

3.0 TOPICAL PLANNING CONSIDERATIONS

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3.1 LAND USE/PLANNING CONSIDERATIONS

This chapter discusses a variety of planning documents and studies, below is a brief outline of those documents and studies addressed in this section:

- Section 3.1.1, Existing General Plan
- Section 3.1.2, Carson Vision
- Section 3.1.3, Zoning
- Section 3.1.4, Specific Plans
- Section 3.1.5, Existing Land Use
- Section 3.1.6, Redevelopment Plan(s), and
- Section 3.1.7, Other Plans

3.1.1 EXISTING GENERAL PLAN

The City of Carson has adopted a number of General Plan Elements including the following State-mandated Elements:

- Land Use Element, adopted 1982;
- Circulation Element, adopted 1981;
- Public Services and Facilities Element, adopted 1982;
- Open Space Element, adopted 1982;
- Conservation Element, adopted 1981;
- Safety Element, adopted 1981;
- Seismic Safety Element, adopted 1981;
- Noise Element, adopted 1981;
- Housing Element, adopted 1989; and
- Air Quality Element, adopted 1994.

In addition, the City has adopted what are termed optional elements:

- Historic Preservation Element, adopted 1981;
- Fine Arts Element, adopted 1981;
- Recreation Element, adopted 1982;
- Scenic Highways Element, adopted 1981; and
- Parkway Element, adopted 1981.

The City of Carson has compiled a number of these elements into what are termed units. Unit One consists of the Land Use, Open Space, Public Services, and Recreation Elements. Unit Two consists of the Circulation Element and the Bicycle Facilities Section of the Circulation Element. Unit Three consists of the Safety, Seismic Safety,

and Noise Elements. Unit 4 consists of the Historic Preservation, Fine Arts, Conservation, Scenic Highway, and Parkway Elements. Another Element, the Raised Median Element was previously also included in Unit Four, but was deleted from the General Plan with the adoption of Ordinance No. 88-127 in December 1988.

Some General Plan Elements are discussed in general terms in this Section and are discussed in more detail under the relevant environmental topic. For instance: the Circulation Element is discussed in more detail in Section 3.2, *Circulation*; the Housing Element is discussed in more detail in Section 3.3, *Housing*; and the Noise Element is discussed in more detail in Section 3.6, *Noise*.

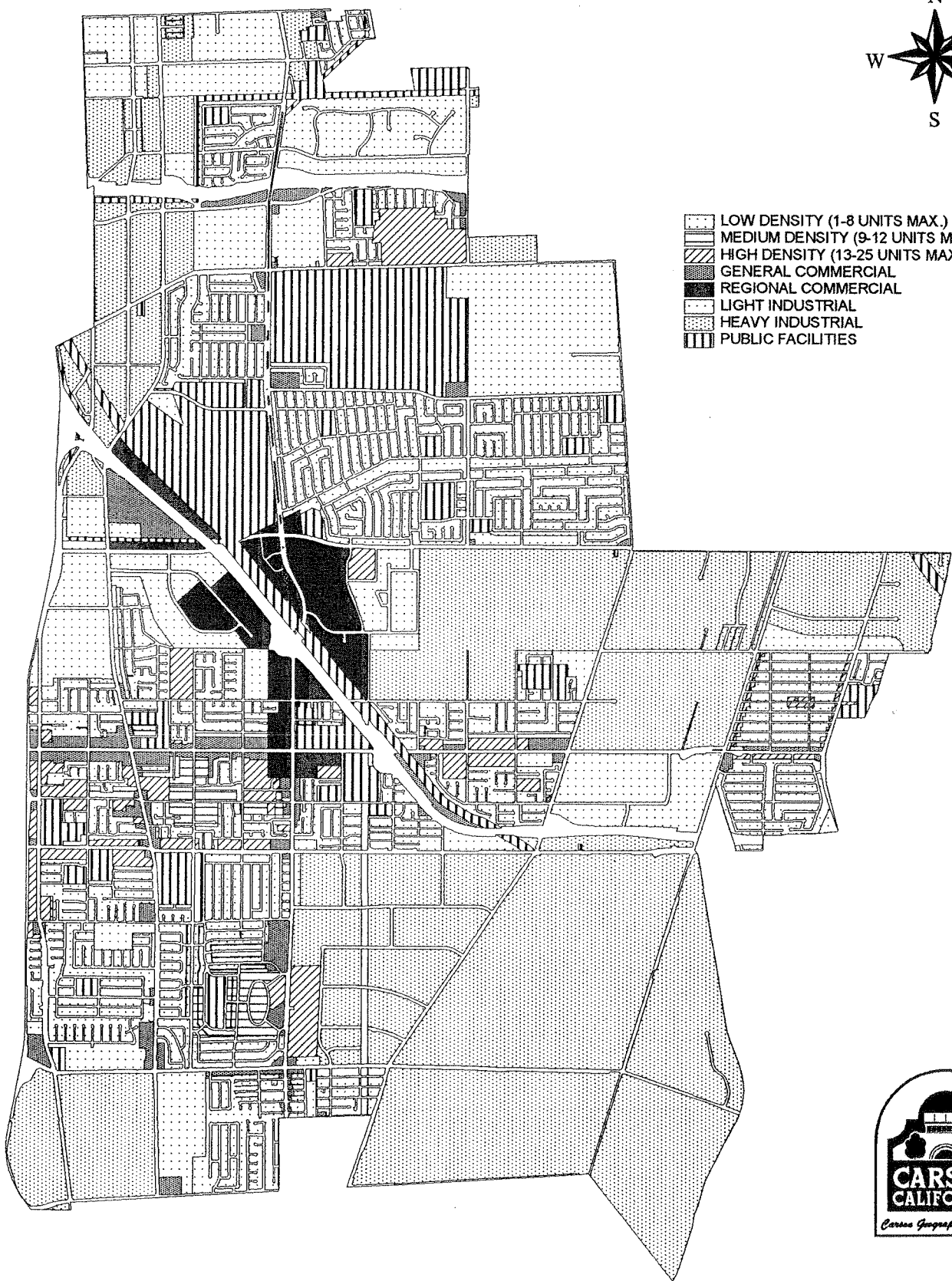
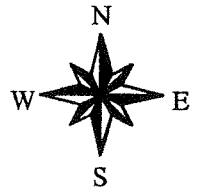
LAND USE ELEMENT









The Land Use Element has the broadest scope of the seven State-mandated elements. The goals, objectives, policies and programs of the Land Use Element relate directly to the other elements. The Carson Land Use Element was adopted in May 1982 by Resolution Nos. 82-076 and 82-077. The Land Use Element is available for review at the City of Carson, Community Development Department.

The most utilized component of the General Plan is the Land Use Map, which serves as a general guide to land use distribution within a jurisdiction. Exhibit 3.1-1, *Existing General Plan*, shows the General Plan Land Use Map (with amendments). The General Plan land uses within the City of Carson fall within the following categories:

- Low Density Residential (1-8 dus./ac.),
- Medium Density Residential (9-12 dus./ac.),
- High Density Residential (13-25 dus./ac.),
- General Commercial,
- Regional Commercial,
- Light Industry,
- Heavy Industry, and
- Public Facilities.

As shown on Exhibit 3.1-1, the residentially-designated areas of Carson are generally concentrated in the following areas of the City: the Lincoln-Dominguez neighborhood in the eastern portion of the City; the area bordered by Wilmington Avenue, Dominguez Street, and the Dominguez Channel, east of the San Diego Freeway; the area border by University Drive, Wilmington Avenue, Del Amo Boulevard, and Avalon Boulevard (there are also other residential areas to the north and northwest of this neighborhood); and the area to the southwest of the San Diego Freeway, where most of the residential uses are concentrated.



-  LOW DENSITY (1-8 UNITS MAX.)
-  MEDIUM DENSITY (9-12 UNITS MAX.)
-  HIGH DENSITY (13-25 UNITS MAX.)
-  GENERAL COMMERCIAL
-  REGIONAL COMMERCIAL
-  LIGHT INDUSTRIAL
-  HEAVY INDUSTRIAL
-  PUBLIC FACILITIES



Existing General Plan

Carson General Plan Update

Exhibit 3.1-1

Commercially-designated uses are, for the most part, concentrated along the San Diego Freeway. Industrially-designated uses are located in the eastern portion of the City, the southwest corner of Carson, along the City's northwestern and northern boundaries, and east of Cal State Dominguez Hills.

Table 3.1-1, *General Plan Land Use Estimated Acreages*, provides a summary of the General Plan-designated land uses and their "build-out" acreages as proposed by the General Plan, including General Plan Amendments.

Land uses identified on the existing General Plan map are discussed below.

Low Density Residential

Low Density Residential areas are defined in the Land Use Element as those areas having a residential density of up to eight (8) dwelling units per net acre. As stated in the Land Use Element, this designation is intended to provide for single-family detached residential units. This land use designation is implemented by the RS - Residential, Single-Family; RA - Residential, Agriculture; and RM (8) - Residential, Multi-Family (maximum of 8 dus./ac.) zones.

As shown in Table 3.1-1, of the 2,895.7 acres allocated for residential development within Carson, 2,435.1 acres, or 23.9% of the City, are designated for Low Density Residential uses. These Low Density Residential uses represent 84% of the total residential area within the City.

Medium Density Residential

Medium Density Residential areas are defined in the Land Use Element as those areas having a residential density of up to 12 dwelling units per net acre. This designation is intended to provide for multiple dwelling units as well as single-family residential units. This land use designation is implemented by the RM (12) - Residential, Multi-Family (maximum of 12 dus./ac.) zone.

As shown in Table 3.1-1, there are 109.7 acres, or 1.1% of the City, designated for Medium Density Residential uses. Medium Density Residential uses represent 3.8% of the residentially-designated area of the City.

High Density Residential

High Density Residential areas are defined in the Land Use Element as those areas having a residential density of a maximum of 25 dwelling units per net acre. As stated in the Land Use Element, this designation is intended to provide for multiple dwelling units, combinations of multiple- and single-family residential units. This land use

**Table 3.1-1
GENERAL PLAN LAND USE ESTIMATED ACREAGES**

Land Use	Acreage	Percentage of City	Percentage of Land Use Category
Residential			
Low Density	2,435.1	23.9	84.0
Medium Density	109.7	1.1	3.8
High Density	350.9	3.5	12.2
<i>Sub-Total Residential:</i>	<i>2,895.7</i>	<i>28.5%</i>	<i>100%</i>
Commercial			
General Commercial	291.9	2.9	48.3
Regional Commercial	312.7	3.1	51.7
<i>Sub-Total Commercial:</i>	<i>604.6</i>	<i>6.0%</i>	<i>100%</i>
Industrial			
Light Industry	1,496.5	14.7	27.2
Heavy Industry	4,000.2	39.3	72.8
<i>Sub-Total Industrial:</i>	<i>5,496.7</i>	<i>54.0%</i>	<i>100%</i>
Public Facilities			
	1,181.2	11.6	100.0
<i>Sub-Total Public Facilities:</i>	<i>1,181.2</i>	<i>11.6%</i>	<i>100%</i>
TOTAL	10,178.2	100.1%	100.1%¹

Source: City of Carson, GIS Information Systems.

¹ Due to rounding, total percentage is slightly higher.

designation is implemented by the RM (25) - Residential, Multi-Family (maximum of 25 dus./ac.) zone.

As shown in Table 3.1-1, there are 350.9 acres, or 3.5% of the City, designated for High Density Residential uses. High Density Residential uses represent 12.2% of the residentially-designated area of the City.

General Commercial

This commercial designation includes both general and neighborhood commercial land uses which provide both highway-oriented and smaller neighborhood retail opportunities. This land use designation is implemented by the CN - Commercial, Neighborhood and CG - Commercial, General zones.

As shown in Table 3.1-1, of the 604.6 acres allocated for commercial uses, there are 291.9 acres, or 2.9% of the City, designated for General Commercial uses. General Commercial uses represent 48.3% of the commercially-designated land in Carson.

Regional Commercial

Regional Commercial is intended to provide for the City's primary shopping center and its peripheral areas. The purpose of this land use designation is to offer the widest range of goods and services to the community. This land use designation is implemented by the CR - Commercial, Regional zone.

As shown in Table 3.1-1, there are 312.7 acres, or 3.1% of the City, designated for Regional Commercial uses. Regional Commercial uses represent approximately 51.7% of the commercially-designated uses.

Light Industry

Light Industrial areas are intended to provide small- and medium- sized industrial uses which are not likely to have any adverse effects upon adjacent properties. These uses are also intended to provide a buffer between residential and/or commercial land uses and other heavier industrial uses. This land use designation is implemented by the ML - Manufacturing, Light zone.

As shown in Table 3.1-1, of the 5,496.7 acres in the City designated for industrial uses, there are 1,496.6 acres, or 14.7% of the land in Carson, designated for Light Industrial uses. Light Industrial land uses represent 27.2% of the industrially-designated land in Carson.

Heavy Industry

Heavy Industrial areas are intended to provide for a full range of industrial uses which are acceptable within the community, but whose operations require provisions for controlling adverse effects upon the more sensitive areas of the City. These uses are also intended to be separated from residential and commercial uses. This land use designation is implemented by the MH - Manufacturing, Heavy zone.

As shown in Table 3.1-1, there are 4,000.2 acres, or 39.3% of the City, designated for Heavy Industrial uses. Heavy Industrial uses represent 72.8% of the industrially-designated land in Carson.

Public Facilities

This land use designation includes a broad range of civic, governmental, institutional, and utility related uses in the City. Within this category are parks, public buildings and associated grounds, public open space areas, and utility transmission corridors. There is no specific zoning category associated with this land use designation, this land use designation may be implemented through any of the City's zones.

As shown in Table 3.1-1, there are 1,181.2 acres, or 11.6% of the City, designated for Public Facility uses.

CIRCULATION ELEMENT

The City's Circulation Element was adopted in December 1981. This Element addresses the streets and highways in the City, their classifications, rights-of-way, and average number of vehicles per day. The Bicycle Facilities Section of the Circulation Element discusses the types of bicycle routes in Carson and the implementation program for the development of bicycle facilities. Discussion of this Element can be found in Section 3.2, *Circulation*.

PUBLIC SERVICES AND FACILITIES ELEMENT

The Public Services and Facilities Element was adopted in May 1982. Public services and facilities described in this Element include: schools, colleges, water, parks, libraries, fire stations, Sheriff station, post office, golf courses, the Olympic Velodrome, and the Civic Center complex. Discussion of this Element can be found in Section 3.9, *Public Services*.

OPEN SPACE ELEMENT

The Carson Open Space Element was adopted in May 1982 by Resolution Nos. 82-076 and 82-077. The Open Space Element is available for review at the City of Carson,

Community Development Department. The Element describes open space as being any parcel or area of land which is essentially unimproved and devoted to an open space use such as: open space for the preservation of natural resources; open space for the managed production of resources; open space for outdoor recreation; and open space for public health and safety.

Carson's open space is limited to:

- Those linear areas formed by utility easements,
- Public rights-of-way in the City's major arterial street system (e.g., medians, parkways, etc.),
- Parks and playgrounds,
- Areas devoted to agricultural production, and
- Some landfills and reclamation areas.

Goals and objectives identified in the Element include:

- Protect and preserve the City's open space and recreational lands.
- Provide for the managed production of resources, such as agriculture.
- Promote acquisition of land for parks until adequate areas for parks are assured.
- Serve all age groups through active and passive recreational systems.
- Ensure adequate open space through zoning and other methods of land use control.
- Increase neighborhood open space and recreational spaces.
- Beautify and utilize, on a lease basis if necessary, utility easements.
- Maintain existing street planting and maintenance programs.
- Encourage school authorities to maintain a reasonable balance between landscaped and paved playground areas.
- Encourage the planting and maintenance of landscaping along the Dominguez Channel right-of-way.
- Encourage owners of vacant land to maintain these properties.
- Encourage more comprehensive freeway landscaping programs and bicycle trails.
- Promote attractive landscaping on commercial and industrial developments and utilize landscape buffers for screening of incompatible land uses.
- Initiate innovative programs to improve the ratios between open space and buildings.
- Improve urban form through the review of zoning regulations.
- Coordinate the City's open space, recreation and natural corridors with neighboring local jurisdictions and regional organizations.
- Encourage legislation which increases open space funding.

- Maintain a program designed to review, obtain and utilize all available state and federal grants or subsidy programs to purchase and/or develop open space and recreational lands.
- Ensure the City's continued economic well-being and increase property values by making it an attractive and suitable place to live and work.

The Element also includes an open space plan which consists of the following components: the Dominguez Channel, utility easements, park development program, natural water resources, and the dedication of land and/or fees for park purposes.

CONSERVATION ELEMENT

The Conservation Element was adopted in December 1981 with Resolution No. 81-253. The Conservation Element is available for review at the City of Carson, Community Development Department.

This Element addresses clean air, water supply, soil erosion and earth subsidence, conservation of land resources, and solid waste disposal. The goals and programs for each of these topics are summarized below:

Clean Air

- Adopt and enforce the highest standards to control industrial sources of air pollution and odors.
- Encourage the adoption of strict standards for mobile and stationary sources of air pollution and odors.
- Reduce the effects of automobile pollution on the community by encouraging the use of public transportation and enforcement of emission control standards on gasoline-powered vehicles.
- Support the research and development of alternative fuels and vehicles which operate on non-toxic alternative fuels.
- Consider variations in work scheduling (i.e., flex-time, car and van pooling, etc.).
- Ensure and make available the proper mix of housing for the people working in Carson.
- Pursue the strict enforcement of odor offenders.

Water Supply

- Encourage public utilities to restrict the uses allowed along water routes.
- Propose the formulation of more meaningful standards for drinking water.
- Regulate development so that excessive loads are not placed on sanitary facilities.

- Coordinate with relevant agencies to regulate upstream industrial waste discharges.
- Continue and intensify Environmental Commission studies to determine the detrimental effects of waste disposal.
- Increase public education regarding street cleanliness.
- Ensure construction of storm drain facilities when additional funds are available.

Soils Erosion and Earth Subsidence

As stated in the Element, due to its relatively flat character, Carson has no severe erosion problems, with the exception of the Dominguez Hills area during the rainy season. As indicated in the Element, to offset the potential impact associated with soils erosion in this area, the City has established grading requirements for all hillside development.

Earth subsidence may occur in sanitary landfills and oil well fields. Landfills are monitored and are studied extensively prior to any development. Oil fields are subject to state regulation and a program of injecting water into extraction wells is in effect.

Conservation of Land Resources

- Determine blighted areas.
- Create a program by which blighted areas are improved.
- Require developers to dedicate open space under the Quimby Act.
- Adoption of model oil and gas conservation regulations by appropriate governing bodies.
- Conformance or amortization of oil wells which operate contrary to model conservation practices.
- Determine emergency policies.
- Encourage and actively plan, develop and operate coordinated open space systems.
- Encourage joint use of power line and flood control easements for recreational purposes.
- Replace and/or rehabilitate deteriorating and substandard structures throughout the City.
- Relocate highway-related commercial uses located in strip commercial areas to highway locations.
- Update the zoning and use development standards to improve upon the land use incompatibilities which exist in Carson.
- Encourage programs which clean up visual pollution from overgrown vacant lands, dismantling yards, and deteriorating commercial and residential areas.

Solid Waste Disposal

- Encourage a more efficient and economical mode of transporting solid waste.
- Encourage programs involving recycling of solid waste.

SAFETY ELEMENT

The Safety Element was adopted in December 1981 by Resolution No. 81-253. The Safety Element is available for review at the City of Carson, Community Development Department. The Safety Element addresses fire hazards and preparedness, geologic hazards, flood hazards, crime hazards, as well as safety policies and programs. Below is a brief summary of these safety issues, and the goals and objectives associated with each issue.

Fire Hazards and Preparedness

- Protect life and property in Carson from both natural and man-made hazards.
- Protect the public through effective fire protection and rescue programs.
- Work closely with other agencies and the citizens of the community to develop and implement emergency communications and disaster preparedness programs to ensure the overall health and safety of all those in Carson.
- Prepare and present educational programs on fire safety and rescue practices throughout the community.
- Maintain proper fire prevention, pre-fire planning and inspections of all commercial, public and industrial buildings within the City.
- Maintain the highest degree of proficiency in the fields of protection and rescue practices by providing continuous updated training and educational programs to members of the fire department.

Geologic Hazards

- Implement procedures and legislation to reduce geologic hazards to an acceptable level of risk.
- Promote programs, as well as research and legislation which will provide scientific identification and practical protection from geologic activity.
- Maintain and improve zoning and subdivision regulations requiring geologic approval prior to project implementation.
- Comply with Division of Mines and Geology standards and other such standards to protect the community from geologic hazards.
- Collect local geologic data to ensure its availability and retrieval.
- Notify property owners/tenants of known geologic hazards relating to those structures which may be vulnerable during an earthquake.
- Require adherence to Building Code standards to ensure protection from geologic hazards.

Flood Safety

- Maintain the emergency plan in the event of flooding.
- Ensure that drainage improvements are constructed as property is developed.
- Maintain the City's streets during periods of inundation.

Crime Protection and Prevention

- Provide preventive patrols.
- Apprehend offenders.
- Provide general service in a fair, honest, prompt and courteous manner to the satisfaction of all residents.
- Provide crime and delinquency prevention programs.
- Work to prevent crime through environmental design, utilizing "defensible space" design concepts.
- Provide an effective liaison and coordinate public and private efforts to enhance community safety.
- Encourage adequate security forces in mobile home parks and other non-public areas which have need for additional security protection.

The Safety Element also contains first and second priority programs for each of the safety issues described above.

SEISMIC SAFETY ELEMENT

The Seismic Safety Element was adopted in December 1981. The Element includes information about the Alquist-Priolo Special Studies Zones, geology of the South Bay Region, faults within the City of Carson, earthquake shaking, subsidence, and liquefaction. Discussion of this Element can be found in Section 3.4, *Geologic Hazards*.

NOISE ELEMENT

The Noise Element was adopted in December 1981. The Element generally describes the major sources of noise in the City, including: aircraft noise, transportation-related noise (i.e., automobiles, trains, trucks, buses, etc.), excessive noise in residential areas (i.e., noise problems in apartment neighborhoods, noise emanating from playgrounds, etc.), and industrial and commercial noise. Discussion of this Element can be found in Section 3.6, *Noise*.

HOUSING ELEMENT

The Housing Element was adopted in June 1989. A Housing Element Amendment with an analysis of "Assisted Housing At Risk of Conversion to Non-Low-Income Uses" and

an Addendum addressing the "Preservation of Assisted Housing Units" were prepared in 1992. Discussion of the Housing Element is found in Section 3.3, *Housing*.

AIR QUALITY ELEMENT

The Air Quality Element, adopted in 1994, was developed to support the air quality standard attainment goals of the regional Air Quality Management Plan (AQMP) by reducing locally-generated emissions. This Element includes goals and policies which are directed at reducing emissions associated with automobile use, energy consumption, and building and construction practices. The Air Quality Element also includes policies and implementation measures to support the goals identified, please refer to the Element itself for these items. The Air Quality Element is available for review at the City of Carson, Community Development Department.

Below is a summary of the issues identified in the Air Quality Element and the goals which address these issues.

Issue: Person Work Trip Reduction

- Reduce single occupant vehicle trips.
- Increase use of non-motorized transportation.
- Reduce vehicle emissions through greater use of public transportation.

Issue: Truck Programs

- Reduce emissions associated with truck usage.

Issue: Parking Management

- Reduce vehicle emissions through improved parking management and design.

Issue: Growth Management

- Reduce emissions associated with vehicle miles traveled by promoting a balance of jobs and housing.

Issue: Energy Consumption

- Reduce emissions associated with energy consumption.

Issue: Particulate Emissions

- Reduce fugitive dust emissions.

Issue: Building and Operational Emissions

- Reduce air pollutants and public exposure through zoning and building design.
- Reduce emissions through pre-construction environmental review and mitigation.

Issue: Intergovernmental Cooperation

- Maximize the effectiveness of air quality control programs through coordination with other governmental units.

Issue: Public Education

- Improve the effectiveness of air quality programs through local education programs.

Issue: City Actions that Contribute to Regional Emissions

- Reduce emissions through City government actions.

RECREATION ELEMENT

The Recreation Element was adopted in May 1982. Parks and recreational needs are discussed in terms of existing and proposed facilities and parks-to-population ratios. The Element also includes discussion relating to accessibility of park sites, size and shape, compatibility with adjacent land uses, cost of acquisition, and typical park facilities. Discussion of this Element is found in Section 3.12, *Parks and Recreation*.

HISTORICAL PRESERVATION ELEMENT

The Historical Preservation Element was adopted in December 1981 by Resolution No. 81-253. The Historical Preservation Element is available for review at the City of Carson, Community Development Department.

The Element states that the major goal of Carson's historic preservation activities is to encourage joint public/private efforts to recognize properties of historic significance. To this end, the City will seek to identify all structures and natural phenomena of historic importance relating to the historic growth and development of the area. To document this information, the Element anticipates that the City will collaborate with California State University at Dominguez Hills through the University's Master's Degree program in public history and historic preservation.

FINE ARTS ELEMENT

The Fine Arts Element was adopted in December 1981 with Resolution No. 81-253. The Fine Arts Element is available for review at the City of Carson, Community Development Department.

Goals and programs included in this Element are summarized below:

- Foster artistic and cultural development.
- Develop an on-going public/private partnership to support fine arts.
- Ensure public access and exposure to fine arts by bringing art to public places.
- Develop and promote citizen participation in artistic programs and endeavors.
- Establish lines of communication throughout the entire Carson community.
- Foster ethnic and cultural artistic events to reflect the community's diversity.
- Promote the preservation and rehabilitation of historic buildings and sites.

SCENIC HIGHWAYS ELEMENT

The Scenic Highways Element was adopted in December 1981. The Element addresses beautification of the City's streets. Discussion of this Element can be found in Section 3.2, *Circulation*.

PARKWAY ELEMENT

The Parkway Element was adopted in December 1981 with Resolution No. 81-253. The Parkway Element is available for review at the City of Carson, Community Development Department.

The Element does not contain any goals and policies per se, rather it includes accepted parkway configurations for certain land uses within the City including: low and medium density residential areas, high density residential and commercial areas, industrial areas, special development areas, and City parks.

3.1.2 CARSON VISION

The Carson Vision represents the culmination of the work efforts in the first phase of the two-phase General Plan Update work program. The first phase of the General Plan Update consisted of an educational and community outreach program where input was

received from residents, as well as business and property owners through a number of means including: interviews, workshops, a survey, and an advisory committee. The General Plan Advisory Committee (GPAC) was composed of 20 members from the City Council, all the City's commissions and committees, and residents. The GPAC was formed to assimilate the information received during the outreach program and develop guiding principles. These Guiding Principles and the issues which they are addressed are included in the Carson Vision. The Vision was reviewed by the Planning Commission and City Council, and was adopted on September 2, 1997.

Below is a summary of the topics addressed in the Carson Vision, the Guiding Principle for each topic, as well as the issues identified which led to the development of the Guiding Principle.

LAND USE

The Guiding Principle is:

"The City of Carson is committed to providing a balance of land uses including residential, commercial, industrial, educational, recreational, and open space. The City is also committed to providing quality development which incorporates features such as integrated, walkable, and mixed use neighborhoods. Furthermore, the City is committed to facilitating the adaptive reuse of former landfills and contaminated sites.

The City of Carson is committed to creating an attractive environment for its citizens by developing, implementing and enforcing community design guidelines which will assure quality development and the maintenance and beautification of properties."

Issues identified which led to the development of the Guiding Principle above included the following, each of which should be considered in the development of the General Plan:

- Abatement of uses which impact the community,
- Promotion of cultural activities,
- Expansion of the commercial base,
- A balance of uses,
- Incompatible land uses,
- Mixed use developments,
- Property enhancement, and the
- Alameda Corridor.

ECONOMIC DEVELOPMENT

The Guiding Principle is:

"The City of Carson is committed to aggressively pursuing, retaining, and promoting quality and sustainable economic development and jobs, on both local and regional levels, through the utilization of the City's natural advantages which include, but are not limited to: the City's strategic location in the South Bay, the University, ports, access to freeways and airports, the Alameda Corridor, multi-cultural communities, international trade, and a diverse and skilled labor force."

Issues identified which led to the development of the Guiding Principle above included the following, each of which should be considered in the development of the General Plan:

- A variety of commercial uses,
- Employment opportunities and development of the labor force,
- Business incentives,
- Coordination of economic development within the region,
- Attraction of niche industries and/or businesses, and the
- Redevelopment of properties.

TRANSPORTATION AND INFRASTRUCTURE

The Guiding Principle is:

"The City of Carson is committed to providing a safe and efficient circulation system that improves the flow of traffic while enhancing pedestrian safety, promoting commerce, and providing for alternative modes of transportation. The City is committed to maintaining and improving all forms of infrastructure including water, sewer and storm drainage facilities, communication and other technological facilities."

Issues identified which led to the development of the Guiding Principle above included the following, each of which should be considered in the development of the General Plan:

- Truck traffic in Carson,
- Improving and maintaining transportation infrastructure in the City,
- Improving and maintaining the City's infrastructure,
- Protection of residential neighborhoods from traffic, and
- Alternative forms of transportation.

HOUSING

The Guiding Principle is:

"The City of Carson is committed to providing and improving a broad range of quality housing opportunities, promoting home ownership, and enhancing residential neighborhoods."

Issues identified which led to the development of the Guiding Principle above included the following, each of which should be considered in the development of the General Plan:

- Property maintenance,
- Group homes,
- Diversity of housing, and
- Private property with common area ownership (condominiums and planned unit developments).

SAFETY

The Guiding Principle is:

"The City of Carson is committed to promoting community safety in order to enhance the livability, quality of life, business environment, positive image of the community, and reduce the effects of crime and environmental hazards to all citizens."

Issues identified which led to the development of the Guiding Principle above included the following, each of which should be considered in the development of the General Plan:

- Safety from traffic and crime,
- Public safety relating to the handling and exposure of the community to hazardous materials, and
- Protection in the event of natural disasters.

NOISE

The Guiding Principle is:

"The City of Carson is committed to preventing, regulating, and controlling unnecessary and excessive noise emanating from uses and activities within the City. To this end, the City will continue promoting

compatible land uses, considering sensitive receptors, and implementing enforceable procedures and mitigation measures."

Issues identified which led to the development of the Guiding Principle above included the following, each of which should be considered in the development of the General Plan:

- Carson noise ordinance, and
- Buffering of sensitive land uses.

OPEN SPACE AND CONSERVATION

The Guiding Principle is:

"The City of Carson is committed to preserving and enhancing its key natural features including, but not limited to, trees and vegetation, open space, and other natural resources. To this end, the City shall continue promoting environmental awareness and practices to protect these resources."

Issues identified which led to the development of the Guiding Principle above included the following, each of which should be considered in the development of the General Plan:

- Enhancement of the City's open space, and
- Water conservation.

PARKS, RECREATION, AND CULTURAL ACTIVITIES

The Guiding Principle is:

"The City of Carson is committed to expanding the recreational facilities and activities within the City by providing commercial recreation uses, affordable recreation opportunities, and a variety of public and private recreational facilities. The City is also committed to promoting the assets associated with the diversity of the community by involving its citizens in a broad spectrum of cultural and recreational activities and programs."

Issues identified which led to the development of the Guiding Principle above included the following, each of which should be considered in the development of the General Plan:

- Additional recreational facilities,

- Community involvement,
- Safety and maintenance of Carson parks,
- Affordability of recreational programs,
- Opportunities for Carson's youth, and
- Human relations.

AIR QUALITY

The Guiding Principle is:

"The City of Carson is committed to improving air quality by: reducing total air emissions, educating the public on pollution control measures, minimizing dust and odor generation, and encouraging the use of best available technology."

Issues identified which led to the development of the Guiding Principle above included the following, each of which should be considered in the development of the General Plan:

- Dust and odor generation,
- Regional air quality, and
- Community awareness and emergency response actions.

3.1.3 ZONING

Article IX (Planning and Zoning), Chapter 1 (Zoning), Carson Zoning Ordinance (Ordinance No. 77-413) provide the zoning provisions for the City. The Zoning Ordinance was adopted by the Carson City Council on October 3, 1977.

Zoning for the City of Carson is categorized as follows:

Residential Zones

- RS - Residential, Single-Family
- RM (8)- Residential, Multiple Dwelling (up to 8 dus./ac.)
- RM (12)- Residential, Multiple Dwelling (9 - 12 dus./ac.)
- RM (25)- Residential, Multiple Dwelling (13 - 25 dus./ac.)
- RA - Residential, Agriculture

Commercial Zones

- CN - Commercial, Neighborhood Center
- CR - Commercial, Regional Center

- CG - Commercial, General

Industrial Zones

- ML - Manufacturing Light
- MH - Manufacturing, Heavy

Open Space Zone and Special Uses

- OS - Open Space
- SU - Special Uses

Table 3.1-2, *Estimated Zoning Designation Distribution*, provides a summary of the acreage associated with each zoning category within the City. The associated mapping is on file at the City of Carson, Community Development Department.

As seen from these acreages, approximately 30.3% of the City is comprised of residentially-zoned property. Of this, 23.8% of the City, representing 78.5% of the residentially-zoned property, is zoned for RS - Residential, Single-Family. Approximately 6.1% of the City, 20.2% of the residentially-zoned property, is zoned for RM - Residential, Multiple Dwelling. The smallest amount of residentially-zoned land falls under the RA - Residential, Agriculture category; .4% of the City, 1.2% of the residentially-zoned land, is zoned for this type of residential use.

Approximately 6.4% of the City is comprised of commercially-zoned property. Of this, 3.4% of the City, representing 53.5% of the commercially-zoned property, is zoned for CR - Commercial, Regional Center. Approximately 2.3% of the City, 35.8% of the commercially-zoned property, is zoned for CG - Commercial, General. The smallest amount of commercially-zoned land falls under the CN - Commercial, Neighborhood Center category; roughly 0.7% of the City, 10.8% of the commercially-zoned land, is zoned for this type of commercial use.

Approximately 55.2% of the City is comprised of industrially-zoned property. Of this, 39.5% of the City, representing 71.6% of the industrially-zoned property, is zoned for MH - Manufacturing, Heavy. Approximately 15.7% of the City, 28.4% of the industrially-zoned property, is zoned for ML - Manufacturing, Light.

The remaining zoning categories consist of OS - Open Space and SU - Special Use, these represent 4.3% and 3.9%, respectively, of the City's zoned properties.

Land uses identified in the existing Zoning are discussed on the following pages.

**Table 3.1-2
ESTIMATED ZONING DESIGNATION DISTRIBUTION**

Zone	Acreage	Percentage of City
Residential		
RS - Residential, Single-Family	2,422.8	23.8
RM - Residential, Multiple Dwelling	624.1	6.1
RA - Residential Agriculture	39.2	0.4
<i>Sub-Total Residential:</i>	<i>3,086.1</i>	<i>30.3%</i>
Commercial		
CN - Commercial, Neighborhood Center	69.8	0.7
CR - Commercial, Regional Center	346.6	3.4
CG - Commercial, General	231.8	2.3
<i>Sub-Total Commercial:</i>	<i>604.6</i>	<i>6.4%</i>
Industrial		
ML - Manufacturing Light	1,595.2	15.7
MH - Manufacturing, Heavy	4,015.1	39.5
<i>Sub-Total Industrial:</i>	<i>5,610.3</i>	<i>55.2%</i>
Open Space Zone and Special Uses		
OS - Open Space	433.9	4.3
SU - Special Uses	398.3	3.9
<i>Sub-Total Open Space and Special Uses:</i>	<i>832.2</i>	<i>8.2%</i>
TOTAL	10,176.8	100.1%¹

Source: City of Carson, GIS Information Systems.

¹ Due to rounding, total percentage is slightly higher.

Residential Zones

- ***RS - Residential, Single-Family***

This zone was created for the establishment, expansion and preservation of residential areas which are to be developed with single-family detached dwellings and such other activities considered harmonious with such low density residential development.

- ***RM - Residential, Multiple Dwelling***

This zone was created for the establishment, expansion and preservation of residential areas which are to be developed with multiple dwellings or combinations of single-family and multiple dwellings, and such activities considered harmonious with such medium and high density residential development. There are three densities associated with this zone: RM (8), which allows up to 8 dus./ac., RM (12), which allows up to 12 dus./ac., and RM (25), which allows up to 25 dus./ac.

- ***RA - Residential Agriculture***

This zone was created for single-family residential uses together with compatible crop cultivation and related agricultural activities on land which is not yet fully utilized for residential purposes.

Commercial Zones

- ***CN - Commercial, Neighborhood Center***

This zone was created primarily for convenience retail shopping facilities to serve surrounding neighborhoods. Characteristically, each center is anchored by a grocery store together with small retail service shops and professional offices.

- ***CR - Commercial, Regional Center***

This zone was created primarily for a major center with its peripheral areas, which serves a community or sub-regional area and offers a full range of retail merchandise and services.

- ***CG - Commercial, General***

This zone was created primarily to provide areas of all types of commercial activities not grouped in commercial centers.

Industrial Zones

- ***ML - Manufacturing Light***

This zone was created primarily for small- and medium-sized uses which are not likely to have adverse effects upon each other or upon neighboring residential and commercial zones.

- ***MH - Manufacturing, Heavy***

This zone was created primarily for the full range of industrial uses which are acceptable within the community as a whole, with provisions for controlling any adverse effects upon the more sensitive areas of the City.

Open Space Zone and Special Uses

- ***OS - Open Space***

This zone was created for the enhancement, expansion, and protection of large outdoor recreation areas, natural resource areas, ecological preserves, and land subject to special hazards which make such land unsuitable for buildings.

- ***SU - Special Uses***

This classification was created primarily in order to provide for special zone designations with appropriate regulations for certain large or unique land uses which have a major impact upon the surrounding community and which could not have been reasonably anticipated in the zoning pattern.

Overlay Districts

The Carson Zoning Code also contains the following Overlay Districts:

- Design Overlay,
- Organic Refuse Landfill, and
- Mixed Use Residential.

- ***Design Overlay***

This designation was created primarily for Site Plan and Design Review of future development within designated areas in order to achieve special standards of design, architectural quality, style and compatibility, landscape treatment, and functional integration of neighboring developments. Design Overlay Review is also required for projects in Redevelopment Areas.

- ***Organic Refuse Landfill***

This designation was created to provide for the public health, safety, and general welfare by regulating uses of organic refuse landfill sites and ensuring that proper mitigation measures are taken to eliminate or minimize hazards to persons and property, and environmental risks associated with such sites including, but not limited to, toxicity, fire, explosion and subsidence.

- ***Mixed Use Residential***

This designation was created to provide for pedestrian-oriented, mixed-use (commercial/residential) development, and high density residential development which may include market rate, affordable or senior housing, within designated areas in commercial zones.

3.1.4 SPECIFIC PLANS

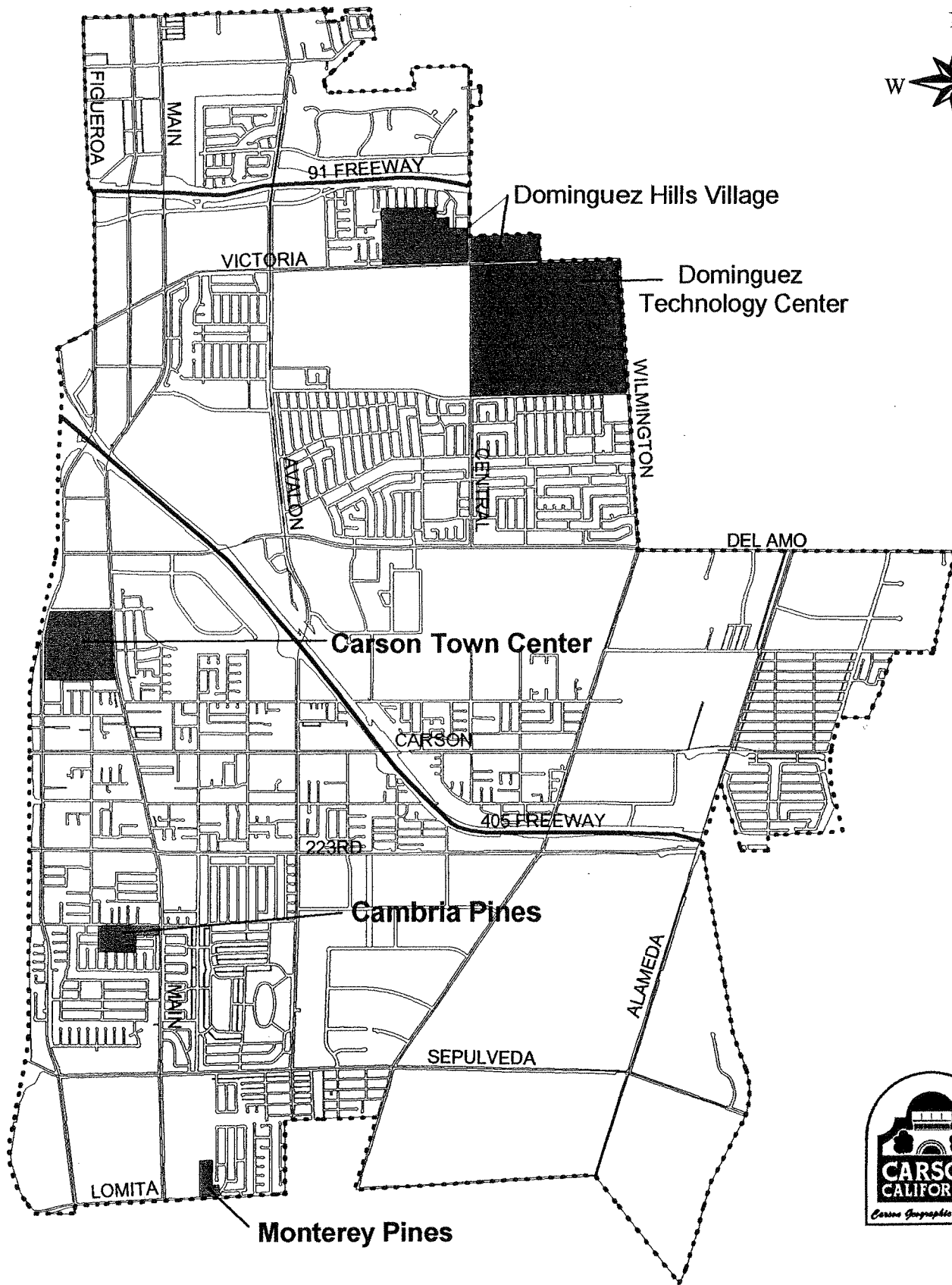
There are presently five Specific Plan areas in the City of Carson: Dominguez Technology Centre, Dominguez Hills Village, Cambria Pines, Carson Town Center, and Monterey Pines. These areas are shown on Exhibit 3.1-2, *Specific Plan Areas*.

