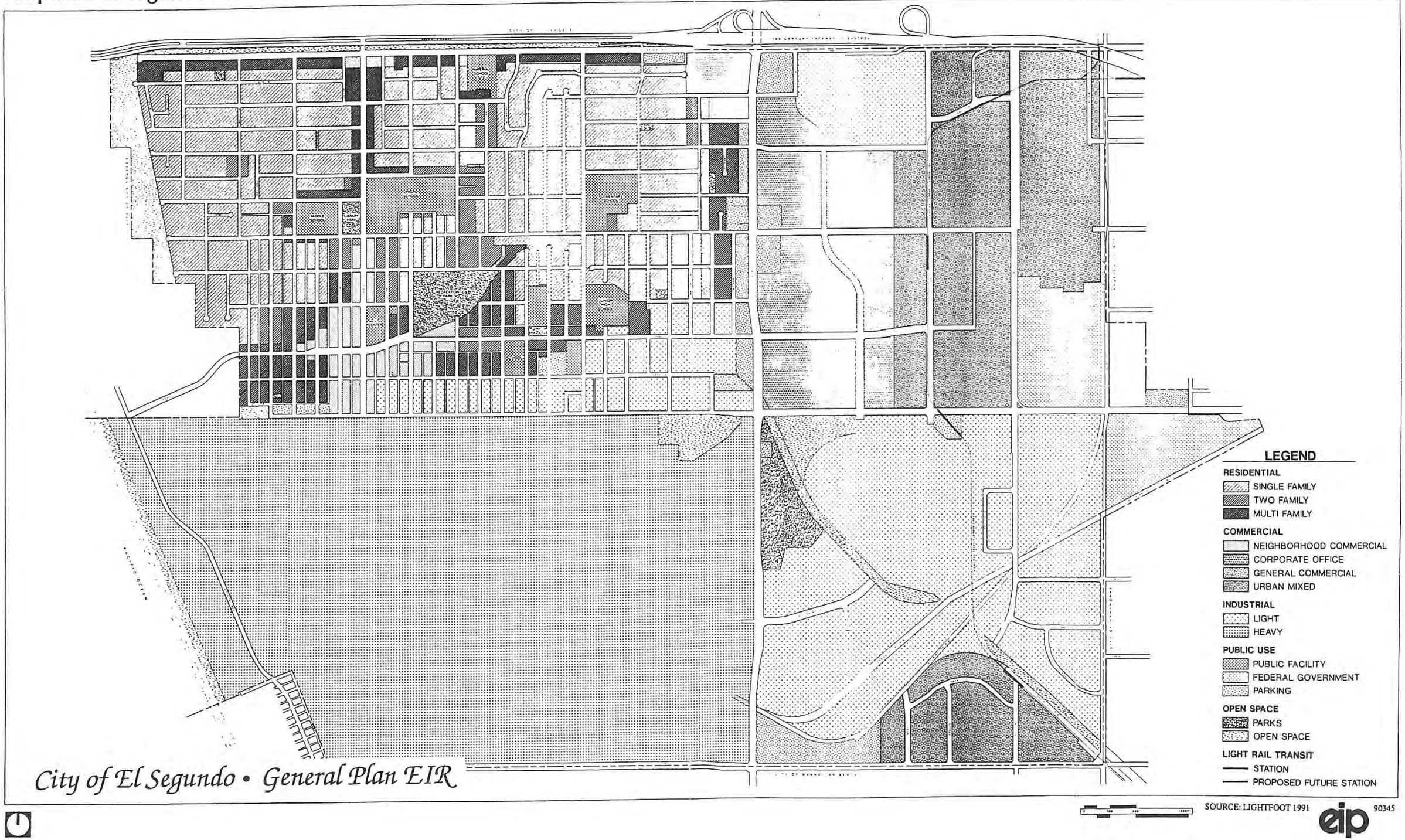
The proposed intensities would permit considerable additional development in office and light industrial areas. This would occur as vacant site areas developed, and previously developed sites are recycled to new uses. However, the proposed intensity limits are below the level of development provided on some existing sites in the City. Thus, some sites, particularly high rise development sites along Sepulveda Boulevard, would be rendered nonconforming under the proposed plan and the alternative plan.

For most categories, the permitted intensity is limited to the basic intensity shown. However, the intensity and mixture of uses in Urban Mixed Use areas would be defined by the traffic to be generated, with traffic limited to the vehicle trips which would be generated by office uses at the basic floor area ratio of 0.9 for exclusive office use under the Preferred Plan, and a floor area ratio of 1.5 under the Alternative Plan. This is consistent with the Government Code requirement that land use and circulation be coordinated.

The Preferred Plan and Alternative Plan both provide for 358.5 acres of single family residential uses, resulting in a maximum of 2,868 single family residences[8]. This is a reduction from the current 3054 single family residences on 397.9 acres[9]. However, many of the single family residences are in areas currently designated for Two Family or Multi-Family Residential use or are located in mixed residential areas where Multi-Family Residential uses predominate. Thus both plans will provide for compatible land use and are reflective of existing land use patterns and trends. Policies in both plans provide for the preservation of the quality and character of existing neighborhoods.

## Proposed El Segundo Land Use Plan 1991

**Figure 4.4-2**




SOURCE: LIGHTFOOT 1991

90345

TABLE 4.4-3
PROPOSED LAND USE CATEGORIES

| Designation | Previous Corresponding Designation | Permitted Uses | Maximum Intensity | Previous Maximum |
|---|---|---|---|---|
| Single Family Residential | Same | One dwelling unit per residential lot | 8 du/acre | Same |
| Two Family Residential | Same | Two dwelling units per residential lot | 17 d.u./acre | Same |
| Multiple Family Residential | Same | Three or more dwelling units per residential lot | 29 d.u./acre | Same |
| Open Space | Same | Active and passive open space uses both publicly and privately owned | Not applicable | NA |
| Parks | New Category | Public and private park and recreation facilities | Not applicable | NA |
| Parking | Same | Vehicular parking | Not applicable | |
| Public Facilities | Same | Publicly owned facilities including schools, maintenance yards, the Civic Center and library | Not specified | Same |
| Federal Government | New category | U.S. Government facilities, including housing | Not specified | NA |
| Neighborhood Commercial | General Commercial | Retail uses and offices providing personal services to the general public | 0.5 FAR | 1.0 FAR |
| General commercial | Special Commercial | Retail uses, offices, and hotels | 1.0 FAR | 100-200 ft. height limit and 2.0 FAR east of Sepulveda; 40-45 foot height limit and 1.0 FAR west of Sepulveda |
| Deleted | Commercial Manufacturing | Retail, wholesale, office, hotel, and industrial | NA | 1.0 FAR |
| Light Industrial | Light Manufacturing | Light manufacturing, research and development, and offices | 0.6 FAR | 1.0 FAR |
| Heavy Industrial | Heavy Manufacturing | Heavy manufacturing, factories, construction yards, generating stations, extraction of raw materials, and refineries | 0.6 FAR | 1.0 FAR |
| Urban Mixed Use | New Category | Office, retail, and hotel | 0.9 FAR or equivalent traffic generation | NA |
| Corporate Office | New Category | Office with limited retail in lobby areas | 0.8 | 2.0 FAR for offices in similar areas |

**TABLE 4.4-4**
**CITY OF EL SEGUNDO**
**SUMMARY OF LAND USES**
**ACRES**

| Land Use Category | Existing Land Use | Preferred Plan |
|---|---|---|
| Single Family Residence | 397.9 | 358.5 |
| Two Family Residence | 45.7 | 56.6 |
| Multifamily Residence | 89.2 | 117.0 |
| Neighborhood Commercial | 41.9 | 44.5 |
| General Commercial | 21.3 | 63.3 |
| Light Industrial | 469.8 | 538.9 |
| Heavy Industrial | 1,266.4 | 969.0 |
| Corporate Office(MU2) | 235.2 | 211.2 |
| Urban M.U. (MU3) | 0.0 | 349.6 |
| Open Space | 162.7 | 165.4 |
| Parking | 61.1 | 7.9 |
| Public Facilities | 80.2 | 73.4 |
| Federal Government | 96.5 | 96.5 |
| Vacant/Non Designated | 83.9 | 0.0 |
| Streets & RR Rights-of-Way | 442.6 | 442.6 |
| City Totals | 3,494.4 | 3,494.4 |

**TABLE 4.4-4 (Continued)**
**CITY OF EL SEGUNDO**
**SUMMARY OF LAND USES**
**DWELLING UNITS**

| Land Use Category | Existing Land Use | Preferred Plan |
|---|---|---|
| Single Family Residence | 3,183 | 2,868 |
| Two Family Residence | 809 | 996 |
| Townhome Residence | 0 | 0 |
| Multifamily Residence | 3,197 | 3,923 |
| Total Dwelling Units | 7,190 | 7,787 |

**TABLE 4.4-4 (Continued)**
**CITY OF EL SEGUNDO**
**SUMMARY OF LAND USES**
**SQUARE FEET**

| Land Use Category | Existing Land Use | Preferred Plan | Alternative Land Use Plan |
|---|---|---|---|
| Neighborhood Commercial | 899,514.0 | 969,210 | 969,210 |
| General Commercial | 1,207,766.4 | 2,447,636.4 | 2,447,636.4 |
| Light Industrial | 10,232,244.0 | 22,925,557.6 | 22,925,557.6 |
| Heavy Industrial | 4,510,638.0 | 0.0 | 0.0 |
| Corporate Office | 10,573,425.9 | 12,351,219.2 | 12,351,219.2 |
| Urban M.U. | 0.0 | 17,397,167.0 | 23,561,473.3 |
| Total Sq. Ft. | 27,423,588.30 | 56,090,790.2 | 62,255,096.5 |

Source: City of El Segundo, The Lightfoot Planning Group, September 1991

Both the Preferred Plan and Alternative Plan provide for 56.6 acres of Two Family Residential uses and 117.0 acres of Multi-Family Residential uses, compared to 45.7 and 89.2 acres respectively existing. This will provide for an increase in non-single family dwelling units from 4,205 existing in 1990[10] to a maximum of 4,919 dwelling units under the preferred plan. Overall, total dwelling units in the City would increase to a maximum of 7,787[11] from the existing total of 7,190 existing in 1990. While this level of Two Family and Multi-Family residential development is quite close to the level that would be permitted under the existing General Plan and zoning, this does represent an increase from existing levels of development.

Under the Preferred Plan and the Alternative Plan, the area devoted to neighborhood commercial uses would increase from 41.9 acres existing to 44.5 acres. The FAR of 0.5 permitted for Neighborhood Commercial areas is typical of floor area ratios for the downtown area and other commercial sites in the northwest quadrant to which this designation would apply. By contrast, the existing zoning for these areas would permit a FAR of 1.0. A small amount of growth would be permitted on sites not yet built out. Square footage of neighborhood commercial uses would increase from 899,514 square feet to 969,210 square feet.[12] This is generally reflective of exiting trends. Neighborhood commercial uses would continue to be located in the downtown area.

General Commercial uses would increase from 21.3 acres and 1,207,766.4 square feet to 63.3 acres and 2,447,636.4 square feet[13]. The primary areas designated for this use are along Sepulveda Boulevard, with

a 21.3 acre site at Sepulveda Boulevard and Rosecrans Boulevard proposed as a mall, possibly an extension of the Manhattan Village Mall south of Rosecrans. The development of commercial uses along Sepulveda Boulevard would represent continuation of existing trends. The proposed FAR of 1.0 for commercial uses would allow for considerable growth on vacant sites and older developed sites, but is somewhat below the FARs of 1.11 to 1.19 existing on more recently developed sites.

The potential mall at Rosecrans and El Segundo Boulevard represents a departure from previous land use trends in the area, although it would be compatible with adjacent uses in the City of Manhattan Beach. In addition, further market studies are suggested to confirm whether adequate market demand exists to support the additional general commercial uses.

Areas exclusively devoted to corporate offices would decrease from 235.2 acres to 211.2 acres with square footage increasing from 10,573,425.9 to 12,351,219.2.[14] The increase may be attributed to intensification of development on existing sites and development of vacant parcels. Corporate offices would primarily be located in the area east of Sepulveda Boulevard and north of El Segundo Boulevard, where corporate offices currently predominate. Research and development would be permitted in areas designated for office use.

Policies in the proposed plan provide for a mixture of uses in office areas, calling for retail commercial uses on the ground floor of office buildings, in particular. Such retail use is supportive of the primary office use and is reflective of existing trends.

Under the Preferred Plan, Urban Mixed Use areas totalling 349.6 acres, with a maximum potential development of 17,397,167 square feet of exclusive office use or uses generating equivalent traffic impacts,[15] would be located easterly of the corporate office area. Under the Alternative Plan, 23,561,473 square feet of office use or equivalent traffic generators would be permitted. This would be consistent with existing trends toward office use and away from industrial uses.

The proposed FARs of 0.8 for corporate offices and 0.9 for Urban Mixed Use are well below the existing FARs for similar types of development along Sepulveda Boulevard, where FARs for newer development are above 1.1. These FARs are also below FARs of 1.0 and 2.0 currently permitted under the zoning code. The 1.5 FAR permitted in Urban Mixed Use Areas under the Alternative Plan are more in line with currently permitted densities. However, the proposed FARs are considerably more intense than the existing average FAR of .49 prevailing in the southeast quadrant for office/industrial development. Thus, intensities could drop slightly in the northeast quadrant while increasing in the southeast quadrant.

As shown in Table 4.4-4, the Preferred Plan and Alternative Plan will result in an increase in light industrial uses from 10,232,244 square feet on 469.8 acres to 22,925,557.6 square feet on 538.9 acres.[16] The proposed FAR of 0.6 for these uses is a reduction from the FAR of 1.0 currently provided under the zoning code, but is somewhat higher than existing average FARs of 0.45 in the Smoky Hollow area, 0.44

for manufacturing and warehouse uses in the northeast quadrant, and 0.49 and 0.38 for office/industrial and manufacturing/warehouse uses, respectively, in the southeast quadrant. Light industrial uses would primarily be established in the southeast quadrant of the City, in Smoky Hollow, and in a limited area of the northeast quadrant south of the Imperial Highway. This is reflective of existing land use trends.

Heavy industry would be reduced from 1,266.2 acres to 969 acres, with the only heavy industry remaining in the City to be located at the Chevron Refinery and the Southern California Edison Company Generating Station. All 4,510, 638 square feet of heavy industrial buildings, not including Chevron, would ultimately be removed/recycled, although existing buildings, processing equipment and tanks at the Chevron and Edison sites would be expected to remain for the life of the plan.[17] A maximum FAR of 0.6 would be permitted for these uses, providing the potential for increased development of structures on these sites.

Open space will increase from 162.7 acres to 165.4 acres,[18] with the primary increase occurring in utility corridor areas. Areas currently utilized for park use will be designated as such, as opposed to designated as general open space. This will help to ensure the continued availability of such areas for park use. In addition, proposed general plan policies provide for neighborhood parks in walking distance of all residents and use of utility easements for open space use, thereby supporting continued open space uses.

Areas devoted exclusively to parking will be reduced from 61.1 acres to 7.9 acres.[19] However, policies proposed in the preferred plan required that adequate parking be provided for all uses. Thus, while acreage devoted exclusively to parking will decrease, additional parking will be provided as ancillary to other, primary uses.

Acreage devoted to public facilities will be reduced from 80.2 acres to 73.4 acres.[20] This will primarily be a result of reallocation of small amounts of surplus public facility property to park use and to residential and commercial uses.

The Preferred Plan and Alternative Plan would provide for the continuation of existing uses in the Coastal Zone; thus, no effect on coastal planning programs is anticipated. Adoption of the Preferred Plan or Alternative Plan will require zoning amendments in order to achieve consistency with the general plan. However, as the zoning code is designed only to be a tool for implementation of general plan policy, rather than a plan unto itself, this is therefore not significant.

## LAND USE DESIGNATIONS

Preferred Plan Impact

4.4-1 **Density and intensity standards to be provided in the proposed General Plan will allow considerable growth in some areas. This is a *potentially significant impact.***

The proposed intensities would permit considerable additional development in office, general commercial and light industrial areas as shown in Table 4.4-4. This would occur as vacant sites are developed, and

previously developed sites are recycled to new uses. However, the proposed intensity limits are below the level of development provided on some sites in the City. Thus, some sites, particularly high rise development sites along Sepulveda Boulevard, would be rendered nonconforming under the proposed plan.

The intensity limits proposed are generally reflective of existing trends for new development. However, additional general commercial areas in the southeast quadrant would represent a departure from past trends in that area, and it is not known for certain whether adequate demand exists to support the full extent of general commercial uses proposed in the plan.

As currently proposed, the Land Use Element does not contemplate any additional heavy industrial uses. However, the proposed 0.6 FAR for the Chevron and Edison Company sites would allow for considerable new development, should either of these facilities redevelop.

The intensification of various land uses result in a change in community character toward additional large buildings and greater activity levels than currently exist in the eastern portion of the City. The evaluation of this change as negative or positive is a subjective matter. However, the intensification of use will also affect traffic, noise, and other factors as discussed and quantified in other sections of this report.

Preferred Plan Mitigation Measures

4.4-1(a) *A specific plan shall be prepared for any site currently designated Heavy Industrial at such time as redevelopment of such a site is contemplated. This measure will reduce potential impacts associated with unanticipated growth in heavy industrial areas to a less than significant level.*

4.4-1(b) *The City shall monitor market absorption of general commercial uses, and consider alternative uses for areas designated commercial at a later date if demand does not materialize. This measure will reduce potential impacts associated with overbuilding of commercial uses to a less than significant level.*

Alternative Plan Impact

4.4-2 **Impacts of the alternative land use plan would be the same as those for the proposed plan, except that the increased FARs permitted in Urban Mixed Use areas would permit the development of a maximum of 23,561,473.3 square feet of office use or other uses generating equivalent traffic, rather than the 17,397,167.0 square feet permitted under the Preferred Plan. This is a *potentially significant impact.***

Alternative Plan Mitigation Measure

4.4-2 *Preferred Plan Mitigation Measures 4.4-1(a) and 4.4-1(b) apply to the Alternative Plan.*

Preferred Plan Impact

4.4-3 **Implementation of the proposed plan will result in a decrease in areas devoted exclusively to parking.** ***This is a potentially significant impact.***

Preferred Plan Mitigation Measure

4.4-3 *Implementation of proposed General Plan Circulation Element policies C3.2.1 and C3.2.2 would ensure the provision of adequate on-site parking for new development which would reduce this impact to a less than significant level.*

Alternative Plan Impact

4.4-4 **Preferred Plan impact 4.4-3 applies to the Alternative Plan.**

Alternative Plan Mitigation Measure

4.4-4 *Preferred Plan Mitigation Measure 4.4-3 applies to the Alternative Plan.*

## POLICIES

Proposed land use policies which may affect land use patterns may be found in several elements of the proposed Plan, including the Land Use Element, Circulation Element, Economic Development Element, Air Quality Element, Housing Element, Noise Element, and Recreation Element. Land use policies do not differ between the preferred plan and the Alternative Plan. Therefore impacts will be identical. Specific policies having land use implications are discussed as follows.

Policy LU13.1

Develop appropriate overlay zoning districts for the area east of Sepulveda Boulevard which permit the continued operation, remodeling and expansion of existing nonconforming uses.

Impact

4.4-5 **This policy could lead to development intensities in excess of those currently existing and in excess of those provided in the adopted plan. This is a *potentially significant impact.***

Mitigation Measure

4.4-5 *Limit overlay districts to intensities and peak hour traffic generation provided under the adopted plan. This will reduce this impact to a less than significant level.*

Policy LU43.2

Encourage mixed use developments within one quarter mile of the Green Line stations.

Policy LU44.5

Consider allowing residential uses within the Urban Mixed Use area when proposed as part of a specific plan of sufficient magnitude to address and provide the service requirements of the proposed residents.

Policy AQ91.2

It is the policy of the City of El Segundo that the City consider encouraging housing in close proximity to the Green Line transit corridor and employment centers.

Impact

4.4-6 **These policies could result in the introduction of residential uses into areas previously utilized exclusively for commercial and industrial uses. Land use conflicts could result at the residential/commercial or residential/industrial interface. This is a *potentially significant impact.***

Mitigation Measure

4.4-6 *Land Use Element policies LU41.3 and LU55.1 require buffering of residential uses through the use of walls, landscaping, and open space. Implementation of these policies would reduce this impact to a less than significant level.*

Policy C4.2.4

Monitor and incorporate planning and development of Los Angeles International Airport (LAX) into all aspects of the City's planning.

Impact

4.4-7 **The effects of development at LAX on noise incompatibilities and on circulation patterns could lead to removal of residential uses in certain areas or the need for additional street rights-of-way and associated reduction in land available for adjacent uses. This is a *potentially significant impact.***

Incorporation of planning and development of plans for LAX into City plans could have implications for City land use, depending on how such planning and development were to proceed. While local communities are required to adopt general plans in conformance with adopted Airport Environs Land Use Plans (AELUP) under the California Public Utilities Code, no AELUP has been prepared for LAX. Earlier in 1991 legislation was proposed that would have exempted Los Angeles County from AELUP requirements. However, that legislation was not signed into law, and Los Angeles County is now pursuing preparation of an AELUP for LAX. Thus, the City may be making a somewhat open ended commitment under which the City would potentially be in a position of accommodating growth at LAX as a first priority to the detriment of City residents.

Mitigation Measures

4.4-7(a) *Monitor planning and development proposals at LAX to protect the City from undue noise effects and other potential land use conflicts.*

4.4-7(b) *Work with the Los Angeles Airport Commission to achieve acceptable planning for LAX.*

4.4-7(c) *Incorporate measures into City planning programs to reduce cut-through traffic and other adverse impacts of airport activities on the City.*

These measures will reduce the impact of Policy C4.2.4 to a *less-than-significant level.*

Policy ED12.1

Seek to expand El Segundo's retail and commercial base so that the diverse needs of the City's business and residential communities are met.

Policy ED12.2

Maintain and promote land uses that improve the City's tax base, balancing economic development and quality of life goals.

Policy ED21.4

Continue to invest in infrastructure that encourages commercial and industrial development.

Impact

4.4-8 **These policies would lead to increased commercial growth. This is a *potentially significant impact.***

Although individual policies and mitigation measures may be utilized to alleviate specific impacts of increased commercial and industrial uses, the character of commercial and industrial areas could be altered due to more intense use. This is a potentially significant unavoidable impact.

Mitigation Measure

4.4-8 *Implementation of General Plan policies LU15.4 through 15.6 and LU41.4 and LU43.3, concerning community design and City beautification, would reduce this impact to a less-than-significant level.*

Policy AQ91.1

It is the policy of the City of El Segundo that the City's Land Use Element and Housing Element and any subsequent Specific Plans incorporate measures that will promote a better balance of jobs and housing within the City.

Policy AQ91.3

It is the policy of the City of El Segundo that the City participate in subregional efforts to develop mutually beneficial approaches to improving the balance of jobs and housing.

Impact

4.4-9 **These policies could place the City in a position in which it could be forced to take measures to increase the production of housing in order to improve the city's jobs/housing balance. This could result in the conversion of single family areas to higher density use or conversion of commercial and industrial areas to residential use. This is a *potentially significant impact.***

Mitigation Measures

4.4-9(a) *Implement Land Use Element Policy LU32.4 which provides for the preservation of low density areas and careful investigation of zone changes to higher density use to ensure land use compatibility.*

4.4-9(b) *Develop policies and implement policies to achieve Objective LU31, which calls for the preservation, protection, and possible extension of single-family uses.*

Implementation of the above measures will reduce this impact to a *less than significant level.*

Policy N11.4

Consider noise impacts from traffic arterials and railroads, as well as aircraft when considering new areas for residential land use.

Policy N11.8

Continue to develop zoning, subdivision, and development controls to prevent future encroachment of noise-sensitive uses into present or planned industrial system or transportation system noise-impacted zones.

Policy N11.10

Require all proposed development to meet El Segundo's land use compatibility guidelines.

Impact

4.4-10 **These Noise Element policies could restrict development of residential uses in many areas of the City, and could impede development of mixed use areas if noise impacts on specific projects could not be reduced to acceptable levels. Depending upon how these policies were to be interpreted in the future, it could also prevent redevelopment of existing residential sites for residential use where noise compatibility was an issue. This is a**

**particular issue in portions of the northwest quadrant of the City subject to aircraft noise. This is a *potentially significant impact.***

Mitigation Measure

4.4-10(a) *Implement Noise Element policies N11.3, N11.5, N11.6, N11.7, and N21.1 which are designed to alleviate noise from traffic and other causes at their source.*

4.4-10(b) *Implement Noise Element Policies N11.9, N11.11, and N31.3 and Programs N11.9A, N11.10A, and N11.11A which provide for the incorporation of noise reduction features in new construction.*

Implementation of these measures will reduce noise conflicts related to land use and will reduce impacts associated with the above policies to a *less than significant level.*

Policy N31.2

Work to remove non-conforming land uses (mixed usage such as a residential dwelling on either CM, M-1, or M-2 zones) which result in noise incompatibility.

Program N31.2A

The City shall develop strategies for the orderly implementation of mitigation measures for present noise-impacted areas, such as the R1, R2, and R3 uses adjacent to the M1 uses.

Impact

4.4-11 **Noise Element policy N31.2 and Noise Element implementation program N31.2A could result in the elimination of existing residential uses in some areas. This is a *potentially significant impact.***

Because land uses may be nonconforming due to a number of factors, including size, intensity, and parking deficiencies as well as use incompatibility, this policy could apply to a broad collection of development, including residential development which is nonconforming only because it is located in a noise impact area.

Mitigation Measure

4.4-11 *Develop City programs to incorporate noise reduction measures into existing residential developments.*

## SOURCES


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2. El Segundo Development Services Department, 1987. City of El Segundo General Plan 2005, Background Report, Volume 1.
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14. Ibid.
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20. Ibid.

# 4.5 POPULATION AND HOUSING

# 4.5 POPULATION, HOUSING AND EMPLOYMENT

## INTRODUCTION

This section assesses potential population, housing and employment impacts associated with the El Segundo 1991 General Plan. The magnitude, location, timing, and characteristics of the potential growth resulting from this Plan will determine the level of impact on the environment and on the future needs of public services, facilities and utilities. In addition, the policies affecting population, housing and employment contained in the El Segundo 1991 General Plan will be described. The population, housing and employment projections developed from the Land Use Element of the El Segundo 1991 General Plan will be examined.

The setting section summarizes some of the information presented in the Housing Element: Existing Conditions Report prepared by The Lightfoot Planning Group and the Existing Conditions Report: Economic and Real Estate Analysis of the City of El Segundo prepared by Coopers and Lybrand.

## SETTING

### POPULATION

#### Population Growth Trends

Between 1970 and 1990, the City of El Segundo declined in population by 2.5 percent, while Los Angeles County as a whole experienced a growth rate of 25.9 percent (See Table 4.5-1). According to U.S. Census data, the City had 15,620 residents in 1970, and by 1980, the population declined to 13,752 residents. Between 1980 and 1990, the City's population increased to 15,223 residents, an increase of 10.7 percent. During the decade of the 1980s, Los Angeles County grew 18.5 percent.

**TABLE 4.5-1**
**POPULATION GROWTH OF**
**EL SEGUNDO AND LOS ANGELES COUNTY**
**1970, 1980 & 1990**

| | 1970 | 1980 | 1990 | Percent Change, 1970-80 | Percent Change, 1980-90 | Percent Change, 1970-90 |
|---|---|---|---|---|---|---|
| El Segundo | 15,620 | 13,752 | 15,223 | -12.0% | 10.7% | -2.5% |
| Los Angeles County | 7,041,980 | 7,477,412 | 8,863,164 | 6.2% | 18.5% | 25.9% |

Source: U.S. Census, 1970, 1980, 1990.

## City Population Forecast

City and regional population forecasts have been developed by the Southern California Association of Governments (SCAG) as part of the agency's Regional Growth Management Plan (1989). SCAG, which is responsible for regional planning efforts in areas of environmental, transportation, housing, economic development and growth management developed these forecasts for use in the Air Quality Management Plan (1989), Regional Transportation Plan (1989) and the Regional Housing Needs Assessment (1988). As shown on Table 4.5-2, SCAG forecasts El Segundo's population at 18,160 people in the year 2010. This represents an increase of 2,937 people or 19.3 percent during the 1990-2010 period. According to SCAG, the City's population is forecast to grow faster than that of Los Angeles County.

It is important to note that the SCAG forecast incorporates a jobs/housing balance policy. This policy is intended to reduce traffic congestion and air pollution by encouraging housing growth in jobs-rich subregions, and job growth in housing-rich subregions. The City of El Segundo is in the jobs-rich Santa Monica Bay subregion.

**TABLE 4.5-2**
**POPULATION FORECAST**
**EL SEGUNDO AND LOS ANGELES COUNTY**
**1990 AND 2010**

| | 1990 | 2010 | GROWTH 1990-2010 | PERCENT CHANGE 1990-2010 |
|---|---|---|---|---|
| El Segundo | 15,223 | 18,160 | 2,937 | 19.3% |
| Los Angeles County | 8,863,164 | 10,231,200 | 1,368,036 | 15.4% |

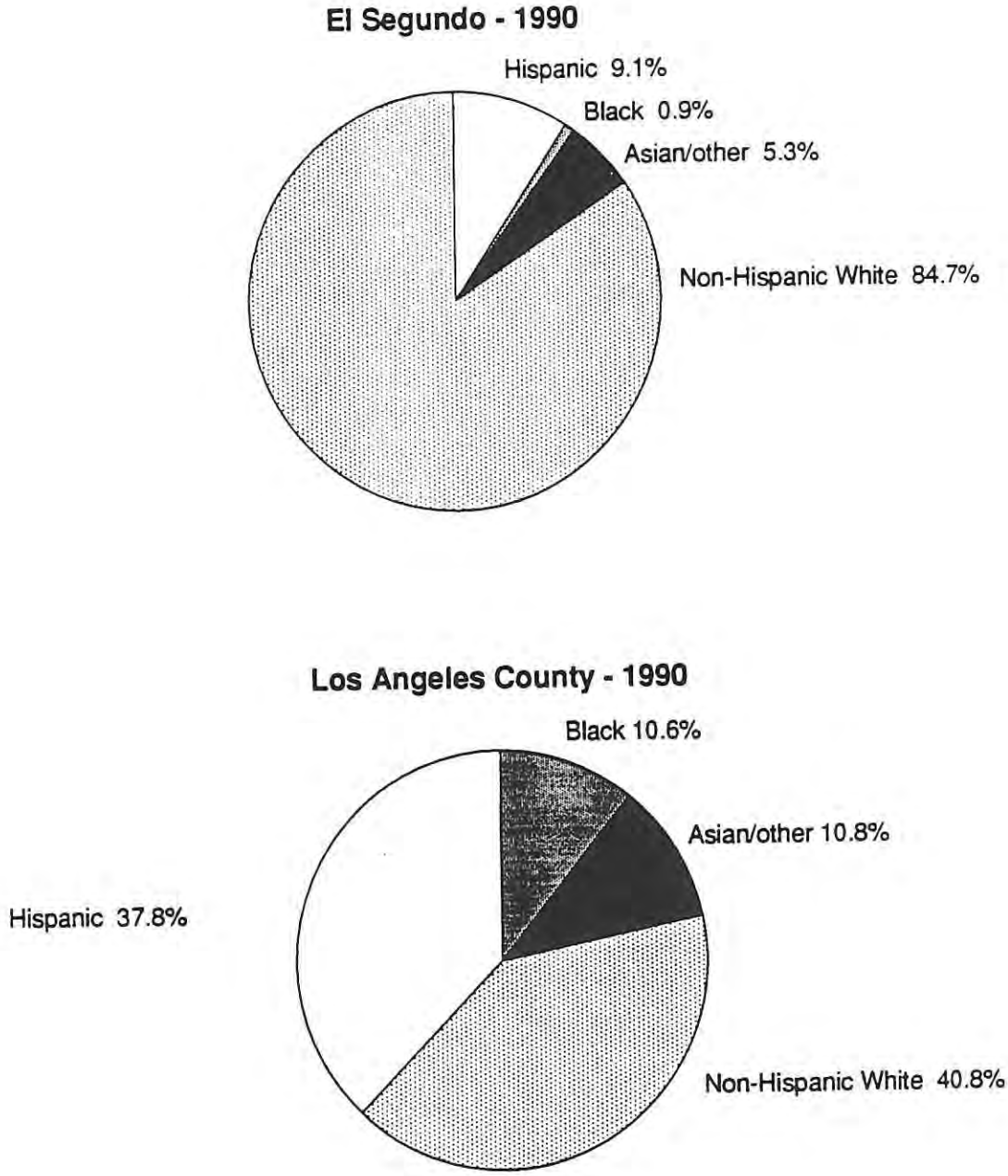
Source: Southern California Association of Governments, 1989.

## Ethnicity

El Segundo's ethnic composition is predominantly Non-Hispanic White. According to 1990 Census data illustrated in Figure 4.5-1, the ethnic mix of the city in 1990 was 84.7 percent Non-Hispanic White, 9.1 percent Hispanic, 0.9 percent Black and 5.3 percent Asian/other. This compares with a countywide population of 40.8 percent Non-Hispanic White, 37.8 percent Hispanic, 10.6 percent Black and 10.8 percent Asian/other.

# 1990 Ethnic Population
# El Segundo & Los Angeles County

Figure 4.5-1




Source: U.S. Census

90345

## Age Distribution

The age distribution of the City is an important factor in determining the demand for housing, the need for schools, and the size of the labor force. For example, a young population (ages 0-19 years) will need more schools and recreational facilities; young adult populations (20-34 years) tend to demand smaller, affordable housing; adult populations (35-65 years) favor larger, single-family units; and the senior population (65 years and older) require smaller units and more health care facilities.

Consistent with national trends, the population of El Segundo is aging. Between 1980 and 1990, the median age of the City's population increased from 32.6 years to 33.2 years. In 1990 the City's median age was higher than the current County median age of 32.6 years. The difference in age between the City and County was most apparent in the 0-19 age group (school age population) and the 35-54 age group. El Segundo's 0-19 age group represented 20.8 percent of the total population as compared to the County's 29.4 percent, while the 35-54 age group (adult population) was larger than the County (30.0 percent verses 24.6 percent).

**TABLE 4.5-3**
**AGE DISTRIBUTION OF POPULATION**
**EL SEGUNDO AND LOS ANGELES COUNTY**
**1980 AND 1990**

| AGE GROUP | El Segundo | | | | Los Angeles County | | | |
|---|---|---|---|---|---|---|---|---|
| | 1980 | Percent Share | 1990 | Percent Share | 1980 | Percent Share | 1990 | Percent Share |
| 0-19 | 3,401 | 24.7% | 3,162 | 20.8% | 2,298,184 | 30.7% | 2,607,411 | 29.4% |
| 20-34 | 4,131 | 30.0% | 4,778 | 31.4% | 2,093,316 | 28.0% | 2,565,534 | 28.9% |
| 35-54 | 3,739 | 27.2% | 4,571 | 30.0% | 1,645,885 | 22.0% | 2,182,024 | 24.6% |
| 55-64 | 1,372 | 10.0% | 1,249 | 8.2% | 701,472 | 9.4% | 647,608 | 7.3% |
| 65 over | 1,109 | 8.1% | 1,463 | 9.6% | 738,565 | 9.9% | 860,587 | 9.7% |
| **Total** | **13,752** | **100%** | **15,223** | **100%** | **7,477,412** | **100%** | **8,863,164** | **100%** |

Source: U.S. Census, 1980, 1990.

## Household Income

Household income characteristics reflect the economic profile, housing demands, and employment status of the population. According to information presented in the Coopers and Lybrand's Existing Conditions Report: Economic and Real Estate Analysis, the median household income in El Segundo Rose from $10,263 in 1970 to $22,096 in 1980 and to $43,975 in 1989, almost doubling between 1980 and 1989. As Table 4.5-4 shows, when incomes are adjusted for inflation, the change in household income is not as dramatic. In 1989 dollars, household income only increased from $32,932 in 1970 to $43,975 in 1990, a real increase of 33.5 percent.

**TABLE 4.5-4**
**HOUSEHOLD INCOME OF EL SEGUNDO**
**1970, 1980 & 1989**

| | 1970 | 1980 | 1989 (Est.) |
|---|---|---|---|
| Median Household Income | $10,253 | $22,086 | $43,975 |
| Adjusted Median Household Income(1989 $) | 32,932 | 33,370 | 43,975 |

Source: U.S. Census 1970, 1980; National Decision Systems, Coopers & Lybrand, 1991.

## HOUSING

### Housing Growth Trends

Since 1980, El Segundo has added 869 units to its housing stock, an increase of 13.7 percent. As shown in Table 4.5-5, this increase represents a doubling in the growth rate from the previous decade. It also shows that the City's growth was faster than the county as a whole, 13.7 percent versus 10.9 percent over the 1980 to 1990 period.

**TABLE 4.5-5**
**HOUSING GROWTH OF**
**EL SEGUNDO AND LOS ANGELES COUNTY**
**1970, 1980 & 1990**

| | 1970 | 1980 | 1990 | Percent Change 1970-80 | Percent Change 1980-90 |
|---|---|---|---|---|---|
| El Segundo | 5,925 | 6,321 | 7,190 | 6.7% | 13.7% |
| Los Angeles County | 2,537,763 | 2,853,451 | 3,163,343 | 12.4% | 10.9% |

Source: U.S. Census 1970, 1980, 1990.

There are several factors that have affected housing markets and new housing construction in the last twenty years. Rapid population and economic growth have fueled demand for housing in California, particularly in the major metropolitan regions. In the early 1980s, federal tax policy reforms contributed to speculative pressures on residential real estate. Income growth has enabled many Californians to bid up home prices in markets such as Los Angeles and Orange Counties where there is a strong economy.

The supply of housing has also been constrained by such factors as increased use of growth management practices by local governments in California to control the rate at which their communities grow, cutbacks

in the federal government's housing budget which have dried up funding for many low and moderate income housing development programs, and the passage of Proposition 13 which limited the rate of growth of property taxation by local governments statewide. In cities such as El Segundo, the limited availability of vacant land has further constrained housing development.

## Housing Projections

Based on the existing General Plan, buildout is projected at 7,735 units, an increase of 545 units or 7.6 percent over existing levels. According to the SCAG 1989 Growth Management Plan, the City's housing stock is forecast to increase to 8,540 by the year 2010, an increase of 1,350 units or 18.8 percent. As mentioned in the population section, SCAG's forecasts reflect a jobs/housing balance policy which encourages more housing growth than can be anticipated by trends. The SCAG forecast also shows Los Angeles County growing by 25.2 percent (See Table 4.5-6).

**TABLE 4.5-6**
**HOUSING PROJECTION**
**EL SEGUNDO AND LOS ANGELES COUNTY**
**2010**

| | 1990 | 2010 | Growth 1990-2010 | Percent Change 1990-2010 |
|---|---|---|---|---|
| **El Segundo:** | | | | |
| Existing General Plan | 7,190 | 7,735 | 545 | 7.6% |
| SCAG | 7,190 | 8,540 | 1,350 | 18.8% |
| **Los Angeles County** | 3,163,343 | 3,959,100 | 795,757 | 25.2% |

Source: U.S. Census 1990; 1984 El Segundo General Plan; Southern California Association of Governments.

## Housing Characteristics

Multiple-family dwelling units (2 or more units) captured 89.1 percent of the City's total housing growth during the 1980s. This growth resulted in El Segundo's 1990 housing stock having more multiple units 52.4 percent than single units 47.6 percent (See Table 4.5-7).

Of the total occupied units in 1990, 59.6 percent were rentals and 40.4 percent were owned. As pointed out in the Housing Element: Existing Conditions Report, opportunities in El Segundo for ownership have lessened over the years for the moderate and lower income buyer. This trend has led to a greater demand on existing rental stock. Demand on rental stock forces rental prices higher and creates less housing opportunities for every income category.

**TABLE 4.5-7**
**SINGLE/MULTIPLE FAMILY HOUSING UNITS**
**EL SEGUNDO**
**1980 & 1990**

| | 1980 | 1990 | Growth 1980-1990 |
|---|---|---|---|
| Single Family | 3,325 | 3,420 | 95 |
| (%) | (52.6%) | (47.6%) | (10.9%) |
| Multiple Family | 2,996 | 3,770 | 774 |
| (%) | (47.4%) | (52.4%) | (89.1%) |
| Total Units | 6,321 | 7,190 | 86.9 |
| | (100%) | (100%) | (100%) |

Source: U.S. Census, 1980, 1990.

Vacancy rate is defined as the percentage of unoccupied units in the total available housing stock; the lower the vacancy rate, the more constrained the housing market. Generally, a vacancy rate of 5 to 6 percent indicates a well-functioning and healthy housing market. From 1980 to 1990, vacancy rates had risen from 5.1 percent to 5.8 percent (See Table 4.5-8). This minor increase in the vacancy rate is best explained as a non-significant fluctuation in a traditionally stable market.

**TABLE 4.5-8**
**TOTAL, OCCUPIED AND VACANT HOUSING UNITS**
**EL SEGUNDO IN 1980 AND 1989**

| | 1980 | 1990 | Percent Change 1980-90 |
|---|---|---|---|
| Total Housing Units | 5,985 | 7,190 | 20% |
| Occupied Housing Units | 5,677 | 6,773 | 19% |
| Vacant Housing Units | 308 | 417 | 35% |
| Vacancy Rate | 5.1% | 5.8% | 14% |

Source: U.S. Census, 1980 and 1990; EIP Associates.

## Household Size

Nationally, American households are getting smaller due to a number of economic and cultural factors. El Segundo households mirrored this trend, when household sizes declined from an average of 2.71 persons per household in 1970 to 2.28 persons per household in 1980 and 2.25 persons per household in 1990.[1] Los Angeles County households in 1990 were significantly larger than in El Segundo (2.95 versus 2.25) (See Table 4.5-9).

**TABLE 4.5-9**
**HOUSEHOLD SIZE (PERSONS PER HOUSEHOLD)**
**EL SEGUNDO AND LOS ANGELES COUNTY**
**1970, 1980 & 1990**

| | 1970 | 1980 | 1990 | Percent Change 1970-80 | Percent Change 1980-90 |
|---|---|---|---|---|---|
| El Segundo | 2.71 | 2.28 | 2.25 | -15.56% | -0.44% |
| Los Angeles County | 2.90 | 2.74 | 2.95 | -5.52% | 7.66% |

Source: U.S. Census, 1990

### Affordability

The increase in El Segundo's overall housing vacancy rate is partially a result of increasing housing prices during the past twenty years. As demand for housing in El Segundo exceeded supply between 1970 and 1990, home prices and rental rates have risen generally faster than the rate of inflation over the same period. Moreover, the rate of appreciation in home values was more than triple the growth rate of household incomes during this interval, as is shown in Table 4.5-10.

Rental rates in El Segundo have risen from a median rent of $309 recorded in the U.S. Census for 1970 to $389 in 1980 and $754 in 1990. This represents a nominal growth rate of 144 percent between 1970 and 1990.

**TABLE 4.5-10**
**MEAN HOUSEHOLD INCOME, HOME PRICES, AND HOUSING AFFORDABILITY**
**EL SEGUNDO, 1970, 1980, AND 1990**

| El Segundo | 1970 | 1980 | 1990 | Percent Change 1970-80 | Percent Change 1980-90 | Percent Change 1970-1990 |
|---|---|---|---|---|---|---|
| Median Household Income | $10,263 | $22,086 | $43,975 | 115.2% | 99.1% | 328.5% |
| Median Home Price | $30,000 | $125,100 | $357,300 | 317.0% | 185.6% | 1,091.0% |
| Required Household Income* | $10,155 | $42,347 | $120,950 | 317.0% | 185.6% | 1,091.0% |
| Median Contract Rent | $309 | $389 | $754 | 25.9% | 93.8% | 144.0% |

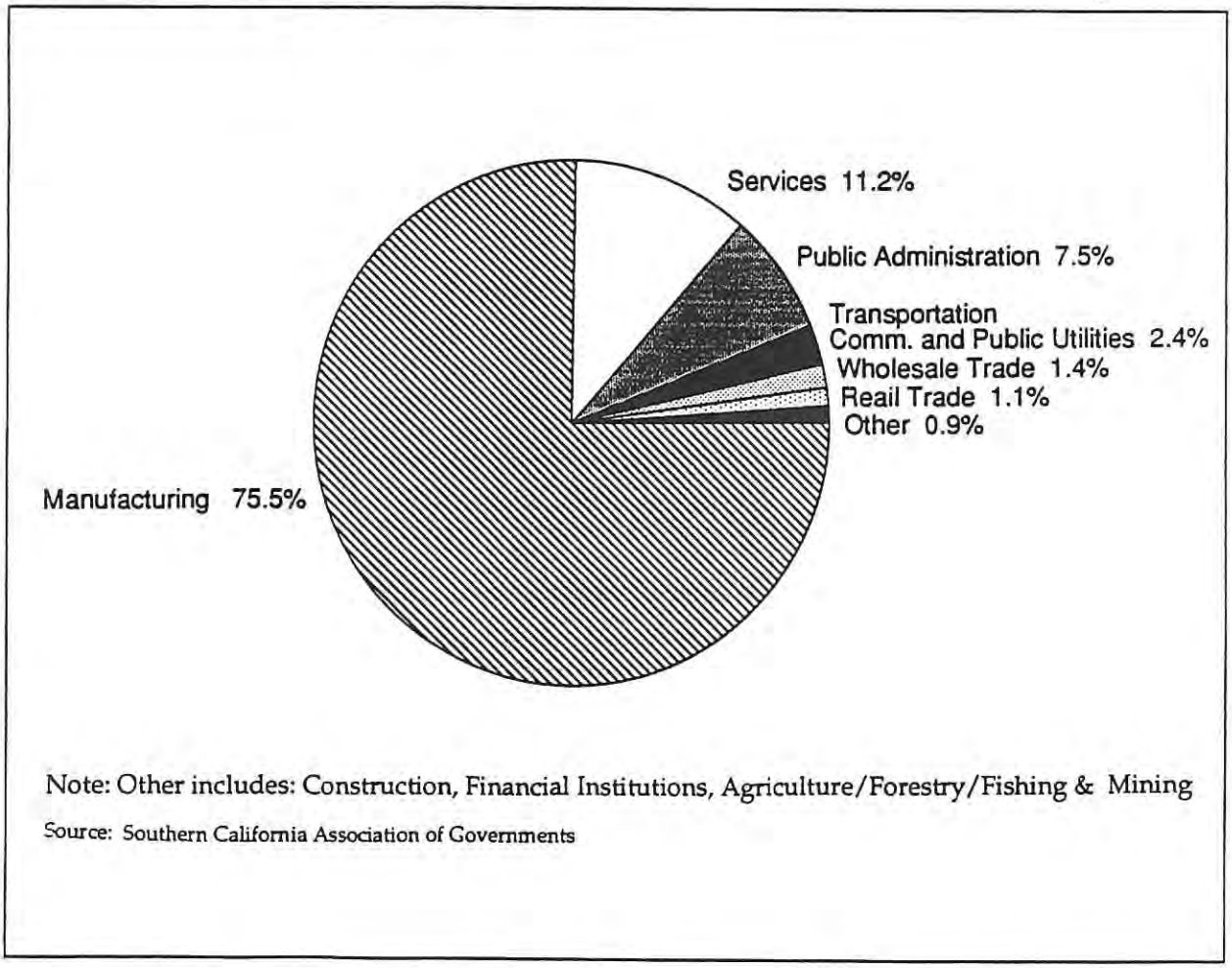
* Required household income is calculated assuming 10 percent down payment, 10 percent mortgage rate, and 28 percent qualifying ratio.

Source: U.S. Census, 1970, 1980, 1990; EIP Associates.

## Employment and Industrial Growth

The City of El Segundo and the South Bay as a whole is one of the major employment centers of the region. According to SCAG estimates, almost 93,000 jobs were located in the City in 1987. The top five employers represent approximately a third of El Segundo's total jobs. Hughes Aircraft Company, alone, employs approximately 20,000 people. Other major employers located in the City include the Xerox Corp., The Aerospace Corp., Northrup and Rockwell International[2]. Based on the names of the top five, it shows the importance of the high-tech manufacturing/industrial sector on the City economy. As illustrated in Figure 4.5-2, the largest single industrial sector is manufacturing, accounting for 75.5 percent of El Segundo's total employment. The aerospace firms are the largest single component of these manufacturing jobs. This is followed by the service industry at 11.2 percent and the public administration sector, which includes local government workers, public safety officers and educators at 7.59 percent.

**Major Industries in El Segundo - 1987** **Figure 4.5-2**




Note: Other includes: Construction, Financial Institutions, Agriculture/Forestry/Fishing & Mining

Source: Southern California Association of Governments

## RELEVANT POLICIES AND PROGRAMS OF THE 1991 GENERAL PLAN

There are eleven (11) policies and programs within the Housing Element of the El Segundo 1991 General Plan addressing housing supply and affordability issues. These policies and programs are briefly summarized below:

Program H11.3 The City will assure that information on the availability of assisted, or below-market housing is made available to all lower-income and special needs groups.

Program H22.1 The City will monitor the absorption of residential acreage in all densities and, if needed, recommend and encourage the creation of additional residential acreage at densities sufficient to meet the City's housing need for current and future residents.

Policy H33 Conversions to condominiums of existing rental units which can contain households of low and moderate income may not be approved unless findings can be made that; the units will remain affordable, and the City has met its need for affordable housing stock for lower and moderate income groups.

Program H33.1 Develop a program to restrict condominium conversion when such conversions would reduce the number of low or moderate housing units available throughout the City.

Program H34.1 The City shall develop and implement a program in which it will periodically collect information on the factors affecting supply and demand of existing rental stock within the City.

Program H36.1 The City through the Planning Department and in conjunction with the Building Department will provide loans, rebates and other support to preserve the existing stock of low and moderate income rental housing.

Program H37.1 The City will provide financial and processing incentives for the owners of lower income rental stock in need of rehabilitation and preservation.

Policy H38 The provision of rehabilitation assistance and assistance to homeowners will be targeted to low-income, special needs and senior households in that priority.

Program H.38.1 The City will implement a homeowner rehabilitation program targeted to lower-income, special needs (handicapped, low income large-family, etc.,) and senior households.

Program H52.1 Establish Senior Citizens' housing regulations that conform to the provisions of Government Code Section 65913.4 and 65915 (density bonus).

Policy H53 The City shall investigate requiring a minimum of three percent of all approved units in any planned residential projects or subdivisions to be set aside and be made affordable to moderate income households which currently exist in El Segundo.

There is one (1) policy within the Circulation Element, one (1) policy within the Land Use Element, and three (3) policies within the Air Quality Element of the El Segundo 1991 General Plan addressing jobs/housing balance issues. These policies and programs are briefly summarized below:

Policy C11.4 Provide all residential, commercial and industrial areas with efficient and safe access to the major regional transportation facilities.

Policy AQ91.1 It is the policy of the City of El Segundo that the City's Land Use and Housing Elements and any subsequent Specific Plans incorporate measures that will promote a better balance of jobs and housing within the City.

Policy AQ91.2 It is the policy of the City of El Segundo that the City consider encouraging housing in close proximity to the green line transit corridor and employment centers.

Policy AQ91.3 It is the policy of the City of El Segundo that the City participate in sub-regional efforts to develop mutually beneficial approaches to improving the balance of jobs and housing.

Policy LU44.5 Consider allowing residential uses within the Urban Mixed Use area when proposed as part of a specific plan of sufficient magnitude to address and provide the service requirements of the proposed residents.

## IMPACTS AND MITIGATION MEASURES

### Methodology

The population, housing and employment growth for the City of El Segundo is based on buildout of the proposed Land Use Element of the El Segundo 1991 General Plan. The housing projection assumes the maximum allowable densities of vacant residential land and underdeveloped land (property with less than 50 percent of its allowable density). The projected population is derived from the housing projection and assumes the citywide 1990 Census vacancy rate and household size. Future employment is generated using assumed floor area per employee by land use category. These employment factors are derived from the California Office of Planning and Research, Economic Practices Manual.

The proposed General Plan or "Preferred Plan", and an Alternative Land Use Plan are analyzed in this Draft EIR. They differ only in the allowed Floor Area Ratios (FAR) for urban mixed use land. The Preferred Plan allows an FAR of 0.9 and the Alternative Land Use Plan allows an FAR of 1.5. This results in a difference of approximately 8.2 million square feet of floor area. Residential land uses do not differ between the two plans.

The baseline numbers for population and housing are from the 1990 Census, and employment is from the 1987 estimates developed by the Southern California Association of Governments (SCAG). For purposes of this analysis, buildout is the year 2010.

Growth impacts are evaluated relative to city forecasts developed from the SCAG 1989 Growth Management Plan and 1988 Regional Housing Needs Assessment.

### Standard of Significance

In accordance with CEQA Guidelines, standards indicate that a project will have a significant effect on population, housing and employment if it will:

- Induce substantial growth or concentration of population, housing, and/or employment not anticipated in local, regional or State plans;
- Displace a large number of people;
- Result in growth inconsistent with the SCAG Growth Management Plan forecasts.
- Substantially alter the location, distribution, density, or growth rate of the human population of the area.

Evaluation of the significance of impacts in relation to this criteria is provided in the following discussion.

Preferred Plan Impact

4.5-1 **The Preferred Plan allows potential growth of 597 new housing units and 1,281 new residents to the City of El Segundo. This is a *potentially significant impact.***

Based on the residential designations in the Land Use Element, the Preferred Plan could potentially add 597 new units to the City's housing stock, thus increasing the existing number of housing units from 7,190 units to 7,787 units at buildout (See Table 4.5-11). The housing projection assumes buildout of the Plan. The maximum density of single family residential land use is eight dwelling units per acre; two family residential at 17 dwelling units per acre; and multi-family residential at 29 dwelling units per acre.

As shown in Table 4.5-11, assuming a 1990 citywide vacancy rate of 5.8 percent and a household size of 2.25, the potential population is 16,504 at buildout, a growth of 1,281 people or 8.4 percent from 1990.

SCAG's Growth Management Plan forecasts a growth of 2,937 residents and 1,350 housing units in the City of El Segundo by the year 2010. The population and housing growth projected under the Preferred Plan are within the levels of growth forecasted by SCAG for the City of El Segundo. However, the City and the surrounding subregion (Santa Monica Bay Subregion) are job-rich, housing-poor, and therefore, would require additional housing growth to off-set the demand created by the employment growth in the City. The level of housing growth proposed under the Preferred Plan does not meet the City's housing needs and is therefore considered a potentially significant impact.

**TABLE 4.5-11**
**EL SEGUNDO GENERAL PLAN**
**POPULATION AND HOUSING**

| | 1990 | Preferred and Alternative L.U. 2010 | Difference 1990-2010 |
|---|---|---|---|
| TOTAL POPULATION | 15,223 | 16,504 | 1,281 |
| TOTAL HOUSING | 7,190 | 7,787 | 597 |
| HOUSEHOLDS | 6,773 | 7,335 | 562 |
| VACANCY | 413 | 452 | 39 |
| VACANCY RATE | 5.8% | 5.8% | -- |
| HH SIZE | 2.25 | 2.25 | -- |

Note: Assumes future vacancy rates (5.8%) and household sizes (2.25%) to remain at 1990 levels.
Source: U.S. Census 1990

Preferred Plan Mitigation Measure

4.5-1(a) *The City should work with the Air Force to encourage the development of military housing in the City.*

4.5-1(b) *Implementation of the Air Quality Element Policies AQ91.1, AQ91.2, and AQ91.3, and Land Use Element Policy LU44.5 would reduce this impact to a less-than-significant level.*

Alternative Land Use Plan Impact

4.5-2 **Preferred Plan Impact 4.5-1 applies to the Alternative Land Use Plan.**

There are no changes to the residential land uses between the Preferred Plan and the Alternative Land Use Plan.

Alternative Land Use Plan Mitigation Measure

4.5-2 *Preferred Plan Mitigations Measures 4.5-1(a) and (b) apply to the Alternative Land Use Plan.*

Preferred Plan Impact

4.5-3 **The Preferred Plan allows potential growth of 35,215 jobs and 28.6 million square feet of commercial and industrial floor area by the year 2010. This is a *potentially significant impact.***

The employment projection contained in Table 4.5-12 reflects the maximum number of jobs for each employment generating land use category (eg. neighborhood commercial, general commercial, light industrial, corporate office and urban mix use). Between existing land use and buildout, approximately 28.6 million square feet of floor space would be allowed. This is approximately double the existing floor area. Although the heavy industrial land use category is dropped in the Preferred Plan, about 17.4 million square feet of urban mixed use is added to the City's total floor area at a Floor Area Ratio (FAR) of 0.9.

Assuming industry standards of floor area per employee, the Preferred Plan projects 128,187 jobs in the City of El Segundo by the year 2010, an increase of approximately 35,216 jobs from the 1987 estimate of 92,971 jobs[3]. The SCAG Growth Management Plan forecasts 115,003 jobs by the year 2010, an increase of 22,031 jobs. The Preferred Plan, therefore, exceeds the SCAG forecast by 13,185 jobs in the year 2010.

**TABLE 4.5-12**
**EL SEGUNDO GENERAL PLAN EMPLOYMENT**

| LAND USE | SQ.FT./EMP. | SQUARE FEET | | EMPLOYMENT | |
|---|---|---|---|---|---|
| | | PREF. | ALT. | PREF. | ALT. |
| NEIGH COMM. | 450/emp. | 869,210 | 869,210 | 1,932 | 1,932 |
| GEN. COMM. | 450/emp. | 2,447,636 | 2,447,636 | 5,439 | 5,439 |
| LIGHT IND. | 700/emp. | 22,925,558 | 22,925,558 | 32,751 | 32,751 |
| HEAVY IND. | 3,000/emp. | 0 | 0 | 0 | 0 |
| CORP. OFFICE | 250/emp. | 12,351,219 | 12,351,219 | 49,405 | 49,405 |
| URBAN M.U. | 450/emp. | 17,397,167 | 25,561,473 | 38,660 | 56,803 |
| TOTAL EMP. | | 55,990,790 | 64,155,097 | 128,187 | 146,330 |

Source: Economic Practices Manual, California Office of Planning and Research, 1978.

Preferred Plan Mitigation Measure

4.5-3 *Implementation of the Air Quality Element Policies AQ91.1 and AQ91.3, and the Land Element Policy LU44.5 would reduce this impact to a less-than-significant level.*

Alternative Plan Impact

4.5-4 **The Alternative Land Use Plan allows potential growth of 53,358 jobs and 36.8 million square feet of commercial and industrial floor area by the year 2010. This is a *potentially significant impact.***

The Alternative Land Use Plan doubles the total floor area for commercial and industrial land use over existing conditions, from 27.4 million square feet of floor area to 64.2 million square feet. A large portion of the increase is due to the addition of the urban mix use category and the increase in the FAR of urban mix use from .9 under the Preferred Plan to an FAR of 1.5 under the Alternative Land Use Plan. The employment projection under the Alternative Land Use Plan exceeds the growth levels of the SCAG Growth Management Plan by 31,327 jobs in the year 2010.

Alternative Mitigation Measure

4.5-4 *Preferred Plan Mitigation Measure 4.5-3 applies to Alternative Land Use Plan Impact 4.5-4.*

Preferred Plan Impact

4.5-5 **The Preferred Plan could adversely impact the availability of affordable housing in the City of El Segundo. This is a *potentially significant impact.***

The demand for housing created by the level of employment growth projected under the Preferred Plan land use would far exceed the supply of new housing in the City of El Segundo. As discussed in Preferred Plan Impact 4.5-1 and 4.5-3, the Preferred Plan could potentially add approximately 35,215 new jobs and only 597 new housing units to the City. This imbalance of local employment growth in comparison to housing growth could pressure home prices and rents upward, resulting in a shortage of affordable housing.

The 1988 SCAG Regional Housing Needs Assessment (RHNA) utilizes the Federal Impaction Standard to determine housing affordability. This standard assumes that when a household pays over 30 percent of its gross income for rent (utilities not included), that unit is not affordable. Based on the RHNA, El Segundo had 6,795 households in 1988, of which 1,753 (25.8 percent) were considered low income households. At that time, 854 of the total 1,753 low income households (48.7 percent) were paying more than 30 percent of their gross income for housing. This is slightly lower than Los Angeles County, which in 1988 had 51.5 percent of its low income households paying more than 30 percent of their gross income for housing.

The SCAG RHNA also identified the need for 1,148 new housing units in the City by the year 1994 in order to satisfy its fair share of the regional housing needs. As stated in the Housing Element, it is not reasonable or obtainable to reach the RHNA projection of 1,148 additional units by 1994.

Implementation of the following mitigation measure and the Housing Element policies identified in the Relevant Policies & Programs section would reduce this impact to a less-than-significant level.

Preferred Plan Mitigation Measure

4.5-5 *The City should study the impact of recent development on its housing market by household and occupation type and use the results of this study as a basis for expanding the in-lieu fee housing programs to include the effects of commercial and industrial development in El Segundo on housing demand in the City. Fees collected under this "linkage" program could be used to provide new capital for existing City -sponsored affordable housing funds.*

Alternative Plan Impact

4.5-6 **Preferred Plan Impact 4.5-5 applies to the Alternative Land Use Plan.**

Alternative Plan Mitigation Measure

4.5-6 *Preferred Plan Mitigation Measures 4.5-5 and Housing Element policies apply to the Alternative Land Use Plan.*

Preferred Plan Impact

4.5-7 **Implementation of the Preferred Plan would provide an inadequate number of needed housing units to maintain a jobs/housing balance in the Santa Monica Bay subregion. This is a *potentially significant impact.***

The El Segundo 1991 General Plan is considered "regionally significant" and will be subject to conformity review by SCAG under the Inter-Governmental Review Process. The policies identified in the Plan and the resulting impacts will influence the region's ability to meet the air quality, growth management, and transportation goals set forth in the SCAG and SCAQMD Plans.

The City of El Segundo is located in the Santa Monica Bay Subregion as delineated by SCAG[4]. The jobs/housing ratio for this subregion in 1984 was 1.46 (jobs-rich subregion, with balance at 1.27). By the year 2010, the SCAG Growth Management Plan forecasts a jobs/housing ratio of 1.52 for the subregion, resulting in a performance ratio of 1.72 (added jobs divided by the added housing units from 1984 to 2010).

As shown in Table 4.5-13 and Table 4.5-14, the Preferred Plan projects an addition of 35,215 jobs and 597 housing units. The Preferred Plan projections of jobs and housing indicates an incremental ratio of 58.99 jobs per added housing unit. The Preferred Plan incremental ratio is about 34 times the recommended performance ratio; thus, exacerbating the existing jobs-rich situation of the Santa Monica Bay subregion.

In 1990, SCAG developed an 18-step procedure for calculating the number of housing units which should be associated with a job-creating development project in a jobs-rich subregion[5]. The purpose of this procedure helps determine whether a project is in conformance with the AQMP. Although this is a General Plan and not a general development project, this EIR has evaluated the impact of the Plan using this 18-step conformity procedure. Since 1984 is the base year for the SCAG 18-step procedure, the housing (500 units) and employment (22,800 jobs) growth of the City between 1984 and 1990 were added to the potential buildout of the Preferred Plan (1990 to 2010). As a result, 1,100 new dwelling units and 58,034 jobs could be generated between 1984 and 2010. Table 4.5-13 shows, through the use of the 18-step procedures, that 9,944 new housing units would be needed between 1984 and 2010 to match the projected employment growth. Therefore, the Preferred Plan would not have conformed to the Air Quality Management Plan/State Implementation Plan.