DOMINGUEZ TECHNOLOGY CENTRE SPECIFIC PLAN

The Dominguez Technology Centre Specific Plan was adopted in two phases: the first phase was adopted in August 1986, the second phase was adopted in October 1990. The first phase of the project has been developed, the second phase is being graded. The Dominguez Technology Centre Specific Plan consists of 288 acres in the northeastern portion of Carson. The Specific Plan area is bounded by Cal State Dominguez Hills, Victoria Street, Wilmington Avenue, and University Drive.

Dominguez Technology Centre is proposed as a business park with limited support commercial uses. Specific uses proposed include: Technology, Office, Support Commercial, Industrial, and Petroleum. The Specific Plan indicates a maximum of 4.7 million total square feet. However, an additional ten percent (10%) of gross floor area may be approved subsequent to determination that there is not a significant impact on air quality, traffic circulation, noise, public service or other areas as approved by City Council. Any increase beyond the 4.7 million square feet is subject to Site Plan and Design Review.

A brief discussion of each of the land use districts follows.



Specific Plan Areas

Carson General Plan Update

Exhibit 3.1-2

Technology

Technology users include product research and development, testing, laboratory facilities, distribution, light assembly and fabrication and like activities. A maximum of 1.88 million square feet will be utilized for technology uses.

Office

Approximately 30% of the Specific Plan, up to 1.25 million square feet, was designated for office and business uses in order to implement a mixed use concept.

Support Commercial

Support commercial include: restaurants, business supply, health clubs, service stations, bank branches, limited retail uses, child care centers, etc. A maximum of 100,000 square feet of support commercial uses are envisioned.

Industrial

Industrial uses were intended to be non-polluting and compatible with the other technological users in the Dominguez Technical Centre. Uses include: light manufacturing, assembly, warehousing and distribution. The Specific Plan stipulates that no more than 30% of the project will be devoted to trucking company warehouses or customs bonded warehouses.

Petroleum

Oil production and recovery have occurred on the site for several decades. Oil consolidation facilities are planned for future petroleum operations at the site.

Floor Area Ratio (FAR)

The Specific Plan identifies the maximum FARs for the Specific Plan uses; these are as follows:

Technology	0.45
Office	0.40
Support Commercial (Stand-alone)	0.25
Support Commercial (Other)	0.40
Industrial	0.50

An additional 470,000 square feet of gross floor area may be approved by the City Council if a traffic study is completed that demonstrates all eleven (11) on-site and off-

site intersections identified in the Specific Plan are operating at prescribed levels of service.

DOMINGUEZ HILLS VILLAGE SPECIFIC PLAN

The Dominguez Hills Village Specific Plan, Specific Plan No. 4-93, was adopted by Ordinance No. 96-1084 on January 5, 1999. The Specific Plan addresses 100 acres located north of Victoria Street at Central Avenue; there are 72 acres located west of Central Avenue designated for residential uses, and 28 acres located east of Central Avenue designated for commercial/industrial uses. The site is presently being graded.

The site had been used by the Brea Cañon Oil Company. The Deepwater Chemical Plant had previously occupied a portion of the property west side of Central Avenue; other uses on the western portion of the property included a tree nursery, shipping/production tank facilities, 72 idle wells, and numerous surface and subsurface pipelines. Existing uses on that portion of the property east of Central Avenue included: an office building, garage and maintenance facility, compressor gas plant, nine active wells, 13 idle wells, as well as numerous surface and subsurface pipelines.

West of Central Avenue, the Specific Plan allows for 650 residential units with densities ranging from 8 to 25 units per acre with an overall density of 8.9 dwelling units per acre, a 1.6 acre child care facility, and open space. All oil well facilities have been closed on the site.

The Specific Plan allows for retail commercial, oil production and industrial uses on that portion of the property which is east of Central Avenue

Table 3.1-3, *Dominguez Hills Village Specific Plan*, provides a summary of the allowable development within the Specific Plan area. A brief discussion of each of the land uses follows.

Residential

Housing Type A-1 will consist of conventional single-family detached homes. Housing Type B will consist of single-family detached homes, as well as single-family patio homes. Housing Type C will consist of townhouses and carriage homes, as well as courtyard townhouses.

Open Space

Open space areas will provide recreational opportunities for residents of Dominguez Hills Village as well as provide a buffer from the oil producing well on the residential side of the Specific Plan area.

**Table 3.1-3
DOMINGUEZ HILLS VILLAGE SPECIFIC PLAN
RESIDENTIAL (WEST OF CENTRAL AVENUE)**

Land Use	Lot Nos.	Acres	Units	Density
Residential - Phase 1				
Housing Type A-1: Single-Family Detached	14,15	5.73	47	8.2 dus./ac.
Housing Type B: Single-Family Detached	4,5,6	8.08	70	8.66 dus./ac.
Housing Type C: Townhouses and Carriage Homes	1,2,3	8.01	129	16.1 du./ac.
Residential - Phase 2				
Housing Type A-1: Single-Family Detached	16-19	11.87	109	9.18 dus./ac.
Housing Type B: Single-Family Detached	7,8,9	17.39	158	9.09 dus./ac.
Housing Type C: Courtyard Townhouses	10,12,13	7.90	137	17.34 du./ac.
Open Space	20-26	3.19	-	-
Child Care Center	11	1.6	-	-
Roads/Easements/Retention Basin	27-31	8.97	-	-
Total		72.74	650	8.9 du./ac.

COMMERCIAL/INDUSTRIAL (EAST OF CENTRAL AVENUE)

Land Use	Lot Nos.	Acres	Leaseable Sq.Ft.	Density
Neighborhood Serving Retail	33	5.57 (gross) (4.71 net)	50,000	0.23 FAR
Tank Farm: Oil Production, Distribution and Storage Facility	32	12.55	-	-
Industrial Development, Manufacturing and Distribution	34	8.97	441,000	0.54 FAR
Drainage and Ingress/Egress Easement	35	0.86	-	-
Total		27.49	491,000	-

Land Use/Planning Considerations

Child Care Center

The child care facility will provide for a minimum of 150 students and outdoor play areas.

Neighborhood Serving Retail

This retail site is anticipated to contain a small market, neighborhood retail, and should there be a need, restaurant pads which may or may not include fast food.

Tank Farm: Oil Production, Distribution & Storage Facility

Oil production on the site will be greatly reduced, being concentrated on the eastern portion of the Specific Plan. Oil production may be further curtailed when retail tenants have been identified. The tank farm is an oil and gas storage facility currently located on the residential portion of the Specific Plan, and will be relocated to the eastern portion of the site.

Industrial Development, Manufacturing and Distribution

Industrial uses are planned to remain on the eastern portion of the site, as designated on the current General Plan, similar to the industrially-designated area to the north and east.

CAMBRIA PINES SPECIFIC PLAN (NOW KNOWN AS SEA COUNTRY HOMES)

The Cambria Pines Specific Plan, Specific Plan No. 7-97, was adopted by Ordinance No. 97-1124 on November 18, 1997; the project is now known as Sea Country Homes. The project consists of 20.7 acres in the western portion of Carson along Main Street. The site is currently being graded.

The Specific Plan site was formerly used by the Fletcher Oil Company as an oil tank storage facility, with 11 functioning oil storage tanks. The purpose of the Specific Plan was to allow for the development of a residential community which will provide affordable housing opportunities. The site had been developed with oil tanks and related uses for over 50 years. The area in which the site is located has transitioned from an area dominated by oil storage tanks to an area of residential neighborhoods.

A single use district was incorporated into the Specific Plan, mirroring the RS - Residential, Single-Family Zoning designation. The proposed density is 7.9 dus./ac. (gross), which will allow 162 homes.

CARSON TOWN CENTER SPECIFIC PLAN

The Carson Town Center Specific Plan, Specific Plan No. 3-90, was adopted by Ordinance No. 94-1044 on October 25, 1994 and was amended on June 18, 1996. The Carson Town Center consists of 76 acres, and is located in the western portion of Carson. The site is bounded by Torrance Boulevard, Main Street and Figueroa Street. A portion of the site has been developed with the Super K department store, while the southern portion of the site has yet to be developed.

The Carson Town Center site was formerly occupied by the Golden Eagle Refinery. The Specific Plan area is located within the City's Redevelopment Planning Area 1-D where heavy manufacturing uses are being replaced with limited manufacturing and business park uses.

Three types of use districts were established by the Specific Plan:

- Retail, Recreational/Entertainment, Visitor Commercial,
- Office, Recreational/Entertainment, Retail Commercial, and
- Office/R&D, Light Industrial/Retail Commercial.

Table 3.1-4, *Carson Town Center Specific Plan*, provides a summary of the acreage within each land use district, as well as allowable building square footage. A brief discussion of each of the land use districts follows.

Retail, Recreational/Entertainment, Visitor Commercial

The Retail, Recreational/Entertainment, Visitor Commercial land use district is located on the western 40 acres of the Specific Plan area, along Figueroa Street and Torrance Boulevard. This land use is intended to optimize accessibility and visibility from the freeway and the surrounding streets. The Super K is located along Figueroa Street, with additional "destination" retail commercial designated to the northeast within the district.

Office, Recreational/Entertainment, Retail Commercial

This land use district is proposed for the northeastern part of the Specific Plan area. Destination commercial uses are envisioned to take advantage of freeway proximity, without freeway visibility. A major constraint to this area is the former landfill located in this portion of the site; commercial or office business uses with high parking demands would ideally use this area.

**Table 3.1-4
CARSON TOWN CENTER SPECIFIC PLAN**

Land Use	Acres	F.A.R.	Building Sq.Ft.	Maximum Stories
Retail, Recreational/ Entertainment, Visitor Commercial	40.0	0.35	640,000	2/Retail 10/Visitor
Office, Recreational/ Entertainment, Retail Commercial	18.8	0.35	158,500	6
Office/R&D, Light Industrial/ Retail Commercial	16.2	0.55	158,500	6
Streets	1.0	-	-	-
Total	76.0	-	957,000	-

Office/R&D, Light Industrial/Retail Commercial

Business park development is envisioned in this land use district located in the southeast area of the site. The business park is envisioned as a composition of office and light industrial buildings ranging from one to six stories.

MONTEREY PINES SPECIFIC PLAN

The Monterey Pines Specific Plan, Specific Plan No. 6-95, was adopted by Ordinance No. 95-1063 on June 20, 1995 and was amended on November 20, 1996. The Monterey Pines Specific Plan consists of 9.13 acres, and is located in the southern portion of Carson along Lomita Boulevard, between Avalon Avenue and Main Street. Monterey Pines has been developed.

The Monterey Pines site was formerly occupied with several industrial-related buildings, an unoccupied house, a church, buildings related to a former poultry business, two oil wells, an oil tank, and several other buildings related to truck repair uses.

The Monterey Pines Specific Plan provided for the development of 69 single-family detached homes, resulting in an average density of 7.56 dwelling units per acre. Per the Specific Plan, the average lot size is 3,200 square feet. While most of the site has been developed for residential uses, there are 1.15 acres of the site which remain industrial. Mitigation and buffering techniques are proposed in the Specific Plan to reduce the impacts/incompatibilities between land uses.

Approval of the Specific Plan required the approval of a zone change from ML-D (Light Manufacturing, Design Overlay) to RS (Residential - Single-Family) on that portion of the site where residential uses were proposed.

3.1.5 EXISTING LAND USE

The existing land use pattern within the City closely corresponds with the City's General Plan and Zoning patterns for the community, with the exception that commercial uses are allowed in industrial areas. Detailed surveys of existing land uses are on file with the City's Community Development Department.

Residentially-designated areas are generally concentrated in the following areas of the City: the Lincoln-Dominguez neighborhood in the eastern portion of the City; the area bordered by Wilmington Avenue, Dominguez Street, and the Dominguez Channel, east of the San Diego Freeway; that area border by University Drive, Wilmington Avenue, Del Amo Boulevard, and Avalon Boulevard (there are also other residential

areas to the north and northwest of this neighborhood); and the area to the southwest of the San Diego Freeway, where most of the residential uses are concentrated.

Commercially-designated uses are, for the most part, concentrated along the San Diego Freeway. Industrially-designated uses are located in the eastern portion of the City, southwest corner of Carson, along the City's northwestern and northern boundaries, and east of Cal State Dominguez Hills.

Table 3.1-5, *Summary of Existing Land Uses*, provides an overview of the existing land uses in Carson. This summary does not include acreage associated with roadways.

There are approximately 936.6 acres within the City which are vacant; the largest areas of vacant land are located to the east and north of Cal State Dominguez Hills and the site formerly known as Metro 2000. Vacant land is considered that land which is clear of all buildings, structures and appurtenant facilities; these sites may be occupied by trees, bushes or signs which are incidental to the use of the properties.

There are another 233.9 acres in the City which are underutilized; underutilized parcels are located throughout the City with the largest area located at the southwest corner of Wilmington Avenue and Del Amo Boulevard. The City's Vacant Land Survey provides a discussion of characteristics of properties which are considered underutilized; based on these characteristics, underutilized properties include:

- Large parcels occupied by a business which utilize fifty percent (or less) of the site.
- Large residential parcels occupied by residential dwellings which utilize fifty percent (or less) of the site.
- Large parcels utilized for the storage of junk and salvage materials (in an area with some vacant parcels).
- Large parcels occupied by a small vacant building (with no apparent business located at the site).
- Large parcels occupied by scattered oil wells and appurtenant facilities, and the site is also utilized for the storage of boxed trees and a small industrial facility which is incidental to the site.
- Large parcels utilized for the storage of trucks and similar vehicles and occupied by small structures.

**Table 3.1-5
SUMMARY OF EXISTING LAND USES**

Description	Acres
RESIDENTIAL	
Single-family	2,180.69
Single-family, condominium	35.30
Single-family, planned unit development	7.78
Double (2-unit building) or duplex	61.32
Three units (any combination)	22.47
Four units (any combination)	12.66
Five or more units (any combination)	75.55
Residential condo (separately assessed)	101.95
Residential condominium (units separate)	1.24
Mobile home park	260.91
Rooming house	0.17
Home for the aged and others	3.97
<i>Total Residential</i>	2,764.01
COMMERCIAL	
Animal kennel	0.27
Athletic and/or amusement facility	39.19
Auto sales and service	27.28
Auto service shop	72.03
Bank/savings and loan	7.23
Building supplies store	4.66
Car wash	1.46
Commercial, miscellaneous	52.07
Hotel/Motel (over 50 rooms)	12.87
Hotel/Motel (under 50 rooms)	6.14

Land Use/Planning Considerations

Description	Acres
COMMERCIAL (continued)	
Nursery/greenhouse	61.83
Recreational equipment sales and service	10.04
Restaurant, cocktail lounges	13.20
Restaurant, fast food drive-thru and walk-up	9.2
Service stations	30.88
Shopping center (neighborhood)	27.64
Shopping center (regional)	82.15
Store combination (store/office)	4.60
Store combination (store/residence)	16.84
Supermarket (6,000 to 12,000 sf)	0.69
Supermarket (larger than 12,000 sf)	4.23
Supermarket (small food store)	0.14
Theater, movie - drive-in (closed)	24.37
Vehicle sales and service	8.88
Parking lot, commercial patron or employee	57.00
<i>Total Commercial</i>	574.89
INDUSTRIAL	
Food processing	29.14
Lumber yard	33.95
Mineral processing	1,625.33
Industrial	361.0
Industrial, miscellaneous	11.26
Light manufacturing	728.70
Heavy manufacturing	199.58
Open storage	212.74
Open storage, trucking companies/terminals	41.02

Land Use/Planning Considerations

Description	Acres
INDUSTRIAL (continued)	
Service shop	1.13
Warehousing, Distribution and Storage	970.1
Parking lots (industrial use)	44.74
<i>Total Industrial</i>	4,258.69
OFFICE	
Office building	135.93
Office building (office and residential)	1.69
Professional building	3.27
Professional building (medical/dental)	7.71
Professional building (veterinary hospital, clinic)	0.11
<i>Total Office</i>	148.71
RECREATION	
Parks	361.28
Recreational - clubs, lodge halls, fraternal organizations	0.47
<i>Total Recreation</i>	361.75
OTHER	
Cemetery/mausoleum/mortuary	22.38
Church	38.83
Flood control drainage	121.96
Government owned parcels/property	629.25
School, private	5.85
Utility (Dominguez Water office and service yard)	5.52
Utility (state assessed property)	274.9
Vacant	919.22

Land Use/Planning Considerations

Description	Acres
OTHER (continued)	
Miscellaneous	51.12
Missing Data (coverage errors)**	0.01
<i>Total Other</i>	2,069.04
<i>Total Acres</i>	10,177.09

**Missing Data applies to parcels that do not have any land use description; the area is likely within transportation corridors, resulting in minimal data missing.

- Large parcels utilized for the storage of relocated buildings (on moving blocks); these buildings are temporarily stored for future relocation to other sites.
- Large parcels of land occupied by agricultural farming operations (excluding commercial nursery businesses).

Exhibit 3.1-3, *Vacant and Underutilized Land*, shows the locations of both vacant land and underutilized land in Carson. Table 3.1-6, *Summary of Vacant and Underutilized Land*, provides a list of vacant land in Carson by type of land use.

3.1.6 REDEVELOPMENT PLANS

The City's Redevelopment Agency has adopted two redevelopment project areas: Redevelopment Project Area No. One, and Merged and Amended Redevelopment Project Area Nos. Two and Three (now referred to as Redevelopment Project Area No. Two). The Redevelopment Plans for both Project Areas are available for review at the City of Carson, Community Development Department. The locations of these Project Areas are shown on Exhibit 3.1-4, *Redevelopment Project Areas*.

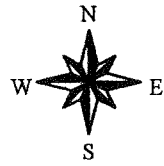
Project Area No. One

Originally established in December 1971, the original Redevelopment Project Area No. One encompassed approximately 635 acres. The Project Area contained primarily commercial and industrial uses with a few pockets of residential uses. Since that time it has been amended six times; the 1984 Amendment to Project Area No. One added 873 acres to the Area. The most recent amendment, the Sixth Amendment to the Redevelopment Project Area, was adopted in June 1996; the sixth amendment added approximately 536 acres to the existing project area; with the amendment, the total area of Project Area No. One is approximately 2,044 acres.

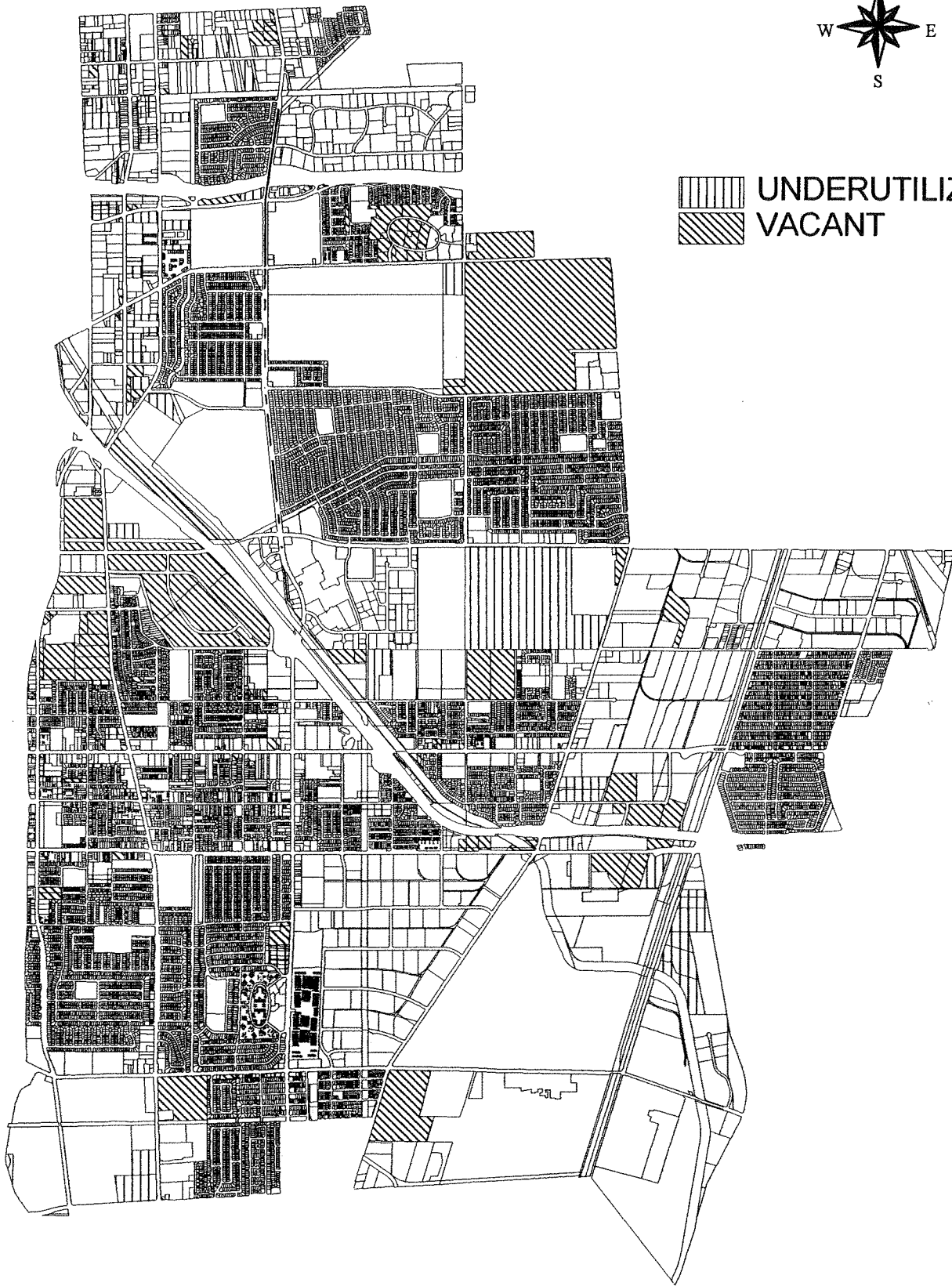
Project Area No. Two

The Redevelopment Plan for Project Area No. Two was originally adopted by Ordinance No. 74-295 in February 1974. The 700-acre Project Area contained two residential neighborhoods and an industrial park. The Redevelopment Plan was amended four times between the years 1975 and 1994. The amendments in 1975 and 1982 added a substantial amount of territory to the original Project Area No. Two.

The Redevelopment Plan for Project Area No. Three was originally adopted by Ordinance No. 84-695 in July 1984. Project Area No. Three originally contained approximately 500 acres of primarily industrial uses along the San Diego Freeway and some general uses along Carson Street. Project Area No. Three also contained some



 UNDERUTILIZED
 VACANT



Vacant and Underutilized Land Map

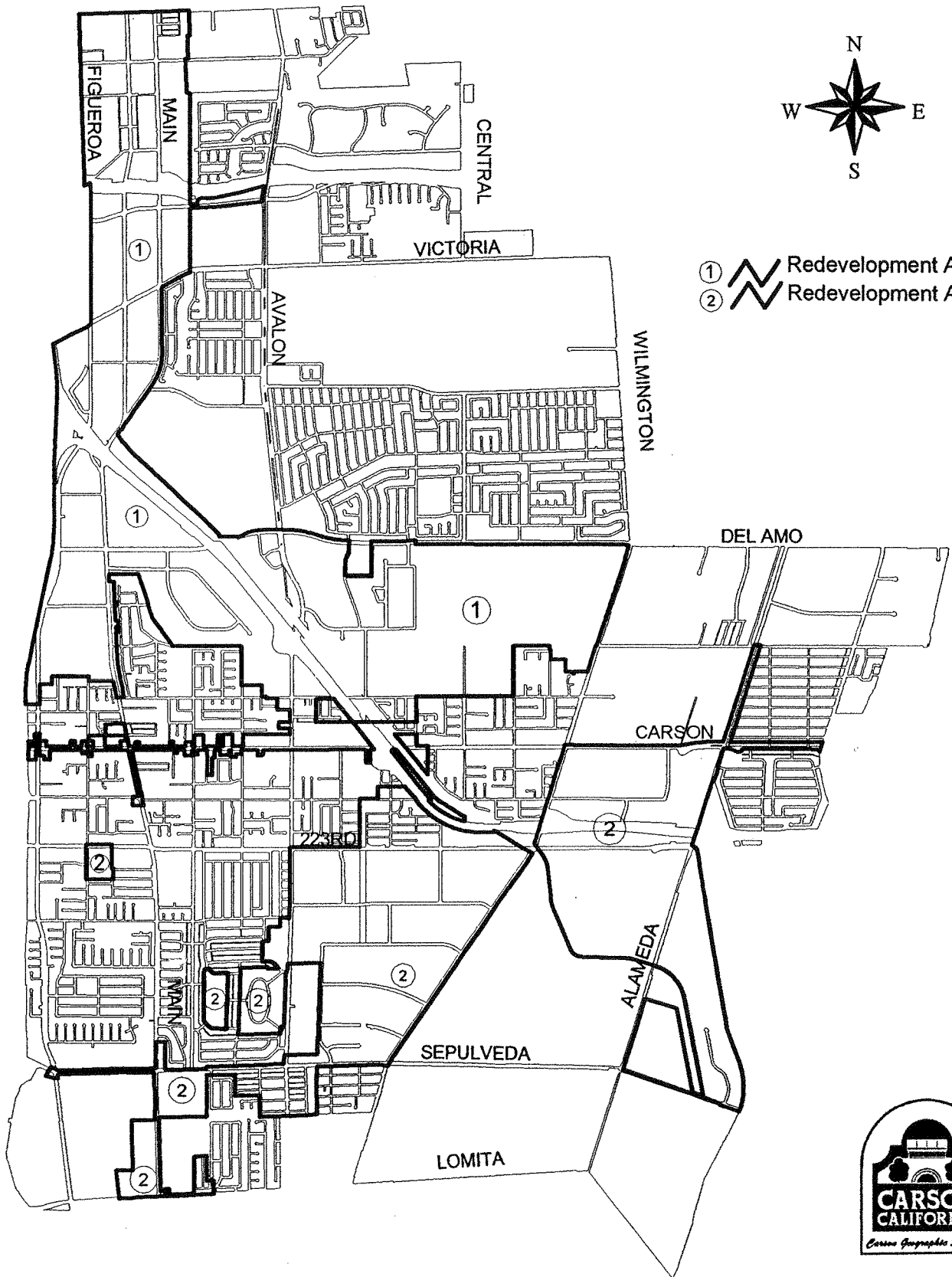
Carson General Plan Update

Exhibit 3.1-3

**Table 3.1-6
SUMMARY OF VACANT AND UNDERUTILIZED LAND**

Description	Acres
VACANT	
RESIDENTIAL	
Single-family	130.87
Double (2-unit building) or duplex	0.24
Five-unit residential	0.11
<i>Total Residential</i>	<i>131.22</i>
COMMERCIAL	
Commercial	123.00
<i>Total Commercial</i>	<i>123.00</i>
INDUSTRIAL	
Industrial	612.36
Light manufacturing	13.43
Heavy manufacturing	39.21
<i>Total Industrial</i>	<i>665.00</i>
Total Vacant Acres	919.22
UNDERUTILIZED	
COMMERCIAL	
Commercial	31.00
<i>Total Commercial</i>	<i>31.00</i>
INDUSTRIAL	
Industrial	832.00
<i>Total Industrial</i>	<i>832.00</i>
Total Underutilized Acres	863.00

Land Use/Planning Considerations



Redevelopment Plan Project Area

Carson General Plan Update

Exhibit 3.1-4

non-conforming residential uses. Project Area No. Three was amended in 1984 and again in 1996.

In June 1996, Project Areas Two and Three were merged to maximize available resources. They are formally referred to as the Merged and Amended Redevelopment Project Area Nos. Two and Three, and commonly referred to as Redevelopment Project Area No. Two. The total area of the Merged and Amended Project Area Nos. Two and Three is approximately 1,634 acres.

Redevelopment Plan Goals

The Redevelopment Plan for both Project Areas identify specific goals for the implementation of the Plans. These are summarized below:

- Eliminate and prevent the spread of blight and deterioration, and conserve, rehabilitate, and redevelop the Project Area(s).
- The encouragement, cooperation, and participation of residents, business persons, public agencies, and community organizations in the revitalization of the Project Area(s).
- Provide financial assistance to encourage private sector investment to develop and redevelop the Project Area(s).
- Promote the economic well-being of the Project Area (s) by encouraging the diversification and development of its economic base, and to assist in both short- and long-term employment opportunities for the residents of the Project Area(s) and the City.
- Improve housing and assist low and moderate income persons and families in obtaining homeownership.
- Develop quality affordable housing.
- Provide adequate roadways and access throughout the City, and provide traffic and circulation improvements to correct street deficiencies.
- Stimulate private sector investment in the full development of the Project Area(s).
- Expand the resource of developable land by making underutilized land available for development.

- Provide needed or lacking public improvements and facilities which are sensitive to the environment.
- Improve or preserve low and moderate income housing as is required to satisfy the needs and desires of the various age and income groups of the community.
- Develop safeguards against noise and pollution to enhance the community.
- Upgrade existing commercial and industrial uses in the Project Area(s).
- Assemble land into parcels suitable for integrated development with improved development standards, as well as pedestrian and vehicular circulation in the Project Area(s).

3.1.7 OTHER RELEVANT PLANS

LIVABLE COMMUNITIES PROGRAM

Livable Communities Concepts

The Southern California Association of Governments (SCAG) produced a guidebook entitled *Creating Livable Places* in February 1996. This guidebook describes the concepts which create livable communities, as well as some of the barriers to which impede the creation of more livable communities, and strategies to overcome these barriers. The concepts which lead to more livable communities are described below:

- ***Integrated Communities***

Integrated communities are those which contain a healthy mix of homes, shops, work places, schools, parks, and civic institutions; and where residents have greater access to daily essentials and a higher quality of life is offered to a wider range of the population.

- ***Design***

Streets, buildings and public spaces are designed to a human scale so that pedestrian access is assured. Housing, jobs, daily needs and other activities are within easy walking distance. Urban design is used to enhance safety, prosperity and beauty. Links to natural, cultural and architectural history are preserved.

- ***Center Focus***

An economically healthy town center which combines a variety of uses and which is linked to both local and regional public transportation systems. Residential neighborhoods also have appropriately scaled centers which focus on the neighborhood character and identity.

- ***Public Spaces***

Open spaces in the forms of parks, squares, greens are provided. Public spaces are designed to encourage the attention of people throughout the day and into the night, making them safer and more usable.

- ***Balanced Transportation***

Transportation balances pedestrian, transit and auto access to reduce dependence on autos and provide secure, convenient and affordable mobility for all citizens. Streets, pedestrian and bike paths are linked in a system of fully-connected and interesting routes to all destinations. Small scale, tree-lined, well-lit routes encourage pedestrian and bicycle use and discourage speeding traffic.

- ***Diversity***

Communities contain a mix of housing and employment opportunities for citizens of all ages, ethnicities and incomes.

- ***Environmental Sustainability***

Livable communities respect the natural features and vegetation of the community, and conserve resources for future generations. Energy conservation is encouraged through a variety of methods.

- ***Public Safety***

Streets, buildings and public spaces are built to a human scale so that pedestrian safety is assured. Adequate government response (i.e., police, fire, building and safety) is provided.

- ***Full Community Participation***

Residents, neighborhood organizations and the business community all fully participate in the decision-making process.

- ***Integrated Centers and Transportation***

Livable communities are well integrated in regions and subregions, recognizing the interrelationships between urban cores, suburbs and rural communities. Individual communities and cluster of communities promote well-defined edges. A coherent network of community centers reinforces regional/subregional identity and character. Balanced transportation systems link towns and city cores.

- ***Integrated Planning***

Public and private planning efforts that promote cooperation and collaboration throughout the region and/or subregion. Infill and redevelopment of existing urbanized areas. Reinvestment in declining areas in order to lower blight and crime, contributing to the livability of the entire area.

- ***Regional Identity***

Concepts to strengthen regional identity include: preservation of natural and historic features, agricultural lands, greenbelts and wildlife corridors; and use of materials, landscaping and methods of construction that are compatible with the region's culture, climate and character.

Barriers to Livable Communities

The SCAG guidebook identifies general plans as one of the barriers to creating more livable communities. Specifically the guidebook states that general plans can be too specific, rigidly enforcing separation of uses, creating both artificially low densities and street/highway expansions. Strategies to address this issue include:

- Provide a broad vision for the community in the general plan.
- The general plan should be the product of inclusive efforts to involve and educate the community in the preparation of the plan. During the process, citizens should be introduced to the principles of livable communities in order to assist them in making informed choices.
- Land use and transportation planning should be integrated.
- City codes and practices should be brought into conformance with the vision.

Livable Communities Program Handbook

The South Bay Cities Council of Governments (SBCCOG), comprised of 16 cities located in southwest Los Angeles County, was granted funds from the Southern California Association of Governments (SCAG) to increase awareness and understanding of "Livable Communities" concepts. With these funds, the SBCCOG developed the Livable Communities Education and Outreach Program.

The goal of the Livable Communities Education and Outreach Program was to provide each community with the necessary tools to begin to include Livable Communities concepts in their land use and development decision-making processes.

The Livable Communities Education and Outreach Program consisted of four components: one, Livable Communities presentations; two, a Livable Communities handbook; three, a publications list; and four, a Marketing Strategy.

The handbook contains background information, a model resolution and reference materials. The model resolution identifies planning principles which should be utilized to create more livable communities, these are as follows:

- "1. All planning should be in the form of complete and integrated communities containing housing, shops, work places, schools, parks and civic facilities essential to the daily life of residents.
2. Community size should be designed so that housing, jobs, daily needs and other activities are within easy walking distance of each other.
3. As many activities as possible should be located within easy walking distance of transit stops.
4. A community should contain a diversity of housing types to enable citizens from a wide range of economic levels and age groups to live within its boundaries.
5. Businesses within the community should provide a range of job types for the community's residents.
6. The location and character of the community should be consistent with a larger transit network.
7. The community should have a center focus that combines commercial, civic, cultural, and recreational uses.

8. The community should contain an ample supply of specialized open space in the form of squares, greens and parks whose frequent use is encouraged through placement and design.
9. Public spaces should be designed to encourage the attention and presence of people at all hours of the day and night.
10. Each community or cluster of communities would have a well-defined edge, such as agricultural greenbelts or wildlife corridors, permanently protected from development.
11. Streets, pedestrian paths and bike paths should contribute to a system of fully-connected and interesting routes to all destinations. Their design should encourage pedestrian and bicycle use by being small and spatially defined by buildings, trees and lighting, and by discouraging high speed traffic.
12. Wherever possible, the natural terrain, drainage, and vegetation of the community should be preserved with superior examples contained within parks or greenbelts.
13. The community design should help conserve resources and minimize waste.
14. Communities should provide for the efficient use of water through the use of natural drainage, drought tolerant landscaping and recycling.
15. The street orientation, the placement of buildings and the use of shading should contribute to the energy efficiency of the community."

The model resolution also indicates that neighboring jurisdictions should work with one another to achieve the following goals:

- "1. The regional land use planning structure should be integrated within a larger transportation network built around transit rather than freeways.
2. Regions should be bounded by and provide a continuous system of greenbelt/wildlife corridors to be determined by natural conditions.
3. Regional institutions and services (government, stadiums, museums, etc.) should be located in the urban core.
4. Materials and methods of construction should be specific to the region, exhibiting continuity of history and culture and compatibility with the

climate to encourage the development of local character and community identity."

The model resolution further states that each jurisdiction should take the following actions to implement these goals:

- "1. The general plan should be updated to implement the above principles.
2. Rather than allowing developer-initiated, piecemeal development, local governments should take charge of the planning process. General plans should designate where new growth, infill or redevelopment will be allowed to occur.
3. Prior to any development, a specific plan should be prepared based on the planning principles. With the adoption of specific plans, complying projects could proceed with minimal delay.
4. Plans should be developed through an open process and participants in the process should be provided visual models of all proposals."

CITY OF CARSON ECONOMIC DEVELOPMENT STRATEGY

The City Council approved the City of Carson Economic Development Strategy on April 21, 1998. The Strategy contained a Mission Statement, goals, objectives and action steps (specifying the time frame within which the action would occur). The Economic Development Strategy is on file at the City of Carson Community Development Department.

The Mission Statement for the Economic Development Strategy is to: "Enhance the quality of life in the City of Carson through promotion of a strong local economy that offers growing employment and business opportunities and supports a healthy and diversified tax base vital to the long-term viability of the City and its citizens."

Goals and objectives to support that Statement are summarized below, please refer to Appendix A, *Economic Development Strategy*, for the entire document.

Goal: Promote and Assist the Growth and Vitality of Existing Businesses

Objectives to implement this goal include:

- Implement a Business Visitations Program.
- Institute and promote a "Buy in Carson" program.
- Conduct the Annual Business Awards Program to recognize local businesses and show City and community appreciation.

- Develop an up-to-date data base of all businesses in Carson.
- Provide technical assistance to small businesses and coordinate with outside business organizations.
- Provide a trained and reliable work force through leadership and cooperation with private and public sector job training programs, at all educational levels and institutions, through City and County agencies and local organizations.
- Implement a Citywide program for assisting commercial and industrial building rehabilitation to upgrade facilities for improved economic use.

Goal: Attract New Wealth- and Job-Creating Businesses by Developing and Implementing a Cohesive and Comprehensive Marketing and Public Relations Program to Attract Targeted Businesses and Related Jobs

Objectives to implement this goal include:

- Create and maintain a comprehensive market-related database for the City and its immediate surroundings; define and focus on emerging industries; and develop a cohesive and comprehensive marketing and public relations program to bring companies and jobs to Carson.
- Inventory available land/vacant building space and market these to the business community through all available avenues.
- Utilize Carson's Home Page on the Internet to market the City as a "Great Place to Do Business"
- Participate in the International Council of Shopping Centers Conferences and local trade shows to attract retail development.

Goal: Promote and Improve Residents' Quality of Life Issues Including Jobs, Housing, Land Development, and Land Use Compatibility, Transportation and Infrastructure, Public Safety and Recreation

Objectives to implement this goal include:

- Develop a program to inform residents of the employment resources available in the City.
- Implement a Citywide program for assisting housing purchase and rehabilitation.
- Participate in the General Plan Update process, as well as ongoing meetings held by the City Council, Redevelopment Agency, as well as the City's commissions, committees, and boards to affect decisions regarding the quality of life issues identified in the goal.

3.2 CIRCULATION

EXISTING CIRCULATION SYSTEM

The City of Carson is served by the existing network of roadways, shown in Exhibit 3.2-1, *Existing Carson Street Network*. The existing network is essentially a modified grid system of north/south and east/west roadways. The primary north/south roadways are Figueroa Street, Broadway, Main Street, Avalon Boulevard, Central Avenue, Wilmington Avenue, Alameda Street and Santa Fe Avenue. The primary east/west streets are Alondra Boulevard, Gardena Boulevard, Artesia Boulevard, Albertoni Street, Walnut Street, Victoria Street, University Drive, Del Amo Boulevard, Carson Street, 223rd Street, Sepulveda Boulevard and Lomita Boulevard. The characteristics of each of these roadways, plus some additional collector streets, including Master Plan street classifications, number of lanes, roadway widths, and right-of-way dimensions, are described in Table 3.2-1, *Street Classification and Characteristics*.

Relationship to the Regional Roadway System

Regional access to the City of Carson is provided primarily by the Arteria Freeway (SR-91) to the north, the Long Beach Freeway (I-710) to the east, the Harbor Freeway (I-110) to the west, and the San Diego Freeway (I-405). Access to the freeways are provided via an extensive freeway ramp system connecting the City's major arterials to the freeways.

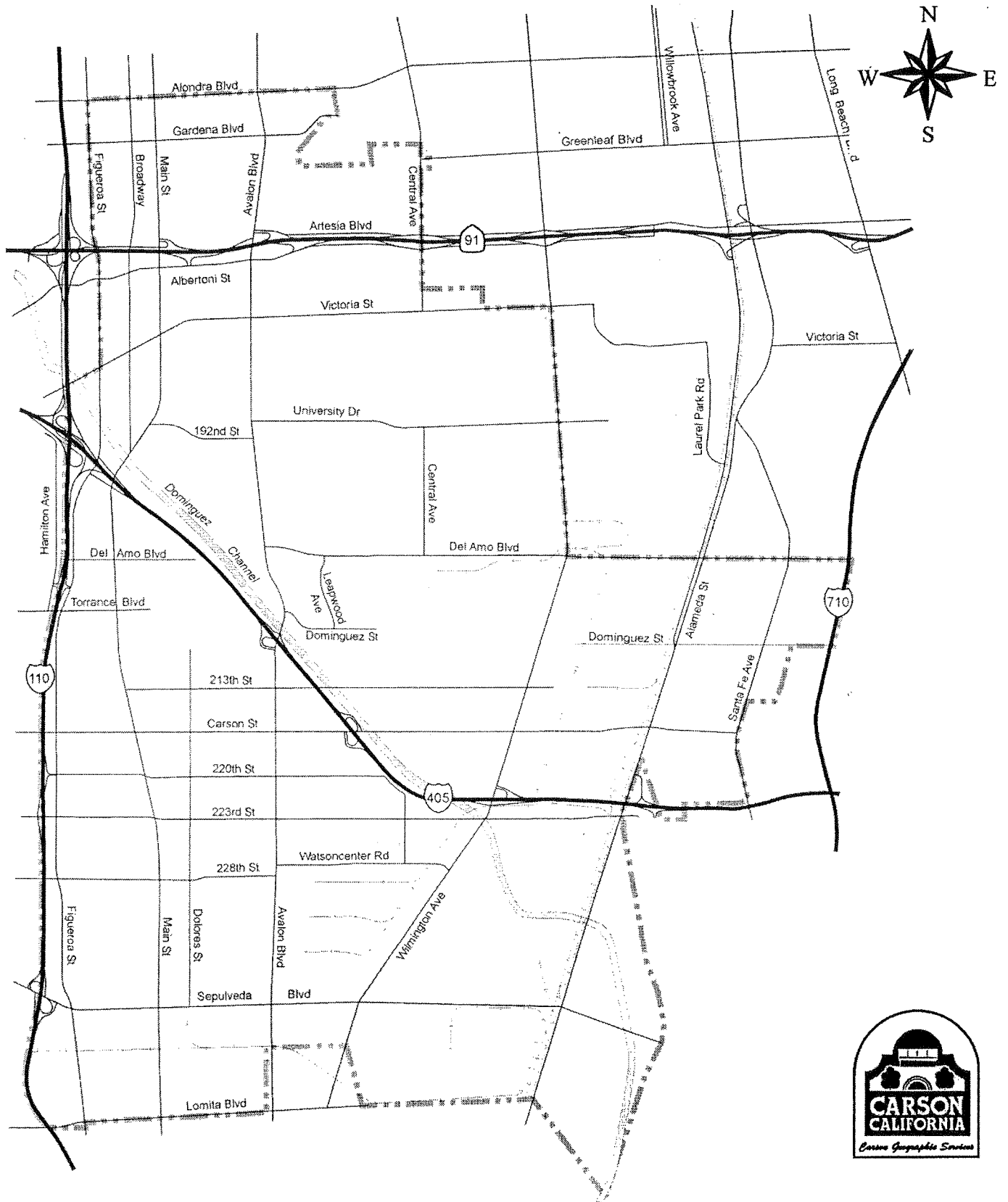
Existing Daily Trip Volumes

The characteristics of key arterial roadways in the City of Carson have been summarized in Table 3.2-1, *Street Classifications and Characteristics*, and daily roadway traffic volumes and traffic flows are shown in Exhibits 3.2-2 and 3.2-3, respectively. The existing daily traffic volumes were obtained by the City of Carson as a part of the City's traffic count program. The counts were collected in 1996.

MASTER PLAN OF STREETS

The current Carson Master Plan of Streets was adopted in 1982 as part of the City's General Plan and is shown on Exhibit 3.2-4, *Master Plan of Highways*. The City's Master Plan of Highways designates roadways as one of five street classifications according to function. The five classifications are:

- Local Streets;
- Collector Streets;
- Secondary Highways;



Existing Carson Street Network

Carson General Plan Update

Exhibit 3.2-1

**Table 3.2-1
STREET CLASSIFICATIONS AND CHARACTERISTICS**

Street Name	Segment	Classification [1]	No. of Lanes Each Direction [2]	Right-of-Way (feet) [3]	Roadway Width (feet) [3]
192nd Street	Main Street to Avalon Boulevard	Collector	1	80	64
213th Street	Main Street to Avalon Boulevard	Collector	1	50 - 60	24-40
213th Street	405 Freeway to Wilmington Avenue	Collector	1	50 - 60	40
213th Street	Avalon Boulevard to 405 Freeway	Secondary Highway	1	50 - 70	24 - 30
214th Street	Figueroa Street to Main Street	Collector	1	60	30 - 36
220th Street	Vera Street to Wilmington Avenue	Collector	1	50 - 60	24 - 40
220th Street	Figueroa Street to Lucerne Street	Collector	1	46 - 60	32 - 40
223rd Street	West City Limit to East City Limit	Major Highway	2	42 - 116	28 - 84
228th Street	West City Limit to Avalon Boulevard	Collector	1	33 - 60	28 - 40
234th Street	Figueroa Street to Main Street	Collector	1	60	36
Acarus Avenue	Vera Street to Carson Street	Collector	1	60	40
Alameda Street	Lomita Boulevard to Del Amo Boulevard	Major Highway	1	50 - 145	44 - 114
Albertoni Street	Figueroa Street to Sudbury Drive	Secondary Highway	2	100	84
Albertoni Street	Sudbury Drive to Central Avenue	Collector	2	60	34
Alondra Boulevard	Figueroa Street to East City Limit	Major Highway	2, 3 [5]	100	80
Artesia Boulevard (East)	Avalon Boulevard to Central Avenue	Collector		48	34
Avalon Boulevard	South City Limits to Alondra Boulevard	Major Highway	2	47 - 150	28 - 130
Bonita Street	Watson Center Road to Carson Street	Collector	1	57 - 80	35 - 60
Broadway	Main Street to Alondra Boulevard	Major Highway	2	100	30 - 80
Carson Street	West City Limit to Santa Fe Avenue	Major Highway	2	83 - 100	44 - 86

Circulation

CARSON GENERAL PLAN UPDATE • EXISTING CONDITIONS REPORT

Street Name	Segment	Classification [1]	No. of Lanes Each Direction [2]	Right-of-Way (feet) [3]	Roadway Width (feet) [3]
Central Avenue	Del Amo Boulevard to North City Limits	Major Highway	2	40 - 100	20 - 84
Del Amo Boulevard	West City Limit to East City Limit	Major Highway	1, 2 [5]	100 - 108	44 - 90
Dolores Street	Sepulveda Boulevard to 213th Street	Collector	1	50 - 80	18 - 60
Dominguez Street	Wilmington Avenue to Santa Fe Avenue	Collector	1, 2 [5]	66 - 84	30 - 68
Figueroa Street	South City Limits to Alondra Boulevard	Major Highway	2	100	40 - 84
Gardena Boulevard	Figueroa Street to Avalon Boulevard	Secondary Highway	2	60 - 80	16 - 64
Grace Avenue	228th Street to 213th Street	Collector	1	55 - 60	23 - 40
Lomita Boulevard	West City Limit to City West of Avalon Boulevard	Major Highway	2	100 - 182	80 - 84
Lomita Boulevard	Wilmington Avenue to Alameda Street	Major Highway	1	100	22 - 82
Lucerne Street	Watson Center Road to 220th Street	Collector	1	50 - 80	26 - 60
Main Street	Lomita Boulevard to Alondra Boulevard	Major Highway	2	80 - 100	40 - 84
Martin Street	Carson Street to 213th Street	Collector	1	50 - 60	28 - 40
Moneta Avenue	228th Street to 214th Street	Collector		60	40
Santa Fe Avenue	405 Freeway to Del Amo Boulevard	Secondary Highway	2	80 - 112	44 - 84
Sepulveda Boulevard	West City Limit to East City Limit	Major Highway	1, 2, 3 [5]	50 - 100	36 - 88
Torrance Boulevard	West City Limit to Main Street	Secondary Highway	2	60 - 80	42 - 52
Turmont Street	Avalon Boulevard to Central Avenue	Collector	1	60	36 - 40
University Drive	Avalon Boulevard to Wilmington Avenue	Secondary Highway	1, 2 [5]	100	80
Vera Street	Carson Street to 213th Street	Secondary Highway	1	60	21
Victoria Street	West City Limit to Wilmington Avenue	Major Highway	1, 2 [5]	66 - 100	20 - 84

Circulation

Street Name	Segment	Classification [1]	No. of Lanes Each Direction [2]	Right-of-Way (feet) [3]	Roadway Width (feet) [3]
Walnut Street [4]	Figueroa Street to Main Street	Collector	1	50	30
Walnut Street (East)	Avalon Boulevard to Central Avenue	Secondary Highway	2	80	64
Watson Center Road	Avalon Boulevard to Wilmington Avenue	Collector	1	80	60
Wilmington Avenue	Lomita Boulevard to Victoria Street	Major Highway	2	66 - 145	26 - 105

Notes:

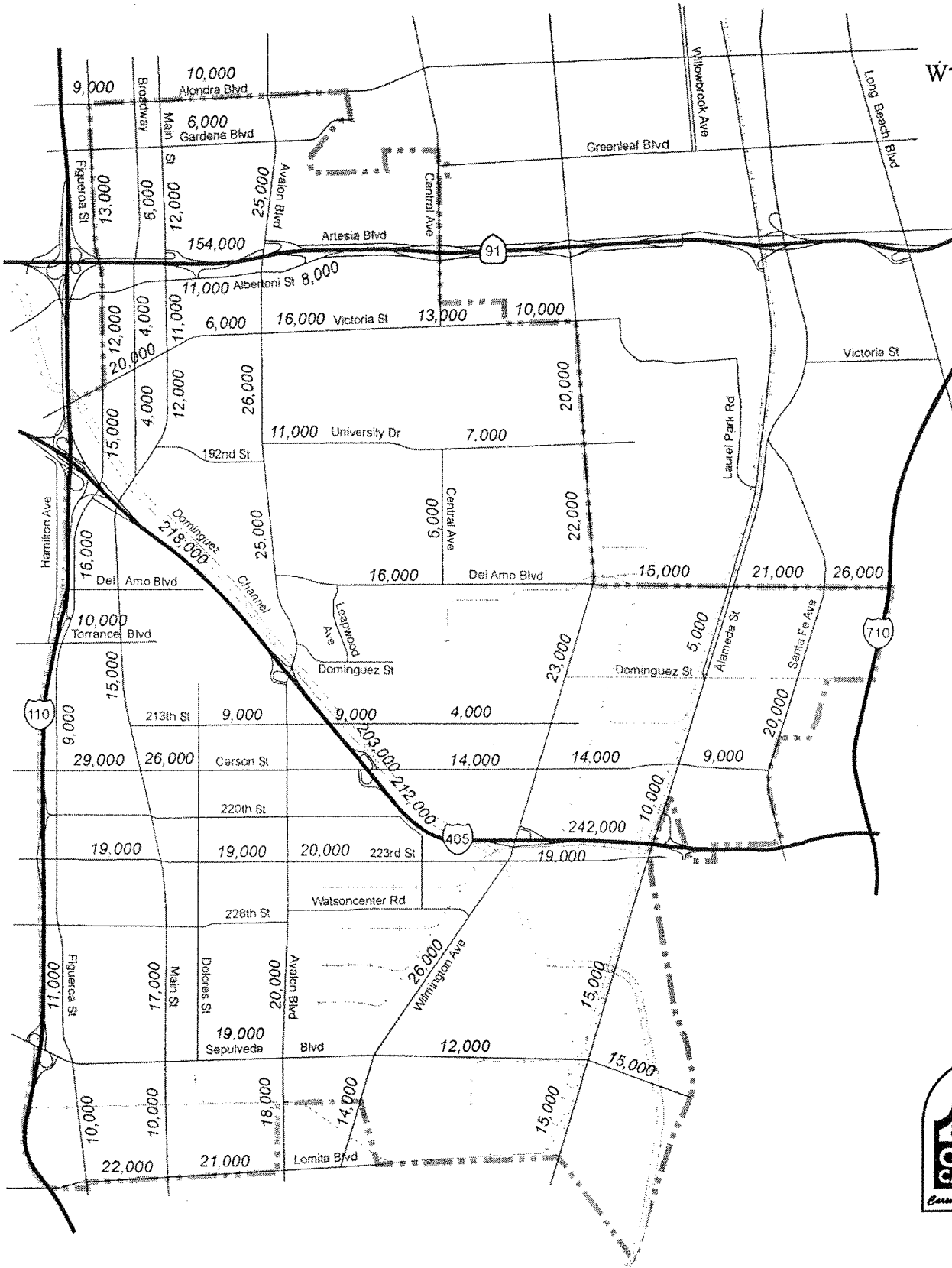
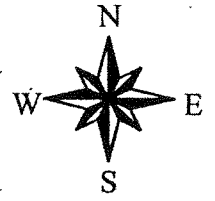
[1] - Source; City of Carson Master Plan of Highways, amended May 17, 1982.

[2] - Source; South Bay COG Subregional Model Database and field observation.

[3] - Source; LA County Roads Department, Classification of Road Surfaces Database.

[4] - Downgraded to Collector Street per Resolution No. 85-020, General Plan Amendment on February 4, 1985.

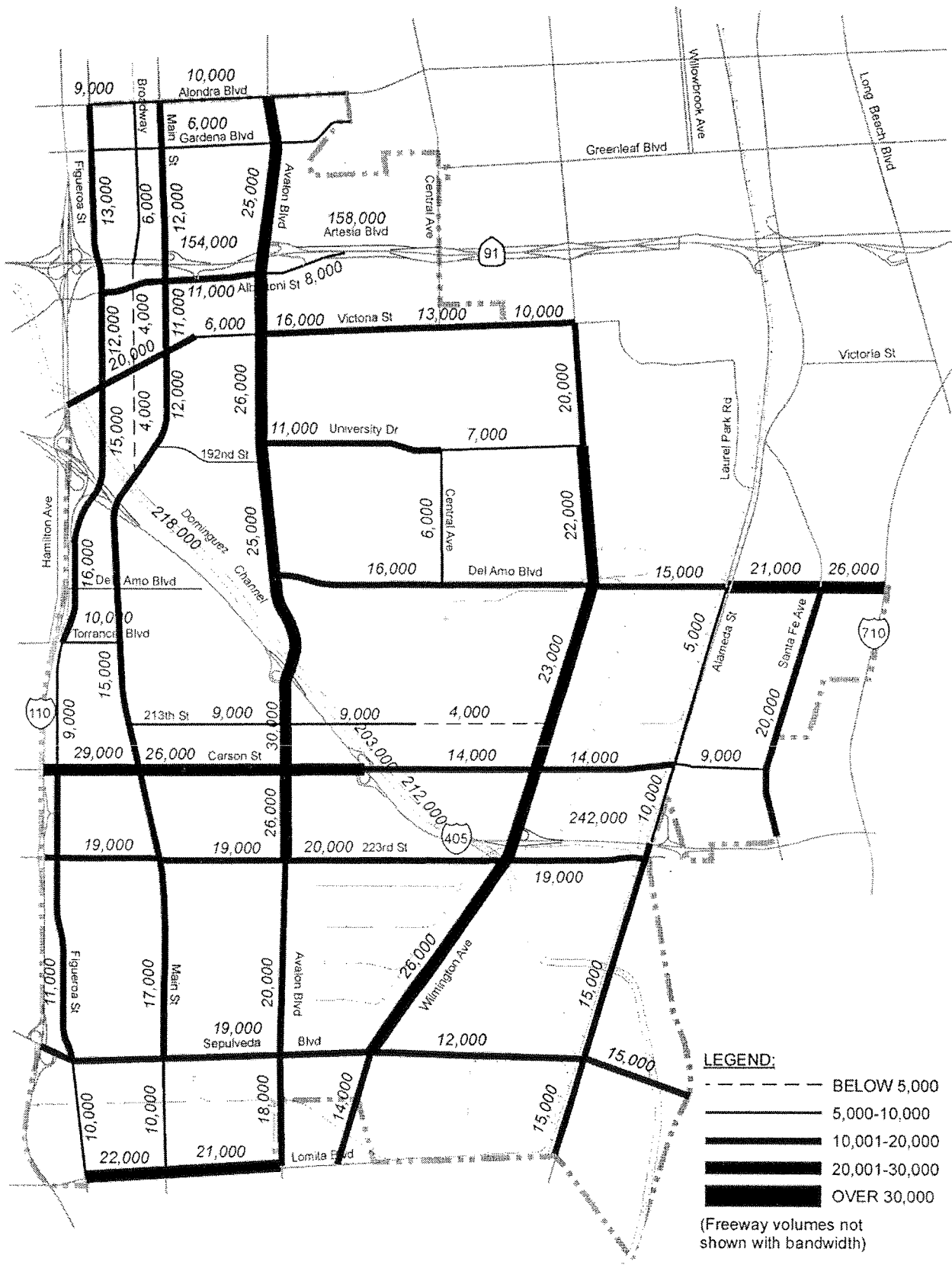
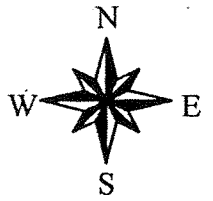
[5] - Number of lanes varies.



Daily Traffic Volume

Carson General Plan Update

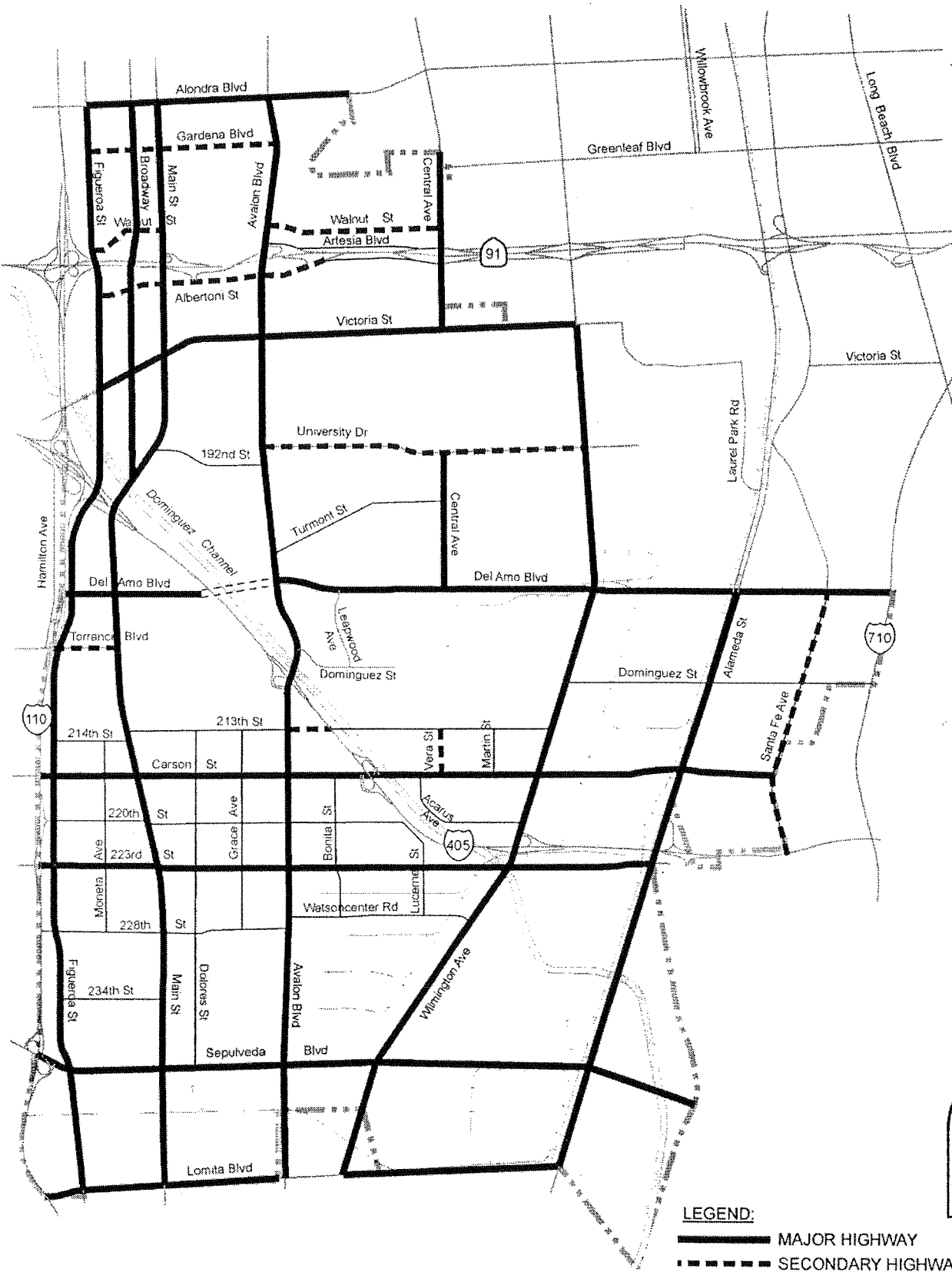
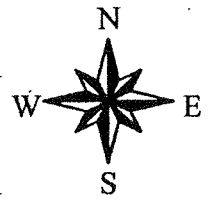
Exhibit 3.2-2






Traffic Flow Map

Carson General Plan Update

Exhibit 3.2-3



- LEGEND:**
-  MAJOR HIGHWAY
 -  SECONDARY HIGHWAY
 -  COLLECTOR

Master Plan of Highways Carson General Plan Update

Exhibit 3.2-4

- Major Highways; and
- State Highways.

The function and a brief description of each classification is provided in the following paragraphs.

Local Streets

Local Streets principally provide vehicular, pedestrian and bicycle access to property abutting the public right-of-way. Cross-sections of Local Streets vary, depending upon the abutting land uses, parking requirements, street trees and other considerations. Local Streets can be expected to carry less than 1,500 vehicles per day. All streets in Carson, unless otherwise classified, are Local Streets.

Where both sides of the street are served equally in residential areas, the common right-of-way width for a Local Street is from 48 feet to 60 feet, with a 36- to 40-foot pavement width.

In multi-family areas where there is a significant parking demand throughout the day, a minimum of 40 feet of pavement may be required to provide two moving lanes of traffic in addition to street parking on both sides.

In commercial and industrial areas, a minimum pavement width of 40 feet is considered necessary. In industrial areas, consideration of the predominant type of trucking, and whether or not maneuvering of trailers must be provided, may require a pavement width of 44 feet or more.

Collector Streets

The Collector Street is intended to serve as an intermediate route to handle traffic between local streets and arterials. In addition, Collector Streets provide access to abutting property. Collector Streets are anticipated to carry traffic volumes ranging between 2,000 and 5,000 vehicles per day, but some Collector Streets may carry up to 10,000 vehicles per day. A Collector Street may have one or two through lanes in each direction and curb parking is often provided. The primary function of the Collector is to "collect" vehicles from the local street system and transport them to the arterial system as efficiently as possible. The following roadways have been classified as Collectors in the City of Carson:

- 192nd Street;
- Dominguez Street;
- Leapwood Avenue;
- Turmont Street;
- 213th Street;

- 214th Street;
- Main Street;
- 220th Street;
- 223rd Street;
- 228th Street;
- Watson Center Road;
- 234th Street;
- Moneta Avenue;
- Dolores Street;
- Grace Avenue;
- Bonita Street;
- Martin Street; and
- Lucerne Street.

Industrial Collector Streets

There are certain Collector Streets that serve industrial areas, including entrance, interior and loop streets, which generate high traffic volumes by employees during peak hours. Additionally, these streets accommodate industrial truck loading and unloading. These industrial streets should provide a minimum right-of-way of 84 feet, with the exception of minor interior industrial streets with less traffic flow, such as industrial cul-de-sacs, which should provide a minimum right-of-way of 64 feet.

Secondary Highways

Secondary Highways are similar to major highways in function. They connect traffic from collectors to the major freeway system, as well as move large volumes of automobiles, trucks and buses. In addition, Secondary Highways link principal elements within a City to other adjacent regions, and handle intra-city trips in other adjacent regions. Secondary Highways carry approximately 10,000 to 25,000 vehicles per day. Four to six through lanes are provided, along with single or double left-turn lanes at major signalized intersections. Curb parking is often prohibited during peak periods. Secondary Highways in Carson require a minimum right-of-way of 80 feet. The following roadways have been classified as Secondary Highways in the City of Carson:

- 213th Street;
- Gardena Boulevard;
- Walnut Street;
- Albertoni Street;
- University Drive;
- Torrance Boulevard;
- Santa Fe Avenue; and
- Vera Street.

Major Highways

Major Highways function to connect traffic from collectors to the major freeway system, as well as to provide access to adjacent land uses. They move large volumes of automobiles, trucks and buses, and link principal elements within a City to adjacent regions. Major highways handle inter-city vehicular trips in the magnitude of 25,000 or more vehicles per day. Typically, curb parking is prohibited during peak periods. Raised medians to separate opposing traffic flows are typical. Separate left-turn lanes at major signalized intersections are required with double left-turn lanes often being provided. Separate right-turn lanes, which may also serve as bus loading areas, are provided at locations where warranted by high turn volumes. Major highways in Carson require rights-of-way of 100 feet or more. The following roadways have been classified as Major Highways in the City of Carson:

- Alameda Street;
- Wilmington Avenue;
- Avalon Boulevard;
- Main Street;
- Figueroa Street;
- Alondra Boulevard;
- Victoria Street;
- Del Amo Boulevard;
- Carson Street;
- 223rd Street;
- Sepulveda Boulevard; and
- Lomita Boulevard.

State Highways

State highways (or freeways) are controlled access, high speed roadways with grade-separated interchanges that are intended to expedite movement between distant areas in the region. Planning, design, construction and maintenance of freeways in California are the responsibility of the State of California, Department of Transportation (Caltrans). As a result, freeways fall outside the jurisdiction of the City of Carson. The freeway system serving the City of Carson includes the Redondo Beach/Artesia Freeway (SR-91), the Long Beach Freeway (I-710), the San Diego Freeway (I-405) and the Harbor Freeway (I-110).

Alameda Street will become a state road once the Alameda Corridor is completed.

BICYCLE ROUTES

The following bicycle definitions, which are recognized statewide per Caltrans standard, are identified in the City's existing Circulation Element.

Circulation

Bicycle Route

A bicycle way designated within a public right-of-way. The purpose of the bicycle 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 signage only. No special markings on the pavement are provided. Per Caltrans standards, these routes are referred to as Class III bike facilities.

Bicycle Lane

A bicycle facility where a portion of the paved roadway area is marked as a lane for use by bicycles. It is identified by BIKE LANE signage, pavement marking and lane line markings. Usually, special ordinances are necessary to legally define the exclusive use of bicycle traffic and to exclude mopeds and infringement by motor vehicles. Per Caltrans standards, these routes are referred to as Class II bike facilities.

Bicycle Path

This type of facility is a special path for exclusive use by bicycles that is completely separated from the motor vehicle traffic by space or a physical barrier. Per Caltrans standards, these routes are referred to as Class I bike facilities. They are often provided in recreational areas, such as parks or along the beach.

Existing Bicycle Route System

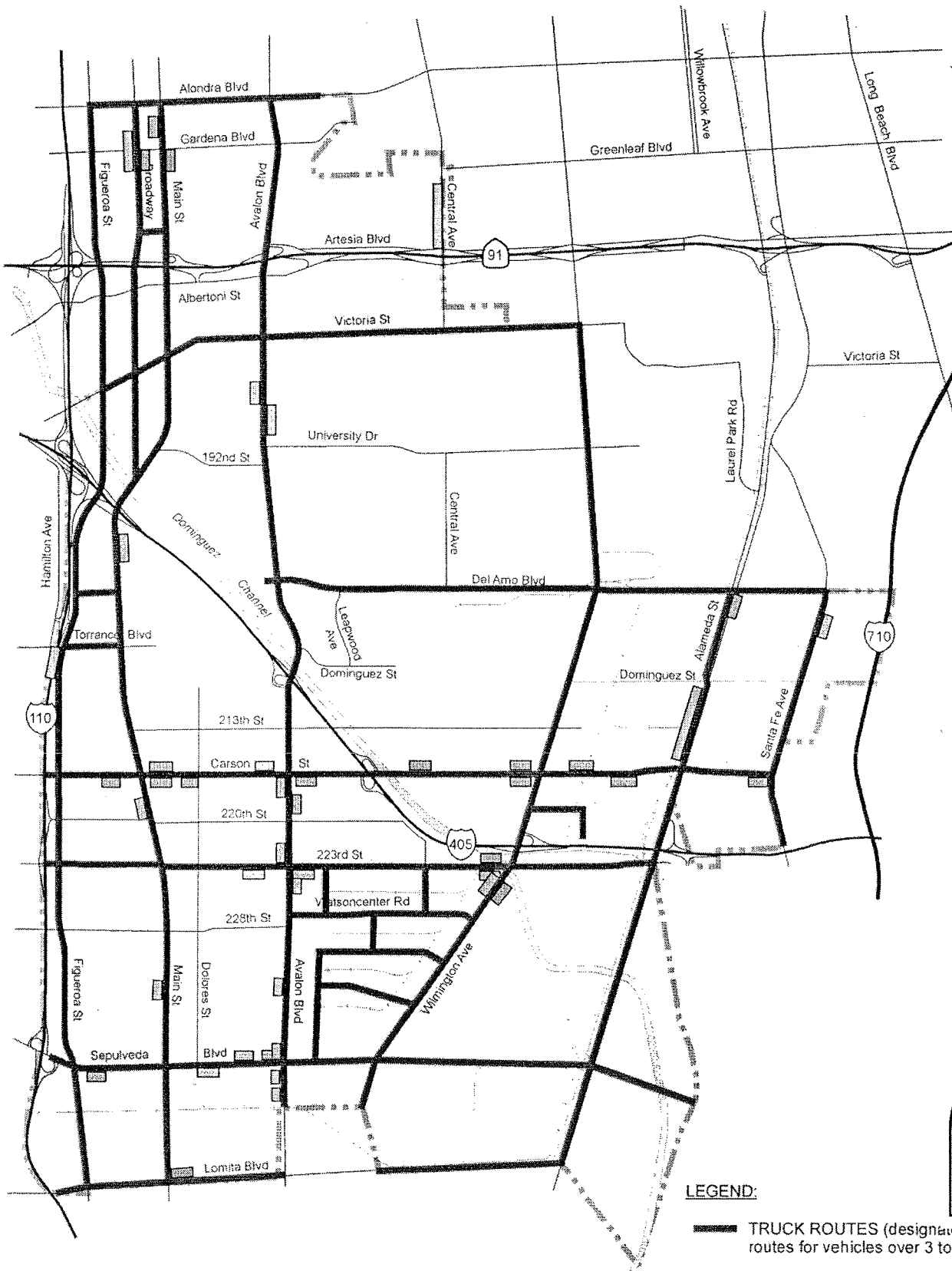
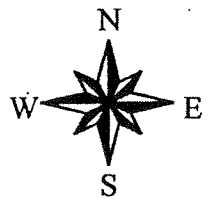
Based upon a bicycle route field survey conducted by Meyer, Mohaddes Associates in April 1999, the following roadway segments have Class II bike facilities:

- Dolores Street between Sepulveda Boulevard and 213th Street;
- Avalon Boulevard between Del Amo Boulevard and University Drive;
- Central Avenue between Del Amo Boulevard and University Drive;
- University Drive between Avalon Boulevard and Wilmington Avenue;
- Turmont Street between Avalon Boulevard and Central Avenue; and
- Del Amo Boulevard between Avalon Boulevard and Wilmington Avenue.



TRUCK ROUTES

Truck Routes and Parking Zones

The City of Carson has designated truck routes and truck parking zones in specific area where vehicles in excess of three tons may travel and park. These truck routes and parking zones are shown in Exhibit 3.2-5, *Truck Routes and Truck Parking Zones*.



LEGEND:

-  TRUCK ROUTES (designated routes for vehicles over 3 tons)
-  TRUCK PARKING ZONES



Truck Routes and Truck Parking Zones

Carson General Plan Update

Exhibit 3.2-5

TRANSIT FACILITIES

Public transportation in the City of Carson is provided by the Carson Circuit, Torrance Transit and the Los Angeles County Metropolitan Transportation Authority (MTA) bus lines. Following are brief descriptions of the lines and routes served in the project area.

Carson Circuit Transit System

- **Route A** (Cal State Dominguez Hills) serves the northern Carson area in the vicinity of Cal State Dominguez Hills. Route A operates on Victoria Street between Avalon Boulevard and Wilmington Avenue, Wilmington Avenue between Victoria Street and Del Amo Boulevard, Del Amo Boulevard between Avalon Boulevard and Wilmington Avenue, and Avalon Boulevard between Victoria Street and Del Amo Boulevard.
- **Route B** (Keystone) serves the southwestern Carson area in the vicinity of Carson High School. Primary routes served by Route B include Main Street between 213th Street and 234th Street, 213th Street between Main Street and Avalon Boulevard, and on Carson Street between Moneta Avenue and Avalon Boulevard.
- **Route C** (Scottsdale) primarily serves the Avalon Boulevard corridor between Del Amo Boulevard to the north and Sepulveda Boulevard to the south.
- **Route D** (Metro Blue Line 1) and **Route G** (Metro Blue Line 2) serve the central Carson area from Avalon Boulevard to the eastern City border. Route D travels in a clockwise pattern while Route G travels in a counterclockwise route. Both lines operate on Del Amo Boulevard between Avalon Boulevard and Santa Fe Avenue, in a circuitous pattern from Del Amo Boulevard to the Avalon Boulevard/Carson Street intersection, and Avalon Boulevard from Del Amo Boulevard to Carson Street.
- **Route E** (Turmont) serves the area just south and west of Cal State Dominguez Hills. Primary routes served by Route E include Avalon Boulevard between Victoria Street and Del Amo Boulevard, University Drive between Avalon Boulevard and Wilmington Avenue, and Turmont Street between Avalon Boulevard and Wilmington Avenue.
- **Route F** (Business Center South) serves the south central Carson area. Primary routes served by Route F include Bonita Street between 213th Street and Watson Center Road, 213th Street between Avalon Boulevard and Martin Street, and Wilmington Avenue between Watson Center Road and 233rd Street.

- **Route H** (Hemingway Park) serves the north central Carson area. Primary routes served by Route H include Avalon Boulevard between Alondra Boulevard and Del Amo Boulevard and Alondra Boulevard between Avalon Boulevard and the northeastern City border.

Gardena Municipal Bus Lines

- **Line 3** operates between Compton and the South Bay Center in Torrance. In the Carson area, the primary routes served by Line 3 include Gardena Boulevard between Vermont Avenue and Avalon Boulevard, Avalon Boulevard between Alondra Boulevard and Gardena Boulevard, and Alondra Boulevard between Avalon Boulevard and Wilmington Avenue.

MTA Bus Lines

- **MTA Line 53** operates between Cal State Dominguez Hills and Downtown Los Angeles. In the Carson area, the primary route served by Line 53 is Central Avenue near Cal State Dominguez Hills.
- **MTA Line 127** operates between Cal State Dominguez Hills, Compton, Paramount, Bellflower and Downey. In the Carson area, the primary route served by Line 127 is Avalon Boulevard between Cal State Dominguez Hills and Alondra Boulevard, and Alondra Boulevard between Avalon Boulevard and Wilmington Avenue.
- **MTA Line 130** operates between Redondo Beach and the Fullerton park and ride lot located on Orangethorpe Avenue. In the Carson area, Line 130 traverses Victoria Street between Vermont Avenue to the west and Central Avenue to the east.
- **MTA Line 202** operates between Wilmington and the Rosa Parks/Imperial/Wilmington Station in Willowbrook. In the Carson area, the primary route served by Line 202 is Avalon Boulevard between Lomita Boulevard and Carson Street, Carson Street between Avalon Boulevard and Alameda Street, and Alameda Street between Carson Street and Del Amo Boulevard.
- **MTA Line 205** operates between Willowbrook and San Pedro. In the Carson area, Line 205 runs along 192nd Street between Main Street and Avalon Boulevard, Avalon Boulevard between 192nd Street and Del Amo Boulevard, Del Amo Boulevard between Avalon Boulevard and Wilmington Avenue, and Wilmington Avenue between Del Amo Boulevard and the SR-91 Freeway.

- **MTA Lines 446/447** operate between downtown Los Angeles and San Pedro. In the Carson area, Lines 446/447 travel along Avalon Boulevard between the northern and southern borders of the City.

MTA Metro Rail Lines

- **Metro Blue Line** operates between Long Beach and Downtown Los Angeles. In the Carson area, the closest Blue Line stations are Artesia and Del Amo. The Artesia station is located at 1920-1/2 Acacia Avenue in Compton. The Del Amo station is located at 20220 Santa Fe Avenue in Los Angeles.
- **Metro Green Line** operates between Redondo Beach and Norwalk. While the Green Line does not run through Carson, the Green Line does connect with the Blue Line at the Rosa Parks (Imperial/Wilmington) station located at 11651 Wilmington Avenue in Los Angeles.

Torrance Transit Bus Lines

- **Route 3** operates between downtown Long Beach and the Redondo Beach Pier. In the Carson area, primary routes served by Route 3 include Carson Street between Vermont Avenue and Avalon Boulevard, Avalon Boulevard between Carson Street and 223rd Street, 223rd Street between Avalon Boulevard and Dolores Street, Dolores Street between 223rd Street and Sepulveda Boulevard, and Sepulveda Boulevard between Dolores Street and Wilmington Boulevard.
- **Route 6** operates between the Metro Blue Line Artesia Station and the Del Amo Center Transit Terminal Park and Ride. In the Carson area, primary routes served by Route 6 include Victoria Street between Vermont Avenue and Central Avenue, Central Avenue between Victoria Street and Walnut Street, and Walnut Street from Central Avenue east to the Metro Blue Line Artesia Station.

AIRPORT FACILITIES

The skies above Carson are heavily occupied by aircraft originating and departing from a number of airports located in Southern California. The airports nearest to Carson which handle the greatest amount of air traffic are as follows:

- **Los Angeles International Airport (LAX)** – It is the fourth busiest airport in the world and in 1995 served 53.9 million annual passengers. Planes arrive and depart at a rate of one per minute. This airport is located 12.7 miles northwest of the City of Carson.

- *Long Beach Airport* – In 1995, the Long Beach Airport served 400,000 passengers. Planes arrive and depart at a rate of 1.5 every two minutes. This airport is located 13 miles southeast of the City of Carson.
- *John Wayne Airport* – It is ranked tenth nationally in terms of air traffic and served 7.2 million annual passengers in 1995.
- *Ontario Airport* – In 1995, 6.4 million annual passengers were served at the Ontario Airport, which is experiencing a three percent growth rate that is projected to continue. This airport is located 70 miles east of the City of Carson.
- *Burbank Airport* – In 1995, 4.9 million annual passengers were served at this airport.

CIRCULATION ELEMENT

The Circulation Element was adopted in December 1981 through the adoption of Resolution No. 81-253. The Circulation Element is available for review at the City of Carson, Community Development Department.

Goals and objectives included in the Element are summarized below and include:

- Support planned land uses and relate transportation to these uses.
- Promote the efficient transport of goods and the effective movement of all segments of the population.
- Efficiently use existing transportation facilities.
- Protect environmental quality and support the wise and equitable use of economic and natural resources.
- Reduce congestion on City streets.
- Minimize non-local traffic within neighborhoods.
- Correct localized traffic operational problems.
- Ensure all Carson streets and their drainage systems are in good repair.
- Ensure adequate street improvements.
- Provide special commercial vehicle routes to minimize disturbance to residential neighborhoods and to schools.
- Conform to, and support, the regional transportation plan.
- Encourage the development of mass transit facilities within the City and the surrounding areas.
- Promote street improvements and the coordination of local circulation with regional facilities.
- Ensure adequate access to all developments to protect the safety of vehicular and pedestrian circulation patterns.

- Repair streets as necessary through the implementation of an on-going capital improvement program.

The Circulation Element also discusses five separate street classifications, as summarized below.

Major Highways. Major Highways carry in excess of 16,000 vehicles per day. These roadways require at least two travel lanes in each direction and rights-of-way of 100 feet or more.

Secondary Highways. Secondary Highways carry 6,000 to 15,000 vehicles per day. The minimum right-of-way for these roadways is 80 feet.

Collector Street. Collector Streets carry 2,000 to 5,000 vehicles per day. The minimum right-of-way is 60 feet for these streets.

Local Streets. Local Streets carry less than 1,500 vehicles per day. Their rights-of-way range from 48 to 58 feet.

State Highways

State Highways include: the San Diego (I-405), Harbor (I-110), Long Beach (I-710), and Redondo Beach/Artesia Freeways (SR-91).

Bicycle Facilities

The Circulation Element also contains a separate section entitled Bicycle Facilities. The Bicycle Facilities Section of the Circulation Element was adopted in December 1981 through the adoption of Resolution No. 81-253. The Bicycle Facilities Section of the Circulation Element is also on file at the City of Carson, Community Development Department.

The Bicycle Facilities Section does not contain any goals and policies per se, rather it discusses the types of bicycle routes in the City and their locations.

There are three types of bicycle routes in Carson, as summarized below.

Class I. Class I bicycle routes are located on graded and surfaced pathways on completely separated rights-of-way designated for the exclusive use of bicycles.

Class II. Class II bicycle routes are located on existing public streets but are designated for the exclusive or semi-exclusive use of bicycles.

Class III. Class III bicycle routes are within a shared right-of-way which must accommodate both motorists and bicyclists.

The Bicycle Facilities section of the General Plan also identifies a priority implementation program for the development of bicycle facilities in the City.

SCENIC HIGHWAYS ELEMENT

The Scenic Highways Element was adopted in December 1981 with Resolution No. 81-253. The Scenic Highways Element is available for review at the City of Carson, Community Development Department.

Goals and programs included in this Element are summarized below:

- Require the architectural review of buildings and signs in redevelopment areas, the Civic Center and other sensitive areas.
- Require the undergrounding of utilities in new developments
- Provide parkway trees along local streets and highways.
- Provide landscaped median dividers on selected streets and highways.
- Expand the City's underground utility districts wherever economically feasible.
- Abate nonconforming billboard signs.
- Promote the establishment of adequate signage through the City.

3.3 HOUSING

HOUSING SETTING

The City of Carson is the 19th most populated city of the 88 cities within Los Angeles County. As of January 1, 1998, Carson had a population of 90,554, and a housing supply consisting of 24,965 dwelling units. As reflected in Table 3.3-1, *Composition of the Housing Stock*, the percentage distribution by housing type was: single-family, 77.7%; 2 to 4-unit structures, 2.4%; 5+ units, 9.4%; and mobilehomes, 10.5%.

**Table 3.3-1
COMPOSITION OF THE HOUSING STOCK
JANUARY 1998¹**

Housing Type	No. of Housing Units/Spaces	Percentage Distribution
Single-Family	19,463	77.7%
• Detached	17,537	70.0%
• Attached	1,926	7.7%
Multi-Family	2,943	11.8%
• 2 to 4 Units	597	2.4%
• 5 + Units	2,346	9.4%
Mobilehomes	2,641 ¹	10.5%
Total	25,047	100.0%

Source: State Department of Finance, Table 2: City/County Population and Housing Estimates, January 1, 1998; and City of Carson, Community Development Department.

¹ Number of mobilehome spaces as of June 10, 1999.