The intent of the job/housing balance policy is to reduce Vehicle Miles Travelled (VMT) and, as a result, improve air quality. The implementation of policies identified in the Air Quality Element and Circulation Element of the El Segundo 1991 General Plan would will help to mitigate some of the impacts associated with the potential growth.

Implementation of the following mitigation measures and the Circulation and Air Quality Element policies of the Relevant policies and programs section would reduce this impact to a less-than-significant level.

Preferred Plan Mitigation Measures

4.5-7 *Preferred Plan Mitigation Measures 4.5-1 and 4.5-3 apply to the Preferred Plan.*

Alternative Plan Impacts

4.5-8 **Implementation of the Alternative Land Use Plan would provide an inadequate number of needed housing units to maintain a jobs/housing balance in the Santa Monica Bay subregion. This is a *potentially significant impact.***

The Alternative Land Use Plan projections of jobs and housing results in an incremental ratio of 89.38 jobs per added housing unit. The Alternative Land Use Plan's incremental ratio is about 52 times the recommended performance ratio presented in the SCAG Growth Management Plan. Implementation of this Plan would exacerbate the existing jobs/housing imbalance of the Santa Monica Bay subregion.

As shown in Table 4.5-14, 12,096 new housing units would be needed as a result of the potential 53,358 jobs that could be generated from the Alternative Land Use Plan land use. Therefore, had this been a general development project, the housing projection of 597 housing units under the Alternative Land Use Plan would not have conformed to the Air Quality Management Plan/State Implementation Plan.

Alternative Plan Mitigation Measure

4.5-8 *Preferred Plan Mitigation Measures 4.5-1 and 4.5-3 and Circulation and Air Quality Element policies apply to the Alternative Land Use Plan.*

**TABLE 4.5-13**
**PREFERRED PLAN JOBS/HOUSING BALANCE ANALYSIS**
**SANTA MONICA BAY SUBREGION**
**A JOB-RICH SUBREGION IMPACTED BY A PLAN PROVIDING**
**58,034 NEW JOBS AND 1,100 NEW DWELLING UNITS**

| ITEM | JOBS | STEP | HOUSING | STEP | J/H RATIO | STEP |
|---|---|---|---|---|---|---|
| BASE YEAR (1984) | 759,500 | (1) | 519,200 | (2) | | |
| 2010 TREND | 1,058,100 | (3) | 641,200 | (4) | | |
| 2010 POLICY | 1,012,500 | (5) | 666,100 | (6) | | |
| INCREASE PER TREND | 298,600 | (7) | 122,000 | (8) | 2.45 | (11) |
| INCREASE PER POLICY | 253,000 | (9) | 146,900 | (10) | 1.72 | (12) |

| | |
|---|---|
| STEP 13 | INCREASE IN JOBS PROVIDED BY THE PROJECT = 58,034 |
| STEP 14 | DIVIDE INCREASE IN JOBS BY "POLICY RATIO" (SEE STEP 12)<br>58,034 / 1.72 = 33,741 |
| STEP 15 | DIVIDE INCREASE IN JOBS BY "TREND RATIO" (SEE STEP 11)<br>58,034 / 2.45 = 23,687 |
| STEP 16 | COMPUTE THE DIFFERENCE BETWEEN THE ABOVE TWO STEPS<br>33,741 - 23,687 = 10,054 |
| STEP 17 | INCREASE IS HOUSING PROVIDED BY THE PLAN = 1,100 |
| STEP 18 | IF STEP 16 IS LARGER THAN STEP 17, THE DIFFERENCE IS THE NUMBER OF DWELLING UNITS WHICH SHOULD BE ASSOCIATED WITH THE PROJECT. THEREFORE, IN THIS EXAMPLE, A NEED IS BEING CREATED FOR: 9,944 NEW DWELLING UNITS |

Source: Southern California Association of Governments, 1990.
* Represent new jobs and dwelling units between 1984 and 2010.

**TABLE 4.5-14**
**ALTERNATIVE LAND USE PLAN**
**JOBS/HOUSING BALANCE ANALYSIS**
**SANTA MONICA BAY SUBREGION**
**A JOB-RICH SUBREGION IMPACTED BY A PLAN PROVIDING**
**76,177 NEW JOBS AND 1,100 NEW DWELLING UNITS***

| ITEM | JOBS | STEP | HOUSING | STEP | J/H RATIO | STEP |
|---|---|---|---|---|---|---|
| BASE YEAR (1984) | 759,500 | (1) | 519,200 | (2) | | |
| 2010 TREND | 1,058,100 | (3) | 641,200 | (4) | | |
| 2010 POLICY | 1,012,500 | (5) | 666,100 | (6) | | |
| INCREASE PER TREND | 298,600 | (7) | 122,000 | (8) | 2.45 | (11) |
| INCREASE PER POLICY | 253,000 | (9) | 146,900 | (10) | 1.72 | (12) |

STEP 13 INCREASE IN JOBS PROVIDED BY THE PROJECT = 76,177

STEP 14 DIVIDE INCREASE IN JOBS BY "POLICY RATIO" (SEE STEP 12)
76,177 / 1.72 = 44,289

STEP 15 DIVIDE INCREASE IN JOBS BY "TREND RATIO" (SEE STEP 11)
76,177 / 2.45 = 31,093

STEP 16 COMPUTE THE DIFFERENCE BETWEEN THE ABOVE TWO STEPS
44,289 - 31,093 = 13,196

STEP 18 IF STEP 16 IS LARGER THAN STEP 17, THE DIFFERENCE IS THE NUMBER OF DWELLING UNITS WHICH SHOULD BE ASSOCIATED WITH THE PROJECT. THEREFORE, IN THIS EXAMPLE, A NEED IS BEING CREATED FOR:
12,096 NEW DWELLING UNITS

STEP 17 INCREASE IS HOUSING PROVIDED BY THE PLAN = NONE

Source: Southern California Association of Governments, 1990.

* Represents new jobs and dwelling units between 1984 and 2010.

## ENDNOTES

1. U.S. Bureau of the Census 1979, 1980, and 1990. Household size is defined as the population per occupied dwelling unit.

2. Coopers and Lybrand, Existing Conditions Report: Economic and Real Estate Analysis of the City of El Segundo, August 1991. Date provided by the El Segundo Chamber of Commerce.

3. California Office of Planning and Research, Economic Practice Manual, 1978.

4. The SCAG Growth Management Plan identifies 24 subregions in SCAG's 6 County region. The Santa Monica Bay subregion include the cities of Avalon, Carson, El Segundo, Gardena, Hawthorne, Hermosa Beach, Inglewood, Lawndale, Lomita, portions of Los Angeles, Manhattan Beach, Palos Verdes Estates, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Santa Monica, and Torrance.

5. Southern California Association of Governments, Guidance for Implementation of 1989 AQMP Conformity Procedure, March 1990.

# 4.6 UTILITIES

# 4.6 UTILITIES

## INTRODUCTION

This section assesses the potential impacts on utilities of the proposed El Segundo 1991 General Plan. Specific effects on existing levels of service, and improvements that would be required to accommodate development allowed under the proposed General Plan are discussed.

This analysis is based on information supplied by the City of El Segundo, the City of Los Angeles, the County of Los Angeles, Southern California Gas Company, Southern California Edison, and Los Angeles County Fire Department.

## SETTING

### Electricity

Southern California Edison (SCE) provides electrical service to the City of El Segundo. These services include all required electrical hook-ups, maintenance, and repairs. Within the El Segundo area, SCE operates a Steam Generator Plant at 301 Vista Del Mar. This facility maintains four steam turbine generator units which have the capacity to generate 1,020 mega watts. A substation located at 1820 E. Grand Avenue receives power from the Generation Plant and reduces the load to useable levels for consumers.

The majority of the power lines in El Segundo are above ground except along Main Street where utility lines have been placed underground. SCE also maintains a 200-foot easement through El Segundo for high tension load carrying power lines.

### Natural Gas

Natural gas is provided to the City of El Segundo by the Southern California Gas Company (SCG). Natural gas is conveyed through existing mains located under City streets which can be extended to serve new projects. The main gas line serving the City is a 12-inch main located in El Segundo Boulevard.

Natural gas service must be provided in accordance with the Gas Company's policies and extension rules on file with the California Public Utilities Commission at the time contractual agreements are made. The availability of natural gas service is based on present levels of gas supply and current regulatory policies.

## Water

The City of El Segundo relies entirely upon imported water supplies. Imported water is purchased from the West Basin Municipal Water District which administers water supply and distribution for the Metropolitan Water District (MWD) of California. A small portion of the City east of Aviation Boulevard which includes the air force base, is served by the Southern California Water Company.[1]

The City of El Segundo water system consists of more than 50 miles of various size main lines and 11 million gallons of storage. The City receives its water from the MWD through two trunk lines; the 60-inch West Coast Feeder main, located along El Segundo Boulevard west to Aviation, and the 45-inch West Basin Feeder main in Manhattan Beach which is accessed by a 27-inch city-owned line. The City water system has the highest possible rating for a class one water system given by the Insurance Service Organization.[2]

### Major Water Users

According to the City of El Segundo Finance Department water billing records for the past twelve (12) months from October 1990 to October 1991, total city water consumption equals 17.1 million gallons per day (mgd) or 19,190 acre feet per year (AF/Y). The following companies are ranked as the five largest water users in the City:

**TABLE 4.6-1**
**MAJOR WATER USERS**
**IN THE CITY OF EL SEGUNDO**

| NAME | AMOUNT OF WATER (AF/Y) | % OF TOTAL WATER USAGE |
|---|---|---|
| Chevron Oil Corporation | 12,879 | 67% |
| Hughes Aircraft Corporation (all divisions) | 487 | 2.5% |
| Southern California Edison | 354 | 1.8% |
| Xerox Corporation | 223 | 1.1% |
| International Rectifier | 205 | 1.06% |
| Total | 14,148 | 73.5% |

Source: City of El Segundo, Finance Department, 1991.

A water reclamation plant is currently being proposed which may be located in the northeast corner of the Chevron Oil Refinery in El Segundo. The facility would provide 21.6 mgd of reclaimed water to the West Coast Basin Barrier project, 20.5 mgd of reclaimed water to the Chevron refinery, and 15.2 mgd of reclaimed water for landscape irrigation and industrial uses based on Title 22 approved users. The reclamation plant would be operated by the West Basin Metropolitan Water District (WBMWD) and is

schedule to go on line from 1994-95. Given that Chevron accounts for 67 percent of the City's water consumption, the availability of reclaimed water for their use would substantially reduce the City's impact on water resources.

## Wastewater

The City of El Segundo is served by two distinct wastewater collection systems. The City of El Segundo system serves the area west of Sepulveda Boulevard, while sewage flow from those areas east of Sepulveda are tributary to the Los Angeles County Sanitation District's system.[3] Depending on the location of development, wastewater is treated either at the Los Angeles County Sanitation District's Joint Water Pollution Control Plant (JWPCP) in Carson, or at the City of Los Angeles Hyperion Treatment Plant (HTP) in Playa Del Rey.

### The Hyperion Treatment Plant

The Hyperion Treatment Plant (HTP), the largest treatment facility within the City of Los Angeles wastewater treatment system, is located on a 144-acre site adjacent to the Pacific Ocean, directly southwest of the Los Angeles International Airport (LAX). The site has extensive facilities consisting of preliminary treatment, primary treatment, partial secondary treatment, and sludge treatment and disposal. The plant has three ocean outfalls of one, five and seven miles. The one-mile outfall has functionally been replaced by the newer five-mile outfall, and is only maintained in standby condition in the event of an emergency. The five-mile outfall is the major effluent disposal for the City, and consists of a 12-foot-diameter reinforced concrete pipe, a wye structure, and two diffuser legs that discharge primary and secondary treated wastewater at an ocean depth of 187 feet. The seven-mile outfall was constructed for pumping sludge to the ocean and disposing of it at a depth of 320 feet in a submarine canyon. The outfall was taken out of service in 1987 when ocean disposal of sludge was terminated. The HTP has the capacity to provide primary treatment for an average influent flow of 420 mgd. All influent flow receives primary treatment, removing solids from the influent, with 150 mgd receiving secondary treatment, where further removal of solids occurs, and effluent is filtered, clarified, and disinfected. Plant improvements are currently under way to increase secondary treatment capacity and provide additional sludge processing capability. The improvements planned and underway will ultimately rehabilitate and expand the facility to treat 450 mgd to the secondary level for discharge into Santa Monica Bay.

HTP is the only facility in the Hyperion service area that has solids handling capacity. Some of the sludge, or treated solids, captured by the processes go through a de-watering and combustion process known as the Hyperion Energy Recovery System (HERS). The Energy Recovery System produces methane gas which is used to power electrical generator and air compressor equipment at the plant. Since ocean disposal of sludge from the Plant ceased in November 1987, a diversified sludge management program has been initiated to provide for solid waste disposal until the HERS facility is fully operational. Aspects of the program include: trucking of de-watered sludge to landfills for disposal; application of sludge to agricultural land; chemical solidification of de-watered sludge to produce a stable material usable

as landfill cover; and composting of de-watered sludge to produce soil amendment material for landscaping and agricultural uses.[4]

Wastewater discharged into the HTP System has increased at a rate of approximately 10 mgd per year over the past four years. At the present rate of growth in the Los Angeles area, the HTP System would reach full capacity in four years, which could be sooner than the planned new facilities at the Tillman Water Reclamation Plant would be completely on-line.[5]

### LA County Sanitation District's Joint Water Pollution Control Plant (JWPCP)

According to the Los Angeles County Sanitation District , the JWPCP has been in operation since 1928 and is part of the Sanitation Districts' Joint Outfall System (JOS). The wastewater originating from the City of El Segundo which is treated by the Sanitation District is processed at the JWPCP, located at 24501 S. Figueroa Street, in the City of Carson. The JWPCP has a design capacity of 385 mgd and currently provides advanced primary treatment to an average wastewater flow of 368 mgd, with 200 mgd receiving secondary treatment. This regional treatment system consists of five upstream water reclamation plants and the JWPCP. All sludge, and any wastewater flows which exceed the capacities of the upstream treatment capacities of the upstream facilities, are diverted to the JWPCP for processing. The Sanitation Districts are currently constructing an expansion to the San Jose Creek Water Reclamation Plant in Whittier, which will increase the upstream treatment capacity of the JOS by 37.5 mgd by 1992. When this expansion project is completed, the amount of wastewater diverted from the San Jose Creek Water Reclamation Plant will be decrease, therefore, additional capacity will become available at the JWPCP.[6]

According to the 1983 Master Sewer Plan, portions of the City's sewer system are currently overloaded and will require expansion to meet expected future demands.

### Sewer Conveyance System Improvements

There are three major areas of the sewer conveyance system where deficiencies are being addressed according to the 1988 Background Report. The location of the deficient wastewater collection facilities with existing overflows or projected possible overflows are as follows[7]:

1. Franklin Street to Eucalyptus Street to Standard Street to El Segundo Boulevard to Pump Station No.2.

2. Sepulveda Boulevard from Pine Street to Holly Avenue.

3. Center Street from Acacia Street to Pump Station No.5.

## Solid Waste

Currently, the majority of the solid waste generated in El Segundo is disposed of at the Puente Hills or Spadra Landfill facilities which are owned and operated by Los Angeles County. To date, the Puente Hills Landfill has 7.5 million tons of capacity remaining with an average 3.7 million tons of debris being collected yearly. The Land Use Permit for the landfill will expire on October 31, 1993 and will require discretionary approval to continue operation. The Spadra Landfill currently has 6.95 million tons of capacity remaining and is collecting .85 million tons of debris per year. The Spadra Land Use permit allows a maximum of 18,000 tons per week or .94 million tons of debris per year.[8] The Spadra Landfill is scheduled for closure in 1994.

In order to supplement the disbursement of waste disposal, the Action Transfer Station in the City of Gardena and the SWT Transfer Station in the City of Compton are currently being utilized. These transfer stations transport solid waste to the above mentioned landfills and to the privately owned and operated North Valley and BKK landfills.[9]

### AB 939

Recently, in response to regional and Statewide concerns, AB 939, the California Integrated Solid Waste Management Act of 1989, and its implementing regulations (adopted on March 19, 1990), have created mandatory goals for the reduction of solid waste. The main purpose of the statute is to reduce, recycle, and reuse solid waste to the maximum extent feasible. AB 939 requires that cities and counties reduce the amount of solid waste being sent to landfills by 25 percent over the next five years (by January 1, 1995), and by 50 percent over the next 10 years (by January 1, 2000). To help insure that cities meet this mandate, they are required to prepare a Source Reduction and Recycling Element ("SRR Element") for approval by the California State Solid Waste Management Board (CSWMB). Additionally, Counties must develop Integrated Solid Waste Management Plans incorporating the Plans for all cities located within the County. In compliance with AB 939, the City of El Segundo adopted an Integrated Waste Management Plan on June 27, 1991. The Plan, which provides for the achievement of State Mandated goals for waste reduction, was subsequently submitted to Los Angeles County on July 1, 1991 for its ultimate incorporation into the County Integrated Solid Waste Management Plan that will be sent to the State for approval.

## Relevant Policies of the El Segundo 1991 General Plan

There are three (3) policies within the Land Use section of the El Segundo 1991 General Plan addressing utilities. These policies are briefly summarized below:

Policy LU71.2 No new development shall be allowed unless adequate public facilities are in place.

Policy LU72.2 Continue long-term programs in conjunction with Southern California Edison and the Los Angeles Department of Water and Power for eventually placing all utilities underground.

Policy LU72.5 All public facilities and utilities should be designed to enhance the appearance of the surrounding areas in which they are located.

There are twelve (12) policies within the Conservation section of the El Segundo 1991 General Plan addressing scenic water supply issues. These policies are briefly summarized below:

Policy CN2.1 Periodically evaluate the entire water supply and distribution system to ensure that future water needs will be met.

Policy CN2.2 Devise strategies to cope with any interruptions of or limits in the supply of potable water to the community.

Policy CN2.3 Investigate creating a new water conservation ordinance to address the demand created by new development.

Policy CN.2.4 Implement water conservation measures as necessary to ensure sufficient water supplies for human consumption, sanitation, and fire protection.

Policy CN2.5 Require new construction and development to install water-conserving fixtures and appliances to reduce the amount of new demand.

Policy CN2.6 Encourage the retro-fitting of existing systems with water-conserving fixtures and appliances to reduce the amount of new demand.

Policy CN2.7 Require new construction and development to incorporate the principles and practices of sound landscape design and management, particularly those conserving water and energy.

Policy CN2.8 Encourage the retro-fitting of existing landscapes to incorporate the principles and practices of sound landscape design and management, particularly those conserving water and energy.

Policy CN2.9 Determine which users qualify as heavy water users and require those users to have water budget plans.

Policy CN2.10 Utilize the programs and assistance of state and regional water agencies to increase water conservation throughout the community.

Policy CN2.11 Encourage, whenever appropriate and feasible, development techniques which minimize surface run off and allow replenishment of soil moisture.

Policy CN2.12 Examine and utilize where appropriate and feasible the use of alternative water supplies. Clearly define the techniques and applications for the use of grey water and reclaimed water for the citizens of El Segundo.

## IMPACTS AND MITIGATION MEASURES

Standards of Significance

A project would have a significant impact on utilities if it would:

- Result in a significant increase in the consumption of water, natural gas, and electricity or substantial expansion in facilities; or
- Result in adverse secondary effects for the expansion of any utility system; or
- Require additional staff or substantial equipment in order to maintain acceptable levels of service.
- Due to drought conditions of the region for the past 5 years, any increase in water demand is considered a significant impact.
- Result in generation of wastewater above the projected capacities of affected wastewater treatment plants.

Preferred Plan Electricity Impact

4.6-1 **Buildout under the preferred plan would result in the consumption of approximately 1,039,383,948 kilowatt hours (Kwh) per year of Electricity. This would result in a net increase in consumption of 183,565,476 Kwh per year or a 4.6 percent increase over existing levels. This is a *less-than-significant impact.***

The total estimated consumption of electricity under the El Segundo 1991 General Plan is shown in Table 4.6-3. New development occurring under the proposed General Plan would be subject to State Energy Conservation Standards for New Residential and Non-Residential Buildings. (Title 24, Part 6, Article 2, California Administration Code). Under the Code, prescriptive standards establish mandatory maximum energy consumption levels for new buildings which serve to reduce consumption within permissible levels established by public policy.

SCE has indicated that the increased demand for electricity would be within the parameter of their overall projected growth for the area. SCE expects to meet their electrical requirements for the next several years.

Preferred Plan Electricity Mitigation Measure

4.6-1 *None required.*

Alternative Plan Electricity Impact

4.6-2 **Implementation of the alternative land use plan would result in the consumption of approximately 1,123,810,428 kilowatt hours (Kwh) per year of electricity. This would result in a net increase of 267,991,956 Kwh per year over existing levels of consumption. This is a *less-than-significant impact.***

This increase in electricity consumption due to the increase in floor area allowed under the Mixed Urban Use-3 designation represents a 3.37 percent increase over the consumption levels estimated for the preferred plan, and a 7.97 percent increase over existing levels of consumption.

Alternative Plan Electricity Mitigation Measure

4.6-2 *None required.*

**TABLE 4.6-2**
**EL SEGUNDO CURRENT ESTIMATED**
**ELECTRICITY CONSUMPTION**

| Existing Land Use | Size | Generation Factor | Daily Generation |
|---|---|---|---|
| **Housing** | **Units** | **kilowatt hours/ unit/year** | **kilowatt hours per year** |
| Single Family Residence | 3,183 | 5,172 | 16,462,476 |
| Two-Family Residence | 810 | 5,172 | 4,189,320 |
| Multifamily Residence | 3,197 | 5,172 | 16,534,884 |
| **Total Dwelling Units** | **7,190** | | **37,186,680** |
| **Commercial** | **Acres** | **kilowatt hours /acre/year** | **kilowatt hours per year** |
| Neighborhood Commercial | 42 | 514,008 | 21,588,336 |
| General Commercial | 21 | 514,008 | 10,794,168 |
| Corporate Office | 235 | 514,008 | 120,791,880 |
| Urban Mixed Use | 0 | 514,008 | 0 |
| **Total Commercial Acres** | **298** | | **153,174,384** |
| **Industrial** | **Acres** | **kilowatt hours /acre/year** | **kilowatt hours per year** |
| Light Industrial | 470 | 383,328 | 180,164,160 |
| Heavy Industrial | 1,266 | 383,328 | 485,293,248 |
| **Total Industrial** | **1,736** | | **665,457,408** |
| **Total Estimated Existing** | **9,224** | | **855,818,472** |

Source: South Coast Air Quality Management District, Air Quality Handbook, April 1987.

**TABLE 4.6-3**
**PROJECTED EL SEGUNDO 1991 GENERAL PLAN**
**ELECTRICITY CONSUMPTION**

| Preferred Plan Land Use | Size | Generation Factor | Daily Generation |
|---|---|---|---|
| **Housing** | **Units** | **kilowatt hours /unit/year** | **kilowatt hours per year** |
| Single Family Residence | 2,868 | 5,172 | 14,833,296 |
| Two-Family Residence | 996 | 5,172 | 5,151,312 |
| Multifamily Residence | 3,923 | 5,172 | 20,289,756 |
| **Total Dwelling Units** | **7,787** | | **40,274,364** |
| **Commercial** | **Acres** | **kilowatt hours /acre/year** | **kilowatt hours per year** |
| Neighborhood Commercial | 46 | 514,008 | 23,644,368 |
| General Commercial | 63 | 514,008 | 32,382,504 |
| Corporate Office | 211 | 514,008 | 108,455,688 |
| Urban Mixed Use | 350 | 514,008 | 179,902,800 |
| **Total Commercial Acres** | **670** | | **344,385,360** |
| **Industrial** | **Acres** | **kilowatt hours /acre/year** | **kilowatt hours per year** |
| Light Industrial | 739 | 383,328 | 283,279,392 |
| Heavy Industrial | 969 | 383,328 | 371,444,832 |
| **Total Industrial** | **1,708** | | **654,724,224** |
| **Total Estimated** | | | **1,039,383,948** |

Source: South Coast Air Quality Management District, Air Quality Handbook, April 1987.

Preferred Plan Natural Gas Impact

4.6-3 **The El Segundo General Plan would result in the consumption of approximately 342,255,947 cubic feet per month of natural gas. This would represent a net increase of 45,475,901 cubic feet per month of natural gas over existing levels of consumption. This is a *less-than-significant impact.***

Projections of natural gas consumption as shown in Table 4.6-4 are based on the following generation rates provided by Southern California Gas Company (SCG).

| | |
|---|---|
| **Residential** | 6,665 cubic feet/dwelling unit/month |
| **Multifamily Residential** | 4,105 cubic feet/dwelling unit/month |
| **Commercial** | 126,324 cubic feet/dwelling unit/month |
| **Industrial** | 126,324 cubic feet/dwelling unit/month |

Impacts would be reduced through continued implementation of energy conservation programs, consumer conservation efforts and state building codes which call for energy efficient building design and materials.[10] SCG's policy of buying and storing natural gas for peak period use has, in the past, ensured that their supply network was more than adequate to meet customer obligations and to provide service to all new customers. Service would be in accordance with the Company's policies and extension rules on file with the California Public Utilities Commission at the time contractual agreements are made.[11]

Preferred Plan Natural Gas Mitigation Measure

4.6-3 *None required.*

Alternative Plan Natural Gas Impact

4.6-4 **The Alternative Plan would result in the consumption of approximately 362,968,689 cubic feet of natural gas per month. This represents a net increase in consumption of approximately 5.5 percent or 66,288,643 cubic feet per month over existing levels. This is a *less-than-significant impact.***

Alternative Plan Natural Gas Mitigation Measure

4.6-4 *None required.*

**TABLE 4.6-4**
**EL SEGUNDO CURRENT ESTIMATED**
**NATURAL GAS CONSUMPTION**

| Preferred Plan Land Use | Size | Generation Factor | Daily Generation |
|---|---|---|---|
| **Housing** | **Units** | **cubic feet du/month** | **cubic feet per month** |
| Single Family Residence | 2,868 | 6,665 | 19,115,220 |
| Two-Family Residence | 996 | 6,665 | 6,638,340 |
| Town home Residence | 0 | 4,105 | 0 |
| Multifamily Residence | 3,923 | 4,105 | 16,103,915 |
| **Total Dwelling Units** | **7,787** | | **41,857,475** |
| **Commercial** | **Acres** | **cubic feet/acre foot/month** | **cubic feet per month** |
| Neighborhood Commercial | 46 | 126,324 | 5,810,904 |
| General Commercial | 63 | 126,324 | 7,958,412 |
| Corporate Office | 211 | 126,324 | 26,654,364 |
| Urban Mixed Use | 350 | 126,324 | 44,213,400 |
| **Total Commercial Acres** | **670** | | **84,637,080** |
| **Industrial** | **Acres** | **cubic feet/acre foot/month** | **cubic feet per month** |
| Light Industrial | 739 | 126,324 | 93,353,436 |
| Heavy Industrial | 969 | 126,324 | 122,407,956 |
| **Total Industrial** | **1,708** | | **215,761,392** |
| **Total Estimated Existing** | | | **342,255,947** |

Source: South Coast Air Quality Management District, Air Quality Handbook, April 1987.

**TABLE 4.6-5**
**PROJECTED EL SEGUNDO 1991 GENERAL PLAN**
**NATURAL GAS CONSUMPTION**

| Existing Land Use | Size | Generation Factor | Daily Generation |
|---|---|---|---|
| **Housing** | **Units** | **cubic feet du/month** | **cubic feet per month** |
| Single Family Residence | 3,183 | 6,665 | 21,214,695 |
| Two-Family Residence | 810 | 6,665 | 5,398,650 |
| Multifamily Residence | 3,197 | 4,105 | 13,123,685 |
| **Total Dwelling Units** | **7,190** | | **39,737,030** |
| **Commercial** | **Acres** | **cubic feet/acre foot/month** | **cubic feet per month** |
| Neighborhood Commercial | 42 | 126,324 | 5,305,608 |
| General Commercial | 21 | 126,324 | 2,652,804 |
| Corporate Office | 235 | 126,324 | 29,686,140 |
| Urban Mixed Use | 0 | 126,324 | 0 |
| **Total Commercial Acres** | **298** | | **37,644,552** |
| **Industrial** | **Acres** | **cubic feet/acre foot/month** | **cubic feet per month** |
| Light Industrial | 470 | 126,324 | 59,372,280 |
| Heavy Industrial | 1,266 | 126,324 | 159,926,184 |
| **Total Industrial** | **1,736** | | **219,298,464** |
| **Total Estimated** | **9,224** | | **296,680,046** |

Source: South Coast Air Quality Management District, Air Quality Handbook, April 1987.

Preferred Plan Water Impact

4.6-5 **The proposed General Plan would result in the consumption of approximately 21,976,828 gallons per day (gpd). This represents a net increase in water use of approximately 4,839,212 gpd. This is a *significant impact.***

Estimated water consumption under the 1991 General Plan is shown in Table 4.6-6. Future developments should incorporate water-saving devices and techniques, including the use of reclaimed water where feasible, in order to reduce water demand. Strict adherence to all applicable State and municipal laws requiring water-efficient plumbing fixtures in structures would be required.

Preferred Plan Water Mitigation Measures

4.6-5(a) *Require dual plumbing systems in large new developments and high-rise structures, as reclaimed water becomes available over the next ten years.*

4.6-5(b) *Reclaimed water where appropriate and feasible should be used as a water source for industrial use and to irrigate large landscaped areas.*

4.6-5(c) *Implementation of Conservation Element Policies for water, and the above mitigation measures, would reduce this impact to a less-than-significant* level.

Alternative Plan Water Impact

4.6-6 **The Alternative Plan would result in the consumption of approximately 23,075,669 gpd. This represents a net increase in water use of approximately 5,938,053 gpd over existing levels. This is a *significant impact.***

Alternative Plan Water Mitigation Measure

4.6-6 *Preferred Plan Mitigation Measures 4.6-5(a) through 4.6-5(c) apply to the Alternative Land Use Plan.*

**TABLE 4.6-6**
**PROJECTED EL SEGUNDO 1991 GENERAL PLAN**
**WATER CONSUMPTION**

| Preferred Plan Land Use | Size | Generation Factor | Daily Generation | Yearly Generation |
|---|---|---|---|---|
| **Housing** | **Units** | **Gallons/unit/day** | **Gallons/day** | **Acre feet/year** |
| Single Family Residence | 2,868 | 400 | 1,147,200 | 1,285 |
| Two-Family Residence | 996 | 400 | 398,400 | 446 |
| Multifamily Residence | 3,923 | 400 | 1,569,200 | 1,757 |
| **Total Dwelling Units** | **7,787** | | **3,114,800** | **3,489** |
| **Commercial** | **Acres** | **Gallons/acre/day** | **Gallons/day** | **Acre feet/year** |
| Neighborhood Commercial | 46 | 5,227 | 240,442 | 269 |
| General Commercial | 63 | 5,227 | 329,301 | 369 |
| Corporate Office | 211 | 5,227 | 1,102,897 | 1,235 |
| Urban Mixed Use | 350 | 5,227 | 1,829,450 | 2,049 |
| **Total Commercial** | **670** | | **3,502,090** | **3923** |
| **Industrial** | **Acres** | **Gallons/acre/day** | **Gallons/day** | **Acre feet/year** |
| Light Industrial | 739 | 5,227 | 3,862,753 | 4,326 |
| Heavy Industrial | 969 | 11,865 | 11,497,185 | 12,878 |
| **Total Industrial** | **1,708** | | **15,359,938** | **17,205** |
| **Total Estimated** | | | **21,976,828** | **24,617** |

Source: City of Los Angeles, Wastewater Program Management Guidelines.

Preferred Plan Wastewater Impact

4.6-7 **The Preferred Plan would result in the generation of approximately 12.4 million gallons per day (mgd). Existing land uses currently generate approximately 10.8 mgd. This would result in a net increase of 1.6 mgd or a 7.75 percent increase over current generation. This is a *significant impact.***

New development and growth in the City will be constrained by existing sewage treatment capacity limits, and any additional sewage contributed to the HTP would be considered a significant impact. Currently, a contractual agreement between the City of El Segundo and HTP states that all development within the City will be subject to restrictions on the issuance of building permits based on a Citywide allotment of available sewage treatment capacity.

Preferred Plan Wastewater Mitigation Measures

4.6-7(a) *Future development projects must comply with the provisions of all interim or future agreements or ordinances regarding sewer capacity allotment in the City of El Segundo.*

4.6-7(b) *Implement Land Use Element Policy LU71.2 regarding public facilities.*

Implementation of these mitigation measures would reduce this impact to *a less-than-significant* level.

Alternative Plan Wastewater Impact

4.6-8 **The Alternative Land Use Plan would result in the generation of approximately 13.1 million gallons per day (mgd). Existing land use currently generates 10.8 mgd. The net increase in wastewater generation under the alternative land use plan would be approximately 2.3 mgd. This is a *significant impact.***

Alternative Plan Wastewater Mitigation Measure

4.6-8 *Preferred Plan Wastewater Mitigation Measures 4.6-7(a) and 4.6-7(b) apply to the Alternative Plan.*

**TABLE 4.6-7**
**EL SEGUNDO CURRENT ESTIMATED**
**WASTEWATER GENERATION**

| Existing Land Use | Size | Generation Factor | Daily Generation |
|---|---|---|---|
| **Housing** | **Units** | **Gallons/unit/day** | **Gallons per day** |
| Single Family Residence | 3,183 | 330 | 1,050,390 |
| Two-Family Residence | 810 | 300 | 243,000 |
| Multifamily Residence | 3,197 | 200 | 639,400 |
| **Total Dwelling Units** | **7,190** | | **1,932,790** |
| **Commercial** | **Acres** | **Gallons/acre/day** | **Gallons per day** |
| Neighborhood Commercial | 42 | 4,356 | 182,952 |
| General Commercial | 21 | 4,356 | 91,476 |
| Corporate Office | 235 | 4,356 | 1,023,660 |
| Urban Mixed Use | 0 | 4,356 | 0 |
| **Total Commercial Acres** | **298** | | **1,298,088** |
| **Industrial** | **Acres** | **Gallons/acre/day** | **Gallons per day** |
| Light Industrial | 470 | 4,356 | 2,047,320 |
| Heavy Industrial | 1,266 | 4,356 | 5,514,696 |
| **Total Industrial** | **1,736** | | **7,562,016** |
| **Total Estimated** | | | **10,792,894** |

Source: City of Los Angeles, Wastewater Program Management, Sewer Facilities Guide Total Estimated Existing 10,792,894

**TABLE 4.6-8**
**PROJECTED EL SEGUNDO 1991 GENERAL PLAN**
**WASTEWATER GENERATION**

| Preferred Plan Land Use | Size | Generation Factor | Daily Generation |
|---|---|---|---|
| **Housing** | **Units** | **Gallons/unit/day** | **Gallons per day** |
| Single Family Residence | 2,868 | 330 | 946,440 |
| Two-Family Residence | 996 | 300 | 298,800 |
| Multifamily Residence | 3,923 | 200 | 784,600 |
| **Total Dwelling Units** | **7,787** | | **2,029,840** |
| **Commercial** | **Acres** | **Gallons/acre/day** | **Gallons per day** |
| Neighborhood Commercial | 46 | 4,356 | 200,376 |
| General Commercial | 63 | 4,356 | 274,428 |
| Corporate Office | 211 | 4,356 | 919,116 |
| Urban Mixed Use | 350 | 4,356 | 1,524,600 |
| **Total Commercial Acres** | **670** | | **2,918,520** |
| **Industrial** | **Acres** | **Gallons/acre/day** | **Gallons per day** |
| Light Industrial | 739 | 4,356 | 3,219,084 |
| Heavy Industrial | 969 | 4,356 | 4,220,964 |
| **Total Industrial** | **1,708** | | **7,440,048** |
| **Total Estimated** | | | **12,388,408** |

Source: City of Los Angeles, Wastewater Program Management, Sewer Facilities Guide

Preferred Plan Solid Waste Impact

4.6-9 **Under the proposed General Plan, approximately 596,274 pound per day (298.14 tons) of solid waste would be generated. This is an increase of 80,962 pounds per day, or 15.7 percent, over current generation rates. This is a *significant impact.***

Solid waste generation projected under the El Segundo 1991 General Plan is shown in Table 4.6-10. Due to the existing regional shortage of landfill capacity, any sizable increase in solid waste would be considered a significant impact.

Preferred Plan Solid Waste Mitigation Measures

4.6-9 *The City of El Segundo shall implement all necessary programs to meet the source reduction requirements of AB939.*

Implementation of this mitigation measure would reduce this impact to a *less-than-significant* level.

Alternative Plan Solid Waste Impact

4.6-10 **The alternative land use plan would generate approximately 662,220 pounds per day (311.1 tons) of solid waste. This is an increase of 146,908 pounds per day, or 28.5 percent, over the amount of solid waste generated by existing land uses.**

Alternative Land Use Plan Solid Waste Mitigation Measures

4.6-10 *Preferred Plan Solid Waste Mitigation Measure 4.6-9 applies to the Alternative Plan.*

**TABLE 4.6-9**
**EL SEGUNDO CURRENT ESTIMATED**
**SOLID WASTE GENERATION**

| Existing Land Use | Size | Generation Factor | Daily Generation |
|---|---|---|---|
| **Housing** | **Units** | **pounds/unit/day** | **Pounds per day** |
| Single Family Residence | 3,183 | 10 | 31,830 |
| Two-Family Residence | 810 | 10 | 8,100 |
| Town home Residence | 0 | 10 | 0 |
| Multifamily Residence | 3,197 | 10 | 31,970 |
| **Total Dwelling Units** | **7,190** | | **71,900** |
| **Commercial** | **Acres** | **Pounds/acre/day** | **Pounds per day** |
| Neighborhood Commercial | 42 | 218 | 9,156 |
| General Commercial | 21 | 218 | 4,578 |
| Corporate Office | 235 | 218 | 51,230 |
| Urban Mixed Use | 0 | 218 | 0 |
| **Total Commercial Acres** | **298** | | **64,964** |
| **Industrial** | **Acres** | **Pounds/acre/day** | **Pounds per day** |
| Light Industrial | 470 | 218 | 102,460 |
| Heavy Industrial | 1,266 | 218 | 275,988 |
| **Total Industrial** | **1,736** | | **378,448** |
| **Total Estimated** | | | **515,312** |

Source: City of Los Angeles, Average Solid Waste Generation Rates, April 1981

**TABLE 4.6-10**
**PROJECTED EL SEGUNDO 1991 GENERAL PLAN**
**SOLID WASTE GENERATION**

| Preferred Plan Land Use | Size | Generation Factor | Daily Generation |
|---|---|---|---|
| **Housing** | **Units** | **Pounds/unit/day** | **Pounds per day** |
| Single Family Residence | 2,868 | 10 | 28,680 |
| Two-Family Residence | 996 | 10 | 9,960 |
| Town home Residence | 0 | 10 | 0 |
| Multifamily Residence | 3,923 | 10 | 39,230 |
| **Total Dwelling Units** | **7,787** | | **77,870** |
| **Commercial** | **Acres** | **Pounds/acre/day** | **Pounds per day** |
| Neighborhood Commercial | 46 | 218 | 10,028 |
| General Commercial | 63 | 218 | 13,734 |
| Corporate Office | 211 | 218 | 45,998 |
| Urban Mixed Use | 350 | 218 | 76,300 |
| **Total Commercial Acres** | **670** | | **146,060** |
| **Industrial** | **Acres** | **Pounds/acre/day** | **Pounds per day** |
| Light Industrial | 739 | 218 | 161,102 |
| Heavy Industrial | 969 | 218 | 211,242 |
| **Total Industrial** | **1,708** | | **372,344** |
| **Total Estimated** | | | **596,274** |

Source: City of Los Angeles, Average Solid Waste Generation Rates, April 1981

## ENDNOTES


1. Infrastructure Plan, Existing Conditions Report, City of El Segundo, Lightfoot Planning Group, June 14, 1991.

2. City of El Segundo, Department of Development Services, Planning Division, City of El Segundo General Plan 2005: Background Report, Vol. 2, September 1988.

3. El Segundo General Plan 2005, Vol. 2. September 1988.

4. Ibid.

5. Central City West Specific Plan Draft EIR, Planning Consultants Research, October 30, 1989, p.225.

6. Written Correspondence from the County Sanitation Districts of Los Angeles County Kim M. Visser-Hage, Engineering Technician, Financial Planning & Property Management Section, May 23, 1991.

7. Infrastructure Plan, Pg. 8.

8. Telephone Conversation with Jeff Jacobson, Assistant Senior Civil Engineer, Los Angeles County Waste Management Division, September 30, 1991.

9. Infrastructure Plan, Existing Conditions

10. Infrastructure Plan - Existing Conditions Report, City of El Segundo, Lightfoot Planning Group, June 14, 1991, pg.17.

11. Written Correspondence from J.M Sharp, Distribution Planning Supervisor, Southern California Gas Company, South Coastal Division, September 30, 1991.

# 4.7 PUBLIC SERVICES

# 4.7 PUBLIC SERVICES

## INTRODUCTION

This section assesses the impacts of the proposed project on law enforcement, fire protection, library services, schools, and recreation and open space. The specific effects of the El Segundo 1991 General Plan on existing levels of service, and improvements that would be required to accommodate growth allowed under the proposed General Plan are discussed.

The analysis presented is based on information supplied by the City of El Segundo Police Department, Fire Department, School District, Parks and Recreation Department, and the Los Angeles County Public Library. Figure 4.7-1 shows the locations of City parks and other public facilities described in this section.

## SETTING

### POLICE PROTECTION

The City of El Segundo Police Department provides law enforcement and public safety services to the City. The police station is located on Main Street within the Civic Center complex. The police department is presently staffed with 68 sworn police officers. This corresponds to approximately four officers per 1,000 permanent residents, and to one officer per 1,000 daytime population. The following table summarizes the staffing characteristics of the police department's sworn and non-sworn personnel.

**TABLE 4.7-1**
**EL SEGUNDO POLICE DEPARTMENT STAFFING, 1991**

| ACTIVITY | OFFICERS | NON-SWORN PERSONNEL | TOTAL STAFF |
|---|---|---|---|
| Patrol | 37 | 0 | 37 |
| Detective Work | 15 | 2 | 17 |
| Traffic Enforcement | 7 | 4 | 11 |
| Administration | 5 | 21.5 | 26.5 |
| Major Narcotic Interdiction/Enforcement | 4 | 0 | 4 |
| TOTAL STAFF | 68 | 27.5 | 95.5 |

Source: El Segundo Police Department, June 4, 1991

The police department responds to about 35 calls for service (CFS) per day. CFS consists of both major crimes and requests for assistance that do not entail criminal activities. The total number of service calls for 1988, 1989, and 1990 was approximately 32,000; 28,000; and 30,000 respectively.

The police department's response times vary with respect to the level of priority for a given call. The following table shows average response times for 1990.

**TABLE 4.7-2**
**POLICE DEPARTMENT AVERAGE RESPONSE TIMES, 1990.**

| Priority | Nature of Call | Response Time* (minutes) |
|---|---|---|
| E | Homicide\Robbery | 1.49 |
| 1 | Imminent Danger to Life | 2.91 |
| 2 | Non-Injury Accident | 3.02 |
| 3 | Theft and Burglary Reports | 4.44 |

* From time of dispatch to arrival at scene.
Source: El Segundo Police Department, June 6, 1991.

## FIRE PROTECTION

Fire protection and emergency services for the City are provided by the El Segundo Fire Department. The fire department operates two stations within the City. Fire department headquarters (Station 1) is located in the Civic Center complex on Main Street (Figure 4.7-2). Station 2 is presently located at the corner of El Segundo Boulevard and Nash Street. The Department is staffed with 59 sworn officers and 9 general employees. Table 4.7-3 details the staffing and equipment for the two fire stations.

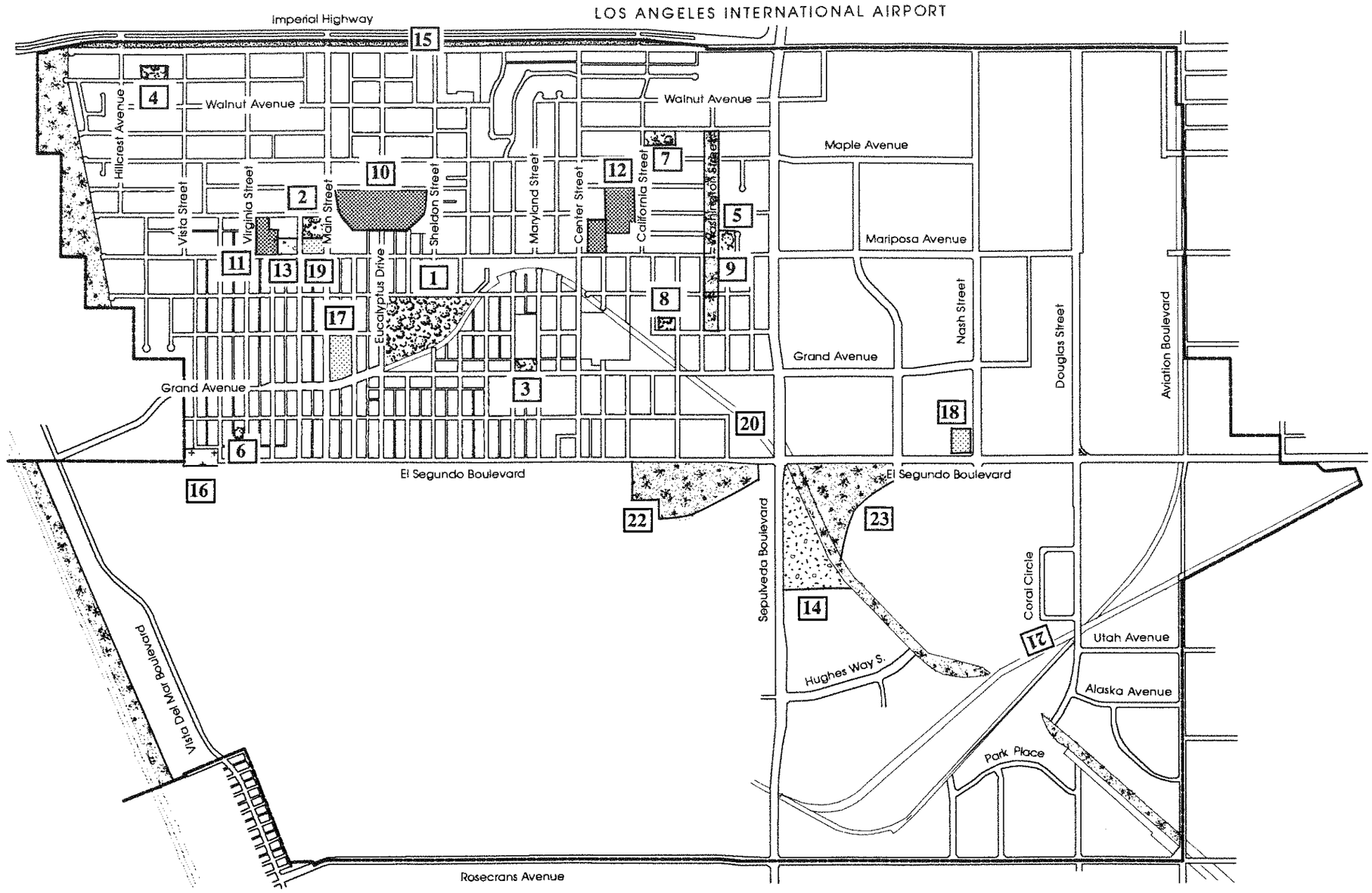
**TABLE 4.7-3**
**FIRE EQUIPMENT AND STAFFING INVENTORY, 1991**

| Station No. 1 | | Station No. 2 | |
|---|---|---|---|
| **Apparatus** | **STAFFING** | **Apparatus** | **STAFFING** |
| Engine 33 | 4 | Truck 32 (Telesquirt) | 4 |
| Engine 31 | 3 | Engine 32 | 3 |
| Rescue 31 | 2 Paramedics | Rescue 32 | 2 Paramedics |
| Command Vehicle | 1 Battalion Chief | | |
| **Total** | 10 | | 9 |

Source: El Segundo Fire Department, November 1991.

# Public Facilities, Parks and Open Space

**Figure 4.7-1**




## Legend

**PARKS**

1 Recreation Park
2 Library Park
3 Hilltop Park
4 Acaia Park
5 Washington Park
6 Candy Cane Parkette
7 Sycamore Parkette
8 Kansas Parkette
9 Constitution Park

**SCHOOLS**

10 El Segundo High School
11 Middle School (Richmond ST.)
12 Center Street School

**RECREATION FACILITIES**

13 Urho Saari Swim Stadium
14 Driving Range

**UTILITY TRANSMISSION CORRIDOR**

15 (Imperial Strip)

**WILDLIFE PRESERVE**

16 El Segundo Blue Butterfly

**PUBLIC FACILITIES**

17 Civic Center (Police and Fire Depts.)
18 Fire Station 2
19 Library

**OPEN SPACE**

20 Abandoned Railroad Right of Way
21 Southern California Edison Utility Right of Way
22 Chevron Park
23 Hughes Park

*City of El Segundo • General Plan EIR*

SOURCE: LIGHTFOOT PLANNING GROUP, 1991

No Scale

90345

In addition to the staffing listed in Table 4.7-3, Station 1 provides the offices for the Fire Chief's secretary and the Fire Prevention Bureau. The Fire Prevention Bureau is staffed with a Fire Marshall, Senior Fire Protection Analyst, two Fire Inspectors, a Secretary and an Office Specialist.

The stations have an average response time of two minutes for the City's residential area, and just under four minutes for commercial/industrial areas. A response time within five to eight minutes is considered the maximum to limit structural loss. The Department's ability to maintain adequate response times east of Sepulveda due to increasing traffic congestion is likely to remain an important fire safety issue. In 1990 there were a total of 2,006 emergency calls and 354 fire incidents that occurred in the City. Table 4.7-4 lists the type of fire responses by land use. With the exception of some dead-end and undersized mains in Smoky Hollow, water supply capacity in El Segundo is considered excellent.

**TABLE 4.7-4**
**Fire Incidents During 1990 - El Segundo Fire Department**

| | |
|---|---|
| Total Emergency Calls | 2,006 |
| Fire Responses: | |
| Commercial/Industrial | 160 |
| High Rise | 95 |
| Multi-Residence | 11 |
| Single-Residence | 24 |
| Appliance | 2 |
| Non-structure | 29 |
| Vehicle | 33 |
| TOTAL | 354 |

Source: South Bay Regional Public Communications Authority, May 1991.

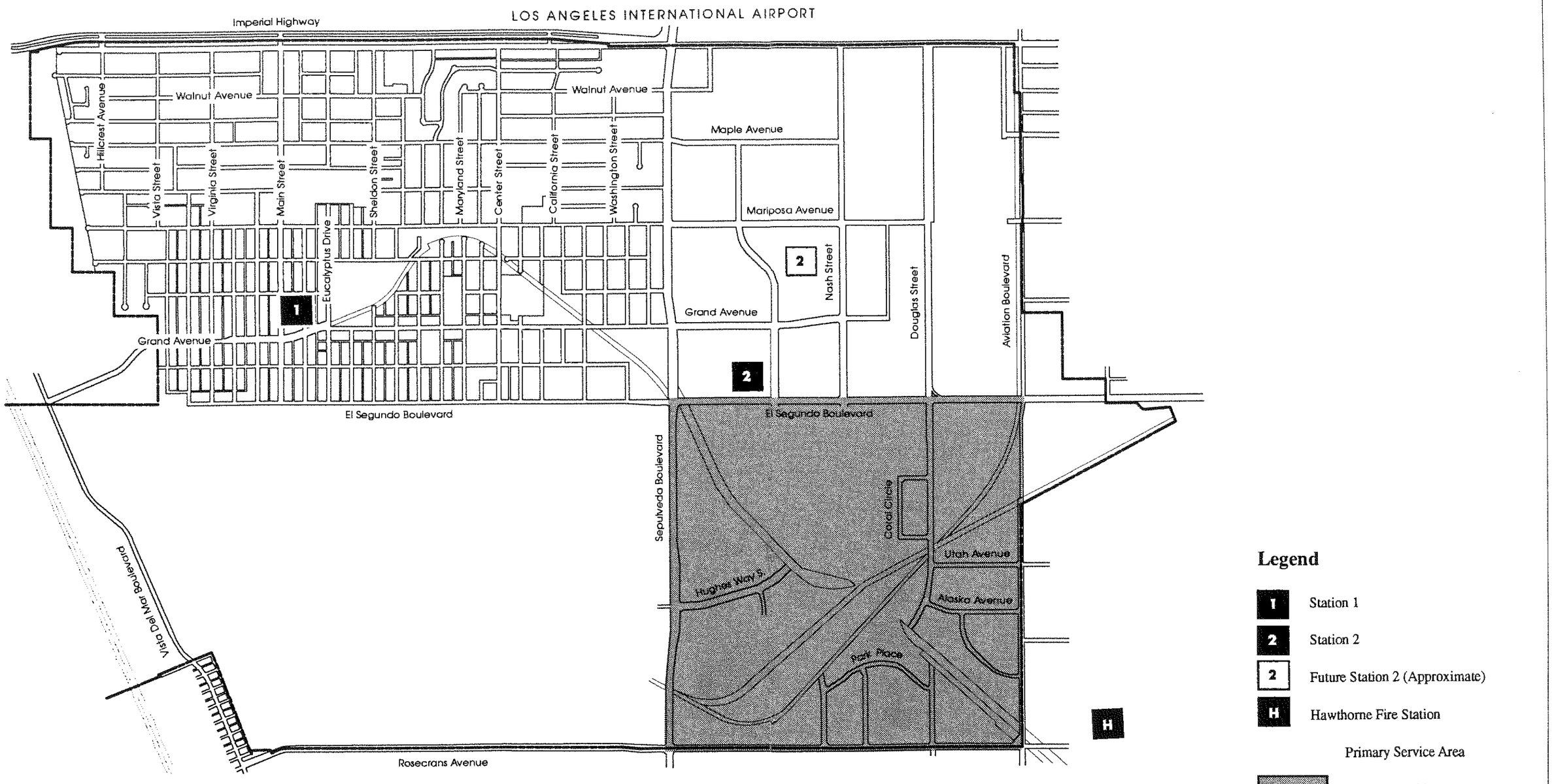
The southeastern corner of El Segundo is served under an Automatic Aid Agreement by a fire station in the City of Hawthorne located on Rosecrans Avenue just west of the 405 Freeway. The Agreement insures adequate response times for this area. During peak traffic hours, the El Segundo Fire Department is unable to reliably reach this region in an acceptable amount of time.

A number of industries in the City maintain their own industrial fire departments. In the event of a fire or other emergency the El Segundo Fire Department works in coordination with these private emergency departments.

In the event of a major fire or emergency, the City's Fire Department capabilities can be supplemented with assistance provided under Mutual Aid Agreements with the Cities of Los Angeles, Inglewood, Hawthorne, Torrance, Gardena, Hermosa Beach, Redondo Beach, Manhattan Beach. In the event further support is needed, it would be provided under the State Master Mutual Aid Agreement. For 1991, El Segundo received a Fire Insurance Classification Rating of 3. The unincorporated area adjacent to the City received a 9.

# Fire Station Locations

**Figure 4.7-2**




*City of El Segundo • General Plan EIR*

No Scale

90345

Both of the Fire Departments' stations are currently undersized and are at or exceeding their intended occupation capacity. Plans are currently being considered to relocate Station 2. The new location for the Station has not yet been determined, however, preliminary plans indicate that it will provide additional space needed to accommodate 18 personnel, 8 apparatus, and a classroom training facility. Relocation of the Station is estimated to take from two to three years. An addition is also being proposed for Station 1 which is expected to be completed in approximately two years.[1]

## LIBRARY SERVICES

The City of El Segundo Public Library is located at 111 West Mariposa Avenue. The existing library building was originally constructed in 1948, replacing the City's first municipal library which began operation in September of 1930. As a City Department, the El Segundo Public Library plans and administers services to meet the informational, educational and recreational needs of local residents.

The library's existing materials collection totals 92,844 volumes, and during 1990-91 211,939 books, periodicals and audio visual materials were circulated. This rate of circulation is one of the highest per capita in the State of California. The library is staffed with 16.5 full-time employees, and currently serves a residential population of 15,223, and a daytime business population of approximately 80,000 persons. There are approximately 25 to 30 parking spaces for the library provided on Mariposa Avenue, with supplemental parking available at a public parking lot at the corner of Main Street and Mariposa. Parking for the library is considered inadequate due to the limited number of spaces and competing demands for use of the public parking lot.

In September of 1991, a Joint Powers Agreement gave the Library Department responsibility for the administration and operation of the three El Segundo School District libraries. The School Libraries Program has been designed to save staff time and provide for cost-effective automated centralized services, provide a joint database for circulation and online public access catalog system, eliminate duplication of materials in public and school libraries, and to allow sharing of resources to effectively meet public library/school library user needs. The Program should serve as a networking model of public library/school library cooperation for the State.

The library is presently being expanded from its current size of 13,200 square feet to 26,500 for a total expansion of 13,300 square feet. The Library Department expects the expanded library will be adequate to serve the City's needs for the near future with additional expansions anticipated as the City continues to grow. The Library Department will be defining a long-range building program to provide advanced planning for the future library needs of the City.[2]

## PARKS AND RECREATION

The City of El Segundo has nine parks and approximately 31.49 acres of parkland and recreational facilities (see Table 4.7-5, and Figure 4.7-1). Recreation Park, totaling 20.10 acres, is the City's only

community park. The remaining eight parks serve the City's residential neighborhoods with a less comprehensive variety of recreational facilities. There are no public parks located in the eastern portion of the City. The City of El Segundo Recreation and Parks Department is responsible for operating and managing parks located within the City. The City also performs all of the planning efforts and activities concerning City parks and recreational facilities.

In addition to City parks, residents may also use El Segundo Unified School District playground facilities. A "Joint Powers Agreement" between the City and the School District allows the City to provide recreational programs and facilities on school grounds during after school hours and on weekends. The School District also has the option of using City-owned recreational facilities when the City's recreation schedule does not conflict. Through this agreement, the school district provides 20.10 acres of improved parkland to the City.[3]

Due to the City's large transient daytime working population, the Recreation and Parks Department estimates that approximately 10 percent of the recreational facility users in the City are non-residents. In order to address this demand, the City has adopted standards for the provision of recreational facilities in new industrial and commercial developments. These standards have been applied, and the City currently has approximately 56 acres of private parks and recreational facilities, including 35 acre Chevron Park and 16.6 acre Hughes EDSG Park. The facilities are available for employee and employee family use. There are also approximately 36.7 acres of utility transmission corridors within the City. Portions of these corridors are landscaped and do provide some opportunities for passive recreation use.[4]

**TABLE 4.7-5**
**EL SEGUNDO PARK AND RECREATION FACILITIES**

| Park Name and Location | Acreage | Park Type |
|---|---|---|
| Recreation Park<br>401 Sheldon Street | 20.1 | Community |
| Library Park<br>600 block Main Street | 3.14 | Neighborhood |
| Hilltop Park<br>Maryland & Grand Ave. | 1.13 | Neighborhood |
| Acacia Park<br>623-25 W. Acacia | .50 | Neighborhood |
| Washington Park<br>Washington & Palm | 4.28 | Neighborhood |
| Candy Cane Parkette<br>100 block Whiting St. | .13 | Parkette |
| Sycamore Parkette<br>Holly & Kansas Street | .77 | Parkette |
| Constitution Park<br>Washington Street | 1.02 | Neighborhood |
| | **31.49 Acres** | |

Source: City of El Segundo, 1991

In addition to public and private parkland within the City, Los Angeles County operated beaches are located immediately west of the City, and Kenneth Hahn State Park, located approximately 5 miles northeast of the City in Baldwin Hills, serves as a major regional park facility. The park is operated by the County of Los Angeles Parks and Recreation Department and has 315 acres of developed parkland. The County has indicated that there are plans to ultimately expand the park to 1,300 acres, if adequate funding becomes available.

As stated in the Open Space and Recreation Element Existing Conditions Report, the City has a total of 89.4 acres of neighborhood and community parkland. Using the City's 1990 Census population figure of 15,223 and given 89.40 acres of public parkland, the City has a ratio of 5.9 acres of parkland per 1,000 population. This ratio exceeds the minimum ratio of 3 acres/1000 population allowed under the Subdivision Map Act (Chapter 4, Article 3, Section 66477(b)) for the dedication of parkland. As is the case with El Segundo, a higher ratio of 5 acres/1000 population can be adopted when the City has more than 3 acres of parkland per 1000 population. Based on the 5/1000 ratio, the City has a surplus of approximately 13.3 acres of parkland.

## PUBLIC SCHOOLS

The El Segundo Unified School District is comprised of four active schools: El Segundo High School, El Segundo Middle School, Center Street Elementary School, and Arena Continuation School. The District has a current enrollment of 2,097 students and can house 4,500 students, which leaves a surplus capacity to accommodate 2,403 students. Existing enrollment and the permanent capacity of these schools are presented in Table 4.7-6. Enrollment in the District has held steady at approximately 1,900 students from the early 1980s up to the 1988-89 school year when enrollment increased slightly. The 1991-92 enrollment, which represented a four percent increase, was the largest increase in enrollment for the District over the last ten years. The School District is projecting a maximum 2 percent increase over the next over the next five years. Of the five District schools, two are presently closed due to past declines in enrollment; Imperial Street Elementary School, and El Segundo Junior High School. The Junior High School is presently leased to the Los Angeles Raiders football team for their training camp.[5] With the exception of Center Street Elementary School, which is slightly above capacity, all of the occupied schools in the District have surplus capacity.

**TABLE 4.7-6**
**SCHOOLS SERVING EL SEGUNDO**

| School | Current Enrollment | Permanent Capacity | Remaining Capacity |
|---|---|---|---|
| Center Elementary | 904 | 900 | -4 |
| Imperial Street Elementary | Vacant | 510 | 510 |
| El Segundo Middle School | 459 | 780 | 321 |
| El Segundo Junior High School | Vacant | 750 | 750 |
| El Segundo High School | 700 | 1,560 | 860 |
| Arena Continuation School | 34 | -- | -- |
| Total | 2,097 | -- | -- |

Source: El Segundo Unified School District, 1991

**Relevant Policies of the El Segundo 1991 General Plan**

There are (3) policies within the Land Use Element of the El Segundo 1991 General Plan addressing public services. These policies are briefly summarized below:

Policy LU71.1 would continue the excellent public safety programs, including fire and police protection currently enjoyed in the City.

Policy LU71.2 would not allow new development unless adequate public facilities are in place.

Policy LU71.5 would monitor annually and maintain the adequacy of library services.

With the exception of policies focusing on emergency response and hazardous materials which are covered in section 4.7 Public Safety, there are (3) policies within the Public Safety Element of the El Segundo 1991 General Plan addressing public services. These policies are briefly summarized below:

Policy PS51.1 would maintain and if necessary strengthen review of projects and development proposals, and upgrade fire prevention standards and mitigation measures in areas of high urban fire hazard.

Policy PS51.2 would continue efforts to reduce fire hazards associated with older buildings, high-rise buildings, and fire-prone industrial facilities, and maintain adequate fire protection in all areas of the City.

Policy PS51.3 Coordinate and Improve Mutual Aid Agreements.

There are (26) policies within the Open Space and Recreation Element of the El Segundo 1991 General Plan addressing public services. These policies are briefly summarized below:

Policy OS11.1 would adopt a parkland standard of 5.0 ac./1,000 pop. which is the maximum allowable standard ratio as stated in Chapter 4, Article 3, Section 66477(b) of the Subdivision Map Act.