There are currently 26 mobilehome parks in the City with 2,641 spaces. An inventory of the 26 mobilehome parks is provided in Table 3.3-2, *City of Carson Mobilehome Parks*. Mobilehome parks constitute a significant proportion of the low- and moderate-income housing in the City. However, the value of land on which parks are located is considered one impetus for mobilehome park closures; although, recent declines in land prices have reduced this. The City of Carson has rent control for mobilehome spaces only, and the City's rent control ordinance is administered by a board appointed by the City Council. There are only 11 market-rate mobilehome rental spaces in Carson, these are located in the Carson Harbor Village Mobilehome Park. All other mobilehome spaces are under rent control.

**Table 3.3-2
CITY OF CARSON MOBILEHOME PARKS**

Name	Address	# of Spaces	Average Base Rent ¹
Avalon Carson MHP	616 East Carson Street	171	\$138.94
Bel Abbey MHP	200 East Gardena Boulevard	50	\$206.28 ²
Bel-Aire MHP	21425 Avalon Boulevard	81	\$167.13 ²
Carson Gardens Trailer Lodge	437 West Carson Street	97	\$214.53
Carson Harbor Village MHP	17701 Avalon Boulevard	420	\$481.37 ²
Colony Cove Mobile Estates	17700 Avalon Boulevard	404	\$386.66 ²
Country Estates MHP	1502 East Carson Street	139	Not Available
Dominguez Trailer Park	2666 Dominguez Street	31	\$150.91 ²
E & L Trailer Haven	807 Lincoln Street	10	\$109.50
Flamingo Gardens MHP	520 East Carson Street	39	\$204.00 ²
Imperial Avalon MHP	21207 Avalon Boulevard	225	\$263.15
Imperial Carson MHP	21111 Dolores Street	192	\$309.06 ²
Laco MHP	22325 Main Street	94	\$233.38
Little Dude MHP	630 East 220 th Street	12	\$100.59
Mack's Trailer Lodge	17524 Figueroa Street	47	\$175.67
Nu-Way MHP (Res. Owned)	401 West Carson Street	39	\$230.83
Ocean Villa MHP	605 West 228 th Street	21	\$145.27
Paradise Trailer Lodge	21900 Martin Street	84	\$181.97
Park Avalon MHP	750 East Carson Street	133	\$283.43 ²
Park Granada MHP	218 West Carson Street	26	\$144.70 ²
Rancho Dominguez MHP	425-435 East Gardena Boulevard	81	\$221.11
Ray Mar MHP	823 East Realty Street	27	\$103.62
Shady Nook MHP	21009 Prospect Avenue	6	Not Available
Shangri-Lodge MHP	21834 Grace Avenue	46	\$248.17 ²
Vera Carson MHP	21711-21811 Vera Street	80	\$237.53 ²
Vista Del Loma MHP	20600 Main Street	86	\$268.31

Source: City of Carson.

¹ As of June 10, 1999.

² Average base rents exclude spaces with long-term leases, newly built market-rate rental spaces and temporary capital improvement rent increases.

Table 3.3-3, *Changes in the Housing Supply (1990 to 1998)*, shows the changes during the last eight years. This trend data indicates that the percent distribution of the various housing types has generally remained consistent. The number of units have either increased or remained steady for each housing type, with the exception of mobilehomes which experienced a loss of 61 units over the past eight years.

**Table 3.3-3
CHANGES IN THE HOUSING SUPPLY (1990 TO 1998)¹**

Housing Type	1990 No. of Units	Percent	1998 No. of Units	Percent
Single-Family	19,149	78.4%	19,463	77.7%
• Detached	17,223	70.5%	17,537	70.0%
• Attached	1,926	7.9%	1,926	7.7%
Multi-Family	2,672	10.9%	2,943	11.8%
• 2 to 4 Units	590	2.4%	597	2.4%
• 5 + Units	2,082	8.5%	2,346	9.4%
Mobilehomes	2,620	10.7%	2,641 ¹	10.5%
Total	24,441	100%	25,047	100%
Persons Per Household	3.513	-	3.701	-

Source: State Department of Finance, Table 2: City/County Population and Housing Estimates, April 1, 1990 and January 1, 1998; and City of Carson, Community Development Department.

¹ Number of mobilehome spaces as of June 10, 1999.

OWNER/RENTER DISTRIBUTION

As of the April 1990 Census, there were an estimated 24,441 housing units within the City of Carson, of which 23,808 were occupied housing units. Of the occupied housing stock, 79% was owner-occupied and 21% was renter-occupied. Most renters live in multi-family structures, with the two highest percentage of renters living in structures with 50 or more units and 2-unit structures. The detailed data is presented in Table 3.3-4, *Owner/Renter Ratios by Housing Type*.

RESIDENT CHARACTERISTICS

Table 3.3-5, *Change in Tenure for Occupied Housing Units*, illustrates the changes in owner- and renter-occupied units from 1980 to 1990. In both 1980 and 1990, about 79% of the City's housing units were owner-occupied.

**Table 3.3-4
OWNER/RENTER RATIOS BY HOUSING TYPE**

Units in Structure	Owner Occupied	Percent Owner	Renter Occupied	Percent Renter	Vacant Units	Total Units
1, Detached	14,537	85.8%	2,406	14.2%	280	17,223
1, Attached	1,335	72.4%	510	27.6%	81	1,926
2	31	16.1%	161	83.9%	12	204
3 or 4	91	24.7%	277	75.3%	18	386
5 to 9	91	19.7%	372	80.3%	57	520
10 to 19	139	35.5%	253	64.5%	19	411
20 to 49	111	21.4%	408	78.6%	27	546
50 or more	1	0.3%	359	99.7%	8	368
Mobilehome	2,298	92.1%	196	7.9%	126	2,641
Other	173	74.6%	59	25.4%	5	237
Total	18,807	79%	5,001	21%	633	24,462

Source: 1990 Census of Population and Housing, Summary Tape File 1, Tables H41/42 and H43.

**Table 3.3-5
CHANGE IN TENURE FOR OCCUPIED HOUSING UNITS**

Year	Owner	Percent Owner	Renter	Percent Renter	Total
1980	18,014	79.2%	4,739	20.8%	22,753
1990	18,807	79%	5,001	21%	23,808

Source: 1980 Census of Housing, Summary Tape File 4, and 1990 Census of Population and Housing, Summary Tape File 1, Table H3/9.

VACANCY RATES

In 1990, according to the Census, the vacancy rate was approximately 2.59%. As of January 1998, the California State Department of Finance estimated Carson's vacancy rate at the same 2.59%. The majority of vacant units were available for rent. Table 3.3-6, *Occupancy Status of Housing Stock*, shows the characteristics of the City's vacant housing units per the 1990 Census. Regarding mobilehome park space, it should be noted that: one, there are approximately 100 mobilehome spaces vacant at the Carson Avalon Mobilehome Home; and two, that Mack's Trailer Lodge is vacating its spaces and will be closed within one year.

**Table 3.3-6
OCCUPANCY STATUS OF HOUSING STOCK**

Occupied	23,808
Vacant	633
• For Rent	235
• For Sale Only	200
• Rented/Sold, Not Occupied	111
• For Seasonal/Recreational or Occasional Use	17
• For Migrant Workers	0
• Other Vacant	70

Source: 1990 Census of Population and Housing, Summary Tape File 1, Tables H2 and H5.

CONDITION OF EXISTING HOUSING STOCK

According to the 1990 Census, approximately 31% of the City's 24,441 housing units were constructed before 1960, with nearly two-thirds of these units developed between 1950 and 1959, refer to Table 3.3-7, *Year Structure Built by Tenure*. The accepted standard for estimating when a structure may require major rehabilitation (e.g., replacement of roof, rewiring, replumbing) is 30 years, indicating a significant portion of the City's housing stock is reaching the age when significant rehabilitation repairs may become needed. The City's Comprehensive Housing Affordability Strategy (CHAS) for fiscal years 1993 - 98 indicated that 11% of the City's housing units are in substandard condition, 58% of which are suitable for rehabilitation.

"Substandard" conditions and "suitable for rehabilitation" are generally defined as the following:

- *Substandard.* Any unit which does not meet or exceed the Section 8 Existing Housing Quality standards or local building codes, whichever are stricter, are considered to be substandard.
- *Suitable for Rehabilitation.* Any substandard unit which can be rehabilitated to a standard condition at a cost which does not exceed the cost of building a new replacement structure.

**Table 3.3-7
YEAR STRUCTURE BUILT BY TENURE
(OWNER OCCUPIED VERSUS RENTER OCCUPIED)**

Year Built	Owner	Renter	Vacant	Total	Percent Distribution
1989 to March 1990	117	40	5	162	0.7%
1985 to 1988	606	306	40	952	3.9%
1980 to 1984	947	420	75	1,442	5.9%
1970 to 1979	3,197	996	175	4,368	17.9%
1960 to 1969	8,186	1,595	180	9,961	40.7%
1950 to 1959	3,942	972	92	5,006	20.5%
1940 to 1949	1,458	476	58	1,992	8.1%
Before 1940	354	196	8	558	2.3%
Total	18,807	5,001	633	24,441	100%

Source: 1990 Census of Population and Housing, Summary Tape File 3, Tables H25, H26, and H27.

CITYWIDE SURVEY OF HOUSING CONDITIONS

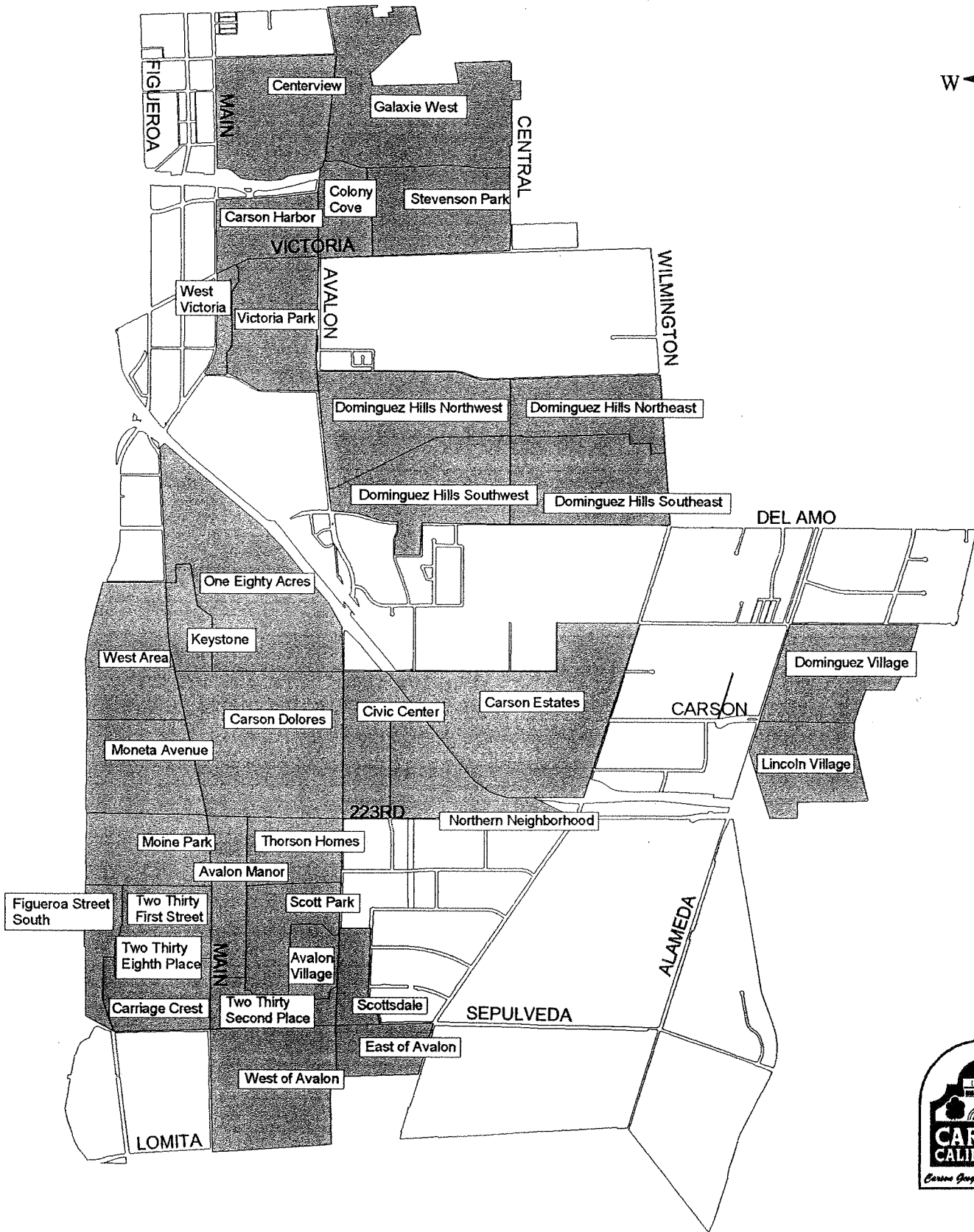
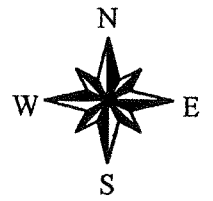
In March of 1999, a citywide survey was conducted to identify general housing conditions. The condition of housing was assessed by an exterior survey of quality, condition and improvement action. Table 3.3-8, *Housing Condition and Improvement Survey Factors*, lists the type of information compiled by the survey, based on the type of information gathered in the City's existing Housing Element.

The Housing Condition Survey was completed in 33 neighborhoods of the City of Carson. The boundaries of each neighborhood are delineated in Exhibit 3.3-1, *Neighborhood Boundaries*. Robert Bein, William Frost & Associates conducted the Housing Condition Survey at a general reconnaissance level. The information collected during the survey is summarized in Table 3.3-9, *Housing Condition Survey*.

**Table 3.3-8
HOUSING CONDITION AND IMPROVEMENT SURVEY FACTORS**

Factor	Criteria
Housing Type	<ul style="list-style-type: none"> • None Required • Duplex • Moderate-Multiple Minor • Four-Plex • Five-Plex • Multi-Family Apartments • Multi-Family Condominiums • Mobilehomes • Other (e.g., motel, residential hotel, etc.)
Units in Structure	Actual number within structure or complex.
Improvement Action	<ul style="list-style-type: none"> • None Required • Minor repairs - paint or fix-up • Moderate rehabilitation - multiple minor fix-up items • Moderate rehabilitation - new roof needed • Moderate repair rehabilitation - new roof needed plus one other minor repair • Major rehabilitation - several minor and moderate level repairs necessary • Replacement - major structural defects and/or inadequate original construction
Housing Condition Rating	
Excellent	1 - No Improvement Required
Sound	2 - Minor 3 - Moderate 4 - Moderate 5 - Moderate 6 - Deteriorating Major
Dilapidated	7 - Replacement

Based on Chart H-3, City of Carson Housing and Improvement Survey Factors, City of Carson Housing Element.



Neighborhood Boundaries

Carson General Plan Update

Exhibit 3.3-1

**Table 3.3-9
HOUSING CONDITION SURVEY**

Factors	Percentage Distribution
Improvement Action Required	
• None Required	11.43
• Minor Repairs: Paint or Fix-Up	37.14
• Moderate Rehabilitation: Multiple Minor Fix-Up Items	35.71
• Moderate Rehabilitation: New Roof Needed	4.29
• Moderate Rehabilitation: New Roof Needed plus One Other Minor Repair	8.57
• Major Rehabilitation: Several Minor and Moderate Level Repairs Necessary	2.86
Total	100%
Housing Condition Rating	
• Excellent: No Improvement Required (1)	11.43
• Sound Minor (2)	41.43
Moderate (3)	38.57
Moderate (4)	10.00
Moderate (5)	5.71
• Deteriorating: Major (6)	2.86
Total	100%

Source: Windshield survey conducted by Robert Bein, William Frost & Associates, March 1999.

As identified in Table 3.3-9, 8.57% of the homes surveyed were identified as needing moderate rehabilitation including a new roof and other minor repairs. Minor repairs were needed for 37.14% of the housing units. A majority of the homes (41.43%) were given a housing condition rating of sound (minor).

Currently, there are 19 homes within the City which are considered substandard housing, and for which some type of City action has been initiated. These homes are located within the following neighborhoods (the number of homes in each area is shown in parenthesis): 238th Place (1), Carson Dolores (2), Carson Estates (1), Centerview (1), Colony Cove & Stevenson Park (3), Dominguez Hills Northwest (3), Dominguez Village (1), Keystone (2), Moine Park (1), Northern Neighborhood (1), Victoria Park (2), and West of Avalon (1).

HOUSING PROJECTIONS

The City of Carson is part of the Southern California Association of Governments (SCAG), a regional planning agency, and the Council of Governments (COG), comprised of six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura).

Los Angeles County is further divided into eight subregions within SCAG: North Los Angeles County, Los Angeles City, Arroyo Verdugo, San Gabriel Valley COG, Westside Cities, South Bay Cities COG (SBCCOG), Gateway Cities COG, and Las Virgenes, Malibu, Conejo COG. The City of Carson is a member city of SBCCOG, which is comprised of 16 member cities (Avalon, Carson, El Segundo, Gardena, Hawthorne, Hermosa Beach, Inglewood, Lawndale, Lomita, Manhattan Beach, Palos Verdes Estates, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, and Torrance).

As the designated Metropolitan Planning Organization, SCAG is mandated by the federal government to research and draw up plans for transportation, growth management, hazardous waste management, and air quality. Two leading features of activity for SCAG includes development of demographic projections and the preparation of the Regional Housing Needs Assessment.

The projections developed by SCAG indicate that Carson will experience a higher percentage increase in population, housing, and employment over the period from 2000 to 2020, as compared to the SBCCOG as a whole. A breakdown is provided in Table 3.3-10, *Population, Housing, & Employment Projections*. According to SCAG, the housing stock within Carson is projected to increase by 2,441 units (10%), compared to a 9.4% increase for the SBCCOG. Jobs and population for the City of Carson are also projected to increase by 31.1% and 10.8%, respectively, while SBCCOG is anticipated to experience a jobs and population increase of 23.1% and 7.3%, respectively. Refer to Table 3.3-11, *Top 13 Employers in the City of Carson*, for a list of the major employers within the City.

**Table 3.3-10
POPULATION, HOUSING, & EMPLOYMENT PROJECTIONS**

Year	Population		Housing		Employment	
	SBCCOG	Carson	SBCCOG	Carson	SBCCOG	Carson
2000	857,700	91,955	300,000	24,439	450,200	62,060
2005	872,200	94,079	304,200	24,803	478,300	67,288
2010	884,600	95,893	310,800	25,361	500,500	71,388
2015	902,900	98,565	317,100	25,918	524,600	75,825
2020	925,600	101,896	328,200	26,880	554,400	81,343

Source: Per Paul Burke, Southern California Association of Governments (SCAG), April 12, 1999, and SCAG website http://www.scag.ca.gov/pop_sr.htm; [*/house_sr.htm](http://www.scag.ca.gov/house_sr.htm); and [*/empl_sr.htm](http://www.scag.ca.gov/empl_sr.htm).

**Table 3.3-11
TOP 13 EMPLOYERS IN THE CITY - JANUARY 1998**

Company Name (In Alphabetical Order)
AFSA Data Corporation
ARCO
Kmart Corporation
Kenwood
Lakeshore Learning Materials
Leiner Health Products
Lorber Industries of California
Mercedes-Benz of North America
Nissan Motor Corporation
Pacific Bell
Pioneer Electronics
Pioneer Video Manufacturing
TRW

Source: City of Carson Community Development Department.

As of January 1999, and according to City records, four residential projects and three mixed use projects with housing components are currently under review at the City. Table 3.3-12, *Development Status Report*, identifies the residential and mixed use projects. Ultimate buildout of the projects identified in Table 3.3-12 would result in an increase of 148 apartments, 61 senior housing units, and 610 condominiums, townhomes and single-family units (future phases of development not included in these figures).

**Table 3.3-12
DEVELOPMENT STATUS REPORT
(AS OF JANUARY 1999)**

Project Name	Location	Number of Units	Status
Residential			
Eagle Tree	216 th & Perry	35 S-F; 6 TH	Ph. I (18 S-F) & Ph. II (5 S-F) completed. Ph. III (12 S-F; 6 THs) placed on hold pending remediation of pipeline leak on Perry St. Development approved for small lot development due to commitment to provide 4 affordable THs. Developer may propose small community park in-lieu of some homes.
Vista Del Mesa	1211 E. Carson	42 attached TH	Ph. I construction (14 units) complete. Development approved for density bonus of 7 units due to commitment to provide affordable housing. Plans recently submitted for Ph. II & III.
Carson Terraces	632 E. 219 th	61 senior housing units	BP application pending. RA approved. OPA to provide financial assistance, subject to developer obtaining additional funding commitments and completion of various conditions. Agreement signed between developer and LA Housing Partnership. OPA will require modification.
Villages of Brighton and Strathmore	NW corner of Main & 228 th	162 S-F units	Proposed project will replace Fletcher Oil storage facility. Clean-up of soils with the SRWQCB completed, with closure letters submitted. Model homes under construction.
Mixed Use Projects			
Dominguez Hills Village	NW & NE corners: Victoria & Central	Ph. I- 246 S-F & condos; Ph. II - proposed 2/00	Specific Plan approved for mixed-use commercial/residential project consisting of up to 650 homes. Project also includes neighborhood commercial, child care center, industrial lease space, tank farm and oil wells. First residential phase includes small lot S-F homes and condos. Remediation underway. Construction expected to begin Summer 1999.
Carson/Grace	NE corner of Carson & Grace	Ph. I&II - 148 family apts; 15,300 sf retail/office	Site plan/design approved for first mixed-use project within Carson St. Mixed Use Corridor. Ph. I includes 83 family units and retail. Ph. II includes 65 family units and retail/office. Residential located above commercial and to rear of property. RA assistance to provide affordable housing approved. Construction underway for all phases with completion slated in September 1999.
Scottsdale Shopping Center & Colony Park Residential	Existing Scottsdale Shopping Center property	Mixed use residential/commercial	Zone change & discretionary permits approved to renovate/redevelop existing shopping center as commercial/residential development consisting of 119 THs. Construction of retail and fast food restaurants nearly complete. RA will provide financial assistance to assure housing affordability for portion of units. BP issued through Ph. IV. Construction complete on rec. bldg., community pool, and Ph. I & II. Foundations and framing started on Ph. IV. Grading started on Ph. V.

Source: City of Carson Community Development Department.

S-F single-family BP building permits OPA Owner Participation Agreement
 TH townhome RA Redevelopment Agency SRWQCB State Regional Water Quality Control Board

HOUSING NEEDS ASSESSMENT

California housing law requires regional planning agencies to identify "existing" and "future" housing needs every five years. SCAG is the regional planning agency responsible for generating the existing and future needs numbers for SCAG member cities. The need figures are contained in a report known as the Regional Housing Needs Assessment (RHNA).

The preliminary draft of the 1999 RHNA identifies existing need based on January 1998 household figures. In January 1998, Carson had a total of 24,318 households, of which 10,521 units (43.3%) were identified as households with housing problems; housing problems include overpayment, overcrowding, and substandard housing conditions.

SCAG also recently published preliminary draft construction need figures for each of the SBCCOG cities, including the City of Carson. According to the draft numbers, by the year 2005, Carson will need to provide an additional 946 housing units. This construction need total is based on the following: household growth estimate (505)¹, vacancy adjustments (47), and housing unit loss adjustment (394). Carson's 946 units represents 10% of the total housing construction need identified for the SBCCOG.

The RHNA defines "existing need" as the number of resident lower income households paying 30% or more of their income for housing. Usually, the overpaying rates vary greatly by income and tenure. State and Federal standards also specify that a household overpays for its housing costs if it spends more than 30% of its income on housing and utilities. The 1990 Federal Census was the primary data source for the RHNA.

The median family income for the City as a whole at the time of the 1990 census was \$47,387. Adjusted for inflation, the figure would be closer to \$50,000, as stated in the City of Carson Consolidated Plan for Community Planning and Development Five-Year Strategy, Program Years 1995-1999. The current regional median family income is \$45,200. Refer to Table 3.3-13, *Household Income by Tenure*, for a breakdown of Carson owner- and renter-household incomes. As indicated by Table 3.3-13, more than 50% of owner households had incomes above \$50,000, but only 23.3% of the renter households did so. By comparison, 7.2% of owners had incomes of less than \$20,000, while 16.4% of the renters were in this income bracket. According to the Carson Consolidated Plan for Community Planning and Development Five-Year Strategy, Program Years 1995-1999, 11.9% of all Carson households were considered extremely low income (0-30% of area median income)², and 10.9% were low income (31-50% of area median income). Refer to Table 3.3-14, *Income Distribution*.

¹It should be noted that household growth input is currently under review, and is likely to be adjusted in each jurisdiction.

²"Area median," as defined in federal law and HUD regulations, is the higher of: 1) the metropolitan area or non-metropolitan county median family income; or 2) the statewide non-metropolitan median family income (\$36,700 for 1999).

Table 3.3-14 identifies that 42.5% of all Carson households had incomes greater than 96% + above the area median income. Nonetheless, according to the 1990 Census, 30.1% of the City's owner-households were paying more than 30% of their gross income for housing, and 44.7% of the renter-households in the City were also overpaying for housing. These percentage rates equate to an estimated figure of 6,745 owner and renter households paying more than 30% of their income on housing costs at the time of the 1990 Census, refer to Table 3.3-15, *Households Overpaying by Income Level*. As noted in Table 3.3-15, overpaying rates are very high for all owners and renters with incomes of \$10,000 or less and renters with incomes between \$10,000 and \$19,000. The largest percentage of "cost burden" households were the renters in the two income levels under \$19,999.

**Table 3.3-13
HOUSEHOLD INCOME BY TENURE
(OWNER OCCUPIED VERSUS RENTER OCCUPIED)**

Income Level	Owner		Renter		Total
	Number	Percent	Number	Percent	
< \$10,000	533	3.5%	532	11.3%	1,065
\$10,000 - \$19,999	1,103	7.2%	776	16.4%	1,879
\$20,000 - \$34,999	2,629	17.1%	1,307	27.6%	3,936
\$35,000 - \$49,999	3,076	20%	1,014	21.4%	4,090
\$50,000 +	8,035	52.2%	1,104	23.3%	9,139
Total	15,376	100 %	4,733	100 %	20,109

Source: 1990 Census of Population and Housing, Summary Tape File 3, Tables H50 and H59.

**Table 3.3-14
INCOME DISTRIBUTION**

Category (% of area median income)	Households	Percent of Total
Extremely Low Income (0% - 30%)	2,820	11.9%
Low Income (31% - 50%)	2,602	10.9%
Moderate Income (51% - 80%)	3,420	14.4%
Middle Income (81% - 95%)	4,849	20.4%
High Income (96% and above)	10,095	42.5%
Total	23,786	100%

Source: City of Carson Consolidated Plan for Community Planning and Development Five-Year Strategy, Program Years 1995-1999.

**Table 3.3-15
HOUSEHOLDS OVERPAYING BY INCOME LEVEL¹**

Income Level	Owner		Renter		Total
	Number	Percent	Number	Percent	
< \$10,000	423	79.4%	478	89.8%	901
\$10,000 - \$19,999	515	46.7%	683	88%	1,198
\$20,000 - \$34,999	1,240	47.2%	718	54.9%	1,958
\$35,000 - \$49,999	1,291	42%	218	21.5%	1,509
\$50,000 +	1,162	14.5%	17	1.5%	1,179
All Households	4,631	30.1 %	2,114	44.7%	6,745

Source: 1990 Census of Population and Housing, Summary Tape File 3, Tables H50 and H59.

¹ Households paying more than 30% as a percentage of all households in a particular income level.

INVENTORY OF LAND SUITABLE FOR RESIDENTIAL DEVELOPMENT

In 1999, the City of Carson prepared a vacant land study to identify all areas of underutilized and vacant land within the City (refer to Exhibit 3.1-3, *Vacant and Underutilized Land*, and Table 3.1-6, *Summary of Vacant Land*, contained within the Land Use section of this report). As identified in Exhibit 3.1-3 and Table 3.1-6, of the approximately 3,086 acres zoned for residential use within the City, 154.17 acres are currently underutilized or vacant.³ These 154.17 acres represent the land available and suitable for future residential development.

The City's Redevelopment Agency has also adopted two redevelopment project areas which include sites of potential residential redevelopment. The two redevelopment project areas, referred to as Redevelopment Project Area No. 1 and Redevelopment Project Area No. 2 (previously Merged and Amended Redevelopment Project Area Nos. 2 and 3), are shown on Exhibit 3.1-4, *Redevelopment Project Areas*.

According to the 1996 Sixth Amendment to Project Area No. 1 EIR, the Redevelopment Project Area No. 1 includes approximately 30 acres of residentially-zoned property. Of the 30 acres, only one acre of residential land has potential for development. However, it should be noted that with the Sixth Amendment to Project Area No. 1,

³ Areas identified within the vacant land study as vacant land may include sites that are currently vacant but proposed for future development.

some of the Carson Street Mixed-Use Residential Zone was added to the project area, which could allow for an undetermined number of additional residential units. As stated in the 1996 Sixth Amendment to Project Area No. 1 EIR, the total project area includes 568 dwelling units.

Redevelopment Project Area No. 2 includes approximately 92.9 acres of residentially-zoned land, of which 4.4 acres have development potential, according to the Carson Merged and Amended Project Area EIR. It should be noted, however, that related projects within the project area that are already approved or pending, but not yet built, would add approximately 188 dwelling units. Redevelopment Project Area No. 2 includes a potential for 204 dwelling units.

Provision for Affordable Housing Within Redevelopment Project Areas

As part of the redevelopment plans, provisions for the availability and supply of affordable housing units are included. Provided below are excerpts from and summaries of the provisions for low and moderate income housing, as contained within the redevelopment project area plans.

Section 533 (Replacement Housing). Whenever dwelling units housing persons and families of low or moderate income are destroyed or removed from the low and moderate income housing market as part of a redevelopment project which is subject to a written agreement with the Agency, or where financial assistance has been provided by the Agency, the Agency shall, within four (4) years of such destruction or removal, rehabilitate develop, or construct,..., for rental or sale to persons and families of low or moderate income, an equal number of replacement dwelling units which have an equal or greater number of bedrooms as those destroyed or removed units at affordable housing costs....With respect to dwelling units destroyed or removed after September 1, 1989, seventy-five percent (75%) of the replacement dwelling units shall replace dwelling units available at affordable housing costs in the same income level....as the persons displaced from those units destroyed or removed.

Section 534 (New or Rehabilitated Dwelling Units Developed Within the Project Area). Redevelopment Law requires that at least 30% of all new and substantially rehabilitated dwelling units developed by the Agency, and 15% developed by public or private entities/persons other than the Agency, shall be available at affordable housing cost to persons and families of low or moderate income. Not less than 50% (Agency project) or 40% (non-Agency project) of the dwelling units required to be available at affordable housing cost to persons and families of low or moderate income shall be available at affordable costs to, and occupied by, very low income households.

Section 535 (Duration of Dwelling Unit Availability). The Agency shall require that the aggregate number of replacement dwelling units and other dwelling units rehabilitated, developed, constructed, or price-restricted pursuant to Section 533 and

534 shall remain available at affordable housing cost to persons and families of low income, moderate income and very low income households, respectively, for the longest feasible time,.... but for not less than the period set forth in Section 1001 for the duration of the Redevelopment Plan's (applicable) land use controls.

Section 536 (Relocation Housing). If insufficient suitable housing units are available in the City for use by persons and families of low or moderate income displaced by a project, the Agency may, to the extent of that deficiency, direct or cause the development, rehabilitation, or construction of housing units within the City, both inside and outside the redevelopment project area.

Section 537 (Increased and Improved Supply). Subject to the provisions...of the Redevelopment Law,...., not less than twenty percent (20%) of all taxes which are allocated to the Agency....shall be deposited by the Agency into the Low and Moderate Income Housing Fund.

Section 538 (Duration of Affordability). Redevelopment Project Area No. 1 states, "According to....Redevelopment Law, the Agency shall use the monies from the Housing Fund,...., to assist in the construction or rehabilitation of housing units which will be available to, or occupied by, persons and families of low or moderate income,...and very low income households...for a period of not less than thirty (30) years." Redevelopment Project Area No. 2 states, "...all new or substantially rehabilitated housing units developed or otherwise assisted with monies from the Housing fund....shall be required to remain available at affordable housing costs to persons and families of low or moderate income and very low income households for the longest feasible time, but for not less than....fifteen (15) years for rental units...(and) ten (10) years for owner-occupied units.

OWNER HOUSING COSTS

Housing value and cost data is available from 1990 Census information, and is shown on Table 3.3-16, *Value of Owner-Occupied Housing*. According to this information, 21.6% of the City's residential units had an estimated value of less than \$150,000, 66.2% had an estimated value of \$150,000 to under \$250,000, 12% had an estimated value of \$250,000 to under \$500,000, and 0.2% had an estimated value of \$500,000 or more. According to the Census data, the median home value was approximately \$81,900 in 1980 and \$188,100 in 1990, an increase of 129.7%.

**Table 3.3-16
VALUE OF OWNER-OCCUPIED HOUSING¹**

Value	Number of Units	Percentage Distribution
< \$100,000	913	6.0%
\$100,000 to \$124,999	1,084	7.2%
\$125,000 to \$149,999	1,266	8.4%
\$150,000 to \$174,999	2,537	16.8%
\$175,000 to \$199,999	3,384	22.3%
\$200,000 to \$249,999	4,106	27.1%
\$250,000 to \$299,999	1,468	9.7%
\$300,000 to \$399,999	328	2.2%
\$400,000 to \$499,999	27	0.2%
\$500,000 or more	24	0.1%
Total	15,137	100%

Source: 1990 Census of Population and Housing, Summary Tape File 1, Table H23.

¹ It should be noted that 3,670 owners did not respond to this question. Therefore, the total number of owner-occupied housing units identified in this table is 15,137, rather than the 100% total owner occupied housing units of 18,807.

In addition to the 1990 Census data, a review was made of the asking prices of resale homes per the newspaper advertisements in the Sunday edition of the *Daily Breeze*, a local publication, for March 28 through April 18, 1999. The statistical results for single-family homes are summarized in Table 3.3-17, *Asking Prices for Resale Homes*. It should be noted that the distribution reflects only those units on the market at the time of the evaluation. The *Daily Breeze* also recently published an article which identified the median home prices for each city within Los Angeles County, as well as for the County as a whole (refer to Table 3.3-18, *Home Prices for February 1999*).

According to the Carson Consolidated Plan for Community Planning and Development Five-Year Strategy, Program Years 1995-1999, housing costs in the South Bay area of Los Angeles County have dropped considerably in the last three to four years. At the same time, the average mortgage interest rate has dropped as low as under 7%. These factors have dramatically increased the number of families who can afford to buy a home. According to the California Association of Realtors, the percentage of families who could afford a median price home in Los Angeles County has risen from 30% to 37% in the last year. Two years ago, this rate was below 20%. Nonetheless, housing costs are still very high compared to most of the nation.

**Table 3.3-17
ASKING PRICES FOR RESALE HOMES**

	2-Bedroom	3-Bedroom	4-Bedroom	5-Bedroom	Total	Percent
< \$160,000	1	3	1	1	6	33.3%
\$160,000 to \$189,999	-	6	2	-	8	44.4%
\$190,000 to \$229,999	-	2	1	-	3	16.7%
\$230,000 +	-	1	-	-	1	5.6%
Total	1	12	4	1	18	100%

Source: *Daily Breeze*, Classifieds, Sunday: March 28, April 4, April 11, and April 18, 1999.

**Table 3.3-18
HOME PRICES FOR FEBRUARY 1999**

	Median Home Price	% Change from 1998	Median Condominium Price	% Change from 1998	Units Sold 1999	Units Sold 1998
City of Carson						
• 90745	\$147,000	(4%)	\$99,000	(33%)	35	37
• 90746	\$182,000	5%	-	-	20	14
Los Angeles Co.						
• Existing	\$182,000	6.7%	\$140,000	(9.6%)	6,478	-
• New	\$235,000	-	\$235,000	-	395	-

Source: *Daily Breeze*, March 28, 1999.

RENTAL HOUSING COSTS

In 1980, the median contract rent was \$272. In 1990, the median contract rent was \$648, which represents a 138.2% increase from 1980. As shown on Table 3.3-19, *Distribution of Contract Rents*, 26.6% of all rental units had monthly rents of less than \$500. An estimated 41.4% of the rental supply had monthly costs between \$500 and \$750.

**Table 3.3-19
DISTRIBUTION OF CONTRACT RENTS¹**

Rent	Number of Units	Percentage Distribution
< \$500	1,273	26.6%
\$500 to \$549	353	7.4%
\$550 to \$599	308	6.4%
\$600 to \$649	475	9.9%
\$650 to \$699	469	9.8%
\$700 to \$749	377	7.9%
\$750 to \$999	1,101	23.0%
\$1,000 or more	428	9.0%
Total	4,784	100%

Source: 1990 Census of Population and Housing, Summary Tape File 1, Table H32.

¹ It should be noted that 217 renters did not respond to this question. Therefore, the total number of renter-occupied housing units identified in this table is 4,784, rather than the 100% total renter occupied housing units of 5,001.

An apartment complex survey was also conducted by the City in April 1999. The survey identifies the number of units and rental rates for the various apartment complexes throughout the City. The results of that survey are presented in Table 3.3-20, *Apartment Complex Survey*. (It should be noted that this Table does not include attached housing, only apartment complexes.) Average rental rates were also collected during a general survey of realtors and other rental property owners within the City, as well as from the collection of data from the California Market Data Cooperative. Refer to Table 3.3-21, *Rental Property Rates*, and Table 3.3-22, *California Market Data Cooperative Rental Data (April 1998 to February 1999)*. The Carson Consolidated Plan for Community Planning and Development Five-Year Strategy, Program Years 1995-1999, indicates that rents have been fairly stable and in some cases have even fallen.

According to Table 3.3-21, the average rental rate for a two bedroom multi-family and non multi-family unit is \$665.63 and \$796.88, respectively. Based on the 1999 Income Limits published by the Department of Housing and Community Development, a two-person very low income household can afford a monthly payment of \$512.50 in the County of Los Angeles, while a two-person low income household can afford a monthly payment of \$821.25 (calculations based on 30% of monthly income limit). Thus the rental housing supply offers generally affordable housing costs for low income households.

**Table 3.3-20
APARTMENT COMPLEX SURVEY**

Apartment Complex	1992	1999
171 West 223 rd Street	No information available	No information available
314 West 223 rd Street	12 units: 1 & 2 bdrm/1 bth	No information available
330 West 223 rd Street	No information available	30 units: 2 bdrm/1 bth - \$725 20 units: 3 bdrm/1 bth - \$825
424 West 223 rd Street	No information available	8 units: 2 bdrm/1 bth 2 units: 3 bdrm/1 bth
145-47 East 223 rd Street	No information available	7 units: 2 bdrm/1 bth - \$650
201-05 East 223 rd Street	No information available	8 units: 2 bdrm/1 bth - \$700
227 East 223 rd Street	No information available	10 units: 2 bdrm/1 bth - \$865
325-27 West Carson Street	No information available	24 units
22218 Dolores Street	No information available	No information available
22228 Dolores Street	No information available	No information available
Carson Palm Apartment 228 West Carson Street	75 units: single or 1 bdrm	25 units: single - \$423 50 units: 1 bdrm/1 bth - \$466
Harbor North Apartments 21818 Figueroa Street	No information available	No information available
Kona Palms Apartments 21740 Figueroa Street	No information available	39 units: 1 bdrm/1 bth - \$630 19 units: 2 bdrm/1 bth - \$755 1 unit: 3 bdrm/1 bth - \$950
Matt Coloma Apartments 1459 East Carson Street	No information available	No information available
Ohio Apartments 410 West Carson Street	41 units	33 units: 1 bdrm/1 bth - \$525-595 8 units: 2 bdrm/1 bth - \$695-750
Pennsylvania Apartments 400 West Carson Street	41 units	33 units: 1 bdrm/1 bth 8 units: 2 bdrm/1 bth
Carson Courtyard Apartments 21602 Figueroa Street	No information available	No information available
Townhouse Apartments 22101 Figueroa Street	14 units: 3 bdrm/1.5 bth - \$775	14 units: 3 bdrm/1.5 bth
Villas Figueroa Apartments 22712-734 Figueroa Street	No information available	No information available
Carson Apartments 1525-37 Carson Street	No information available	48 units: 2 bdrm/1 bth 26 units: 3 bdrm/1 bth
Carson Gardens 21811 Main Street	No information available	101 units: 1 bdrm/1 bth - \$773
Grace Manor Apartments 22222-8 Grace Avenue	No information available	8 units: 1 bdrm 26 units: 2 bdrm 4 units: 3 bdrm
El Cordova Apartments 950 E. Del Amo Boulevard	No information available	1 bdrm/1 bth - \$600-750 2 bdrm/1 bth - \$1,000 3 bdrm/1 bth - \$1,250
Don Dominguez ¹ 19822 South Main Street	No information available	No information available
Everglow Apartments 539 East Lomita Avenue	No information available	No information available

Source: City of Carson Community Development Department, April 1999.

¹ Legal, non-conforming apartment use.

**Table 3.3-21
RENTAL PROPERTY RATES**

Agent	Multi-Family			Non Multi-Family		
	1-Bedroom	2-Bedroom	3-Bedroom	1-Bedroom	2-Bedroom	3-Bedroom
Remax Seapoint	\$450- \$500	\$600- \$675	\$800- \$850	\$550- \$600	\$700- \$800	\$900 +
First Family Rentals	\$500- \$550	\$600- \$650	\$800 +	\$600- \$700	\$750- \$800	\$1,000- \$1,200
Barlin & Associates Realty	\$500- \$550	\$650	\$875	\$700- \$800	\$850- \$975	\$975- \$1,100
Camino Realty	\$500- \$650	\$700- \$800	\$800- \$950	\$650- \$700	\$700- \$800	\$950- \$1,100

Source: City of Carson Community Development Department, April 1999.