Policy OS11.2 would adopt a locational service area standard of 1/4 mile for neighborhood parks and 1/2 mile for community parks.

Policy OS11.3 Adopt and implement a Quimby Act Dedication Ordinance and a Zoning Amendment requiring residential subdivisions and apartment projects to include land dedication or in-lieu fee payments for active and passive public open space facilities.

Policy OS11.4 would continue work with the El Segundo Unified School District in the utilization of school property for public open space and recreational use by maintaining and renewing the effective Joint Powers Agreement between the City and the School District.

Policy OS11.5 Conduct a Park User Study for all public park facilities in order to obtain the necessary data to make findings for the adoption and collection of Park Impact Fees. Collect Park Impact Fees for all new development projects, residential and non-residential, for open space acquisition, maintenance and improvement.

Policy OS11.6 Pursue a feasibility analysis of all drainage basins, as they become available, for future use of the sites as local parkland. Adopt a Zoning Amendment to add all City-owned drainage basins to the Open Space Land Use category.

Policy OS11.7 Conduct an inventory and analysis of vacant parcels, which includes a list of the assessor's parcel numbers and acreages, to identify potential park development sites.

Policy OS11.8 Prohibit all existing publicly owned parkland that is open to the general public from conversion to other land uses.

Policy OS11.9 Pursue development of alternative funding mechanisms for facility maintenance purposes such as formation of a landscape and lighting district.

Policy OS12.1 Support retention of privately owned and operated recreation facilities by designating all privately owned parkland, except for Wyle Park, as Open Space in the 1991 Land Use Plan.

Policy OS12.2 Adopt, per City Council resolution, and continue implementation of the City's On-site Employee Recreation Standards.

Policy OS12.3 Require all new residential developments with more than 20 units to provide on-site recreational open space.

Policy OS12.4 Encourage, through implementation of development incentives, the development of outdoor private recreational facilities, such as plazas, courtyards, and esplanades, in conjunction with non-residential developments.

Policy OS12.5 Prohibit structural projections into required setback open space areas.

Policy OS12.6 Support and encourage upkeep, public recreational use, and access to the Chevron shoreline area.

Policy OS12.7 Encourage the creation of active and passive open space areas within non-residential developments east of Sepulveda Boulevard.

Policy OS13.1 Continue use of the Joslyn Adult Center, the George E. Gorden Clubhouse, and the Teen Center facilities for recreational activities that are provided by the City's Recreation and Parks Department.

Policy OS13.2 Continue to fund recreational programs and advertise them on a citywide basis and in local periodicals.

Policy OS13.3 Encourage multi-family residential developments to provide active open space and recreation facilities which are maintained by Homeowner's Associations.

Policy OS13.4 Encourage commercial recreational uses to locate in El Segundo.

Policy OS14.1 Work with the City of Los Angeles Department of Water and Power and Southern California Edison to maintain and protect existing linear parks and landscaped areas within the utility right-of-ways.

Policy OS14.2 Encourage development of the City of Los Angeles Department of Water and Power open space corridor with recreation and beach access trails for pedestrians and bicycles.

Policy OS14.3 Continue to expand landscaping and recreational use along the Southern California Edison right-of-way.

Policy OS15.1 Study the potential for expansion of the natural dune habitat in the Department of Water and Power area in a manner that would be compatible with development of its recreation potential.

Policy OS15.2 Promote street trees and landscaping as a desirable feature of the quality of life in El Segundo by amending the City's Zoning Ordinance to require a minimum amount of landscaping for all residential, commercial, and industrial development projects.

Policy OS15.3 Continue to support programs for the protection of the El Segundo Blue Butterfly.

## IMPACTS AND MITIGATION MEASURES

### Standards of Significance

In accordance with the CEQA Guidelines for Implementation of CEQA, the proposed project would result in a significant impact on public Services if it would:

- Require additional staff and equipment in order to maintain acceptable levels of service; or
- Have a significant effect on or result in a substantial need for new, altered, or expanded police, fire, library, school, or recreation and park services.

Evaluation of potential impacts from the General Plan Update in relation to these criteria are provided in the following discussion.

Preferred Plan Police Impact

4.7-1 **Buildout under the proposed General Plan would result in a need for approximately 36.5 additional police officers. This is a *significant impact.***

Buildout of the proposed General Plan Update would increase the daytime working population of the City by approximately 35,215 persons and the residential population by approximately 1,281 persons. Maintaining the City service level of approximately 5.00 officers per 1000 daytime population, buildout of the proposed General Plan would result in the need for approximately 36.5 additional police officers and related support facilities. This is considered a significant impact.

Preferred Plan Police Mitigation Measure

4.7-1 *Implementation of Land Use Element Policy LU.71.1 would reduce this impact to a less-than-significant level.*

Alternative Plan Police Impact

4.7-2 **The Alternative Plan would result in a need for approximately 54.5 additional police officers. This is a *significant impact.***

The higher FAR allowed under the Alternative Plan would increase the daytime working population above the level projected for the Preferred Plan by 18,183 employees. This would increase the demand for police personnel by 18 officers. Additional support facilities would also be required.

Alternative Plan Police Mitigation Measure

4.7-2 *Implementation of Preferred Plan Impact 4.7-1 applies to the Alternative Plan.*

Preferred Plan Fire Impact

4.7-3 **Increases in population and employment under the proposed General Plan would increase the need for fire protection and emergency services, requiring additional emergency responses and the need for additional fire protection personnel, fire prevention personnel, and related support facilities. This is a *significant impact.***

Based on the current level of service estimated at approximately one emergency response per 50 daytime population per year, buildout of the proposed general plan would result in approximately 1,875 additional emergency responses. Expansion of Fire Station 1 and relocation and expansion of Station 2 would increase the effectiveness of the Fire Department and allow for the addition of new staff as population and employment in the City increase.

The adequacy of fire protection for the City is based on required fire flow, response distance from existing fire stations, and the department's needs assessment for the area. In general, the required fire flow is closely related to land use. As projects are proposed for development, they would be required to meet fire flow criteria, and all applicable fire codes and regulations set by the Uniform Fire Code. Additionally, policies contained in the proposed General Plan support the continued maintenance of a high level of fire protection services.

Preferred Plan Fire Mitigation Measure

4.7-3 *Implementation of Public Safety Element policies PS51-1, PS51-2 and PS51-3, would reduce this impact to a less-than-significant level.*

Alternative Plan Fire Impact

4.7-4 **Preferred Plan Impact 4.7-3 applies to the Alternative Plan.**

Alternative Plan Fire Mitigation Measure

4.7-4 *Preferred Plan Mitigation Measure 4.7-3 applies to the Alternative Plan.*

Preferred Plan Library Impact

4.7-5 **Buildout of the proposed General Plan and associated increases in population would increase the demand for library services. This is a *significant impact.***

As the demand for library services grows with the increase in City residents, additional library space, personnel, and new materials will be required to maintain current levels of service.

Preferred Plan Library Mitigation Measure

4.7-5 *Implementation of Land Use Element Policy LU71.5, Provision of Quality Infrastructure, would reduce this impact to a less-than-significant level.*

Alternative Plan Library Impact

4.7-6 **Preferred Plan Mitigation Measure 4.7-5 applies to the Alternative Plan.**

Alternative Plan Library Mitigation Measure

4.7-6 *Preferred Plan Mitigation Measure 4.7-5 applies to the Alternative Plan.*

Preferred Plan Park and Recreation Impact

4.7-7 **Based on a parkland to population ratio of 5 acres/1000 population, buildout of the proposed general plan would increase the number of park users in the City by 1,281 persons. This is a *less-than-significant impact.***

Given the existing surplus of 13.3 acres of parkland, the addition of 2.74 acres of open space under the proposed General Plan, and an estimated net increase in the City's population of 1,281, buildout of the proposed plan would reduce the existing surplus of parkland (based on 5 acres/1000) by 8.76 acres. This would not reduce the amount of parkland in the City but would increase the number of people using city parks. Given the City's present surplus of parkland this increase in park use is not considered significant. Implementation of Open Space Element policy OS12.3 summarized in this section would require the provision of recreational facilities in new developments with more than 20 units. Implementation of this and other Open Space policies would improve City-wide access to and availability of parks and open space. Growth in the daytime population would not significantly increase demand for City parks if the City's On-Site Employee Recreation standards for the provision of recreational facilities in new industrial and commercial developments continue to be implemented.

Preferred Plan Park and Recreation Mitigation Measure

4.7-7 *Implement proposed Open Space and Recreation Element Policies OS11 Provision and Maintenance of Open Space and Recreational Facilities, OS12 Private Facilities, OS13 Recreation Programs, OS14 Utilities Corridors, and OS15 Natural Resources.*

Alternative Plan Park and Recreation Impact

4.7-8 **Preferred Plan Impact 4.7-7 applies to the Alternative Plan.**

Alternative Plan Park and Recreation Mitigation Measure

4.7-8 *Preferred Plan Park and Recreation Mitigation Measure 4.7-7 applies to the Alternative Plan.*

Preferred Plan School Impact

4.7-9 **Buildout under the proposed general plan would result in an increase of approximately 269 children in the El Segundo School District. This is a *significant impact.***

Buildout under the proposed general plan is estimated to add 597 new residential units to the City. Based on generation factors of .25 for elementary, .1 for middle, and .1 for high school, 269 new students would

be added to City schools. There would be approximately 60, new high school students, 60 new middle school students, and 149 new elementary school students.[6] The City currently has a surplus of classroom space that could be made available to serve this potential increase in the Districts student population. New staff would be required and surplus schools would need to be reactivated.

Preferred Plan School Mitigation Measure

4.7-9 *Project proponents should pay school impact fees under the provisions of AB 2926. Currently, fees under AB2926 are set at $1.58 per square foot of residential space, and $0.26 per square foot of commercial space.*

Alternative Plan School Impact

4.7-10 **Preferred Plan Impact 4.7-9 applies to the Alternative Plan.**

Alternative Plan School Mitigation Measure

4.7-10 *Preferred Plan Mitigation Measure 4.7-9 applies to the Alternative Plan.*

## ENDNOTES

1. Personal communication, Gene H. Bell, Fire Marshal, October 21, 1991.

2. Written correspondence, Barbara J. Pearson, Library Director, El Segundo Public Library Department, September 24, 1991.

3. The Lightfoot Planning Group, Open Space and Recreation Element, Existing Conditions Report, El Segundo General Plan Update, September 1991.

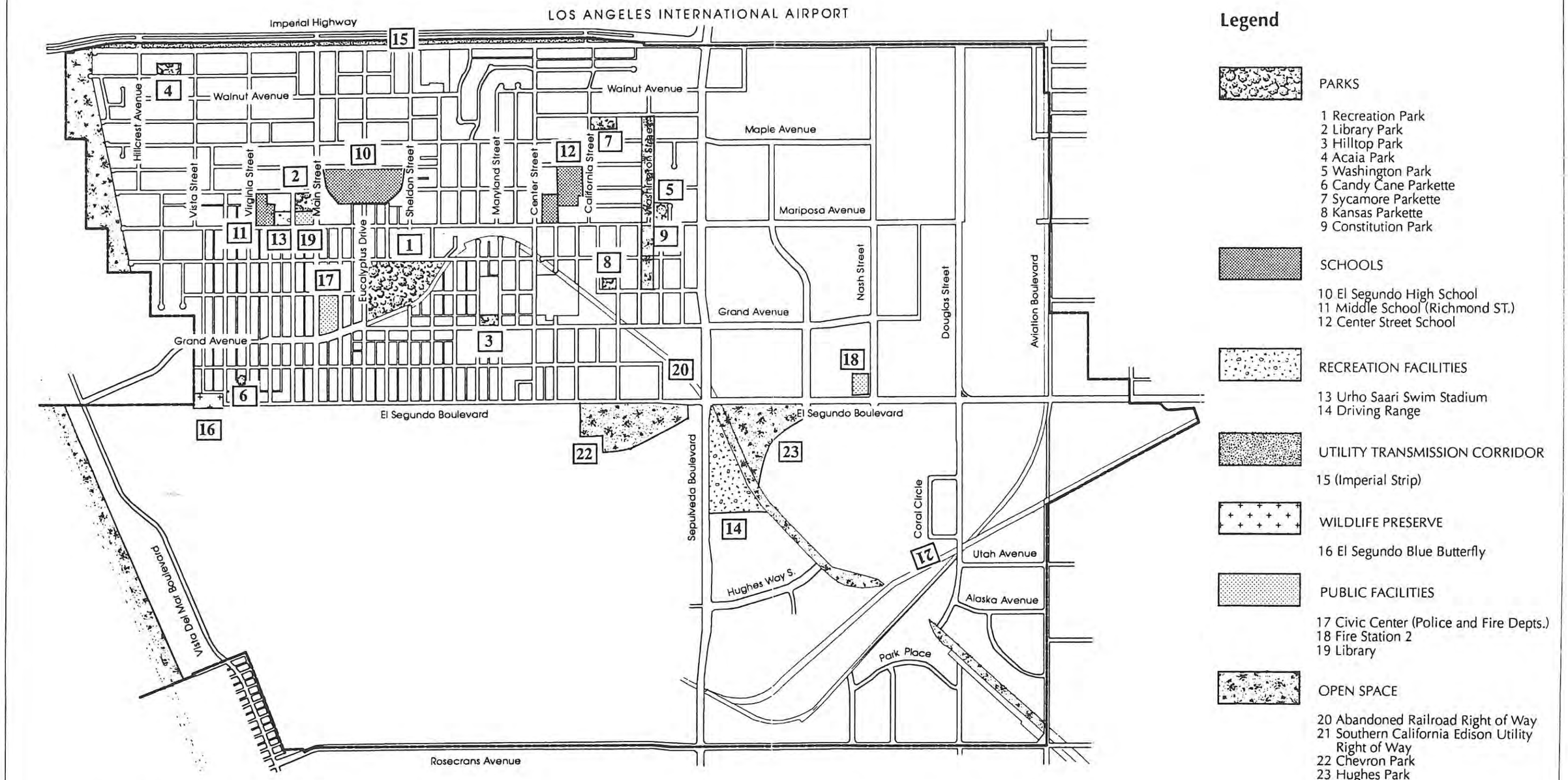
4. Ibid.

5. Written correspondence, William N. Manahan, Superintendent, El Segundo Unified School District, October 21, 1991.

6. Los Angeles Unified School District, Student Generation Factors, October 10, 1991.

# Public Facilities, Parks and Open Space

**Figure 4.7-1**




## Legend

PARKS

1 Recreation Park
2 Library Park
3 Hilltop Park
4 Acaia Park
5 Washington Park
6 Candy Cane Parkette
7 Sycamore Parkette
8 Kansas Parkette
9 Constitution Park

SCHOOLS

10 El Segundo High School
11 Middle School (Richmond ST.)
12 Center Street School

RECREATION FACILITIES

13 Urho Saari Swim Stadium
14 Driving Range

UTILITY TRANSMISSION CORRIDOR

15 (Imperial Strip)

WILDLIFE PRESERVE

16 El Segundo Blue Butterfly

PUBLIC FACILITIES

17 Civic Center (Police and Fire Depts.)
18 Fire Station 2
19 Library

OPEN SPACE

20 Abandoned Railroad Right of Way
21 Southern California Edison Utility Right of Way
22 Chevron Park
23 Hughes Park

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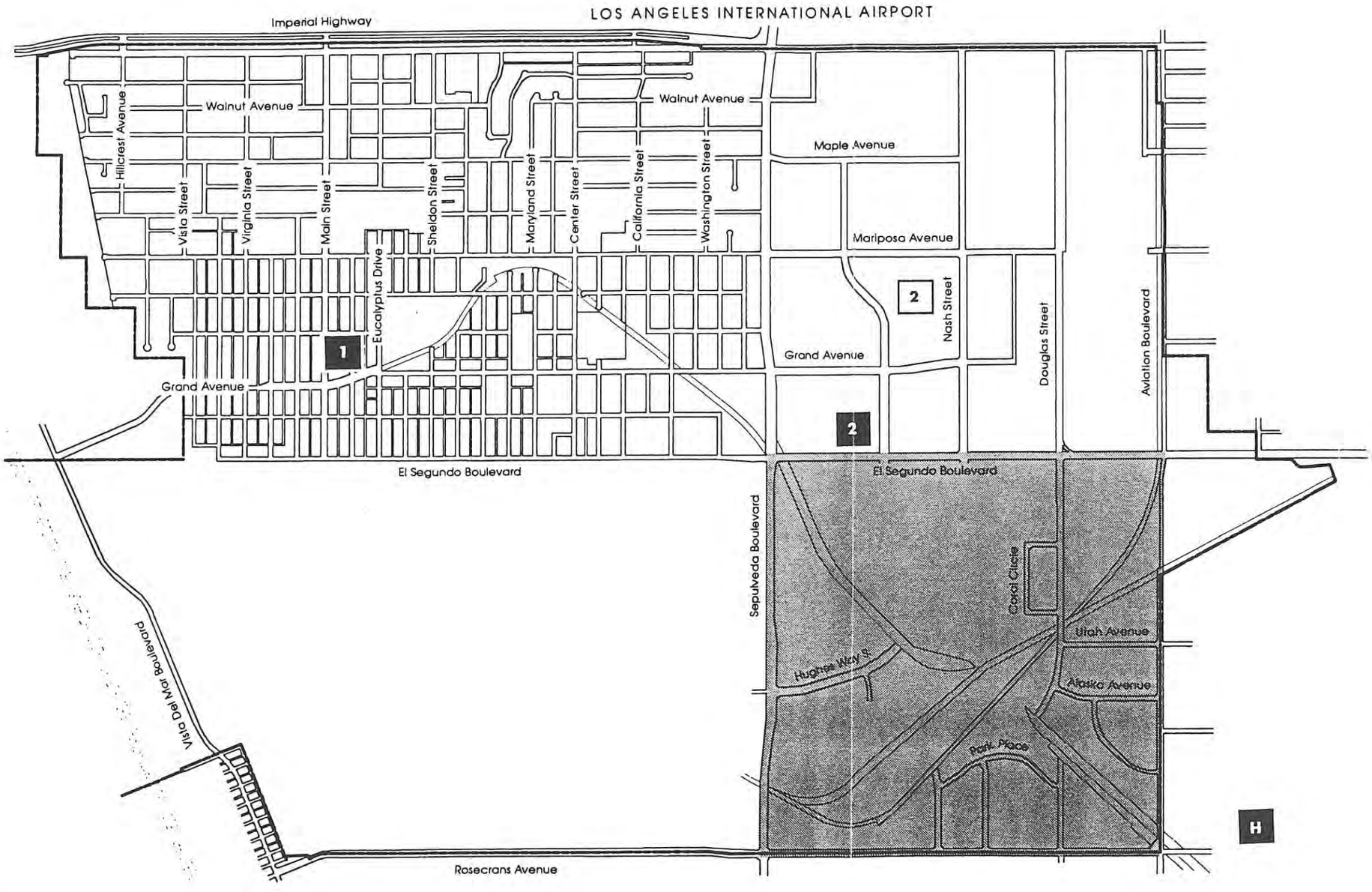
SOURCE: LIGHTFOOT PLANNING GROUP, 1991

No Scale

90345

## Fire Station Locations

**Figure 4.7-2**




**Legend**

- 1 — Station 1
- 2 — Station 2
- 2 — Future Station 2 (Approximate)
- H — Hawthorne Fire Station
- Primary Service Area
- Automatic Aid Agreement Area

SOURCE: CITY OF EL SEGUNDO

No Scale

# 4.7 PUBLIC SERVICES

## INTRODUCTION

This section assesses the impacts of the proposed project on law enforcement, fire protection, library services, schools, and recreation and open space. The specific effects of the El Segundo 1991 General Plan on existing levels of service, and improvements that would be required to accommodate growth allowed under the proposed General Plan are discussed.

The analysis presented is based on information supplied by the City of El Segundo Police Department, Fire Department, School District, Parks and Recreation Department, and the Los Angeles County Public Library. Figure 4.7-1 shows the locations of City parks and other public facilities described in this section.

## SETTING

### POLICE PROTECTION

The City of El Segundo Police Department provides law enforcement and public safety services to the City. The police station is located on Main Street within the Civic Center complex. The police department is presently staffed with 68 sworn police officers. This corresponds to approximately four officers per 1,000 permanent residents, and to one officer per 1,000 daytime population. The following table summarizes the staffing characteristics of the police department's sworn and non-sworn personnel.

**TABLE 4.7-1**
**EL SEGUNDO POLICE DEPARTMENT STAFFING, 1991**

| ACTIVITY | OFFICERS | NON-SWORN PERSONNEL | TOTAL STAFF |
|---|---|---|---|
| Patrol | 37 | 0 | 37 |
| Detective Work | 15 | 2 | 17 |
| Traffic Enforcement | 7 | 4 | 11 |
| Administration | 5 | 21.5 | 26.5 |
| Major Narcotic Interdiction/Enforcement | 4 | 0 | 4 |
| TOTAL STAFF | 68 | 27.5 | 95.5 |

Source: El Segundo Police Department, June 4, 1991

The police department responds to about 35 calls for service (CFS) per day. CFS consists of both major crimes and requests for assistance that do not entail criminal activities. The total number of service calls for 1988, 1989, and 1990 was approximately 32,000; 28,000; and 30,000 respectively.

The police department's response times vary with respect to the level of priority for a given call. The following table shows average response times for 1990.

**TABLE 4.7-2**
**POLICE DEPARTMENT AVERAGE RESPONSE TIMES, 1990.**

| Priority | Nature of Call | Response Time* (minutes) |
|---|---|---|
| E | Homicide\Robbery | 1.49 |
| 1 | Imminent Danger to Life | 2.91 |
| 2 | Non-Injury Accident | 3.02 |
| 3 | Theft and Burglary Reports | 4.44 |

* From time of dispatch to arrival at scene.
Source: El Segundo Police Department, June 6, 1991.

## FIRE PROTECTION

Fire protection and emergency services for the City are provided by the El Segundo Fire Department. The fire department operates two stations within the City. Fire department headquarters (Station 1) is located in the Civic Center complex on Main Street (Figure 4.7-2). Station 2 is presently located at the corner of El Segundo Boulevard and Nash Street. The Department is staffed with 59 sworn officers and 9 general employees. Table 4.7-3 details the staffing and equipment for the two fire stations.

**TABLE 4.7-3**
**FIRE EQUIPMENT AND STAFFING INVENTORY, 1991**

| Station No. 1 | | Station No. 2 | |
|---|---|---|---|
| **Apparatus** | **STAFFING** | **Apparatus** | **STAFFING** |
| Engine 33 | 4 | Truck 32 (Telesquirt) | 4 |
| Engine 31 | 3 | Engine 32 | 3 |
| Rescue 31 | 2 Paramedics | Rescue 32 | 2 Paramedics |
| Command Vehicle | 1 Battalion Chief | | |
| **Total** | 10 | | 9 |

Source: El Segundo Fire Department, November 1991.

In addition to the staffing listed in Table 4.7-3, Station 1 provides the offices for the Fire Chief's secretary and the Fire Prevention Bureau. The Fire Prevention Bureau is staffed with a Fire Marshall, Senior Fire Protection Analyst, two Fire Inspectors, a Secretary and an Office Specialist.

The stations have an average response time of two minutes for the City's residential area, and just under four minutes for commercial/industrial areas. A response time within five to eight minutes is considered the maximum to limit structural loss. The Department's ability to maintain adequate response times east of Sepulveda due to increasing traffic congestion is likely to remain an important fire safety issue. In 1990 there were a total of 2,006 emergency calls and 354 fire incidents that occurred in the City. Table 4.7-4 lists the type of fire responses by land use. With the exception of some dead-end and undersized mains in Smoky Hollow, water supply capacity in El Segundo is considered excellent.

**TABLE 4.7-4**
**Fire Incidents During 1990 - El Segundo Fire Department**

| | |
|---|---|
| Total Emergency Calls | 2,006 |
| Fire Responses: | |
| Commercial/Industrial | 160 |
| High Rise | 95 |
| Multi-Residence | 11 |
| Single-Residence | 24 |
| Appliance | 2 |
| Non-structure | 29 |
| Vehicle | 33 |
| TOTAL | 354 |

Source: South Bay Regional Public Communications Authority, May 1991.

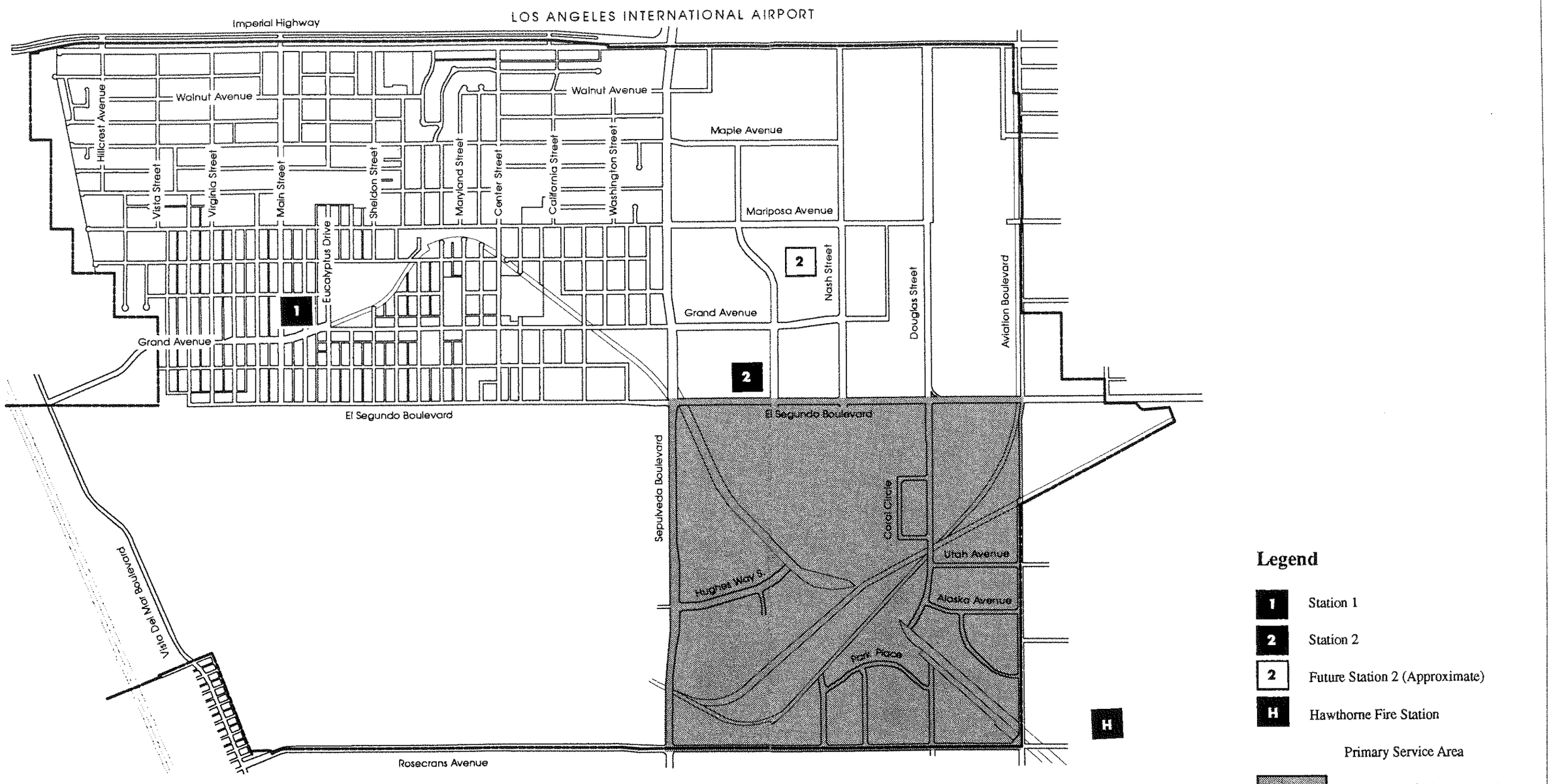
The southeastern corner of El Segundo is served under an Automatic Aid Agreement by a fire station in the City of Hawthorne located on Rosecrans Avenue just west of the 405 Freeway. The Agreement insures adequate response times for this area. During peak traffic hours, the El Segundo Fire Department is unable to reliably reach this region in an acceptable amount of time.

A number of industries in the City maintain their own industrial fire departments. In the event of a fire or other emergency the El Segundo Fire Department works in coordination with these private emergency departments.

In the event of a major fire or emergency, the City's Fire Department capabilities can be supplemented with assistance provided under Mutual Aid Agreements with the Cities of Los Angeles, Inglewood, Hawthorne, Torrance, Gardena, Hermosa Beach, Redondo Beach, Manhattan Beach. In the event further support is needed, it would be provided under the State Master Mutual Aid Agreement. For 1991, El Segundo received a Fire Insurance Classification Rating of 3. The unincorporated area adjacent to the City received a 9.

# Fire Station Locations

**Figure 4.7-2**




SOURCE: CITY OF EL SEGUNDO

*City of El Segundo • General Plan EIR*

No Scale

90345

Both of the Fire Departments' stations are currently undersized and are at or exceeding their intended occupation capacity. Plans are currently being considered to relocate Station 2. The new location for the Station has not yet been determined, however, preliminary plans indicate that it will provide additional space needed to accommodate 18 personnel, 8 apparatus, and a classroom training facility. Relocation of the Station is estimated to take from two to three years. An addition is also being proposed for Station 1 which is expected to be completed in approximately two years.[1]

## LIBRARY SERVICES

The City of El Segundo Public Library is located at 111 West Mariposa Avenue. The existing library building was originally constructed in 1948, replacing the City's first municipal library which began operation in September of 1930. As a City Department, the El Segundo Public Library plans and administers services to meet the informational, educational and recreational needs of local residents.

The library's existing materials collection totals 92,844 volumes, and during 1990-91 211,939 books, periodicals and audio visual materials were circulated. This rate of circulation is one of the highest per capita in the State of California. The library is staffed with 16.5 full-time employees, and currently serves a residential population of 15,223, and a daytime business population of approximately 80,000 persons. There are approximately 25 to 30 parking spaces for the library provided on Mariposa Avenue, with supplemental parking available at a public parking lot at the corner of Main Street and Mariposa. Parking for the library is considered inadequate due to the limited number of spaces and competing demands for use of the public parking lot.

In September of 1991, a Joint Powers Agreement gave the Library Department responsibility for the administration and operation of the three El Segundo School District libraries. The School Libraries Program has been designed to save staff time and provide for cost-effective automated centralized services, provide a joint database for circulation and online public access catalog system, eliminate duplication of materials in public and school libraries, and to allow sharing of resources to effectively meet public library/school library user needs. The Program should serve as a networking model of public library/school library cooperation for the State.

The library is presently being expanded from its current size of 13,200 square feet to 26,500 for a total expansion of 13,300 square feet. The Library Department expects the expanded library will be adequate to serve the City's needs for the near future with additional expansions anticipated as the City continues to grow. The Library Department will be defining a long-range building program to provide advanced planning for the future library needs of the City.[2]

## PARKS AND RECREATION

The City of El Segundo has nine parks and approximately 31.49 acres of parkland and recreational facilities (see Table 4.7-5, and Figure 4.7-1). Recreation Park, totaling 20.10 acres, is the City's only

community park. The remaining eight parks serve the City's residential neighborhoods with a less comprehensive variety of recreational facilities. There are no public parks located in the eastern portion of the City. The City of El Segundo Recreation and Parks Department is responsible for operating and managing parks located within the City. The City also performs all of the planning efforts and activities concerning City parks and recreational facilities.

In addition to City parks, residents may also use El Segundo Unified School District playground facilities. A "Joint Powers Agreement" between the City and the School District allows the City to provide recreational programs and facilities on school grounds during after school hours and on weekends. The School District also has the option of using City-owned recreational facilities when the City's recreation schedule does not conflict. Through this agreement, the school district provides 20.10 acres of improved parkland to the City.[3]

Due to the City's large transient daytime working population, the Recreation and Parks Department estimates that approximately 10 percent of the recreational facility users in the City are non-residents. In order to address this demand, the City has adopted standards for the provision of recreational facilities in new industrial and commercial developments. These standards have been applied, and the City currently has approximately 56 acres of private parks and recreational facilities, including 35 acre Chevron Park and 16.6 acre Hughes EDSG Park. The facilities are available for employee and employee family use. There are also approximately 36.7 acres of utility transmission corridors within the City. Portions of these corridors are landscaped and do provide some opportunities for passive recreation use.[4]

be added to City schools. There would be approximately 60, new high school students, 60 new middle school students, and 149 new elementary school students.[6] The City currently has a surplus of classroom space that could be made available to serve this potential increase in the Districts student population. New staff would be required and surplus schools would need to be reactivated.

Preferred Plan School Mitigation Measure

4.7-9 *Project proponents should pay school impact fees under the provisions of AB 2926. Currently, fees under AB2926 are set at $1.58 per square foot of residential space, and $0.26 per square foot of commercial space.*

Alternative Plan School Impact

4.7-10 **Preferred Plan Impact 4.7-9 applies to the Alternative Plan.**

Alternative Plan School Mitigation Measure

4.7-10 *Preferred Plan Mitigation Measure 4.7-9 applies to the Alternative Plan.*

## ENDNOTES

1. Personal communication, Gene H. Bell, Fire Marshal, October 21, 1991.

2. Written correspondence, Barbara J. Pearson, Library Director, El Segundo Public Library Department, September 24, 1991.

3. The Lightfoot Planning Group, Open Space and Recreation Element, Existing Conditions Report, El Segundo General Plan Update, September 1991.

4. Ibid.

5. Written correspondence, William N. Manahan, Superintendent, El Segundo Unified School District, October 21, 1991.

6. Los Angeles Unified School District, Student Generation Factors, October 10, 1991.

**TABLE 4.7-5**
**EL SEGUNDO PARK AND RECREATION FACILITIES**

| Park Name and Location | Acreage | Park Type |
|---|---|---|
| Recreation Park<br>401 Sheldon Street | 20.1 | Community |
| Library Park<br>600 block Main Street | 3.14 | Neighborhood |
| Hilltop Park<br>Maryland & Grand Ave. | 1.13 | Neighborhood |
| Acacia Park<br>623-25 W. Acacia | .50 | Neighborhood |
| Washington Park<br>Washington & Palm | 4.28 | Neighborhood |
| Candy Cane Parkette<br>100 block Whiting St. | .13 | Parkette |
| Sycamore Parkette<br>Holly & Kansas Street | .77 | Parkette |
| Constitution Park<br>Washington Street | 1.02 | Neighborhood |
| | **31.49 Acres** | |

Source: City of El Segundo, 1991

In addition to public and private parkland within the City, Los Angeles County operated beaches are located immediately west of the City, and Kenneth Hahn State Park, located approximately 5 miles northeast of the City in Baldwin Hills, serves as a major regional park facility. The park is operated by the County of Los Angeles Parks and Recreation Department and has 315 acres of developed parkland. The County has indicated that there are plans to ultimately expand the park to 1,300 acres, if adequate funding becomes available.

As stated in the Open Space and Recreation Element Existing Conditions Report, the City has a total of 89.4 acres of neighborhood and community parkland. Using the City's 1990 Census population figure of 15,223 and given 89.40 acres of public parkland, the City has a ratio of 5.9 acres of parkland per 1,000 population. This ratio exceeds the minimum ratio of 3 acres/1000 population allowed under the Subdivision Map Act (Chapter 4, Article 3, Section 66477(b)) for the dedication of parkland. As is the case with El Segundo, a higher ratio of 5 acres/1000 population can be adopted when the City has more than 3 acres of parkland per 1000 population. Based on the 5/1000 ratio, the City has a surplus of approximately 13.3 acres of parkland.

## PUBLIC SCHOOLS

The El Segundo Unified School District is comprised of four active schools: El Segundo High School, El Segundo Middle School, Center Street Elementary School, and Arena Continuation School. The District has a current enrollment of 2,097 students and can house 4,500 students, which leaves a surplus capacity to accommodate 2,403 students. Existing enrollment and the permanent capacity of these schools are presented in Table 4.7-6. Enrollment in the District has held steady at approximately 1,900 students from the early 1980s up to the 1988-89 school year when enrollment increased slightly. The 1991-92 enrollment, which represented a four percent increase, was the largest increase in enrollment for the District over the last ten years. The School District is projecting a maximum 2 percent increase over the next over the next five years. Of the five District schools, two are presently closed due to past declines in enrollment; Imperial Street Elementary School, and El Segundo Junior High School. The Junior High School is presently leased to the Los Angeles Raiders football team for their training camp.[5] With the exception of Center Street Elementary School, which is slightly above capacity, all of the occupied schools in the District have surplus capacity.

**TABLE 4.7-6**
**SCHOOLS SERVING EL SEGUNDO**

| School | Current Enrollment | Permanent Capacity | Remaining Capacity |
|---|---|---|---|
| Center Elementary | 904 | 900 | -4 |
| Imperial Street Elementary | Vacant | 510 | 510 |
| El Segundo Middle School | 459 | 780 | 321 |
| El Segundo Junior High School | Vacant | 750 | 750 |
| El Segundo High School | 700 | 1,560 | 860 |
| Arena Continuation School | 34 | -- | -- |
| Total | 2,097 | -- | -- |

Source: El Segundo Unified School District, 1991

**Relevant Policies of the El Segundo 1991 General Plan**

There are (3) policies within the Land Use Element of the El Segundo 1991 General Plan addressing public services. These policies are briefly summarized below:

Policy LU71.1 would continue the excellent public safety programs, including fire and police protection currently enjoyed in the City.

Policy LU71.2 would not allow new development unless adequate public facilities are in place.

Policy LU71.5 would monitor annually and maintain the adequacy of library services.

With the exception of policies focusing on emergency response and hazardous materials which are covered in section 4.7 Public Safety, there are (3) policies within the Public Safety Element of the El Segundo 1991 General Plan addressing public services. These policies are briefly summarized below:

Policy PS51.1 would maintain and if necessary strengthen review of projects and development proposals, and upgrade fire prevention standards and mitigation measures in areas of high urban fire hazard.

Policy PS51.2 would continue efforts to reduce fire hazards associated with older buildings, high-rise buildings, and fire-prone industrial facilities, and maintain adequate fire protection in all areas of the City.

Policy PS51.3 Coordinate and Improve Mutual Aid Agreements.

There are (26) policies within the Open Space and Recreation Element of the El Segundo 1991 General Plan addressing public services. These policies are briefly summarized below:

Policy OS11.1 would adopt a parkland standard of 5.0 ac./1,000 pop. which is the maximum allowable standard ratio as stated in Chapter 4, Article 3, Section 66477(b) of the Subdivision Map Act.

Policy OS11.2 would adopt a locational service area standard of 1/4 mile for neighborhood parks and 1/2 mile for community parks.

Policy OS11.3 Adopt and implement a Quimby Act Dedication Ordinance and a Zoning Amendment requiring residential subdivisions and apartment projects to include land dedication or in-lieu fee payments for active and passive public open space facilities.

Policy OS11.4 would continue work with the El Segundo Unified School District in the utilization of school property for public open space and recreational use by maintaining and renewing the effective Joint Powers Agreement between the City and the School District.

Policy OS11.5 Conduct a Park User Study for all public park facilities in order to obtain the necessary data to make findings for the adoption and collection of Park Impact Fees. Collect Park Impact Fees for all new development projects, residential and non-residential, for open space acquisition, maintenance and improvement.

Policy OS11.6 Pursue a feasibility analysis of all drainage basins, as they become available, for future use of the sites as local parkland. Adopt a Zoning Amendment to add all City-owned drainage basins to the Open Space Land Use category.

Policy OS11.7 Conduct an inventory and analysis of vacant parcels, which includes a list of the assessor's parcel numbers and acreages, to identify potential park development sites.

Policy OS11.8 Prohibit all existing publicly owned parkland that is open to the general public from conversion to other land uses.

Policy OS11.9 Pursue development of alternative funding mechanisms for facility maintenance purposes such as formation of a landscape and lighting district.

Policy OS12.1 Support retention of privately owned and operated recreation facilities by designating all privately owned parkland, except for Wyle Park, as Open Space in the 1991 Land Use Plan.

Policy OS12.2 Adopt, per City Council resolution, and continue implementation of the City's On-site Employee Recreation Standards.

Policy OS12.3 Require all new residential developments with more than 20 units to provide on-site recreational open space.

Policy OS12.4 Encourage, through implementation of development incentives, the development of outdoor private recreational facilities, such as plazas, courtyards, and esplanades, in conjunction with non-residential developments.

Policy OS12.5 Prohibit structural projections into required setback open space areas.

Policy OS12.6 Support and encourage upkeep, public recreational use, and access to the Chevron shoreline area.

Policy OS12.7 Encourage the creation of active and passive open space areas within non-residential developments east of Sepulveda Boulevard.

Policy OS13.1 Continue use of the Joslyn Adult Center, the George E. Gorden Clubhouse, and the Teen Center facilities for recreational activities that are provided by the City's Recreation and Parks Department.

Policy OS13.2 Continue to fund recreational programs and advertise them on a citywide basis and in local periodicals.

Policy OS13.3 Encourage multi-family residential developments to provide active open space and recreation facilities which are maintained by Homeowner's Associations.

Policy OS13.4 Encourage commercial recreational uses to locate in El Segundo.

Policy OS14.1 Work with the City of Los Angeles Department of Water and Power and Southern California Edison to maintain and protect existing linear parks and landscaped areas within the utility right-of-ways.

Policy OS14.2 Encourage development of the City of Los Angeles Department of Water and Power open space corridor with recreation and beach access trails for pedestrians and bicycles.

Policy OS14.3 Continue to expand landscaping and recreational use along the Southern California Edison right-of-way.

Policy OS15.1 Study the potential for expansion of the natural dune habitat in the Department of Water and Power area in a manner that would be compatible with development of its recreation potential.

Policy OS15.2 Promote street trees and landscaping as a desirable feature of the quality of life in El Segundo by amending the City's Zoning Ordinance to require a minimum amount of landscaping for all residential, commercial, and industrial development projects.

Policy OS15.3 Continue to support programs for the protection of the El Segundo Blue Butterfly.

## IMPACTS AND MITIGATION MEASURES

### Standards of Significance

In accordance with the CEQA Guidelines for Implementation of CEQA, the proposed project would result in a significant impact on public Services if it would:

- Require additional staff and equipment in order to maintain acceptable levels of service; or
- Have a significant effect on or result in a substantial need for new, altered, or expanded police, fire, library, school, or recreation and park services.

Evaluation of potential impacts from the General Plan Update in relation to these criteria are provided in the following discussion.

Preferred Plan Police Impact

4.7-1 **Buildout under the proposed General Plan would result in a need for approximately 36.5 additional police officers. This is a *significant impact.***

Buildout of the proposed General Plan Update would increase the daytime working population of the City by approximately 35,215 persons and the residential population by approximately 1,281 persons. Maintaining the City service level of approximately 5.00 officers per 1000 daytime population, buildout of the proposed General Plan would result in the need for approximately 36.5 additional police officers and related support facilities. This is considered a significant impact.

Preferred Plan Police Mitigation Measure

4.7-1 *Implementation of Land Use Element Policy LU.71.1 would reduce this impact to a less-than-significant level.*

Alternative Plan Police Impact

4.7-2 **The Alternative Plan would result in a need for approximately 54.5 additional police officers. This is a *significant impact.***

The higher FAR allowed under the Alternative Plan would increase the daytime working population above the level projected for the Preferred Plan by 18,183 employees. This would increase the demand for police personnel by 18 officers. Additional support facilities would also be required.

Alternative Plan Police Mitigation Measure

4.7-2 *Implementation of Preferred Plan Impact 4.7-1 applies to the Alternative Plan.*

Preferred Plan Fire Impact

4.7-3 **Increases in population and employment under the proposed General Plan would increase the need for fire protection and emergency services, requiring additional emergency responses and the need for additional fire protection personnel, fire prevention personnel, and related support facilities. This is a *significant impact.***

Based on the current level of service estimated at approximately one emergency response per 50 daytime population per year, buildout of the proposed general plan would result in approximately 1,875 additional emergency responses. Expansion of Fire Station 1 and relocation and expansion of Station 2 would increase the effectiveness of the Fire Department and allow for the addition of new staff as population and employment in the City increase.

The adequacy of fire protection for the City is based on required fire flow, response distance from existing fire stations, and the department's needs assessment for the area. In general, the required fire flow is closely related to land use. As projects are proposed for development, they would be required to meet fire flow criteria, and all applicable fire codes and regulations set by the Uniform Fire Code. Additionally, policies contained in the proposed General Plan support the continued maintenance of a high level of fire protection services.

Preferred Plan Fire Mitigation Measure

4.7-3 *Implementation of Public Safety Element policies PS51-1, PS51-2 and PS51-3, would reduce this impact to a less-than-significant level.*

Alternative Plan Fire Impact

4.7-4 **Preferred Plan Impact 4.7-3 applies to the Alternative Plan.**

Alternative Plan Fire Mitigation Measure

4.7-4 *Preferred Plan Mitigation Measure 4.7-3 applies to the Alternative Plan.*

Preferred Plan Library Impact

4.7-5 **Buildout of the proposed General Plan and associated increases in population would increase the demand for library services. This is a *significant impact.***

As the demand for library services grows with the increase in City residents, additional library space, personnel, and new materials will be required to maintain current levels of service.

Preferred Plan Library Mitigation Measure

4.7-5 *Implementation of Land Use Element Policy LU71.5, Provision of Quality Infrastructure, would reduce this impact to a less-than-significant level.*

Alternative Plan Library Impact

4.7-6 **Preferred Plan Mitigation Measure 4.7-5 applies to the Alternative Plan.**

Alternative Plan Library Mitigation Measure

4.7-6 *Preferred Plan Mitigation Measure 4.7-5 applies to the Alternative Plan.*

Preferred Plan Park and Recreation Impact

4.7-7 **Based on a parkland to population ratio of 5 acres/1000 population, buildout of the proposed general plan would increase the number of park users in the City by 1,281 persons. This is a *less-than-significant impact.***

Given the existing surplus of 13.3 acres of parkland, the addition of 2.74 acres of open space under the proposed General Plan, and an estimated net increase in the City's population of 1,281, buildout of the proposed plan would reduce the existing surplus of parkland (based on 5 acres/1000) by 8.76 acres. This would not reduce the amount of parkland in the City but would increase the number of people using city parks. Given the City's present surplus of parkland this increase in park use is not considered significant. Implementation of Open Space Element policy OS12.3 summarized in this section would require the provision of recreational facilities in new developments with more than 20 units. Implementation of this and other Open Space policies would improve City-wide access to and availability of parks and open space. Growth in the daytime population would not significantly increase demand for City parks if the City's On-Site Employee Recreation standards for the provision of recreational facilities in new industrial and commercial developments continue to be implemented.

Preferred Plan Park and Recreation Mitigation Measure

4.7-7 *Implement proposed Open Space and Recreation Element Policies OS11 Provision and Maintenance of Open Space and Recreational Facilities, OS12 Private Facilities, OS13 Recreation Programs, OS14 Utilities Corridors, and OS15 Natural Resources.*

Alternative Plan Park and Recreation Impact

4.7-8 **Preferred Plan Impact 4.7-7 applies to the Alternative Plan.**

Alternative Plan Park and Recreation Mitigation Measure

4.7-8 *Preferred Plan Park and Recreation Mitigation Measure 4.7-7 applies to the Alternative Plan.*

Preferred Plan School Impact

4.7-9 **Buildout under the proposed general plan would result in an increase of approximately 269 children in the El Segundo School District. This is a *significant impact.***

Buildout under the proposed general plan is estimated to add 597 new residential units to the City. Based on generation factors of .25 for elementary, .1 for middle, and .1 for high school, 269 new students would

# 4.8 TRANSPORTATION/CIRCULATION

# 4.8 TRANSPORTATION AND CIRCULATION

## INTRODUCTION

This section summarizes the Circulation Element prepared for the El Segundo 1991 General Plan. The purpose of the Circulation Element is to set policies for creating a safe, convenient and efficient circulation system. This section of the EIR will address increasing impacts of traffic and the physical improvements planned and policies proposed to mitigate these effects.

## SETTING

### Related Plans and Programs

Circulation issues and travel patterns extend far beyond the El Segundo City limits. Consequently, the circulation system within the City is affected by land use and circulation plans and developments of other jurisdictions. Impacts to the City's circulation system due to land use changes, new development, and circulation system improvements in adjacent jurisdictions, were projected during the development of the revised Element and have been incorporated into this analysis.

### Existing Street System

The City of El Segundo is served by the existing network of roadways shown on Figure 4.8-1. The existing street network is essentially a grid system of north/south and east/west roadways. The primary north/south roadways are Aviation Boulevard, Douglas Street, Nash Street, Sepulveda Boulevard, Center Street, Main Street and Vista Del Mar. The primary east/west streets are Imperial Highway, Imperial Avenue, Maple Avenue, Mariposa Avenue, Grand Avenue, El Segundo Boulevard and Rosecrans Avenue.

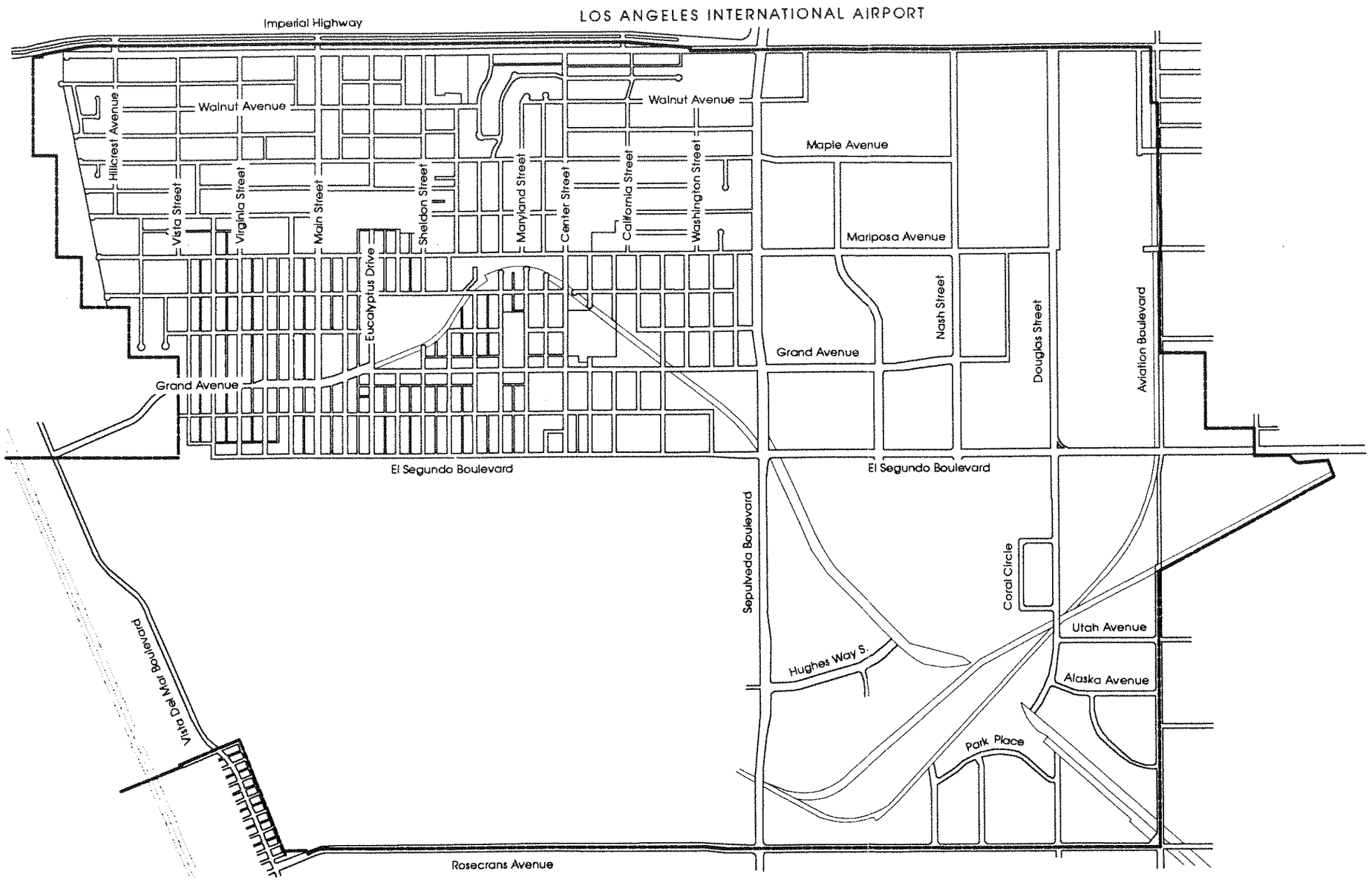
### Daily Operating Conditions on the Existing Street Network

Congestion is the result of a street network that carries traffic volumes in excess of the network's designed capacity. Level of Service (LOS) is a term used to qualitatively describe prevailing conditions and their effect on traffic. Broadly interpreted, the LOS concept denotes any one of a number of differing combinations of operating conditions that may take place as a roadway is accommodating various traffic volumes.

There are six defined Levels of Service, A through F which describe conditions ranging from "ideal" to "worst." Each Level is defined in Table 4.8-1.

# Existing El Segundo Street Network

**Figure 4.8-1**




*City of El Segundo • General Plan EIR*

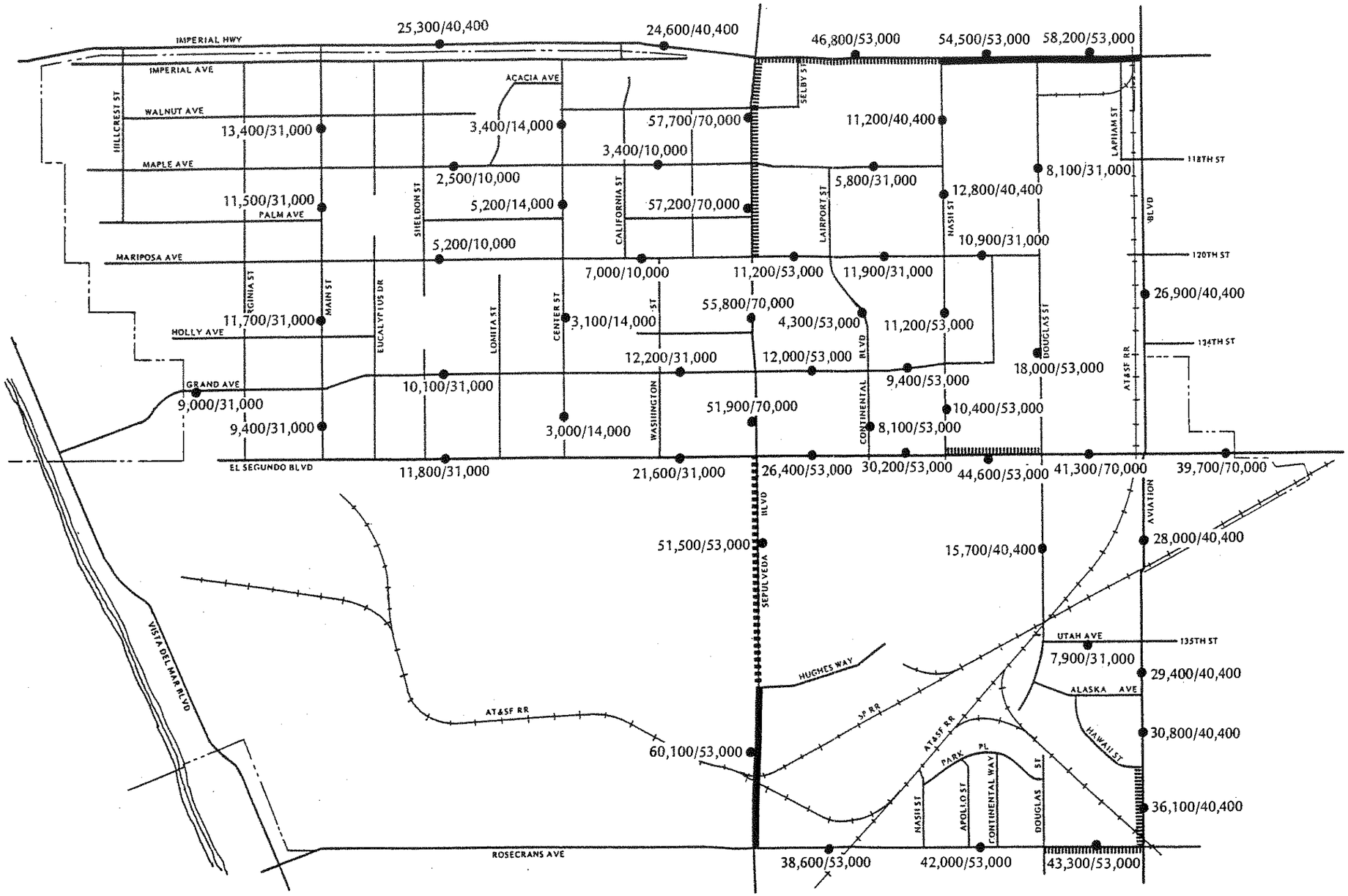
SOURCE: CITY OF EL SEGUNDO

No Scale

90345

# Summary of Daily Roadway Analysis

**Figure 4.8-2**




## Legend

Daily Traffic Volume / Estimated Road Capacity XXX/YYY

Roadway Operating At:

LOS C or Better

LOS D

LOS E

LOS F

SOURCE: EL SEGUNDO 1988 TRAFFIC COUNT PROGRAM

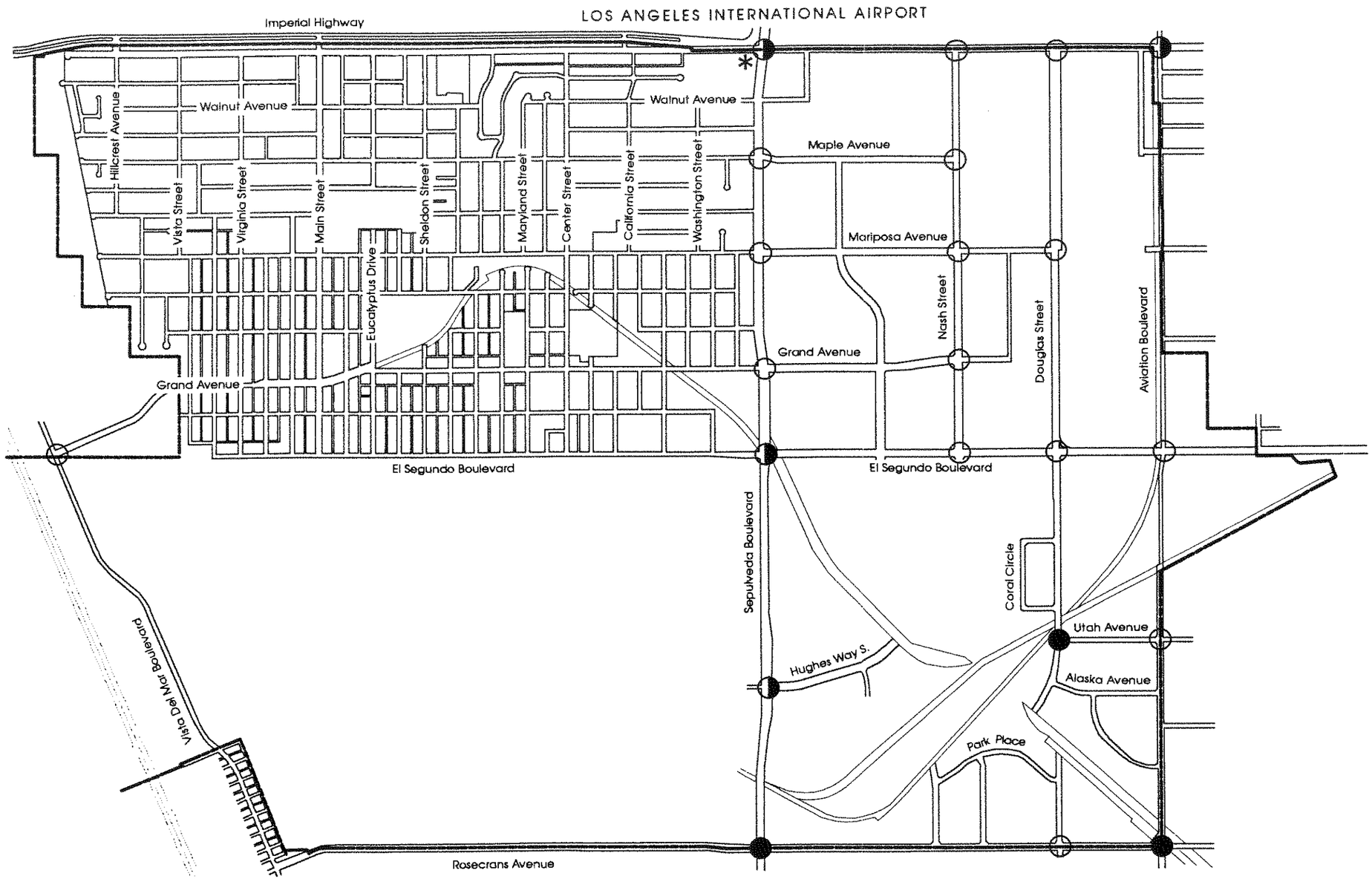
*City of El Segundo • General Plan EIR*

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# Summary of Peak Hourly Intersection Analysis
# Existing Conditions

**Figure 4.8-3**




*City of El Segundo • General Plan EIR*

SOURCE: CITY OF EL SEGUNDO GENERAL PLAN, 1991

No Scale

90345

**TABLE 4.8-1**
**LEVEL OF SERVICE AS FUNCTION OF VOLUME TO CAPACITY (V/C) RATIO**

| Level of Service | Interpretation | Range of V/C Values |
|---|---|---|
| A | Uncongested operations; all vehicles clear in a single cycle. | 0.0 - 0.60 |
| B | Same as above. | 0.61 - 0.70 |
| C | Light congestion; occasional backups on critical approaches. | 0.71 - 0.80 |
| D | Congestion on critical approaches, but intersection functional. Vehicles required to wait through more than one cycle during short peaks. No long standing lines formed. | 0.81 - 0.90 |
| E | Sever congestion with some long standing lines on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. | 0.91 - 1.00 |
| F | Forced flow with stoppages of long duration. | > 1.00 |

The LOS is related to the volume-to-capacity ratio (V/C). To determine the V/C ratio, the total critical volume (the sum of volumes of conflicting movements) is divided by the intersection or link capacity, based on the capacity for conflicting movements.

Daily operating conditions shown in Table 4.8-2 were analyzed on each of the arterials designated on the City's existing Master Plan of Roadways. This was done by comparing the average daily traffic volume for each arterial to the estimated daily capacity. The daily traffic volume and estimated roadway capacity for each of the key roadways in the City are shown on Figure 4.8-2. Review of Figure 4.8-2 reveals that the majority of roadways in the City of El Segundo operate at LOS "C" or better. Several roadway links operate at LOS "D". These are:

- Aviation Boulevard from Hawaii Street to Rosecrans Boulevard.
- El Segundo Boulevard from Nash Street to Douglas Street.
- Imperial Highway from Sepulveda Boulevard to Nash Street.
- Rosecrans Avenue from Douglas Street to Aviation Boulevard.
- Sepulveda Boulevard from Imperial Highway to Mariposa Avenue.

One roadway segment operates at LOS "E":

- Sepulveda Boulevard from El Segundo Boulevard to Hughes Way.

The analysis of daily operating conditions also indicated that two roadway segments currently experience LOS "F". They are:

- Imperial Highway from Nash to Aviation.
- Sepulveda Boulevard from Hughes to Rosecrans.

Each of these roadway segments currently carries a daily traffic volume greater than its estimated capacity, indicating congested conditions.