**Table 3.3-22
CALIFORNIA MARKET DATA COOPERATIVE RENTAL DATA
(APRIL 1998 TO FEBRUARY 1999)**

Property	Date of Survey	Unit Size	Rental Rate
2580 Madison	7/2/98	2 bdrm/1 bth - 900 sf	\$800
		2 bdrm/1 bth - 650 sf	\$500
2533 Jefferson	8/21/98	3 bdrm/2 bth - 1,170 sf	\$830
		2 bdrm/1 bth - 866 sf	\$550
23407-11 Panama	4/7/98	3 bdrm/1 bth - 506 sf	\$650
		2 bdrm/1 bth - 604 sf	\$850
		3 bdrm/2 bth - 884 sf	\$1,100
23603 Idabel	4/10/99	1 bdrm/1 bth - 550 sf	\$525
22708 Delford	3/10/99	3 bdrm/1 bth - 1,200 sf	\$900

Source: City of Carson Community Development Department, April 1999.

SPECIAL HOUSING NEEDS

Certain groups in the population may have difficulty in finding decent, affordable housing due to income barriers, family size, or physical or developmental limitations. In Carson, "special needs" groups include the elderly, disabled persons, female-headed households, and the homeless/people in need of emergency shelter. A brief discussion is provided for each special needs group, as well as for farmworkers, large households, overcrowded households, assisted housing, and other housing needs.

Elderly

According to the 1990 Census, 6,759 elderly persons (age 65 and over) reside in the City of Carson, representing 8% of the City's total population; this compares to 11% of the total population in the SCAG region. By comparison, according to the 1980 census, there were 4,255 elderly persons (age 65 and over) residing in Carson, representing 5.2% of the City's population. The elderly population in Carson increased by 2,504 persons, or 58.8%, between 1980 and 1990. This represents a trend most cities in Southern California have seen, as health care has improved and many residents are living longer.

Furthermore, 15% of the City's householder, or homeowner, population (3,570 persons) is comprised of elderly persons. As shown on Table 3.3-23; *Age of Householder by Tenure*, approximately 85.7%, or 3,061, of all senior households are homeowners. Senior owner-occupied households represent approximately 16.3% of all owner-occupied households, and 12.9% of all households. Senior renters only comprise 10.2% of all renter households.

The Carson Consolidated Plan for Community Planning and Development Five-Year Strategy, Program Years 1995-1999, states that approximately 93% of the elderly population was at, or above, the poverty level in 1990. Census figures indicate that 294 elderly people occupy 18 nursing homes and community care facilities throughout the City. According to the CHAS Data Book, 239 of the elderly renter-households and 641 of the elderly owner-households are lower income households in need of housing assistance.

As of January 1998, three senior housing projects within the City of Carson received housing assistance, as identified in Table 3.3-24, *Carson Assisted Housing*. It should be noted that Table 3.3-24 also shows other projects in the City that receive housing assistance. An additional 61-unit senior housing complex is proposed within the City and is currently under development review.

**Table 3.3-23
AGE OF HOUSEHOLDER BY TENURE
(OWNER OCCUPIED VERSUS RENTER OCCUPIED)**

Age of Householder	Owner Occupied	Renter Occupied	Total Households	Percent Distribution
15 to 24	212	396	608	2.6%
25 to 34	2,577	1,497	4,074	17.1%
35 to 44	4,365	1,283	5,648	23.7%
45 to 54	4,742	852	5,594	23.5%
55 to 64	3,850	464	4,314	18.1%
65 to 74	2,198	313	2,511	10.6%
75 years +	863	196	1,059	4.4%
Total	18,807	5,001	23,808	100%

Source: 1990 Census of Population and Housing, Summary Tape File 1, Table H12.

**Table 3.3-24
CARSON ASSISTED HOUSING (AS OF JANUARY 21, 1998)**

Senior Projects	# of Units	Multi-Family Projects	# of Units
Carson Gardens Retirement Apartments 21811 South Main Street Carson, CA 90745 (310) 518-2790	101	Carson Apartments 1503 East Carson Street Carson, CA 90745 (310) 834-6570	74
Camino Village Senior Complex 21735 South Main Street Carson, CA 90745 (310) 835-1899	45	Grace Street Apartments 223 rd & Grace Carson, CA 90745	62
Avalon Courtyard Senior Project 22121 South Avalon Boulevard Carson, CA 90745 (310) 522-9858	92	Villagio 545 E. Carson Street Carson, CA 90745	148
TOTAL	238		284

Source: City of Carson Community Development Department.

Notes: Carson Terraces, a 61 senior housing unit development, is currently proposed and under review at the City of Carson. Please refer to Table 3.3-12, *Development Status Report*, for more detailed information.

Disabled Persons

The Federal Rehabilitation Act of 1973, Section 104.3(j) defines a disabled person as "any individual who has a physical or mental impairment which substantially limits one or more major life activities, has record of such an impairment, or is regarded as having such an impairment." Disabilities, both physical and mental, affect a person's functioning and ability to live in a household. Therefore, chronically disabled persons, as well as those who are recovering from a disability, have special housing needs.

According to the CHAS, an estimated 2,555 residents, or 3% of the City's population, suffered from severe mental illness, developmental disabilities, and/or physical disabilities in 1990. According to the 1990 Census, 6,331 Carson residents were identified as having a mobility limitation, self-care limitation or both a mobility and self-care limitation. This represents 7.5% of the City's 83,995 total residents in 1990. A complete breakdown is shown in Table 3.3-25, *Status of Handicapped Persons by Sex and Age (1990)*.

**Table 3.3-25
STATUS OF HANDICAPPED PERSONS BY SEX AND AGE (1990)**

Handicap	Male			Female			Total
	16-64	65-74	75+	16-64	65-74	75+	
Mobility Limitation	340	124	108	371	156	256	1,355
Self-Care Limitation	1,580	128	80	1,564	181	98	3,631
Both Mobility and Self-Care Limitation	310	98	99	432	210	196	1,345
Total	2,230	350	287	2,367	547	550	6,331

Source: 1990 Census of Population and Housing, Summary Tape File 3, Table P69.

According to the Carson Consolidated Plan for Community Planning and Development Five-Year Strategy, Program Years 1995-1999, Carson has several special care facilities serving emotionally disturbed and developmentally disabled children and adults. Over 29 small family homes and group homes, which serve those under 18 years of age, can house a maximum of 155 people. Adult residential homes, which serve those between 18 and 65 years of age, number 44 and can house a maximum of 253 people.

Female-Headed Households

Single-parent households have special housing needs due to the need for day care, health care, and affordable housing. The housing needs of single-parent households have increased in recent years. The most significant portion of this group is the female-headed households. Female-headed households with children often have lower incomes, limiting their access to available housing. Many housing experts believe these households are especially at risk of housing cost burden or homelessness.

Data on female-headed households is available from 1990 Census information. In 1990, there were 5,708 female-headed households in the City, representing 24% of all occupied households. Of these, 1,922 households had children. The distribution of these households is presented in Table 3.3-26, *Female Head of Households*. According to the Carson Redevelopment Agency Five-Year Implementation Plan Housing Component and Affordable Housing Production Plan, 295 female-headed households had incomes below the poverty line.

**Table 3.3-26
FEMALE HEAD OF HOUSEHOLDS**

One person female household	1,935
Two person + family female householder	3,369
• With related children	1,922
• With no related children	1,447
Non-family female householder	404
Total	5,708

Source: City of Carson website, Carson On Line, <http://carson.csudh.edu/ModernHistoryofCarson.htm>.

Homeless/Persons in Need of Emergency Shelter

As part of the City's CHAS, the City conducted a survey of social agencies and shelters to count the sheltered homeless, and conducted a field count to identify the number of unsheltered homeless. A total of 26 homeless were identified. Of these 26 individuals, 20 were sheltered and six were unsheltered; none of the unsheltered homeless were under 18 years of age.

In an effort to enhance the continuum of care in the Carson area, the City intends to better identify and quantify its homeless population. Once this is accomplished, general needs can be identified and a plan can be prepared to attempt to address these needs in a humane manner. According to the Carson Consolidated Plan for

Community Planning and Development, Action Plan for Program Year 1998 (July 1, 1998-June 30, 1999), the City has existing programs in place that have led to the development of a limited amount of new affordable housing which may accommodate the homeless, and the City intends to continue its efforts, funding permitting. The City will compile a database of social service providers specializing in assisting homeless and special needs populations, in order to provide these persons and families with the services necessary to become self sufficient and find housing.

In addition, the City funds one emergency and two transitional housing public service organizations. These organizations are designed to primarily serve abused and battered women and their children. There are no missions to serve the homeless in the City.

It is not known if homeless in Carson actually make use of services in other cities. There is, however, no information from the social service providers that Carson residents make up a significant portion of their clientele. The very small number of homeless in the City supports this data. Carson is bounded on three sides by large heavy industrial areas that do not have any attraction to the homeless and act as a barrier to people moving in or out of the City through these areas. No homeless shelters are located in or adjacent to these areas.

Farmworkers

Farmworkers are one of seven special needs groups referenced in the State law. There were 619 Carson residents employed in the "farming, forestry and fishing" occupation in 1990. This employment category is an indicator of farm workers and farmworker households.

Large Households

Based on the limited availability of adequately sized affordable housing units, large households (five or more members) are identified as a group with special housing needs. In 1990, Carson had 23,808 households, of which 6,287 were large households. Large households accounted for 26.4% of the City's total households. The 1990 Census reported 4,868 (25.9%) of the owner-households and 1,419 (28.4%) of the renter-households had five or more members, as reflected in Table 3.3-27, *Household Size Distribution*.

Large households often have lower incomes which frequently results in the overcrowding of smaller dwelling units and in the acceleration of unit deterioration. According to the City's CHAS, 735 large family renters were lower income households in need of housing assistance. An additional 100 large families were moderate income households in need of assistance.

**Table 3.3-27
HOUSEHOLD SIZE DISTRIBUTION**

Household Size	Owner Occupied	Renter Occupied	Total Households	Percentage Distribution
1	2,583	792	3,375	14.2%
2	4,691	958	5,649	23.7%
3	3,333	899	4,232	17.8%
4	3,332	933	4,265	17.9%
5	2,119	571	2,690	11.3%
6	1,241	367	1,608	6.7%
7 +	1,508	481	1,989	8.4%
Total	18,807	5,001	23,808	100%

Source: 1990 Census of Population and Housing, Summary Tape File 1, Table H18.

Overcrowded Households

Overcrowding most often reflects the financial inability of households to buy or rent housing units with enough space to meet their needs. Consequently, overcrowding is more appropriately considered a household characteristic, instead of a housing structural condition. Overcrowding falls within the meaning of special housing needs, much as large family households are considered. Overcrowding also may be a temporary phenomenon since some households will move to larger housing units to meet space requirements.

Overcrowding is one result of the shortage of interior living space. The most often-used indicator of overcrowding relates to the number of rooms and persons in a housing unit. An "overcrowded" housing unit does not necessarily imply one of inadequate physical condition; rather, with fewer persons it becomes "uncrowded." The federal government defines overcrowding as habitations occupied by more than 1.01 persons per room. Severe overcrowding is defined as more than 1.5 persons per room.

Data from the 1990 Census identified 4,934 overcrowded households in the City of Carson, indicating that 20.7% of all occupied housing units were overcrowded. The 1990 Census reported 3,282 cases (17.5%) of overcrowding among the City's owner-households. Overcrowding among renter-households was more extensive, with 1,652 (33%) of the City's renter-households identified as overcrowded. The data is summarized by owner-renter in Table 3.3-28, *Overcrowded Households by Tenure*.

**Table 3.3-28
OVERCROWDED HOUSEHOLDS BY TENURE
(OWNER OCCUPIED VERSUS RENTER OCCUPIED)**

Household Size (Persons per Room)	Owner Occupied	Renter Occupied	Total Households
1.01 to 1.50	1,748	710	2,458
1.51 to 2.00	999	505	1,504
2.01 or more	535	437	972
Total	3,282	1,652	4,934

Source: 1990 Census of Population and Housing, Summary Tape File 1, Table H22.

Assisted Housing

There is no public housing in the City of Carson. The City has an agreement with the Los Angeles County Community Development Commission to provide Section 8 housing in the City and to provide spaces in low-income buildings in surrounding communities for Carson residents. According to the Carson Consolidated Plan for Community Planning and Development Five-Year Strategy, Program Years 1995-1999, there are three HUD specialized low-income apartments with a total of 212 units as indicated in Table 3.3-29, *HUD Subsidized Housing*. As of January 1998, there are two multi-family assisted housing developments in the City (refer to Table 3.3-24, *Carson Assisted Housing*).

The remainder of the assisted housing is in the form of Section 8 housing and is tenant based. Table 3.3-30, *Section 8 Housing*, describes the assisted housing inventory in the City of Carson.

**Table 3.3-29
HUD SUBSIDIZED HOUSING**

Name	Total Units
Carson Gardens	100
Grace Manor	38
Carson Apartments	74
TOTAL	212

Source: Carson Consolidated Plan for Community Planning and Development Five-Year Strategy, Program Years 1995-1999.

**Table 3.3-30
SECTION 8 HOUSING (AS OF APRIL 24, 1995)**

Category	0-1 Bedrooms	2 Bedrooms	3 Bedrooms	4 Bedrooms	5 Bedrooms	Total
Project Based Assistance FmHA	-	-	-	-	-	212
Tenant Based Assistance Section 8	19	64	69	28	4	184
Total						396

Source: Carson Consolidated Plan for Community Planning and Development Five-Year Strategy, Program Years 1995-1999.

Other Housing

Within the City of Carson, there is supportive housing for people with drug- and alcohol-related problems who are currently undergoing rehabilitation in the form of drug and alcohol recovery homes/centers:

- The Palm House, an alcohol recovery home, can accommodate a total of 12 clients, and is funded by the County of Los Angeles through the Office of Alcohol Programs.
- Olivia Isabel Manor (formerly known as the Royal Palms), a drug and alcohol rehabilitation center which also offers assisted living, has 212 beds; no medical services are provided except for the dispensing of prescribed medications. The facility receives State funding.

Currently, there is no data regarding an inventory of supportive housing for people afflicted with HIV within the City. Carson does not discourage or have regulations against residential care facilities for HIV afflicted people. The only restriction is that the City may require a distance of 300 feet between residential care facilities of any kind.

With programs offering rental subsidies, new construction loans, support services and facilities, and housing rehabilitation assistance, the City and Redevelopment Agency assist special needs groups in meeting their housing needs.

BARRIERS TO AFFORDABLE HOUSING

The City of Carson prides itself on its fair development standards and its friendly attitude toward development and the business community in general. Carson is only 30 years old as a city; therefore, exclusionary policies adopted by other cities earlier

this century never existed in Carson. Development standards are the minimum required to protect the public safety and welfare. Many regulations are based on building code requirements that are fire safety measures. Nonetheless, barriers still exist that may deter some developers from providing affordable housing. The following discussion is taken from the Carson Consolidated Plan for Community Planning and Development Five-Year Strategy, Program Years 1995-1999, and identifies City policies that affect affordable housing in Carson.

Lengthy Approval Period

Multi-family projects require approval of a conditional use permit by the Planning Commission. Processing time takes six to eight weeks. If a negative declaration is required under the California Environmental Quality Act, there is a mandatory review period. Following Planning Commission approval, there is a 15-day appeal period. Finally, the developer must submit detailed plans to the City's Building and Safety Division to ensure compliance with the building code. Combined, these items can easily add up to several months. In order to avoid project delays, Planning Division staff works with developers throughout the process, presenting options such as reducing plan check time by working with building officials early on to ensure that plans meet code requirements when they are submitted.

Building Permit and Planning Fees

Building permit and planning fees are the method the City uses to defray the cost of the Planning and Building and Safety Divisions. Obviously, these fees impact the cost of constructing affordable housing. To help keep costs down, the City Council may waive building fees or the Redevelopment Agency may pay the fees for the developer.

School Impact Fees

The City of Carson is served by two school districts: Los Angeles Unified and Compton Unified School Districts. Both districts charge impact fees on development. These fees add significantly to the cost of development. Senior housing is exempt from school fees because it does not impact the demand for schools. The Redevelopment Agency may opt to pay the school fees if requested to do so, in order to keep costs down.

Zoning

Residential zoning in the City ranges from one unit per 5,000 square feet net area (Residential, Single-Family) to 25 units per acre (Residential, Multi-Family). The City has approved several Specific Plans that permit single-family detached units on lots less than 5,000 square feet. Some residential units are located in commercial or industrial zones and are classified as legal, non-conforming uses. They would be subject to eventual removal.

State law requires that cities provide a bonus density to projects including at least 10% affordable or senior units. The City has allowed much higher densities than would normally be required. The City has also amended its General Plan and Zoning Ordinance to create a mixed use corridor that provides additional opportunities to preserve existing and construct new multi-family housing.

Community Care Facility Siting Distance

California state law allows cities to require a 300-foot separation between community care facilities to avoid over-concentration. In Carson, applicants wishing to site such a facility within 300 feet of another may appeal to the Planning Commission and City Council.

Mobilehome Space Rent Control

The City has a rent stabilization ordinance for mobilehome park spaces, which may have the effect of discouraging the creation of new mobilehome parks. However, due to the stabilization effect on rents, these units are a significant source of affordable housing.

Development Standards

There are development standards for setbacks, lot area, lot width, frontage, height, private open space, parking, separation between buildings, landscaping, and recreational facilities that limit the density of development. Along with density bonuses, the City allows deviations from the development standards for projects that contain at least 10% affordable or senior units. Also, the Planning Commission may grant such deviations as it deems necessary while looking at the overall impact and design of the project.

Parking Requirements

The City requires sufficient parking for residential projects to avoid the need for either residents or guests to park on the street. The reason for this is to avoid a safety hazard and ensure that surrounding developments are not adversely impacted. The Planning Commission may grant such deviations as it deems necessary while looking at the overall impact and design of the project.

AFFORDABLE HOUSING BARRIERS IN COMPARISON TO SURROUNDING CITIES

In an effort to provide a comparison of affordable housing barriers in Carson with those of surrounding cities, the Cities of Hawthorne and Torrance were contacted.

City of Hawthorne

Currently, no specific program exists in the City which offers residential developers incentives to provide affordable housing. Although, senior citizen housing is exempt from payment of development impact fees. In October 1990, the City Council for the City of Hawthorne adopted an ordinance and fee resolution imposing Development Impact Fees on new construction. These fees are required to be paid by the developer prior to the issuance of a building permit. New buildings constructed for "senior citizen housing," as defined by the United States Department of Housing and Urban Development, are exempt from the development impact fees.

In general, the City of Hawthorne does not require special permits for residential development other than building permits, which reduces the cost to the developer, and subsequently the buyer/renter. Also, there are no residential growth controls in the City of Hawthorne, except through typical development standards.

According to a Planning Assistant at the City of Hawthorne, no residential development applications have been submitted to the City in past two years which include affordable housing.

City of Torrance

The City of Torrance does not provide affordable housing incentives for residential projects outside the limits of the Redevelopment areas (based on telephone conversation with Redevelopment/Housing and Development Review Division staff). For those projects within the Redevelopment areas, incentives consist of funding assistance. It should be noted that the City of Torrance is one of the very few cities which does not receive Community Development Block Grant funds. No land use incentives, such as reduction of development standards, are offered.

Other than the lack of incentives offered to residential developers, no barriers exist that would deter developers from providing affordable housing within the City. Application review/approval periods and development fees are comparable to those of surrounding cities.

REMOVAL OF BARRIERS TO AFFORDABLE HOUSING

The City has adopted and employs a number of measures to promote, provide, and expand the availability of affordable housing within Carson, including land use/planning measures and financial assistance.

Land Use/Planning

From a housing production and land use/planning perspective, the City provides the following:

- Increase in the number units per acre in order to reduce the cost per unit, if the housing development is made affordable;
- Reduction in street width requirements to promote project economy without impacting health and safety;
- Reduction in side or front yard setback requirements; and
- Density bonus to developers as an additional incentive to produce affordable housing.
- Reduction in the minimum square footage for single-family residential development within Specific Plans.

In addition, the City addresses each of the barriers to affordable housing identified on the previous pages (e.g., lengthy approval period, building permit and planning fees, etc.) as indicated under the appropriate discussions. For example, to help keep development costs down, the City Council may waive building fees or the Redevelopment Agency may pay the fees for the developer who provides affordable housing.

Financial Assistance

For new construction, the City provides loans and land write downs to developers who provide affordable housing. These efforts are then folded into a first time homebuyers program. The qualifying low and moderate income buyers receive direct financial assistance in the form of a silent second. The loan amount would be "silent" meaning that there would be no payments until the note comes due. The silent second is due and payable only upon resale or change in ownership. Examples of housing projects within the City which have been directly funded by silent-second programs for low- and moderate-income families/individuals include Vista Del Mesa (42 units), The Arbors (19 units), and Colony Park (119 units).

As part of five consortium of cities, mortgage revenue bonds have also been issued in order to reduce the cost of financing new affordable housing in the City. Interest rates are less than those available through conventional financing. Bearing a 30-year term, the interest rate is fixed rather than variable. Also referred to as the Fresh Rate Program.

These programs for new construction are all ongoing. They are funded by the 20% housing set-aside established by the Redevelopment Agency. Approximately \$2.5 million is available yearly to develop and promote affordable housing within the City.

The 97% Residential Mortgage Program with the California Housing Loan Insurance Fund (CaHLIF) for first time homebuyers is also being negotiated. The program is for first time homebuyers and participants must also be income qualified.

For existing housing, the City has joined with the Community Development Commission of Los Angeles County to make available Mortgage Credit Certificates (MCCs). MCCs allow low and moderate income families to qualify in the purchase of a single-family dwelling. Typically, the MCC Program provides permanent, fixed rate financing and, on average, a 2% reduction in the interest rate.

MAINTAINING THE SUPPLY OF AFFORDABLE HOUSING

Rent Control Ordinance

Approximately 12 years ago, the City of Carson established a Rent Control Ordinance; the City extends rent protection to the approximately 2,600 households that reside in mobilehome parks in the City. Proposed rent increases must be justified using established criteria. Requested rent increases are generally adjusted and sometimes denied by the City-established Mobilehome Rent Control Board.

Housing Rehabilitation Assistance

Using Community Development Block Grant (CDBG) funds, as well as redevelopment housing set-aside funds, the City and Redevelopment Agency provides grants and loans to low and moderate income families in the City. Through rehabilitation, maintenance and repair, the City's supply of affordable housing is maintained and preserved.

Public Housing Improvements and Initiatives

While the City does not have public housing, it does provide housing subsidies to certain senior citizens residing in City sponsored projects. Currently a total of 114 senior citizens receive assistance.

According to the Carson Consolidated Plan for Community Planning and Development, Action Plan for Program Year 1998 (July 1, 1998-June 30, 1999), three housing projects receive Section 8 assistance under contract with the Los Angeles County Housing Authority. These, as well as those sponsored by the City, are required to have reserves in order to provide ongoing improvements.

REMOVAL OF BARRIERS IN INSTITUTIONAL STRUCTURE THAT IMPEDE AFFORDABLE HOUSING

According to the Carson Consolidated Plan for Community Planning and Development Five-Year Strategy, Program Years 1995-1999, the current lack of available construction

financing makes development especially difficult at this time. Developers report lenders are being very conservative in their lending practices. The City of Carson does not have a city property tax. It does not enact any special fees upon new construction beyond building permit fees, although the school districts do have development fees. The only special districts, other than the fire protection and sanitation districts which cover the City, are street lighting districts of direct benefit to the subject properties.

The City has undertaken a number of initiatives aimed at removing institutional barriers. Some of these are as follows:

Community Reinvestment Act (CRA) Monitoring

The CRA is federal legislation which requires private banks to meet the financial needs of the entire communities they serve, including low and moderate income households. City staff meet with lenders to obtain information on the financial institution's compliance with CRA requirements. One example of the positive impact CRA monitoring has, includes the construction financing of two redevelopment agency financed senior citizen complexes by Wells Fargo Bank at favorable interest rates. Such financing resulted in the reduction of construction costs, and thus made the units more affordable.

Access Financing

The City and Redevelopment Agency have access financing through such sources as the California Housing Finance Agency and the California Tax Credit Allocation Committee. Worthy projects are awarded tax credits by the above agencies, in turn, the credits are sold to institutional investors at 60% to 70% of value. The funds received are applied to the project, reducing the Redevelopment Agency's direct financial assistance.

FUNDING OF HOUSING PROGRAMS

Local

- *Redevelopment Agency Set-Aside Fund.* The City has several programs which offer assistance in the provision of housing and improvements to housing. To fund these programs, the Carson Redevelopment Agency set-aside fund fulfills a State of California requirement that redevelopment agencies allocate 20% of their revenues for low and moderate income housing. According to the City of Carson Consolidated Plan for Community Planning and Development, Action Plan for Program Year 1998 (July 1, 1998 - June 30, 1999), the project amount available during the 1998 program year for new projects is approximately \$2.5 million.

- *General Fund Money.* The City also uses some general fund money to address some non-housing community development needs, such as senior programs and therapeutic recreation for people with disabilities, to assist them in maintaining independent or family living situations.

State and Federal

- *CDBG Program.* Carson anticipates resources totaling approximately \$1.45 million from the CDBG program, administered by the U.S. Department of Housing and Urban Development, for the improvement of existing housing. The primary focus of the City's CDBG Program is the rehabilitation of older, owner-occupied housing due to the identified needs formulated in the Five Year strategy. The City has participated in the CDBG program since its inception in 1974. The City's CDBG program operates at a budget of approximately \$1.3 million annually.
- *Section 8 Housing Certificates.* The City receives Section 8 housing certificates through the Los Angeles County Community Development Commission. Currently 184 Carson households are subsidized, and the City anticipates this level of service each year during the life of the program, provided current funding is available.
- *Low-Income Housing Tax Credits.* State and Federal tax credits for low-income housing provide a mechanism by which a developer of affordable housing can obtain additional equity over and above the mortgage funding supportable by the project's operating income.

There is an annual Statewide cap on the amount of tax credits which can be issued to low-income housing projects. The available credits are allocated on a competitive basis by the California Tax Allocation Committee. The State's annual allocation of tax credits is approximately \$70 million. This total is allocated in two cycles each year, and the process is extremely competitive.

- *HOME Program.* The National Affordable Housing Act of 1990 created the Federal Home Investment Partnership Act (HOME). Jurisdictions may use HOME funds to assist in rental housing and/or in the rehabilitation of affordable housing. Tenant-based rental assistance, property acquisition, site improvements, and other expenses related to the provision of affordable housing are eligible expenses under the HOME program. Carson can apply to the State Department of Housing and Community Development through a competitive process to receive up to \$1 million in HOME funds; however, given the level of medium income in the City as compared to other communities, it is not likely that the City will be awarded any funds.

- CRA. As previously identified, the CRA is federal legislation which requires private banks to meet the financial needs of the entire communities they serve, including low and moderate income households. The California Reinvestment Committee (CRC) is a Statewide nonprofit advocacy organization which monitors and negotiates with private banks to ensure that they have community reinvestment programs which are appropriate for the size of the bank and the needs of the community. Based on CRC's advocacy, banks have committed funds to enhance housing affordability to low and moderate income households. The committed funds are available both to assist financing of multi-family rental complexes, and to assist low to moderate income buyers of owner-occupied housing. For renter-occupied projects, the funds facilitate financing of projects that would not likely be able to obtain financing from conventional sources. The funds are usually provided at below-market interest rates.

There are no set requirements as to the percentage of units which must be made available to low and moderate income households; however, CRC urges the participating banks to give highest priority to projects which are 100% affordable to households with 80% of median incomes. These funds are frequently used in concert with other affordable housing finance mechanisms.

ASSISTED HOUSING AT RISK OF CONVERSION TO MARKET RATE HOUSING

On October 27, 1990, the United States Congress adopted permanent legislation that assists in the protection of most of California's and other HUD-assisted housing from converting to market rate housing. This legislation assists in keeping these units affordable during their useful life as housing units. In passing the legislation entitled, "The Low-Income Housing Preservation and Resident Homeownership Act of 1990" (LIHPRHA), Congress imposed stringent prepayment restrictions and challenged local governments to play a central role in the preservation efforts. Congress authorized new financing that creates major opportunities and responsibilities for local governments, nonprofit organizations and tenant groups to purchase and operate these properties in an effort to preserve these housing units.

Chapter 1451, Statutes of 1989, and Chapter 889, Statutes of 1991 amended Section 65583 of the California Government Code, relating to the content requirements for housing elements. These amendments require an analysis and programs which provide for the preservation of assisted housing developments. In accordance with Government Code Section 65583, the housing element shall consist of *"An analysis of existing assisted housing developments that are eligible to change to non-low-income housing uses during the next 10 years due to termination of subsidy contracts, mortgage prepayment, or expiration of use restrictions. "Assisted housing developments"....shall mean multifamily rental housing that receives governmental assistance under federal programs...., state and local multifamily revenue bond*

programs, local redevelopment programs, the federal Community Development Block Grant Program, or local in-lieu fees. "Assisted housing developments" shall also include multifamily rental units that were developed pursuant to a local inclusionary housing program or used to qualify for a density bonus..."

In October 1992, a report was prepared which identifies assisted housing within the City of Carson that were at risk of conversion to non-low-income use. Based on this report, three apartment projects with a total of 212 housing units were identified as at-risk. These projects include: Carson Gardens, Grace Manor, and Carson Apartments (refer to Table 3.3-27, HUD Subsidized Housing). These projects are generally located in the southwestern portion of the City. More specifically, these projects are generally bounded by Carson Street to the north, 223rd Street to the south, Wilmington Avenue to the east, and Main Street to the west.

Carson Gardens

This development is a 100-unit one-bedroom project for seniors. The form of HUD assistance is a Section 8 rental assistance contract.

Grace Manor

Grace Manor is a 38-unit development consisting of eight 1-bedroom, 26 2-bedroom, and four 3-bedroom units. The HUD assistance for Grace Manor consists of a Section 236 loan and Section 8 rental assistance for 30 of the 38 units.

Carson Apartments

This project is a 74-unit development consisting of 49 2-bedroom and 25 3-bedroom units. The development is a Section 236 assisted development. All of the 74 households residing at the Carson Apartments are also receiving the benefits of the Section 8 rental assistance program. Therefore, the residents are very low households whose rental costs are not greater than 30% of income.

For Federal and State-assisted units, the City is only responsible for the assessment of those housing projects for which information is readily available on a statewide basis. Information on HUD-assisted projects in the City of Carson and a summary of LIHPRHA regulations are provided by the State Department of Housing and Community Development (HCD) in the "Inventory of Federally Subsidized Low-Income Rental Units At-Risk of Conversion." An updated inventory was requested for inclusion in this report, however, was not available during the preparation of this section. A current listing of HUD-assisted projects at risk of conversion will be included in the Housing Element, as required by state legislation.

HOUSING ELEMENT

The Housing Element was adopted in June 1989. In 1992, an Amendment was prepared which addressed "Assisted Housing at Risk of Conversion to Non-Low-Income Uses" as well as an addendum addressing the "Preservation of Assisted Housing Units". The Housing Element, its addendum, and amendment are available for review at the City of Carson, Community Development Department.

The Housing Element, itself, contains the following:

- *Housing Needs Assessment*, which discusses housing stock condition, existing housing needs for all income levels, and projected housing needs.
- *Resources and Constraints Analysis*, which addresses inventories of land suitable for residential development, governmental constraints, redevelopment review, and non-governmental constraints.
- *Progress Report*, which analyzes the Element's effectiveness and community development block grant review.
- *Housing Program*, which includes a five-year housing program, planned objectives in housing units, and a summary of quantitative objectives.
- *Internal Consistency*, this section discusses the Element's consistency with other elements of the General Plan.

The Element also includes a list of statewide and citywide goals and objectives as summarized below:

Statewide Goals

- Conserve and improve the condition of the existing standard affordable housing stock.
- Assist in the development of adequate housing to meet the needs of low- and moderate-income households.
- Identify adequate housing sites which will be made available through appropriate zoning and development standards and with public services and facilities needed to facilitate and encourage the development of a variety of types of housing for all income levels.
- Address and, where appropriate and legally possible, remove governmental constraints to the maintenance and improvement, and development of housing.
- Promote housing opportunities for all persons regardless of race, religion, sex, marital status, nationality, color, etc.

Citywide Goals

- Seek to provide an adequate supply of all types of housing for all economic segments of the community.
- Assure the improvement and maintenance of the existing housing stock while preserving affordability.
- Maintain and enhance neighborhood quality.
- Ensure equal access and housing opportunity for all of its citizens.
- Strive to reduce energy use in order to conserve resources and maintain housing affordability.

3.4 GEOLOGIC HAZARDS

This Section primarily serves to identify seismic hazards and their location in order that they may be taken into account in planning future development.

SOILS/GEOLOGY

General Geologic Characteristics

The City of Carson is located within the northerly end of the Peninsular Ranges geomorphic province. The Peninsular Ranges province extends from the Los Angeles Basin south of the Santa Monica Mountains to the tip of Baja California. It includes the San Jacinto and Santa Ana Mountain Ranges and Santa Catalina Island. This geomorphic province is characterized by elongated north-west trending mountain ranges separated by straight-sided sediment floored valleys (Yerkes et al. 1965). The northwest trend is further reflected in the direction of the dominant geologic structural features of the province, which are northwest-trending faults and folds. These include the Newport-Inglewood fault zone, the Paramount syncline¹, the Dominguez anticline², the Gardena syncline, the Wilmington anticline, and the Wilmington syncline. Geologic units of the northern Peninsula Ranges province consist of Jurassic and Cretaceous age basement rocks overlain by as much as 32,000 feet of marine and non-marine sedimentary strata ranging in age from the late Cretaceous to Holocene epochs.

Physiographic Features

The City of Carson is situated in the northern part of the physiographic basin known as the Los Angeles Basin (Yerkes et al. 1965), or the Coastal Plain of Los Angeles (Mendenhall 1905). The most prominent landform within the City is the Dominguez Hills which represents the central portion of the Newport-Inglewood fault zone (or uplift). In addition, the Dominguez Gap is another important landform feature within the City. Both of these features are described below.

- ***Dominguez Hills***

The Dominguez Hills lie immediately west of the Alameda Street corridor, between the Redondo Beach/Artesia Freeway (SR-91) on the north and Del Amo Boulevard on the south. The Dominguez Hills are a feature consisting of an elliptical, northwest trending anticlinal dome that ranges in elevation from approximately 20 feet above mean sea level (msl) to 195 feet msl.

¹ Syncline: A fold that is convex downwards.

² Anticline: A fold that is convex upwards.

- ***Dominguez Gap***

The Dominguez Gap constitutes a portion of the Downey Plain lying between the Dominguez Hills and the northwestern extension of Signal Hill. The gap is approximately 1.6 miles wide at its narrowest point and approximately seven (7) miles long. It was entrenched mainly by the ancestral San Gabriel River, which has a southward flowing ancestral Los Angeles River as a tributary. An estimated 150 feet of Holocene materials has been deposited within the Dominguez Gap.

Geologic Units

The City of Carson is underlain by geologic units ranging in age from the Pleistocene to Historic (recent) epochs, refer to Table 3.4-1, *Geologic Time Scale*. A discussion of the stratigraphy is presented in the following section in order of decreasing age.

- ***Quaternary Non-marine Terrace Deposits (Qt)***

Quaternary Non-marine Terrace Deposits (Qt) are stream terrace deposits. Non-marine terrace deposits cover the Palos Verdes Hills area and the area between Inglewood and Long Beach. The north, west, and southern portions of Carson is underlain by Qt.

- ***Alluvium (Qal)***

The central and southeastern portion of the City of Carson is directly underlain by Holocene age alluvial deposits of the Downey Plain and Dominguez Gap. The alluvial deposits are composed of poorly consolidated sand, silt, clay, and gravel.

Specific Soils Types

- ***Soil Associations***

A soil association has a distinctive proportional composition of soils. Normally, a soil association consists of one or more major soil types and at least one minor soil type. Table 3.4-2, *General Physical Properties of Soils in the Carson Area*, which is based on information from the Los Angeles Soil Survey (USSCS, 1969) general soil map, indicates the general properties of the soil associations which underlay Carson including the soil type, depth, slope, erosion potential, and shrink-swell potential.

- ***Prime Agricultural Soils***

The Soil Conservation Service of the U.S. Department of Agriculture has devised two means by which to establish the agricultural suitability of soils: the Soil Capability Unit

Table 3.4-1
GEOLOGIC TIME SCALE

Era	Period	Epoch	Age in Years
Cenozoic	Quaternary	Historic	0-200
		Holocene	0-11,000
		Pleistocene	11,000-2 million
	Tertiary	Pliocene	2-5 million
		Miocene	5-24 million
		Oligocene	24-38 million
		Eocene	38-58 million
Paleocene	58-66 million		
Mesozoic	Cretaceous		66-11 million
	Jurassic		141-205 million
	Triassic		205-240 million
Paleozoic	Permian		240-290 million
	Pennsylvanian		290-320 million
	Mississippian		320-360 million
	Devonian		360-410 million
	Silurian		410-438 million
	Ordovician		438-500 million
Cambrian		500-570 million	
Pre-Cambrian			Older than 570 million

Source: Law/Crandall and Associates 1991.

Notes:

- Age in years is arbitrarily rounded. In the Quaternary Period, times are aligned with usage in California seismicity practices.
- Data modified from *AGI Data Sheet 1.1 and USGS Geologic Names Committee, 1980; Decade of North American Geology Geologic Time Scale, Geologic Society of America, 1983; American Heritage Dictionary, 1982; Fault Rupture Zones in California, Special Publication 42, California Department of Conservation, Division of Mines and Geology.*

**Table 3.4-2
GENERAL PHYSICAL PROPERTIES OF SOILS
IN THE CARSON AREA**

Association	Soil Association	Soil Type	Depth	Slope (%)	Erosion	Shrink-Swell
10	Oceano	Sand	60"	2-5	Mod-High	Low
13	Netz-Cortina	Fine sand and fine sandy loam	60"	0-5	Low-Mod	Low
14	Hanford	Sandy loam	60"	2-5	Low	Low
15	Yolo	Silty loam	60"	0	Low-Mod	Mod
20	Chino (with inclusions of the Foster and Grangeville Associations)	Clay loam	60"	0	Low	Mod
21	Ramona-Placentia	Sandy loam	18-60"	2-5	Low-Mod	High

Source: U.S. Soil Conservation Service, 1969.

and the Storie Index. Both of these rating systems are based on physical soil characteristics. Soil Capability Classifications, according to the U.S. Department of Agriculture Soil Survey range from I to VIII, with I and II indicating prime farm land with relatively few limitations; limitations are indicated by the addition of a letter, i.e., "s" indicates stony or shallow soil. The Storie Index ranges from 0-100, with an index of 80-100 indicating prime farmland suitable for intensive farming and having few constraints. A Capability Classification of I or II or a Storie Index of over 80 indicates prime agricultural soils. No prime agricultural soils exist within the City of Carson.

Oil Well Production

The Los Angeles Basin is a major oil-producing district in Southern California. Oil, first discovered in the basin in 1889, occurs chiefly in Pliocene and Miocene strata, with lesser amounts in Pleistocene strata and in fractured schist³ (cretaceous or older) of the basement complex. The City of Carson is located within the Dominguez and Wilmington oil fields (refer to Section 3.7, *Hazardous Materials*, for a description of oil production and types of wells within the City of Carson).

Geotechnical Constraints

- ***Differential Settlement***

The major geotechnical constraint to development in the City is differential settlement. Differential settlement occurs when loose, cohesionless sandy sediments consolidate or compact under the load of an overlying static mass, such as a building. Clayey soils, generally cohesive, typically do not consolidate under loads as much as cohesionless soils. Differential settlement is related to dynamic settlement but differs in that it occurs under static loading, and not as a result of shaking or seismic loading, as discussed later in this Section. Given the lateral and vertical variation of the alluvial soils underlying Carson, differential settlement could occur in areas thought to have a low susceptibility to settlement.

There are 15 former landfills in the City. Areas where such activities have occurred may be subject to the generation of organic gases associated with decomposition, and possibly experience differential settlement as portions of the ground surface collapse inward.

- ***Subsidence***

As previously mentioned above, the City of Carson is located within the Dominguez and Wilmington Oil Fields. There is no documented ground subsidence associated

³ Schist is a medium grade metamorphic rock.

with the Dominguez oil field. However, the historic withdrawal of oil has been known to cause subsidence in portions of the Wilmington oil field. Total subsidence reached a maximum of 29 feet over the crest of the Wilmington anticline, where most of the oil has been withdrawn. Water injection to halt the subsidence was started in the late 1950's in the areas of maximum subsidence but did not become a significant factor until 1971-72.⁴ According to the 1981 Carson Safety Element historical subsidence within the City is now under control.

- ***Shallow or Perched Groundwater***

Shallow or perched groundwater can also cause problems when designing multi-story buildings or underground facilities, such as parking lots or storage tanks. Construction of underground facilities usually requires excavating near vertical walls of earth. Shallow groundwater conditions combined with loose unconsolidated sediments tend to make these types of excavations unstable, requiring special construction techniques to insure the safety of workers. Also of concern is the additional pressure that the groundwater adds against subterranean walls. Special drainage systems have to be designed to help reduce the additional pressure and to prevent flooding. In addition, leaking of underground storage tanks can cause contamination of the underlying regional water table. Groundwater within the City of Carson occurs at a depth of approximately 30 feet below ground surface (bgs) to 70 feet bgs.⁵

- ***Slope Instability***

Slope instability in Carson is limited to the slopes adjacent to the flood control channels that intersect the City. The loose unconsolidated nature of the sediments, exposed in those slopes not faced with concrete may cause the slopes to be superficially unstable.

- ***Shrink/Swell Potential***

Other geotechnical constraints in the City of Carson include the shrink/swell characteristics. Soils with a high clay content typically have high shrink/swell characteristics. Shrinking and swelling of soil can cause overlying concrete to crack and settle, refer to Table 3.4-2, *General Physical Properties of Soils in the Carson Area*, for the shrink-swell potential of soils within Carson.

⁴ *Alameda Corridor Environmental Impact Report*, prepared by Myra L. Frank & Associates, Inc., page 4-10, January 1993.

⁵ *Annual Survey and Report of Groundwater Replenishment*, Water Replenishment District of California, Plate 2, 1998.