**Analysis of Peak Hourly Operating Conditions on Existing Street Network**

In addition to the analysis of roadway segments on the basis of daily traffic volume and capacity, peak hourly traffic conditions at several key intersections throughout the City were also evaluated (Table 4.8-3). The results of the intersection analysis is presented graphically on Figure 4.8-3. Review of Figure 4.8-3 reveals that according to the peak hour intersection analysis, several intersections within the City currently operate at unacceptable Levels of Service (LOS). The following intersections currently operate at LOS "E" or "F" during the PM peak hour only:

- Aviation Boulevard at Imperial Highway,
- Sepulveda Boulevard at Imperial Highway,
- Sepulveda Boulevard at El Segundo Boulevard,
- Sepulveda Boulevard at Hughes Way.

**TABLE 4.8-2**
**COMPARISON OF DAILY TRAFFIC VOLUMES TO ESTIMATED DAILY ROADWAY CAPACITIES EXISTING CONDITIONS**

| Roadway Segment | Classification (a) | Existing Lanes | Existing Roadway Capacity (b) | Existing ADT | V/C Ratio (c) | LOS (d) |
|---|---|---|---|---|---|---|
| **AVIATION BOULEVARD** | | | | | | |
| Imperial to El Segundo | Major Arterial | 4-lanes divided | 40,400 | 26,900 | 0.67 | B |
| El Segundo to Utah | Major Arterial | 4-lanes divided | 40,400 | 28,000 | 0.69 | B |
| Utah to Alaska | Major Arterial | 4-lanes divided | 40,400 | 29,400 | 0.75 | C |
| Alaska to Hawaii | Major Arterial | 4-lanes divided | 40,400 | 30,800 | 0.76 | C |
| Hawaii to Rosecrans | Major Arterial | 4-lanes divided | 40,400 | 36,100 | 0.89 | D |
| **CENTER STREET** | | | | | | |
| Imperial Ave. to Maple | Collector | 2-lane collector | 14,000 | 3,400 | 0.24 | A |
| Maple to Mariposa | Collector | 2-lane collector | 14,000 | 5,200 | 0.37 | A |
| Mariposa to Grand | Collector | 2-lane collector | 14,000 | 3,100 | 0.22 | A |
| Grand to El Segundo | Collector | 2-lane collector | 14,000 | 3,000 | 0.21 | A |
| **CONTINENTAL (Lairport St.) BOULEVARD** | | | | | | |
| Imperial Hwy. to Mariposa | Secondary Arterial | None | NA | NA | NA | NA |
| Mariposa to Grand | Secondary Arterial | 6-lanes divided | 53,000 | 4,300 | 0.08 | A |
| Grand to El Segundo | Secondary Arterial | 6-lanes divided | 53,000 | 4,300 | 0.08 | A |
| **DOUGLAS STREET** | | | | | | |
| Imperial Hwy. to Mariposa | Secondary Arterial | 4-lanes divided | 31,000 | 8,100 | 0.26 | A |
| Mariposa to El Segundo | Secondary Arterial | 6-lanes divided | 53,000 | 18,000 | 0.34 | A |
| El Segundo to Utah | Secondary Arterial | ¼-lanes divided | 40,400 | 15,700 | 0.39 | A |
| Utah to Rosecrans | Secondary Arterial | None | NA | NA | NA | NA |
| **EL SEGUNDO BOULEVARD** | | | | | | |
| Main to Center | Secondary Arterial | 4-lanes divided | 31,000 | 11,800 | 0.38 | A |
| Center to Sepulveda | Secondary Arterial | 4-lanes divided | 31,000 | 21,600 | 0.70 | B |
| Sepulveda to Centinella | Major Arterial | 6-lanes divided | 53,000 | 26,400 | 0.50 | A |
| Continental to Nash | Major Arterial | 6-lanes divided | 53,000 | 30,200 | 0.57 | A |
| Nash to Douglas | Major Arterial | 6-lanes divided | 53,000 | 44,600 | 0.84 | D |
| Douglas to Aviation | Major Arterial | 8-lanes divided | 70,000 | 41,300 | 0.59 | A |
| Aviation to Isis | Major Arterial | 8-lanes divided | 70,000 | 39,700 | 0.57 | A |
| **GRAND AVENUE** | | | | | | |
| Vista Del Mar to Main | Secondary Arterial | 4-lanes undivided | 31,000 | 9,000 | 0.29 | A |
| Main to Center | Secondary Arterial | 4-lanes undivided | 31,000 | 10,100 | 0.33 | A |
| Center to Sepulveda | Secondary Arterial | 4-lanes undivided | 31,000 | 12,200 | 0.39 | A |
| Sepulveda to Continental | Secondary Arterial | 6-lanes divided | 53,000 | 12,000 | 0.23 | A |
| Continental to Nash | Secondary Arterial | 6-lanes divided | 53,000 | 9,400 | 0.18 | A |
| Nash to Dudley | Secondary Arterial | 2-lane collector | 14,000 | NA | NA | NA |
| Dudley to Aviation | Collector | None | NA | NA | NA | NA |

**TABLE 4.8-2**
**COMPARISON OF DAILY TRAFFIC VOLUMES TO ESTIMATED DAILY ROADWAY CAPACITIES EXISTING CONDITIONS**

| Roadway Segment | Classification (a) | Existing Lanes | Existing Roadway Capacity (b) | Existing ADT | V/C Ratio (c) | LOS (d) |
|---|---|---|---|---|---|---|
| **HUGHES WAY** | | | | | | |
| Sepulveda to Douglas | Secondary | None | NA | NA | NA | NA |
| **IMPERIAL HIGHWAY** | | | | | | |
| Main to Center | Secondary Arterial | 4-lanes divided | 40,400 | 25,300 | 0.63 | B |
| Center to Sepulveda | Secondary Arterial | 4-lanes divided | 40,400 | 24,600 | 0.61 | B |
| Sepulveda to Nash | Secondary Arterial | 6-lanes divided | 53,000 | 46,800 | 0.88 | D |
| Nash to Douglas | Secondary Arterial | 6-lanes divided | 53,000 | 54,500 | 1.03 | F |
| Douglas to Aviation | Secondary Arterial | 6-lanes divided | 53,000 | 58,200 | 1.10 | F |
| **IMPERIAL AVENUE** | | | | | | |
| Hillcrest to Imperial Hwy. | Collector | 2-lane collector | 14,000 | NA | NA | NA |
| **I-105 FREEWAY** | | | | | | |
| California to Aviation | Freeway | None | NA | NA | NA | NA |
| **MAIN STREET** | | | | | | |
| Imperial Hwy. to Maple | Secondary Arterial | 4-lanes undivided | 31,000 | 13,400 | 0.43 | A |
| Maple to Mariposa | Secondary Arterial | 4-lanes undivided | 31,000 | 11,500 | 0.37 | A |
| Mariposa to Grand | Secondary Arterial | 4-lanes undivided | 31,000 | 11,700 | 0.38 | A |
| Grand to El Segundo | Secondary Arterial | 4-lanes undivided | 31,000 | 9,400 | 0.30 | A |
| **MAPLE AVENUE** | | | | | | |
| Main to Center | Not Designated | 2-lane local | 10,000 | 2,500 | 0.25 | A |
| Center to Sepulveda | Not Designated | 2-lane local | 10,000 | 3,400 | 0.34 | A |
| Sepulveda to Nash | Collector | 4-lanes undivided | 31,000 | 5,800 | 0.19 | A |
| **MARIPOSA AVENUE** | | | | | | |
| Main to Center | Collector | 2-lane local | 10,000 | 5,200 | 0.52 | A |
| Center to Sepulveda | Collector | 2-lane local | 10,000 | 7,000 | 0.70 | B |
| Sepulveda to Continental | Secondary Arterial | 6-lanes divided | 53,000 | 11,200 | 0.21 | A |
| Continental to Nash | Secondary Arterial | 4-lanes undivided | 31,000 | 11,900 | 0.38 | A |
| Nash to Douglas | Secondary Arterial | 4-lanes undivided | 31,000 | 11,900 | 0.35 | A |
| Douglas to Aviation | Secondary Arterial | None | NA | NA | NA | NA |
| **NASH STREET** | | | | | | |
| Imperial Hwy. to Maple | Secondary Arterial | 4-lanes divided | 40,400 | 11,200 | 0.28 | A |
| Maple to Mariposa | Secondary Arterial | 4-lanes divided | 40,400 | 12,800 | 0.32 | A |
| Mariposa to Grand | Secondary Arterial | 6-lanes divided | 53,000 | 11,200 | 0.21 | A |
| Grand to El Segundo | Secondary Arterial | 6-lanes divided | 53,000 | 10,400 | 0.20 | A |

## TABLE 4.8-2
## COMPARISON OF DAILY TRAFFIC VOLUMES TO ESTIMATED DAILY ROADWAY CAPACITIES EXISTING CONDITIONS

| Roadway Segment | Classification (a) | Existing Lanes | Existing Roadway Capacity (b) | Existing ADT | V/C Ratio (c) | LOS (d) |
|---|---|---|---|---|---|---|
| **ROSECRANS AVENUE** | | | | | | |
| West City Boundary to Sepulveda | Major Arterial | 5-lanes divided | NA | NA | NA | NA |
| Sepulveda to Nash | Major Arterial | 6-lanes divided | 53,000 | 36,600 | 0.73 | C |
| Nash to Douglas | Major Arterial | 6-lanes divided | 53,000 | 42,000 | 0.79 | C |
| Douglas to Aviation | Major Arterial | 6-lanes divided | 53,000 | 43,300 | 0.82 | D |
| **SEPULVEDA BOULEVARD** | | | | | | |
| Imperial Hwy. to Maple | Major Arterial | 8-lanes divided | 70,000 | 57,700 | 0.82 | D |
| Maple to Mariposa | Major Arterial | 8-lanes divided | 70,000 | 57,200 | 0.82 | D |
| Mariposa to Grand | Major Arterial | 8-lanes divided | 70,000 | 55,800 | 0.80 | C |
| Grand to El Segundo | Major Arterial | 8-lanes divided | 70,000 | 51,900 | 0.74 | C |
| El Segundo to Hughes Way | Major Arterial | 6-lanes divided | 53,000 | 51,500 | 0.97 | E |
| Hughes Way to Rosecrans | Major Arterial | 6-lanes divided | 53,000 | 60,100 | 1.13 | F |
| **UTAH AVENUE (Hughes Way)** | | | | | | |
| Douglas to Aviation | Secondary Arterial | 4-lanes undivided | 31,000 | 7,900 | 0.26 | A |
| **VISTA DEL MAR** | | | | | | |
| Grand to South City Boundary | Secondary | 4-lanes undivided | 31,000 | NA | NA | NA |

(a) Per Circulation Element of City's General Plan
(b) From Table 1
(c) Ratio of daily traffic volume to capacity
(d) Level of Service, determine on basis of V/C Ratio, describes operating condition on the roadway. LOS "A" is generally free-flowing. LOS "E" represents capacity. LOS "C" and "D" are typical in urban conditions. LOS "F" represents severe congestion.

**TABLE 4.8-3**
**SUMMARY OF EXISTING PEAK HOUR**
**INTERSECTION CAPACITY UTILIZATION (ICU) ANALYSIS**

| Signalized Intersection | AM PEAK HOUR ICU | AM PEAK HOUR LOS | PM PEAK HOUR ICU | PM PEAK HOUR LOS |
|---|---|---|---|---|
| **El Segundo at:** | | | | |
| Aviation Boulevard | 0.79 | C | 0.89 | D |
| Douglas Street | 0.69 | B | 0.89 | D |
| **Aviation Boulevard at:** | | | | |
| Utah Avenue | 0.73 | C | 0.84 | D |
| Imperial Highway | 0.85 | D | 0.91 | E |
| **Rosecrans Avenue at:** | | | | |
| Douglas Street | 0.50 | A | 0.66 | B |
| Aviation Boulevard | 0.97 | E | 0.94 | E |
| Sepulveda Boulevard | 1.00 | E | 1.26 | F |
| **Douglas Street at:** | | | | |
| Imperial Highway | 0.61 | B | 0.72 | C |
| Mariposa Street | 0.43 | A | 0.63 | B |
| **Nash Street at:** | | | | |
| Imperial Highway | 0.57 | A | 0.90 | D |
| Maple Street | 0.28 | A | 0.34 | A |
| Mariposa Street | 0.45 | A | 0.55 | A |
| Grand Avenue | 0.30 | A | 0.46 | A |
| El Segundo Boulevard | 0.51 | A | 0.61 | B |
| **Sepulveda Boulevard at:** | | | | |
| Imperial Highway | NA | NA | 1.21 | F |
| Maple Avenue | 0.47 | A | 0.72 | C |
| Mariposa Avenue | 0.69 | B | 0.71 | C |
| Grand Avenue | 0.68 | B | 0.65 | B |
| El Segundo Boulevard | 0.86 | D | 1.09 | F |
| Hughes Way | 0.39 | A | 0.94 | E |
| **Vista Del Mar at:** | | | | |
| Grand Avenue | 0.77 | C | 0.78 | C |

| Unsignalized Intersection | AM PEAK HOUR Reserve Capacity | AM PEAK HOUR LOS | PM PEAK HOUR Reserve Capacity | PM PEAK HOUR LOS |
|---|---|---|---|---|
| **Douglas Street at:** | | | | |
| Utah Avenue | | | | |
| Minor WB Left-Turn | 122 | D | -50 | F |
| Minor WB Right-Turn | -242 | F | 586 | A |
| Major SB Left-Turn | 292 | C | -288 | F |

In addition, the following intersections currently operate at LOS "E" or "F" during both peak hours:

- Rosecrans Avenue at Aviation Boulevard.
- Rosecrans Boulevard at Sepulveda Boulevard.

During the AM and PM peak hours, at least one movement carries higher volumes than the available capacity at the unsignalized intersection of Douglas Street at Utah Avenue.

### Street Classification and Function

The magnitude of traffic volumes on a particular street represents but one element of hierarchy in an overall circulation system. The system provides a balanced linkage between high volume traffic corridors (i.e., major arterials) and low volume streets. The City's present circulation system consists of local streets, collector streets, secondary arterials, major arterials and freeways. There are a myriad of other categories or names for the components of a circulation system. However, it should be recognized that the street classification is not as important as the function to be fulfilled.

The functions of the circulation system's street categories are summarized as follows:

- Local Streets principally provide vehicular, pedestrian, and bicycle access to property abutting the public right-of-way with movement of traffic acting only as a secondary function.
- Collector Streets are intended to serve as the intermediate route to handle traffic between local streets and arterials. In addition, collector streets provide access to abutting property.
- Major and Secondary Arterials function to connect traffic from collectors to the major freeway system. They move large volumes of automobiles, trucks and buses, and link the principal elements within the City to other adjacent regions.
- Freeways are controlled access, high speed roadways with grade separated interchanges intended to expedite movement between distant areas in a metropolitan community or region.

The basic principles of network circulation, using these various functional street types is important because it establishes the rationale by which the existing and recommended El Segundo circulation System was evaluated and by which new proposals should be evaluated in the future. The various street types are each designed to serve a specific function in order to assure that the circulation needs of the City are met.

In addition to serving specific functions within the Circulation System, the various roadway classifications should be designed to carry different traffic volumes. The capacity of a specific roadway section is affected by a number of factors, including street width, number of travel lanes, number of crossing arterials and collectors, the number and type of signals, amount of parking, and the number driveways. Although the capacity on a given roadway segment will vary, daily capacities for each of the City's roadway classifications were determined to be representative of roadway operating conditions in the City of El Segundo. Therefore, these capacity estimates are for general planning purposes and for use in traffic

analysis throughout the City. The proposed Street Classifications and Standards for the City are shown in Figure 4.8-4. The proposed Master Plan of Streets includes the completion of Nash Boulevard. The Figure for both the current and the proposed Master Plan of Streets are presented in Appendix E for comparison. In addition, the Exhibits for the existing Bike Plan, Truck Routes and Transit Routes are included in Appendix E. The major differences between the existing Master Plan of Streets and the proposed Master Plan of Streets include the extension of Nash Street between El Segundo Boulevard and Rosecrans Avenue and freeway ramps including a 4-lane collector proposed between Nash and Douglas Streets. The new Street Classification and Standards includes both a 2-lane and a 4-lane collector. These changes would provide added capacities and improve the level of service.

## Public Transportation

Changing lifestyles, economic pressures and greater social and environmental concerns have increased the need for alternatives to automobile travel. Public transportation is one alternative mode of travel that can reduce the region's and the City's dependence on the present auto-oriented transportation system.

### Existing Public Transit

Currently, transit service in El Segundo is provided by fixed bus routes operated by the Southern California Rapid Transit District (SCRTD) and by a Dial-a-Ride service provided by the City of El Segundo.

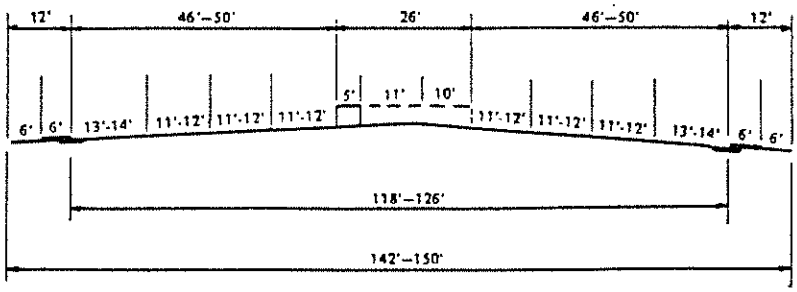
Another transit system serving the City is the Municipal Area Express, or MAX Transit Service, which is funded cooperatively by eight cities and Los Angeles County. The MAX is a directional bus service primarily provided for workers in the El Segundo area. Buses run on three routes from residential areas outside of the City to El Segundo in the AM, and from El Segundo back to the residential areas in the PM. This service is operated by the City of Torrance on behalf of the multi-agency consortium. The MAX has been very successful to the extent that the route from San Pedro frequently operates with standing room only.

### Demand Responsive Transit Service (Dial-a-Ride)

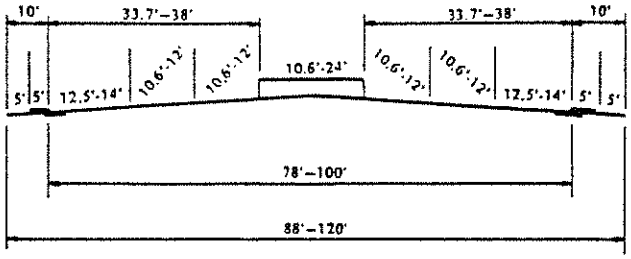
The City of El Segundo provides one twelve-passenger van that operates on a "Dial-a-Ride" basis in response to specific demand. This service has been in operation since 1975. Residents phone for appointments, with a door-to-door response time of approximately 10 minutes. The service is currently funded by Proposition A Funds. Dial-a-ride service is free to El Segundo residents and only operates within the City limits. The van operates Mondays through Saturday from 9:00 AM to 3:00 PM. Ridership levels have stabilized over the years to approximately 35 passengers per day (approximately 11,000 passengers per year). The predominant users of this service are senior citizens.

# Street Classification and Standards

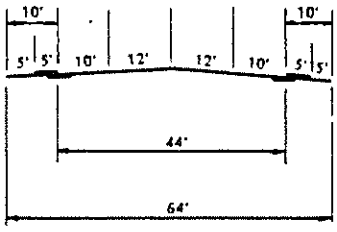
# Figure 4.8-4



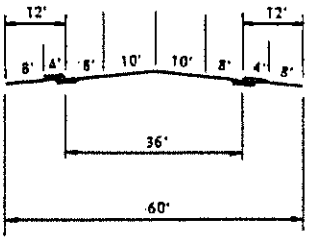

MAJOR ARTERIAL (8 LANES MINIMUM)



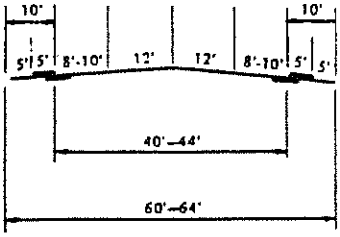

SECONDARY ARTERIAL




COLLECTOR
(4-LANE)




LOCAL STREET
(RESIDENTIAL)




LOCAL STREET
(COMMERCIAL)

Source:BDI Associates, 1991

90345

## Future Alternatives

### Rail Transit

Rail rapid transit represents a future transit alternative for the City of El Segundo. The only rail transit service currently operating in the region, beyond AMTRAK, is the Metro Blue Line. The Blue Line currently provides rail service at twenty-two (22) stations between downtown Los Angeles and downtown Long Beach. El Segundo transit riders are provided access to the Blue Line via three SCRTD bus routes, Route 120 (Imperial Highway), Route 124 (El Segundo Boulevard) and Route 125 (Rosecrans Avenue).

The Los Angeles County Transportation Commission (LACTC) is planning several additional rail transit lines in Los Angeles County as a result of the passage of Proposition A. The 300-mile Metro Rail Plan entails the development of rail service in various corridors throughout the urbanized area of the County. The Metro Green Line is currently under construction, and completion is expected in 1994. It will provide light rail service along the Glenn Anderson Freeway (I-105) from Norwalk to Los Angeles Airport (LAX). Through transfer to the Blue Line, it will provide El Segundo with rail service to downtown Los Angeles and Long Beach.

The Green Line will include a 2.9-mile extension running from the Century Freeway south through El Segundo (currently under construction). Service will be provided seven days a week from 5:30 AM to 1:30 AM with 6-minute headways during the peak and 20-minute headways during the off-peak. Parking will be provided at the Douglas and Compton stations. Connecting bus or shuttle service will be available at all stations.

Implementation of the Metro Green Line will provide the eastern portion of the City with direct rail service. The service should attract some commuters and visitors away from the automobile and thus, positively impact the roadway system within the City.

### Park-and-Ride

"Park and ride" facilities provide an interface between the private automobile and public transit/mass transit. Park-and-ride facilities enable the public to access the transit system by driving to a park-and-ride facility, parking the car, then riding the transit system to complete the trip. When the location of a park-and-ride facility is coupled with highly efficient fixed transit service and an adequate collection and distribution service at the commercial end of the trip, this facility can serve as an integral part of public transportation.

## Bikeways

The following definitions (recognized Statewide) are used to describe bicycle facilities:

- Bicycle Path - Class I - This facility is a special path for exclusive use of bicycles which is separated from the motor vehicle traffic by space or a physical barrier.

- Bicycle Lane - Class II - A bicycle facility where a portion of the paved area is marked especially as a lane for use of bicycles. It is identified by BIKE LANE signing, pavement marking and lane line markings. Usually, special ordinances are necessary to legally define the area's exclusive use of bicycle traffic and to exclude mopeds and infringement by motor vehicles.

- Bicycle Route - Class III - A bicycle way designated within a public right-of-way. The purpose of the bike route is primarily that of transportation, allowing the bicyclist to travel from one point in the City to another. A "shared bicycle route" is a street identified as a bicycle facility by BIKE ROUTE signing only. No special markings on the pavement are provided.

The existing system of bicycle facilities in El Segundo currently is limited to bicycle paths (Class I) along Imperial Highway, along the beach (Los Angeles County implementation), and portions of Grand Avenue approaching the beach; plus a bicycle lane (Class II) along both sides of Imperial Avenue in the western portion of the City.

## Truck Routes

The residents and businesses of El Segundo rely heavily on trucks for the efficient movement of goods in an economical and safe manner. For this reason, the truck route system within and through the City is an important aspect of the circulation system.

The El Segundo Municipal Code officially authorizes the City Council, by resolution, to designate truck routes on streets where vehicles in excess of three tons may travel. Existing truck routes are provided with appropriate sign posting to guide truck traffic through the City. Existing truck routes include Sepulveda Boulevard, Aviation Boulevard, Rosecrans Avenue and portions of Vista Del Mar Boulevard, Imperial Avenue, and Grand Avenue.

## Pedestrian Circulation

The pedestrian is an integral part of the circulation system. The sidewalk is an area of refuge that represents a convenient and safe route for pedestrian transport.

The high percentage of elderly residential population in El Segundo, coupled with mid-day walkers for shopping trips and jogging, necessitate the establishment of a pedestrian circulation system that will support and encourage walking as a mode of transportation.

The El Segundo Municipal Code Section on "Streets and Sidewalks" does not address the issue of sidewalk design nor the policies for sidewalk implementation. The City Department of Public Works,

however, has prepared Standard Plans and Specifications for the installation of sidewalks. The primary criteria is minimum width of sidewalk on new installation which is standard at 4 feet for residential streets. Sidewalks in commercial areas should be a minimum of 8' wide. The only exception is the case where the distance from face of curb to property line is 5 feet. The sidewalk minimum requirement then becomes 4 feet, 6 inches.

Construction of sidewalks are mandatory with all new improvements in the City. Existing locations that do not have sidewalks can only obtain them on an assessment district basis; i.e., petition from the homeowners with City installation and cost of the sidewalk distributed to each homeowner on the basis of their street frontage.

The City has pursued sidewalk installation on the basis of the 1911 Act. This act allows installation of a sidewalk by an agency in all blocks where over 50% of the block has existing sidewalk. Protest from the citizens can be made to nullify installation under this act with the final decision resting with the City Council. The City of El Segundo in the past has used this act to install sidewalks to "close the gaps" in many of the residential areas.

## Air Transportation

The Los Angeles International Airport (LAX) is adjacent to the City on the north. The Airport's West Imperial Terminal and Imperial Cargo Complex are located on Imperial Highway. El Segundo's proximity to the airport provides residents and businesses with very convenient access to air services. In addition, the El Segundo economy benefits in many ways due to airport-related activities. For instance, the City's hotels benefit substantially from their proximity to the airport. In addition, there are businesses like air freight companies which choose to locate within the City solely because of the proximity to the airport.

## Transportation System and Demand Management

Transportation System Management (TSM) and Transportation Demand Management (TDM) techniques are cost-effective methods of improving traffic conditions. Roadway system expansion alone will not be enough to serve all projected circulation needs within the City of El Segundo.

### Transportation System Management (TSM)

Transportation System Management (TSM) techniques are generally low cost methods relative to capital improvements. They involve changes to the existing system that permit improvements in operation. Caltrans defines TSM projects as "those projects designed to increase the number of person trips which can be carried on the system without significantly increasing the design capacity or the number of through lanes."

TSM programs include but are not limited to:

- Auxiliary lanes, such as acceleration and deceleration lanes.
- Intersection improvements including addition of turn lanes, channelization, and implementation of signal coordination system.
- Restriction of peak hour parking.
- Commuter Information Systems, such as changeable message signs, highway advisory radio, computer bulletin boards, telephone call in systems, and related links with other city or state traffic operations centers.
- Improvements designed to assist traffic flow related to transit vehicles, such as bus turnouts and signal preemption systems.

**Transportation Demand Management (TDM)**

Transportation Demand Management (TDM) programs are geared towards reducing the number of vehicle trips wishing to use the circulation system. TDM techniques can be an effective tool in reducing air pollution, as well as traffic congestion. The Southern California Air Quality Management District (AQMD) through Regulation XV, has required TDM plans and programs throughout the region for companies of 100 or more employees. This includes many of the businesses and a significant portion of the workers located within El Segundo.

Potential TDM programs and techniques include but are not limited to:

- Flexible work schedules to reduce demand during the peak commuting periods.
- Carpooling and vanpooling.
- Employer subsidized transit passes.
- Provision of bike storage areas and showers to encourage the use of bicycles for commuting.
- Telecommuting.

**Relevant Policies of the El Segundo 1991 General Plan**

There are 66 policies within the El Segundo General Plan relating to transportation and circulation issues. These policies are briefly summarized below:

Policy C1.1.1 would provide adequate roadway capacity on all Circulation Plan roadways.

Policy C1.1.2 would construct missing roadway links to complete the roadway system designated in the Circulation Element as warranted by roadway operating conditions of Level of Service "E" or "F".

Policy C1.1.3 would upgrade roadways to full Circulation Element standards as designated in the General Plan as warranted by roadway operating conditions of Level of Service "E" or "F".

Policy C1.1.4 would provide adequate intersection capacity to the extent possible on Major, Secondary and Collector Arterials to prevent diversion of through traffic into local residential streets.

Policy C1.1.5 would provide all residential, commercial and industrial areas with efficient and safe access to the major regional transportation facilities.

Policy C1.1.6 would provide all residential, commercial and industrial areas with efficient and safe access for emergency vehicles.

Policy C1.1.7 would ensure that new roadway links are constructed as designated in the Circulation Plan and link with existing roadways within the City such that efficient operation of the Circulation system is maintained at an operating Level of Service of "D" or better.

Policy C1.1.8 would ensure that the transition from any Master Plan roadway to a second Master Plan roadway at a higher classification operates safely and efficiently, incorporating the appropriate intersection configuration and any turn lanes that are necessary.

Policy C1.1.9 would convert Nash Street and Douglas Street from two-way roadway operation to a one-way couplet from El Segundo Boulevard to Imperial Highway incorporating proper transition from one-way to two-way traffic on both ends of the couplet.

Policy C1.1.10 would establish and maintain a Citywide traffic count program, to ensure the availability of data needed to identify circulation problems and to evaluate potential improvements. However, the 1988 count data should be used to represent "worst-case" baseline data until new counts surpass the 1988 traffic levels.

Policy C1.1.11 would require a full evaluation of potential traffic impacts associated with proposed new developments prior to project approval. Further, require the implementation of appropriate mitigation measures prior to, or in conjunction with, project development.

Policy C1.1.12 would pursue and protect adequate right-of-way to accommodate future circulation system improvements.

Policy C1.1.13 would encourage the widening of substandard streets and alleys to meet City standards wherever feasible.

Policy C1.1.14 would encourage cooperation with other governmental agencies to provide adequate vehicular traffic movements on streets and through intersections by the means of synchronized signalization.

Policy C1.1.15 would encourage future developments to be closely studied by the Building Department to ensure uniformity of street naming and avoidance of name duplication.

Policy C1.1.16 would monitor the impacts of the Glenn Anderson (I-105) Freeway on local El Segundo streets. If it is determined that freeway traffic is using local streets like California as a short cut through the City, evaluate potential mitigations.

Policy C1.2.1 would develop and maintain a circulation system which shall include a functional hierarchy and classification system of arterial highways that will correlate capacity and service function to specific road design and land use requirements.

Policy C1.3.1 would ensure that the City's designated truck routes provide efficient access to and from the I-105 Freeway.

Policy C1.3.2 would ensure that the development review process incorporates consideration of off-street commercial loading requirements for all new projects.

Policy C1.3.3 would encourage all new construction on streets or corridors that are designated truck routes to have a Traffic Index calculation as stated by the State Department of Transportation in order to provide a roadway structural section that will accommodate the projected truck volumes.

Policy C1.3.4 would eliminate parking on either side of two-way alleys. Parking on one side of a one-way alley could be allowed if the alley width was minimum of 19 feet.

Policy C1.3.5 would ensure that the trucks from the cargo facility north of Imperial Highway at Main Street stay on the City truck route system and do not travel along Main Street.

Policy C2.1.1 would encourage the development of pedestrian linkages to and from the Green Line Stations to encourage and attract intermodal transit/ walking trips.

Policy C2.1.2 would develop a citywide system of pedestrian walkways, alleviating the conflict between pedestrians, autos and bicyclists throughout the City.

Policy C2.1.3 would encourage new developments in the City to participate in the development of the citywide system of pedestrian walkways and require participation where appropriate.

Policy C2.1.4 would ensure the installation of sidewalks on all future arterial widening or new construction projects, to establish a continuous and convenient link for pedestrians.

Policy C2.1.5 would encourage the continued use of the 1911 Act to provide missing sidewalk sections where applicable in residential and commercial areas.

Policy C2.1.6 would encourage shopping areas to design their facilities for ease of pedestrian access.

Policy C2.1.7 would closely monitor design practices to ensure a clear pedestrian walking area by minimizing obstructions, especially in the vicinity of intersections.

Policy C2.2.1 would implement the recommendations on the Bicycle Master Plan contained in the Circulation Element, as the availability arises; i.e., through development, private grants, signing of shared routes, etc.

Policy C2.2.2 would encourage new development to provide facilities for bicyclists to park and store their bicycles and to provide shower and clothes change facilities at or close to the bicyclist's work destination.

Policy C2.2.3 would develop off-street bicycle paths in corridors where appropriate throughout the City.

Policy C2.2.4 would encourage the use of bicycles for trips to and from elementary and high schools in the area.

Policy C2.2.5 would continue coordination of bicycle route planning and implementation with adjacent jurisdictions and regional agencies.

Policy C2.2.6 would encourage design of new streets with the potential for bicycle routes that separate the automobile, bicycle and pedestrian to the maximum extent feasible.

Policy C2.2.7 would ensure that when Hillcrest Street is closed to vehicular traffic, the link in the Master Plan of Bicycle Routes is maintained, via the Hillcrest Street right-of-way or any appropriate alternative route.

Policy C2.3.1 would require the City to work closely with the Southern California Rapid Transit District (SCRTD), the Los Angeles County Transportation Commission (LACTC), the Rail Construction Corporation (RCC), Torrance Municipal Bus Lines, the El Segundo Employers Association (ESEA), and private businesses to expand and improve the public transit service within and adjacent to the City.

Policy C2.3.2 would ensure that transit planning is considered and integrated into all related elements of City planning.

Policy C2.3.3 would encourage the development of pedestrian linkages to and from the Green Line Stations to encourage and attract intermodal transit/ walking trips.

Policy C2.3.4 would evaluate and implement feeder bus service through the City where appropriate. Feeder bus service could potentially take commuters from the fixed transit services (rail and bus) in the eastern portion of the City to the industrial and commercial areas to the west. In addition, midday shuttling of workers east of Sepulveda to the downtown retail area should also be considered.

Policy C2.3.5 would pursue potential Proposition A and Proposition C funds for bus transit shelters, signing, advertising, bus turnouts, to encourage bus ridership.

Policy C2.3.6 would require the City to work closely with El Segundo Employers Association (ESEA) and SCRTD in scheduling and monitoring the BEEP Commuter Program in the easterly portion of the City to ensure its success.

Policy C2.3.7 would continue the dial-a-ride operation and City subsidy to serve all residents of El Segundo, especially the elderly and handicapped.

Policy C2.3.8 would explore the feasibility of using excess government right-of-way, purchased property, or land use arrangements for multiple use of existing facilities, in order to establish or construct park-and-ride services of benefit to El Segundo residents and employees.

Policy C2.3.9 would encourage the implementation of park-and-ride facilities proximate to the San Diego and Route 105 Freeways for shuttle service into El Segundo.

Policy C2.3.10 would investigate all LACTC programs which may be beneficial to the City.

Policy C2.4.1 would establish and maintain a citywide traffic count program to ensure the availability of data needed to identify necessary operational improvements to the roadway system.

Policy C2.4.2 would continue to increase operational efficiencies of the transportation system by implementing all appropriate Transportation System Management (TSM) measures including but not limited to: improving design standards, upgrading and coordination of traffic control devices, controlling on-street parking, and using sophisticated electronic control methods to supervise the flow of traffic.

Policy C2.5.1 would ensure that Transportation Demand Management (TDM) Policies are considered during the evaluation of new developments within the City, including but not limited to: ridesharing, carpooling and vanpooling, flexible work schedules, telecommuting.

Policy C2.5.2 would coordinate activities with neighboring jurisdictions and the El Segundo Employers Association (ESEA) to optimize the effectiveness of Transportation Demand Management (TDM) activities.

Policy C2.5.3 would encourage the provision of preferential parking for high occupancy vehicles wherever possible.

Policy C3.1.1 would encourage development projects that effectively integrate major transportation facilities with land use planning and the surrounding environment. These joint uses will obtain economic and aesthetic benefits of coordinated design, achieve land conservation in space-short urban areas of El Segundo, and maintain neighborhood continuity in built-up areas affected by future major transportation routes.

Policy C3.1.2 would ensure that transit planning is considered and integrated into all related elements of City planning.

Policy C3.1.3 would recommend that Planning principles and Circulation Element Goals, Objectives and Policies should apply consistently to all land uses in the City.

Policy C3.1.4 would require a full evaluation of potential traffic impacts associated with proposed new developments prior to project approval. Further, require the implementation of appropriate mitigation measures prior to, or in conjunction with, project development.

Policy C3.1.5 would pursue and protect adequate right-of-way to accommodate future circulation system improvements.

Policy C3.1.6 would require the provision of adequate pedestrian and bicycle access for new development projects through the site plan review process.

Policy C3.1.7 would ensure that the driveway stacking distance for multi-family housing is evaluated during the development review process.

Policy C3.2.1 would ensure the provision of sufficient on-site parking in all new development.

Policy C3.2.2 would ensure that the City's parking codes and zoning ordinances are kept up-to-date with the parking situation throughout the City.

Policy C4.1.1 would ensure that the City remains in compliance with the County, regional and state Congestion Management Programs (CMP) through the development of appropriate City programs on the CMP routes of Sepulveda Boulevard and the Glenn Anderson Freeway (I-105).

Policy C4.2.1 would ensure that new roadway links are constructed as designated in the Circulation Plan, and link with existing roadways in neighboring jurisdictions to allow efficient access into and out of the City.

Policy C4.2.2 would recommend that adjacent local agencies' plans be carefully assessed to ensure compatibility across political boundaries. This does not imply that such compatibility is a requirement for adoption of the Circulation Element.

Policy C4.2.3 would continue coordination of bicycle route planning and implementation with adjacent jurisdictions and regional agencies.

Policy C4.2.4 would monitor and incorporate planning and development of Los Angeles International Airport (LAX) into all aspects of the City's planning.

Policy C4.2.5 would encourage cooperation with other governmental agencies to provide adequate vehicular traffic movements on streets and through intersections by the means of synchronized signalization.

Policy C4.3.1 would identify and evaluate potential revenue sources for financing circulation system development and improvement projects.

## IMPACTS AND MITIGATION MEASURES

### Methodology

Impacts to traffic and circulation resulting from implementation of the El Segundo 1991 General Plan were assessed by examining the changes in level of service. LOS levels were examined for existing conditions, the Preferred Plan, the Alternative Land Use Plan.

### Standards of Significance

- Creation of a substantial increase in traffic related to the traffic load and capacity of the street system.
- Degradation of a roadway segment to a LOS of E or F.
- Creation of a demand on public transit greater than levels currently projected and planned for.

Preferred Plan Impact

4.8-1 **Growth projected under the Preferred Plan would increase traffic within the City over existing conditions. This is considered to be a *significant impact.***

Since the Preferred Plan allows significant growth to take place in the City, significant increases in traffic would occur. Traffic conditions as measured by LOS and V/C ratio will experience higher levels of congestion in the year 2010 over existing conditions.

The Master Plan of Streets, Recommended Truck Routes, and Bicycle Master Plan in the El Segundo 1991 General Plan Circulation Element provide improvements to the City's circulation system that increase roadway capacities and the overall efficiency of the City's transportation system. The improvements presented in these Master Plans are intended to be implemented in phases as they become necessary with the introduction of new development in the City. Thus, the traffic numbers generated for the Preferred Plan assume implementation of these improvements.

Examination of existing conditions (Table 4.8-2) indicates that four roadway segments are currently at either LOS E or F. In addition, nine intersections are at LOS E or F during the AM and/or PM peak hour. Analysis of the Preferred Plan indicates 12 roadway segments at LOS E or F by 2010 (Table 4.8-4, Figure 4.8-5). This is only slightly less than the predicted 14 roadway segments at LOS E or F with buildout under the existing General Plan (Table 4.8-5, Figure 4.8-6). Congestion is predicted to be most severe along Imperial Highway between Sepulveda and Aviation, Rosecrans between Nash and Aviation, and along the entire stretch of Sepulveda Boulevard.

Preferred Plan Mitigation Measure

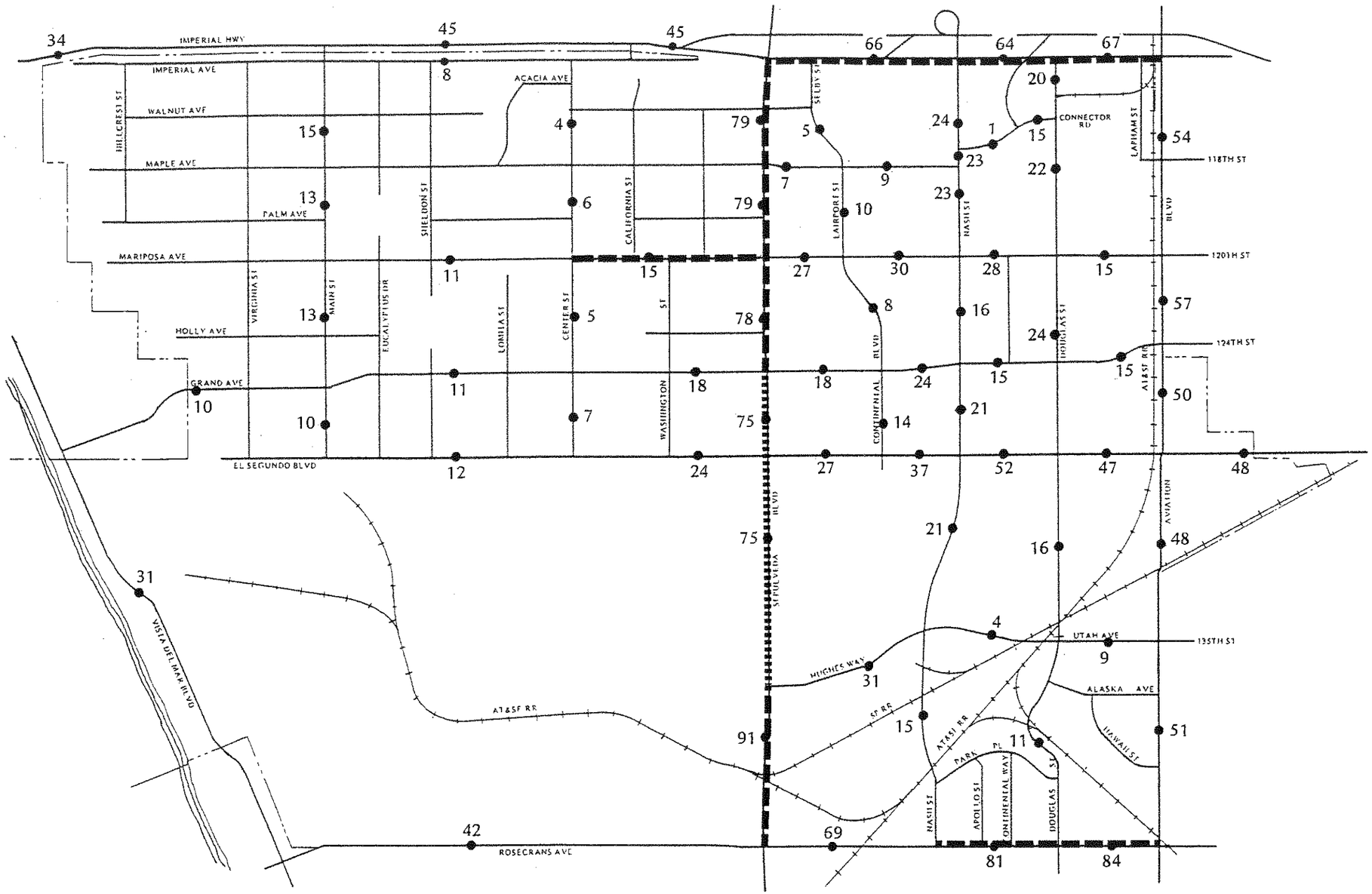
4.8-1(a) *Implementation of the Circulation Element Policies summarized in this section.*

4.8-1(b) *A policy should be added to the El Segundo 1991 General Plan Circulation Element stating that the City aggressively pursue implementation of all Circulation element Policies such that all roadways are upgraded and maintained at acceptable levels of service.*

4.8-1(c) *A policy should be added to the El Segundo 1991 General Plan Circulation Element that states that no new project should be approved that cannot mitigate impacts on the existing and future circulation system such that daily roadway operation cannot be maintained at acceptable levels of service.*

# Projected Daily Traffic Volumes and Roadway Analysis
# Preferred Land Use Plan

**Figure 4.8-5**




## Legend

Projected Daily Traffic Volumes XX
( In Thousands )

LOS D or Better ———

LOS E ▪▪▪▪▪▪▪▪▪

LOS F — — —

SOURCE: BASMACTYAN-DARNELL, INC. (1991)

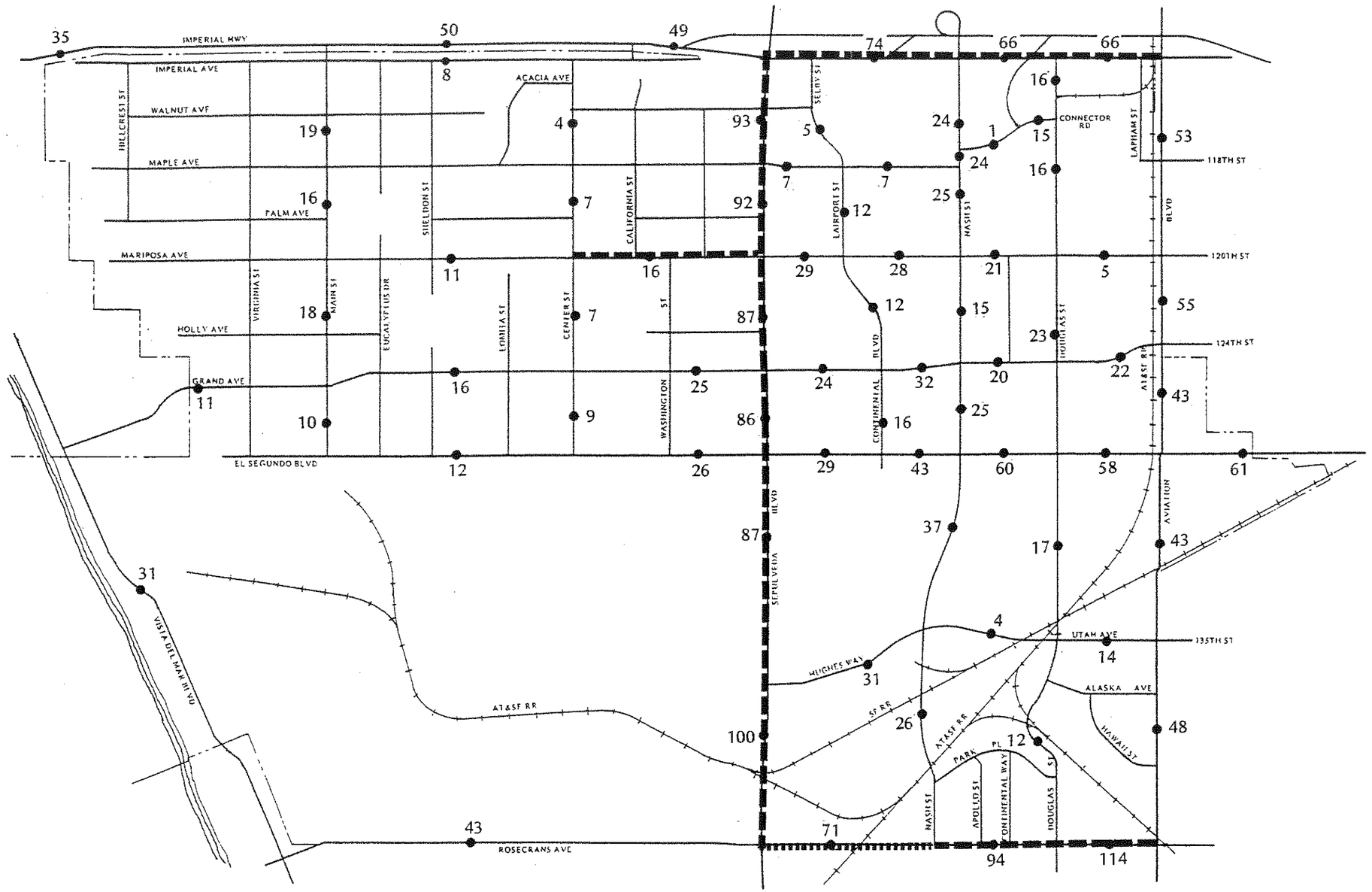
*City of El Segundo • General Plan EIR*

No Scale

90345

**Projected Daily Traffic Volumes and Roadway Analysis**
**Existing General Plan**

**Figure 4.8-6**




**Legend**

Projected Daily Traffic Volumes XX
( In Thousands )

LOS D or Better ——

LOS E ▪▪▪▪▪▪▪▪▪

LOS F ▬ ▬ ▬

SOURCE: BASMACIYAN-DARNELL, INC. (1991)

*City of El Segundo • General Plan EIR*

No Scale

90345

**TABLE 4.8-4**
**COMPARISON OF DAILY TRAFFIC VOLUMES TO ESTIMATED DAILY ROADWAY CAPACITIES RECOMMENDED MASTER PLAN OF STREETS PREFERRED LAND USE PLAN**

| ROADWAY SEGMENT | CLASSIFICATION (a) | ROADWAY CAPACITY | ADT | V/C RATIO (b) | LOS (c) |
|---|---|---|---|---|---|
| **AVIATION BOULEVARD** | | | | | |
| Imperial to Mariposa | Major Arterial | 77,000 | 54,000 | 0.70 | B |
| Mariposa to Grand | Major Arterial | 77,000 | 57,000 | 0.74 | C |
| Grand to El Segundo | Major Arterial | 77,000 | 50,000 | 0.65 | B |
| El Segundo to Utah | Major Arterial | 77,000 | 48,000 | 0.62 | B |
| Utah to Rosecrans | Major Arterial | 77,000 | 51,000 | 0.66 | B |
| **CENTER STREET** | | | | | |
| Imperial Ave. to Maple | Collector (2-lane) | 14,000 | 4,000 | 0.29 | A |
| Maple to Mariposa | Collector (2-lane) | 14,000 | 6,000 | 0.43 | A |
| Mariposa to Grand | Collector (2-lane) | 14,000 | 5,000 | 0.36 | A |
| Grand to El Segundo | Collector (2-lane) | 14,000 | 7,000 | 0.50 | A |
| **CONNECTOR ROAD** | | | | | |
| Nash to I-105 On-Ramp | Collector (4-lanes) | 40,000 | 1,000 | 0.02 | A |
| I-105 On-Ramp to Douglas | Collector (5-lanes) (3 WB and 2 EB) | 46,700 | 15,000 | 0.32 | A |
| **CONTINENTAL (Lairport St.) BOULEVARD** | | | | | |
| Imperial Hwy to Maple | Secondary Arterial | 53,000 | 5,000 | 0.09 | A |
| Maple to Mariposa | Secondary Arterial | 53,000 | 10,000 | 0.19 | A |
| Mariposa to Grand | Secondary Arterial | 53,000 | 8,000 | 0.15 | A |
| Grand to El Segundo | Secondary Arterial | 53,000 | 14,000 | 0.26 | A |
| **DOUGLAS STREET (ONE WAY NORTHBOUND)** | | | | | |
| Imperial Hwy to Connector Road | Secondary Arterial | 53,000 | 20,000 | 0.38 | A |
| Connector Rd to Mariposa | Secondary Arterial | 53,000 | 22,000 | 0.42 | A |
| Mariposa to El Segundo | Secondary Arterial | 53,000 | 24,000 | 0.45 | A |
| **DOUGLAS STREET (Two Way)** | | | | | |
| El Segundo to Utah | Secondary Arterial | 53,000 | 16,000 | 0.30 | A |
| Utah to Rosecrans | Secondary Arterial | 53,000 | 11,000 | 0.21 | A |

**TABLE 4.8-4**
**COMPARISON OF DAILY TRAFFIC VOLUMES TO ESTIMATED DAILY ROADWAY CAPACITIES RECOMMENDED MASTER PLAN OF STREETS PREFERRED LAND USE PLAN**

| ROADWAY SEGMENT | CLASSIFICATION (a) | ROADWAY CAPACITY | ADT | V/C RATIO (b) | LOS (c) |
|---|---|---|---|---|---|
| **EL SEGUNDO BOULEVARD** | | | | | |
| Main to Center | Secondary Arterial | 53,000 | 12,000 | 0.23 | A |
| Center to Sepulveda | Secondary Arterial | 53,000 | 24,000 | 0.45 | A |
| Sepulveda to Continental | Major Arterial | 77,000 | 27,000 | 0.35 | A |
| Continental to Nash | Major Arterial | 77,000 | 37,000 | 0.48 | A |
| Nash to Douglas | Major Arterial | 77,000 | 52,000 | 0.68 | B |
| Douglas to Aviation | Major Arterial | 77,000 | 47,000 | 0.61 | B |
| Aviation to Isis | Major Arterial | 77,000 | 48,000 | 0.62 | B |
| **GRAND AVENUE** | | | | | |
| Vista Del Mar to Main | Secondary Arterial | 53,000 | 10,000 | 0.19 | A |
| Main to Center | Secondary Arterial | 53,000 | 11,000 | 0.21 | A |
| Center to Sepulveda | Secondary Arterial | 53,000 | 18,000 | 0.34 | A |
| Sepulveda to Continental | Secondary Arterial | 53,000 | 18,000 | 0.34 | A |
| Continental to Nash | Secondary Arterial | 53,000 | 24,000 | 0.45 | A |
| Nash to Douglas | Secondary Arterial | 53,000 | 15,000 | 0.28 | A |
| Douglas to Aviation | Secondary Arterial | 53,000 | 15,000 | 0.28 | A |
| **HUGHES WAY** | | | | | |
| Sepulveda to Nash | Secondary Arterial | 53,000 | 31,000 | 0.58 | A |
| Nash to Douglas | Secondary Arterial | 53,000 | 4,000 | 0.08 | A |
| **IMPERIAL HIGHWAY** | | | | | |
| Vista Del Mart to Main | Secondary Arterial | 58,300 | 34,000 | 0.58 | A |
| Main to California | Secondary Arterial | 58,300 | 45,000 | 0.77 | C |
| California to Sepulveda | Secondary Arterial | 58,300 | 45,000 | 0.77 | C |
| Sepulveda to Nash | Secondary Arterial | 58,300 | 66,000 | 1.13 | F |
| Nash to Douglas | Secondary Arterial | 58,300 | 64,000 | 1.10 | F |
| Douglas to Aviation | Secondary Arterial | 58,300 | 67,000 | 1.15 | F |
| **IMPERIAL AVENUE** | | | | | |
| Main to Center | Collector (2-lane) | 14,000 | 8,000 | 0.57 | A |

**TABLE 4.8-4**
**COMPARISON OF DAILY TRAFFIC VOLUMES TO ESTIMATED DAILY ROADWAY CAPACITIES RECOMMENDED MASTER PLAN OF STREETS PREFERRED LAND USE PLAN**

| ROADWAY SEGMENT | CLASSIFICATION (a) | ROADWAY CAPACITY | ADT | V/C RATIO (b) | LOS (c) |
|---|---|---|---|---|---|
| **MAIN STREET** | | | | | |
| Imperial Hwy to Maple | Collector (4-lane) | 31,000 | 15,000 | 0.48 | A |
| Maple to Mariposa | Collector (4-lane) | 31,000 | 13,000 | 0.42 | A |
| Mariposa to Grand | Collector (4-lane) | 31,000 | 13,000 | 0.42 | A |
| Grand to El Segundo | Collector (4-lane) | 31,000 | 10,000 | 0.32 | A |
| **MAPLE AVENUE** | | | | | |
| Sepulveda to Continental | Collector (4-lane) | 31,000 | 7,000 | 0.23 | A |
| Continental to Nash | Collector (4-lane) | 31,000 | 9,000 | 0.29 | A |
| **MARIPOSA AVENUE** | | | | | |
| Main to Center | Collector (2-lane) | 14,000 | 11,000 | 0.79 | C |
| Center to Sepulveda | Collector (2-lane) | 14,000 | 15,000 | 1.07 | F |
| Sepulveda to Continental | Secondary Arterial | 53,000 | 27,000 | 0.51 | A |
| Continental to Nash | Secondary Arterial | 53,000 | 30,000 | 0.57 | A |
| Nash to Douglas | Secondary Arterial | 53,000 | 28,000 | 0.53 | A |
| Douglas to Aviation | Secondary Arterial | 53,000 | 15,000 | 0.28 | A |
| **NASH STREET (ONE WAY SOUTHBOUND)** | | | | | |
| Imperial Hwy to Connector Rd | Secondary Arterial | 53,000 | 24,000 | 0.45 | A |
| Connector Rd to Maple | Secondary Arterial | 53,000 | 23,000 | 0.43 | A |
| Maple to Mariposa | Secondary Arterial | 53,000 | 23,000 | 0.43 | A |
| Mariposa to Grand | Secondary Arterial | 53,000 | 16,000 | 0.30 | A |
| Grand to El Segundo | Secondary Arterial | 53,000 | 21,000 | 0.40 | A |
| **NASH STREET (TWO WAY)** | | | | | |
| El Segundo to Hughes | Secondary Arterial | 53,000 | 21,000 | 0.40 | A |
| Hughes to Rosecrans | Secondary Arterial | 53,000 | 15,000 | 0.28 | A |
| **ROSECRANS AVENUE** | | | | | |
| Vista Del Mar to Sepulveda | Major Arterial | 77,000 | 42,000 | 0.55 | A |
| Sepulveda to Nash | Major Arterial | 77,000 | 69,000 | 0.90 | D |
| Nash to Douglas | Major Arterial | 77,000 | 81,000 | 1.05 | F |
| Douglas to Aviation | Major Arterial | 77,000 | 84,000 | 1.09 | F |

**TABLE 4.8-4**
**COMPARISON OF DAILY TRAFFIC VOLUMES TO ESTIMATED DAILY ROADWAY CAPACITIES RECOMMENDED MASTER PLAN OF STREETS PREFERRED LAND USE PLAN**

| ROADWAY SEGMENT | CLASSIFICATION (a) | ROADWAY CAPACITY | ADT | V/C RATIO (b) | LOS (c) |
|---|---|---|---|---|---|
| **SEPULVEDA BOULEVARD** | | | | | |
| Imperial Hwy to Maple | Major Arterial | 77,000 | 79,000 | 1.03 | F |
| Maple to Mariposa | Major Arterial | 77,000 | 79,000 | 1.03 | F |
| Mariposa to Grand | Major Arterial | 77,000 | 78,000 | 1.01 | F |
| Grand to El Segundo | Major Arterial | 77,000 | 75,000 | 0.97 | E |
| El Segundo to Hughes Way | Major Arterial | 77,000 | 75,000 | 0.97 | E |
| Hughes Way to Rosecrans | Major Arterial | 77,000 | 91,000 | 1.18 | F |
| **UTAH AVENUE (Hughes Way)** | | | | | |
| Douglas to Aviation | Secondary Arterial | 53,000 | 9,000 | 0.17 | A |
| **VISTA DEL MAR** | | | | | |
| Grand to Rosecrans | Secondary Arterial | 53,000 | 31,000 | 0.58 | A |

(a) Per Recommended Master Plan of Streets
(b) Ratio of daily traffic volume to capacity
(c) Level of Service, determined on basis of V/C Ratio, describes operating conditions on the roadway. LOS "A" is generally free-flowing. LOS "E" represents capacity. LOS "C" and "D" are typical in urban conditions. LOS "F" represents severe congestion.

**TABLE 4.8-5**
**COMPARISON OF DAILY TRAFFIC VOLUMES TO ESTIMATED DAILY ROADWAY CAPACITIES RECOMMENDED MASTER PLAN OF STREETS EXISTING GENERAL PLAN BUILDOUT TRENDS**

| ROADWAY SEGMENT | CLASSIFICATION (a) | ROADWAY CAPACITY | ADT | V/C RATIO (b) | LOS (c) |
|---|---|---|---|---|---|
| **AVIATION BOULEVARD** | | | | | |
| Imperial to Mariposa | Major Arterial | 77,000 | 53,000 | 0.69 | B |
| Mariposa to Grand | Major Arterial | 77,000 | 55,000 | 0.71 | C |
| Grand to El Segundo | Major Arterial | 77,000 | 43,000 | 0.56 | A |
| El Segundo to Utah | Major Arterial | 77,000 | 43,000 | 0.56 | A |
| Utah to Rosecrans | Major Arterial | 77,000 | 48,000 | 0.62 | B |
| **CENTER STREET** | | | | | |
| Imperial Ave. to Maple | Collector (2-lane) | 14,000 | 4,000 | 0.29 | A |
| Maple to Mariposa | Collector (2-lane) | 14,000 | 7,000 | 0.50 | A |
| Mariposa to Grand | Collector (2-lane) | 14,000 | 7,000 | 0.50 | A |
| Grand to El Segundo | Collector (2-lane) | 14,000 | 9,000 | 0.64 | B |
| **CONNECTOR ROAD** | | | | | |
| Nash to I-105 On-Ramp | Collector (4-lanes) | 40,000 | 1,000 | 0.02 | A |
| I-105 On-Ramp to Douglas | Collector (5-lanes) (3 WB and 2 EB) | 46,700 | 15,000 | 0.32 | A |
| **CONTINENTAL (Lairport St.) BOULEVARD** | | | | | |
| Imperial Hwy to Maple | Secondary Arterial | 53,000 | 5,000 | 0.09 | A |
| Maple to Mariposa | Secondary Arterial | 53,000 | 12,000 | 0.23 | A |
| Mariposa to Grand | Secondary Arterial | 53,000 | 12,000 | 0.23 | A |
| Grand to El Segundo | Secondary Arterial | 53,000 | 16,000 | 0.30 | A |
| **DOUGLAS STREET (ONE WAY NORTHBOUND)** | | | | | |
| Imperial Hwy to Connector Road | Secondary Arterial | 53,000 | 16,000 | 0.30 | A |
| Connector Rd to Mariposa | Secondary Arterial | 53,000 | 16,000 | 0.30 | A |
| Mariposa to El Segundo | Secondary Arterial | 53,000 | 23,000 | 0.43 | A |
| **DOUGLAS STREET (Two Way)** | | | | | |
| El Segundo to Utah | Secondary Arterial | 53,000 | 17,000 | 0.32 | A |
| Utah to Rosecrans | Secondary Arterial | 53,000 | 12,000 | 0.23 | A |
| **EL SEGUNDO BOULEVARD** | | | | | |
| Main to Center | Secondary Arterial | 53,000 | 12,000 | 0.23 | A |
| Center to Sepulveda | Secondary Arterial | 53,000 | 26,000 | 0.49 | A |
| Sepulveda to Continental | Major Arterial | 77,000 | 29,000 | 0.38 | A |
| Continental to Nash | Major Arterial | 77,000 | 43,000 | 0.56 | A |
| Nash to Douglas | Major Arterial | 77,000 | 60,000 | 0.78 | C |
| Douglas to Aviation | Major Arterial | 77,000 | 58,000 | 0.75 | C |
| Aviation to Isis | Major Arterial | 77,000 | 61,000 | 0.79 | C |

**TABLE 4.8-5**
**COMPARISON OF DAILY TRAFFIC VOLUMES TO ESTIMATED DAILY ROADWAY CAPACITIES RECOMMENDED MASTER PLAN OF STREETS EXISTING GENERAL PLAN BUILDOUT TRENDS**

| ROADWAY SEGMENT | CLASSIFICATION (a) | ROADWAY CAPACITY | ADT | V/C RATIO (b) | LOS (c) |
|---|---|---|---|---|---|
| **GRAND AVENUE** | | | | | |
| Vista Del Mar to Main | Secondary Arterial | 53,000 | 11,000 | 0.21 | A |
| Main to Center | Secondary Arterial | 53,000 | 16,000 | 0.30 | A |
| Center to Sepulveda | Secondary Arterial | 53,000 | 25,000 | 0.47 | A |
| Sepulveda to Continental | Secondary Arterial | 53,000 | 24,000 | 0.45 | A |
| Continental to Nash | Secondary Arterial | 53,000 | 32,000 | 0.60 | A |
| Nash to Douglas | Secondary Arterial | 53,000 | 20,000 | 0.38 | A |
| Douglas to Aviation | Secondary Arterial | 53,000 | 22,000 | 0.42 | A |
| **HUGHES WAY** | | | | | |
| Sepulveda to Nash | Secondary Arterial | 53,000 | 31,000 | 0.58 | A |
| Nash to Douglas | Secondary Arterial | 53,000 | 4,000 | 0.08 | A |
| **IMPERIAL HIGHWAY** | | | | | |
| Vista Del Mart to Main | Secondary Arterial | 58,300 | 35,000 | 0.60 | A |
| Main to California | Secondary Arterial | 58,300 | 50,000 | 0.86 | D |
| California to Sepulveda | Secondary Arterial | 58,300 | 49,000 | 0.84 | D |
| Sepulveda to Nash | Secondary Arterial | 58,300 | 74,000 | 1.27 | F |
| Nash to Douglas | Secondary Arterial | 58,300 | 66,000 | 1.13 | F |
| Douglas to Aviation | Secondary Arterial | 58,300 | 66,000 | 1.13 | F |
| **IMPERIAL AVENUE** | | | | | |
| Main to Center | Collector (2-lane) | 14,000 | 8,000 | 0.57 | A |
| **MAIN STREET** | | | | | |
| Imperial Hwy to Maple | Collector (4-lane) | 31,000 | 19,000 | 0.61 | B |
| Maple to Mariposa | Collector (4-lane) | 31,000 | 16,000 | 0.52 | A |
| Mariposa to Grand | Collector (4-lane) | 31,000 | 18,000 | 0.58 | A |
| Grand to El Segundo | Collector (4-lane) | 31,000 | 10,000 | 0.32 | A |
| **MAPLE AVENUE** | | | | | |
| Sepulveda to Continental | Collector (4-lane) | 31,000 | 7,000 | 0.23 | A |
| Continental to Nash | Collector (4-lane) | 31,000 | 7,000 | 0.23 | A |
| **MARIPOSA AVENUE** | | | | | |
| Main to Center | Collector (2-lane) | 14,000 | 11,000 | 0.79 | C |
| Center to Sepulveda | Collector (2-lane) | 14,000 | 16,000 | 1.14 | F |
| Sepulveda to Continental | Secondary Arterial | 53,000 | 29,000 | 0.55 | A |
| Continental to Nash | Secondary Arterial | 53,000 | 28,000 | 0.53 | A |
| Nash to Douglas | Secondary Arterial | 53,000 | 21,000 | 0.40 | A |
| Douglas to Aviation | Secondary Arterial | 53,000 | 5,000 | 0.09 | A |

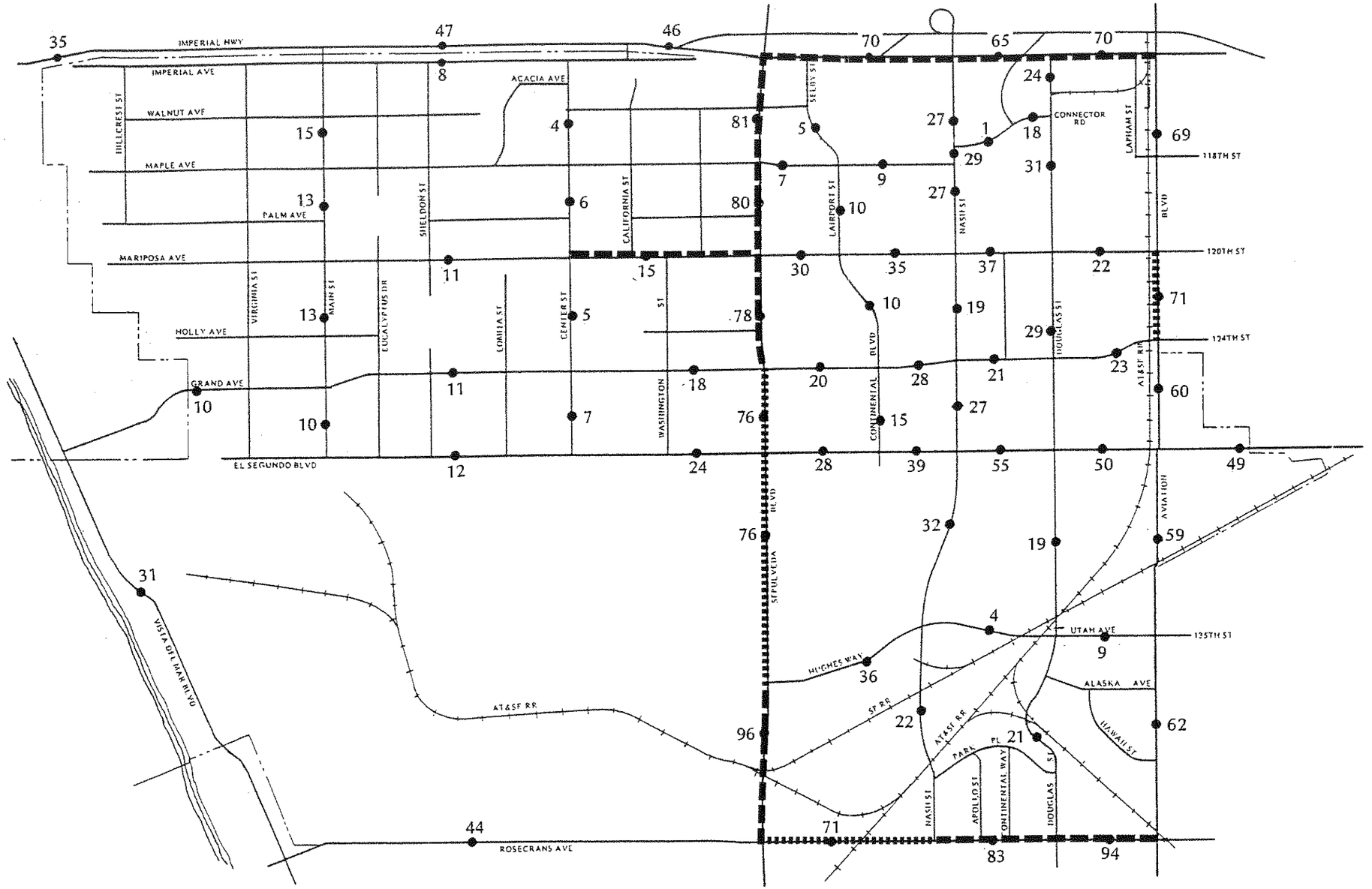
**TABLE 4.8-5**
**COMPARISON OF DAILY TRAFFIC VOLUMES TO ESTIMATED DAILY ROADWAY CAPACITIES RECOMMENDED MASTER PLAN OF STREETS EXISTING GENERAL PLAN BUILDOUT TRENDS**

| ROADWAY SEGMENT | CLASSIFICATION (a) | ROADWAY CAPACITY | ADT | V/C RATIO (b) | LOS (c) |
|---|---|---|---|---|---|
| **NASH STREET (ONE WAY SOUTHBOUND)** | | | | | |
| Imperial Hwy to Connector Rd | Secondary Arterial | 53,000 | 24,000 | 0.45 | A |
| Connector Rd to Maple | Secondary Arterial | 53,000 | 24,000 | 0.45 | A |
| Maple to Mariposa | Secondary Arterial | 53,000 | 25,000 | 0.47 | A |
| Mariposa to Grand | Secondary Arterial | 53,000 | 15,000 | 0.28 | A |
| Grand to El Segundo | Secondary Arterial | 53,000 | 25,000 | 0.47 | A |
| **NASH STREET (TWO WAY)** | | | | | |
| El Segundo to Hughes | Secondary Arterial | 53,000 | 37,000 | 0.70 | B |
| Hughes to Rosecrans | Secondary Arterial | 53,000 | 26,000 | 0.49 | A |
| **ROSECRANS AVENUE** | | | | | |
| Vista Del Mar to Sepulveda | Major Arterial | 77,000 | 43,000 | 0.56 | A |
| Sepulveda to Nash | Major Arterial | 77,000 | 71,000 | 0.92 | E |
| Nash to Douglas | Major Arterial | 77,000 | 94,000 | 1.22 | F |
| Douglas to Aviation | Major Arterial | 77,000 | 114,000 | 1.48 | F |
| **SEPULVEDA BOULEVARD** | | | | | |
| Imperial Hwy to Maple | Major Arterial | 77,000 | 93,000 | 1.21 | F |
| Maple to Mariposa | Major Arterial | 77,000 | 92,000 | 1.19 | F |
| Mariposa to Grand | Major Arterial | 77,000 | 87,000 | 1.13 | F |
| Grand to El Segundo | Major Arterial | 77,000 | 86,000 | 1.12 | F |
| El Segundo to Hughes Way | Major Arterial | 77,000 | 87,000 | 1.13 | F |
| Hughes Way to Rosecrans | Major Arterial | 77,000 | 100,000 | 1.30 | F |
| **UTAH AVENUE (Hughes Way)** | | | | | |
| Douglas to Aviation | Secondary Arterial | 53,000 | 14,000 | 0.26 | A |
| **VISTA DEL MAR** | | | | | |
| Grand to Rosecrans | Secondary Arterial | 53,000 | 31,000 | 0.58 | A |

(a) Per Recommended Master Plan of Streets
(b) Ratio of daily traffic volume to capacity
(c) Level of Service, determined on basis of V/C Ratio, describes operating conditions on the roadway. LOS "A" is generally free-flowing. LOS "E" represents capacity. LOS "C" and "D" are typical in urban conditions. LOS "F" represents severe congestion.

**Projected Daily Traffic Volumes and Roadway Analysis**
**Alternative Plan**

**Figure 4.8-7**




## Legend

Projected Daily Traffic Volumes XX
( In Thousands )

LOS D or Better

LOS E

LOS F

SOURCE:BASMACIYAN-DARNELL, INC. (1991)

*City of El Segundo • General Plan EIR*

No Scale

90345

Examination of Table J and Exhibit D in Appendix E indicates that under an optimistic transit and TDM scenario for the Preferred Plan, the number of roadway sections at LOS E or F has been reduced to ten. This scenario assumes that regional transit improvements (such as the proposed Metro Green Line), increased vehicle occupancy resulting from implementation of regional TDM programs, and jobs/housing balance efforts will be successful to their maximum potential. Under the optimistic transit and TDM Scenario, with aggressive implementation the Master Plan of Streets and the policies proposed in the Circulation Element, it is possible that levels of service on all roadway segments could attain levels of service (D or better).

Alternative Land Use Plan Impact

4.8-2 **Growth projected under the Alternative Land Use Plan would increase traffic within the City over existing conditions. This is considered to be a *significant impact.***

Analysis of the Alternative Land Use Plan indicates that 14 roadway segments will be at LOS E or F by 2010 (Table 4.8-6, Figure 4.8-7). This represents an additional two roadway segments at LOS E or F under buildout of the Alternative Land Use Plan as compared to the Preferred Plan. Again, congestion is predicted to be the most severe along Imperial Highway between Sepulveda and Aviation, Rosecrans between Nash and Aviation, and along the entire stretch of Sepulveda Boulevard. In addition, Aviation Boulevard between Mariposa and Grand will have sever congestion.

Alternative Land Use Plan Mitigation Measure

4.8-2 *Preferred Plan Mitigation Measure 4.8-1(a) through (c) apply to the Alternative Plan.*

Under an optimistic transit and TDM scenario (Appendix E) for the Alternative Land Use Plan, the number of roadway sections at LOS E or F could be reduced to ten.

**TABLE 4.8-6**
**COMPARISON OF DAILY TRAFFIC VOLUMES TO ESTIMATED DAILY ROADWAY CAPACITIES RECOMMENDED MASTER PLAN OF STREETS ALTERNATIVE PLAN**

| ROADWAY SEGMENT | CLASSIFICATION (a) | ROADWAY CAPACITY | ADT | V/C Ratio (b) | LOS (c) |
|---|---|---|---|---|---|
| **AVIATION BOULEVARD** | | | | | |
| Imperial to Mariposa | Major Arterial | 77,000 | 69,000 | 0.90 | D |
| Mariposa to Grand | Major Arterial | 77,000 | v71,000 | 0.92 | E |
| Grand to El Segundo | Major Arterial | 77,000 | 60,000 | 0.78 | C |
| El Segundo to Utah | Major Arterial | 77,000 | 59,000 | 0.77 | C |
| Utah to Rosecrans | Major Arterial | 77,000 | 62,000 | 0.81 | D |
| **CENTER STREET** | | | | | |
| Imperial Ave. to Maple | Collector (2-lane) | 14,000 | 4,000 | 0.29 | A |
| Maple to Mariposa | Collector (2-lane) | 14,000 | 6,000 | 0.43 | A |
| Mariposa to Grand | Collector (2-lane) | 14,000 | 5,000 | 0.36 | A |
| Grand to El Segundo | Collector (2-lane) | 14,000 | 7,000 | 0.50 | A |
| **CONNECTOR ROAD** | | | | | |
| Nash to I-105 On-Ramp | Collector (4-lane) | 40,400 | 1,000 | 0.02 | A |
| I-105 On-Ramp to Douglas | Collector (5-lane) (3 WB and 2 EB) | 46,700 | 18,000 | 0.39 | A |
| **CONTINENTAL (Lairport St.) BOULEVARD** | | | | | |
| Imperial Hwy to Maple | Secondary Arterial | 53,000 | 5,000 | 0.09 | A |
| Maple to Mariposa | Secondary Arterial | 53,000 | 10,000 | 0.19 | A |
| Mariposa to Grand | Secondary Arterial | 53,000 | 10,000 | 0.19 | A |
| Grand to El Segundo | Secondary Arterial | 53,000 | 15,000 | 0.28 | A |
| **DOUGLAS STREET (ONE WAY NORTHBOUND)** | | | | | |
| Imperial Hwy to Connector Road | Secondary Arterial | 53,000 | 24,000 | 0.45 | A |
| Connector Rd to Mariposa | Secondary Arterial | 53,000 | 31,000 | 0.58 | A |
| Mariposa to El Segundo | Secondary Arterial | 53,000 | 29,000 | 0.55 | A |
| **DOUGLAS STREET (TWO WAY)** | | | | | |
| El Segundo to Utah | Secondary Arterial | 53,000 | 19,000 | 0.36 | A |
| Utah to Rosecrans | Secondary Arterial | 53,000 | 21,000 | 0.40 | A |
| **EL SEGUNDO BOULEVARD** | | | | | |
| Main to Center | Secondary Arterial | 53,000 | 12,000 | 0.23 | A |
| Center to Sepulveda | Secondary Arterial | 53,000 | 24,000 | 0.45 | A |
| Sepulveda to Continental | Major Arterial | 77,000 | 28,000 | 0.36 | A |
| Continental to Nash | Major Arterial | 77,000 | 39,000 | 0.51 | A |
| Nash to Douglas | Major Arterial | 77,000 | 55,000 | 0.71 | C |
| Douglas to Aviation | Major Arterial | 77,000 | 50,000 | 0.65 | B |
| Aviation to Isis | Major Arterial | 77,000 | 49,000 | 0.64 | B |

**TABLE 4.8-6**
**COMPARISON OF DAILY TRAFFIC VOLUMES TO ESTIMATED DAILY ROADWAY CAPACITIES RECOMMENDED MASTER PLAN OF STREETS ALTERNATIVE PLAN**

| ROADWAY SEGMENT | CLASSIFICATION (a) | ROADWAY CAPACITY | ADT | V/C Ratio (b) | LOS (c) |
|---|---|---|---|---|---|
| **GRAND AVENUE** | | | | | |
| Vista Del Mar to Main | Secondary Arterial | 53,000 | 10,000 | 0.19 | A |
| Main to Center | Secondary Arterial | 53,000 | 11,000 | 0.21 | A |
| Center to Sepulveda | Secondary Arterial | 53,000 | 18,000 | 0.34 | A |
| Sepulveda to Continental | Secondary Arterial | 53,000 | 20,000 | 0.38 | A |
| Continental to Nash | Secondary Arterial | 53,000 | 28,000 | 0.53 | A |
| Nash to Douglas | Secondary Arterial | 53,000 | 21,000 | 0.40 | A |
| Douglas to Aviation | Secondary Arterial | 53,000 | 23,000 | 0.43 | A |
| **HUGHES WAY** | | | | | |
| Sepulveda to Nash | Secondary Arterial | 53,000 | 36,000 | 0.68 | B |
| Nash to Douglas | Secondary Arterial | 53,000 | 4,000 | 0.08 | A |
| **IMPERIAL HIGHWAY** | | | | | |
| Vista Del Mart to Main | Secondary Arterial | 58,300 | 35,000 | 0.60 | A |
| Main to California | Secondary Arterial | 58,300 | 47,000 | 0.81 | D |
| California to Sepulveda | Secondary Arterial | 58,300 | 46,000 | 0.79 | C |
| Sepulveda to Nash | Secondary Arterial | 58,300 | 70,000 | 1.20 | F |
| Nash to Douglas | Secondary Arterial | 58,300 | 65,000 | 1.11 | F |
| Douglas to Aviation | Secondary Arterial | 58,300 | 70,000 | 1.20 | F |
| **IMPERIAL AVENUE** | | | | | |
| Main to Center | Collector (2-lane) | 14,000 | 8,000 | 0.57 | A |
| **MAIN STREET** | | | | | |
| Imperial Hwy to Maple | Collector (4-lane) | 31,000 | 15,000 | 0.48 | A |
| Maple to Mariposa | Collector (4-lane) | 31,000 | 13,000 | 0.42 | A |
| Mariposa to Grand | Collector (4-lane) | 31,000 | 13,000 | 0.42 | A |
| Grand to El Segundo | Collector (4-lane) | 31,000 | 10,000 | 0.32 | A |
| **MAPLE AVENUE** | | | | | |
| Sepulveda to Continental | Collector (4-lane) | 31,000 | 7,000 | 0.23 | A |
| Continental to Nash | Collector (4-lane) | 31,000 | 9,000 | 0.29 | A |
| **MARIPOSA AVENUE** | | | | | |
| Main to Center | Collector (2-lane) | 14,000 | 11,000 | 0.79 | C |
| Center to Sepulveda | Collector (2-lane) | 14,000 | 15,000 | 1.07 | F |
| Sepulveda to Continental | Secondary Arterial | 53,000 | 30,000 | 0.57 | A |
| Continental to Nash | Secondary Arterial | 53,000 | 35,000 | 0.66 | B |
| Nash to Douglas | Secondary Arterial | 53,000 | 37,000 | 0.70 | B |
| Douglas to Aviation | Secondary Arterial | 53,000 | 22,000 | 0.42 | A |

**TABLE 4.8-6**
**COMPARISON OF DAILY TRAFFIC VOLUMES TO ESTIMATED DAILY ROADWAY CAPACITIES RECOMMENDED MASTER PLAN OF STREETS ALTERNATIVE PLAN**

| ROADWAY SEGMENT | CLASSIFICATION (a) | ROADWAY CAPACITY | ADT | V/C Ratio (b) | LOS (c) |
|---|---|---|---|---|---|
| **NASH STREET (ONE WAY SOUTHBOUND)** | | | | | |
| Imperial Hwy to Connector Rd | Secondary Arterial | 53,000 | 27,000 | 0.51 | A |
| Connector Rd to Maple | Secondary Arterial | 53,000 | 29,000 | 0.55 | A |
| Maple to Mariposa | Secondary Arterial | 53,000 | 27,000 | 0.51 | A |
| Mariposa to Grand | Secondary Arterial | 53,000 | 19,000 | 0.36 | A |
| Grand to El Segundo | Secondary Arterial | 53,000 | 27,000 | 0.51 | A |
| **NASH STREET (TWO WAY)** | | | | | |
| El Segundo to Hughes | Secondary Arterial | 53,000 | 32,000 | 0.60 | A |
| Hughes to Rosecrans | Secondary Arterial | 53,000 | 22,000 | 0.42 | A |
| **ROSECRANS AVENUE** | | | | | |
| Vista Del Mar to Sepulveda | Major Arterial | 77,000 | 44,000 | 0.57 | A |
| Sepulveda to Nash | Major Arterial | 77,000 | 71,000 | 0.92 | E |
| Nash to Douglas | Major Arterial | 77,000 | 83,000 | 1.08 | F |
| Douglas to Aviation | Major Arterial | 77,000 | 94,000 | 1.22 | F |
| **SEPULVEDA BOULEVARD** | | | | | |
| Imperial Hwy to Maple | Major Arterial | 77,000 | 81,000 | 1.05 | F |
| Maple to Mariposa | Major Arterial | 77,000 | 80,000 | 1.04 | F |
| Mariposa to Grand | Major Arterial | 77,000 | 78,000 | 1.01 | F |
| Grand to El Segundo | Major Arterial | 77,000 | 76,000 | 0.99 | E |
| El Segundo to Hughes Way | Major Arterial | 77,000 | 76,000 | 0.99 | E |
| Hughes Way to Rosecrans | Major Arterial | 77,000 | 96,000 | 1.25 | F |
| **UTAH AVENUE (Hughes Way)** | | | | | |
| Douglas to Aviation | Secondary Arterial | 53,000 | 9,000 | 0.17 | A |
| **VISTA DEL MAR** | | | | | |
| Grand to Rosecrans | Secondary Arterial | 53,000 | 31,000 | 0.58 | A |

(a) Per Recommended Master Plan of Streets
(b) Ratio of daily traffic volume to capacity
(c) Level of Service, determined on basis of V/C Ratio, describes operating conditions on the roadway. LOS "A" is generally free-flowing. LOS "E" represents capacity. LOS "C" and "D" are typical in urban conditions. LOS "F" represents severe congestion.

# 4.1 AIR QUALITY

# 4.9 AIR QUALITY

## INTRODUCTION

This section addresses air quality impacts associated with the proposed El Segundo 1991 General Plan. Additionally, this section discusses the plan in relationship to existing plans and planning policies of the South Coast Air Quality Management Plan. Where appropriate, mitigation measures are suggested that could minimize or eliminate potential significant air quality impacts. Baseline data was obtained from South Coast Air Quality Management District (SCAQMD) and from the El Segundo General Plan Air Quality Element Existing Conditions Report.

## SETTING

### CLIMATE

The City of El Segundo lies within the South Coast Air Basin, a region bounded on the north, east, and south by mountains and on the west by the Pacific Ocean. The topography of the region plays a large role in determining its generally mild, maritime climate. Winds typically blow off the ocean in a northeasterly direction during the day and reverse direction at night. Winter storms and summer heat spells are infrequent.

Annual average temperatures do not vary greatly throughout the Basin, but inland communities experience more pronounced temperature extremes than coastal areas. The Los Angeles regions average annual temperature is 64°F. Occasional lows below freezing and highs above 100°F have been recorded.

Nearly all rainfall in the Basin occurs between November and April, but scattered thundershowers occur during the summer along the coast and in the mountains. Annual average rainfall is 9-15 inches in the Los Angeles region. Humidity averages about 70 per cent despite the semi-arid climate of the region.

The Basin experiences very light average wind speeds. This limits the capability for the horizontal dispersal of air pollutants. From 1950 to 1976, wind speed measured in the Los Angeles region has averaged 5.7 miles per hour with little seasonal variation.

On nearly all spring and early summer days, most air pollutants are carried by the prevailing winds through the passes in the surrounding mountains or are dispersed vertically by rising currents of warm air. However, from late summer through the winter months, when low wind speeds combine with restricted

vertical dispersion caused by temperature inversions, ambient concentrations of air pollutants can build to high levels.

## REGULATION OF AIR POLLUTANTS

Pollutants subject to federal ambient standards are referred to as criteria pollutants because the EPA publishes criteria documents to justify the choice of standards. Other pollutants are referred to as Toxic Air Contaminants because most of these contaminants are derived from volatile hazardous substances.

### Criteria Pollutants

Currently, most of the effort to improve air quality in the United States is directed toward the control of five (six if we add lead) criteria pollutants: photochemical oxidants (ozone), carbon monoxide (CO), suspended particulate matter ($PM_{10}$), nitrogen dioxide ($NO_2$), and sulfur dioxide ($SO_2$). The widespread availability and use of unleaded gasoline has effectively eliminated lead as an air quality concern. The federal and State primary standards (the latter established in California, starting in 1969, pursuant to the Mulford-Carrell Act) given in Table 4.9-1 provide acceptable durations for specific pollutant levels in order to protect sensitive receptors from adverse health effects. Table 4.9-2 lists the effects of concentrated levels of criteria pollutants on humans.

### Toxic Air Contaminants

Toxic air contaminants (TACs) are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effects (i.e., injury or illness). Toxic air contaminants include both organic and inorganic chemical substances. They may be emitted from a variety of common sources, including gasoline stations, automobiles, dry cleaners, industrial operations and painting operations. Research facilities may also be a source of toxic air contaminants.

In general, the six "criteria pollutants" (ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulates and lead) for which federal and State ambient air quality standards have been established, are not considered toxic air contaminants. Moreover, TACs are considered separately from the criteria pollutants in the regulatory process. Lead has been classified both as a criteria and toxic pollutant. Table 4.9-3 lists the effects of concentrated levels of toxic air contaminants on humans.

**TABLE 4.9-1**
**FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS[1]**

| Pollutant | Averaging Time | California Standard[3] | Federal Standards[2] | |
|---|---|---|---|---|
| | | | Primary[4] | Secondary[5] |
| Ozone | 1-hour | > .09 ppm (176.6 ug/m$^3$) | >.12 ppm (235.5 ug/m$^3$) | > .12 ppm (235.5 ug/m$^3$) |
| Carbon Monoxide | 1-hour | >20 ppm (22.9 mg/m$^3$) | >35 ppm (40.1 mg/m$^3$) | >35 ppm (40.1 mg/m$^3$) |
| | 8-hour | ≥9.1 pm (10.4 mg/m$^3$) | ≥9.5 ppm (10.9 mg/m$^3$) | ≥9.5 ppm (10.9 mg/m$^3$) |
| Nitrogen Dioxide | 1-hour | >.25 ppm (470.1 ug/m$^3$) | --- | --- |
| | Annual Arithmetic Mean | --- | >.0534 ppm (100.4 ug/m$^3$) | >.0534 ppm (100.4 ug/m$^3$) |
| Sulfur Dioxide | 1-hour | >.25 ppm (654.1 ug/m$^3$) | --- | --- |
| | 3-hour | --- | --- | >.50 ppm (1308.2 ug/m$^3$) |
| | 24-hour | ≥.05 ppm[6] (130.8 ug/m$^3$) | >.14 ppm (366.3 ug/m$^3$) | --- |
| | Annual Arithmetic Mean | --- | >80 ug/m$^3$ (.03 ppm) | --- |
| Suspended Particulate Matter | 24-hour | >50 ug/m$^3$ | >150 ug/m$^3$ | >150 ug/m$^3$ |
| | Annual Geometric Mean | >30 ug/m$^3$ | --- | --- |
| | Annual Arithmetic Mean | --- | >50 ug/m$^3$ | >50 ug/m$^3$ |
| Sulfates | 24-hour | ≥25 ug/m$^3$ | --- | --- |
| Lead | Monthly Average | ≥1.5 ug/m$^3$ | --- | --- |
| | Quarterly Average | --- | >1.5 ug/m$^3$ | >1.5 ug/m$^3$ |
| Hydrogen Sulfide | 1-hour | ≥.03 ppm (42 ug/m$^3$) | --- | --- |
| Vinyl Chloride | 24-hour | ≥.010 ppm (26 ug/m$^3$) | --- | --- |
| Ethylene | 1-hour | ≥.50 ppm | --- | --- |
| | 8-hour | ≥.10 ppm | --- | --- |
| Visibility Reducing Particles | 1 Observation | Visibility < 10 miles | --- | --- |

**TABLE 4.9-1 (Continued)**

[1] Concentrations expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees C and a reference pressure of 760 mm of mercury. Note: ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas. $ug/m^3$ = micrograms per cubic meter. $mg/m^3$ = milligrams per cubic meter.

[2] National Standards, other than ozone and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

[3] California standards for ozone, carbon monoxide, sulfur dioxide (1 hour), nitrogen dioxide and particulate matter - $PM_{10}$, are values that are not to be exceeded. The sulfates, lead, hydrogen sulfide, vinyl chloride, and visibility-reducing particles standards are not to be equaled or exceeded.

[4] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than three years after that state's implementation plan is approved by the Environmental Protection Agency.

[5] National Secondary Standards: the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the implementation plan is approved by the EPA.

[6] At locations where the State standards for ozone and/or suspended particulate matter are violated. National standards apply elsewhere.

[7] Prevailing visibility is defined as the greatest visibility which is attained or surpassed around at least half of the horizon circle, but not necessarily in continuous sectors. Standards based on hours with relative humidity less than 70%.

Source: California Air Resources Board; SCAQMD 1990 Air Quality Summary

**TABLE 4.9-2**
**HEALTH EFFECTS SUMMARY OF THE**
**CRITERIA AIR POLLUTANTS**

| | |
|---|---|
| **Ozone** | ■ eye irritation<br>■ respiratory function impairment |
| **Carbon Monoxide** | ■ impairment of oxygen transport in bloodstream increase of carboxyhemoglobin<br>■ aggravation of cardiovascular disease<br>■ impairment of central nervous system function<br>■ fatigue, headache, confusion, dizziness<br>■ can be fatal in the case of very high concentrations in enclosed places |
| **Sulfur Dioxide** | ■ aggravation of chronic obstruction lung disease<br>■ increased risk of acute and chronic respiratory illness |
| **Nitrogen Dioxide** | ■ risk of acute and chronic respiratory illness |
| **Total Suspended Particulates** | ■ increased risk of chronic respiratory illness with long exposure<br>■ altered lung function in children<br>■ with $SO_2$, may produce acute illness<br>■ particulate matter 10 microns or less in size ($PM_{10}$) which may be inhaled and possibly lodge in and/or irritate the lungs<br>■ impairment of blood function and nerve construction<br>■ behavioral and learning problems in children |

Source:

**TABLE 4.9-3**
**TOXIC AIR CONTAMINANTS: HEALTH EFFECTS SUMMARY**

| Pollutant | Adverse Effects |
|---|---|
| Lead | ■ impairment of blood function and nerve construction<br>■ behavioral and learning problems in children |
| Asbestos | ■ malignancies of the lung, pleura and peritoneum |
| Beryllium | ■ progressive granulomatous disease of the lung |
| Mercury | ■ central nervous system and renal toxicity |
| Vinyl | ■ angiosarcoma of the liver; possibly other cancer<br>■ possible effects on human reproduction |

Source:

## Regulation of Criteria Pollutants

The 1970 Clean Air Act gave the U.S. Environmental Protection Agency (EPA) the authority to set federal ambient air quality standards. The Act indicated the need for primary standards to protect public health and secondary standards to protect public welfare from effects such as visibility reduction, soiling, nuisance, etc. It also required that the federal standards be designed to protect those people most susceptible to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by illness, and persons engaged in strenuous work or exercise (all termed "sensitive receptors"). Pollutants subject to federal ambient standards are referred to as criteria pollutants because the EPA publishes criteria documents to justify the choice of standards.

The 1977 Clean Air Act Amendments (passed after many states failed to meet the five-year deadline for achieving the federal standards) required that each state identify areas within its borders that did not meet federal primary standards (i.e., non-attainment areas) and devise a State Implementation Plan (SIP), subject to EPA approval, which would guarantee attainment no later than the end of 1987. The Clean Air Act Amendments did not specify what course of action would be undertaken by the EPA if states failed to meet the 1987 attainment deadline. Many options are open to the EPA, ranging from the imposition of sanctions on the non-attainment areas (e.g., prohibiting the construction of major air pollution sources, withholding federal funds for transportation and sewage treatment projects) to ignoring the standard violations and waiting for Congress to amend the Clean Air Act.

In 1987, the EPA replaced the standard for TSP with a new PM10 standard. PM10 includes only particles that are 10 microns or less in diameter which are capable of penetrating the body's defense system and reaching the lungs. Now that 1987 has passed, many states, including California, are in the process of implementing the EPA's interim policy with the following components:

1) Non-attainment areas are to revise their SIP's to demonstrate attainment and maintenance;

2) After submittal of the revised SIP's, the EPA will classify non-attainment areas as near-term (i.e., attainment predicted in three to five years) or long-term (i.e., attainment more than five years away);

3) Sanctions against the construction of major air pollutant sources in long-term non-attainment areas will take effect three to five years from Plan submittal (i.e., 1995-1996);

4) In near-term non-attainment areas, pollutant emission reductions of 3 percent per year will have to occur until standards are attained and standard maintenance for a period of ten years thereafter will have to be demonstrated. The EPA's policy would become moot if Congress amends the Clean Air Act to specify a different course of action but, at the time of this writing, Congress has not been able to reach agreement on such a revision.

The 1988 California Clean Air Act (Sher, AB 2595) requires a vigorous, parallel effort toward attainment of State air quality standards. The bill which came into effect on January 1, 1990 requires air districts and Cities to prepare a plan by December 31, 1990. Areas within the State will be required to demonstrate a 5 percent per year reduction in the emission of air pollutants or precursors until State standards are attained. If attainment is not achieved before 1994, 1997, or beyond, air pollution in that area will be classified as moderate, serious, or severe, respectively.

The California Air Resources Board (CARB) coordinates and oversees both State and federal air pollution control programs in California. As part of this responsibility, the CARB monitors existing air quality, establishes State ambient air quality standards (which in many cases are more stringent than federal standards, as shown in Table 4.9-1), limits allowable emissions from vehicular sources, and is responsible for putting together the SIP.

The CARB has divided the State into many single and multi-county air basins. Authority for air quality management within the basins has been given to local Air Pollution Control/Management Districts which develop local non-attainment plans within their jurisdiction. The CARB has designated all of Los Angeles County south of the San Gabriel Mountains, Orange County, and the non-desert portions of Riverside and San Bernardino Counties as the South Coast Air Basin under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

## RESPONSIBILITY FOR AIR QUALITY

### Air Quality Planning in the South Coast Air Basin

The South Coast Air Basin encompasses all of Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino Counties. Planning for the attainment and maintenance of federal and state air quality standards for the South Coast Air Basin is the joint responsibility of the SCAQMD and SCAG. Together they authored the initial Air Quality Management Plan (AQMP) for the Basin in 1979. The primary intent of the AQMP has been to address national air quality standards required by the Clean Air

Act. In 1981, the U.S. Environmental Protection Agency (EPA) conditionally approved the portions of the AQMP regarding particulate matter and $NO_2$; however, the portions concerning ozone and CO were not approved due to a lack of legal authority to implement a vehicular inspection and maintenance (I/M) program.

In April 1982, the EPA fully approved the new AQMP submittals on particulates and $NO_2$, but continued ozone and CO disapproval. In September 1982, State Senate Bill 33, requiring biennial I/M of vehicles in non-attainment areas, was signed into law. Full implementation of the I/M program began in January 1984.

In 1982 the 1979 AQMP was revised by SCAG and the SCAQMD. The revised AQMP proposed a long-range strategy that would result in attainment of the Federal Clean Air Act in 20 years. In 1987, a federal court ordered the EPA to disapprove the 1982 AQMP Revision because it did not demonstrate attainment by the 1987 federal deadline. On March 17, 1989 the Final 1989 AQMP released by SCAG and the SCAQMD was adopted by the District Governing Board. The 1989 AQMP set forth a comprehensive control program aimed at bringing the South Coast Air Basin into compliance with all federal and state air quality standards by December 31,1996 for NOx, 1997 for CO and 2007 for PM10.

The California Health and Safety Code Section 40463 requires a formal review of the AQMP every two years. As part of the formal review process, revisions to the Plan have been made in 1991.

The 1991 AQMP, prepared and adopted by the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG), responds to the new requirements of the CCAA, and builds on the 1989 AQMP.

Strategies for controlling air pollutant emissions in the AQMP are grouped into three "tiers," based on their anticipated timing for implementation. Tier I consists of the implementation of best available current technology and management practices that can be adopted within the next five years. Tier II is based on anticipated advancements in current technology and vigorous regulatory action, and Tier III controls consist of development of new technology. In total, the tiers consist of 123 recommended control measures. The measures are intended to reduce air emissions by altering the following:

- Motor Vehicle Operation and Inspection
- Transportation Systems (including airports and ports)
- Land Use and Zoning Decisions
- Travel
- Work Scheduling
- Petroleum and Gas Production
- Commercial and Industrial Activities
- Stationary Sources

- Residential and Public Activity
- Agricultural Processes
- The Use of Off Road Vehicles
- Surface Coating and Solvent Use

Local responsibilities for achieving compliance with Federal and State Ambient Air Quality Standards primarily focus on measures that control "Indirect Sources" such as a facility, building, structure, installation, real property, road, or highway which attracts or may attract mobile sources of pollution. This term includes parking lots, parking garages, and other facilities subject to any measure for management of parking supply."

## Regulation of Toxic Air Contaminants

### Federal Laws and Regulations

The EPA has established a list of over 400 "extremely hazardous" substances and promulgated emission standards (known as National Emissions Standards for Hazardous Air Pollutants or NESHAPS) for eight of these compounds (i.e., arsenic, asbestos, benzene, beryllium, coke oven emissions, mercury, radionucliides, and vinyl chloride). At the State level, the California Air Resources Board (CARB) has been delegated the responsibility for implementation of the Clean Air Act.

In the Los Angeles County area, the Clean Air Act (including NESHAPS) is enforced by SCAQMD. In the South Coast Air Basin, a permit must be secured from SCAQMD for emission of designated quantities of substances subject to NESHAPS.

### State Laws and Regulations

Assembly Bill 1807 of 1983 (Tanner Bill) set up a statewide process to determine the need for and methods to set standards for toxic air contaminants. The process includes identification of toxic air contaminants, determination of emissions and ambient levels of the identified compounds, preparation of regulatory needs documents, and establishment of minimum State-wide emission control standards by the California Air Resources Board (CARB).

The Hazardous Materials Release Response Plans and Inventory Law of 1985 (or the "Business Plan Act") requires that a business that uses hazardous materials, such as toxic air contaminants, prepare a plan which includes:

- details, including floor plans, of the facility;
- an inventory of hazardous materials handled or stored;
- an emergency response plan; and
- a training program in safety procedures and emergency response for new employees, including annual refresher courses.

The Air Toxic "Hot Spots" Information and Assessment Act of 1987 (AB 2588) requires specified facilities to submit to the local air pollution control agency a comprehensive plan to inventory air toxic emissions for a specified list of substances. After the inventory preparation plan is approved, the facility must implement the plan and submit the resulting facility air toxic emission inventory to the agency.

In the Los Angeles County area, the SCAQMD implements AB 2588. After the SCAQMD receives completed emission inventories, it identifies high-priority facilities for which health risk assessments must be performed.

CARB has identified asbestos, benzene, cadmium, carbon tetrachloride, chlorinated dioxins and dibenzofurans (15 species), chromium (VI), ethylene dibromide, ethylene dichloride, methylene chloride, and ethylene oxide as toxic air contaminants. In addition, 1,3-butadiene, chloroform, formaldehyde, inorganic arsenic, nickel, perchloroethylene, trichloroethylene, acetaldehyde, benzo (a) pyrove, and vinyl chloride are all currently being reviewed for possible inclusion on the toxic air contaminants list. CARB prepared a revised toxic air contaminants list in September of 1989. This revised list contains a number of the chemicals listed above and was adopted in February 1990. Benzene is an additive in automobile fuels therefore the use of automobiles is considered a mobile source of TAC. Table 4.9-4 list the CARB cancer potency values. Regulations promulgated by the California Health and Welfare Agency under Proposition 65 define significant risk as any risk exceeding ten in one million.

California Public Resources Code Section 21151.4 sets special requirements for environmental review documents (EIRs or negative declarations) for projects involving construction or alteration of air toxic emission facilities within one-quarter of a mile of a school. If such a project is expected to emit toxic air contaminants, the Lead Agency for the project must consult with the school district concerning the potential impacts of the project on the school, and the school district must be given written notification of the project plans at least 30 days prior to the certification of the environmental review document.

In 1988, the Act was amended to include public agencies. State agencies were required to submit a business plan by January 1, 1990. Plans must be submitted to local administering agencies. By January 1, 1992, State agencies must also comply with local regulations implementing the Business Plan Act.

**TABLE 4.9-4**
**SCREENING CANCER POTENCY VALUES FOR THE AIR TOXICS "HOT SPOTS" ACT**

| Substance | Unit Risk $(\mu/m^3)^{-1}$ | Substance | Unit Risk $(\mu/m^3)^{-1}$ |
|---|---|---|---|
| Acetamide | 8.3E-6 | Isocyanates | |
| 2-Aminoanthraquinone | 4.0E-6 | Toluene-2,4-diisocyanate | 1.0E-5 |
| Amitrole | 7.4E-5 | Toluene-2,6-diisocyanate | 1.0E-5 |
| Benzedrine-based dyes | 6.7E-2 | Lead | 8.0E-6 |
| Carbon black extracts | 1.7E-5 | Lead Compounds (acetate, basic) | 8.0E-6 |
| Carrageenan (degraded) | 5.8E-7 | 4,4-Methylene bis (2-chloroaniline) (MOCA) | 9.4E-5 |
| Chloramphenicol | 3.1E-6 | Metronidazole | 1.76E |
| 4-Chloro-o-phenylenediamine | 4.3E-6 | Michler's ketone | 1.7E-4 |
| p-Chloro-o-toluidine | 1.2E-4 | Nickel carbonyl | 2.4E-4 |
| Creosotes | 1.7E-3 | Niridazone | 1.0E-4 |
| p-Cresidine | 4.1E-5 | Nitrogen mustard N-oxide | 1.1E-3 |
| Cupferron | 1.6E-4 | 2-Nitrogen mustard N-oxide | 1.1E-3 |
| 2,4-Diaminoanisole (sulfate) | 1.2E-5 | N-Nitrosomorpholine | 9.5E-4 |
| 2,4-Diaminotoluene | 6.0E-4 | N-Nitrosopiperidine | 1.4E-3 |
| 1,2-Dibromo-3-chloropropane (DBCP) | 4.0E-4 | Phenobarbital | 4.5E-4 |
| p-Dimethylaminoazobenzene | 2.6E-4 | Potassium bromate | 5.4E-5 |
| 1,1-Dimethylhydrazine (UDMH) | 4.9E-4 | 1,3-Propane sultone | |
| Dimethyl sulfate | 1.3E-3 | Lelenium compounds (Selenium sulfide) | 1.4E-4 |
| Environmental tobacco smoke | 2.8E-5 | Silica (crystalline & respirable) | 2.9E-4 |
| Ethylene thiourea | 1.1E-4 | Thioacetamide | 3.5E-4 |
| Griseofulvin | 1.1E-6 | Thiourea | 5.5E-4 |

Source: CAPCOA Air Toxics "Hot Spots" Program: Risk Assessment Guidelines, January 1991.

## Local Laws and Regulations

SCAQMD requires permits for the construction and operation of certain facilities and equipment. The District may also require an analysis for toxic air contaminant emissions, or preparation of a health risk assessment. Rule 223 formally establishes an analytical procedure for risk assessment of airborne carcinogenic contaminants. The conjunctive Rule 1401 identifies specific cancer risk limits for the maximally exposed individual that may result from exposure to known or suspected carcinogens.

The objectives of these two rules include screening analysis of new or modified sources (Regulation XIII), air quality monitoring and the implementation of the Best Available Control Technology for Toxics (T-BACT) for those sources whose cancer risk to the maximally exposed individual is equal to or greater than one in one million. Eventually, this regulation will be extended to include existing sources of carcinogenic

air contaminants that result in acute (short-term) exposure and chronic (long-term) exposure, as well as non-carcinogenic air contaminants.

Rule 223 sets forth a mathematical simulation atmospheric event for emissions of carcinogenic air contaminants. The sum of the mathematical products of the annual air toxic emission rate and unit risk factor (Rule 1401) result in a Carcinogenic Source Strength (CSS). The SCAQMD defines the allowable CSS for specific regions of the South Coast Air Basin in Rule 223.

Under the SCAQMD's Rule 1401, SCAQMD may recommend that a permit be denied to a new stationary source unless one of the following conditions are met:

- A maximum individual cancer risk of less than one in one million ($10^{-6}$) at any project receptor location.

- A maximum individual cancer risk of less than ten in one million ($10^{-5}$) at any project receptor location; and less than one in 0.5 excess cancer cases; and the stationary source will be constructed using T-BACT.

## EXISTING AIR QUALITY CONDITIONS

### Regional Conditions

The SCAQMD operates a number of ambient air quality monitoring stations throughout the South Coast Air Basin which measure the ambient concentrations of the above-mentioned pollutants. On the basis of this monitoring, the Basin has been declared a non-attainment area for ozone, CO, $NO_2$, and particulates.

Prior to 1900, air in the South Coast Air Basin was relatively clean. Particulates entrained by wind blowing across the Basin floor or injected by lightning-caused fires, and hydrocarbons emitted from vegetation were the only natural air pollutants. Present air quality problems are the result of extensive industrial and urban development, especially from the widespread and intensive use of motor vehicles by Basin residents. The air pollution potential of the Basin is one of the highest in the United States. This is in part due to topographic and meteorological conditions that often reduce the ability of the atmosphere to disperse air pollutants and allow such pollutants to attain relatively high ambient concentration.

Ozone is the most severe regional air quality problem in the Basin. Unlike many air pollutants, ozone is not emitted directly into the atmosphere, but is produced in the atmosphere by a complex series of photochemical reactions involving reactive organic compounds (ROG) and nitrogen oxides ($NO_x$). (Note that ROG is a sub-class of hydrocarbons. Hydrocarbons emitted by vehicles are predominately ROG.) No single source accounts for most of the ROG and $NO_x$ emissions and the many sources are spread throughout the Basin. The Basin's intense heat and sunlight during the summer months are ideal for the formation of ozone. Ozone levels can vary widely at the monitoring stations, depending on location and

time of year, but the levels generally increase as one moves inland in a northeasterly direction from the coast. Peak levels can be found at stations near the foot of the San Gabriel Mountains.

In contrast to ozone, CO is a sub-regional problem in the Basin because CO is a non-reactive pollutant with one major source: motor vehicles. Ambient CO distributions closely follow the spatial and temporal distributions of vehicular traffic, and are strongly influenced by meteorological factors such as wind speed and atmospheric stability. The one-hour and eight-hour CO standards are frequently exceeded in those parts of the Basin subject to a combination of high traffic density and susceptibility to the occurrence of surface-based radiation inversions during the winter months. The CO problem in the Basin is most severe in areas centered on the cities of Hawthorne and Burbank.

TSP is composed of natural and man-made materials which included soil particles, biological materials, sulfates, nitrates, organic compounds, and lead. TSP concentrations are highest far downwind of the most densely populated portions of the Basin, since gaseous air pollutants can react to form particulates after several hours of transport. In addition, there is a larger natural contribution to the $PM_{10}$ in the less urbanized areas of the Basin, due to the entrainment of soil by the wind.

The major sources of $NO_x$, compounds which have an important role in the formation of ozone, are vehicular, residential, and commercial fuel combustion. $NO_2$ is the most abundant form of ambient $NO_x$. About one fifth of the Basin is subject to violation of the $NO_2$ standard, primarily in coastal and central Los Angeles County. The Long Beach and Pico Rivera areas are especially susceptible to high $NO_2$ levels.

The burning of high sulfur fuels for activities such as electricity generation petroleum refining, and industrial processes are the major sources of ambient $SO_2$. The $SO_2$ standard is currently being met throughout the Basin.

## Local levels of Criteria Pollutants

The air quality monitoring stations closest to the City of El Segundo are the West Los Angeles (VA Hospital) station, located 3 miles north of the City and the Hawthorne station, located adjacent to the southeastern corner of the City.

A three-year summary of the data collected at West Los Angeles and Hawthorne are shown in Table 4.9-5. A comparison of this data with State air quality standards indicate that air quality in the north of the city is not in compliance with the State ozone, 8-hour CO,and M10 standards. Because ozone levels are a regional problem, concentrations measured at the stations are likely to be representative of conditions within El Segundo. In contrast, levels of pollutants such as CO and $PM_{10}$ are more sensitive to nearby sources; the West Los Angeles and Hawthorn data, therefore, may not adequately represent local conditions within the City for these pollutants.

As shown in Table 4.9-5, ozone is the most critical pollution problem reported by the West Los Angeles station while carbon monoxide is the most severe pollutant monitored at the Hawthorne station. However, the concentrations of both pollutants have been decreasing steadily since 1988. High levels of carbon monoxide at the Hawthorn Station are partially due to the close proximity of Los Angeles International Airport, and the I-405 freeway., which also influences the West Los Angeles Station.

Air circulation restrictions due to the Santa Monica Mountains contribute to ozone formation in the West Los Angeles area. The West Los Angeles monitoring station reported a maximum one-hour ozone concentration of 0.16 ppm for 1990. This station also reported 8 days in violation of Federal ozone standards and 30 days in violation of State standards for ozone. The Hawthorne monitoring station measured a maximum one-hour carbon monoxide concentration of 19 ppm and a maximum eight-hour concentration of 12. ppm.

Although the Hawthorne station reported no violations of both State and Federal one-hour carbon monoxide standards for 1990, there were 11 violations of the State eight-hour standard.

Estimated present roadside CO concentrations for sections along the main streets and arteries of the City are given Table 4.9-6. Violations of all eight-hour standards occur under worst-case meteorologic conditions at all intersections. This is because the average background concentrations exceed the eight-hour standard. This is in the light of the monitoring data from the West Los Angeles and Hawthorne monitoring stations.

TABLE 4.9-5
AIR POLLUTANT DATA SUMMARY 1988-90
STATIONS: WEST LOS ANGELES, HAWTHORNE

| POLLUTANT | | | 1988 | | 1989 | | 1990 | |
|---|---|---|---|---|---|---|---|---|
| | | | WLA | Haw. | WLA | Haw. | WLA | Haw. |
| OZONE: | | Highest 1-hour (ppm) | .24 | .22 | .25 | .19 | .16 | .10 |
| | | Days > 0.12 ppm | 16 | 5 | 15 | 3 | 8 | 0 |
| | | Days > 0.09 ppm | 60 | 11 | 65 | 11 | 30 | 3 |
| CARBON MONOXIDE: | | Highest 1-hour (ppm) | 15.0 | 23.0 | 12.0 | 23.0 | 15.0 | 19.0 |
| | | Days > 35.0 ppm | 0 | 0 | 0 | 0 | 0 | 0 |
| | | Days > 20.0 ppm | 0 | 4 | 0 | 2 | 0 | 0 |
| | | Highest 8-hour (ppm) | 8.57 | 15.86 | 8 | 16.4 | 8.0 | 12.7 |
| | | Days > 9.0 ppm | 0 | 31 | 0 | 28 | 0 | 11 |
| NITROGEN DIOXIDE: | | Highest 1-hour (ppm) | .26 | .27 | .22 | .24 | .20 | .23 |
| | | Days > 0.25 ppm | 1 | 1 | 0 | 0 | 0 | 0 |
| SULFUR DIOXIDE: | | Highest 1-hour (ppb) | 30 | 150 | 20 | 90 | 20 | 310 |
| | | Days > 250 ppb | 0 | 0 | 0 | 0 | 0 | 1 |
| | | Highest 24-hour (ppb) | - | - | 12 | 19 | 9 | 35 |
| | | Days > 50 ppb | 0 | 0 | 0 | 0 | 0 | 0 |
| PARTICULATES: | TSP | Number of Samples | 56 | 58 | 54 | 60 | NM | NM |
| | | Highest 24-hour (ug/m$^3$) | 125 | 248 | 126 | 370 | NM | NM |
| | | Annual Average (AGM) | 62.9 | 79.7 | 61.5 | 80.3 | NM | NM |
| | $PM_{10}$ | Number of Samples | NM | NM | NM | 55 | NM | 60 |
| | | Highest 24-hour (ug/m$^3$) | NM | NM | NM | 133 | NM | 186 |
| | | Samples > 50 ug/m$^3$ | NM | NM | NM | 24 | NM | 12 |
| | | Annual Average (AAM) | NM | NM | NM | 49.7 | NM | - |
| | | Annual Average (AGM) | NMM | NM | NM | 44.9 | NM | 73.8 |
| LEAD: | | Highest 24-hour (ug/m$^3$) | NM | .27 | NM | - | NM | - |
| | | Highest Monthly Average | NM | - | NM | .13 | NM | .08 |
| | | Monthly Avrg. > 1.5 ug/m$^3$ | NM | 0 | NM | 0 | NM | 0 |
| SULFATE: | | Highest 24-hour (ug/m$^3$) | 17.4 | 19.0 | 19.6 | 22.6 | 24.8 | 24.8 |
| | | Days > 25 ug/m$^3$ | 0 | 0 | 0 | 0 | 0 | 0 |

**ppm = parts per million; ppb = parts per billion; ug/m$^3$ =micrograms per cubic meter; NM = Not Monitored; AAM = Annual Arithmetic Mean; AGM = Annual Geometric Mean**

**Source:** ***South Coast Air Quality Management District*****, 1988-1990.**

TABLE 4.9-6
CALCULATED EXISTING ROADSIDE CARBON MONOXIDE CONCENTRATION

| Intersection | 1-hr | 8-hr |
|---|---|---|
| **Sepulveda Blvd.** | | |
| Rosecrans Ave./Hughes Way | 19.8 | 13.9 |
| Hughes Way/El Segundo Blvd. | 20.1 | 14.1 |
| El Segundo Blvd./Grand Ave. | 20.1 | 14.1 |
| Mariposa Ave./Maple Ave. | 20.0 | 14.0 |
| Maple Ave./Imperial Hwy. | 20.8 | 14.5 |
| **Nash St.** | | |
| El Segundo Blvd./Grand Ave. | 18.3 | 12.8 |
| Grand Ave./Mariposa Ave. | 18.3 | 12.8 |
| Mariposa Ave./Maple Ave. | 18.4 | 12.9 |
| Maple Ave./Imperial Hwy. | 18.3 | 12.8 |
| **El Segundo Blvd.** | | |
| Sepulveda Blvd./Nash St. | 19.1 | 13.3 |
| Nash St./Douglas St. | 19.6 | 13.7 |
| Douglas St./Aviation Blvd. | 19.0 | 13.3 |
| **Douglas St.** | | |
| Rosecrans Ave./Utah Ave. | 18.3 | 12.8 |
| Utah Ave./El Segundo Blvd. | 18.6 | 13.0 |
| El Segundo Blvd./Mariposa Ave. | 18.6 | 13.0 |
| Mariposa Ave./Imperial Hwy. | 18.3 | 12.8 |
| **Rosecrans Ave.** | | |
| Douglas St./Aviation Blvd. | 19.3 | 13.5 |
| **Aviation Blvd.** | | |
| Rosecrans Ave./125$^{th}$ St. | 19.4 | 13.6 |
| 135$^{th}$ St./El Segundo Blvd. | 18.8 | 13.2 |
| **Imperial Hwy.** | | |
| Sepulveda Ave./Nash St. | 19.6 | 13.7 |
| Nash St./Douglas St. | 20.0 | 14.0 |
| Douglas St./Aviation Blvd. | 20.0 | 14.0 |
| **Maple Ave.** | | |
| Sepulveda Blvd./Nash St. | 18.0 | 12.6 |
| **Mariposa Ave.** | | |
| Sepulveda Blvd./Nash St. | 18.3 | 12.8 |
| **Grand Ave.** | | |
| Sepulveda Blvd./Nash St. | 18.3 | 12.8 |
| **Utah Ave.** | | |
| Douglas St./Aviation Blvd. | 19.3 | 13.5 |

## Local Levels Toxic Air Contaminants

The SCAQMD is currently in the process of compiling a comprehensive Air Toxic Emissions Inventory. This inventory is specified by the Air Toxic "Hot Spots" Information and Assessment Act (AB 2588) of 1987, and is primarily administered by the California Department of Health Services (DHS). When complete, the inventory will be used by the SCAQMD to prioritize air toxic emitters for specific regulations.

Data for air toxics are not available since the SCAQMD is in the process of gathering the ambient data to be able to develop standards. In conformance with the requirements of AB 2588, the City of El Segundo Hazardous Materials and Waste Management Element Background Report lists toxic air generators in the region as of 1988 when the data was compiled by SCAG.

The SCAQMD conducted a preliminary evaluation of toxic air contaminants in the South Coast Air Basin[1] 1985. Preliminary estimates based on traffic and population models released in 1987 gave the following ranges for the area incorporating the City of El Segundo: Benzene (5.0 - 10 ug/cu m), chromium (5.0 - 700 lb/yr), nickel (1.0 - 59 lb/yr), and lead ( < 2 lb/lb). Through an EPA 105 Supplemental Grant, the District conducted a Multiple Air Toxics Exposure Study (MATES) in 1987. The MATES study was designed to provide risk assessment baseline data for the Toxic Air Inventory program. It assessed potential population exposure, and health risks due to emissions of 20 toxic air pollutants throughout the Basin.

The MATES survey revealed that the concentrations of benzene, carbon tetrachloride, perchloroethylene, 1,1,1 trichloromethane, arsenic, lead, cadmium, and chromium were higher in winter than in summer[2]. The Rancho Dominguez monitoring station registered the greatest number of individual elevated pollutant concentrations followed by Burbank and Hawthorn stations in that order. In general, the south-coastal, west-central, and north valley parts of the SCAB showed the highest concentrations of multiple air toxic contaminants.

The stations nearest the City of El Segundo during the MATES study were the AT&T Hawthorn, Los Angeles School District, and Los Angeles Fire Department stations. Data from the study are listed in Table 4.9-7. As expected, except for nickel and beryllium, winter levels of the pollutants are higher than summer levels. Some pollutants like lead and benzene were nearly double the summer levels. Cadmium is conspicuously high by an order of magnitude (more than ten times as high).

**TABLE 4.9-7**
**WINTER VERSUS SUMMER AVERAGES OF TOXIC AIR POLLUTANTS**

| Station | Pollutant | Period Average (ppb) | |
|---|---|---|---|
| | | Summer Average | Winter Average |
| L.A. School District | Arsenic | 1.44 | 2.30 |
| | Beryllium | .067 | .043 |
| | Cadmium | 1.5 | 12.79 |
| | Chromium | 5.2 | 7.9 |
| | Nickel | 13.1 | 16.3 |
| | Lead | 113 | 225 |
| AT&T Hawthorne | Arsenic | .61-.64 | 3.8 |
| | Beryllium | .025 | .042 |
| | Cadmium | 1.35 | 3.54 |
| | Chromium | 3.7 | 6.8 |
| | Nickel | 14.5 | 17.3 |
| | Lead | 154 | 327 |
| LA Fire Department | Arsenic | 1.24 | 2.39 |
| | Beryllium | .039 | .040 |
| | Cadmium | 2.00 | 9.01 |
| | Chromium | 7.1 | 8.3 |
| | Nickel | 19.3 | 13.2 |
| | Lead | 218 | 276 |
| L.A. School District | Benzene | 0-2 | 2-4 |
| | Carbon Tetrachloride | .12 | .15 |
| | Perchlorothylene | 1.3 | 3.3 |
| | Toluene | 3-8 | 12 |
| | 1,1,1,-Trichloromethane | 2.9 | 6.4 |
| | Trichlorethylene | 0-.3 | .3 |
| AT&T Hawthorne | Benzene | 3 | 10 |
| | Carbon Tetrachloride | .15 | .16 |
| | Perchlorothylene | 2.6 | 5.5 |
| | Toluene | 7-8 | 25 |
| | 1,1,1,-Trichloromethane | 5.9 | 11.9 |
| | Trichloroethylene | .1-.3 | .1-.3 |
| L.A. Fire Department | Benzene | 4 | 8 |
| | Carbon Tetrachloride | .14 | .16 |
| | Perchlorothylene | 2.9 | 4.0 |
| | Toluene | 8-9 | 17 |
| | 1,1,1,-Trichloromethane | 6.9 | 10.8 |
| | Trichloroethylene | .0-.3 | .1-.3 |

Source: CAPCOA Air Toxics "Hot Spots" Program: Risk Assessment Guidelines, January 1991.

## Construction-Related Emissions

Demolition, site preparation, clearing, grading, excavation and heavy equipment/truck use on unpaved surfaces would create large quantities of dust during the construction process. The AQMD estimates that, during the earth-moving phase, 110 pounds of dust are released per workday per acre without dust control measures. With dust control measures as required by AQMD Rule 403, total dust emissions levels can be reduced about 50 percent.

Properties adjacent to development sites would be those most affected by increased dust levels. The use of diesel or gasoline-powered equipment during site preparation and construction would also emit typically small amounts of pollutants. For example, a diesel dozer operating for an 8-hour period would emit approximately 1.3 pounds of particulates and 3 pounds of sulfur oxides. Table 4.9-8 gives the emission rates of typical construction equipment.

## Mobile Emissions

Emissions from motor vehicles will be the predominant source of air pollution from the proposed project. Daily emissions estimates were developed using the URBEMIS3 microcomputer program developed by the California Air Resources Board.[3] Data for the calculations were taken from the average peak-hour traffic volumes in the traffic section.

## Sensitive Receptors in the Area

The most important reason to set air quality standards is to avoid adverse health impacts to the most sensitive members of the population (Table 4.9-9). Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with upper-respiratory diseases. The term "sensitive receptor" refers both to sensitive population groups and to the facilities where these groups of people reside or spend a substantial amount of time (schools, playgrounds, childcare centers, residences, retirement homes, convalescent homes, hospitals and clinics).

The existing peak hour estimated carbon monoxide levels range up to 20.8 parts per million (ppm) under worst case conditions. For the 8-hour period, the concentrations range up to 14.5 ppm under worst case conditions which exceed the State air quality standard. The worst case carbon monoxide (CO) violations are clustered adjacent to the Sepulveda Boulevard and Imperial Highway. The closest sensitive receptors are the residential units along these two roadways.

**TABLE 4.9-8**
**EMISSION FACTOR FOR HEAVY DUTY CONSTRUCTION EQUIPMENT**

| Type of Equipment | Pollutant (lbs/hr) | | | | |
|---|---|---|---|---|---|
| | CO | HC | $NO_x$ | $SO_x$ | Particulate |
| **Diesel-Powered** | | | | | |
| Track-type tractor | 0.346 | 0.121 | 1.260 | 0.137 | 0.112 |
| Wheeled tractor | 3.590 | 0.188 | 1.269 | 0.090 | 0.136 |
| Wheeled dozer | 1.794 | 0.192 | 4.166 | 0.348 | 0.165 |
| Scraper | 1.257 | 0.282 | 3.840 | 0.463 | 0.406 |
| Motor grader | 0.151 | 0.040 | 0.713 | 0.086 | 0.061 |
| Wheeled Loader | 0.572 | 0.250 | 1.890 | 0.182 | 0.172 |
| Track-type loader | 0.201 | 0.098 | 0.827 | 0.076 | 0.058 |
| Highway truck | 1.794 | 0.192 | 4.166 | 0.454 | 0.256 |
| Roller | 0.304 | 0.067 | 0.862 | 0.067 | 0.050 |
| Miscellaneous | 0.675 | 0.152 | 1.691 | 0.143 | 0.139 |
| Gasoline Powered | | | | | |
| Wheeled tractor | 9.52 | 0.5020 | 0.430 | 0.0155 | 0.0240 |
| Motor grader | 12.10 | 0.5579 | 0.320 | 0.0167 | 0.0207 |
| Wheeled Loader | 15.6 | 0.7025 | 0.518 | 0.0234 | 0.0298 |
| Roller | 15.6 | 0.7952 | 0.352 | 0.0185 | 0.0260 |
| Miscellaneous | 17.0 | 0.7280 | 0.412 | 0.0234 | 0.0258 |

Source:

**TABLE 4.9-9**
**SENSITIVE RECEPTORS OF AIR CONTAMINANTS**

| Receptor Group | Land Use Category |
|---|---|
| Children | residences, schools, playgrounds, child care centers |
| Elderly | residences, retirement homes, convalescent homes |
| Acutely ill | hospitals, clinics |
| Chronically ill | convalescent homes, residences |

Source: Bay Area Association of Governments

## IMPACTS AND MITIGATION MEASURES

**Relevant Policies of the El Segundo 1991 to 2010 General Plan**

There are (32) policies within the Air Quality Element of the proposed General Plan that addresses Air Quality. These policies are listed below:

Policy AQ11.1: It is the policy of the City of El Segundo that the City encourage businesses to adopt alternative work schedules and prepare guidelines to assist local businesses in the implementation of alternative work schedule programs.