SEISMICITY

Earthquakes occur frequently in Southern California, and particularly in the Los Angeles Basin, where many strike-slip⁶ and reverse faults⁷ accommodate the complex tectonic stresses associated with the convergence of the North American and Pacific Plates. The better known seismically active faults in Southern California are shown on Exhibit 3.4-1, *Faults*.

Seismic activity of a fault is measured by the frequency and magnitude of past earthquakes associated with that fault. An active fault is a fault that exhibits movement or shows evidence of movement within the last 11,000 years. A potentially active fault is a fault that has exhibited evidence of movement within the last two million years. Historical records indicate that the faults described below are considered active and capable of generating earthquakes that could affect the City. Table 3.4-3, *Major Faults Considered to be Active in Southern California*, presents a listing of active faults in Southern California and the maximum credible earthquake for the fault. In this complex setting, each fault, or seismic source, has the potential for producing an earthquake of concern to planners or designers.

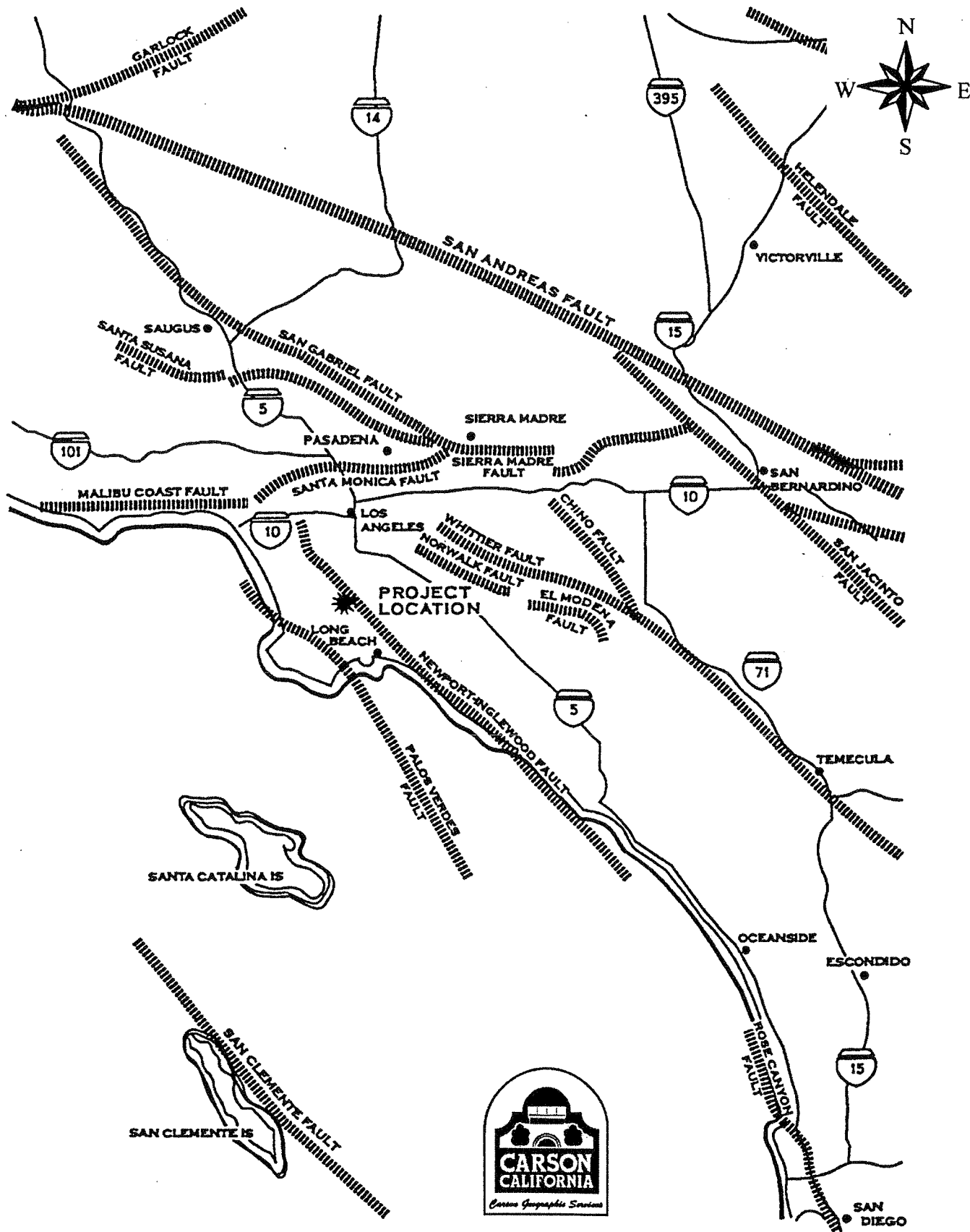
An earthquake is classified by the amount of energy released, which is quantified using the Richter Magnitude Scale. The Richter Magnitude Scale has been the most commonly used system to ascertain the magnitude of an earthquake. To correlate the magnitude of an earthquake with the damage associated with that magnitude level, the Modified Mercalli Intensity (MM) Scale has been developed. The MM Scale identifies twelve levels of damage, the higher the number, the greater the damage as shown in Table 3.4-4, *Modified Mercalli Intensity Scale*. Earthquakes of Richter magnitude 6.0 to 6.9 are classified as "moderate", earthquakes between magnitude 7.0 to 7.9 are classified as "major", and magnitude 8.0 and larger are classified as "great".

- ***Newport-Inglewood Fault Zone***

The Newport-Inglewood fault extends from the southern edge of the Santa Monica Mountains southeastward to an area offshore of Newport Beach. This zone, commonly referred to as the Newport-Inglewood uplift zone or zone of deformation, can be traced at the surface by following a line of geomorphically young anticlinal hills and mesas. These hills and mesas include the Baldwin Hills, Dominguez Hills, Signal Hill, Huntington Beach Mesa and Newport Mesa. Recent earthquake focal mechanisms for 39 small earthquakes (1977 to 1985) show faulting along the north segment (north of Dominguez Hills) and along the south segment (south of Dominguez Hills to Newport

⁶ Strike-Slip: Movement across a vertical surface.

⁷ Reverse Fault: Movement is upward relative to the footwall.



Faults

Carson General Plan Update

Exhibit 3.4-1

**Table 3.4-3
MAJOR FAULTS CONSIDERED TO BE ACTIVE(a)
IN SOUTHERN CALIFORNIA**

Fault (in alphabetical order)	Date of Latest Major Activity	Maximum Credible Earthquake
Big Pine	1852	7.5 (b)
Cucamonga	(e)	6.5 (b)
Elsinore	1910	7.5 (b)
Elysian Park Structure	1989	6.75 (c)
Garlock	(d)	7.75 (b)
Helendale	(e)	7.5 (b)
Malibu Coast	1973	7.0 (c)
More Ranch	(d)	7.5 (b)
Newport-Inglewood	1933	7.0 (b)
Palos Verdes	1982	6.6
Pinto Mountain	(e)	7.5 (b)
Raymond	(e)	6.6 (c)
San Andreas Zone	1857	8.25
San Cayetano	(e)	6.75 (c)
San Fernando Zone	1971	6.5 (b)
San Gabriel	(e)	7.5 (c)
San Jacinto Zone	1968	7.5 (b)
White Wolf	1952	7.75
Whittier	1987	7.1 (c)

Source: Law/Crandall and Associates, 1991.

- Notes: (a) Historic movement (1769 to present).
 (b) Greensfelder, C.D.M.G. Map Sheet 23, 1974.
 (c) Mark (1977) Length-Magnitude relationship.
 (d) Intermittent creep.
 (e) Movement within the last 11,000 years; zoned by the State Geologist for the Alquist-Priolo Program.

Table 3.4-4
MODIFIED MERCALLI INTENSITY SCALE

Richter Magnitude Scale	MM Intensity Scale	Damage Created
< 2	I.	Tremor not felt.
2	II.	Tremor felt by persons at rest or in upper floors of a building.
3	III.	Tremor felt indoors. Vibrations feel like a light truck passing by; may not be recognized as an earthquake. Hanging objects swing.
3 - 4	IV.	Hanging objects swing. Vibrations feel like a heavy truck passing by, and the jolt feels like a heavy ball striking the walls. Standing cars rock. Windows, dishes and doors rattle. Glasses clink and crockery clashes.
4	V.	Earthquake felt outdoors, and its direction can be estimated. Sleepers are awakened. Liquids are disturbed, some spilled. Small unstable objects are displaced or upset. Doors swing, closing and opening. Shutters and pictures move. Pendulum clocks stop, start or change rate. Wooden walls and frames crack in the upper range of scale 4.
4 - 5	VI.	Earthquake felt by everybody. Many are frightened and run outdoors. Persons walk unsteadily. Window, dishes and glassware are broken. Knick-knacks and books fall off shelves; pictures fall off walls. Furniture moves or is overturned. Weak plaster and adobe masonry crack. Small bells in churches and schools ring. Trees and bushes are shaken.
5	VII.	Difficult to stand. Earthquake noticed by drivers of motor cars. Hanging objects quiver. Furniture is broken. Damage to adobe masonry, including fallen plaster, loose bricks and stones, cracks in tiles and cornices. Weak chimneys break at roof line. Some cracks in other masonry. Waves form in ponds, disturbing mud at the bottom. Slides and caving in sand and gravel banks. Large bells ring. Concrete irrigation ditches are damaged.
6	VIII.	Steering of motor cars is affected. Partial collapse of some masonry structures. Some damage to reinforced masonry. Fall of stucco and some masonry walls. Twisting and falling of chimneys, factory stacks, monuments, towers and elevated tanks. Frame structures, if not bolted to foundations, shift. Loose panel walls are thrown out; decayed pilings break off. Branches break off trees. Changes in flow or in temperature of springs or wells. Cracks in wet ground and on steep slopes.
6 - 7	IX.	General panic. Adobe structures destroyed; unreinforced masonry heavily damaged, sometimes completely collapsed. General damage to foundations. Frame structures, if not bolted, shift off their foundations. Serious damage to reservoirs. Underground pipes are broken. Conspicuous cracks in the ground. In alluvial areas, sand and mud are ejected, forming sand craters.

Richter Magnitude Scale	MM Intensity Scale	Damage Created
7	X.	Most masonry and frame structures are destroyed. Most foundations destroyed. Some well-built wooden structures and bridges are destroyed. Serious damage to dams, dikes, and embankments. Underground pipelines are seriously damaged. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and in flatlands. Rails bent slightly.
8 +	XI.	Rails bent greatly. Underground pipelines completely out of service. Many and widespread disturbances of the ground, including broad fissures, earth slumps and land strips in soft, wet ground. Sand- and mud-charged water ejected from fissures in the ground. Sea waves (tidal waves or tsunamis) of significant magnitude. Severe damage to wood-frame structures, especially if near the shock center. Severe damage to dams, dikes and embankments. Few, if any, masonry structures remain standing. Large, well-constructed bridges destroyed due to damage to their supporting piers or pillars. Wooden bridges are affected less.
	XII.	Damage is nearly total. Lines of sight and level are distorted. Objects are thrown into the air. Great and varied disturbances of the ground, including numerous shearing cracks, landslides, large rock falls, and numerous and widespread slumping of river banks. Fault slips in firm rock with notable horizontal and vertical offset. Water channels, both at the surface and underground are disturbed and modified. Lakes are dammed, rivers are deflected, waterfalls occur. The rolling effect of the seismic waves is actually seen at the ground surface.

Source: Leighton & Associates.

Beach). The 1933 Long Beach earthquake has been attributed to movement on the Newport-Inglewood fault zone. Based on historic earthquakes, the fault zone is considered active. The Newport-Inglewood fault zone is considered capable of generating a maximum credible earthquake or a magnitude 7.0. The Cherry Hill branch of the Newport-Inglewood fault zone traverses the City in the area of Dominguez Gap just to the north of Del Amo Boulevard. Movement along the fault is northeast side up, resulting in vertical displacement of waterbearing sediments extending for several miles.

- ***San Andreas Fault Zone***

The San Andreas fault zone is California's most prominent structural feature, trending in a general northwest direction for almost the entire length of the state. The southern segment is approximately 280 miles long. It extends from the Mexican border into the transverse ranges west of Tejon Pass. Along this segment, there is no single traceable fault line (Iacopi, 1977); rather, the fault is composed of several branches. At this point the fault is considered capable of generating a maximum credible earthquake of magnitude 8.25 (Greensfelder, 1974).

- ***Palos Verdes Fault Zone***

The Palos Verdes fault zone is located southwest of the City and is traceable in the subsurface along the northern front of the Palos Verdes Hills. Zielbauer et al. (1962) report that early Pleistocene age San Pedro Formation beds are sharply unwarped along the fault trace, but that the fault does not cut materials younger than middle Pleistocene at the surface. Offshore data, consisting of acoustic and reflection profiles, show offset in the base of the holocene material, suggesting very recent movement along the Palos Verdes Fault (Darrow and Fisher 1983).

- ***Whittier Fault Zone (Elysian Park Structure)***

The 1987 Whittier Narrows earthquake (Richter magnitude 5.9) has been attributed to subsurface thrust faults (a low angle reverse fault) that are reflected at the earth's surface by a west-northwest trending anticline known as the Elysian Park Anticline (Lamar 1970), or the Elysian Park structure. The axial trace of this structure extends approximately 12-miles through the Elysian Park-Repetto Hills from the Silver Lake area on the west to the Whittier Narrows on the east. The subsurface faults that create the structure are not exposed at the surface, and do not present a potential surface rupture hazard; however, as demonstrated by the 1987 earthquake and two smaller earthquakes on June 12, 1989, the faults are a source of future seismic activity. As such, the structure should be considered an active feature capable of generating future earthquakes.

- ***Santa Monica Fault Zone***

The Santa Monica Fault is an east-west trending left reverse fault which extends approximately 24 kilometers within the immediate vicinity of Pacific Palisades, Westwood, Beverly Hills and Santa Monica. Annual slip rate is estimated between 0.27 mm and 0.39 mm per year along the fault. The Santa Monica Fault has the capability to generate between a 6.0 to 7.0 magnitude earthquake. The most recent surface rupture along this fault occurred during the Late Quaternary period (between 700,000 years ago and the present day).

Ground Shaking

Detectable ground shaking within the City of Carson could be caused by any of the active or potential active faults shown on Exhibit 3.4-2 and listed in Table 3.4-3. Table 3.4-3 summarizes the likelihood of an earthquake occurrence along each of the major faults which could impact the City.

The Newport-Inglewood, Whittier, Santa Monica, and Palos Verdes Faults are the active faults most likely to cause high ground accelerations in the City.⁸ The San Andreas Fault has the highest probability of generating a maximum credible earthquake in California within the next thirty years. The anticipated "Big One", of magnitude 7.5 to 8.0, is thought to be capable of seismic intensity values of about IV to V on the Modified Mercalli (MM) Scale. Such an event would have an expected shaking duration of 35 to 50 seconds.

The California Department of Mines and Geology (CDMG) identifies one Earthquake Fault Zone within the City of Carson.⁹ This is known as the Avalon-Compton fault zone. The Avalon-Compton fault zone is located immediately east of Avalon Boulevard and north of the Redondo Beach/Artesia Freeway, refer to Exhibit 3.4-2, *Earthquake Fault Zones*. A site specific geological report is required for construction within 1/8 mile on either side of an Earthquake Fault Zone established by the CDMG.

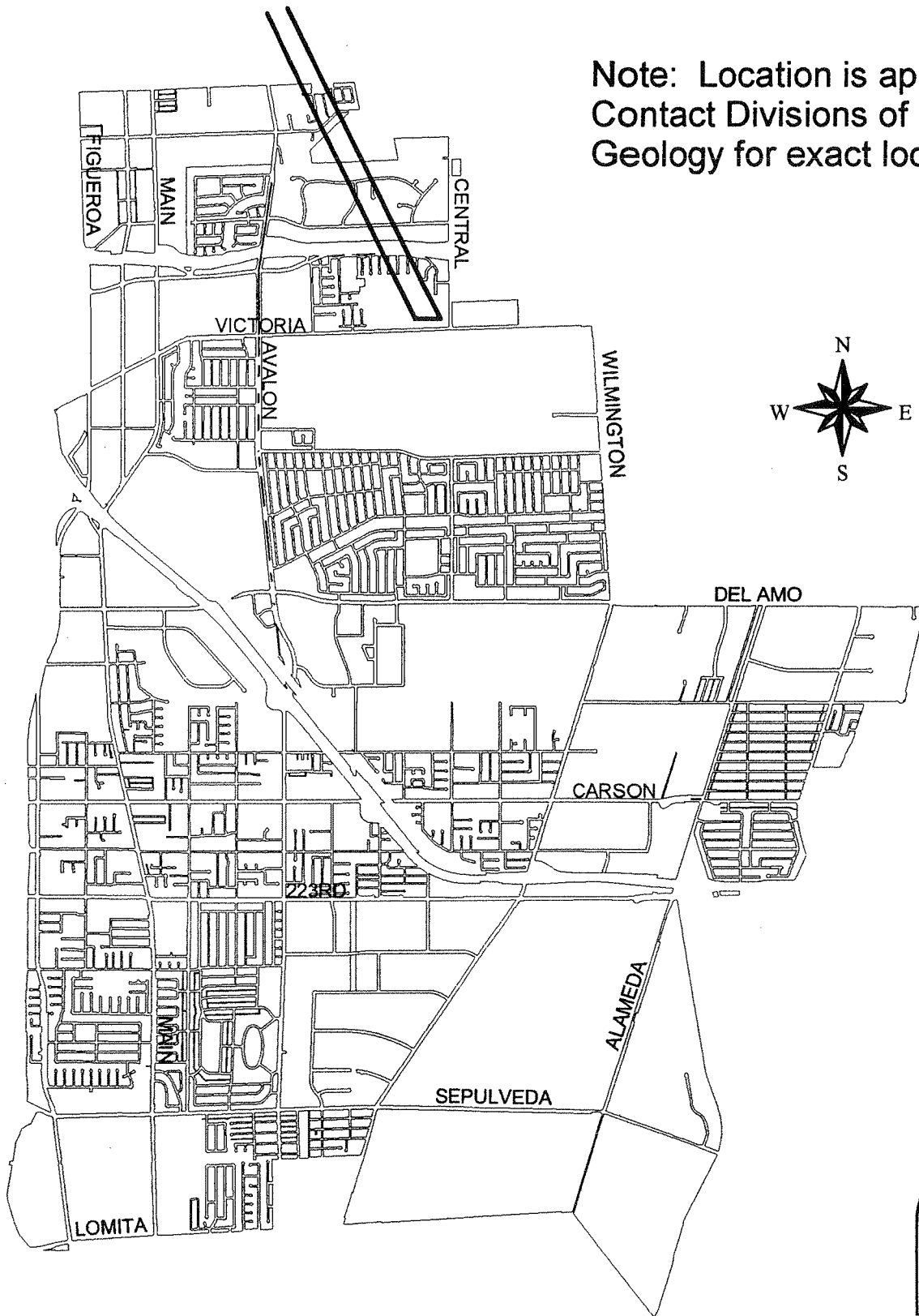
As previously described above, the central and southeastern portions of the City are underlain by alluvial deposits; the northern, western and southern portions of the City are underlain by Quaternary Non-marine terrace deposits. Because of the area's unstable sub-base of sandy soil, Carson (as well as the entire South Bay area) is regarded as one of the most severe shock areas in the Los Angeles area.¹⁰

⁸ 1996 Sixth Amendment to Project Area No. 1 EIR, Rincon, page 5.3-1, July 2, 1996.

⁹ Effective January 1, 1994, the name "Special Studies Zones" has been changed to "Earthquake Fault Zones" and Chapter 7.5, Div. 2 of the Public Resources code has been renamed the "Alquist-Priolo Earthquake Fault Zoning Act".

¹⁰ Ibid.

Note: Location is approximate.
Contact Divisions of Mines and
Geology for exact location.



Source: Special Studies Zones, Torrance Quadrangle, July 1, 1986

Earthquake Fault Zones

Carson General Plan Update

Exhibit 3.4-2

Several factors control how ground motion interacts with structures, making the hazard of ground shaking difficult to predict. In general, however, long-period seismic waves, characteristic of earthquakes that occur approximately nine miles or more from the area of concern, interact with and damage structures such as high-rise buildings, bridges, and freeway overpasses. However, the most important issue is the loss of water, power, and fuel supplies that could occur in the event of a major earthquake. Numerous facilities located along or near many of the active faults would fail, potentially interrupting the supply to the Los Angeles basin of water, power, and fuel. Interruption of these services could last a few hours to days after the earthquake.

Liquefaction

Liquefaction is a process by which water-saturated granular soils transform from a solid to a liquid state because of a sudden shock or strain. Basic conditions necessary for liquefaction to take place are soil conditions conducive to liquefaction, saturation of these materials by water, and a source of shaking. The Newport-Inglewood fault zone is a potential source of ground stress, and liquefaction could occur in the area if the ground water table were high enough during an earthquake. Due to existing conditions in the City, particularly in the alluvial and former slough areas, there is the possibility that liquefaction could impact buildings and/or other structures in the event of an earthquake, refer to Exhibit 3.4-3, *Seismic Hazards*.

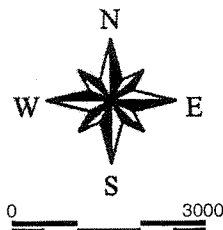
SEISMIC SAFETY ELEMENT

Eight (8) overriding goals have been established in the City's Seismic Safety Element which was adopted in December 1981. The Seismic Safety Element is available for review at the City of Carson, Community Development Department.

The goals of the Seismic Safety Element, broadly stated, are to protect life and property against earthquakes through continued efforts, to identify hazardous areas, to apply all new building safety technology and to create an effective emergency and evacuation plan. The specific plan objectives and programs are:

Objectives and Programs

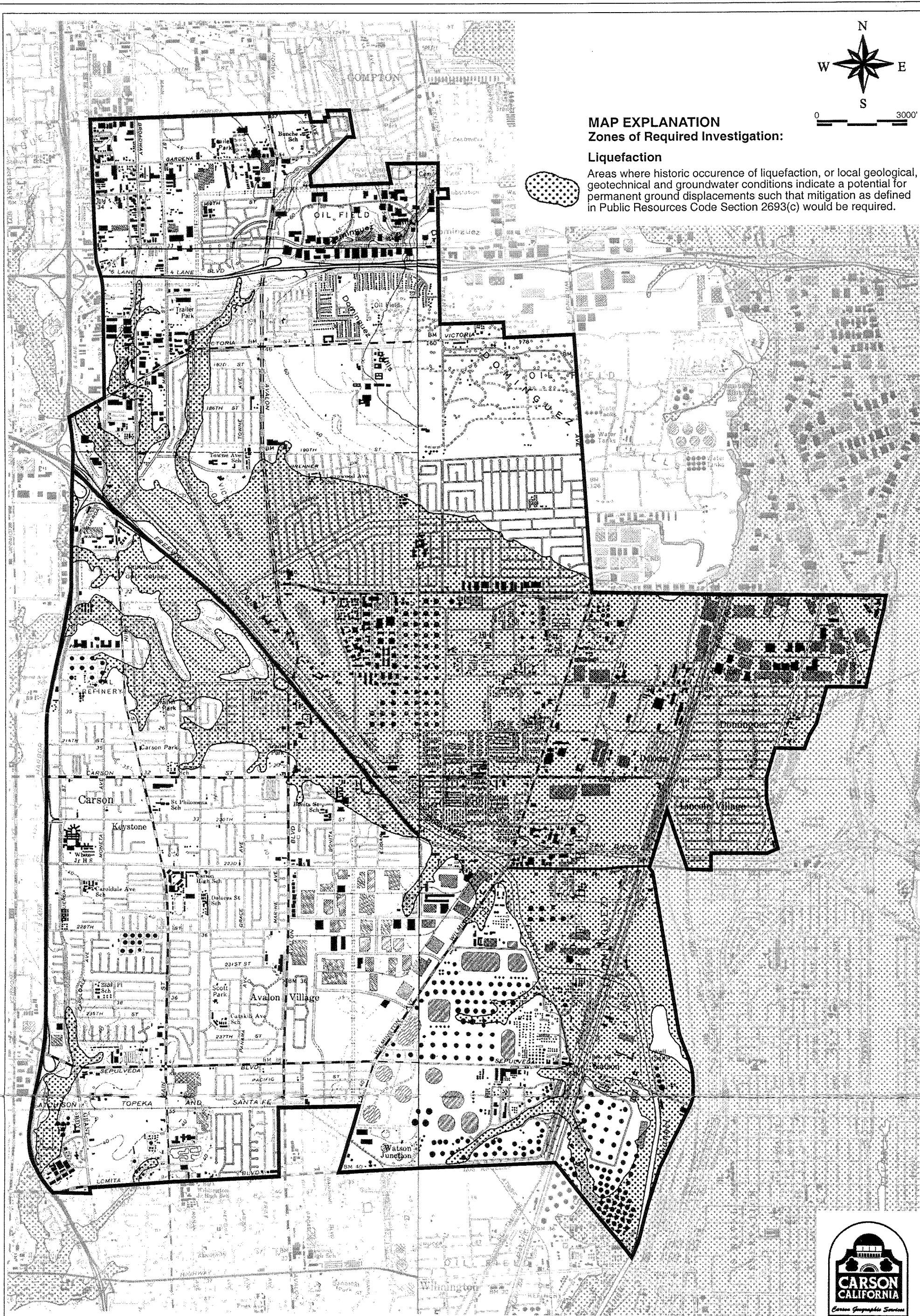
1. Reduce loss of life, injuries, property damage and other effects associated with future earthquakes.
2. Locate any existing surface and subsurface faults for the purpose of preventing future building on hazardous sites.
3. Develop a realistic contingency plan to be operational should the area be affected by a future earthquake.



MAP EXPLANATION
Zones of Required Investigation:

Liquefaction

Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.



Source: State of California Seismic Hazard Zones Maps, Inglewood Quadrangle, Long Beach Quadrangle, Southgate Quadrangle and Torrance Quadrangle, March 25, 1999

Seismic Hazards Carson General Plan Update

4. Locate any substandard structures vulnerable to earthquake damage and to set standards for an orderly abatement.
5. Inform the public of potential structural seismic hazards.
6. Develop an effective and safe land use policy in conjunction with the seismologic factors of earthquake hazards, including the development of separate standards for the following different uses: housing, commercial and industrial uses, and community and essential facilities.
7. Amend, if necessary, any affected Elements of the existing General Plan, Zoning Ordinance, Subdivision Ordinance, Building Code, Redevelopment Program and Capital Improvement Program.
8. Update the Seismic Safety Plan as new knowledge, technology and data become available.

SEISMIC SAFETY PLAN

Since earthquakes occur without warning, it is difficult to be prepared for them in advance. Residents of Southern California, therefore, must accept the fact that the risk of earthquakes exists. The principal measures that can be taken to protect people and property from earthquake damage fall in the category of building regulations and plans for emergency assistance and evacuation. Carson's Seismic Safety Plan centers around these two considerations.

To protect its residents against harm from earthquakes, the City will:

1. Collect and maintain current data on high-hazard areas and alert owners of buildings on such sites.
2. Maintain awareness of building research and technology and revise the building codes to reflect new developments.
3. Ensure that all public buildings meet the highest standards of seismic safety.
4. Encourage and work with all state, regional and county agencies to accumulate more data on earthquake hazard.
5. Maintain an up-to-date emergency services program which includes a disaster coordinator for the City.
6. Maintain emergency preparedness through contacts with Los Angeles County for fire, rescue and police service.

7. Coordinate with local public agencies and voluntary assistance organizations to ensure effective service in the event of an earthquake.

3.5 HYDROLOGY/DRAINAGE

WATER RESOURCES

Regional Water Agencies

A number of regional agencies are involved in the supply and maintenance of water resources for Carson and the region.

- ***Metropolitan Water District of Southern California***

The Metropolitan Water District of Southern California (MWD) was formed in 1928 for the purpose of obtaining supplemental water for Southern California. The MWD service area encompasses 5,200 square miles. MWD is composed of twenty-seven (27) member agencies, including fourteen (14) cities, twelve (12) municipal water districts, and one (1) county water authority. MWD imports water from the Colorado River through an extensive aqueduct system and from Northern California via the State Water Project. MWD operates several filtration plants to treat both the Colorado River and the State Water Project water supplies. The two MWD treatment plants that serve Carson are the Weymouth Filtration Plant in LaVerne and the Diemer Filtration Plant in Yorba Linda; these are financed by consumers.¹ Both plants sustain constant on-going maintenance to assure adequate operation.

- ***Southern California Water Company (Southwest District)***

Southern California Water Company (SCWC) is an investor-owned private utility company regulated by the California Public Service Commission. The SCWC (Southwest District) purchases approximately 80% of its water demand from MWD connections located all over the service area. Approximately 20% of the water demand is produced from company-owned groundwater wells. The Southwest District currently has approximately 48,276 service connections with average daily demand of 23,300 gallons per day (gpd). Currently SCWD has approximately 2,030 service connections within the City of Carson.²

¹ *Regional Urban Water Management Plan*, Metropolitan Water District of Southern California, October 1995, page 5.

² Letter dated April 6, 1999 from Mr. Uday Shah, District Engineer, Southern California Water Company, Southwest District.

- ***West Basin Municipal Water District***

The West Basin Municipal Water District (WBMWD) was formed in 1947 to provide supplemental imported water supplies to local retail water agencies. Imported water is provided in part to supplement existing groundwater supplies in all areas of WBMWD and to provide a barrier, through injection wells, to seawater intrusion into the West Coast Basin.³ The MWD and WBMWD act cooperatively to conserve both groundwater and surface water resources.

- ***Dominguez Water Corporation***

The Dominguez Water Corporation (Dominguez), was formed in 1937 to provide an adequate supply of imported water for residential and industrial development for a large portion of the South Bay (approximately 10 miles inland from the Los Angeles Harbor). Dominguez is a wholesale agency serving imported water to most of the City of Carson. Imported water is purchased from the MWD through a member agency, the WBMWD. Dominguez participates in the MWD-sponsored "In-Lieu" Water Programs, whereby water suppliers purchase imported water from MWD at a reduced rate instead of pumping ground water. The non-pumped ground water then remains in the two basins serving Carson for use in the future when imported water may not be as plentiful.

- ***Los Angeles Regional Water Quality Control Board***

Regional Water Quality Control Boards were set-up as a result of the State Water Quality Act to regulate water quality in regional units defined by major watersheds. The City of Carson is within the Los Angeles Regional Water Quality Control Board (LARWQCB) (District 4).

Groundwater Resources

The Newport-Inglewood fault zone serves as a water barrier separating the Central Water Basin and the West Coast Water Basin. This groundwater barrier passes through the north central portion of Carson in a southeast direction. Groundwater flows within the City generally in a southwest direction.

Several aquifers exist in the vicinity of the City, including the Gage/Gardena, Lynwood, Silverado, and Sunnyside aquifers. The Gage/Gardena aquifer occurs at a depth of 180 feet and varies in thickness from 50 to 100 feet. The Lynwood aquifer occurs at a depth of 270 feet. The Silverado aquifer occurs at a depth of 320 to 450 feet and is the

³ 1995 *Urban Water Management Plan*, Central Basin and West Basin Municipal Water Districts, page 6.

principal groundwater source for the region. Beneath the Silverado aquifer, the Sunnyside aquifer occurs at a depth of 600 feet. These aquifers are primarily replenished by area rainfall.

Dominguez' water supply has two principal water sources: local groundwater and purchased imported water. It is a major beneficiary of the West Coast and Central Water Basins, with groundwater rights totaling 16,481 acre feet and ten (10) producing wells.⁴ Approximately 18% of the Dominguez' water supply comes from groundwater resources and approximately 2% is derived from desalinization water. The remaining 80% comes from imported water (this is adjusted seasonally as supply varies). In time of high imported water availability (winter), imported water reserves are used, and in times of low water availability (summer), groundwater use is increased. This seasonal demand shifting effectively conserves groundwater as a seasonal storage reservoir, and shifts demand for imported water to the winter months.

- ***West Coast and Central Basins***

The groundwater basins which underlie Carson are the West Coast Basin and the Central Water Basin. The adjudicated rights in the West Coast and Central Basins limit the use of groundwater to 281,836 acre-feet per year (AFY): 217,367 AFY in the Central Basin and 64,468 AFY in the West Coast Basin.⁵

Development of the yield of Central Basin is dependent on the use of local storm runoff, imported and recycled water for groundwater recharge and the injection of imported water from the backside of the Alamitos Seawater Intrusion Barrier.⁶ The Central Basin is also replenished through subsurface flows from the San Gabriel Valley into the basin and precipitation that falls directly on the Montebello Forebay and percolates into the basin.

The groundwater for the West Coast Basin originates from subsurface flow from the Central Basin and injection along the sea water barrier system. Virtually all of the major rivers flowing through the Central and West Coast Basins have been developed into a comprehensive system of dams, flood control channels, and percolation ponds for artificially recharging the basins. Los Angeles County studies have indicated that 90 percent of the rain and runoff in the County either percolates naturally into the ground or is captured in the flood control reservoirs for later release to recharge

⁴ 1995-1996 *Urban Water Management Plan*, Dominguez Water Corporation, page 3.

⁵ *Annual Survey and Report on Groundwater Replenishment*, Water Replenishment District of Southern California, page 1, 1998.

⁶ 1995-1996 *Urban Water Management Plan*, Dominguez Water Corporation, page 3.

groundwater basins.⁷ The replenishment of Central and West Coast Basins with recycled water is becoming increasingly an important source of water.

Regulating Water Quality

The Federal Safe Drinking Water Act of 1974 and its 1986 amendments are intended to ensure the quality of water supplies. The quality and safety of drinking water in the United States is regulated by the federal government through the Environmental Protection Agency (EPA). In California, those standards are enforced by the California Department of Health Services (DOHS).

The State and Regional Water Quality Control Boards currently administer the National Pollutant Discharge Elimination System (NPDES) permit regulations. Due to recent legislation, the scope of NPDES regulations has been greatly expanded to include stormwater runoff. Stormwater discharges consist primarily of non-point source surface runoff from streets, lawns, parks, and upland undeveloped areas. The constituents of concern and significance to downstream water quality in these discharges are those resulting from motor vehicle operation, oil and grease residues, leaf fall, application of chemical and organic fertilizers and pesticides, human littering, careless material storage and handling, poor property maintenance, animal droppings, and pavement disintegration. These typically include coliform bacteria, total suspended solids (TSS), biochemical oxygen demand (BOD), chemical oxygen demand (COD), total organic carbon (TOC), and total petroleum hydrocarbons (TPH).

Groundwater Quality

- ***Los Angeles Regional Water Quality Control Board***

The general quality of groundwater within the Los Angeles Regional Water Quality Control Board (RWQCB) Region has degraded substantially from background levels. Fertilizers and pesticides, typically used on agricultural lands, can degrade groundwater when irrigation return waters containing such substances seep into the subsurface. In areas that are unsewered, nitrogen and pathogenic bacteria from overloaded or improperly sited septic tanks can seep into groundwater and result in health risks to those who rely on groundwater for domestic supply. In areas with industrial or commercial activities, aboveground and underground storage tanks contain vast quantities of hazardous substances. Thousands of these tanks in the region have leaked or are leaking, discharging petroleum fuels, solvents, and other hazardous substances into the subsurface. These leaks as well as other discharges into the subsurface that result from inadequate handling, storage, and disposal practices can seep into the subsurface and pollute groundwater.

⁷ Ibid.

• **West Coast and Central Basins Water Quality**

Seawater intrusion that has historically occurred in these basins is now under control in most areas through an artificial recharge system consisting of spreading basins and injection wells that form fresh water barriers along the coast. Groundwater in the lower aquifers of these basins is generally of good quality, but large plumes of saline water have been trapped behind the barrier of injection wells within the West Coast Basin, degrading significant volumes of groundwater with high concentrations of chloride. Furthermore, the quality of groundwater in parts of the upper aquifers of both basins is degraded by both organic and inorganic pollutants from a variety of sources, such as leaking tanks, leaking sewer lines, and illegal discharges. Leakage primarily consists of gasoline, diesel fuel, and waste oil. Clean-up of these leaking tanks is monitored by the State Water Resources Control Board. This is discussed further in Section 3.7, *Hazardous Materials*. As the aquifers and confining layers in these alluvial basins are typically interconnected, the quality of groundwater in the deeper production aquifers is threatened by the migration of pollutants from the upper aquifers.

West Coast Basin Groundwater Quality

Purveyors serving domestic customers in the West Coast Basin are required to monitor groundwater wells under Title 22 of the State Code of Regulations. As previously mentioned, the most extensive groundwater quality problem in the West Coast Basin is the salt water wedge which was trapped inland by construction of the injection barrier.

Primary and secondary drinking water standards have been established by the Los Angeles RWQCB for water quality. Primary drinking water standards must be met, while secondary standards relating to odor and aesthetics and are more flexible. Below is a summary of those standards:⁸

<u>Water Quality Constituent</u>	<u>Primary Standard</u>	<u>Secondary Standard</u>
Total Dissolved Solids (TDS)	–	500 mg/l
Nitrates (NO ₃)	45 mg/l	–
Hardness (CaCO ₃)	–	0-300+ mg/l

It should be noted that the degrees of hardness are:

- 0 - 75 mg/l, soft;
- 75 - 150 mg/l, moderately hard;
- 150 - 300 mg/l, hard; and
- 300 - Up mg/l, very hard.

⁸ *Water Quality Control Plan*, Los Angeles Regional Water Quality Control Board (04), June 13, 1994.

The area of greatest concentration of pumping in the West Coast Basin encompasses the City of Carson, with wells primarily drawing from the Silverado aquifer. The annual production in this area for fiscal year 1994-1995 was on the order of 20,000 acre-feet, representing approximately one-half of the total West Coast Basin production. The average quality of water produced within the Carson area for 1994-1995 is detailed below:

<u>Water Quality Constituent</u>	<u>Carson⁹</u>
Total Dissolved Solids (TDS)	300 mg/l
Nitrates (NO ₃)	< 1 mg/l
Hardness (CaCO ₃)	100 mg/l

Well No. 868AC was selected as typical of wells within the Carson area. The total dissolved solids (TDS) and hardness values for this well are the lowest of all the wells selected for characterization of water quality in the West Coast Basin.¹⁰ TDS is on the order of 300mg/l. The hardness trend line, ending at just over 100 mg/l, shows water quality stability, correlating with the distance from the salt water wedge and the proximity to the low TDS groundwater typical of the Long Beach area. Nitrates were generally less than 1 mg/l, indicative of the very low nitrate concentrations in the west coast basin. As can be seen above, Carson's average water quality derived from the West Coast Basin is within the standards established for those water quality constituents discussed.

Central Basin Groundwater Quality

Results of basin-wide monitoring have confirmed that the quality of groundwater extracted from the Central Basin has been very good. There is however, a continuing problem with industrial solvents contaminating groundwater within limited areas of the Central Basin. These solvents, namely trichloroethylene (TCE) and tetrachloroethylene (PCE), have been detected in several wells in the areas straddling the pressure and non-pressure areas of the basin. Analysis of this situation has revealed that the contamination is most likely a result of local sources of leaking underground storage tanks, illegal disposal, and poor handling practices at the point of use rather than replenishment operations.

⁹ Ibid.

¹⁰ *Annual Report of Results of Water Quality Monitoring Water Year 1994-95*, Water Replenishment District of Southern California, Page 73.

FLOOD HAZARD POTENTIAL

Setting

The topography within the City of Carson is generally flat with elevations ranging from sea level to approximately 195 feet above mean sea level (msl) at the top of Dominguez Hills. The City is approximately 80% developed with the vacant areas broadly dispersed throughout the City. The City has not historically been vulnerable to storm surge inundation associated with hurricanes and tropical storms. In addition, the City of Carson is not subject to inundation associated with dam failure.¹¹

Historically, flooding problems have occurred in low lying areas and in areas where slopes are very flat and peak storm flows are unable to be quickly conveyed into the stormwater collection system. The City is divided by the Dominguez Channel, a regional flood control system operated and maintained by the County of Los Angeles Department of Engineering Services. Flows in the City are conveyed by several networks of large drainage facilities to the Dominguez Channel. Areas of the City that do not convey flows to the Dominguez Channel include the southwest portion of the City and two smaller areas to the northeast.

In 1987, the City of Carson, in consultation with Willdan and Associates, developed a Master Plan of Drainage for the City. The Master Plan of Drainage provides an assessment of citywide drainage facilities and establishes a long-range plan for the implementation and development of proposed drainage facilities in the City. The Master Plan of Drainage divided the City into twelve (12) major drainage zones and described the existing and proposed facilities required in each zone. The City's Master Plan of Drainage concluded that the existing storm drain system is generally adequate to provide flood protection for developed areas of the City with a few exceptions. The City's Master Plan of Drainage should be consulted for exact system configurations and suggested improvements for any particular site with the City.

Existing Drainage Facilities

The Los Angeles County Department of Public Works (LACDPW) is the agency responsible for regional flood control protection within Los Angeles County. LACDPW presently owns and maintains three regional flood control facilities in and around the City of Carson. These facilities are the Dominguez Channel, Compton Creek, and Willmington Channel.

Two drainage reaches are classified as unimproved watercourses within the City of Carson. The first reach is aligned through Victoria Golf Course, a Los Angeles County

¹¹ SEMS Multihazard Functional Plan, City of Carson, September 1996.

Department of Parks and Recreation facility, and extends from Dominguez Channel to 192nd Street. The second reach is aligned through the Carson Harbor Village Mobilehome Park, from Victoria Street to Albertoni Street.

The California State Department of Transportation (Caltrans) also operates and maintains several drainage facilities within State operating rights-of-way associated with the Harbor (I-110), Redondo Beach/Artesia (SR-91), and San Diego (I-405) Freeways. In addition, to the above drainage facilities, approximately 130 storm drains exist within the City.¹² According to the Master Plan of Drainage, the major drainage channels and existing drainage facilities located outside the City limits are of sufficient size to adequately convey the storm runoff.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) has been responsible for administration of the National Flood Insurance Program (NFIP) since its inception in 1978. (Prior to 1978, the program, which became effective through the National Flood Insurance Act of 1968, was administered by the Federal Insurance Administration under the Department of Housing and Urban Development). Through the program, hydrologic and hydraulic analyses are conducted to determine the magnitude of flood risk that exists in various communities throughout the United States. Within these communities, individuals would be eligible to buy flood insurance for structures and contents exposed to flooding if the community has joined the Flood Insurance Program. Joining the program requires that the community adopt floodplain management ordinances to reduce the effects of flooding. Flood hazards refer to storm water runoff in the form of sheet flooding during a major rain storm. These ordinances include regulating new construction within flood zones.