Policy AQ11.2: It is the policy of the City of El Segundo that businesses be required to establish and maintain telecommuting or work-at-home programs to reduce employee work trips.

Policy AQ11.3: It is the policy of the City of El Segundo that Transportation System Management (TSM) plans provide a 30 percent reduction in vehicle ridership or the equivalent Average Vehicle Ridership (AVR) per commute vehicle.

Policy AQ21.1: It is the policy of the City of El Segundo that a study be conducted to implement alternative work schedules and work-at-home programs for City employees that will maximize the potential for increasing employee productivity.

Policy AQ21.2: It is the policy of the City of El Segundo that the City designate an Employee Transportation Coordinator to promote and institute ridesharing and other programs to achieve a 30 percent reduction in vehicle ridership for City employees.

Policy AQ31.1: It is the policy of the City of El Segundo that the City continue to require employers in existing congested areas of the City and developers of large new developments to adopt Transportation System Management plans (TSM) and provide incentives for the provision of transit support facilities.

Policy AQ31.2: It is the policy of the City of El Segundo that it continue to require developer TSM plans to encourage trip reduction programs and development of transit and ridesharing facilities over mixed-flow highway capacity expansion in order to achieve and maintain mobility and air quality.

Policy AQ31.3: It is the policy of the City of El Segundo to cooperate in efforts to expand bus, rail and other forms of transit within the Los Angeles region.

Policy AQ41.1: Support the development of pedestrian and bicycle routes and require incorporation of pedestrian and bicycle routes in new development plans.

Policy AQ51.1: It is the policy of the City of El Segundo that the City discourage the use of single-occupant vehicles in congested areas of the City by changing or modifying the availability and cost of parking.

Policy AQ51.2: It is the policy of the City of El Segundo that the City actively encourage the enhancement of transit performance and availability and establish developer fees to offset the costs of transit improvements precipitated by new developments.

Policy AQ61.1: It is the policy of the City of El Segundo that commercial truck emissions be reduced by restricting delivery schedules to off peak traffic periods, and by creating alternate routes that would increase the efficiency of the City's roadway system.

Policy AQ71.1: It is a policy of the City of El Segundo that a high priority be given to improve the flow of traffic through synchronization of signalized intersections as this is among the most cost-effective means of reducing congestion, conserving energy and improving air quality.

Policy AQ72.1: It is the policy of the City of El Segundo to improve channelization at high-volume intersections identified with assistance from SCAG.

Policy AQ81.1: It is a the policy of the City of El Segundo that the City support legislation for the use and ownership of clean fuel vehicles.

Policy AQ81.2: It is the policy of the City of El Segundo that the City support legislation for research, development, and demonstration of clean fuel vehicles in both fleet service and passenger use.

Policy AQ81.3: It is the policy of the City of El Segundo that the City invest in clean fuel systems on new City fleet vehicles.

Policy AQ91.1: It is the policy of the City of El Segundo that the City's Land Use and Housing Elements and any subsequent Specific Plans incorporate measures that will promote a better balance of jobs and housing within the City.

Policy AQ91.2 It is the policy of the City of El Segundo that plans be adopted which produce housing in close proximity to the green line transit corridor and employment centers.

Policy AQ91.3: It is the policy of the City of El Segundo that the City participate in subregional efforts to develop mutually beneficial approaches to improving the balance of jobs and housing.

Policy AQ101.1: It is the policy of the City of El Segundo that an ordinance be adopted requiring the paving or use of alternative particulate control methods on roads with low levels of vehicle traffic and on dirt roads and parking lots located on industrialized properties such as Chevron and Edison.

Policy AQ101.2: It is the policy of the City of El Segundo to adopt incentives, regulations and/or procedures to prohibit the use of building materials and methods which generate excessive pollutants.

Policy AQ111.1: It is the policy of the City of El Segundo that a study be prepared to initiate implementation of a program for retrofitting City buildings with a full range of energy conservation measures.

Policy AQ121.1: It is the policy of the City of El Segundo that an ordinance be adopted requiring all new swimming pool water heater systems to utilize solar, electric, or low NOx gas fired water heaters, and/or pool covers.

Policy AQ121.2: It is the policy of the City of El Segundo that the City encourage the incorporation of energy conservation features in the design of new projects and the installation of conservation devices in existing developments.

Policy AQ121.3: It is the policy of the City of El Segundo to provide incentives and/or regulations to reduce emissions from residential and commercial water heating.

Policy AQ121.4: It is the policy of the City of El Segundo that new construction not preclude the use of solar energy systems by uses and buildings on adjacent properties and consider enactment of a comprehensive solar access ordinance.

Policy AQ131.1: It is the policy of the City of El Segundo that the City continue to implement the programs proposed in the City's Solid Waste Management Plan, concurrent with California Assembly Bill 939, to achieve a 25 percent reduction in residential solid waste requiring disposal by 1995 and a 50 percent reduction by the year 2000.

Policy AQ141.1: It is the policy of El Segundo to protect residents and others from exposure to air pollutants by identifying major sources of air contaminants in and around El Segundo and insuring that the sources comply with all federal, state, and regional and local regulations.

In addition to these policies there are several specific programs contained in the 1991 El Segundo Air Quality Action Plan which serve to implement these policies and ensure attainment of both City and regional air quality objectives.

Standards of Significance for Criteria Pollutants

Air quality impacts can be separated into two categories: short-term impacts due to construction, and long-term permanent impacts due to project operations. Impacts in each category can be classified as having effects on either a regional or local scale. Impacts that cause exceedances of primary federal standards which are designed to safeguard public health, secondary federal standards which are established to safeguard public welfare, or State standards that were developed by the California Air Resources Board (CARB) are considered significant adverse impacts. According to CEQA, a project would have a significant effect if criteria air pollutant emission levels would cause the exceedance, or expose sensitive receptors to substantial pollutant concentrations.

For CO CALINE4 modeling, concentrations of 20 ppm for the 1-hour concentrations and 9 ppm for the 8-hour concentrations are significant. Ozone precursors (ROG and $NO_x$), and CO are required, within an air basin, to have a cumulative five percent per year net reduction, until state standards are attained. $PM_{10}$ is required, within an air basin, to have a year net reduction, until state standards are attained. Any project which generates ozone precursors, CO or $PM_{10}$ emissions will inhibit the State's ability to attain state standards and would therefore be significant.

Construction $NO_X$, ROG, and CO emissions are qualitatively discussed. Estimates of construction $PM_{10}$ emissions are made using EPA measurements taken at apartment and shopping center construction in the southwestern United States. These measurements, which provide a rough indication of the maximum emission rate, indicate that approximately 1.2 tons of dust are emitted per acre per month of construction activity. About 45 percent of this dust is comprised of large particles which would settle out rapidly on nearby horizontal surfaces. Large diameter particulates generated by construction are, therefore, of concern more as a soiling nuisance rather than for unhealthful impacts. The remaining fraction of small suspended particulates or $PM_{10}$, may aggravate respiratory problems of new residents inhabiting the project site before all construction is complete.

Carbon monoxide concentrations at intersections are qualitatively discussed. Estimated concentrations were predicted along roadways and at intersections using CALINE4, the fourth generation California Line Source Dispersion Model, developed by Caltrans using preliminary data.

Hand Calculations of the California Air Resources Board (CARB) model URBEMIS3 were used to predict future $NO_x$, CO, Total Organic Gases (TOG), and $PM_{10}$ production from motor vehicle operation. The default speed of 35 mph is used. Trip generation numbers are taken from the transportation section of this EIR. Because ozone is a secondary pollutant whose formation is dependent upon atmospheric conditions, an accurate method of predicting the amount of ozone which would be generated by any given activity does not exist.

Unless otherwise noted, all of the impacts identified are considered to be significant adverse impacts. Corresponding mitigation measures, unless otherwise noted, would be sufficient to reduce impacts to a less-than-significant level. The project-related impacts discussed below assume compliance with all applicable regulations, including AQMD rules.

Standards of Significance for Toxic Air Contaminants

A project expected to have an excess human cancer risk greater than ten in one million (ten cancer cases per million exposed people) would be considered a significant impact according to the AQMD. A recent review of cancer risk management decisions by the federal government has shown that, under nearly all circumstances, no action was taken to reduce cancer risks to less than one in one million, and action was taken in every studied case with risk exceeding 10,000 in one million. Regulations promulgated by the California Health and Welfare Agency under Proposition 65 define significant risk as any risk exceeding ten in one million.

Toxic air contaminants emissions are qualitatively discussed. There was not enough data available for calculation of emissions. Since there are no standards for most toxic air contaminants, significance would be based upon potential health impacts. There would be various chemicals emitted in the construction of the buildings, roads, and parking lots. A health risk analysis is not in the scope of this EIR. Source test information would be necessary for accurate toxic air contaminant concentration prediction.

Preferred Plan Impact

4.9-1 **Construction activities would temporarily increase $PM_{10}$ concentrations and could lead to violations of the Federal and State 24-hr average $PM_{10}$ standards. This is *a potentially significant impact.***

Clearing, excavation and grading operations, construction vehicle traffic on unpaved ground, and wind blowing over exposed earth surfaces would generate dust. Therefore, construction would temporarily increase TSP and $PM_{10}$ concentrations. This could lead to violations of the federal and State 24-hour average $PM_{10}$ standards if dust suppression measures were not implemented.

An accurate estimation of $PM_{10}$ concentrations that could occur over the life of the proposed Plan cannot be made at this stage of planning. However, EPA measurements made at construction sites in the southwestern United States provide a rough indication of the maximum rate of particulate emissions. These measurements indicate that, on the average, approximately 1.2 tons of dust are emitted per acre per month of construction activity. Using the Land Use Acreage Summary, approximately 13,986 fewer pounds of dust would be generated by the Preferred Plan with an additional 6,882 pounds generated by the Alternate Plan when compared with build out under the existing General Plan.

About 45 percent of this dust would be comprised of large particles which would settle out rapidly on nearby horizontal surfaces. Large-diameter particulates generated by construction are, therefore, of concern more as a soiling nuisance rather than for unhealthful impacts. However, the remaining fraction of $PM_{10}$ could aggravate the respiratory problems of people living and working nearby. Because of the proximity of existing educational facilities and residential neighborhoods to potential construction sites, the potential for short-term adverse $PM_{10}$ impacts during construction is high.

Preferred Plan Mitigation Measure

4.9-1 *Develop and implement a policy specifying that all new development projects meet or exceed requirements of the South Coast Air Quality Management District for reducing vehicle and dust emissions during construction.*

Alternative Plan Impact

4.9-2 **Higher $PM_{10}$ concentrations and more frequent violations of Federal and State 24-hour average $PM_{10}$ standard would result with implementation of the Alternative Plan versus the Preferred Plan.**

Alternative Plan Mitigation Measure

4.9-2 Preferred Plan Mitigation Measure 4.9-2 applies to the Alternative Plan.

Preferred Plan Impact

4.9-3 **Implementation of the Preferred Plan would increase $NO_x$, ROG and CO emissions as a result of construction-related activities. This is a short-term *significant unavoidable* impact.**

Construction activities associated with the proposed project would temporarily increase $NO_x$, ROG and CO concentrations in the project vicinity. These activities could potentially impact adjacent residents and workers at the site. Equipment and vehicles would generate $NO_x$, ROG and CO during clearing, excavation, grading, and other operations. The primary sources of construction-related ROG and $NO_x$ emissions are gasoline and diesel-powered heavy duty mobile construction equipment such as scrapers and motor graders.

Federal and State $NO_x$, and CO standards could be violated in the vicinity of construction sites and $NO_x$, ROG and CO emissions could reduce the regional attainment for ozone and CO. To obtain estimates of daily emissions associated with the heavy-duty construction equipment anticipated to be used, the appropriate emission factors should be multiplied by the number of hours of operation per day.

Preferred Plan Mitigation Measures

4.9-3 *Preferred Plan Mitigation Measure 4.9-2 applies.*

Preferred Plan Impact

4.9-4 **Increases of criteria air pollutant emissions associated with implementation of the General Plan would hinder the regional attainment goals of the AQMP. This is a *significant impact.***

The exhaust of construction vehicles/equipment would contain pollutants of concern, such as ROG, CO, and $NO_x$. Along with large numbers of vehicles/equipment operating or idling in a small area, the potential for local CO violations would contribute to regional violations of the CO standards.

New development may also lead to operational impacts due to new demands on energy. Consumption of fossil fuels to provide electrical and heating/cooling services for new projects would increase air emissions from regional power plants.

Table 4.9-10 illustrates the CO impacts due to vehicular traffic under the 3 plans. As shown in this table, the Preferred Plan would produce the lowest overall, or regional, CO levels and would be the best plan in terms of AQMP attainment.

Preferred Plan Mitigation Measure

4.9-4 *Implementation of the Air Quality Element Policies summarized in this section, and implementation of the proposed Air Quality Action Plan programs, would reduce this impact and assist in the attainment of regional goals for air quality.*

Alternative Plan Impact

4.9-5 **Preferred Plan Impact 4.9-4 applies, however, the total level of pollutants would be approximately 12 percent higher than the estimates.**

Alternative Plan Mitigation Measure

4.9-5 *Preferred Plan Mitigation Measure 4.9-4 applies.*

Preferred Plan Impact

4.9-6 **The implementation of the General Plan could result in increases in toxic air emissions in the City. This is a *potentially significant impact.***

Significant sources of air toxic emissions were identified within the City. Expected project emissions would depend on the type of future projects. The scope of the EIR does not include a complete TAC risk assessment.

However, qualitative assumptions can be made. Because the Preferred Plan and Alternative Plan eliminate growth in heavy industry and decrease the acreage for light industry, both plans could over time decrease air toxic pollutant sources.

Preferred Plan Mitigation Measure

4.9-6 *Implementation of the Air Quality Element Policies and Air Quality Action Plan programs proposed under the revised General Plan would reduce this impact to a less-than-significant level.*

## TABLE 4.9-10
## CITY OF EL SEGUNDO ROADSIDE CARBON MONOXIDE AT BUILDOUT

| Intersection | Existing Plan | | Alternative Plan | | Preferred Plan | |
|---|---|---|---|---|---|---|
| | 1-hr | 8-hr | 1-hr | 8-hr | 1-hr | 8-hr |
| **AVIATION BLVD.** | | | | | | |
| Imperial to Mariposa | 20.3 | 14.2 | 21.1 | 14.8 | 20.4 | 14.3 |
| Mariposa to Grand | 20.4 | 14.3 | 21.2 | 14.8 | 20.5 | 14.4 |
| Grand to El Segundo | 19.9 | 13.9 | 20.7 | 14.5 | 20.2 | 14.1 |
| El Segundo to Utah | 19.9 | 13.9 | 20.6 | 14.4 | 20.1 | 14.1 |
| Utah to Rosecrans | 20.1 | 14.1 | 20.8 | 14.5 | 20.2 | 14.2 |
| **CENTER STREEET** | | | | | | |
| Imperial Ave. to Maple | 18.0 | 12.6 | 18.0 | 12.6 | 18.0 | 12.6 |
| Maple to Mariposa | 18.1 | 12.7 | 18.1 | 12.7 | 18.1 | 12.7 |
| Mariposa to Grand | 18.1 | 12.7 | 18.0 | 12.6 | 18.0 | 12.6 |
| Grand to El Segundo | 18.2 | 12.8 | 18.1 | 12.7 | 18.1 | 12.7 |
| **CONNECTOR ROAD** | | | | | | |
| Nash to I-105 On-Ramp | 17.8 | 12.5 | 17.8 | 12.5 | 17.8 | 12.5 |
| I-105 On-Ramp to Douglas | 18.5 | 13.0 | 18.7 | 13.1 | 18.5 | 13.0 |
| **CONTINENTAL (Lairport St.) Boulevard** | | | | | | |
| Imperial Hwy to Maple | 18.0 | 12.6 | 18.0 | 12.6 | 18.0 | 12.6 |
| Maple to Mariposa | 18.4 | 12.9 | 18.3 | 12.8 | 18.3 | 12.8 |
| Mariposa to Grand | 18.4 | 12.9 | 18.3 | 12.8 | 18.2 | 12.7 |
| Grand to El Segundo | 18.6 | 13.0 | 18.5 | 13.0 | 18.5 | 12.9 |

## TABLE 4.9-10
## CITY OF EL SEGUNDO ROADSIDE CARBON MONOXIDE AT BUILDOUT

| Intersection | Existing Plan | | Alternative Plan | | Preferred Plan | |
|---|---|---|---|---|---|---|
| | 1-hr | 8-hr | 1-hr | 8-hr | 1-hr | 8-hr |
| **DOUGLAS STREET (ONE WAY NORTHBOUND)** | | | | | | |
| Imperial Hwy to Connector Road | 18.6 | 13.0 | 19.0 | 13.3 | 18.8 | 13.1 |
| Connector Road to Mariposa | 18.6 | 13.0 | 19.3 | 13.5 | 18.9 | 13.2 |
| Mariposa to El Segundo | 18.9 | 13.2 | 19.2 | 13.4 | 19.0 | 13.3 |
| **DOUGLAS STREET (TWO WAY)** | | | | | | |
| El Segundo to Utah | 18.6 | 13.0 | 18.7 | 13.1 | 18.6 | 13.0 |
| Utah to Rosecrans | 18.4 | 12.9 | 18.8 | 13.2 | 18.3 | 12.8 |
| **EL SEGUNDO BOULEVARD** | | | | | | |
| Main to Center | 18.4 | 12.9 | 18.4 | 12.9 | 18.4 | 12.9 |
| Center to Sepulveda | 19.0 | 13.3 | 19.0 | 13.3 | 19.0 | 13.3 |
| Sepulveda to Continental | 19.2 | 13.4 | 19.1 | 13.4 | 19.1 | 13.4 |
| Continental to Nash | 19.9 | 13.9 | 19.7 | 13.8 | 19.6 | 13.7 |
| Nash to Douglas | 20.7 | 14.5 | 20.4 | 14.3 | 20.3 | 14.2 |
| Douglas to Aviation | 20.6 | 14.4 | 21.5 | 15.0 | 20.1 | 14.0 |
| Aviation to Isis | 20.7 | 14.5 | 20.2 | 14.1 | 20.1 | 14.1 |
| **GRAND AVENUE** | | | | | | |
| Vista Del Mar to Main | 18.3 | 12.8 | 18.3 | 12.8 | 18.3 | 12.8 |
| Main to Center | 18.6 | 13.0 | 18.3 | 12.8 | 18.3 | 12.8 |
| Center to Sepulveda | 19.0 | 13.3 | 18.7 | 13.1 | 18.7 | 13.1 |
| Sepulveda to Continental | 19.0 | 13.3 | 18.8 | 13.1 | 18.7 | 13.1 |
| Continental to Nash | 19.3 | 13.5 | 19.1 | 13.4 | 19.0 | 13.3 |
| Nash to Douglas | 18.8 | 13.1 | 18.8 | 13.2 | 18.5 | 13.0 |
| Douglas to Aviation | 18.9 | 13.2 | 18.9 | 13.2 | 18.5 | 13.0 |

## TABLE 4.9-10
## CITY OF EL SEGUNDO ROADSIDE CARBON MONOXIDE AT BUILDOUT

| Intersection | Existing Plan | | Alternative Plan | | Preferred Plan | |
|---|---|---|---|---|---|---|
| | 1-hr | 8-hr | 1-hr | 8-hr | 1-hr | 8-hr |
| **HUGHES WAY** | | | | | | |
| Sepulveda to Nash | 19.3 | 13.5 | 19.5 | 13.7 | 19.3 | 13.5 |
| Nash to Douglas | 18.0 | 12.6 | 18.0 | 12.6 | 18.0 | 12.6 |
| **IMPERIAL HIGHWAY** | | | | | | |
| Vista Del Mar to Main | 19.5 | 13.6 | 19.5 | 13.6 | 19.4 | 13.6 |
| Main to California | 20.2 | 14.1 | 20.1 | 14.0 | 20.0 | 14.0 |
| California to Sepulveda | 20.2 | 14.1 | 20.0 | 14.0 | 20.0 | 14.0 |
| Sepulveda to Nash | 21.4 | 14.9 | 21.2 | 14.8 | 21.0 | 14.7 |
| Nash to Douglas | 21.0 | 14.7 | 20.9 | 14.6 | 20.9 | 14.6 |
| Douglas to Aviation | 21.0 | 14.7 | 21.2 | 14.8 | 21.0 | 14.7 |
| **IMPERIAL AVENUE** | | | | | | |
| Main to Center | 18.2 | 12.7 | 18.2 | 12.7 | 18.2 | 12.7 |
| **MAIN STREET** | | | | | | |
| Imperial Highway to Maple | 18.7 | 13.1 | 18.5 | 13.0 | 18.5 | 13.0 |
| Maple to Mariposa | 18.6 | 13.0 | 18.4 | 13.0 | 18.4 | 12.9 |
| Mariposa to Grand | 18.7 | 13.1 | 18.4 | 13.0 | 18.4 | 12.9 |
| Grand to El Segundo | 18.3 | 12.8 | 18.3 | 12.8 | 18.3 | 12.8 |
| **MAPLE AVENUE** | | | | | | |
| Sepulveda to Continental | 18.1 | 12.7 | 18.1 | 12.7 | 18.1 | 12.7 |
| Continental to Nash | 18.1 | 12.7 | 18.2 | 12.8 | 18.2 | 12.8 |

## TABLE 4.9-10
## CITY OF EL SEGUNDO ROADSIDE CARBON MONOXIDE AT BUILDOUT

| Intersection | Existing Plan | | Alternative Plan | | Preferred Plan | |
|---|---|---|---|---|---|---|
| | 1-hr | 8-hr | 1-hr | 8-hr | 1-hr | 8-hr |
| **MARIPOSA AVENUE** | | | | | | |
| Main to Center | 18.3 | 12.8 | 18.3 | 12.8 | 18.3 | 12.8 |
| Center to Sepulveda | 18.6 | 13.0 | 18.5 | 13.0 | 18.5 | 13.0 |
| Sepulveda to Continental | 19.2 | 13.4 | 19.2 | 13.5 | 19.1 | 13.4 |
| Continental to Nash | 19.1 | 13.4 | 19.5 | 13.6 | 19.2 | 13.5 |
| Nash to Douglas | 18.8 | 13.2 | 19.6 | 13.7 | 19.1 | 13.4 |
| Douglas to Aviation | 18.0 | 12.6 | 18.9 | 13.2 | 18.5 | 13.0 |
| **NASH STREET (ONE WAY SOUTHBOUND)** | | | | | | |
| Imperial Highway to Connector Road | 19.0 | 13.3 | 19.1 | 13.4 | 19.0 | 13.3 |
| Connector Road to Maple | 19.0 | 13.3 | 19.2 | 13.4 | 18.9 | 13.2 |
| Maple to Mariposa | 19.0 | 13.3 | 19.1 | 13.4 | 18.9 | 13.2 |
| Mariposa to Grand | 18.5 | 13.0 | 18.7 | 13.1 | 18.6 | 13.0 |
| Grand to El Segundo | 19.0 | 13.0 | 19.1 | 13.4 | 18.8 | 13.2 |
| **NASH STREET (TWO WAY)** | | | | | | |
| El Segundo to Hughes | 19.6 | 13.7 | 19.3 | 13.5 | 18.8 | 13.2 |
| Hughes to Rosecrans | 19.0 | 13.3 | 18.9 | 13.2 | 18.5 | 13.0 |
| **ROSECRANS AVENUE** | | | | | | |
| Vista Del Mar to Sepulveda | 19.9 | 13.9 | 19.9 | 13.9 | 19.8 | 13.9 |
| Sepulveda to Nash | 21.2 | 14.8 | 21.2 | 14.8 | 21.1 | 14.8 |
| Nash to Douglas | 22.3 | 15.6 | 21.8 | 15.2 | 21.7 | 15.2 |
| Douglas to Aviation | 22.3 | 16.3 | 22.3 | 15.6 | 21.8 | 15.3 |

## TABLE 4.9-10
## CITY OF EL SEGUNDO ROADSIDE CARBON MONOXIDE AT BUILDOUT

| Intersection | Existing Plan | | Alternative Plan | | Preferred Plan | |
|---|---|---|---|---|---|---|
| | 1-hr | 8-hr | 1-hr | 8-hr | 1-hr | 8-hr |
| **SEPULVEDA BOULEVARD** | | | | | | |
| Imperial Highway to Maple | 22.3 | 15.6 | 21.7 | 15.2 | 21.6 | 15.1 |
| Maple to Mariposa | 22.2 | 15.6 | 21.6 | 15.1 | 21.6 | 15.1 |
| Mariposa to Grand | 22.0 | 15.4 | 21.5 | 15.1 | 21.5 | 15.1 |
| Grand to El Segundo | 21.9 | 15.3 | 21.4 | 15.0 | 21.4 | 15.0 |
| El Segundo to Hughes Way | 22.0 | 15.4 | 21.4 | 15.0 | 21.4 | 15.0 |
| Hughes Way to Rosecrans | 22.6 | 15.8 | 22.4 | 15.7 | 22.2 | 15.5 |
| **UTAH AVENUE (Hughes Way)** | | | | | | |
| Douglas to Aviation | 18.5 | 12.9 | 18.2 | 12.8 | 18.2 | 12.8 |
| **VISTA DEL MAR** | | | | | | |
| Grand to Rosecrans | 19.3 | 13.5 | 19.3 | 13.5 | 19.3 | 13.5 |

## ENDNOTES

1. South Coast Air Quality Management District: The magnitude of Ambient Air Toxics impacts from existing sources in the South Coast Air Basin; 1987 Air Quality Management Plan Working Paper No. 3

2. Shikiya Ditas, et al.,1988: Analysis of Ambient Data from Potential Toxics "Hot Spots" in the South Coast Air Basin. South Coast Air Basin.

3. California Air Resources Board, Air Quality Analysis Tools (AQAT), Computer Models to Determine the Emission Impact of Various General Development Projects and Mitigation Measures, 1987.

# 4.10 NOISE

# 4.10 NOISE

## INTRODUCTION

This section identifies the existing noise environment in the City of El Segundo and evaluates potential noise impacts due to implementation of the proposed El Segundo 1991 General Plan Update. Along with this analysis of the General Plan Update, or "preferred plan," this section also investigates the potential impacts associated with an "Alternative Land Use Plan." Mitigation measures designed to minimize potential impacts are provided for both plans.

## SETTING

The human response to noise is subjective and varies considerably from individual to individual. The effects of noise can range from interference with sleep, concentration, and communication, to the causation of physiological and psychological stress, and at the higher intensity levels, to hearing loss. Noise can be referred to as originating from a point source (e.g., an airplane) or it can be described in terms of a noise environment (e.g., a concert hall). Examples of noise levels measured on the A-weighted decibel scale are provided below in Table 4.10-1.

**TABLE 4.10-1**
**TYPICAL NOISE LEVELS**

| Noise Source/Environment | Noise Source (dBA) |
|---|---|
| Military Jet Take-Off at 50 feet | 130 |
| Rock Music Concert | 111 |
| Jet Flyover at 1000 Feet | 103 |
| Motorcycle at 25 feet | 90 |
| Diesel Train, 45 mph at 100 feet | 83 |
| High Urban Ambient Sound | 80 |
| Freeway at 50 feet from Pavement Edge | 76 |
| Conversation | 60 |
| Lower Limit, Urban Ambient Sound | 40 |

SOURCE: City of Los Angeles, Outdoor Noise in the Metropolitan Environment, 1970.

1 foot = .305 meter
1 mile per hour (mph) = 1.609 kilometer per hour (kph)

Because environmental noise fluctuates in intensity over time, noise is normally quantified with time-averages (i.e., $L_{eq}$, $L_{dn}$, and CNEL). $L_{eq}$, the energy equivalent noise level, is a measure of the average energy content (intensity) of noise over any given period of time. $L_{dn}$, the day/night average noise level, is the 24-hour average of the noise intensity, with a 10 dBA "penalty" added for nighttime noise (10 p.m. to 7 a.m.) to account for people's greater sensitivity to noise during this period. CNEL, the community noise equivalent level, is the same as $L_{dn}$, except it adds an additional 5 dBA penalty to evening noise (7:00 p.m. to 10:00 p.m.). $L_{50}$ represents the A-weighted sound level exceeded 50 percent of the sample time.

## Regulatory Background

As set forth in California Government Code Section 65302(f), the State requires that cities prepare Noise Elements as part of their mandated General Plans. The California Department of Health Services (DHS) Office of Noise Control provides guidelines for acceptable noise levels within specified land uses (Table 4.10-3). When adopting a Noise Element, local jurisdictions are urged to customize their Element to fit their environment (AB 2038, 1984), but are also required to recognize these DHS guidelines. As illustrated in Table 4.10-3, along with providing general compatibility thresholds for specific land uses, the matrix indicates that there is often a large range of exterior noise levels in which different land uses could be made compatible if necessary noise reduction features are included in the design of a proposed project.[1]

For example, residential uses with $L_{dn}$ levels ranging from 60 dBA to 75 dBA could be accommodated by installing adequate insulation. This is particularly important in the City of El Segundo, which is characterized by major sources of noise (e.g., LAX).

In compliance with the 1971 enactment of a noise element requirement, in 1975 the City of El Segundo adopted a Noise Element. This existing Element set the noise compatibility guidelines shown in Table 4.10-2.[2] The Noise Element being proposed under the 1991 General Plan has revised and updated the 1975 Element in order to continue efforts and mandate policies for the attainment and maintenance of a healthy noise environment for the City.

**TABLE 4.10-2**
**COMPATIBILITY STANDARDS**

| Land Use | $L_{dn}$ (dBA) Exterior Noise Standard | $L_{dn}$ (dBA) Interior Noise Standard |
|---|---|---|
| Residential, single family | 65 | 55 |
| Residential, two family | 65 | 55 |
| Residential, multiple family | 75 | 55 |
| Community clubs | 75 | 55 |
| Schools | 75 | 55 |
| Parks, sports oriented | 75 | 75 |
| Parks, relaxation oriented | 65 | 55 |
| Libraries | 75 | 55 |
| Churches | 75 | 55 |
| Sanitariums | 65 | 55 |
| Homes for the aged | 65 | 55 |
| Commercial activities | 75 | 75 |
| Industrial activities | 75 | 75 |

Source: Noise Element, City of El Segundo General Plan, 1975.

The City has also adopted interior and exterior noise standards as part of the Municipal Code (Sections 9.06.050 and 9.06.040, respectively). This code protects dwelling units which are currently below an interior level of 45 dBA from noise intrusions above 45 dBA. However, if the ambient noise level is already above 45 dBA, the Code sets the interior standard at this existing ambient level. Exterior noise standards are established in terms of the zone classification of the receptor's property and the time interval in which the intrusive noise occurs.

Title 24 of the California Administrative Code establishes standards governing interior noise levels that apply to all new multifamily residential units in California. These standards require that acoustical studies be performed prior to construction at building locations where the existing $L_{dn}$ exceeds 60 dBA. Such acoustical studies are required to establish mitigation measures that will limit maximum $L_{dn}$ noise levels to 45 dBA in any inhabitable room. Although there are no generally applicable interior noise standards pertinent to all uses, many communities in California have adopted an $L_{dn}$ of 45 dBA as an upper limit on interior noise in all residential units. The U.S. Department of Housing and Urban Development (HUD) has set an Ldn of 45 dBA as its goal for interior noise in residential units built with HUD funding.

Comparing the federal and State regulations with El Segundo's 1975 compatibility classifications displays that the City generally follows these standards, except that they allow an interior noise level of 55 dBA for sensitive receptors (i.e., single family and two family residential, parks, sanitarium, home for the aged, etc.).

**TABLE 4.10-3**
**LAND USE COMPATIBILITY STANDARDS: COMMUNITY NOISE**

| Land Use Category | Community Noise Exposure $L_{dn}$ (dBA) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 50 | 55 | 60 | 65 | 70 | 75 | 80 |
| Residential | a | a | b | b | c | d | d |
| Transient Lodging, Motels, Hotels | a | a | b | b | c | c | d |
| Schools, Libraries, Churches, Hospitals, Nursing Homes | a | a | b | b | c | c | d |
| Sports Areas, Outdoor Spectator Sports | a | a | b | b | c | d | d |
| Playgrounds, Neighborhood Parks | a | a | b | c | d | d | d |
| Golf Courses, Riding Stables, Water Recreation, Cemeteries | a | a | a | b | c | c | d |
| Office Buildings, Business Commercial and Professional | a | a | a | a | b | c | d |
| Industrial, Manufacturing Utilities, Agriculture | a | a | a | a | b | c | c |

KEY:

a. Normally Acceptable - land use satisfactory, buildings need no special noise insulation.

b. Conditionally Acceptable - new construction should be undertaken only after acoustic analysis and installation of noise insulation. Conventional construction but with closed windows and fresh air supply systems or air conditioning will normally suffice.

c. Normally Unacceptable - new construction should be discouraged. If construction does proceed, acoustic analysis to determine the insulation needed is required.

d. Clearly Unacceptable - new construction should not be undertaken.

Source: Office of Noise Control, California Department of Health Services.

## Existing Noise Environment in the City of El Segundo

The major sources of noise within and around the City are transportation-related. The existing noise environment in the City of El Segundo is most significantly affected by civilian aircraft using Los Angeles International Airport. Other major noise sources affecting the City include the major traffic arterials, such as Imperial Highway, Rosecrans Avenue, Main Street, El Segundo, Aviation and Sepulveda Boulevards. Branch lines of Southern Pacific and Santa Fe Railroads also pass through or near the City. Existing noise contours for the City are depicted in Figure 4.10-1.

The City has a number of industrial and commercial sources of noise. Most of the industrial activity takes place in the eastern and southern portions of the City. Since stationary noise sources are localized, estimates of intensity and abatement needs can be accurately estimated. Noise from localized sources typically falls off by about 6 dBA with each doubling of distance from source to receptor.

Construction noise represents a short-term impact on ambient noise levels. Pile drivers, drills, trucks, pavers, and a variety of other equipment can create extremely high noise levels, but usually for short, sporadic periods of time.

### Aircraft Noise

Los Angeles International Airport (LAX) is located immediately north and adjacent to the City of El Segundo. The constant aircraft traffic at LAX, which presently has over 500,000 annual operations, creates significant noise levels for surrounding land uses, which includes residential uses within El Segundo. The City of Los Angeles Department of Airports (DOA) projects a 59% increase in air passengers using LAX by the year 2000. A 1986 DOA estimate of air passengers was 41.4 million, and projected 50 million passengers by 1991, 55 million by 1994, 60 million by 1997, and 65 million by the year 2000.[3] The DOA's most recent count was 45.8 million annual passengers (MAP) for 1990. The DOA MAP numbers neglect air-cargo traffic, a significant source of noise which is also subject to traffic increases. In response to this anticipated growth in passenger demand, the DOA completed its most recent "Program of Major Capital Projects" in June 1989, which details various improvements to terminal and airfield facilities.[4]

Despite the DOA's projection of an increase in air traffic at LAX, the DOA predicts that noise impacts due to LAX will decrease by the year 2000. According to the DOA, the incompatible area will drop from the 1991 estimate of 3.18 square miles to 2.20 - 2.88 square miles by year 2000. This projection is based on the assumption that many of the older and noisier Stage II aircraft will be retired.

A breakdown of the incompatible land uses in 1990 is provided below.

**TABLE 4.10-4**
**INCOMPATIBLE LAND USES - EL SEGUNDO, 1990**

| 65 CNEL | | | 70 CNEL | | | 75 CNEL | | |
|---|---|---|---|---|---|---|---|---|
| Area (sq. mi.) | Population | Dwelling Units | Area (sq. mi.) | Population | Dwelling Units | Area (sq. mi.) | Population | Dwelling Units |
| .708 | 8663 | 4016 | .304 | 4515 | 2096 | .029 | 647 | 303 |

Source: Los Angeles Department of Airports, Airport Noise Abatement Bureau, Third Quarter 1990.

The airport noise index is the proportion (acreage) of a city within a 65 dBA or higher airport noise contour. Taken from LAX contours, the ratio for the City of El Segundo is .129, or 12.9 percent of the City. The noise generated by jet aircraft taking off from the southern pair of runways at Los Angeles International Airport represents the largest single contributing factor to the City's noise environment. Noise impacts from LAX are most significant along the north and northwest boundaries of the City. Figure 4.4-2 displays the noise contours from LAX. These contours show that the majority of the residential area in the northwest quadrant of the City is exposed to noise levels greater than 65 CNEL (Approximately 60 percent of the residences). Measurements for airport noise contours are derived from two Department of Airports permanent noise monitoring stations located in El Segundo.

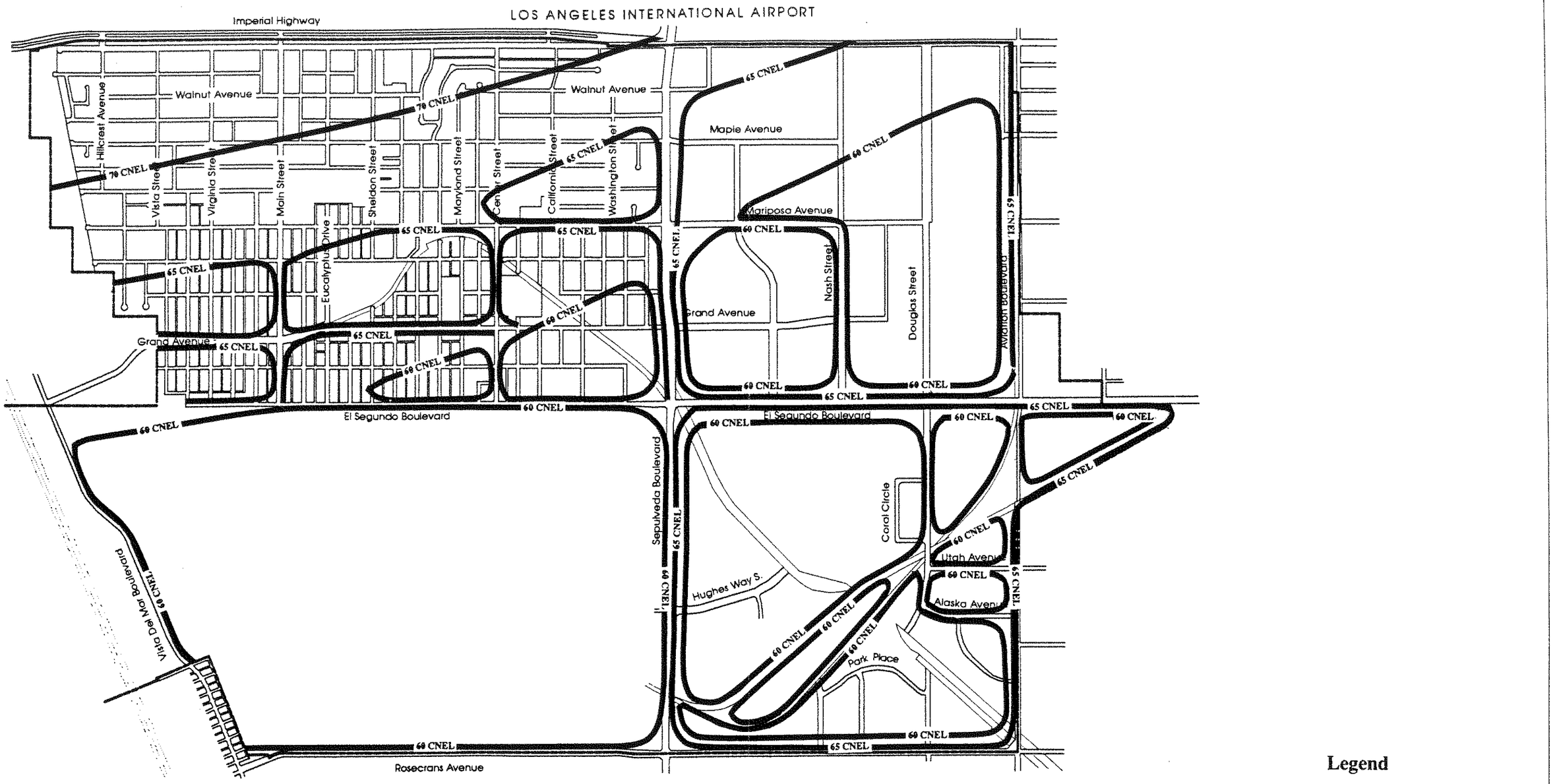
A significant problem is the veering to the south of the contours in the northwest section of the City. Airport operational procedures require on westerly take-off that the pilot maintain a westerly heading only until the shoreline is reached; it would be beneficial to require maintenance of the westerly heading a further distance out to sea. Although the airport has not extended the minimum turning point, the airport is currently working to improve their instrumental methods of identifying the shoreline in order to prevent planes from turning out early and causing excessive noise impacts. This is a problem on foggy days when pilots have a difficulty determining the exact location of the shoreline.

On May 21, 1991 the City of El Segundo adopted the Airport Noise Abatement Policy and Program(City Council Resolution No. 3691), the goal being to "minimize adverse effects of airport noise on people in El Segundo." Some of the noise abatement objectives include: the phase-out of Stage II(noisier) aircraft and establishment of curfews on Stage II aircraft until phase-out, reduction of LAX noise impacted areas to zero by year 2000 through reduction of noise contours and increased sound insulation for residences, elimination of unnecessary flight paths and operations, the establishment of a Noise Abatement Preferential Runway Use System, and the construction of a sound barrier wall along the south side of the airport.[5]

To achieve the California Airport Noise Standard of "zero" impact by year 2000, the feasibility of noise barriers will be evaluated, acoustical studies and treatments on public buildings, schools, and libraries will

# Existing CNEL Noise Contours

**Figure 4.10-1**




*City of El Segundo • General Plan EIR*

**Legend**

70 CNEL

SOURCE: CITY OF EL SEGUNDO

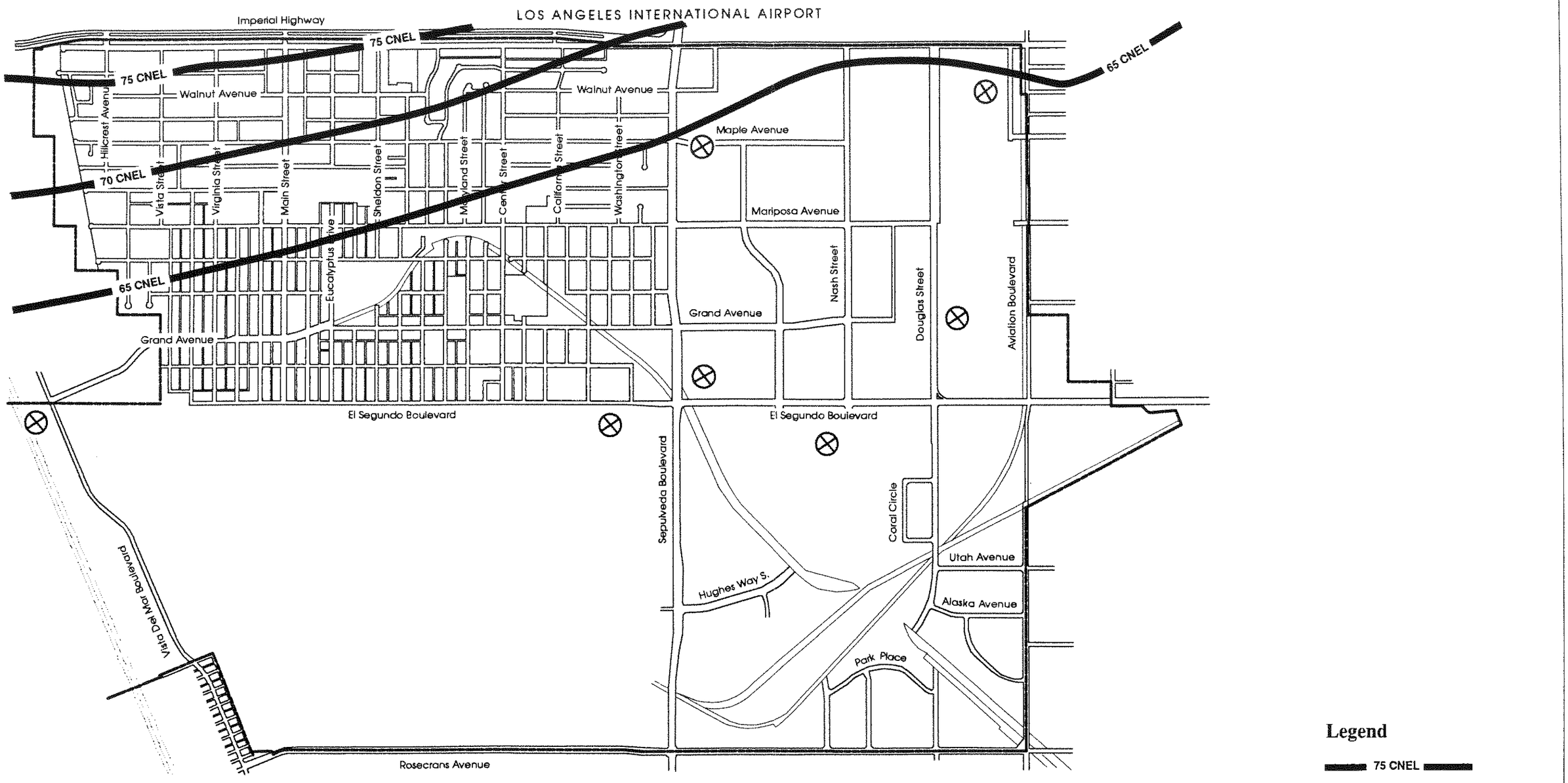
No Scale

90345

eip

# LAX Airport Noise Contours and Heliport Locations

**Figure 4.10-2**




*City of El Segundo • General Plan EIR*

SOURCE: CONTOURS - LOS ANGELES DEPARTMENT OF AIRPORTS, 2nd QUARTER, 1991; HELIPORTS - DIVISION OF AERONAUTICS, 1990.

No Scale

90345

be performed, and non-acoustically treated dwellings will be brought up to standards. Due to City building code requirements, dwelling units constructed since the 1970's have already been acoustically treated. Consequently, about 60 percent of the existing multiple family units and 5 percent of the single family units should be sufficiently mitigated from excessive noise impacts.[6]

It is the responsibility of the City of Los Angeles, Department of Airports (DOA), to see that the airlines meet CNEL requirements. Although the City of El Segundo has no direct control over airport noise, they can exert their influence on the airport planning authorities for tighter control and enforcement of the noise regulations. The City of Los Angeles is currently preparing a Master Plan for LAX which is expected to be completed in early-to-mid 1993. The Master Plan will ultimately be adopted as an element of the Los Angeles General Plan which will analyze the present conditions and future scenarios for the airport. The Plan will address Los Angeles International Airport (LAX) capacity, safety issues, and the level to which passenger growth should be allowed. Unlike the DOA's old policy of 40 million annual passengers (MAP) which had no mechanism to ensure enforcement, the Plan under preparation will set a MAP goal and include implementation measures. Currently, the City of Los Angeles does not have a MAP goal. LAX reached a passenger service level of 45.8 MAP in 1990 and the DOA, at least temporarily, abandoned their previous goal of 40 MAP.[7]

CNEL Noise levels from helicopters are not significant, however, flyover does result in some single event disturbances. In addition to LAX, helipads are located at Hughes Aerospace facility, Crocker Bank Facility, Kilroy Airport Center, Pacific Telephone, and Rockwell Airport Center.

**Vehicular Noise**

Motor vehicle noise is the most common and widely dispersed noise source in the City of El Segundo. Based on calculations from the Federal Highway Administration (FHWA) Model, Table 4.4-5 displays existing roadside noise levels at various locations throughout the City. Speed, volume, and vehicle mix were used as inputs to the model. Because attenuation effects vary considerably on the local environment (i.e., soundwalls, buildings, hills, etc.), noise levels were estimated at the approximate shoulder of the roadway, 50 feet from the median. Without barriers, noise from moving vehicles normally drops off by approximately 3 to 4.5 dBA with each doubling of distance.[8]

In general, most of the land uses along the major roadways in El Segundo are commercial and industrial. However, there are still a number of residential homes located along secondary roadways, including Main Street, General Avenue, and Mariposa Avenue that are subjected to noise levels above 65 CNEL.

**TABLE 4.10-5**
**EXISTING VEHICULAR TRAFFIC NOISE LEVELS (1991)[A]**
**CITY OF EL SEGUNDO**

| Roadway Segment | $L_{dn}$ (dBA) |
|---|---|
| **AVIATION BOULEVARD** | |
| Imperial to El Segundo | 70.0 |
| El Segundo to Utah | 70.2 |
| Utah to Alaska | 70.4 |
| Alaska to Hawaii | 70.6 |
| Hawaii to Rosecrans | 71.4 |
| **CENTER STREET** | |
| Imperial Ave. to Maple | 61.0 |
| Maple to Mariposa | 62.1 |
| Mariposa to Grand | 60.9 |
| Grand to El Segundo | 60.8 |
| **CONTINENTAL (Lairport St.) BOULEVARD** | |
| Mariposa to Grand | 61.6 |
| Grand to El Segundo | 63.9 |
| **DOUGLAS STREET** | |
| Imperial Hwy. to Mariposa | 63.9 |
| Mariposa to El Segundo | 67.4 |
| El Segundo to Utah | 66.7 |
| **EL SEGUNDO BOULEVARD** | |
| Main to Center | 65.5 |
| Center to Sepulveda | 68.2 |
| Sepulveda to Centinella | 70.0 |
| Continental to Nash | 70.5 |
| Nash to Douglas | 72.3 |
| Douglas to Aviation | 72.1 |
| Aviation to Isis | 72.0 |
| **GRAND AVENUE** | |
| Vista Del Mar to Main | 64.4 |
| Main to Center | 65.0 |
| Center to Sepulveda | 65.7 |
| Sepulveda to Continental | 65.6 |
| Continental to Nash | 64.6 |

**TABLE 4.10-5**
**EXISTING VEHICULAR TRAFFIC NOISE LEVELS (1991)[A]**
**CITY OF EL SEGUNDO**

| Roadway Segment | $L_{dn}$ (dBA) |
|---|---|
| **IMPERIAL HIGHWAY** | |
| Main to Center | 68.8 |
| Center to Sepulveda | 68.7 |
| Sepulveda to Nash | 71.5 |
| Nash to Douglas | 72.1 |
| Douglas to Aviation | 72.4 |
| **MAIN STREET** | |
| Imperial Hwy. to Maple | 66.0 |
| Maple to Mariposa | 65.5 |
| Mariposa to Grand | 65.5 |
| Grand to El Segundo | 64.6 |
| **MAPLE AVENUE** | |
| Main to Center | 60.5 |
| Center to Sepulveda | 61.0 |
| Sepulveda to Nash | 62.5 |
| **MARIPOSA AVENUE** | |
| Main to Center | 62.1 |
| Center to Sepulveda | 63.2 |
| Sepulveda to Continental | 65.4 |
| Continental to Nash | 65.6 |
| Nash to Douglas | 65.3 |
| **NASH STREET** | |
| Imperial Hwy. to Maple | 65.4 |
| Maple to Mariposa | 65.8 |
| Mariposa to Grand | 65.4 |
| Grand to El Segundo | 65.1 |
| **ROSECRANS AVENUE** | |
| Sepulveda to Nash | 71.8 |
| Nash to Douglas | 72.2 |
| Douglas to Aviation | 72.2 |
| **SEPULVEDA BOULEVARD** | |
| Imperial Hwy. to Maple | 73.3 |
| Maple to Mariposa | 73.3 |

**TABLE 4.10-5**
**EXISTING VEHICULAR TRAFFIC NOISE LEVELS (1991)[A]**
**CITY OF EL SEGUNDO**

| Roadway Segment | $L_{dn}$ (dBA) |
|---|---|
| Mariposa to Grand | 73.2 |
| Grand to El Segundo | 72.9 |
| El Segundo to Hughes Way | 72.9 |
| Hughes Way to Rosecrans | 73.5 |
| **UTAH AVENUE (Hughes Way)** | |
| Douglas to Aviation | 63.7 |

Note: [a] Measured 50 feet from the centerline.
Source: Data based on the FHWA Highway Traffic Noise Prediction Model. Traffic projections were provided by BDI.

### Railroad Noise

Railroad noise sources include moving trains, train whistles, rail crossing warning signals, and rail yards. If rail traffic moves at approximately 50 mph, the sound exposure level ranges from 78-94 dBA when measured at a distance of approximately 150 feet from the track. The highest sound levels from locomotives occur for 5-10 seconds, while the lesser sound of freight cars typically lasts 60-100 seconds past the last car, depending on the length and speed of the train.

Southern Pacific Railroad has a line that stretches east to west in the southern portion of the City. Currently, the train makes one trip per day to and from the Chevron Oil Refinery, between the hours of 10:30 pm and 10:30 am.[9] The Santa Fe Railroad also located in the southern portion of the City, operates daily to Chevron Oil Refinery and other industries within El Segundo. There is an abandoned railroad line in the northeastern portion of the City. This may be used for the Metro Rail Green Line, a light rail connecting El Segundo to Norwalk expected to be completed in Spring of 1994.

### Industrial Noise

A major source of industrial noise is the Chevron Oil Refinery, located at the southern boundary of El Segundo adjacent to Manhattan Beach. Single family residential land use is located near the refinery. The noise from gas venting at this facility occasionally generates high noise levels that cause some single event disturbances. This gas venting can occur at any time of the day and can last for a number of minutes.

The proposed facilities for the Hyperion Sewage Treatment Plant are not expected to be significantly noisier than the existing facilities. Currently, a noise control study is being conducted which will ensure that the final design of the plant keeps operational noise levels below the standards required by local noise ordinances.[10]

Other sources of industrial noise are concentrated in the eastern and southern portions of the City. Industrial noise in the city is primarily associated with aerospace facilities and manufacturing, with the major sources being automobile and truck traffic, air compressors, generators, outdoor loudspeakers and gas venting.

### Construction Noise

Since noise from localized sources typically falls off by about 6 dBA with each doubling of distance from source to receptor, receptors located within about 1,400 feet of a construction site would experience noise greater than 60 dBA during the noisiest phases of construction. Construction noise may disturb the concentration and communication of nearby pedestrians. Walls, windows, and building doors in the vicinity would reduce indoor noise impact levels by 20-50 dBA as compared with outdoor levels (the exact amount of abatement would depend on such factors as the material composition of the wall, wall/window area ratio), although a 20 dBA reduction in noise is typical of most residential structures with closed windows and 10 dBA with open windows.

The expansion of the Hyperion Sewage Treatment Plant (HTP) at 1200 Vista Del Mar continues to require extensive construction work. Past noise complaints from residents of El Segundo have mainly resulted from the preliminary excavation at the top of the sand dune, near residential areas. Future expansions will entail the installation of one or more reactor basins and clarifier basins, requiring some minor excavation, concrete pouring, and installation of mechanical equipment. None of these activities would take place at the top of the sand dune near the residential area. The impact distance from construction activities is expected to extend about 1200 feet from the center of construction activity. Ambient noise levels near the construction site are expected to increase *less* than 5 dBA, a significant CNEL increase is considered to be *more* than 5 dBA.[11]

In order to minimize construction noise impacts, the City of El Segundo requires that construction activity be limited to the hours of 7:00 a.m. to 6:00 p.m., Monday through Saturday with no construction occurring on Sundays and holidays. These restrictions apply to the HTP.[12]

### Population Noise

Population noise represents the noise generated by human activity in the community. Sources of this type of noise include air conditioners, lawn mowers, radio/stereo/television, sports arenas, schools, and other entertainment and commercial activities. Control of these noise intrusions, as well as intrusions from industrial or commercial zones, are accomplished by way of interior and exterior standards established in the El Segundo Municipal Code (Title 9).

## Relevant Policies of the El Segundo 1991 to 2010 General Plan

There are 17 policies within the Noise Element of the El Segundo 1991 General Plan. These policies are summarized below:

Policy N-11.1 Continue to work for the elimination of adverse noise sources, especially from the West Imperial Terminal area, engine testing at Los Angeles International Airport and from helicopter and aircraft flyovers.

Policy N-11.2 Play an active role in the planning process associated with preparation of the Los Angeles International Airport Master Plan.

Policy N-11.3 Continue to work with the Los Angeles Department of Airports to reduce the noise impacted area around Los Angeles International Airport to zero.

Policy N-11.4 Consider noise impacts from traffic arterials and railroads, as well as aircraft, when identifying potential new areas for residential land use.

Policy N-11.5 Encourage State inspection and enforcement of noise standards for motor vehicles, including those involved in public transit.

Policy N-11.6 Encourage the State Department of Transportation to conduct an active highway noise abatement program with scenic/aesthetic consideration for State Highway Route 1.

Policy N-11.7 Promote noise abatement measures aimed at minimizing the projected noise impacts of the Century Freeway (estimated completion: 1993).

Policy N-11.8 Develop zoning, subdivision, and development controls to prevent future encroachment of noise-sensitive uses into present or planned industrial or transportation system noise-impacted zones.

Policy N-11.9 Require all new developments to comply with California Noise Insulation Standards.

Policy N-11.10 Require all proposed developments to meet the El Segundo's land use compatibility guidelines (Existing Conditions Report, Table 3-3).

Policy N-11.11 Require all projects (new construction or additions) applying for building permits to meet the CNEL standards and the single event noise standard as a condition of building permit issuance.

Policy N-21.1 Require all new projects to meet the City's Noise Ordinance standards as a condition of building permit approval.

Policy N-31.1 Encourage land use planning to be consistent with the existing and future noise environment and promote land use patterns in which noise-sensitive projects and residences are separated from major noise sources. Short-term and long-term noise

control measures should be formulated in a manner compatible with community needs and expectations.

Policy N-31.2 Work to remove non-conforming land uses (mixed use such as a residential dwelling on either CM, M-1, or M-2 zones) which result in noise incompatibility.

Policy N-31.3 Employ effective techniques of noise mitigation through appropriate provisions in the building code, subdivision procedures, and zoning and noise ordinances.

Policy N-31.4 Urge continued federal and state research into noise problems and recommend additional research programs as problems are identified.

Policy N-31.5 Support a continuous effort to evaluate noise levels in the City of El Segundo and to integrate them into the planning process.

## IMPACTS AND MITIGATION MEASURES

This section addresses potential impacts associated with implementation of the El Segundo General Plan. Mitigation measures are designed to minimize potential impacts that could occur due to new policies or development occurring under the proposed General Plan.

### Standards of Significance

Based on professional judgement and Appendices G and I of the CEQA Guidelines, noise impacts are considered significant if one or more of the following conditions would result from implementation of the proposed General Plan:

- Substantial increases in ambient noise levels;
- Substantial increases in noise levels in areas of sensitive receptors;
- Generation of noise that would conflict with the City noise ordinance;
- Creation of noise levels which are incompatible with designated land uses.

An evaluation of the significance of impacts in relation to these criteria is provided below. The impacts are reflective of the nature of the proposed plans, which call for land use changes. By eliminating Heavy Industrial zoning and developing Urban M.U., traffic patterns and volumes would be affected. Furthermore, it is assumed that changes in land uses may spur development, causing construction noise impacts and possibly incompatible noise level/land use relationships.

The FHWA Model was used for traffic-related noise calculations and 2 dBA, the minimum audible difference for the average person, was used as a guideline for the significance of noise increases.

Preferred Plan Impact

4.10-1 **The Preferred Plan would increase traffic-generated noise at various locations in the City. This is a *significant impact.***

As depicted in Table 4.10-6, calculations based on the FHWA Highway Traffic Noise Prediction Model revealed that the Preferred Plan would create more vehicular noise than buildout under the existing General Plan at the following locations: Aviation Boulevard, Douglas Street, Maple Avenue, Mariposa Avenue, and Nash Street (between Mariposa/Grand). However, there was only one location's differential which exceeded 2 dBA (Mariposa Ave., between Douglas/Aviation), all other location's noise levels would remain unchanged, decrease, or increase less than 2 dBA with the implementation of the Preferred Plan.

Although 2 dBA is the minimum audible difference for the average person, because roadside noise levels are already at an unacceptable level in El Segundo (Figure 4.10-5), any noise level increase is considered significant. The mitigation measures that follow should be adhered to in order to minimize all impacts.

**TABLE 4.10-6**
**VEHICULAR TRAFFIC NOISE LEVELS AT BUILDOUT (2010)[A]**
**CITY OF EL SEGUNDO**

| Roadway Segment | $L_{dn}$ (dBA) Existing Plan | Preferred Plan | Alternative Land Use Plan |
|---|---|---|---|
| **AVIATION BOULEVARD** | | | |
| Imperial to Mariposa | 73.0 | 73.1 | 74.2 |
| Mariposa to Grand | 73.1 | 73.3 | 74.3 |
| Grand to El Segundo | 72.2 | 72.8 | 73.5 |
| El Segundo to Utah | 72.2 | 72.6 | 73.4 |
| Utah to Rosecrans | 72.6 | 72.8 | 73.7 |
| **CENTER STREET** | | | |
| Imperial Ave. to Maple | 61.4 | 61.4 | 61.4 |
| Maple to Mariposa | 63.2 | 62.6 | 62.6 |
| Mariposa to Grand | 63.2 | 62.0 | 62.0 |
| Grand to El Segundo | 64.4 | 63.2 | 63.2 |
| **CONNECTOR ROAD** | | | |
| Nash to I-105 On-Ramp | 59.6 | 59.6 | 59.6 |
| I-105 On-Ramp to Douglas | 66.5 | 66.5 | 67.4 |

**TABLE 4.10-6**
**VEHICULAR TRAFFIC NOISE LEVELS AT BUILDOUT (2010)[A]**
**CITY OF EL SEGUNDO**

| Roadway Segment | $L_{dn}$ (dBA) Existing Plan | $L_{dn}$ (dBA) Preferred Plan | $L_{dn}$ (dBA) Alternative Land Use Plan |
|---|---|---|---|
| **CONTINENTAL (Lairport St.) BOULEVARD** | | | |
| Imperial Hwy. to Maple | 62.0 | 62.0 | 62.0 |
| Maple to Mariposa | 65.6 | 65.0 | 65.0 |
| Mariposa to Grand | 65.6 | 63.8 | 65.0 |
| Grand to El Segundo | 66.8 | 66.2 | 66.5 |
| **DOUGLAS STREET (ONE WAY-NB)** | | | |
| Imperial Hwy. to Connector Road | 66.8 | 68.0 | 68.6 |
| Connector Road to Mariposa | 66.8 | 68.3 | 69.7 |
| Mariposa to El Segundo | 68.5 | 68.6 | 69.4 |

**TABLE 4.10-6**
**VEHICULAR TRAFFIC NOISE LEVELS AT BUILDOUT (2010)[A]**
**CITY OF EL SEGUNDO**

| Roadway Segment | $L_{dn}$ (dBA) Existing Plan | Preferred Plan | Alternative Land Use Plan |
|---|---|---|---|
| **DOUGLAS STREET (TWO WAY)** | | | |
| El Segundo to Utah | 67.1 | 66.8 | 67.7 |
| Utah to Rosecrans | 65.6 | 65.3 | 68.2 |
| **EL SEGUNDO BOULEVARD** | | | |
| Main to Center | 65.6 | 65.6 | 65.6 |
| Center to Sepulveda | 68.9 | 68.6 | 68.6 |
| Sepulveda to Continental | 70.4 | 70.1 | 70.2 |
| Continental to Nash | 72.2 | 71.6 | 71.9 |
| Nash to Douglas | 73.5 | 72.9 | 73.1 |
| Douglas to Aviation | 73.4 | 72.5 | 72.8 |
| Aviation to Isis | 73.6 | 72.6 | 72.7 |
| **GRAND AVENUE** | | | |
| Vista Del Mar to Main | 65.3 | 65.0 | 65.0 |
| Main to Center | 66.8 | 65.3 | 65.3 |
| Center to Sepulveda | 68.8 | 67.4 | 67.4 |
| Sepulveda to Continental | 68.6 | 67.4 | 68.0 |
| Continental to Nash | 69.8 | 68.6 | 69.2 |
| Nash to Douglas | 68.0 | 66.5 | 68.2 |
| Douglas to Aviation | 68.3 | 66.5 | 68.5 |
| **HUGHES WAY** | | | |
| Sepulveda to Nash | 69.7 | 69.7 | 70.4 |
| Nash to Douglas | 61.4 | 61.4 | 61.4 |
| **IMPERIAL HIGHWAY** | | | |
| Vista Del Mart to Main | 70.3 | 70.1 | 70.3 |
| Main to California | 71.8 | 71.4 | 71.5 |
| California to Sepulveda | 71.7 | 71.4 | 71.5 |
| Sepulveda to Nash | 73.6 | 73.0 | 73.3 |
| Nash to Douglas | 73.0 | 72.8 | 72.9 |
| Douglas to Aviation | 73.0 | 73.0 | 73.3 |
| **IMPERIAL AVENUE** | | | |
| Main to Center | 63.8 | 63.8 | 63.8 |

**TABLE 4.10-6**
**VEHICULAR TRAFFIC NOISE LEVELS AT BUILDOUT (2010)[A]**
**CITY OF EL SEGUNDO**

| Roadway Segment | $L_{dn}$ (dBA) Existing Plan | Preferred Plan | Alternative Land Use Plan |
|---|---|---|---|
| **MAIN STREET** | | | |
| Imperial Hwy. to Maple | 67.7 | 66.5 | 66.5 |
| Maple to Mariposa | 66.8 | 65.9 | 65.9 |
| Mariposa to Grand | 67.4 | 65.9 | 65.9 |
| Grand to El Segundo | 65.0 | 65.0 | 65.0 |
| **MAPLE AVENUE** | | | |
| Sepulveda to Continental | 63.2 | 63.2 | 63.2 |
| Continental to Nash | 63.2 | 64.4 | 64.4 |
| **MARIPOSA AVENUE** | | | |
| Main to Center | 65.3 | 65.3 | 65.3 |
| Center to Sepulveda | 66.8 | 66.5 | 66.5 |
| Sepulveda to Continental | 69.4 | 69.1 | 69.5 |
| Continental to Nash | 69.2 | 69.5 | 70.3 |
| Nash to Douglas | 68.2 | 69.2 | 70.6 |
| Douglas to Aviation | 62.0 | 66.5 | 68.3 |
| **NASH STREET (ONE WAY SB)** | | | |
| Imperial Hwy. to Connector Road | 68.6 | 68.6 | 69.1 |
| Connector Road to Maple | 68.6 | 68.5 | 69.4 |
| Maple to Mariposa | 68.8 | 68.5 | 69.1 |
| Mariposa to Grand | 66.5 | 66.8 | 67.7 |
| Grand to El Segundo | 68.8 | 68.2 | 69.1 |
| **NASH STREET (TWO WAY)** | | | |
| El Segundo to Hughes | 70.6 | 68.2 | 69.8 |
| Hughes to Rosecrans | 68.9 | 66.5 | 68.3 |
| **ROSECRANS AVENUE** | | | |
| Vista Del Mar to Sepulveda | 72.2 | 72.2 | 72.3 |
| Sepulveda to Nash | 74.3 | 74.2 | 74.3 |
| Nash to Douglas | 75.5 | 75.0 | 75.1 |
| Douglas to Aviation | 76.3 | 75.2 | 75.5 |

**TABLE 4.10-6**
**VEHICULAR TRAFFIC NOISE LEVELS AT BUILDOUT (2010)[A]**
**CITY OF EL SEGUNDO**

| Roadway Segment | $L_{dn}$ (dBA) Existing Plan | Preferred Plan | Alternative Land Use Plan |
|---|---|---|---|
| **SEPULVEDA BOULEVARD** | | | |
| Imperial Hwy. to Maple | 75.5 | 74.9 | 75.0 |
| Maple to Mariposa | 75.5 | 74.9 | 75.0 |
| Mariposa to Grand | 75.3 | 74.9 | 74.9 |
| Grand to El Segundo | 75.2 | 74.6 | 74.7 |
| El Segundo to Hughes Way | 75.3 | 74.6 | 74.7 |
| Hughes Way to Rosecrans | 75.8 | 75.4 | 75.6 |
| **UTAH AVENUE (Hughes Way)** | | | |
| Douglas to Aviation | 66.2 | 64.4 | 64.4 |
| **VISTA DEL MAR** | | | |
| Grand to Rosecrans | 69.7 | 69.7 | 69.7 |

Note:[a] Measured 50 feet from centerline.
Source:Data based on the FHWA Highway Traffic Noise Prediction Model. Traffic estimates from BDI was used as an input to this FHWA model.

Preferred Plan Mitigation Measures

4.10-1 *The City shall implement policies N-11.4, through N-11.9 and N-21.1 and N-31.1 of the Noise Element of the El Segundo 1991 General Plan.*

Alternative Plan Impact

4.10-2 **Preferred Plan Impact 4.4-1 applies to the alternative plan. However, the high FAR allowed under the Alternative Plan would result in the generation of more vehicular noise (See Table 4.4-7). This is a *significant impact.***

As shown in Table 4.10-6 and Table 4.10-7, the Alternative Land Use Plan's traffic-generated noise increases would resemble the Preferred Plan. However, the higher FAR would result in slightly higher noise levels with this alternative. When compared with existing trends, the Alternative Plan would exceed the 2 dBA differential at three locations with Mariposa Ave. (between Douglas/Aviation) being the widest margin at 6.3 dBA.

**TABLE 4.10-7**
**PREFERRED PLAN VS. ALTERNATIVE LAND USE PLAN[A]**
**WITH RESPECT TO EXISTING CONDITIONS**
**CITY OF EL SEGUNDO**

| Roadway Segment | $\Delta L_{dn}$ (dBA) | |
|---|---|---|
| | Preferred Plan[b] | Alternative Land Use Plan[c] |
| AVIATION BOULEVARD | 1.9 | 2.9 |
| CENTER STREET | 1.1 | 1.1 |
| CONTINENTAL (Lairport St.) BLVD. | 2.3 | 2.6 |
| DOUGLAS STREET | 1.2 | 2.3 |
| EL SEGUNDO BOULEVARD | 0.6 | 0.8 |
| GRAND AVENUE | 2.9 | 3.5 |
| IMPERIAL HIGHWAY | 0.6 | 0.9 |
| MAIN STREET | 0.5 | 0.5 |
| MAPLE AVENUE | 1.9 | 1.9 |
| MARIPOSA AVENUE | 3.9 | 5.0 |
| NASH STREET | 2.8 | 4.0 |
| ROSECRANS AVENUE | 3.0 | 3.3 |
| SEPULVEDA BOULEVARD | 1.9 | 2.1 |
| UTAH AVENUE (Hughes Way) | 0.7 | 0.7 |

Note: [a] Noise level measured 50 feet from centerline.
[b] (Maximum noise level with Preferred Plan, 2010) - (Existing Noise Level, 1991)
[c] (Maximum noise level with Alternative Land Use Plan, 2010) - (Existing Noise Level, 1991)

Source: Data based on the FHWA Highway Traffic Noise Prediction Model. Traffic projections were provided by BDI.

Alternative Plan Mitigation Measure

4.10-2 *Preferred Plan Mitigation Measure 4.10-1 applies to the Alternative Plan.*

Preferred Plan Impact

4.10-3 **New development allowed under the Preferred Plan would cause construction noise impacts to surrounding areas. This is a *significant impact.***

The Preferred Plan would involve the elimination of the heavy manufacturing designation and the development of Urban Mixed Use. This change in land use, along with other residential shifts, are anticipated to create a lot of construction activity. As presented in Table 4.4-8, construction typically reaches very high noise levels. Even with properly damped equipment and the compliance with El Segundo's regulations on hours of construction activity, construction will result in significant short-term impacts.

**TABLE 4.10-8**
**TYPICAL CONSTRUCTION NOISE LEVELS AT 50 FEET (dBA)**

| Construction Phase | Commercial/Industrial Construction Average Noise Level | Housing Construction Average Noise Level |
|---|---|---|
| Groundcleaning | 84 | 84 |
| Excavation | 89 | 88 |
| Pile Driving | 101 | 101 |
| Foundations | 78 | 81 |
| Erection | 85 | 82 |
| Finishing | 89 | 88 |

Source: Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, prepared by Bolt, Beranek, and Newman for the U.S. Environmental Protection Agency, December 31, 1971, p. 20.

Preferred Plan Mitigation Measures

4.10-3 *Implementation of Noise Element policies N21.1, N31.1, N31.3, N31.4, and N31.5 would reduce this impact to a less-than-significant level.*

Alternative Plan Impact

4.10-4 **Preferred Plan Impact 4.10-3 applies to the alternative plan. However, the higher FAR allowed under the Alternative Plan would result in more short-term impacts from construction activities. This is a *significant impact.***

Alternative Plan Mitigation Measure

4.10-4 *Preferred Plan Mitigation Measure 4.4-3 applies to the Alternative Plan.*

Preferred Plan Impact

4.10-5 **The transition of heavy manufacturing uses to Mixed Use and Corporate Office proposed under the 1991 General Plan, may create incompatible noise/land use relationships for existing and new developments. This is a *potentially significant impact.***

Shifts in land uses (e.g., in place of Heavy Manufacturing), may cause excessive noise levels in areas with commercial and residential uses. The following mitigation measures must be followed in order to avoid significant impacts.

Preferred Plan Mitigation Measures

4.10-5 *Implementation of Noise Element policies N11.1 through N.11.11, N21.1 and N-31.1 through N31.5 as summarized in this section would reduce this impact to a less-than-significant level.*

Alternative Plan Impact

4.10-6 **Preferred Plan Impact 4.10-5 applies to the alternative plan. However, the higher FAR allowed under the Alternative Plan would result in a greater potential for incompatible noise/land use relationships. This is a *significant impact.***

Alternative Plan Mitigation Measure

4.10-6 *Preferred Plan Mitigation Measure 4.10-5 applies to the Alternative Plan.*

Preferred Plan Impact

4.10-7 **Increases in vehicular traffic noise, due to the implementation of the Preferred Plan may combine with aircraft noise to raise ambient noise levels to unacceptable levels. This is a *potentially significant impact.***

LAX is a major part of the noise environment within El Segundo. As shown in Table 4.10-4, in 1990, 8,663 residents in El Segundo were within the airport's 65 CNEL contour. Due to the logarithmic nature of the decibel scale, the combination of airport noise with vehicular traffic noise would be most significant when the two noise levels are approximately equal to each other (when two equal noise levels are combined, the cumulative noise level will be 3 dBA higher than the independent sources).

Preferred Plan Mitigation Measure

4.10-7 *Implementation of Noise Element policies N11.1, N11.2, N11.3, N31.1, and N31.3 would reduce the ambient noise levels and minimize potential noise impacts.*

Notwithstanding implementation of this Mitigation Measure this Impact would remain *significant and unavoidable.*

Alternative Plan Impact

4.10-8 **Preferred Plan Impact 4.10-7 applies to the alternative plan. However, the higher FAR allowed under the Alternative Plan would result in the generation of more vehicular traffic. This is a *significant impact.***

Alternative Plan Mitigation Measure

4.10-8 *Preferred Plan Mitigation Measure 4.10-7 applies to the Alternative Plan.*

## ENDNOTES

1. State of California, General Plan Guidelines, 1990.

2. Noise Element, City of El Segundo General Plan, October 1975, Amended January 1976.

3. City of El Segundo General Plan 2005 - Background Report, Development Services Department, September 1988.

4. Telephone communication with Paula McHargue, Los Angeles Department of Airports, April 19, 1990.

5. Resolution No. 3691, The City Council of the City of El Segundo, May 21, 1991.

6. Draft Airport Noise Mitigation Program, City of El Segundo, April, 1988.

7. Telephone conversation with Paula McHargue, Los Angeles Department of Airports, may 1991.

8. Federal Highway Administration (FHWA), 1978.

9. Personal Communication, Southern Pacific Railroad, May 23, 1991.

10. City of Los Angeles Wastewater Facilities Plan Update, June 1989.

11. City of Los Angeles Wastewater Facilities Plan Update, June 1989.

12. Resolution No. 3644, Approval of Environmental Assessment No. 195 and Conditional Use Permit 89-2, Expansion of the Hyperion Sewage Treatment Plant, August 21, 1990.

# 4.11 CULTURAL RESOURCES

# 4.11 CULTURAL RESOURCES

## INTRODUCTION

This section assesses potential impacts on archaeological, paleontological, and historical resources that could occur with implementation of the proposed El Segundo 1991 General Plan. The analysis is based on an archaeological study of Los Angeles International Airport (LAX) by Nelson Leonard, a publication by Alfred L. Kroeber entitled, Handbook of the Indians of California, and an archaeological record search which was prepared by the UCLA Institute of Archaeology, Regional Information Center on September 19, 1991.

## SETTING

### ARCHAEOLOGY

The archaeological record search, conducted by UCLA, has identified one area of archaeological sensitivity in or near the City of El Segundo. The following is a city wide archaeological evaluation that assesses impacts that may occur as a result of development under the proposed General Plan Update.

#### Background

Native Americans in the vicinity of El Segundo belonged to the Gabrielino or Chumash group during historic times. The Chumash territory stretched along the coast from Santa Maria to Malibu, from Malibu inland to the Tejon Pass and westward to Santa Maria.[1] The Gabrielino group primarily occupied Los Angeles County south of the Sierra Madre and portions of Orange County. Both coastal dwelling Gabrielino and the Chumash to the north were known for high population densities, complex social organization and highly developed maritime economies.[2]

In the eleventh century, the first Chumash indians settled in the sand dunes region of El Segundo and inhabited the area for approximately 100 years. Because of its proximity to freshwater springs, the sand dunes were preferred over the nearby beaches. However, due to severe earthquakes which eventually covered the freshwater springs, the Chumash village was ultimately abandoned.[3]

In 1769, Father Junipero Serra established the first mission in Southern California and by the end of the 19th century Spanish rule in California concluded. After the Spanish administration, Mexican control followed from 1822 to 1848. During this time period, Alta California Governor Juan B. Alvarado granted Rancho Sausal Redondo, which included the present site of El Segundo, to Señor A.Y. Abila for military

services. The area comprised approximately 25,000 acres and extended from Playa Del Rey to Redondo. During the next 50 years, the land was mainly used for agricultural use.[4]

In 1911, the Standard Oil Company and the El Segundo Land Development Company purchased 1,470 acres of the Rancho to develop as second oil refinery and a company town.[5]

## Record Search

A record search was conducted by the Institute of Archaeology at the University of California, Los Angeles (UCLA) for the area identified in the Venice/Inglewood U.S. Geological Map Quadrants which includes the City of El Segundo. Due to the sensitive nature of cultural resources, archaeological site locations are not released. Instead, sensitive areas are delimited with relevant state trinomials (see Figure 4.11-1).

According to the Archaeological Information Center at UCLA, four surveys and/or excavations have been conducted within the City boundaries. The majority of these surveys or excavations were taken along the City's boundaries.

Only one of the four surveys conducted was determine to be of archaeological significance. Archaeological site, LAn-691, is located on the Los Angeles International Airport (LAX) property to the north.[6] The site contains shell remains of shell, however, no tools or other prehistoric cultural debris were discovered. The sheltered location of the site and the presence of primarily lagoon or estuary shellfish suggest that it was used as a temporary camp during inclement weather. However, water channels and lagoons, which may have existed in the area, were attractive environments for prehistoric indian populations. Due to the proximity of El Segundo to the present day channel of Ballona Creek which was once the channel of the Los Angeles River, the potential to discover additional archaeological sites does exist.[7]

Appendix K of CEQA Statutes and Guidelines for archaeological impacts states that public agencies should seek to avoid damaging effects on an archaeological resources whenever feasible. If avoidance is not feasible, the importance of the site shall be evaluated using the criteria outlined in Appendix K, Section III.

## Historical

In addition to archaeological information, the record search also investigates historical findings for the City of El Segundo and surrounding region. The search reviewed all recorded historical reports within an one-mile radius of the City and a file check of historic maps of the area. This revealed the following information that:

- no historic archaeological sites have been identified within a one-mile radius of El Segundo and that no State Landmark or National Register properties have been identified within the City.

- The inspection of historic maps indicated that there was no development in the area on or prior to 1896, and that by 1944 the City of El Segundo was fully urbanized.

Although no historical buildings are on record with the UCLA Archaeological Information Center, areas in excess of forth-five years of age should be evaluated against criteria for inclusion in the National Register of Historic Places. The City of El Segundo has identified several architecturally significant structures and historically/culturally significant structures (see Table 4.11-1 and Table 4.11-2).

**TABLE 4.11-1**
**ARCHITECTURALLY SIGNIFICANT STRUCTURES**

| NAME | ADDRESS | DATE COMPLETED |
|---|---|---|
| Anthony's Music Studio | 203 Richmond St. | 1917 |
| Flynn Real Estate | 201 Grand Ave. | 1920 |
| Concord Hotel | 221 Concord St. | 1923 |
| Richmond Bar & Grill | 145 Richmond St. | 1923 |
| Jensen's Market | 301 Main St. | 1926 |
| Converse Hotel | 200-210 Grand Ave | 1928 |
| Security Pacific Bank | 343 Main St. | 1948 |
| Clary's Building | 415-429 Main St. | 1949 |
| Medical Center | 455 Main St. | 1952 |
| El Segundo High School | 600 block of Main St. | N/A |

Source: 1983 City of El Segundo Building Survey and DESI 1989 Inventory[8]

**TABLE 4.11-2**
**HISTORICALLY/CULTURALLY SIGNIFICANT STRUCTURES**

| NAME | ADDRESS | DATE COMPLETED |
|---|---|---|
| Anthony's Music Studio | 203 Richmond St. | 1917 |
| Rose's Cottage | 209 Richmond St. | 1918 |
| Flynn Real Estate | 201 Grand Ave. | 1920 |
| Old Town Music Hall | 140 Richmond St. | 1919 |
| DeWitt Building | 211-213 Richmond St. | 1920 |
| Converse Hotel | 200-210 Grand Ave | 1928 |
| Purselle Building | 301-313 Main St. & | 1926 |
| Mae D. Lewis Building | 205-207 Grand Ave. | 1926 |
| Gilbert Residence | 216 Richmond St. | 1942 |

Source: DESI Inventory, 1989[9]

To date, no official registration of these structures has been submitted to the National Registry or the State Historic Preservation Office.

## PALEONTOLOGY

A paleontological record search for vertebrate and invertebrate fossil sites was conducted for El Segundo and other areas within the Venice/Inglewood Quadrants. Ms. Denny V. Diveley-White of the Natural History Museum of Los Angeles County examined the subject area for vertebrate fossil sites. An investigation of invertebrate fossil sites was conducted by Dr. E. Bruce Lander of Paleo Environmental Associates, Inc.[10] As a result of these investigations, numerous fossil sites in and near El Segundo were recorded from exposed rock units.

Pliocene rock units in the vicinity of El Segundo have yielded abundant marine mega-invertebrates, primarily snails and clams. Pleistocene rock units in the area have yielded no recorded fossil sites. However, additional study of this formation is required to determine the potential to yield fossil remains.

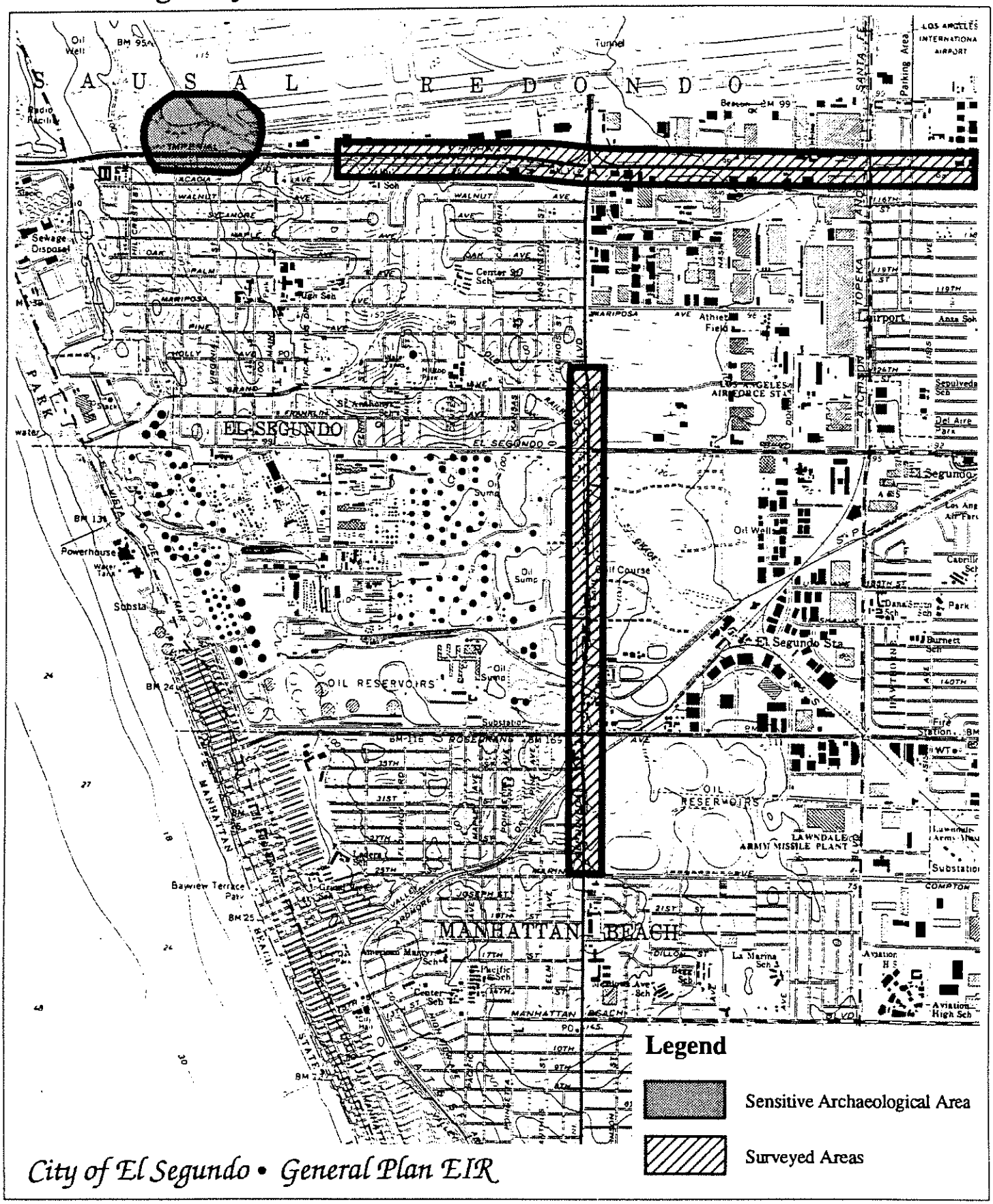
The lower Pleistocene San Pedro formation has yielded no recorded information. However, south of the project area, the formation has produced abundant marine mega-invertebrates, mainly snails and clams, especially in the Palos Verde Hills. The potential for yielding fossil remains from this formation in the project area cannot be evaluated without further study.

The upper Pleistocene consists of nonmarine and shallow near-shore marine, including the Palos Verde Sand. Several sites have produce abundant marine mega-invertebrates (snails, clams) along the Ballona Escarpment at the southern edge of the project area.[11]

Thirteen vertebrate fossil sites occur in the Quaternary deposit and consist of unnamed alluvial units. Several important Pleistocene ("Ice Age") land fauna mammals have been recovered from the study area, and have been correlated with the Rancholabrean North American Land mammal Age (circa 10,000-40,000 years ago), which is based on the Rancho La Brea fauna.

# Archaeologically Sensitive Areas

# Figure 4.11-1




*City of El Segundo • General Plan EIR*

SOURCE: UCLA INSTITUTE OF ARCHAEOLOGY 1991

90345

No Scale

eip

Relevant Polices of the El Segundo 1991 General Plan

There are five (5) policies and (2) programs within the Land Use section of the El Segundo 1991 General Plan addressing cultural resources issues. These polices are briefly summarized below:

| | |
|---|---|
| Policy LU14 | Preserve and maintain the City's downtown and historic areas as integral to the City's character. |
| Policy LU21.1 | New development adjacent to a building of cultural, historical, or architectural significance shall be designed with a consistent scale and similar use of materials. |
| Policy LU22.1 | Take an active role in documenting and preserving buildings of cultural, historical, and architectural significance. This should include residential, non-residential, and publicly owned buildings. |
| Program LU22.1A: | The City shall conduct a thorough survey of all buildings of cultural, historical, or architectural significance within the City. |
| Program LU22.1B: | The City shall investigate methods for preserving historical buildings, including overlay zoning districts, historical designations, and national register listings. |
| Policy LU22.2 | Take an active role in assisting individual owners or groups in documenting and preserving buildings of potential cultural, historical, or architectural significance. |

## IMPACTS AND MITIGATION MEASURES

Standards of Significance

In accordance with Appendix K of the CEQA Guidelines, a project will have a significant impact on the cultural resources if it:

- Disrupts or adversely affects:

  1. a prehistoric or historic archaeologic site;

  2. a property of historic or cultural significance to a community or ethnic or social group,

- Results in direct adverse impacts (e.g., ground-disturbance and construction activities) or indirect adverse impacts to cultural resources (e.g., vandalism, increase erosion, or vibration during heavy grading);

- Affects a landmark of local cultural/historical importance; or
- Restricts existing religious or sacred uses within the potential impact area.

Evaluation of the significance of impacts in relation to this criteria is provided in the following discussion.

Preferred Plan Historic Impact

4.11-1 **Development of the proposed project has the potential to disturb historic resources. This is a *significant impact.***

The National Register of Historic Places suggest that areas in excess of forty-five years of age should be evaluated for inclusion in the Register. Because historic maps indicate that El Segundo was fully urbanized in 1944, buildings within the City may qualify for inclusion in the National Register of Historic Places.

Preferred Plan Historic Mitigation Measures

4.11-1 *Implementation of the Land Use Element Policies pertaining to historic sites as summarized in this section would reduce this impact to a less-than-significant level.*

Alternative Land Use Plan Historic Impact

4.11-2 **Preferred Plan Impact 4.11-1 applies to the Alternative Land Use Plan.**

Alternative Land Use Plan Historic Mitigation Measures

4.11-2 *Preferred Plan Mitigation Measure 4.11-1 applies to the Alternative Land Use Plan.*

Preferred Plan Archaeological Impact

4.11-3 **Implementation of the General Plan has the potential to disturb prehistoric archaeological resources. This is a *significant impact.***

Due to the City of El Segundo's proximity to historic natural water courses and freshwater springs there is a potential that significant archaeological artifacts do exist which could be disturbed as a result of grading and soil disturbing activities.

Preferred Plan Archaeological Mitigation Measures

4.11-3(a) *A certified archaeologist shall be present during initial project (mass) grading and all soil disturbances of development sites in order to monitor any significant archaeological findings for projects over two acres in size.*

4.11-3(b) *If evidence of subsurface archaeological resources is found, excavation and other construction activity in the area shall cease, and the site archaeologist shall evaluate findings in*

*accordance with standard practice and applicable regulations. Consultation with the Native American Heritage Commission and data/artifact recovery, if deemed appropriate, shall be conducted.*

Alternative Plan Archaeological Impact

4.11-4 **Preferred Plan Impact 4.11-3 applies to the Alternative Plan.**

Alternative Plan Archaeological Mitigation Measures

4.11-4 *Preferred Plan Mitigation Measures 4.11-3(a) and 4.11-3(b) apply to the Alternative Plan.*

Preferred Plan Paleontological Impact

4.11-5 **Development of the proposed project has the potential to disturb vertebrate and invertebrate resources. This is a *significant impact.***

Due to the significant fossiliferous formation of the area, sites within El Segundo have a moderate probability of destroying undiscovered fossils during grading and construction for new projects.

Preferred Plan Paleontological Mitigation Measure

4.11-5 *A paleontologist shall be present during initial project (mass) grading and all soil disturbances of development sites to monitor any potential findings for projects over two acres in size.*

Alternative Plan Paleontological Impact

4.11-6 **Preferred Plan Impact 4.11-5 applies to the Alternative Plan.**

Alternative Land Use Plan Paleontological Mitigation Measure

4.11-6 *Preferred Plan Mitigation Measure 4.11-5 applies to the Alternative Plan.*

Implementation of these mitigation measures will reduce impacts to a *less-than-significant* level.

## ENDNOTES

1. Kroeber, A.L., Handbook of the Indians of California, Bureau of American Ethnology, Bulletin 78, 1925.

2. Nelson Leonard, Archaeological Study of LAX, No publishing date.

3. Lightfoot Planning Group, El Segundo General Plan, Preliminary Draft, Cultural/Historical Resources Existing Conditions Report, June 14, 1991.

4. Ibid.

5. Ibid.

6. Written Communication from Shelly Marie Gomes, UCLA Institute of Archaeology, Regional Information Center, California Archaeological Inventory, September 19, 1991.

7. *Op.Cit.* Nelson Leonard

8. Lightfoot Planning Group, El Segundo General Plan, Preliminary Draft, Cultural/Historical Resources Existing Conditions Report, June 14, 1991.

9. *Ibid.*

10. Personal Conversation with E. Bruce Lander, Paleo Environmental Associates, Inc. EIP Offices, Pasadena, California, January 30, 1991.

11. Woodburne, M.O., editor, 1987, Cenozoic Mammals of North America, Geochronology and Biochronology: University of California Press.

# 4.13 AESTHETICS/VISUAL QUALITY

# 4.12 AESTHETICS/VISUAL QUALITY

## INTRODUCTION

This section of the Draft EIR evaluates the visual quality of the City of El Segundo and its environs. The analysis will assess the potential visual impacts of proposed changes to the General Plan on the visual resources of the City.

Difficulties arise when evaluating visual quality and the degree of impact resulting from visual change. This is because few objectives or quantitative standards exist to analyze visual quality and individuals respond differently to changes in the visual environment. What may be considered to be an adverse visual condition to one person, may represent an improved visual scene to another.

For most people, the perception of visual quality is created by the impressions formed when viewing a place from one or more vantage points. With this in mind, a visual survey was conducted in October 1991 to assess the visual resources of the City, and to evaluate the quality of views from public vantage points and circulation routes. Methodology for the following analysis is based on information gathered during a field reconnaissance and photographic survey, combined with the use of aerial photographs and other data maps.

## SETTING

### Visual Character of the City of El Segundo

The City of El Segundo can be characterized as an urban environment in the regional, subregional, and local setting. Located just one mile east of the Pacific Ocean, the City is distinguished by it's direct coastal influence, proximity to Los Angeles International Airport, and by it's research and development center and attractive single family residential neighborhoods. Bordering jurisdictions include the City of Manhattan Beach to the south, Los Angeles International Airport and the City of Los Angeles to the north, an unincorporated area of Los Angeles County to the east, and portions of the City of HawthornE to the southeast. Of the 5.46 square miles that comprise the City 97 percent of the area is built out, with the remaining 3 percent being vacant land in the eastern manufacturing district of the City. Approximately 310 acres, or 9 percent of the City's developed area consists of parkland, recreational uses, and open space, much of which is located along transmission and railroad right-of-ways.

**East of Sepulveda**

Areas of the City located east of Sepulveda Boulevard consist of a mix of research and development, manufacturing, and high-rise office development that largely supports aerospace and defense related industries. The visual character of the area is defined by low-rise development interspersed with a number of scattered high-rise office towers. Newer office developments in the area are of high quality, typically surrounded by expanses of landscaped open space (Photo A). No distinct architectural character has been established for the area and the buildings present a mix of architectural styles. Additionally, new development has contributed to the emergence of an attractive streetscape along the major east/west arterial. Physical improvements along El Segundo Boulevard, and Grand Avenue include wide landscaped setbacks, street trees, and landscaped median strips. The most significant views in the area focus on streetscapes along major arterials, long-range views from high-rise office towers, and short-range views of the generously landscaped grounds and plazas of certain office tower and business park developments.

**West of Sepulveda**

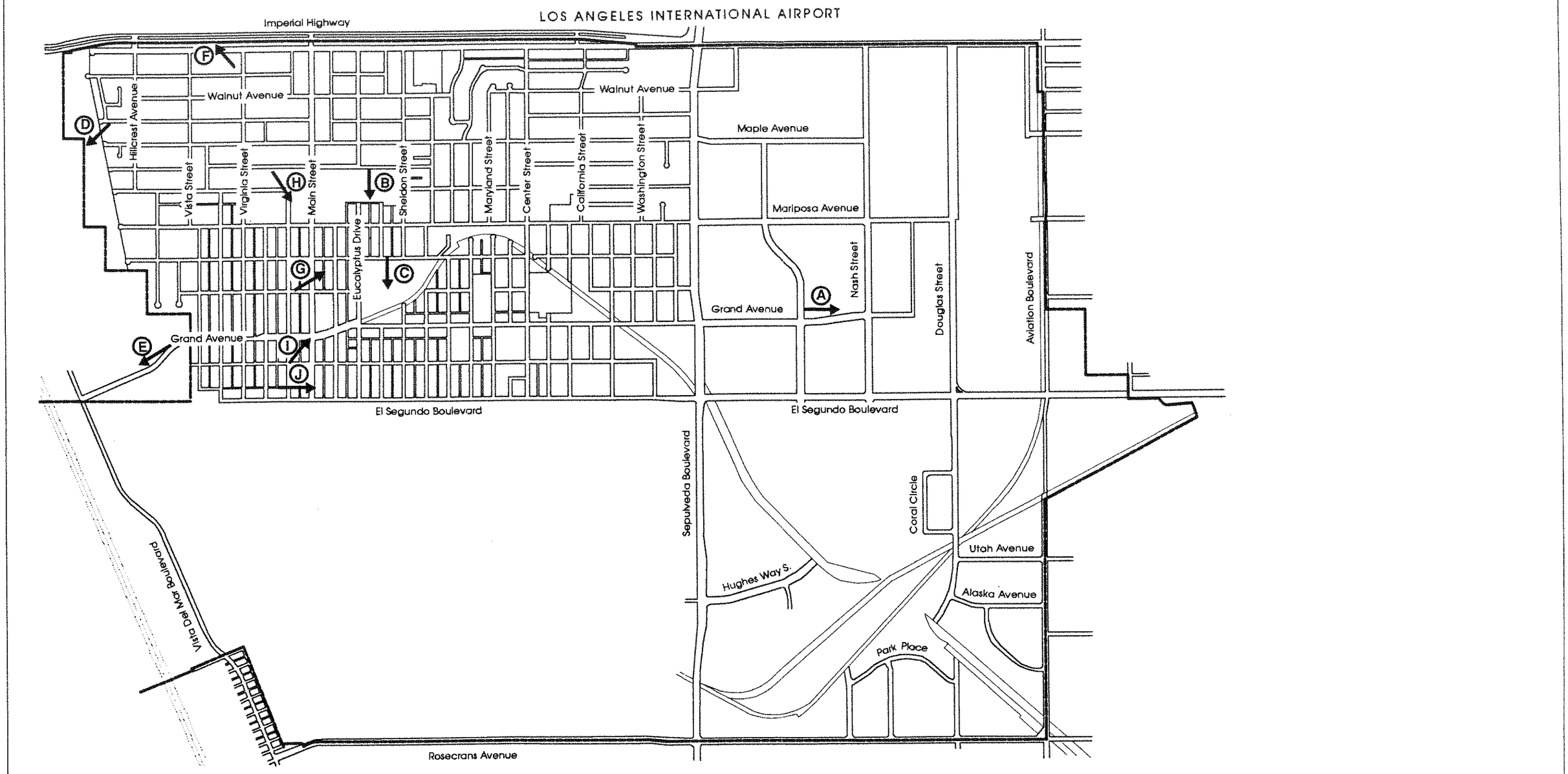
The area west of Sepulveda is characterized by a series of gently sloping hills that extent west to the Pacific ocean. The area is generally bordered by Sepulveda Boulevard to the east, Imperial Highway to the north, Chevron oil refinery to the south, and a landscaped buffer and Hyperion Treatment Plant property to the west. Hills, tree lined streets, and well maintained single-family homes define the visual character of the City's residential neighborhood (Photo B). Multiple family residential development is concentrated in the east in close proximity to Sepulveda Boulevard, to the south near El Segundo Boulevard, and to the north near Imperial Highway. The southern portion of the area, known as Smokey Hollow, is predominantly occupied by small scale manufacturing and warehouse uses. Single family homes throughout the area vary in age with the majority having been built in the early 1950's. The City's numerous parks contribute to the densely landscaped appearance of the western portion of the City (Photo C).

Along many of the east/west streets, and from a limited number of residences, there are long-range views of the urban areas east of the City. To the extreme west there are single-family homes primarily along Hillcrest and Dune Streets that have long-range ocean views. Additionally there are ocean views where a number of the streets dead end at the extreme western edge of the City. West of the residential area, along the Department of Water and Power right-of-way, there are excellent views from the dune area to the ocean (Photo D). The most significant ocean views in the City are along the western reaches of Grand Avenue as it approaches Vista del Mar (Photo E).

Other significant views in the area west of Sepulveda are along the City's northern edge. From north/south streets, the Imperial Highway greenbelt, and from numerous residences, there are long-range views beyond LAX of the west Los Angeles area and the Santa Monica Mountains (Photo F). Due to air quality influences the quality of these views are extremely variable.

# Photo Key Map

**Figure 4.12-1**




*City of El Segundo • General Plan EIR*

SOURCE: EIP ASSOCIATES 1991

No Scale

90345

# Photos

## Figure 4.12-2



**Photo A:** One of many high quality office developments located along the City's main arterials. Note wide landscaped setback and mature street trees.

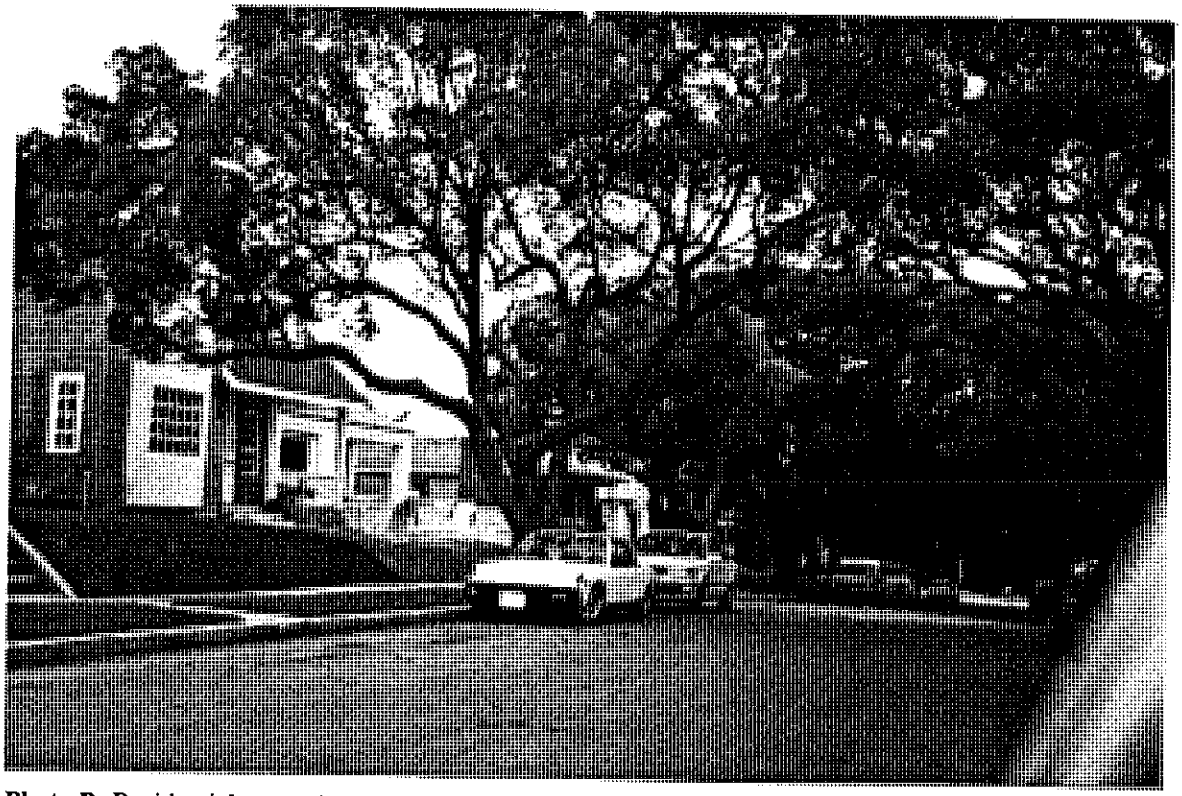


**Photo B:** Residential streets in El Segundo are typically well maintained and lined with street trees.

# Photos

# Figure 4.12-3



**Photo C:** The City's numerous parks, including 20 acre Recreation Park depicted above, contribute to the densly landscaped character of El Segundo's residential neighborhoods.

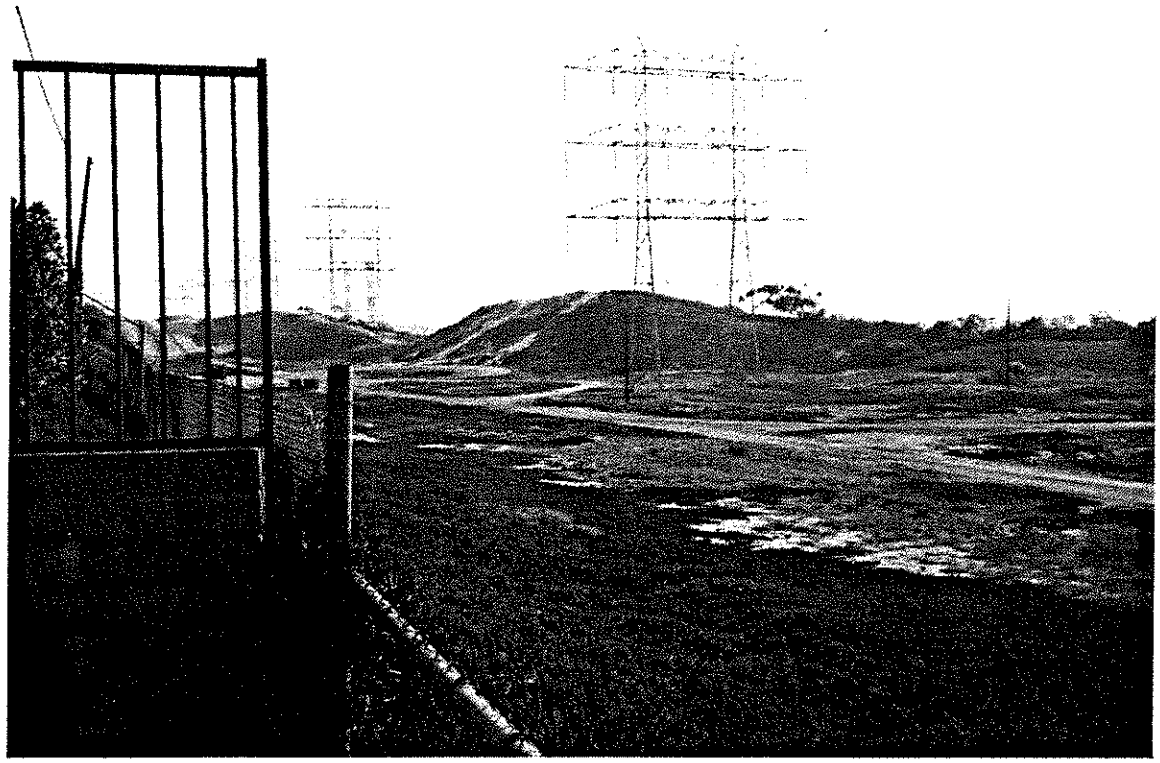


**Photo D:** View southwest of DWP right-of-way from western edge of City's residential area. Ocean views are accessable between the sand dunes.

# Photos

# Figure 4.12-4



**Photo E:** Ocean view along western reach of Grand Ave. just beyond City boundary.

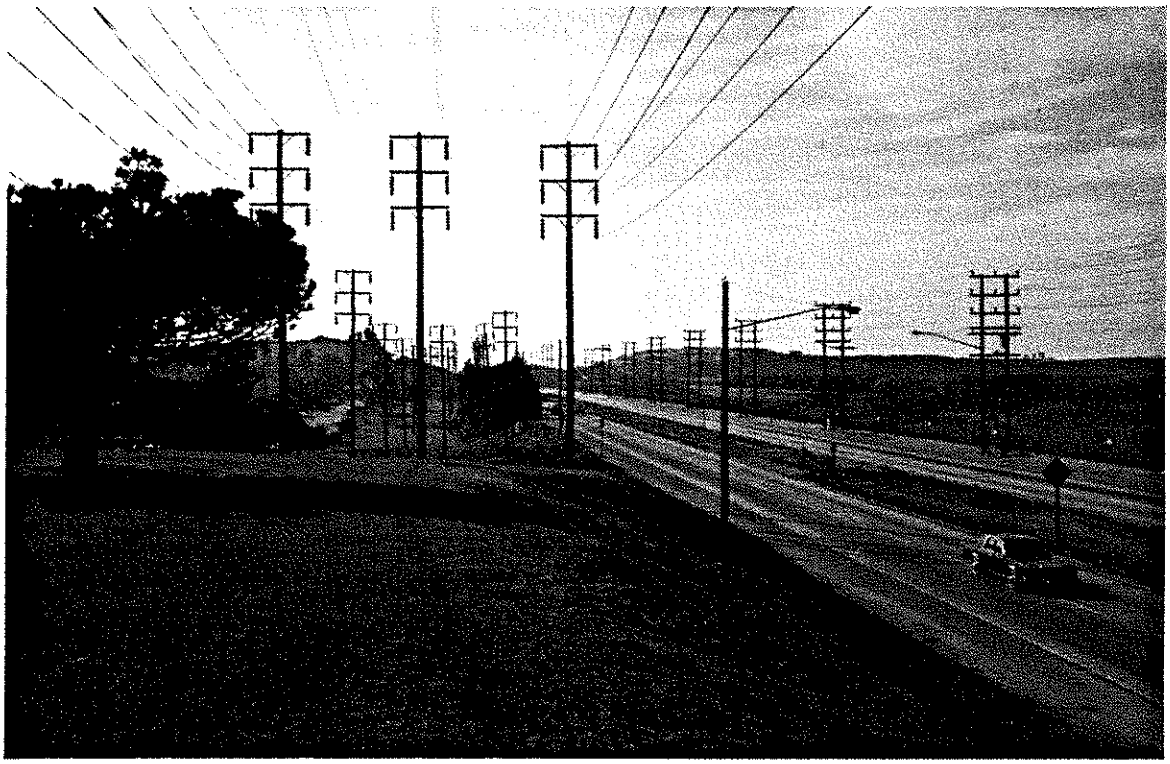


**Photo F:** View northwest along the Imperial Highway greenbelt. On clear days there are long-range views beyond LAX of the ocean and west Los Angeles extending to the Santa Monica Mountains.

### The Sepulveda Corridor

Development along Sepulveda Boulevard includes a combination of office, hotel, and retail uses. Retail uses are primarily highway commercial uses and restaurants which take advantage of the areas daytime working population. Buildings along Sepulveda vary in scale from one-story buildings to office towers of over 20 stories. With the exception of a newly landscaped edge to the Chevron Property, views along Sepulveda are not considered significant.

### Downtown/Main Street

The Main Street/downtown area of El Segundo provides the City with the majority of it's neighborhood services. Well established restaurants, drug stores, general merchandise and other low-density retail businesses, many of which occupy older well maintained buildings, contribute to the downtown areas "small town" atmosphere and charm. Mature street trees and wide sidewalks line the street, and the landscaped courtyard of the Civic Center serves as a focal point and public gathering area (Photo G). El Segundo High School and Library Park are located further north along Main Street. The High School, an attractive brick building, is fronted by a large expanse of grass and a number of pine trees which contribute to the aesthetic quality of the streetscape (Photo H). Library Park, located directly across the street, also has extensive landscaped grounds fronting Main Street.

In addition to Main Street, Richmond Street located one block to the west of Main Street also contributes to the distinct small town atmosphere of downtown El Segundo (Photo I). The 100 and 200 blocks of Richmond Street contain a number of architecturally significant structures. Efforts are presently being made to consider designating this area as a historic district.

Views in the downtown/Main Street area are typically short-range and are enhanced by older buildings, landscaping, and large structures. The most significant views in the downtown area are along the southern portion of Richmond Street, where there are long-range views to the east and south east (Photo J).

### Chevron Oil Refinery

The Chevron Oil Refinery, as viewed from along the edges of the property, contribute to the visual resources of the City by providing landscaped buffers. The southern and northern edges of the property are lined with dense plantings of mature eucalyptus trees, and the extreme coastal portions lining the east side of Vista del Mar are primarily landscaped open space. The section of Sepulveda Boulevard between El Segundo Boulevard and Rosecrans has recently been landscaped.

# Photos

# Figure 4.12-5

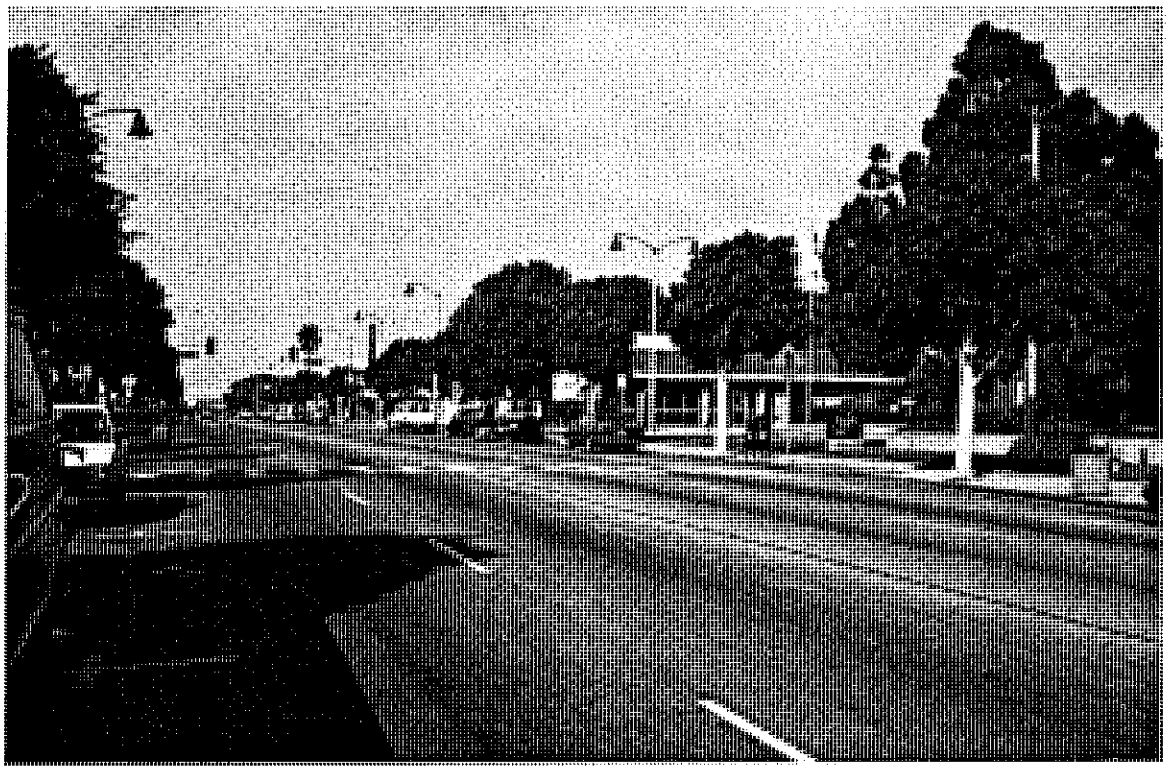


**Photo G:** View north along Main Street. Mature street trees, wide sidewalks and a mix of single-story commercial uses enhance the "Small Town" character of Main Street.

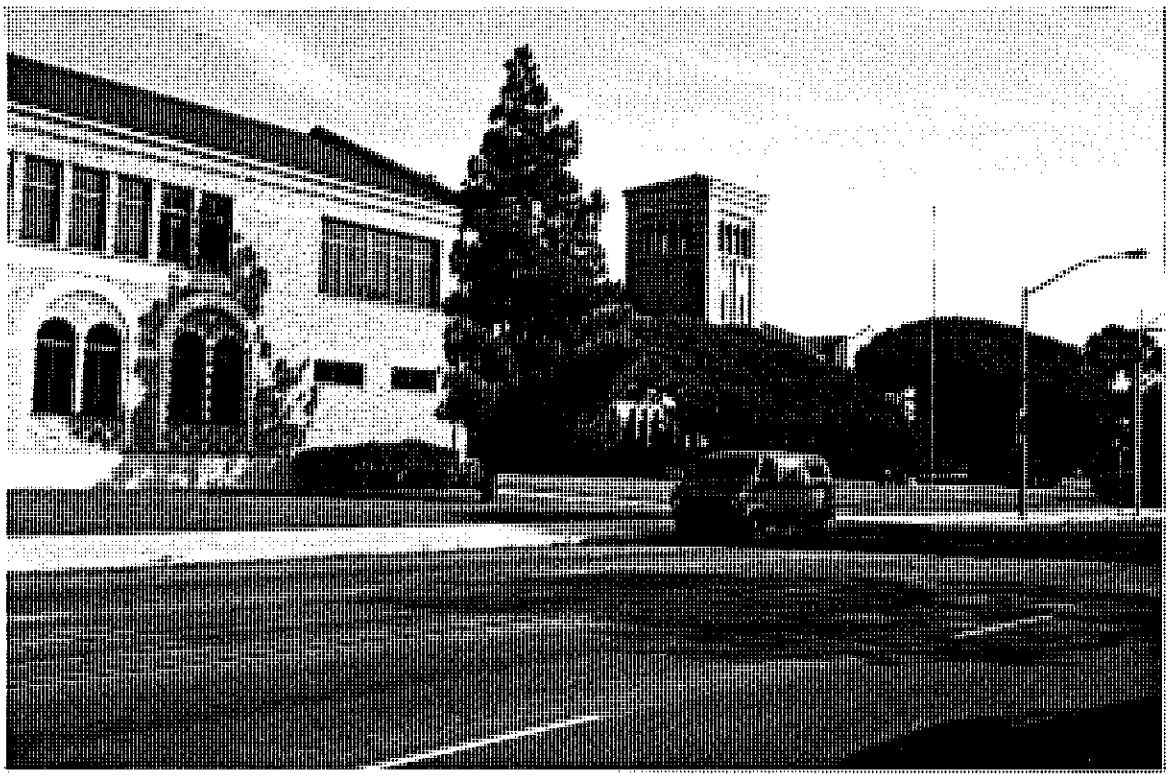


**Photo H:** El Segundo High School as viewed along Main Street.

# Photos

# Figure 4.12-6

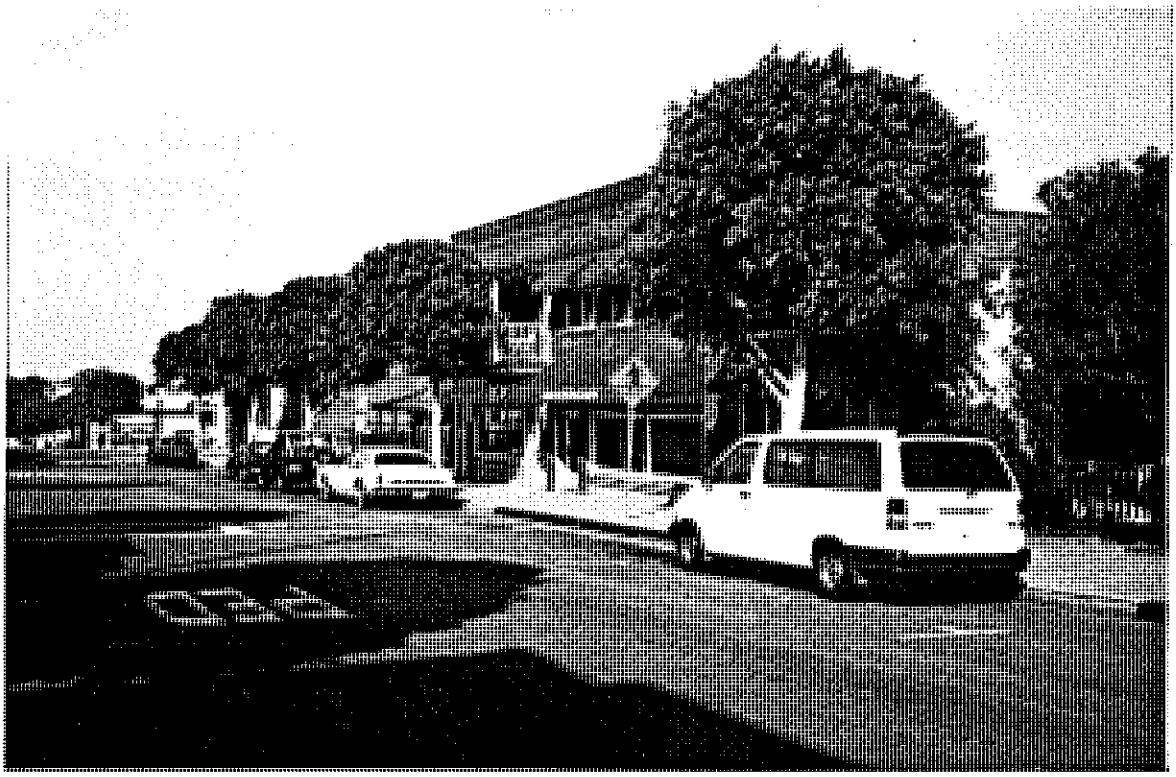


**Photo I:** Richmond Street, an anticipated Historic District located just west of Main Street, has a number of older buildings, antique shops, and restaurants which contribute to it's attractive streetscape.

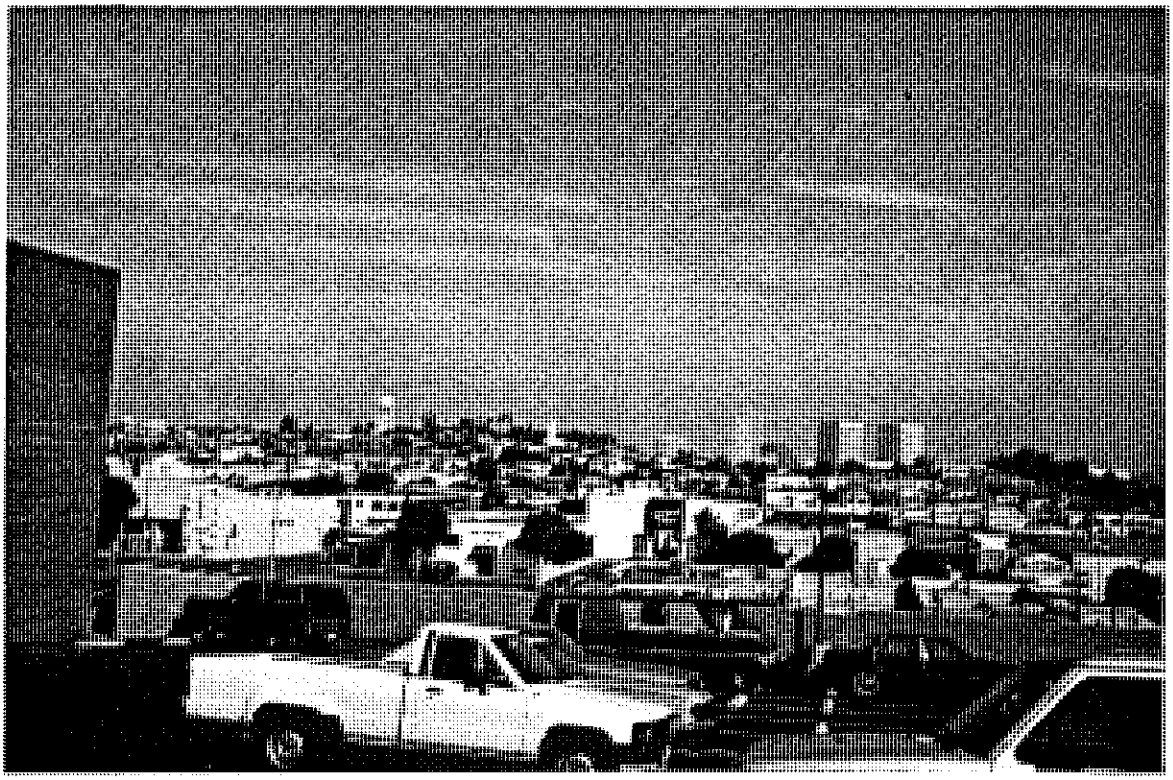


**Photo J:** Long range view east across the City from the south end of Richmond Street.

**Relevant Policies of the 1991 General Plan**

There are (6) policies within the Open Space and Recreation Element of the El Segundo 1991 General Plan addressing visual quality issues. These policies are briefly summarized below:

Policy OS12.4 would encourage development of outdoor private recreational facilities, such as plazas, courtyards, and esplanades with non-residential development.

Policy OS12.5 would prohibit structural projections into required setback open space areas.

Policy OS12.6 would encourage upkeep, public recreational use and access to the Chevron shoreline area.

Policy OS12.7 would encourage active and passive open space areas within non-residential developments east of Sepulveda.

Policy OS15.1 would study potential expansion of the dune habitat in the Department of Water and Power area to enhance it's recreation potential.

Policy OS15.2 would promote street trees and landscaping by amending the City's Zoning Ordinance to require a minimum amount of landscaping for all residential, commercial, and industrial development projects.

There are (7) policies included in the Conservation Element of the El Segundo 1991 General Plan relating to issues of visual quality and aesthetics. These policies are summarized briefly below.

Policy CN5.1 would preserve the character and quality of existing neighborhood and civic landscapes.

Policy CN5.2 would identify characteristics and qualities of the urban landscape that are valued by the community.

Policy CN5.3 would survey and identify street and specimen tress with historic or visual significance.

Policy CN5.4 would establish density and development standards that protect and reflect the character and quality of existing neighborhoods and minimize the loss of landscaped area.

Policy CN5.5 would establish a street tree program which identifies appropriate varieties, sizes and spacing, maintenance and replacement standards, and planting schedules.

Policy CN.6 would encourage that new landscaped areas respect and incorporate distinctive elements of the community landscape.

Policy CN.7 would encourage and support community action groups in their efforts to enhance the urban landscape.