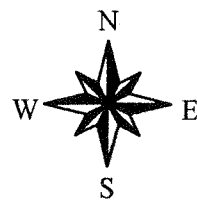
The City of Carson is designated by the National Flood Insurance Program (NFIP) as a Zone "C" City (area of minimal flooding). Up until February 2000, FEMA indicated that roughly the eastern third of the City would be flooded during a 100-year storm event. However, on February 25, 2000, FEMA redesignated this area as not being within a flood zone. This redesignation is the result of work the U.S. Army Corps of Engineers (USACE) has recently completed, which includes the restoration of a section of the Los Angeles River levee system that provides flood protection for part of four surrounding communities, including the City of Carson. The completed portion of the restoration project extends along the Los Angeles River from Long Beach Boulevard to the Pacific Ocean, and along Compton Creek from Artesia Freeway to the Los Angeles River. The USACE has estimated that completion of the entire flood control project will be achieved by December 2001.

¹² *City of Carson Master Plan of Drainage*, page 5, September 1987.

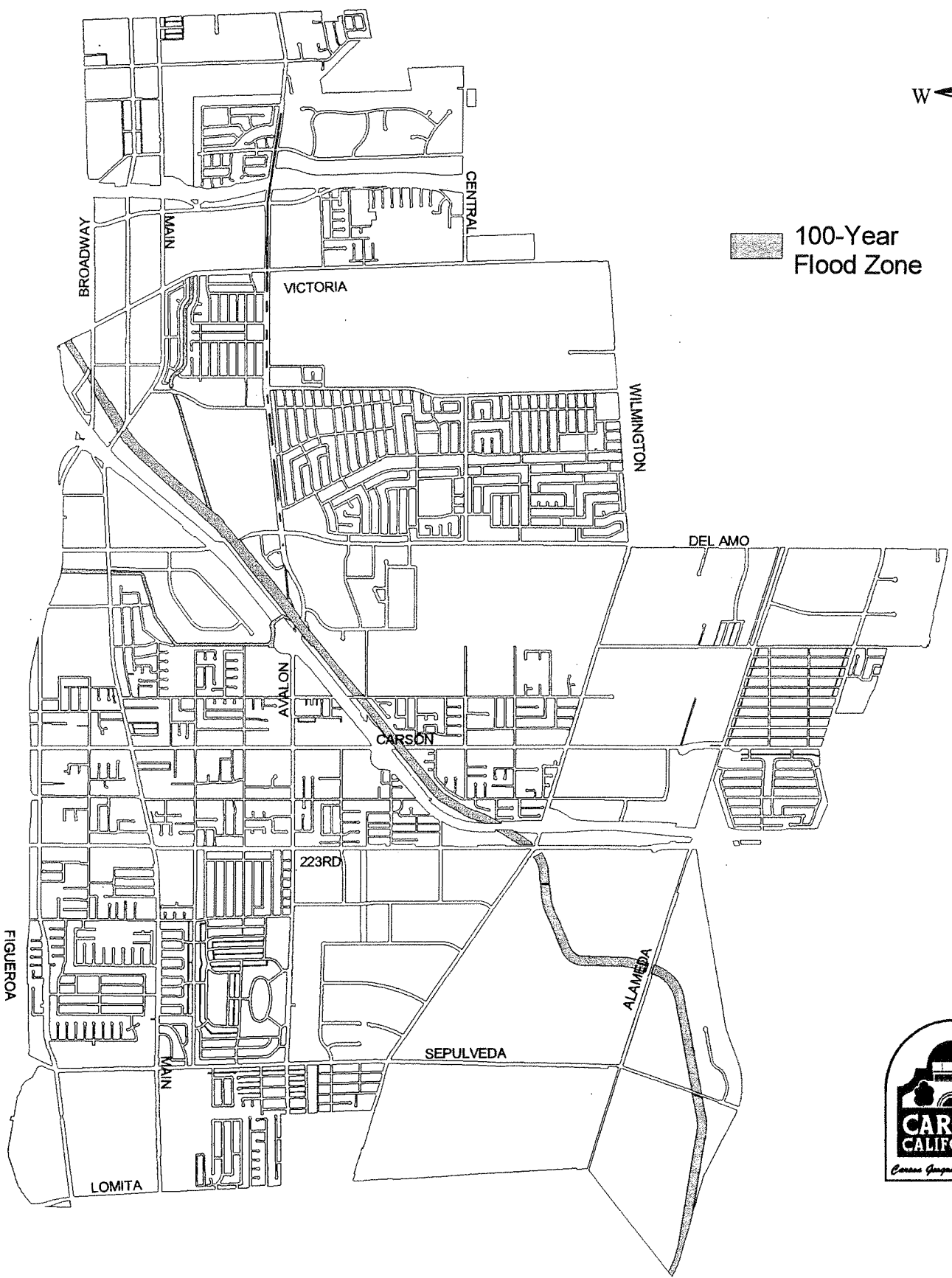
As a result of the restoration, areas in the City of Carson that were previously designated within Zone AR have been changed to the Zone X designation. Within the designation of Zone X, there is no federal obligation on lenders to require flood insurance.

The limits of the 100-year storm are limited to the Dominguez Channel, as shown on Exhibit 3.5-1, *Flood Hazard*. It should be noted that according to FEMA, the entire City would be flooded during a 500-year flood event. Areas outside the 100-year storm limits may also flood due to poor storm drainage.

The City's Emergency Operations Center (EOC) is located at City Hall. Should the City Hall EOC not be available for use due to flooding, or any other circumstances, an alternate EOC will be activated (refer to Section 3.8, *Emergency Response and Recovery*).



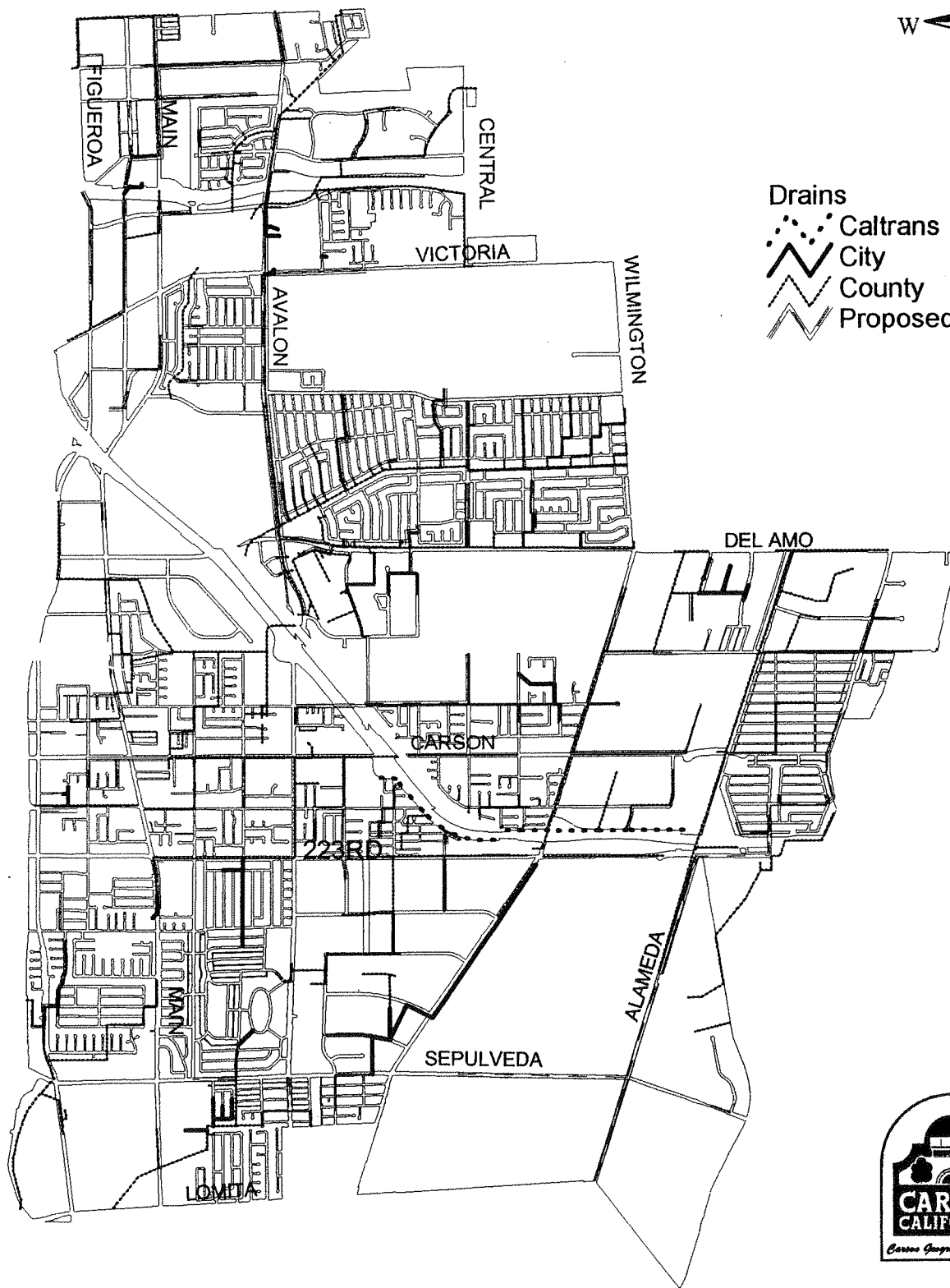
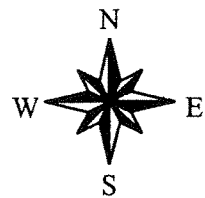
100-Year
Flood Zone



Flood Zone

Carson General Plan Update

Exhibit 3.5-1



Drainage Facilities

Carson General Plan Update

Exhibit 3.5-2

3.6 NOISE

FUNDAMENTALS OF NOISE

Noise Rating Methods

Noise levels are measured on a logarithmic scale in units referred to as "decibels". These units express an exponential increase, whereby an increase of ten decibels represents a tenfold increase in the sound generated, and a twenty decibel increase would be one-hundred times more intense.

Sound levels are generated by a source, thus, their decibel level decreases as the distance from the source increases. Sound dissipates exponentially with the distance from the noise source. For a single point source, sound level drops approximately six decibels for each doubling of distance from the source. If noise is produced by a line source, such as highway traffic or railroad operations, the sound will decrease three decibels for each doubling of distance in a hard-site environment. Line source noise in an environment which is relatively flat with absorptive surfaces will decrease four and one half decibels for each doubling of distance.

In order to describe "average noise levels", the noise measurements are weighted and then added over a specified time period to reflect not only the magnitude of the sound, but also its duration, frequency and time of occurrence. Community noise levels are expressed in terms of "A-weighted" decibel levels, abbreviated dBA. A-weighting is used to approximate the subjective response of the human ear to a broad frequency noise source. Sound levels are adjusted to reflect only those frequencies audible to the human ear.

The "equivalent noise level" or Leq, is the constant sound level that, over a specified time period, transmits the same amount of acoustic energy as the actual time-varying sound. For example, a variable sound that lasted for one-half hour can be expressed as having a one-hour Leq of x-dBA. Equivalent sound levels are the basis for both the Day-night average sound levels (Ldn) and the Community Noise Equivalent Levels (CNEL).

Day-night average sound levels are a measure of the cumulative noise exposure to the community. The Ldn value results from a summation of hourly Leq's over a 24-hour time period with an increased weighing factor applied to the nighttime period between 10:00 p.m. and 7:00 a.m.. This noise rating scheme takes into account those subjectively more annoying noise events which occur during the normal sleeping hours.

The Community Noise Equivalent Level (CNEL) method is similar to Ldn, except that an additional weighting factor is applied to evening hours between 7:00 p.m. and 10:00 p.m.. For the CNEL value an evening adjustment factor is used for each of the evening hours, in addition to the nighttime adjustment factor applied to the Ldn value. The Ldn differs little when compared to the CNEL (typically within one dBA in magnitude). CNEL may be indicated as "dBA CNEL" or just "CNEL".

Effects of Traffic Volume and Speed, Truck Mix and Atmospheric Conditions on Noise

The noise levels adjacent to roadways vary with the volume of traffic, the mean vehicular speed, the truck mix, and the roadway geometrics, as summarized below:

- Noise levels adjacent to roadways increase by approximately 3 dBA CNEL with each doubling of traffic volume.
- Increasing the vehicle speed from 35 to 45 miles per hour (MPH) results in an increase in noise levels by approximately 2.7 dBA CNEL.
- An increase from 45 to 50 MPH increases the noise level by approximately 1.2 dBA CNEL, at 100 feet.¹

On an arterial street where truck traffic is prohibited, traffic noise levels are typically 6.2 dBA less than the same arterial with truck traffic at 100 feet.²

HUMAN REACTIONS TO SOUND

Effects of Noise on People

Noise has been defined as unwanted sound and it is known to have several adverse effects on humans. From these known effects of noise, criteria have been established to help protect the public health and safety and prevent disruption of certain human activities. This criteria is based on such known effects of noise on people as hearing loss (not a factor with community noise), communication interference, sleep interference, physiological responses and annoyance. The following is a brief discussion of each of these potential effects of noise on people:

¹ Federal Highway Administration, *Traffic Noise Prediction Model (RD-77-108)*.

² Ibid.

- **Hearing Loss**

Exposure to very loud, impulsive, or sustained noise may cause damage to the inner ear, which could be substantial even before a hearing loss was actually noticed. Hearing loss is, in general, not a concern in community noise problems. The potential for noise-induced hearing loss is more commonly associated with occupational noise exposures in heavy industry or very noisy work environments with long-term exposure. Noise levels in neighborhoods, even in very noisy airport environments near major international airports, are rarely sufficiently loud to cause hearing loss.

- **Communication Interference**

Communication interference is one of the primary concerns in environmental noise problems. Communication interference includes interference of speech and activities such as watching television. Normal conversational speech is in the range of 60 to 65 dBA and any noise in this range or louder may interfere with speech.

- **Sleep Interference**

Sleep interference is a major noise concern in community noise assessment and, of course, is most critical during nighttime hours. One of the major annoyances caused by community noise is related to sleep disturbance. Noise can make it difficult to fall asleep, create momentary disturbances of natural sleep patterns by causing shifts from deep to lighter stages and cause awakening. Sick or elderly people are particularly susceptible to noise-induced sleep interference, which can occur when intruding noise levels exceed the typical 35-45 decibel background noise level in bedrooms. Sleep prevention can occur when intruding noise levels exceed 50 dBA.³

- **Physiological Responses**

Physiological responses are those measurable effects of noise on people which are realized as changes in pulse rate, blood pressure, etc. While such effects can be induced and observed, the extent to which these physiological responses cause harm or are a sign of harm is not known. Generally, physiological responses are a reaction to a loud short-term noise such as a rifle shot or a very loud jet overflight.

- **Annoyance**

Annoyance is the most difficult of all noise responses to describe. Annoyance is a very individual characteristic and can vary widely from person to person. What one person

³ Miller, James, D., "Effects of Noise on People", Journal of the Acoustical Society of America, Revised April 8, 1974.

considers tolerable can be quite unbearable to another of equal hearing capability. In addition, the level of annoyance experienced by an individual depends on the characteristics of the noise (i.e., loudness, frequency spectra, time, and duration), and how much activity interference (e.g., speech interference and sleep interference) results from the noise. Refer to Table 3.6-1, *Sound Levels and Human Response*, for typical sound thresholds for humans.

LAND USE COMPATIBILITY WITH NOISE

Federal and State Noise Guidelines and Standards

- ***Federal Guidelines and Standards***

The United States Noise Control Act of 1972 (NCA) recognizes the role of the federal government in dealing with major commercial noise sources in order to provide for uniform treatment of such sources. The federal government specifically preempts local control of noise emissions from aircraft, railroad and interstate highways.

The U.S. Environmental Protection Agency (EPA) has identified noise levels in order to protect public health and welfare, allowing for an adequate margin of safety, in establishing noise emission standards for interstate commerce activities. With respect to noise levels, public health safeguards pertain to prevention of hearing loss and welfare protection applies to minimizing annoyances.

The U.S. Department of Housing and Urban Development (HUD) has established policies for granting financial support for the construction of dwelling units in noise impacted areas. Table 3.6-2, *HUD External Noise Exposure Standards for New Residential Construction*, shows noise exposure levels used by HUD to determine eligibility for financial backing for new or rehabilitative residential construction in noise impacted areas, in addition to providing special requirements. As indicated in Table 3.6-2, financial assistance from HUD would still be possible when noise exposure is between 65 dBA and 75 dBA, if adequate building sound attenuation is provided to achieve appropriate noise reduction.

- ***State Standards***

The Office of Noise Control in the State Department of Health Services has developed criteria and guidelines for local governments to use when setting standards for human exposure to noise and preparing noise elements. These guidelines are summarized in Table 3.6-3, *Land Use Compatibility for Community Noise Environments*. Ultimately, it is the responsibility of each city/county to determine the acceptable noise level threshold in exterior and interior living environments.

**Table 3.6-1
SOUND LEVELS AND HUMAN RESPONSE**

Noise Source	dB(A) Noise Level	Response
	150	
Carrier Jet Operation	140	Harmfully Loud
	130	Pain Threshold
Jet Takeoff (200 feet) Discotheque	120	
Unmuffled Motorcycle Auto Horn (3 feet) Rock'n Roll Band Riveting Machine	110	Maximum Vocal Effort Physical Discomfort
Loud Power Mower Jet Takeoff (2,000 feet) Garbage Truck	100	Very Annoying Hearing Damage (Steady 8-Hour Exposure)
Heavy Truck (50 feet) Pneumatic Drill (50 feet)	90	
Alarm Clock Freight Train (50 feet) Vacuum Cleaner (10 feet)	80	Annoying
Freeway Traffic (50 feet)	70	Telephone Use Difficult
Dishwashers Air Conditioning Unit (20 feet)	60	Intrusive
Light Auto Traffic (100 feet)	50	Quiet
Living room Bedroom	40	
Library Soft Whisper (15 feet)	30	Very Quiet
Broadcasting Studio	20	
	10	Just Audible
	0	Threshold of Hearing

Noise

**Table 3.6-2
HUD EXTERNAL NOISE EXPOSURE STANDARDS
FOR NEW RESIDENTIAL CONSTRUCTION**

HUD Approval	Site Noise Exposure	Noise Level (Ldn)	Special Approval/ Requirements
Standard	Acceptable	Not exceeding 65 dB	None
Discouraged	Normally Acceptable	65 dB to 75 dB	Building sound attenuation of 5 dB for 65-70 dB noise level and 10 dB for 70-75 dB noise level Special Environmental Clearance Approval of Regional Administration
Prohibited	Unacceptable	75 + dB	Approval of Assistant Secretary of Community Planning EIS required

**Table 3.6-3
LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS**

Land Use Category	Community Noise Exposure			
	L _{dn} or CNEL, dB			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - Low Density	50 - 60	55 - 70	70 - 75	75 - 85
Residential - Multiple-Family	50 - 65	60 - 70	70 - 75	75 - 85
Transient Lodging - Motel, Hotels	50 - 65	60 - 70	70 - 80	80 - 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	80 - 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 - 70	NA	65 - 85
Sports Arenas, Outdoor Spectator Sports	NA	50 - 75	NA	70 - 85
Playgrounds, Neighborhood Parks	50 - 70	NA	67.5 - 75	72.5 - 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 75	NA	70 - 80	80 - 85
Office Buildings, Business Commercial and Professional	50 - 70	67.5 - 77.5	75 - 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	75 - 85	NA

Source: *Guidelines for the Preparation and Content of the Noise Element of the General Plan*, California Department of Health Services.

Notes: NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

NA: Not applicable.

City Noise Standards

The Community Noise Equivalent Level (CNEL) has been adopted by the City of Carson and is the basis for other noise regulations. In addition to Federal and State standards, the City has established an outdoor living area noise standard of 65 dBA CNEL, while the indoor noise standard is 45 dBA CNEL. Typical land use compatibility criteria are shown in Table 3.6-3, *Noise and Land Use Compatibility Criteria*. Compliance with these standards is required of developers prior to obtaining building permits.

CITY NOISE ENVIRONMENT

Understanding the nature and location of noise sources within a city is an integral part of adequately assessing its noise environment. Noise within the City of Carson is generated by numerous sources. For the purposes of this report, two types of noise sources will be considered: mobile and stationary sources.

Field measurements to identify ambient noise levels within the City limits were conducted by RBF on March 9, March 10, and March 11, 1999. Noise monitoring equipment used for the field measurements consisted of a Larson Davis Laboratories Model 700 integrating sound level meter equipped with a Bruel & Kjaer (B & K) Type 41761 ½" microphone. Field monitoring consisted of 30 noise measurements recorded at various locations throughout the City. Each measurement was recorded for a period of between 5 and 8 minutes on the sidewalk adjacent to the roadways. The noise measurements take into account mobile noise sources (i.e., vehicular and aircraft) and stationary noise sources (i.e., playgrounds, industry, manufacturing), refer to Table 3.6-4, *Existing Noise Levels*. In addition refer to Exhibit 3.6-1, *Location of Noise Measurements*, for approximate location of field noise recordings.

Table 3.6-4 indicates the general location of each noise measurement taken within the City, the recorded dBA, and the location and type of adjacent sensitive receptors (i.e., residential units, schools, health care facilities). The measured noise levels ranged from 65.9 dBA to 83.2 throughout the City. As previously indicated above, the noise measurements were taken on the sidewalk immediately adjacent to the roadway (within the right-of-way). In addition, heavy truck traffic was observed on many of the roadways during the field measurements. It should be noted that the noise measurements do not take into account noise attenuation measures (i.e., soundwalls, berms) or setbacks. Therefore, it is anticipated that existing residential areas along the roadways identified in Table 3.6-4, *Existing Noise Levels*, are experiencing noise levels below the ambient noise measurements due to existing soundwalls or physical setbacks from the existing edge of right-of-way.⁴

⁴ Sound/privacy walls typically provide sound attenuation on the order of 5 to 10 dBA.

**Table 3.6-4
EXISTING NOISE LEVELS
(Based on Field Measurements)**

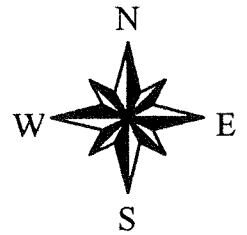
Site Number	General Location of Noise Measurement	Leq dBA	Orientation/ Type of Sensitive Receptor
1	Lomita Boulevard between Avalon Boulevard and Main Street (at intersection of Island and Lomita Boulevard)	68.2	Single-family units located immediately adjacent to the north.
2	Main Street between Sepulveda Boulevard and Lomita Boulevard (south of railroad trestle)	69.0	None
3	Avalon Boulevard between 223 rd Street and Sepulveda Boulevard (at Avalon Boulevard/Bayport intersection).	69.4	Multiple-family residential to the east, single-family residential and a day care to the west.
4	At Carson High School, south of the intersection of Main Street and 223 rd Street.	71.2	Carson High School immediately to the east and single-family residential to the west.
5	Figueroa Street between Carson Street and 223 rd Street adjacent to school	72.6	Multiple-family residential located to the west and a school located immediately to the east.
6	Figueroa Street between 228 th Street and Sepulveda Boulevard (at intersection of 234 th Street and Figueroa Street)	68.3	Single-family residential located to the east and west respectively.
7	Main Street between Carson Street and 223 rd Street (at intersection 220 nd Street and Main Street)	67.2	Multiple-family residential to the west; church and school to the east.
8	Intersection of Main Street and 213 th Street	67.4	Single-family residential areas to the east and west.
9	Intersection of Main Street and Del Amo Boulevard	68.2	None
10	Main Street south of Victoria Street	69.9	Single-family residential to the east.
11	Main Street Between Gardena Boulevard and SR-91 (at intersection of Walnut Street and Main Street)	74.0	None
12	Broadway between Gardena Boulevard and Alondra Boulevard	69.0	None
13	Avalon Boulevard adjacent to Hemingway Memorial Park	79.4	Church to the east; park to the west.
14	Avalon Boulevard between SR-91 and Victoria Street	74.4	Colony Cove and Carson Harbor Village Mobile Home Parks
15	Intersection of Avalon Boulevard and 192 nd Street	65.9	Single-family residential to the east; school to the west.

Noise

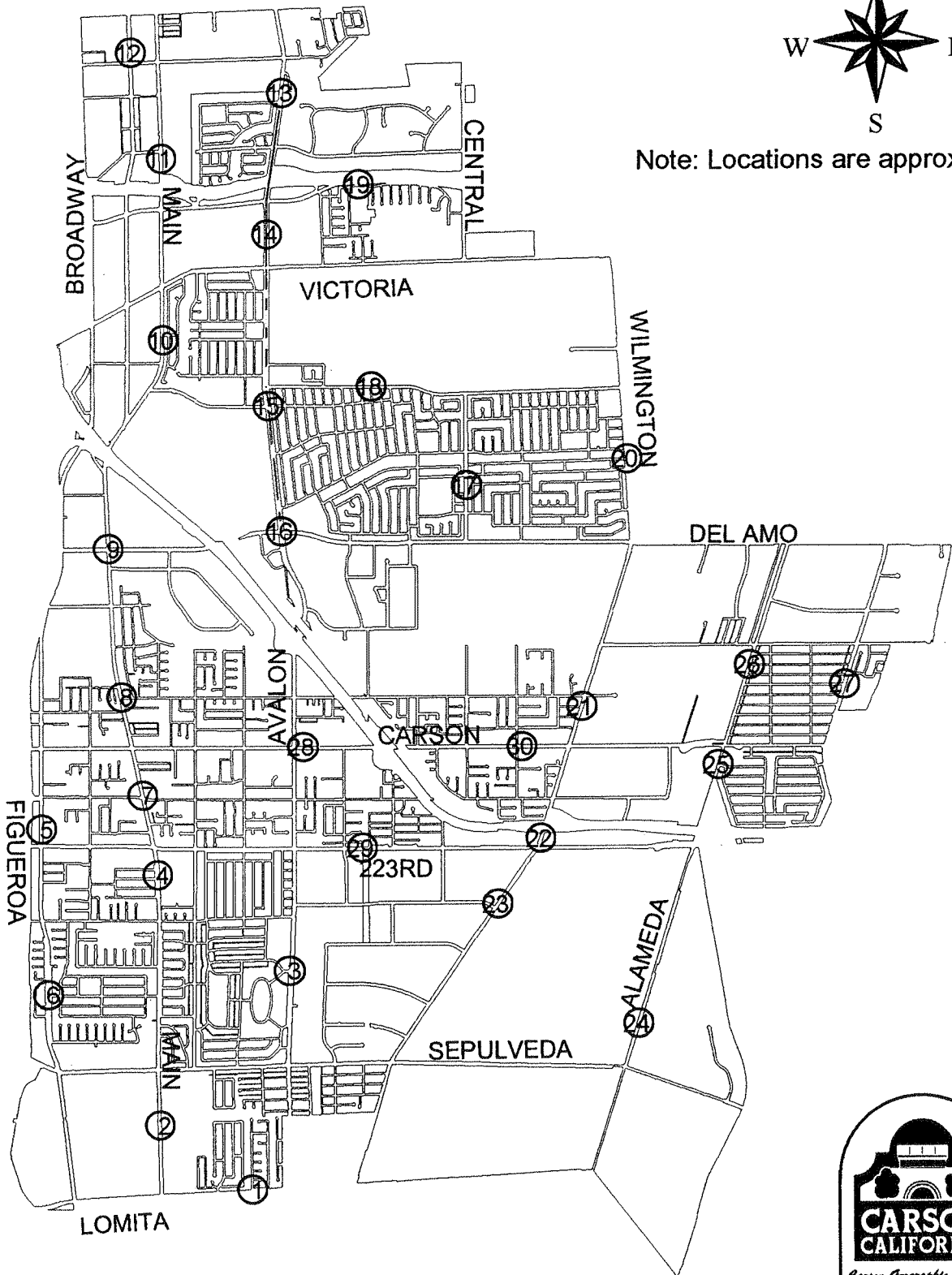
Site Number	General Location of Noise Measurement	Leq dBA	Orientation/ Type of Sensitive Receptor
16	Intersection of Avalon Boulevard and Del Amo Boulevard	75.1	None
17	Central Avenue between University Drive and Del Amo Boulevard (south of Hemlick Street)	66.9	Church to the west; single-family residential to the east.
18	University Drive between Avalon Boulevard and Central Avenue	70.0	Single-family residential to the south.
19	Artesia Boulevard between Avalon Boulevard and Central Avenue (south of SR-91)	73.4	Park and single-family residential to the south.
20	Wilmington Avenue between University Drive and Del Amo Boulevard	75.5	Single-family residential to east and west.
21	Wilmington Avenue between 213 th Street and Carson Street	79.5	Single-family residential to the west.
22	Immediately south of I-405	83.2	None
23	Wilmington Avenue between 223 rd Street and Sepulveda Boulevard	75.2	None
24	Alameda Street between Sepulveda Boulevard and 223 rd Street	77.7	None
25	Alameda Street between I-405 and Carson Street (at intersection 218 th Street and Alameda Street)	76.3	Single-family residential to the east.
26	Alameda Street between Carson Street and Dominguez Street (at intersection of Alameda Street and Harrison Street)	72.7	None
27	Santa Fe Avenue between Dominguez Street and Carson Street	73.3	Single-family residential to west; school to east.
28	Carson Street between Avalon Boulevard and I-405 (at Carson City Hall)	71.7	Mobile home park and medical center to the south.
29	223 rd Street between Avalon Boulevard and Wilmington Avenue	74.4	Single-family residential to the north.
30	Carson Street between I-405 and Wilmington Avenue	70.3	Three (3) churches along north side of Carson Street.

Source: Noise monitoring survey conducted by Robert Bein, William Frost & Associates on March 9, March 10, and March 11, 1999.

NOTE: Noise measurements were recorded on the sidewalk within the right-of-way. Actual sound levels at receptors would have an anticipated 5-10 dBA reduction.



Note: Locations are approximate



Location of Noise Measurements

Carson General Plan Update

Exhibit 3.6-1

Mobile Noise Sources

The predominant noise sources within the City of Carson are transportation-related mobile sources. These noise sources include automobiles, trucks, buses, motorcycles, trains and aircraft. Generally, noise from these sources is produced by engines, exhaust systems, transmissions, fans, tires (interaction with the road), and air movement.

- ***Existing Motor Vehicle Noise***

As is typical of most urbanized areas, the most pervasive noise source in the City of Carson are motor vehicles, including automobiles, trucks, buses and motorcycles. The noise produced by these sources occurs primarily around travelways and may be of sufficient magnitude to expose various land uses to excessive noise levels. As a general observation, the speed of the vehicle is directly correlated to the noise level; an increase in speed causes an increase in noise levels.

- ***Roadway Noise Levels***

In estimating existing roadway noise levels throughout the City, the "Federal Highway Administration (FHWA) Traffic Noise Prediction Model" (FHWA-RD-77-108, December, 1978) prepared by the U.S. Department of Transportation Federal Highway Administration was utilized. The FHWA model arrives at a predicted noise level through a series of adjustments to a reference sound level. Adjustments are made by the model to account for traffic flows, varying distances from the roadway, finite length roadways and shielding. To compute the "equivalent noise level" during typical daytime, evening, and nighttime hours, a series of parameters are input into the model such as average daily traffic volumes, roadway geometry, and vehicle speed and mix for each roadway link analyzed. Weighting these noise levels and summing them results in the CNEL for the traffic projections used. CNEL contours are subsequently located through a series of computerized iterations designed to isolate the 60, 65 and 70 CNEL contour locations.

Existing traffic volumes (1996) were obtained from the City of Carson. Traffic volumes, roadway geometrics and estimated speeds (obtained through empirical observations) were input into the FHWA Model to estimate the distances to the 60, 65 and 70 CNEL. Table 3.6-5, *Existing CNEL Projections*, provides the distances from the centerline of the roadway to the CNEL contour. It should be noted that the figures presented in Table 3.6-5 are for a "soft" site. Additionally, the estimates do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels. The analysis is intended to provide a general assessment of existing noise levels. Appendix A, *Noise Assumptions*, outlines additional model assumptions utilized in evaluating traffic concerns, including speed, roadway type and class, and roadway geometrics (right-of-ways, curb-to-curb, centerline separation and median).

**Table 3.6-5
EXISTING CNEL PROJECTIONS**

Roadways	Average Daily Trips (Thousands)	CNEL @ 100 feet from Centerline	Distance from Centerline of Roadway to Contour		
			60 CNEL (feet)	65 CNEL (feet)	70 CNEL (feet)
Figueroa Street					
Sepulveda Boulevard to Carson Street	11,000	63.1	119	93	43
Carson Street to I-405	16,000	64.7	256	119	55
Victoria Street to SR-91	12,000	63.5	211	98	45
SR-91 to Gardena Boulevard	13,000	63.5	223	103	48
Main Street					
Lomita Boulevard to Sepulveda Boulevard	16,000	64.7	256	119	55
Sepulveda Boulevard to 223 rd Street	17,000	65.0	266	124	57
Carson Street to I-405	15,000	64.4	245	114	53
I-405 to Victoria Street	12,000	63.5	211	98	45
Victoria Street to SR-91	11,000	63.1	119	93	43
SR-91 to Gardena Boulevard	12,000	63.5	211	98	45
Avalon Boulevard					
Lomita Boulevard to Sepulveda Boulevard	18,000	65.2	276	128	60
Sepulveda Boulevard to 223 rd Street	20,000	65.7	297	138	64
223 rd Street to Carson Street	26,000	66.8	353	164	76
Carson Street to I-405	30,000	67.6	389	180	84
I-405 to University Drive	25,000	66.8	344	160	74
University Drive to Victoria Street	26,000	67.0	353	164	76
SR-91 to Gardena Boulevard	25,000	66.8	344	160	74
Wilmington Avenue					
Sepulveda Boulevard to 223 rd Street	26,000	66.9	353	164	76
223 rd Street to Del Amo Boulevard	23,000	66.3	326	151	70
Del Amo Street to University Drive	22,000	66.1	316	147	68
University Drive to Victoria Street	20,000	65.7	297	138	64
Alameda Street					
Lomita Boulevard to Sepulveda Boulevard	15,000	64.4	245	114	53
Sepulveda Boulevard to 223 rd Street	15,000	64.4	245	114	53
223 rd Street to Carson Street	10,000	62.7	187	87	40
Carson Street to Del Amo Boulevard	5,000	59.7	118	55	25
Santa Fe					
Carson Street to Del Amo Boulevard	20,000	65.7	297	138	64
Lomita Boulevard					
Figueroa Street to Main Street	22,000	66.1	316	147	68
Main Street to Avalon Boulevard	21,000	65.9	306	142	66

Noise

Roadways	Average Daily Trips (Thousands)	CNEL @ 100 feet from Centerline	Distance from Centerline of Roadway to Contour		
			60 CNEL (feet)	65 CNEL (feet)	70 CNEL (feet)
Sepulveda Boulevard					
Main Street to Avalon Boulevard	19,000	65.5	287	133	62
Avalon Boulevard to Alameda Street	12,000	63.5	211	98	45
223rd Street					
Figueroa Street to Main Street	19,000	65.5	287	133	62
Main Street to Avalon Boulevard	19,000	65.5	287	133	62
Avalon Boulevard to Wilmington Avenue	20,000	65.7	297	138	64
Wilmington Avenue to Santa Fe Avenue	19,000	65.5	287	133	62
Carson Street					
Figueroa Street to Main Street	29,000	67.3	380	177	82
Main Street to Avalon Boulevard	26,000	66.8	353	164	76
Avalon Boulevard to Wilmington Avenue	14,000	64.1	234	109	50
Wilmington Avenue to Alameda Street	14,000	64.1	234	109	50
Alameda Street to Santa Fe Avenue	9,000	62.2	174	81	38
Del Amo Boulevard					
Avalon Boulevard to Wilmington Avenue	16,000	64.7	256	119	55
Wilmington Avenue to Alameda Street	16,000	64.7	256	119	55
Alameda Street to Santa Fe Avenue	21,000	65.9	306	142	66
University Drive					
Avalon Boulevard to Central Avenue	11,000	63.1	199	93	43
Central Avenue to Wilmington Avenue	7,000	61.1	147	68	32
Victoria Street					
Avalon Boulevard to Central Avenue	16,000	64.7	256	119	55
Central Avenue to Wilmington Avenue	10,000	62.7	187	87	40
Gardena Boulevard					
Broadway to Avalon Boulevard	6,000	60.4	133	62	29
Alondra Boulevard					
Broadway to Avalon Boulevard	10,000	62.7	187	87	40
Interstate 405					
Western City Limits to Avalon Boulevard	218,000	78.5	2,178	1,011	469
Avalon Boulevard to Wilmington Avenue	212,000	78.4	2,138	993	461
Wilmington Avenue to Alameda Street	242,000	78.9	2,334	1,083	503
SR-91 Freeway					
Western City Limits to Avalon Boulevard	154,000	77.0	1,728	802	372
Avalon Boulevard to Eastern City Limits	158,000	77.1	1,757	815	379

Noise

As indicated in Table 3.6-5, the existing noise levels at 100 feet from the roadway centerline vary from a minimum of 59.7 CNEL to a maximum of 78.9 CNEL. As indicated in the Table, the 65 CNEL contour locations vary from 55 feet to 1,083 feet (along I-405) from the roadway centerline. For all of these roadway links, the 65 CNEL contours extend beyond the edge of right-of-way (ROW).

- ***Railroad Noise***

In general, the noise generated by a train pass-by can be divided into two components; that generated by the engine or locomotive, and that due to the railroad cars. The characteristic frequency of the engine is different than that for the cars. The effective radiating frequency is 1000 Hz for the locomotive engines, and 2000 Hz for the portion of noise generated by the cars. The noise generated by the engine is the result of the mechanical movements of the engine parts, the combustion process, the horn (if used), and to a lesser extent the exhaust system. The noise generated by the cars is a result of the interaction between the wheels and the railroad tracks.

The City of Carson is served by three railroads: Union Pacific Railroad (UPRR), Burlington Northern Santa Fe (BNSF) Railroad and the Metro Blue line. The UPRR runs two lines (San Pedro and Wilmington) along the extreme western portion of the City, as it converges on the Los Angeles City container transfer facility, which borders the west side of Long Beach. Several UPRR spur lines extend westward from the San Pedro and Wilmington lines into the central portion of Carson providing rail service to many of the major petroleum production companies. A UPRR line also runs within the ROW of the Dominguez Channel. A BNSF rail line traverses the southern portion of the City from the Alameda Street Corridor to the Harbor Freeway (I-110). The Metro Blue line crosses the extreme eastern section of the City, running north to downtown Los Angeles and south through Long Beach.

There are three UPRR lines which run within the City of Carson. These are the San Pedro line, the Wilmington line, and the Dominguez Channel line. The San Pedro line carries five (5) trains each day. The Wilmington line, which runs parallel to the Alameda Corridor line and is the preferred route out of the harbor, operates fifteen (15) trains each day. The train(s) run approximately every three hours on the Wilmington line. Mr. Irvine indicated that in approximately three years the San Pedro line will be the only railroad line in operation. However, the Wilmington line will remain in place and serve as an auxiliary line. The Dominguez Channel line carries five (5) trains per day in each direction. However, when the trains are used for shipping coal, the line is utilized ten (10) to fifteen (15) times per day each direction.⁵

⁵ Mr. Mike Irvine, General Superintendent of Transportation, Union Pacific Railroad, April 7, 1999.

According to the Alameda Corridor Environmental Impact Report, dated January 1993, residents located immediately adjacent to the Alameda and Wilmington lines between Dominguez Street and 223rd Street are experiencing noise levels of 68 dBA CNEL, which exceeds the City exterior noise standard of 65 dBA CNEL by 2 dBA. However, this noise level includes vehicular-generated noise associated with Alameda Street.

The BNSF line is located in the southern portion of Carson and runs from Alameda Street west through light industrial and residential areas to the Harbor Freeway.⁶ There are approximately thirty-eight (38) trains utilize the BNSF rail line within the City of Carson each day. No acoustical data or additional operational information was provided by BNSF, regarding operations within the City of Carson.

- ***Aircraft Noise***

The primary source of aircraft noise within the City of Carson is the Compton Airport located immediately north of the City. At its closest distance, the runway is located approximately 3,000 feet from the City's northern boundary. Compton Airport does not generate a significant high level of noise. According to the City of Compton General Plan Existing Airport Noise Contours, the 60 and 65 CNEL contours for the Compton Airport do not extend into the City of Carson. However, there is some intrusion of noise from the airport in Long Beach. If the volume of air traffic at Long Beach Airport should increase, it could become a significant problem for residential areas on the east side of the City.

Stationary Noise Sources

Stationary noise sources within the City of Carson include construction activities, mechanical equipment, power tools, industrial activities, commercial activities and residential activities. The noise associated with these sources may represent a single event noise occurrence, short-term or long-term/continuous noise.

- ***Construction Noise***

Activities associated with construction are a highly noticeable temporary noise source. Noise is generated from two primary sources during the construction phase of any project. The transport of workers and equipment to the construction site incrementally increases noise levels along affected roadways. However, this increase does not generally exceed 1 dBA when averaged over a 24-hour time period.

The second source of short-term noise is related to construction noise itself. Construction activities occur in various steps, each of which involve different types of

⁶ Train operation data associated with the BNSF Railroad line were provided by Mr. Don Cleveland, staff with BNSF, April 14, 1999.

equipment and a distinct noise characteristic. Table 3.6-6, *Typical Construction Noise*, shows the noise levels associated with various construction related activities.

Excessive noise levels resulting from construction activities generally occur in the daytime hours only since construction normally is prohibited during evenings, Sundays and holidays. However, noise sensitive receptors in proximity to the construction site may be temporarily annoyed by the increase in ambient noise levels produced by construction activities. Construction noise is best controlled through the control of construction hours.