There are (12) policies of the Land Use Element of the El Segundo 1991 General Plan addressing visual quality issues. These policies are briefly summarized below:

Policy LU15.2 would adopt a sign ordinance regulating the quantity, quality, and location of signs.

Policy LU15.3 would preserve existing trees and encourage new ones.

Policy LU15.4 would provide for planting of trees along all City streets, landscaping of median strips in major and secondary highways, improvement and beautification of parking lots, railroad right-of-way, unsightly walls or fences, and vacant lots.

Policy LU15.5 would beautify major entrances to the City.

Policy LU15.6 would prepare a Community Design Element to guide and stimulate beautification throughout the City.

Policy LU15.7 would provide appropriate buffers between community and neighborhood development.

Policy LU15.8 would encourage innovative land development and design techniques.

Policy LU22.1 would document and preserve buildings of cultural, historical, and architectural significance.

Policy LU32.1 would promote high quality multi-family residential development with ample open space, leisure and recreational facilities.

Policy LU32.2 would locate multi-family developments carefully to ensure that these developments are not detrimental to existing single family character.

Policy LU52.1 would provide landscaping in parking areas and around buildings and ensure proper maintenance.

Policy LU52.2 would ensure outdoor storage be properly screened by masonry walls and landscaping.

## IMPACTS AND MITIGATION MEASURES

CEQA defines a significant adverse visual impact as one which has a substantial and demonstrable negative aesthetic effect. For the purposes of this DEIR, the criteria that are used to define such an impact are development that substantially obstructs: 1) long-range views; 2) unique environmental or man-made visual features; or 3) views from important public gathering places. Furthermore, significant impacts would result when goals and policies of the proposed General Plan conflict with aesthetic quality or adopted conditions of other agencies.

Unless otherwise noted, all impacts are considered to be significant adverse impacts. Corresponding mitigation measures, unless otherwise noted, would be sufficient to reduce impacts to less-than-significant levels.

### Project Characteristics

As previously stated, the City of El Segundo is approximately 97 percent built out. As a result visual impacts that would occur with implementation of the General Plan revision will primarily stem from infill development and an intensification of development as older underutilized sites are recycled to higher intensity uses. In summary, overall buildout of the Preferred Land Use Plan would allow the development of 597 residential units, 20,484,516 square feet of commercial use or the equivalent traffic generation, and 8,182,675 square feet of light industrial use above what presently exists in the City. No new heavy industrial uses would be allowed under the Preferred Plan. Approximately 2 acres of open space would be added to existing uses.

Preferred Plan Impact

4.12-1 **Intensification of development with the recycling of older underutilized properties has the potential to alter views and degrade the visual quality of the City. This is a *significant impact.***

One of the major changes proposed in the Preferred Plan is a significant reduction in manufacturing uses in the northeast quadrant of the City. Manufacturing uses would be replaced by newer commercial uses which are likely to result in higher overall intensity in the area as there are a number of underutilized sites. In considering visual impacts this increase in intensity would be partially offset as older manufacturing uses are replaced with newer commercial uses which will provide greater open space, and landscape amenities. The quality of these developments would be the ultimate determinant of the level of visual impact.

Another sizeable area where the land use designation is proposed to change is a 23.3 acre site at the northeast corner of Sepulveda and Rosecrans Boulevard. This site is currently occupied by designated for heavy manufacturing and is proposed for general commercial, with a possible future use as a shopping

center. The change from manufacturing to commercial use for this area would be considered a beneficial visual impact.

Preferred Plan Mitigation Measures

4.12-1(a) *Implementation of Conservation, Open Space and Recreation, and Land Use policies of the El Segundo 1991 General Plan mitigate potential visual impacts and may result in an improvement in visual quality.*

4.12-1(b) *The City should monitor the Century Freeway Project and take appropriate steps to provide or insure the provision of landscape buffers and wide setbacks between the freeway and any new developments proposed in the area.*

Alternative Plan Impact

4.12-2 **Preferred Plan Impact 4.12-1 applies to the alternative plan. However, the higher FAR allowed under the Alternative Plan would result in greater overall density of development. This is a *significant impact.***

Alternative Plan Mitigation Measure

4.12-2 *Preferred Plan Mitigation Measures 4.12-1(a) through 4.12(c) apply to the Alternative Plan.*

Impact

4.12-3 **Development occurring under the proposed General Plan would increase light and glare in the City. This is a *significant impact.***

Two sources of potential light intrusion are: a) light emanating from the interior of buildings, passing through windows, and; b) light from exterior sources, such as building illumination and security lighting.

Glare from the new development may result from sunlight reflecting off flat building surfaces, with glass potentially contributing the highest degree of reflectivity. If minimally reflective glass is not used on buildings, glare may create unpleasant distractions, and may be a hazard, potentially interfering with motorists' vision and concentration, especially along major arterials.

Mitigation Measures

4.12-4(a) *New developments in the City should use minimally reflective glass and all other materials used on building exteriors should be selected with attention to minimizing reflective glare.*

4.12-4(b) *All exterior lighting shall be designed and located to avoid intrusive effects on residential development and other sensitive receptors. Low-intensity street lighting and other exterior lighting shall be used throughout the new developments. Spill-over light shall be minimized by using exterior light standards which are focused and directional.*

# 4.13 PUBLIC HEALTH AND SAFETY (RISK OF UPSET)

# 4.13 PUBLIC HEALTH AND SAFETY

## INTRODUCTION

This section provides a qualitative discussion of the risks to human health and safety which could result from the implementation of the City of El Segundo 1991 General Plan. Specifically addressed are potential risks associated with industrial areas, railroad corridors and airports. In addition, the section also focuses on the presence of hazardous waste produced within El Segundo. Additional health related topics, including geology, hydrology, air quality, and noise are discussed in separate sections of the EIR. Information used in the preparation of this section was obtained from available reports prepared for the City of El Segundo.

## SETTING

### Industrial

Heavy industrial uses occupy the largest land area of any single land use in the City. They comprise approximately 30 percent of the City's area. The eastern portion of the city is primarily developed with industrial uses. In addition, the Chevron oil refinery, which constitutes 93 percent of the City's industrial land area, occupies the majority of the southwestern portion of the city. Industries in El Segundo include electrical power generation, aerospace, high technology manufacturing, and chemical and petroleum refining and storage.

Hazardous materials and wastes associated with industry include: flammable and explosive petroleum products, acids, caustic wastes, toxic PCB wastes, toxic solvents and lubricants, toxic gases, heavy metals, and cyanide wastes.

### Railroads

There are several train lines located within the City of El Segundo (Figure 4.13-1). A Santa Fe rail line runs north/south along the western side of Aviation Boulevard until it reaches the southeastern corner of the City. At this point, the rail line turns to the southwest and enters the Chevron refinery. The second rail line, operated by Southern Pacific, crosses the southeastern corner of El Segundo and joins the Santa Fe line within the Chevron facility.

Both Chevron and Allied Chemical transport hazardous materials by rail within the City of El Segundo. In the event of a rail accident resulting in the spill of hazardous materials at either facility, trained on-site personnel would respond to the emergency. Chevron utilizes their own fire department on-site, while Allied Chemical have trained personnel on-site and on a contract basis. The City Fire Department works

in coordination with these private emergency groups. If additional help is necessary, the County Hazardous Materials Team and the Southern Pacific Railroad Hazardous Material Contingency and Emergency Response Department's Hazardous Material Control Officer out of Colton, California would also respond. The State Office of Environmental Safety and the Environmental Protection Agency would also be available for assistance.

### Airports

Los Angles International Airport (LAX) borders the City of El Segundo to the north. The City of El Segundo lies outside of the Safety Areas surrounding LAX. Safety areas typically extend 4,800 feet from the end of the runway and 750 feet on either side of the center line of the runway.[1]

### Major Pipelines

Major pipelines within El Segundo are operated by Chevron, Southern California Edison, Shell Oil, Mobile, and the Four Corners Pipeline Oil Companies. The pipelines are used to transport natural gas and petroleum products.
Figure 4.13-2 displays the location of major pipelines within the City.

Under Chapter 5.5 of the California Pipeline Safety Act of 1981, the State Fire Marshall exercises exclusive safety regulatory and enforcement authority over intrastate hazardous liquid pipelines. The California Pipeline Safety Act establishes regulations for the operation of existing pipelines, requirements for new and replacement pipelines, and requirements for the testing of existing pipelines

Hazardous liquid pipelines are typically inspected for leaks by Line Riders and surveyed by air reconnaissance. When repairs are necessary, the appropriate agencies are notified. A rupture of a pipeline due to fatigue or other causes may result in the contamination of surrounding soil and groundwater.

### Petroleum Resources

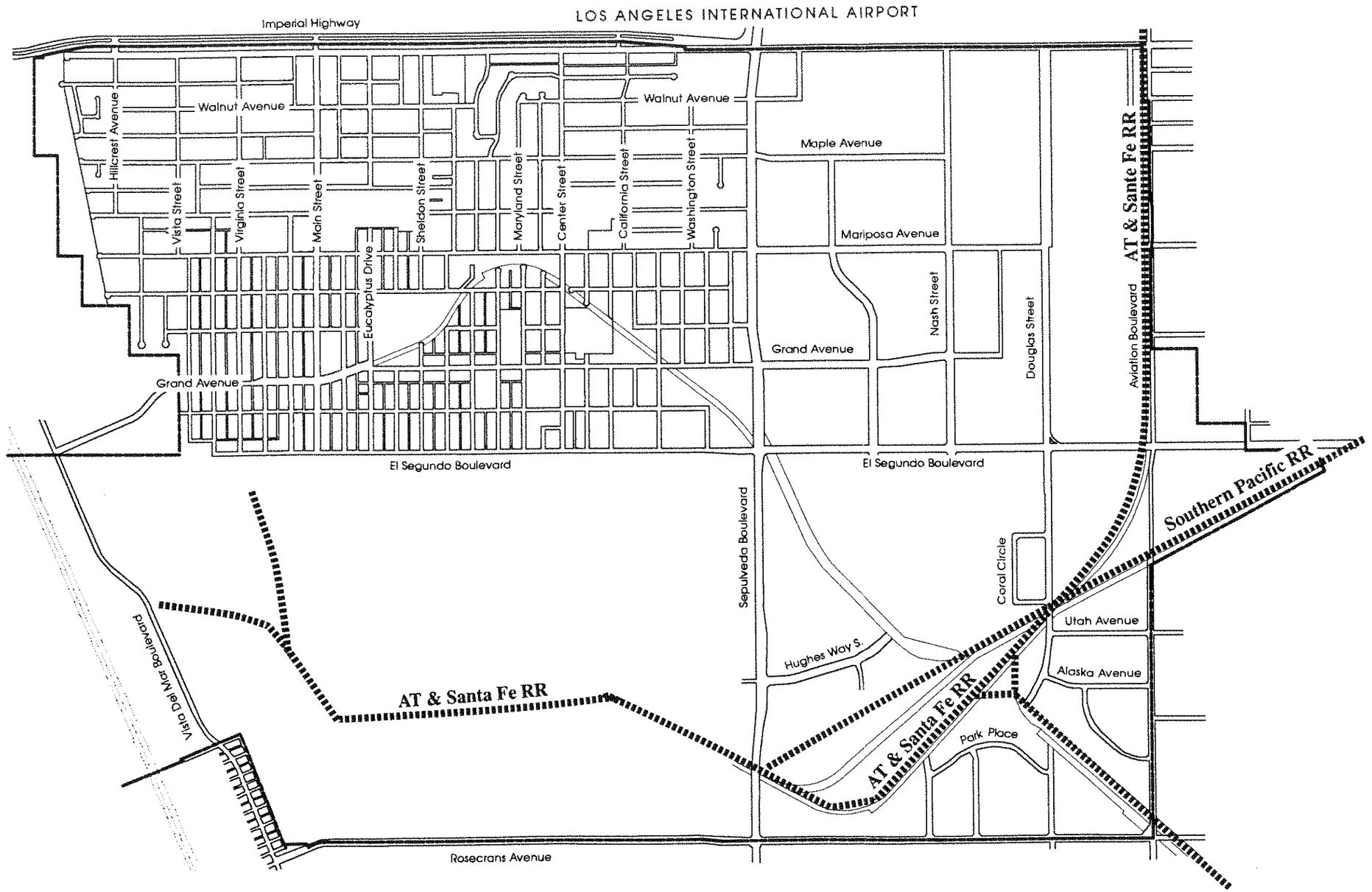
There are three active fields within and adjacent to the City - Hyperion, El Segundo, and Lawndale. The El Segundo field underlies the City. Between 1935 and 1987, seventy six wells were drilled producing over 13.6 million barrels of oil. Currently, the majority of the active wells are located in the Smoky Hollow and Refinery areas. Oil reservoirs and sumps occupy most of the southeastern portion of the City. Crude petroleum and petroleum distillates are considered hazardous materials.

### Emergency Response and Preparedness

An Emergency Operations Plan (EOP) maintained by the City is applied during emergency situations involving natural disaster, major accidents, civil disturbances, pollution episodes, epidemics, and war emergencies. The EOP includes a basis for operations and for managing critical resources during emergency situations, a delineation of lines of authority and responsibility, and procedures for requesting inter-agency and private assistance.

# Train Routes

**Figure 4.13-1**




*City of El Segundo • General Plan EIR*

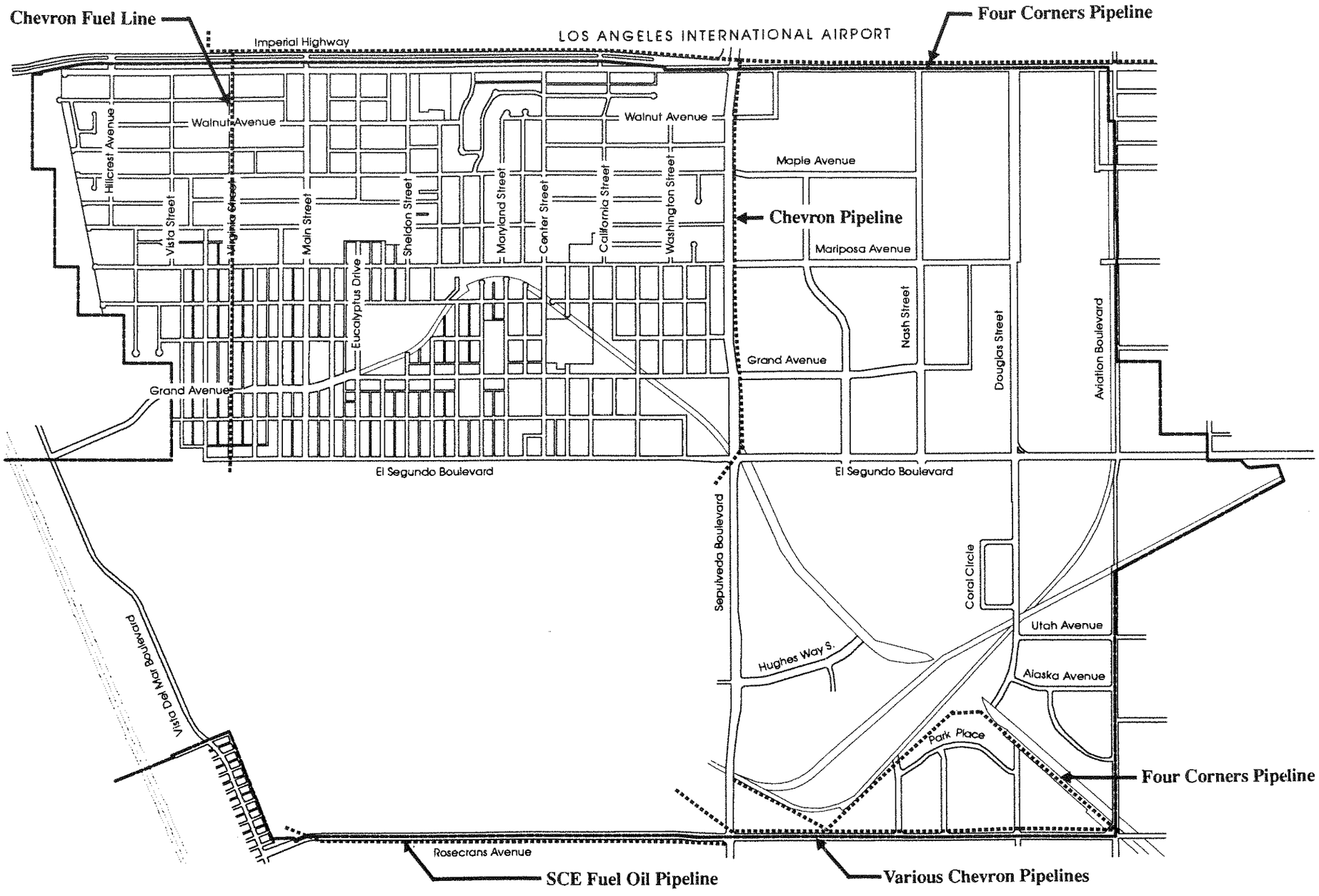
SOURCE: THOMAS BROTHERS GUIDE; 1991

No Scale

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# Major Underground Pipelines

**Figure 4.13-2**




**Legend**

Underground Pipeline

SOURCE: EL SEGUNDO FIRE DEPT. / EIP ASSOCIATES 1991

No Scale

90345

The El Segundo Fire Department is the primary emergency response agency in the City. Major industries within the City have emergency response plans and teams. In the event of an industrial incident, the El Segundo Fire Department works in coordination with these private emergency groups. If needed, the El Segundo Police Department, the County Department of Health Services, the Air Quality Management district, and the County of Los Angeles Fire Department can be brought in for assistance.
The City Fire Department has a Hazardous Material Incident Plan which delineates specific agency responsibility, notification requirements, immediate on-scene activities to be implemented, post- emergency reporting requirements, qualifications of response personnel, and media relations. As the local enforcement agency for the implementation of Chapter 6.95 of the State Health and Safety Code, the El Segundo Fire Department: maintains an inventory of hazardous material stored by companies within the City, oversees the development of individual company Business and Emergency Response Plans, and is developing an overall Emergency Response Plan.

El Segundo is included in the Civil Defense Area "G". If during a natural disaster the City's resources are stretched beyond capacity, mutual aid would be requested through Area G cities or the State Regional Controller. El Segundo has Mutual Aid Agreements with the Cities of Los Angeles, Inglewood, Hawthorne, Torrance, Gardena, Hermosa Beach, Redondo Beach, Manhattan Beach, and Palos Verdes.

### Hazardous Wastes and Materials

When evaluating health and safety, an accurate characterization of a site's hazardous materials is essential. The following sections define hazardous materials and the regulations designed to minimize their impact on human health.

#### Definitions

A number of factors may cause a substance to be considered hazardous, including toxicity, ignitability, corrosivity or reactivity. A material is defined as hazardous if it appears on a list of hazardous materials prepared by a federal, state or local regulatory agency, or if it has characteristics defined as hazardous by such an agency. Both Title 40 of the U.S. Code of Federal Regulations (CFR) Section 261.3 and the California Department of Toxic Substances Control define a hazardous substance as any material (solid, liquid, gas, or any combination) which, because of its quantity, concentration, or physical or chemical characteristics, may:

- cause or significantly contribute to an increase in mortality or serious irreversible illness; or
- pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of or otherwise managed.

Federal regulations governing hazardous wastes are contained primarily in CFR Titles 29, 40, and 49. State regulations applicable to hazardous materials have been consolidated into Title 26 of the California Code of Regulations (CCR).

"Hazardous waste" is any hazardous material that is abandoned, discarded, or recycled (California Health & Safety Code Section 25124). The same criteria that render a material hazardous make a waste hazardous: toxicity, ignitability, corrosivity or reactivity.

Gasoline, diesel oil, and other motor fuels are, by this definition, considered hazardous. Furthermore, natural gas and wastewater are also hazardous.

## Regulatory Setting

The use of hazardous material and the production of hazardous waste is subject to numerous laws and regulations. In addition, construction activities involving movement or risk of upset of hazardous materials (e.g., underground gasoline storage tanks) are also regulated.

Many agencies regulate the use of hazardous materials including the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), the Nuclear Regulatory Commission (NRC), the Department of Transportation (DOT) and the National Institutes of Health (NIH). State agencies, such as the Health and Welfare Agency (HWA), the Occupational Safety and Health Administration (Cal/OSHA), Department of Health Services (DHS), Water Resources Control Board (SWRCB), and the Office of Emergency Services (OES) have parallel, and in some cases more stringent rules governing the use of hazardous materials. Regional and local jurisdictions (e.g., the Regional Water Quality Control Board (RWQCB) and the City of El Segundo) also have rules and ordinances concerning hazardous materials.

The City of El Segundo adopted a Hazardous Materials and Waste Management Element in January 24, 1991 in accordance with State Law (Chapter 1167 (SB477), Greene, 1987) and consistent with the Los Angeles County Hazardous Waste Management Plan (LA Co HWMP). The overriding policy of the Element is to ensure that hazardous material and waste management in the City is sound from a public health and environmental point of view, and that it is consistent with all laws and regulations.

The City of El Segundo has ordinances covering three topics related to hazardous wastes and materials: unclassified use permitting, business/emergency plans, and transportation. Sections 20.46.010 and 20.46.060 of the City Zoning Ordinances establishes the conditions under which a unclassified use permit will be given for an off-site hazardous waste management facility. The second regulation requires all owners and operators of new and modified facilities to submit a business/emergency plan and chemical inventory to the City of El Segundo Fire Department prior to the issuance of a Certificate of Occupancy. Vehicle transportation of hazardous waste is addressed in Chapter 10.30 of the city Ordinances.

Underground storage tanks (UST) are also subject to a number of laws and policies. Under federal law, an underground storage tank is defined as any tank system, including its piping, that has at least 10 percent of its volume underground. Only UST's used to store petroleum and hazardous chemicals regulated under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERLA" or "Superfund") are regulated under federal law. Under California law, an UST is defined as "any one or combination of tanks, including pipes connected thereto, which is used for the storage of hazardous substances and which is substantially or totally beneath the surface of the ground" (California Health and Safety Code Sec. 25281).[2] By both federal and state law, the tanks located within the City of El Segundo are considered USTs and must meet the corresponding regulations.

The Resource Conservation and Recovery Act (RCRA), Section 9003(c)(6), requires owners and operators of USTs regulated under federal law to demonstrate financial responsibility for bodily injury and property damage that is caused by spills or releases. Under California Code Regulations Section 2652(c), within five days after detecting an underground gasoline leak, the owner or operator of the leaking UST must submit a full written report to the designated local agency (i.e., the Los Angeles County Department of Public Works). Upon receipt of this report, the City of El Segundo must forward copies of this report to the State Water Resources Control Board and the Regional Water Quality Control Board. Until clean-up is complete, an owner or operator reporting a leaking tank must submit quarterly reports to the Regional Water Quality Control Board on: the results of all soils and groundwater monitoring reports; the method and estimated costs of clean-up operations to date; and the method and location of disposal for contaminated soil and groundwater (California Code Reg. Sec. 2652(d)).

The following are federal and state laws and guidelines governing hazardous substances:

State laws:

- Hazardous Materials Release Response Plans and Inventory Act
- Hazardous Waste Control Act
- California Occupational Safety and Health Act
- Porter-Cologne Act
- Hazardous Waste Management Act
- Hazardous Waste Haulers Act
- California Hazardous Substances Act
- Underground Storage Tanks, AB853
- Toxic Air Emission Assessments, AB2588
- Risk Management and Prevention Program AB3777
- Transporting Hazardous Materials AB1861

Federal laws:

- Resource Conservation and Recovery Act
- Occupational Safety and Health Act

- Comprehensive Environmental Response Compensation and Liability Act
- Superfund Amendments and Reauthorization Act Title III
- NIH and National Cancer Institute Guidelines for Carcinogens and Biohazard

Hazardous Materials and Waste in El Segundo

As discussed earlier, the industrial nature of El Segundo results in the utilization of large quantities of hazardous materials within the City. Table 4.13-1 provides a list of acutely hazardous materials handlers within the City.

In 1988 it is estimated that the City of El Segundo generated approximately 25,200 pounds of hazardous waste (Table 4.13-2). This represents a 50 percent decrease over the 1986 total of 49,862 tons. Within the last four years, several industries in El Segundo have begun waste minimization programs. Examples include Chevrons Save Money and Reduce Toxics (SMART) program and Northrop's Aircraft Division program, both of which have proven successful. Such programs have resulted in a significant decrease in hazardous waste production in the City of El Segundo. However, the rate of decrease is not expected to be as rapid following this initial period. Hazardous waste production in the City is projected to total approximately 19,660 tons in 1995.[3]

**TABLE 4.13-1**
**ACUTELY HAZARDOUS MATERIALS HANDLERS**

| Companies | Chemical | Quantity (lbs/yr) |
|---|---|---|
| Aerospace Corporation | Ammonia | 91 |
| | Arsine | 119 |
| | Diborane | 21 |
| | Flourine | 310 |
| | Hydrogen Chloride | 144 |
| | Hydrogen Selenide | 41 |
| Airite | Nitric Acid | 17,556 |
| Air Products | Chlorine (liquid) | 600 |
| | Sulfuric Acid | 15,340 |
| Allied Signal | Chlorine | 4,000 |
| | Chloroform | 250,000 |
| | Hydrofluoric Acid | 75,000 |
| | Hydrogen Chloride | 2,000 |
| | Hydrogen Fluoride | 200,000 |
| | Sulfuric Acid, 93% | 1,000,000 |
| | Sulfuric Acid, 99% | 5,000,000 |
| Amtek Microelectronics | Ammonia | 2,889 |
| Chevron U.S.A. | Ammonia | 763,800 |
| | Chlorine | 40,000 |
| | Cyclohexylamine | 7,500 |
| | Hydrazine | 1,000 |
| | Hydrogen Sulfide | 25,500 |
| | Managanese ticarboyl, methyl cyclopentadieyl | 80,000 |
| | Sulfur Dioxide | 40,000 |
| | Sulfuric Acid | 33,266,500 |
| | Sulfur Trioxide | 5,000 |
| | Tetraethyl Lead | 122,000 |
| | Vanadium Pentoxide | 65,000 |
| El Segundo Plating | Nitric Acid | 664 |
| | Sulfuric Acid | 25 |
| Electroply Inc. | Chlorine | 4,000 |
| Field Manufacturing | Sodium Cyanide | 200 |
| | Sulfuric Acid | 4,600 |
| H & A Plating | Nitric Acid | 3,768 |
| | Sulfuric Acid | 80,150 |
| Hughs Aircraft (EDSG) | Ammonia | 6,000 |
| | Chloroform | 720 |
| | Nitric Acid | 56,095 |
| Hughs Aircraft (RSG) | Ammonia | 1,130 |
| | Nitric Acid | 9,940 |
| | Sulfuric Acid | 25,351 |

| Companies | Chemical | Quantity (lbs/yr) |
|---|---|---|
| Hughs Aircraft (SCG) | Ammonia | 1,835 |
| | Nitric Acid | 8,490 |
| | Potassium Cyanide | 1,963 |
| | Sulfuric Acid | 4,325 |
| International Rectifier | Ammonia | 32,742 |
| | Arsine | 3 |
| | Hydrogen Chloride | 86 |
| | Nitric Acid | 6,253 |
| | Phosphine | 225 |
| | Sulfuric Acid | 19,989 |
| Northrop | Ammonia | 1,350 |
| | Hydrofluoric Acid | 658 |
| | Nitric Acid | 727 |
| | Sulfuric Acid | 1,687 |
| Pacific Bell | Sulfuric Acid | 61,360 |
| Rockwell International | Hydrazine | 350 |
| | Nitric Acid, 4% | 376,000 |
| | Nitric Acid, 40% | 8,150 |
| | Nitrogen Dioxide (Nitrogen | 550 |
| | Tetroxide) | 233,000 |
| | Sulfuric Acid, 10% | |
| Southern California Edison | Hydrazine | 4,000 |
| | Sulfuric Acid | 153,400 |
| Superior Plating | Cadmium Oxide | 100 |
| | Nitric Acid | 1,000 |
| | Sodium Cyanide | 100 |
| | Sulfuric Acid | 675 |
| TRW | Potassium Cyanide | 2,000 |
| | Sodium Cyanide | 1,000 |
| Wyrefab | Nickel | 17,000 |
| | Potassium Cyanide | 200 |
| | Sulfuric Acid | 200 |
| Xerox | Ammonia | 9,000 |
| | Arsine | 4 |
| | Chlorine | 900 |
| | Hydrogen Chloride | 54 |
| | Hydrogen Fluoride | 2,469 |
| | Nitric Acid | 540 |
| | Phosphine | 4 |
| | Phosphorus Oxychloride | 223 |
| | Sulfuric Acid | 1,000 |

Source: Hazardous Materials and Waste Management Background Report, January, 1991.
Quantities reported by Business Plans

**TABLE 4.13-2**
**HAZARDOUS WASTE GENERATION IN EL SEGUNDO (TONS/YEAR)**

| Waste Group | Quantity of Manifested Wastes From City | Wastes from SQGs* | Household Hazardous Wastes | Total |
|---|---|---|---|---|
| Waste Oil | 532.92 | 308.93 | 1.10 | 842.95 |
| Halogenated Solvents | 231.01 | 8.48 | | 239.49 |
| Nonhalogenated Solvents | 170.75 | 31.49 | 0.97 | 203.21 |
| Organic Liquids | 59.44 | 2.07 | 0.24 | 61.75 |
| Pesticides | 0.00 | 0.49 | 0.97 | 1.46 |
| PCBs and Dioxins | 58.68 | | | 58.68 |
| Oily Sludges | 493.77 | | | 493.77 |
| Halogenated Organic Sludges and Solids | 0.00 | 4.26 | | 4.26 |
| Nonhalogenated Organic Sludges and Solids | 2,693.90 | 3.95 | | 2,697.85 |
| Dye and Paint Sludges and Resins | 35.32 | 5.73 | 6.95 | 48.00 |
| Metal-Containing Liquids | 457.38 | 3.90 | | 461.28 |
| Cyanide and Metal Liquids | 0.27 | 1.42 | | 1.69 |
| Nonmetallic Inorganic Liquids | 552.47 | 12.09 | 0.73 | 565.29 |
| Metal-Containing Sludges | 122.73 | 1.87 | | 124.60 |
| Nonmetallic Inorganic Sludges | 37.92 | | | 37.92 |
| Contaminated Soil | 9,591.67 | | | 9591.67 |
| Miscellaneous Wastes | 9,724.82 | 28.15 | 1.24 | 9,754.21 |
| Total | 24,763.05 | 412.83 | 12.20 | 25,188.08 |

Source: Table IV-1, Hazardous Materials and Waste Management Background Report, January, 1991
* SQG = Small Quantity Generator

## Contaminated Sites within El Segundo

A list of contaminated sites within El Segundo is presented in Appendix D of the Hazardous Materials and Waste Management Background Report prepared for the City of El Segundo General Plan. The records search for the report included the following:

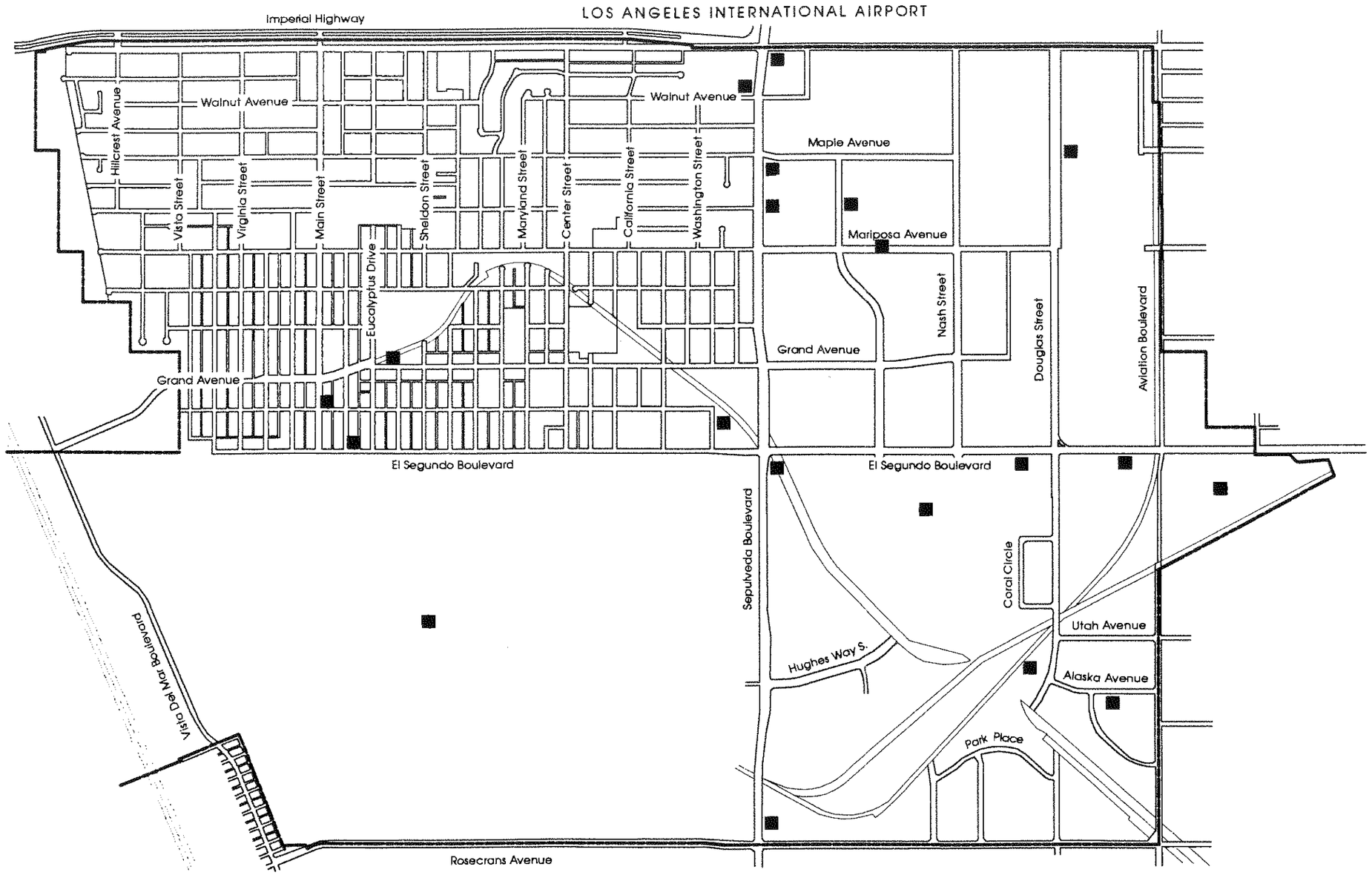
- State of California Hazardous Waste and Substances Sites List or Cortese List.
- State of California Abandoned Site Program Information System (ASPIS).
- California Bond Expenditure Plan for the Hazardous Substances Cleanup Act of 1984 (BEP).
- The U.S. Environmental Protection Agency, Comprehensive Environmental Responsibility, Compensation and Liability Act of 1980 Information System (CERCLIS).
- The County of Los Angeles List of Contaminated Sites.
- The California Regional Water Quality Control Board's List of Leaking Underground Storage Tanks, April, 1990.

The Cortese list summarizes hazardous waste sites including sites identified by the Department of Health Services and other state agencies. The ASPIS is a pre-remedial tracking system that provides a classification system for site ranking and includes over 25,000 sites within California. Once a site has been confirmed as requiring remediation, the site is merged into the Bond Expenditure Plan (BEP). The BEP Data Base contains a listing of all verified sites that currently are slated for abatement by the Department of Health Services. The CERCLIS data base tracks the status of suspected hazardous waste sites which will be reviewed by the EPA to determine whether the sites meet the National Priority List criteria. Sites not meeting the NPL list criteria are referred to the DHS for further evaluation, and included in the Cortese list.

Table 4.13-3 provides a list of the contaminated sites within El Segundo excluding the ASPIS sites. Figure 4.13-3 displays the location of contaminated sites within the City. As of October, 1989 there were 72 ASPIS sites within the City. The majority of these sites have a low priority status or require no further action. However, the Elco Corporation location is listed as a Superfund site. For a more detailed discussion of contaminated sites refer to the Hazardous Materials and Waste Management Background Report.

# Contaminated Sites

**Figure 4.13-3**




## Legend

■ Contaminated Site

SOURCE: HAZARDOUS MATERIALS AND WASTE MANAGEMENT BACKGROUND REPORT, 1991

*City of El Segundo • General Plan EIR*

No Scale

90345

**TABLE 4.13-3**
**CONTAMINATED SITES IN EL SEGUNDO**

| Company | BEP[1] | CERCLIS[2] | Cortese[3] | CLCS[4] | RWQCB[5] |
|---|---|---|---|---|---|
| Aerospace Corporation<br>2350 El Segundo Blvd. | | | X | | X |
| Allied Chemical Corporation<br>850 S. Sepulveda Blvd. | | X | | | |
| Allied Sales and Salvage<br>160 S. Sepulveda Blvd. | | X | X | | |
| Blackmore Associates<br>700 LA Airport St. | | | X | | |
| Chevron USA<br>324 W. El Segundo Blvd | | X | X | X | |
| City of El Segundo<br>Franklin Ave. | | | X | | X |
| City of El Segundo<br>150 Illinois St. | | | | | |
| Devlin Pharmaceuticals Inc.<br>700 N. Sepulveda Blvd. | | X | | | |
| H. Kramer and Company<br>1 Chapman Way | | X | | X | |
| Hughes Aircraft Company<br>El Segundo South | | X | | | |
| Hughes Aircraft Co. S&CG<br>1920 E. Imperial Highway | | X | | | X |
| Hughes Aircraft<br>1920 E. Maple St. | | | X | | X |
| Hughes Aircraft Company<br>2000 E. El Segundo Blvd. | | | X | | X |
| Hughes Aircraft Company<br>909 N. Sepulveda Blvd. | | | X | | X |
| Los Angeles Air Force Station<br>2400 E. El Segundo Blvd. | X | | | X | |
| Mirra Cote Plastics Company<br>120 Standard St. | | X | | | |
| Northrop Corporation<br>2043 E. Mariposa Ave. | | X | | | |
| Northrop Corporation<br>800 N. Douglas St. | | | X | | X |

| Company | BEP[1] | CERCLIS[2] | Cortese[3] | CLCS[4] | RWQCB[5] |
|---|---|---|---|---|---|
| Petroleum Facilities Constr.<br>232 Main St. | | | X | | |
| Shell Station<br>310 E. Grand Ave. | | | | | X |
| Vestcom Properties<br>2335 Alaska Ave. | | | | | X |

1. California Bond Expenditure Plan
2. Comprehensive Environmental Responsibility, Compensation and Liability Act Information System
3. State of California Hazardous Waste and Substances Site List
4. County of Los Angeles List of Contaminated Sites
5. California Regional Water Quality Control Board

## Relevant Policies of the El Segundo 1991 General Plan

There are 15 programs within the Public Safety Element of the El Segundo 1991 General Plan addressing public health and safety issues. These programs and related policies are briefly described below:

Policy PS31.1 would require review of proposed development projects involving the use, storage and disposal of hazardous materials with the intent of minimizing the probability and magnitude of a hazardous event.

Program PS31.1A requires that the City enforce local, state, and federal laws, through review of projects proposing to use, store or dispose of hazardous materials and wastes and require compliance with the business plan, and on-site response plans before project approval.

Policy PS31.2 would promote the safe transportation of hazardous materials.

Program PS31.2A requires that the City establish a system to monitor the transportation and disposal of hazardous wastes or access the existing State system.

Policy PS31.3 would improve the plans and capabilities for responding to hazardous material incidents.

Program PS31.3A requires the City to investigate the feasibility of establishing an emergency clean-up fund with a special levy for businesses which handle hazardous materials.

Program PS31.3B requires the City to strengthen the enforcement capabilities for hazardous waste generator inspection and industrial wastewater treatment audits.

Program PS31.3C requires the City to consider and explore the feasibility of providing financial and/or tax incentives for the prudent use and management of hazardous materials.

Program PS31.3D requires the City to implement a program to identify specific industries, industrial groupings, and/or pollutant waste streams for priority attention. Top priority will be given to facilities handling acutely hazardous materials.

Policy PS31.4 would continue to encourage source reduction, substitution, and recycling.

Program PS31.4A requires the City to establish or support establishment of a special hazardous waste technology center for small businesses with the intent to provide information and advise on waste reduction and inventory control.

Policy PS31.5 would encourage improved, timely communications between businesses and emergency response agencies.

Program PS31.5A requires the City to periodically review and inspect the training and equipment of hazardous materials response teams.

Policy PS61.1 would maintain and enhance the emergency services and ensure their availability and effectiveness in the event of a disaster.

Program PS61.1A requires the City to periodically review and assess the locational and engineering integrity of existing disaster relief equipment and structures.

Program PS61.1B requires the City to periodically review and reevaluate the City's emergency preparedness program, emergency services and equipment.

Program PS61.1C requires that water distribution and supply facilities are adequate to supply emergency fire-flow needs.

Policy PS61.2 would promote development of public education programs and self help groups to improve emergency preparedness.

Program PS61.2A requires the City to continue preparing informational packets to increase public awareness and emergency preparedness.

Policy PS 61.3 would continue to encourage critical facilities to maintain and regularly update emergency response plans identifying procedures for safety, disaster recontrol and evacuation.

Program PS61.3A requires the identification of emergency response objectives, contingency plans and hazardous reduction programs to reduce hazards for critical facilities and hazardous buildings with special rescue, fire-suppression, evacuation, or medical requirements.

Policy PS61.4 would continue to strengthen the City's capability to respond to earthquake and non-earthquake induced emergency.

Program PS61.4A requires the City to support, encourage and assist in establishing community programs which volunteer to assist police, fire, civil defense personnel after a disaster.

Policy PS61.5 would continue to improve hazard prediction and early warning systems.

Program PS61.5A requires the City, in cooperation with the telephone company and industrial facilities, to establish an emergency Notification system providing quick, no-cost readily accessible service for reporting fires and other emergencies by the general public.

In addition to these policies and programs, the El Segundo 1991 Hazardous Materials and Waste Management Element addresses issues relating to hazardous materials and wastes.

## IMPACTS AND MITIGATION MEASURES

### Methodology

The impact analysis evaluates potential impacts associated with the proposed El Segundo General Plan Update. The evaluation was based on existing literature, including the Hazardous Materials and Waste Management Background Report, the Public Safety Element Existing Conditions Report, and the Public Safety Element.

### Standards of Significance

Impacts on Public Health and Safety are considered significant if one or more of the following conditions would result from implementation of the proposed project:

- Creation of a public health and safety hazard through release or emissions of hazardous materials or risk of upset.
- Production or disposal of hazardous materials.
- Exposure of sensitive receptors to substantial concentrations of pollutants .

Evaluation of the significance of impacts in relation to this criteria is provided in the following discussion.

Preferred Plan Impact

4.13-1 **Construction of future projects adjacent to existing rail lines would expose residents to potential rail road accidents. This is considered a *potentially significant impact.***

Construction adjacent to the railroads has the potential to expose more people to existing risks in the event of a derailment or accident that may involve hazardous material transported to or from the Chevron and Allied Signal Facilities.

Preferred Plan Mitigation Measure

4.13-1 *Prior to the acceptance of final maps, for new development proposals adjacent to railroad lines, project proponents shall provide a minimum 60-foot setback from the centerline of the track, for safety in the event of an accident.*

Alternative Land Use Plan Impact

4.13-2 **Preferred Plan Impact 4.13-1 applies to the Alternative Land Use Plan.**

Alternative Land Use Plan Mitigation Measure

4.13-2 *Preferred Plan Mitigation Measure 4.13-1 applies to the Alternative Land Use Plan.*

Preferred Plan Impact

4.13-3 **Development of new projects could present risks associated with contaminated soil and groundwater. This is a *significant impact.***

Since there are a large number of contaminated sites located within the City of El Segundo, new construction has the potential to degrade the environment and expose the public to hazards associated with soil and ground water contamination.

Preferred Plan Mitigation Measure

4.13-3 (a) *A Phase I site assessment, by qualified personnel in accordance with applicable regulation, should be conducted to confirm or deny the presence of any soil or groundwater contamination on the site of a proposed development.*

(b) *If the potential for contamination is suspected, sampling shall be conducted by qualified personnel, in accordance with all applicable regulations to determine the constituent levels and the extent of the contamination.*

(c) *If contamination is identified, remediation and disposal procedures shall be conducted by qualified personnel, in accordance with all applicable regulations and in coordination with all applicable regulatory agencies.*

Alternative Land Use Plan Impact

4.13-4 **Preferred Plan Impact 4.13-3 applies to the Alternative Land Use Plan.**

Alternative Land Use Plan Mitigation Measure

4.13-4 *Preferred Plan Mitigation Measure 4.13-3 applies to the Alternative Land Use Plan.*

Preferred Plan Impact

4.13-5 **Future development within the City of El Segundo could expose construction workers and the public to health hazards associated with development adjacent to oil production facilities, storage facilities, and abandoned wells. This is considered to be a *significant impact.***

Seventy six wells have been drilled within the El Segundo oil field. Operating oil wells produce a flammable liquid creating a potential health hazard to adjacent land uses. In addition, construction over abandoned wells could trap gases resulting in an explosion hazard.

Preferred Plan Mitigation Measure

4.13-5 (a) *Prior to development of new projects adjacent to existing oil wells, the State Department of Conservation Division of Oil and Gas shall be contacted to confirm the status of such wells.*

(b) *In the event that a project is to be located above or adjacent to a previously abandoned well, the project proponent shall consult with the Division of Oil and Gas to determine whether it will be necessary to reabandon the well to meet current Division specifications. Section 3208.1 of the Public Resources Code authorizes the State Oil and Gas Supervisor to order the re-abandonment of any previously abandoned well when construction of any structure over or adjacent to the well could result in a hazard.*

(c) *If construction over an abandoned well is unavoidable, an approved gas venting system should be placed over the well to prevent the buildup of gas and possible explosion. Gas monitoring should also be required during activities in gas storage or other gaseous areas.*

Alternative Land Use Plan Impact

4.13-6 **Preferred Plan Impact 4.13-5 applies to the Alternative Land Use Plan.**

Alternative Land Use Plan Mitigation Measure

4.13-6 *Preferred Plan Mitigation Measure 4.13-5 applies to the Alternative Land Use Plan.*

Preferred Plan Impact

4.13-7 **Future development may expose residents to hazardous materials used in adjacent industrial and commercial operations. This is considered a *significant impact.***

Industrial activities in El Segundo involve the use of numerous hazardous substances. An accident at an industrial facility resulting in the release of a toxic substance poses a risk of upset to inhabitants of the City. While hazardous waste production is expected to decline because of waste minimization efforts and the trend away from heavy industrial toward light industry and commercial, the potential for incidents is still a concern.

Preferred Plan Mitigation Measure

4.13-7 *Implementation of proposed Petroleum Resources/Hazardous Materials and Waste Programs PS31.1A, 2A, 3A, 3B, 3C, 3D, and 4A of the Public Safety Element of the City of El Segundo 1991 General Plan and implementation of the policies and programs contained in the adopted Hazardous Materials and Waste Management Element.*

Alternative Land Use Plan Impact

4.13-8 **Preferred Plan Impact 4.13-7 applies to the Alternative Land Use Plan.**

Alternative Land Use Plan Mitigation Measure

4.13-8 *Preferred Plan Mitigation Measure 4.13-7 applies to the Alternative Land Use Plan.*

Preferred Plan Impact

4.13-9 **Development as proposed under the Preferred Plan would increase the demand for emergency services. This is a *potentially significant impact.***

Increased development would increase the potential need for emergency response services. Please refer to Section 4.7, Public Services for further discussion of impacts related to emergency response services.

Preferred Plan Mitigation Measure

4.13-9 *Implementation of proposed Emergency Preparedness Programs PS61.1A, 1B, 1C, PS61.2A, PS61.3A, PS61.4A, and PS 61.5A of the Public Safety Element of the City of El Segundo General Plan.*

Alternative Land Use Plan Impact

4.13-10 **Preferred Plan Impact 4.13-9 applies to the Alternative Land Use Plan.**

Alternative Land Use Plan Mitigation Measure

4.13-10 *Preferred Plan Mitigation Measure 4.13-9 applies to the Alternative Land Use Plan.*

## ENDNOTES

1. Garbell, Maurice, Airport Accident - Potential and Safety Areas, SAE Technical Paper Series, 1988.

2. Irell & Manella. Handbook on Underground Storage Tanks.

3. SCS Engineers, *Hazardous Materials and Waste Management Background Report*, El Segundo General Plan Update, January, 1991.

# 8. CEQA CONSIDERATIONS

# 5. CEQA CONSIDERATIONS

## 5.1 UNAVOIDABLE SIGNIFICANT ADVERSE IMPACTS

Unavoidable significant adverse impact refers to those impacts that are unavoidable or unmitigable, or unlikely to be mitigated with a project's completion or implementation. While the El Segundo 1991 General Plan is intended to provide policies and implementation actions for protecting important environmental and human resources in the City, they may be insufficient in certain areas, since the proposed plan's land use designations and development policies will accommodate growth that may have significant adverse impacts. After the evaluation in the thirteen environmental categories discussed in Chapter 4, it was found that significant adverse impacts would occur as a result of adoption of the El Segundo 1991 General Plan and would require a Statement of Overriding Considerations:

### Transportation and Circulation

Traffic congestion in the year 2010 is projected to be worse when compared to the existing conditions but improved over the congestion levels forecasted with existing trends under the 1975 General Plan.

### Air Quality

Increases in traffic and construction with implementation of the proposed El Segundo 1991 General Plan will contribute to existing non-attainment of air quality standards for criteria pollutants. However, all intersections would still be over the 8-hour standard for CO.

### Geology, Seismicity and Soils

Increased exposure to seismic events with the addition of new residents and workers to the City.

### Noise

Due to increases in traffic combined with noise from LAX flights, ambient noise levels will increase in some areas of the City.

## 5.2 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

Implementation of the El Segundo 1991 General Plan would result in the permanent urbanization of currently vacant and underutilized lands. The Plan represents, from this perspective, a reduction in the range of potential long-term uses of these lands by committing them to particular land uses. Specific

projects within the planning area will be subject to environmental analysis and public review prior to their approval.

Thus, while land will be committed to certain irreversible short-term uses through the specification of allowable uses and development densities, long-term productivity will be enhanced in part through the limitations and controls placed on development by the City of El Segundo.

In addition, the preservation of open space and parks as called for in the 1991 General Plan would preclude development of urban uses and enhance long-term environmental productivity.

## 5.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Chapter 4 of this Environmental Impact Report analyzes in detail the impact of the El Segundo 1991 General Plan on the environment of the City of El Segundo. This document reviews measures proposed to mitigate adverse effects of the project and suggests additional measures to further reduce adverse effects to levels of insignificance. Chapter 4 also shows that if the El Segundo 1991 General Plan components are implemented as proposed, in accordance with required local and State regulations, most of the significant adverse effects can be mitigated. There are, however, some impacts which cannot be completely mitigated which would produce irreversible environmental changes. These include:

- Increased traffic congestion with the concomitant increases in noise, air pollution and energy consumption.

- Increased consumption of non-renewable resources in the forms of petroleum products and electric power for development and operation of new residences, commercial establishments and employment venues.

## 5.4 CUMULATIVE IMPACTS

CEQA requires discussion in an Environmental Impact Report of impacts which are individually limited but cumulatively considerable. "Cumulatively considerable" refers to the incremental effects of an individual project which are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Cumulative impacts would occur through loss of vacant land common to all growth urban areas in the Los Angeles region. While the acreage that is converted to urban uses may be relatively small in any given instance, each parcel converted contributes to an increase in impervious surfaces at each site, thus generally increasing peak flows and decreasing times of concentration of surface runoff. While the amount of new runoff from each site would be incrementally very minor, the cumulative effect of all developments on the City's local drainage system and regional wastewater treatment systems would add substantially to existing flow volumes. Similarly, degradation of the quality of surface waters as well as

that of groundwater would be slight for each individual dwelling unit but would add to the cumulative contaminant load carried into the hydrologic environment.

Other cumulative effects would consist of increased traffic congestion and associated increases in noise and pollutant emissions into the atmosphere resulting in a potential for a lessening in air quality. As cumulative development increases traffic volumes in the area, the noise environment would become increasingly incompatible with residential uses.

Increased cumulative demand for public services, including police, fire and schools would also occur. This would be both a service impact as well as a fiscal impact upon City and other agency expenditure patterns.

Cumulative impacts of development under the El Segundo 1991 General Plan should be continually monitored through the environmental review process of proposed projects, and additional detailed mitigation measures should be included as part of project EIR's performed for individual projects as development occurs in the City of El Segundo.

# 6. GROWTH-INDUCING IMPACTS OF THE PROPOSED PROJECT

# 6. GROWTH INDUCEMENT

The California Environmental Quality Act (CEQA) Guidelines require a discussion of the ways in which the proposed action could be growth-inducing. CEQA identifies a project to be growth-inducing if it extends urban services into a previously unserved or underserved area; extends a major transportation corridor into a previously unserved or underserved area; or removes a major obstacle to development and growth. Secondary or indirect growth generally relates to retail and other service employment related to new development activity. New employees from commercial development and new population from residential development represent direct forms of growth. These growth increments expand the size of local markets for labor or retail and spending and induce additional economic activity in the area to capitalize on the direct growth. Growth may also be induced by lowering or removing infrastructural barriers to growth, improving transportation access to an area, or by creating an amenity such as a recreation facility that attracts new population or economic activity.

Typically, the growth-inducing potential of a project would be a significant growth-inducing impact if it fostered growth or a concentration of population, or created capacity to accommodate growth above and beyond what was permitted by the relevant general plans or contained in growth projections of independent regional planning agencies. However, the creation of growth-inducing potential does not automatically lead to growth, whether it would be below or above projected level. Growth at the local level is regulated by the land use policies of local governments in California, but growth can only happen through capital investment in new economic opportunities by the private or public sectors (predominantly the former). Development pressures are created by the desires of investors to mobilize their resources in a particular region or locality. These pressures help to structure the local politics or growth and the local jurisdiction's posture on growth management and land use policy. The growth-inducing potential or pressure created by a project is therefore mediated by the locality itself.

The El Segundo 1991 General Plan sets in place policies that will help to define and direct future growth in the City of El Segundo. The Plan also provides land use designations and development densities for all lands which are currently vacant or underutilized. As such, it is intended to accommodate while inducing residential growth, contributing 597 new households by the year 2010. In addition to bringing about a population increase of about 1,281 residents by the year 2010, the El Segundo 1991 General Plan would also specify non-residential development that would increase employment in El Segundo by 35,200 jobs for a total of approximately 128,200 jobs at buildout. This would be primary growth induced and simultaneously mitigated by the proposed General Plan.

Along with local direct growth induced by the fulfillment of the El Segundo 1991 General Plan are non-local, indirect growth impacts. These consist of increased demand for more personal and business services, consumer goods, employment opportunities, and housing throughout the region that are associated with El Segundo's growth. This share of associated growth that will be borne by other communities in Los Angeles and possibly Orange County cannot be easily determined. Many interdependent demographic and economic variables prevent a reasonable estimate of these regional impacts.

# 7. ALTERNATIVES

# 7. PROJECT ALTERNATIVES

## INTRODUCTION

In accordance with section 15126 of CEQA Guidelines, a Draft EIR must describe a range of reasonable alternatives to the proposed project that could feasibly attain the objectives of the project. The comparative merits of these alternatives must be described and evaluated. The CEQA Guidelines require that the "No Project" Alternative and its impacts be evaluated and that an environmentally superior alternative be designated. If the alternative with the least environmental impacts is the No Project alternative, one of the remaining alternatives is to be designated as the environmentally superior alternative.

### ALTERNATIVES ANALYSIS

Three alternatives are considered as part of the environmental review for this project:

1. Alternative Land Use Plan. This alternative is analyzed in the main sections of the EIR following the discussion of the proposed General Plan or "Preferred Plan". This alternative assumes that the Mixed Use - 3 designation would increase from a floor area ratio (FAR) of 0.9 under the Preferred Plan to a FAR of 1.5. This results in a difference of 8.2 million square feet of floor area. Residential land use does not differ from that proposed for the Preferred Plan.

2. Existing Trends. Assumes that growth would continue to follow existing trends. This alternative allows six million square feet of development above that allowed under the Preferred Plan. This amount accounts for permitting nonconforming development to remain, although new development would conform to the land use designations proposed in the Preferred Plan.

3. No Project (No Growth). This alternative assumes that no new development would occur in the City. Impacts would solely be based existing environmental influences that exist in the City or that are created outside of the City (such as traffic generation).

## EXISTING TRENDS ALTERNATIVE

This alternative allows approximately six million square feet of additional development as compared to the Preferred Plan. This alternative differs from the Preferred Plan in that it allows light and heavy industrial land uses, as well as corporate office use. Unlike the Preferred Plan, there is no urban mixed use within this alternative. This alternative is designated the environmentally superior alternative when

compared to the Alternative Land Use Plan Alternative. However, this alternative does allow substantially more heavy industrial use which would partially offset its lower overall development density and intensity as compared to the Alternative Land Use Plan.

## ENVIRONMENTAL IMPACTS

### Geology, Soils, and Seismicity

Potential impacts related to geology, soils, and seismicity would remain essentially the same as those specified for the Preferred Plan. Impacts due to grading, and hazards related to seismicity would remain significant.

### Hydrology and Water Quality

The existing General Plan trends indicate a relatively high acreage of heavy industrial (1,255.4 acres). The Preferred Plan identifies a urban mixed-use designation not included in this alternative and a slightly reduced area of heavy industrial. The existing alternative trends would generate slightly more runoff than the Preferred General Plan, given the increased percentage of heavy industrial uses. However, hydrology and water quality impacts would be similar to the Preferred Plan.

### Biotic Resources

Under this alternative, impacts to biological resources would remain the same as with the Preferred Plan and the mitigation measures discussed for the Preferred Plan would apply.

### Land Use

This alternative would permit nonconforming development to remain, although new development would be required to conform to the Preferred Plan. This would result in approximately ten percent more growth than the Preferred Plan in both the residential and nonresidential sector, due to the large amount of nonconforming sites in the City.

### Population and Housing

This alternative would result in an increase of 545 units over the existing housing stock. Approximately 34,300 jobs are projected under this alternative. The level of employment growth outpaces the housing growth, therefore creating a greater imbalance between jobs and housing. This would result in a future jobs/housing ratio of 16.4, equivalent to the ratio projected under the Preferred Plan. The population, housing and employment impacts would be similar to those under the Preferred Plan.

## Utilities

Development under the Existing Trends Alternative would increase utilities usage an average of 7% over existing levels. Specific level increases are as follows:

Existing General Plan Alternative Over Existing Levels

| | |
|---|---|
| Natural Gas consumption increases by | 7% |
| Solid Waste consumption increases by | 7% |
| Wastewater consumption increases by | 7% |
| Water Consumption increases by | 7% |
| Electricity Consumption increases by | 7% |

# PUBLIC SERVICES

## Transportation and Circulation

As discussed earlier in the Transportation and Circulation section, this alternative would have 12 roadway segments at LOS F and one at LOS E. Under the Preferred Plan, nine roadway segments would have LOS F and LOS E. This indicates that levels of service are slightly better under the Preferred Plan.

## Air Quality

The Existing Trends Alternative provides for approximately 61.5 million square feet of development of which nearly 43 percent is expected to be for heavy industry. The light and heavy industrial components, the major discharges of toxic air contaminants, account for 63 percent of the plan area. Approximately 2326 tons Reactive Organic Gases (ROG) and 1870 tons of Oxides of Nitrogen (NOx) would be discharged annually. This is approximately 96 percent of the projected emissions from the Preferred Plan at buildout. Carbon Monoxide emissions for the alternative would be two to three percent higher than expected with the Preferred Plan.

## Noise

The Existing Trends Alternative would allow noise level increases throughout the City. The most noise impacted roadways would be Rosecrans Avenue, Grand Avenue, and Mariposa Avenue, experiencing 4.1 and 3.8 dBA increases, respectively, over existing levels. Noise impacts occurring with this alternative would be greater than under the Preferred Plan.

## Cultural Resources

Under the Existing Trends Alternative, impacts and mitigation measures assigned to the Preferred Plan would remain essentially the same. However, the amount of control resources that could be disturbed would be slightly higher than the Preferred Plan.

### Aesthetics/Visual Quality

Impacts on the visual resources of the City under existing trends would provide slightly less open space and greater amounts of industrial and commercial development. With the exception these factors which would incrementally increase visual impacts in the City, significant effects would remain limited as they are under the Preferred Plan.

### Public Health and Safety

Since existing General Plan trends allow for approximately 26 million square feet of heavy industry, more people would be put at risk to hazardous materials and wastes. As discussed earlier in the document, heavy industry is the largest user of hazardous materials. Remaining impacts on public health and safety would remain essentially the same under this alternative.

## NO PROJECT (NO GROWTH) ALTERNATIVE

The No Project alternative assumes that no further development would be allowed within the City of El Segundo. Land uses would remain as they exist in the City today.

### ENVIRONMENTAL IMPACTS

### Geology, Soils, and Seismicity

With no growth occurring in the City, impacts from grading and drainage would not occur. There would be less overall development and the number of buildings and inhabitants in the City would not increase. As a result fewer people and buildings would be at risk from geologic and seismic hazards.

### Hydrology and Water Quality

Under the no growth alternative, generation of surface stormwater would not increase and erosion from construction activities would not occur. However, potential groundwater contamination problems which are already existing would require study and possibly remediation. Hydrology and water quality impacts under this alternative would be less than with the proposed project.

### Biotic Resources

This alternative would not have an impact on biological resources.

### Land Use

This alternative would result in no changes to existing land use. Thus, all impacts associated with land use changes would be eliminated. However, this would also eliminated those aspects of the plan which will eliminate inconsistencies between existing land used and the existing plan. In addition, land use conflicts resulting from inappropriately mixed uses of nonconforming used would remain unresolved.

### Population and Housing

This alternative would not increase the population, housing or employment over existing levels. The City will remain jobs-rich.

### Utilities

No increases in utility usage are anticipated under the No Growth alternative.

### Public Services

Existing levels of service for police, libraries, schools, and parks would remain, as no new demand for these services would be generated.

### Transportation and Circulation

Assuming that there would be no further growth in LOS, there would be five roadway segments at either LOS E of F. However, traffic levels would still increase due to traffic generating projects at LAX and in adjacent jurisdictions.

### Air Quality

This condition creates no new sources of pollution, but retains two major stationary sources: those of light and heavy industry. These two components are the major discharges of toxic air contaminants. It is assumed that TAC levels would decrease with the implementation of the Preferred Plan. However, due to increases in vehicular traffic, under the Preferred plan at buildout, local CO levels would increase by approximately 8% over existing conditions.

### Noise

The No Project alternative would not allow any further noise generators within the City. El Segundo would, however, be impacted by the growth of surrounding areas. Vehicular traffic noise impacts would increase, but would be less than with the Preferred Plan.

### Cultural Resources

Under the no growth alternative, there will be no potential for disturbance or loss of undiscovered cultural resources. However, without new development, the archaeological community will not have the opportunity to research under construction nor will the archaeological potential of the area ever be known.

### Aesthetics/Visual Quality

With no new development, existing views would be retained and the visual resources of the City would neither be degraded or improved.

**Public Health and Safety**

The amount of heavy industry would be higher under this alternative than with the Preferred Plan. Under the Preferred Plan, heavy industry is expected to decline. Therefore, under the no growth alternative more people may be at risk to hazardous materials and wastes. Although the other impacts identified in the Public Health and Safety section would be less severe under this alternative, the risk associated with these impacts still exists. Even without growth, there are still risks associated with contaminated sites and hazardous materials transported by train.

# 8. REPORT PREPARATION

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