The City of Carson has a noise ordinance that provides noise guidelines and standards for stationary sound generators, in particular amplifying devices, animals, radios, shouting, and construction activities. Carson Municipal Code Chapter 1, Section 4101 limits building construction from 7:00 a.m. to 6:00 p.m. weekdays, except in the interests of public health and safety. This standard is intended to limit construction noise during the sensitive night and evening time periods. The City Engineer may grant a permit to extend activities outside these hours or on Sundays.

- ***Industrial Noise***

Industrial land uses may have the potential to exert a relatively high level of noise impact within their immediate operating environments. The scope and degree of noise impact generated by industrial uses, and hence the characterization of any given industrial use as a noise source, is dependent upon various critical factors, including type of industrial activity, hours of operation, and the location relative to other land uses.

Industrial noise sources are located in several isolated pockets throughout the City on land zoned ML (Manufacturing, Light) and MH (Manufacturing, Heavy). Their activities produce noises above the general level of their surroundings though few exceed the 65 dBA norm for residential areas. Approximately 265 acres of the total land area within the City is currently developed for industrial purposes.

- ***Commercial and Residential Related Noise***

A variety of stationary noise sources associated with commercial and residential activities exist throughout the City of Carson. Commercial noise sources may include mechanical equipment and engines in non-moving motors such as power tools, i.e., automobile repair shops. Stationary noise sources associated with residential areas are primarily due to air conditioners and pool/spa equipment. Additional stationary noise sources include animals, stereos, musical instruments, sporting events and horns. These noise sources have the potential to temporarily disrupt the quietness of an area. Effective control of these noise sources cannot be accomplished through decibel standards, instead may be accomplished through provisions in the Noise Ordinance.

Table 3.6-6
TYPICAL CONSTRUCTION NOISE

Equipment	dBA: 60	70	80	90	100	110
Compactors (Rollers)			██████████	██████████		
Front Loaders		██████████	██████████	██████████		
Backhoes		██████████	██████████	██████████		
Tractors, bulldozers		██████████	██████████	██████████		
Scrapers, graders			██████████	██████████		
Pavers			██████████	██████████		
Trucks		██████████	██████████	██████████		
Concrete mixers		██████████	██████████	██████████		
Concrete pumps			██████████	██████████		
Cranes (movable)			██████████	██████████		
Cranes (derrick)				██████████		
Pumps		██████████	██████████			
Generators		██████████	██████████			
Compressors		██████████	██████████			
Pneumatic wrenches			██████████	██████████		
Jackhammers and drills			██████████	██████████		
Pile drivers				██████████	██████████	
Saws		██████████	██████████	██████████		

Source: "Handbook of Noise Control", by Cyril Harris, 1979.

Sensitive Noise Receptors

Sensitive land uses generally cannot accommodate levels of noise which would, under other circumstances and with regard to other land uses, not be considered intrusive in character. Therefore, the elements of location, hours of operation, type of use, and extent of development warrant extremely close analysis in an effort to insure that the quality of services provided by these noise sensitive receptors is not diminished by the effects of intrusive noise.

The City of Carson has identified residences, public and private school/preschool classrooms, churches, hospitals and elderly care facilities as noise sensitive receptors. The maximum interior exposure for these land uses is 45 dBA CNEL (maximum exterior exposure is 65 dBA CNEL).

The City, described as a residential community, contains a total of approximately 19,463 single-family dwelling units and 2,943 multi-family dwelling units, and 2,559 mobile home units, representing 30.3% of the City's zoned acreage.⁷ With the exception of residential land uses, Table 3.6-7, *Noise Sensitive Receptors*, provides a listing of noise sensitive land uses along with their street address. Exhibit 3.6-2, *Sensitive Receptor Location Map*, illustrates the location of these land uses.

The potential exists that noise sensitive receptors located adjacent to the roadway may currently be experiencing excessive noise levels. Depending on the setback location of these adjacent noise sensitive receptors and nature of existing noise attenuation features (if any), the 65 CNEL contour may fall within the outdoor living areas of these land uses, i.e., playground or backyard.

NOISE ELEMENT

The Noise Element was adopted in December 1981 by Resolution No. 81-253. The Noise Element is available for review at the City of Carson, Community Development Department.

The Element generally describes the major sources of noise in the City, these include: aircraft noise, transportation-related noise (i.e., automobiles, trains, trucks, buses, etc.), excessive noise in residential areas (i.e., noise problems in apartment areas, noise emanating from school playgrounds, etc.), and industrial and commercial noise. The Element also includes a discussion on noise levels and standards, as well as the City's noise control policies and noise control plan.

⁷ California Department of Finance, January 1998, Table E-5.

**Table 3.6-7
NOISE SENSITIVE RECEPTORS**

Facility	Street Address
HEALTH CARE	
Carson Senior Social Services	3 Civic Plaza
El Nido Family Center	460 East Carson Plaza Drive
Family Services	340 West 224 th Street
Department of Rehabilitation	451 East Carson Plaza Drive
CHILD CARE	
Schmitt Family Day Care	21826 Moneta Avenue
Patricia Shanklin	22821 Catskill Avenue
Voneta Day Care	1225 Bankers Drive
Sotelo Family Day Care	135 East 229 th Place
Kurious Kids	530 Moorhaven Drive
Taylor's Family Day Care	551 East 222 Street
Artie's Licensed Day Care	19303 South Scobey Avenue
Wilson & Wilson Child Care	1672 East Cyrene Drive
McCoy Family Child Care	409 E. Centerview Drive
McNeil Family Day Care	17202 South Billings Drive
Precious Gems Child Care	146 East 213 th Street
Olivia's Family Day Care	2556 East Jackson Street
Parra Family Day Care	177 West 234 th Street
Dani's Garden Day Care	19409 Reinhart Street
Peace and Joy Day Care Center	1691-1693 Del Amo Boulevard
Ruiz Family Day Care	19509 South Annalee Avenue
Little Angels' Retreat	18419 South Avalon Boulevard
Jenkins Day Care	16117 Haskins Lane
Lakeshore Kids and Co.	2695 East Dominguez Street

Noise

Facility	Street Address
Manna Manor, Inc.	24825 Neptune Avenue
Ravenna Home Manna Manor, Inc.	24713 Ravenna Avenue
Carson Montessori Academy	812 East Carson Street
McClendon's Family Day Care	1242 East Cloverbrook Street
Cobb Family Day Care	19021 Kemp Avenue
Community Development Center, Inc.	23033 South Avalon Boulevard
Little Lambs Training Center	19129 Radlet Avenue
Shirley Currie	1860 East Kamm Street
Davis Family Day Care	357 Centerview Drive
Golden Wings Academy	20715 South Avalon Boulevard #100
Gonzalez Family Day Care	519 East 237 th Street
Connie M. & Jesse Jackson	17906 Lysander Drive
Jenkins Day Care	16220 Malloy Avenue
Love Christian Child Care	903 East Gladwick
Audrey Christine Andersen	628 Elsmere Drive
Andrade's Family Day Care	20927 South Margaret Street
Dotty's Day Care	1413 East 220 th Street
Beezer Family Day Care	19227 Cliveden Avenue
Tweet's Day Care Center	921 East Dimondale Drive
Jacqueline Brown Family Day Care Center	1754 Fernrock Street
Elisia & Rofino Cardoso	337 East Double Street
Kids World	21601 South Moneta Avenue
PRE-KINDERGARTEN	
Ambler Avenue School	319 East Sherman Drive
Annalee Avenue School	19419 Annalee Avenue
Bonita Street School	21929 Bonita Street
Broadacres Avenue School	19421 South Broadacres Avenue

Noise

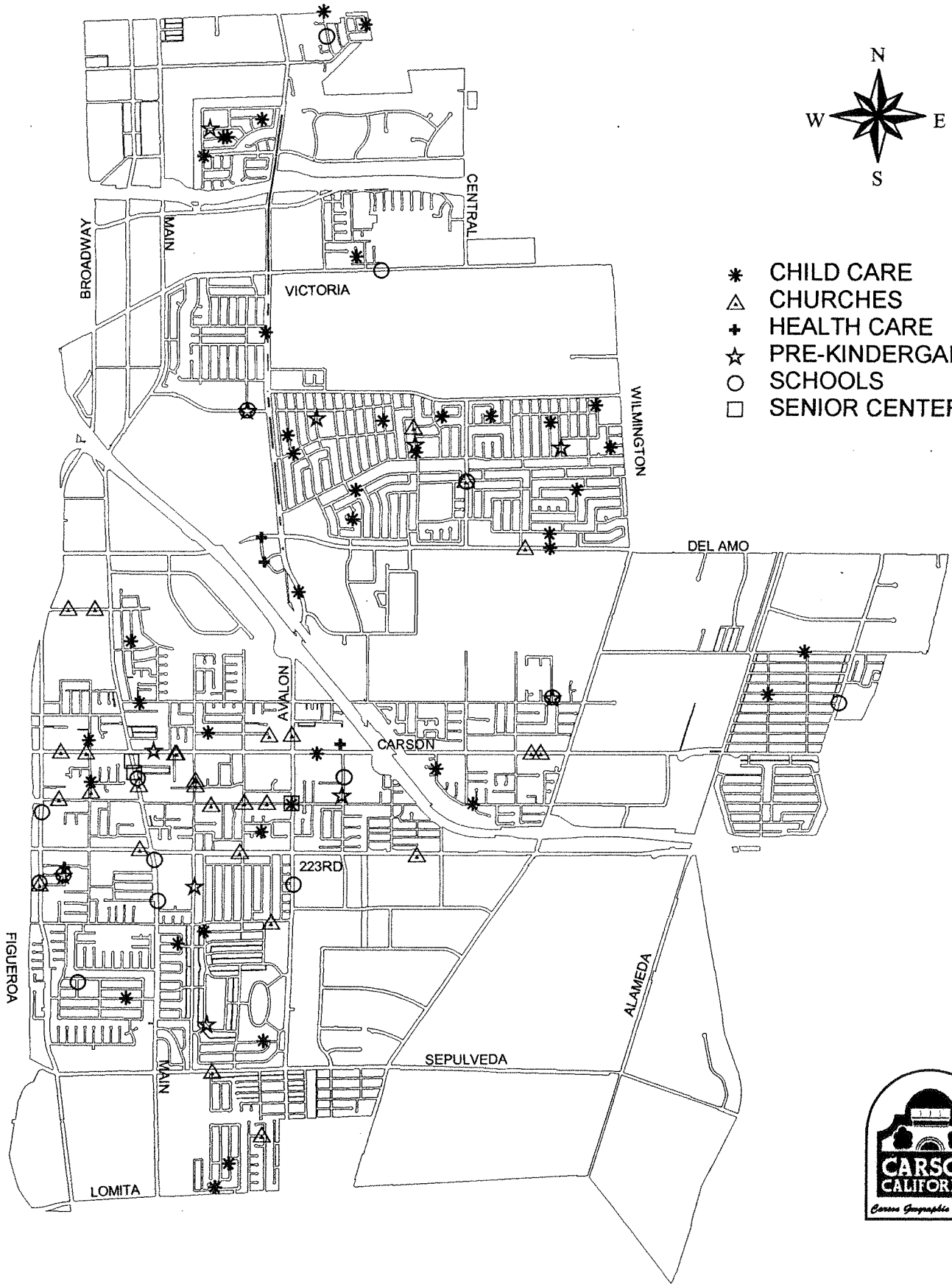
Facility	Street Address
Catskill Avenue School	23536 Catskill Avenue
Del Amo School	21228 Water Street
Dolores Street School	22526 Dolores Street
Leapwood Avenue School	19302 Leapwood Avenue
Caroldale Avenue School	22424 Caroldale Avenue
Carson Street School	161 East Carson Street
Towne Avenue School	18924 Towne Avenue
SCHOOLS	
Federation Head Start	22504 South Avalon Boulevard
Ralph Bunche School	16223 Haskins Lane
CSU, Dominguez Hills	1000 East Victoria Street
Towne Avenue Elementary Schools	18924 Towne Avenue
Curtis Junior High School	1254 East Helmick Street
Del Amo Elementary School	21228 Walter Street
Carnegie Junior High School	21820 Bonita Street
Eagle Tree High School	22628 South Main Street
Carson High School/ Carson Community Adult School	22328 South Main Street
Caroldale Learning Community	22424 Caroldale Avenue
232 nd Place School	23240 Archibald Avenue
Domiguez Elementary School	21250 Santa Fe Avenue
Stephen M. White Middle School	22102 South Figueroa Street
Peninsula Christian School	22507 South Figueroa Street
St. Philomena Catholic School	21832 South Main Street
CHURCHES	
Baptist Temple of Prayer	224 East Carson Street
Calvary Chapel of South Bay	415 West Torrance Boulevard

Noise

Facility	Street Address
Carson Baptist Church	520 East 228 th Street
Carson Christian Center/Carson-Wilmington Minister's Fellowship	19303 Annalee Avenue
Carson Christian Church	356 East 220 Street
Carson Church of Religious Science	220 East Carson Street
Carson Hope Chapel Foursquare	129 East 223 rd Street
Carson Pentecostal Church	555 East 220 th Street
Central Baptist Church	1641 East Carson Street
First Christian Faith United Church	1609 East Del Amo Boulevard
First Lutheran Church of Carson	19707 South Central Avenue
Grace Orthodox Presbyterian Church	22511 South Figueroa Street
Harbor Community Chapel	21521 South Avalon Boulevard
Immanuel Missionary Baptist Church	503 East 220 th Street
Judson Baptist Church	451 East 223 rd Street
Kaiser Hospital Chapel	24733 Marbella Avenue
Keystone Assembly of God	21916 Moneta Avenue
Mission Eben-Ezer Family Church	225 West Torrance Boulevard
Mountain Movers Church	519 East 245 th Street
New Life Christian Center	1210 East 223 rd Street
Pentecostal Church of God	21818 Dolores Street
Spanish Seventh Day Adventist Church	21828 Dolores Street
St. Philomena Catholic Church	21900 South Main Street
United Baptist Church	435 West 220 th Street
United Samoan Church	600 East Double Street
United Samoan Congregational Christian Church	1717 East Carson Street

Noise

Facility	Street Address
SENIOR CENTERS	
Carson Gardens Retirement Apartments	21811 South Main Street
Camino Village Senior Complex	21735 South Main Street
Avalon Courtyard Retirement Center	22121 South Avalon Boulevard
Carson Retirement Center	345 East Carson Street



Location of Sensitive Receptors

Carson General Plan Update

Exhibit 3.6-2

Eight (8) overriding goals have been established within the existing Noise Element of the General Plan:

- Provide sufficient information concerning the community noise environment so that noise may be effectively considered in the land use planning process.
- Develop strategies for abatement of excessive noise exposures to citizens in the community. Mitigating measures should include rezoning, as necessary and appropriate, to avoid incompatible land uses.
- Protect those existing regions of the City for which noise environments are deemed acceptable and also those locations throughout the City deemed "noise sensitive."
- Establish the community noise environment in the form of noise contours for local compliance with the State Noise Insulation Standards. These standards require specified levels of outdoor to indoor noise reduction for new multi-family residential construction in areas where the outdoor noise exposure may be excessive.
- Encourage intergovernmental coordination to abate noise.
- Enforce current state and local noise regulations to reduce the impact of noise from all sources, such as motor vehicles, aircraft, home appliances and railroad activity.
- Reduce the impact of construction and industrial noises by adopting noise standards governing all construction equipment, as necessary.
- Promote increased public awareness concerning the effects of noise and ways they can assist in reducing noise.

Policies have been developed in response to these goals, these policies relate to noise control, intergovernmental coordination and cooperation, noise sensitive land uses, highly impacted areas, transportation uses, as well as other primary and secondary noise sources. In response, the City of Carson adopted a Noise Control Plan which is outlined below.

NOISE CONTROL PLAN

Most noise control is carried out indirectly through thoughtful land use planning. This entails separations of residential and other uses through effective zoning and provision of buffers. Site design also influences noises that infringe on surrounding areas.

Monitoring noise levels and maintaining land use and building regulations to limit noise intrusion are principal mechanisms of noise control. The Community Noise Equivalent Level (CNEL), as adopted and utilized in the Carson Noise Element, will be the basis for other regulations. Noise control is an intergovernmental responsibility since noises readily cross over territorial boundaries. This is reflected in Carson's Noise Control Plan, specific activities identified in the Plan include but are not limited to:

- Systematic noise surveys of the City shall be periodically conducted.
- The City shall develop acceptable noise standards consistent with health and quality-of-life goals and employ effective techniques of noise abatement through such means as the Building Code, Subdivision Ordinance and Zoning Ordinance.
- The City shall develop strategies for noise reduction where noise-impacted areas exist, and seek rigorous enforcement where otherwise pre-empted by other governmental agencies.
- A mechanism to assure coordination of all governmental jurisdiction in the field of noise control and abatement should be developed by the City.
- A national uniform sound certification program of published sound ratings for various types of equipment that are sources of noise shall be encouraged.
- The Sheriff's Department will enforce City, state and federal noise laws for mobile sources and complaints in residential zones.
- The Building and Safety Division of the Community Development Department will enforce state and local noise control regulations and Building Code regulations regarding noise control.
- The Planning Division of the Community Development Department shall review potential noise impacts on new developments which require environmental assessments and/or environmental impact reports.
- The County of Los Angeles Department of Animal Care and Control will continue the abatement of annoyance caused by barking dogs.
- Noise criteria shall be established for all applications involving variances and/or conditional use permits for commercial or industrial facilities.

3.7 HAZARDOUS MATERIALS

This section will focus on the hazards associated with the use, storage, or manufacturing of hazardous materials in or near the City of Carson. The State of California defines a hazardous material as a substance that is toxic, ignitable or flammable, or reactive and/or corrosive. An extremely hazardous material is defined as a substance that shows high acute or chronic toxicity, carcinogenicity, bio-accumulative properties, persistence in the environment, or is water reactive (California Code of Regulations, Title 22).

SETTING

The City of Carson has a relatively long history of urban use, including industrial, commercial, and oil field development dating back to the early 1920's. Many of these uses have involved the use, storage, and/or generation of hazardous materials that were and continue to be required for even the most routine industrial and manufacturing processes. As a result of this long history of industrial and commercial development and the fact that waste management practices and regulations were either not in place or not up to current standards, there are several sites within the City that have the potential to have been impacted by previous releases of contaminated materials.

In more recent years, since the 1980's, hazardous materials have been governed by a variety of environmental regulations that require proper storage, handling, employee and public noticing, spill contingency planning, business/environmental management plans, and other emergency response measures necessary to ensure public safety and to minimize the risk of accidental releases or environmental impacts. While it is less likely for newer uses to have involved hazardous materials releases, the potential for accidental releases, while minimized under current regulations, is inherent to industrial areas.

The increasing volume and variety of hazardous materials that are generated, stored, or transported within the City of Carson is a problem of great concern to public officials and the community. A number of freight trains traverse the City hauling various types of hazardous and explosive materials including chlorine gas, and low pressure natural gas (LPG). Several fixed-site industrial firms require the use of potentially hazardous materials to operate their businesses. Finally there are numerous underground pipelines within the City limits which carry flammable and hazardous liquids.

HAZARDOUS MATERIALS DISCLOSURE PROGRAM

The primary concern associated with the release of a hazardous material is the short- and long-term effects that exposure to a hazardous substance may have on the public. This is particularly true when a toxic gas is involved because a gaseous toxic plume is

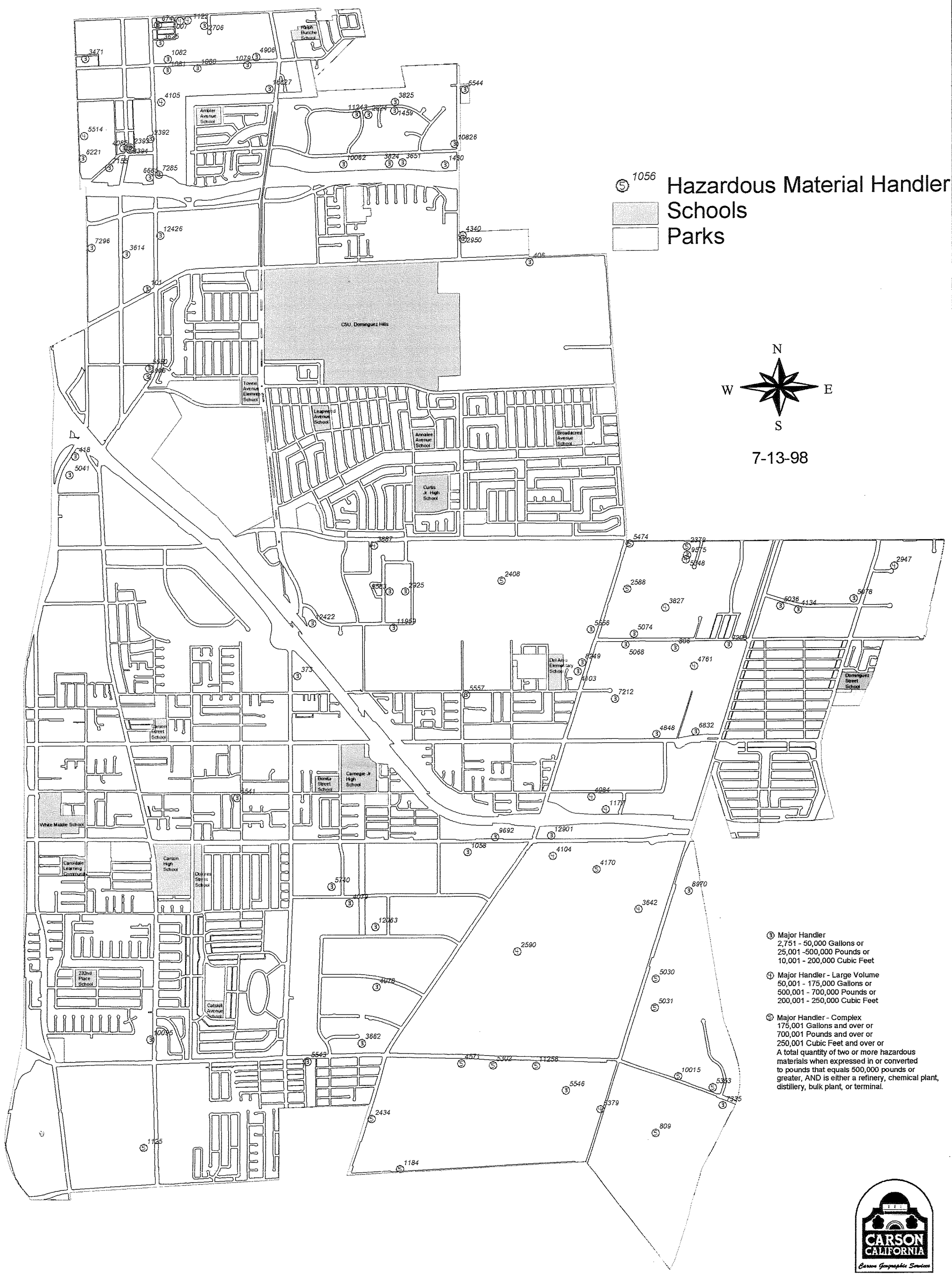
more difficult to contain than a soil or liquid spill, and a gas can impact a larger segment of the population in a shorter time span.

All businesses that handle more than a specified amount of hazardous materials are required by both the Federal and State governments to submit a business plan to their local administering agency, quantities for acutely hazardous materials vary according to the substance. In the City of Carson, the administering agency is the Los Angeles County Fire Department. Every handler is required to submit a business plan and an inventory of hazardous substances and acutely hazardous materials to the Fire Department on an annual basis. If the hazardous materials inventory of a business should change, a revised business plan must be submitted. Inspectors from the Los Angeles County Fire Department conduct annual inspections of businesses that have submitted a business plan; they also conduct follow-up inspections as needed.


Business plans should contain a description of the physical and chemical properties of the substance for each hazardous and extremely hazardous material that is handled, and the symptoms that result from contact with the substance. The plan should also have a site map that shows where each hazardous material is stored and handled, where emergency response equipment is located, and contain evacuation plans and procedures. The Los Angeles County Fire Department maintains a database that lists the business plans submitted by businesses in the City, allowing for quick and accurate evaluation of each situation for appropriate response.

There are approximately 324 businesses in the City of Carson that handle hazardous materials and have a business plan on file or pending with the County of Los Angeles Fire Department. As of March 1999, forty-three (43) of these businesses handle acutely, or highly hazardous materials. There are sixteen (16) businesses in the City and immediately surrounding unincorporated area that have Risk Management Prevention Plans (RMPPs) on file with the Los Angeles County Fire Department's Hazardous Materials Disclosure Program. This program is intended to manage those materials classified as acutely hazardous materials. The list of businesses which have a RMPP is currently being updated. In addition, the City of Carson contains numerous regulatory program sites (Fee Groups 03-05) as indicated on Exhibit 3.7-1, *Sites with Regulatory Programs*, and Table 3.7-1, *City of Carson Regulatory Fee Groups*.

One of the best ways to reduce the impact of a hazardous materials release is through regulation governing the storage, use, and manufacture of hazardous materials. Several regulations have been implemented to address the issue of hazardous substances; individual cities have the right to develop more stringent requirements than those established by the State.



1056 Hazardous Material Handler
 Schools
 Parks

N
 W  E
 S
 7-13-98

- ③ Major Handler
2,751 - 50,000 Gallons or
25,001 - 500,000 Pounds or
10,001 - 200,000 Cubic Feet
- ④ Major Handler - Large Volume
50,001 - 175,000 Gallons or
500,001 - 700,000 Pounds or
200,001 - 250,000 Cubic Feet
- ⑤ Major Handler - Complex
175,001 Gallons and over or
700,001 Pounds and over or
250,001 Cubic Feet and over or
A total quantity of two or more hazardous
materials when expressed in or converted
to pounds that equals 500,000 pounds or
greater, AND is either a refinery, chemical plant,
distillery, bulk plant, or terminal.



Sites With Regulatory Program Hazmat Fee Groups 03 - 05 Carson General Plan Update

Table 3.7-1
CITY OF CARSON REGULATORY FEE GROUPS

Site No.	Name	Location	Fee Group	Reporting District
101	Carbonic Products Inc.	115 W. Victoria St.	03	1610
373	Don Kott Ford	21212 S. Avalon Blvd.	03	1628
406	Dominguez Energy Company	1556 E. Victoria St.	03	1613
418	Penske Truck Leasing Co. LP	19646 Figueroa St.	03	1617
674	Debest Mfg. Co. Inc.	117 E. 162 St.	03	1610
806	Calwest Galvanizing Corp.	2226 E. Dominguez St.	03	1621
809	Gatx Tank Storage Terminals Corp.	2000 E. Sepulveda Blvd.	05	1626
1058	International Paper Company	1350 E. 223rd St.	03	1625
1079	AHF-Ducommun Inc.	444 E. Gardena Blvd.	03	1610
1080	AHF-Ducommun Inc.	268 E. Gardena Blvd.	03	1610
1081	AHF-Ducommun Inc.	140 E. Gardena Blvd.	03	610
1082	AHF-Ducommun Inc.	131 E. Gardena Blvd.	03	1610
1122	Permalite Repromedia Corp.	230 E. Alondra Blvd.	04	1610
1125	Fletcher Oil and Refining Co.	24721 S. Main St. #2	05	1623
1177	Edoco Chemicals	22039 S. Westward Ave.	04	1621
1184	So. Cal. Edison Co. (El Real)	1007 E. Lomita Blvd.	05	1626
1459	Paquet Oneida Inc.	1120 E. Sandhill Ave.	03	1611
1460	Carroll Calif. Ventures	1253 E. Artesia Blvd.	03	1611
2379	Barton Brands of California	2202 E. Del Amo Blvd.	05	1621
2392	Industrial Polychemical Service	17109 Main St.	03	1610
2393	Industrial Polychemical Service	17116 S. Broadway	03	1610
2394	Industrial Polychemical Service	17120 S. Broadway	03	1610
2408	Shell Oil Company	20945 S. Wilmington Ave. #1	05	1620
2434	ARCO Western Pipe Line Co.	24696 S. Wilmington Ave.	05	1626
2588	Rhone-Poulenc Basic Chemicals	20720 S. Wilmington Ave.	05	1621
2590	ARCO-Watson Refinery	1801 E. Sepulveda Blvd.	04	1626

Hazardous Materials

Site No.	Name	Location	Fee Group	Reporting District
2706	Advanced Packaging & Products Co.	16131 Maple Ave.	03	1610
2924	Easterday Janitorial Supply Co.	17050 Margay Ave.	03	1611
2925	Johnson Laminating & Packaging Co.	20631 Annalee Ave.	03	1620
2947	McCarthy Draying Company	2839 E. 208th St.	04	1622
2950	MCI Telecommunications	17900 Central Ave.	03	1611
3471	Decore Plating Inc.	434 W. 164th St.	03	1610
3614	Washington Iron Works	17926 S. Broadway	03	1610
3625	I C Compound Co.	1120 E. 163rd St.	03	1610
3642	Lesbro Co.	2418 E. 223rd St. #1	04	1626
3651	Van Den Bergh Foods Co.	1135 E. Artesia Blvd.	03	1611
3662	Anitec Image	860 E. 238th St.	03	1625
3824	Apollo Warehouse	1073 E. Artesia Blvd.	03	1611
3825	Flamingo Textile Mills Inc.	1123 E. Sandhill Ave.	03	1611
3827	Nalco Carson Plant	2111 E. Dominguez St.	04	1621
3887	Clothier & Rose Inc.	1000 E. Del Amo Blvd.	04	1620
3906	Sims Welding Supply Co. Inc.	18903 Main St.	03	1614
4007	Lilly Industries	210 E. Alondra Blvd.	04	1610
4078	Volvo North America Corp.	990 E. 233rd St.	03	1625
4079	Huck International Inc.	900 Watson Center Rd.	03	1625
4084	Niklor Chemical Co. Inc.	2060 E. 220th St.	04	1621
4085	Mutual Liquid Gas & Equipment co.	17117 S. Broadway	03	1610
4103	Industrial Process & Chemical Co.	21111 Wilmington Ave.	03	1620
4104	Praxair Distribution Inc.	2006 E. 223rd St.	04	1626
4105	Amerigas Propane L.P.	16800 S. Main St.	04	1610
4134	Alflex Corporation	2630 El Presidio St.	03	1622
4170	Geon Company	2104 E. 223rd St.	05	1626
4340	Brea Canyon Oil Company	17810 S. Central Ave.	04	1611
4571	B.O.C. Gases	1290 E. Sepulveda Blvd.	05	1626

Hazardous Materials

CARSON GENERAL PLAN UPDATE • EXISTING CONDITIONS REPORT

Site No.	Name	Location	Fee Group	Reporting District
4761	Zynolyte Products	2320 E. Dominguez St. #B	04	1621
4848	Barmet Aluminum Corp.	2211 E. Carson St.	03	1621
4906	Cal-Pacific Dye & Finishing Corp.	505 E. Gardena Blvd.	03	1610
5030	Texaco Refining & Marketing Inc.	23208 S. Alameda St.	05	1626
5031	Air Products & Chemicals Inc.	23320 S. Alameda St. #A	05	1626
5036	Botanicals International	2550 El Presidio St.	03	1622
5041	Pepsi Cola Bottling Group	19700 Figueroa St.	03	1617
5068	Intero Inc.	1906 E. Dominguez St.	03	1621
5074	Western Tube & Conduit Corp.	2001 E. Dominguez St.	03	1621
5078	Candle Corporation of America	2777 El Presidio St.	03	1622
5302	76 Products Co. - Unocal	1520 E. Sepulveda Blvd.	05	1626
5348	Bayer Corporation	20455 Reeves Ave.	04	1621
5353	Chem-Oil Refining Corp.	2365 E. Sepulveda Blvd.	05	1626
5474	Santa Fe Pacific Pipe Lines Inc.	20410 S. Wilmington Ave.	05	1621
5514	American Racing Equipment Inc.	17006 S. Figueroa St.	04	1610
5541	So. Cal. Edison (Neptune)	456 E. 220th St.	03	1618
5543	So. Cal. Edison (Watson)	S/E Sepulveda & Broad	03	1625
5544	So. Cal. Edison (Jersey)	16820 Central Ave.	03	1611
5546	So. Cal. Edison (Shellwat)	24501 Alameda St.	03	1626
5550	So. Cal. Edison (Nola)	S/W Main & Griffith	03	1614
5556	So. Cal. Edison (Refinery)	20945 Wilmington Ave. #2	03	1620
5557	So. Cal. Edison (Alon)	213 Vera St.	03	1620
5740	Mercedes-Benz of North America	851 Watson Center Rd.	03	1625
6221	A & B Auto Parts	17120 Figueroa St.	03	1610
6685	Farwest Corrosion	17311 Main St.	03	1610
6832	Southern Pacific Transportation	2443 E. Carson St.	03	1621
7155	Blue Diamond Materials	354 W. Walnut St.	03	1610
7208	Gary Steel	2400 E. Dominguez St.	03	1621

Hazardous Materials

Site No.	Name	Location	Fee Group	Reporting District
7212	Western Waste Industries	1970 E. 213th St.	03	1621
7285	Hertz Equipment Rental	17310 Main St.	03	1610
7296	Lorber Industries	17908 Figueroa St.	03	1610
7335	All Waste of So. Cal.	2222 E. Sepulveda Blvd.	03	1626
8249	Rainbow Transport Tank Cleaners	21119 Wilmington Ave. #1	03	1620
8379	Lesbro Company	1850 E. Sepulveda Blvd.	04	1626
8970	Brite - Sol Service Inc.	22606 S. Alameda St.	03	1626
9575	Noble Distribution Systems	20453 Reeves Ave.	03	1621
9583	Neo Tech Cosmetic Mfg. Inc.	20626 Belshaw Ave.	03	1620
9692	Westrux International	1505 E. 223rd St.	03	1628
10015	ARCO Products Co.	2149 E. Sepulveda Blvd.	05	1626
10062	Hanyoung America Inc.	935 E. Artesia Blvd.	03	1611
10095	Southern CA Permanente Med. Grp.	23701 Main St.	03	1623
10826	Carson Cogeneration Co.	17171 Central Ave.	03	1611
11243	Western Synthetic Fiber Inc.	966 E. Sandhill Ave.	03	1611
11258	Shell Oil Company - Carson Plant	1622 E. Sepulveda Blvd.	05	1626
11959	United Refrigeration Inc.	1134 E. Dominguez St.	03	1620
12063	Pioneer Video	1041 E. 230th St.	03	1625
12422	Pep Boys #657	810 E. Dominguez St.	03	1620
12426	RIFA USA, Inc.	17800 Main St. #302	03	1610
12901	So. Cal. Airgas	860 E. 223rd St.	03	1626
16627	Durham Transportation	16627 S. Avalon Blvd. #D	03	1610

NOTE:

03 Major Handler:

2,751 - 50,000 gallons; or
 25,001 - 500,000 pounds; or
 10,001 - 200,000 cubic feet

04 Major Handler - Large Volume:

50,001 - 175,000 gallons; or
 500,001 - 700,000 pounds; or
 200,001 - 250,000 cubic feet

05 Major Handler - Complex:

175,001 gallons and over; or
 700,001 pounds and over; or
 250,001 cubic feet and over; or
 A total of quantity of two or more hazardous materials when expressed in or converted to points that equals 500,000 pounds or greater, **and** is either a refinery, chemical plant, distillery, bulk plant, or terminal.

Significant concentrations of hazardous materials, at levels for which a business plan is required, are generally associated with manufacturing and industrial areas. Although it should be noted that hazardous materials are also used and stored in commercial and residential areas.

Business and industrial facilities located outside the City limits also may have the potential of causing a hazardous materials release incident that could impact Carson. Hazardous materials stored in warehouses or in refineries have the potential of being released as toxic fumes during an earthquake or fire. The areas of the City that could be impacted by a toxic fume are in part dependent upon wind direction and other climatological controls. However, because of the risk, facilities that store hazardous materials that could pose a toxic-fume threat should not be located near predominantly residential neighborhoods and/or facilities that house immobile populations (i.e., schools, child care centers, convalescent homes, etc.).

HAZARDOUS MATERIAL TRANSPORTATION

In addition to stationary land uses that have the potential to involve hazardous materials releases, major transportation corridors are also a potential source of accidental releases or environmental incidents that could affect various areas of the City. Heavy truck traffic travels on the Harbor (I-110), Redondo Beach/Artesia (SR-91), San Diego (I-405), and Long Beach (I-710) Freeways each day. In addition, arterial streets are also a potential source of accidental releases of hazardous materials in the event of an accident. These transportation routes are regularly used by trucks carrying hazardous materials in support of local and regional industry and commerce (refer to Section 3.2, *Circulation*). In addition, hazardous materials are often transported through the eastern portion of the City by rail lines. The Los Angeles County Fire Department responds to all hazardous materials incidents within the City, including those along the railways. The California Highway Patrol is in charge of abating spills that occur on the freeway, with the local police and fire departments and Caltrans responsible for additional enforcement and routing assistance.

CRUDE OIL AND PETROLEUM PRODUCT PIPELINES

There are several crude oil and petroleum product pipelines that transect the City. Several petroleum handlers (i.e., Equilon, Tosco, a portion of the Texaco Refinery, and Arco which was recently acquired by BP, British Petroleum) are located within the City. The Southern Pacific Pipeline transports an unlimited amount of various products through the City from several locations (refer to Appendix B, *Hazardous Materials*). If one of these pipes broke, the local fire department is responsible for contacting the operator of the damaged pipeline and, in the case of fire or explosion, for fire suppression. The Los Angeles County Fire Department has the emergency, 24-hour telephone numbers of the operators of the hazardous pipelines that transect the City (refer to *Hazardous Materials Incidence Response*, and Exhibit 3.7-3, *Los Angeles Basin*

Call Wheel, later in this section). In addition, the Fire Department has to report any pipe rupture, fire, or explosion to the State Office of Emergency Services. Although a release of crude oil and/or refined petroleum product would not pose as immediate a threat to the City residents as a toxic cloud would, the long-term environmental impacts of such an incident can be serious and costly. For example, if spilled crude oil and/or refined product leak into the ground, the shallow ground water could be contaminated, requiring ground water clean-up or remediation.

REGULATORY INFORMATION

The governmental sources have been searched by VISTA Information Solutions, Inc. for listed regulatory sites within the City of Carson. Upon completion of their search, VISTA provided their findings dated March 9, 1999 (refer to Appendix B, *Hazardous Materials*). RBF makes no claims as to the completeness or accuracy of the referenced sources. Our review of VISTA's findings can only be as current as their listings and may not represent all known or potential hazardous waste or contaminated sites. To reduce the potential for omitting possible hazardous material sites within the City, sites may be listed in this report if there is any doubt as to the location because of discrepancies in map location, zip code, address, or other information. Table 3.7-2, *Regulatory Sites Within the City of Carson*, provides this information.

UNDERGROUND STORAGE TANKS

Based on a review of the California Environmental Protection Agency (EPA), Hazardous Waste and Substance Sites (CORTESE) list, and the State Water Resources Control Board list of Releases of Hazardous Substances from Underground Storage Tanks (USTs), as of 1999, at least seventy-two (72) Leaking Underground Storage Tanks (LUSTs) have been reported in Carson. Of these, approximately eighteen (18) cases currently have remedial activities underway, while further site assessment/investigation activities are reported for the remaining fifty-four (54) LUST sites.

CLOSED AND INACTIVE LANDFILLS

In addition to commercial and industrial uses within the City of Carson, several solid waste landfills have been documented to exist in the area. The 1988 Federal Comprehensive Environmental Response, Compensation and Liability Act Information System (CERCLIS) list of potentially hazardous waste sites included fourteen (14) sites within the City that were investigated by the Federal EPA. The CERCLIS inventory lists sites that have been identified as having a potential for releasing hazardous substances into the environment (refer to Appendix B). According to information provided

**Table 3.7-2
REGULATORY SITES WITHIN THE CITY OF CARSON**

Database Searched within City Boundary		Site Distribution Summary			
Regulatory Agency	Type of Records	Name/Description of Records	Number of Regulatory Sites within City Boundary ¹	Description ² (Status/Summary of Regulatory Occurrences)	Breakdown of Occurrences
US EPA	NPL	National Priority List: The National Priorities List (NPL) is the EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program.	0	No NPL sites have been identified within the City boundaries	0
US EPA	CORRACTS (TDS)	RCRA Corrective Action and Associated TSD: The EPA maintains this database of RCRA facilities which are undergoing "corrective action". A "corrective action order" is issued pursuant to RCRA Section 3008 (h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility.	13	Priority Status: Low Medium High	3 6 3
STATE	SPL	State Equivalent Priority List: The Cal Sites database contains information on properties (or "sites") in California where hazardous substances have been released, or where the potential for such a release exists.	5	Annual Work Plan	5
STATE	SCL	State Equivalent CERCLIS List: The Cal Sites database includes both known and potential sites. Two-thirds of these sites have been classified, based on available information, as needing "No Further Action" by the DTSC. The remaining sites are in various stages of review and remediation to determine if a problem exists at the site. Several hundred sites have been remediated and are considered certified. Some of these sites may be in long-term operation and maintenance.	19	Referred to Another Agency	14
				Preliminary Site Assessment	3
				Certified/Operation and Maintenance	2

Site Distribution Summary					
Database Searched within City Boundary					
Regulatory Agency	Type of Records	Name/Description of Records	Number of Regulatory Sites within City Boundary ¹	Description ² (Status/Summary of Regulatory Occurrences)	Breakdown of Occurrences
US EPA	CERCLIS/ NFRAP	Sites Currently Under Review By US EPA: The CERCLIS List contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.	14	Preliminary Assessment	4
				High Priority	5
				Low Priority	4
				Clean Up	1
USEPA	TSD	RCRA Permitted Treatment, Storage, Disposal Facilities: TSDs are facilities which treat, store and/or dispose of hazardous waste.	0	No TSD sites have been identified within the City boundaries.	0
STATE REG CO	LUST	Leaking Underground Storage Tanks: This database is provided from the Regional Water Quality Control Board (RWQCB) and California EPA.	72	Remedial Action Underway	18
				Further Site Assessment	54
STATE REG CO	SWLF	Solid Waste Landfill: The California Solid Waste Information System (SWIS) database consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations.	11	Active/Open (Transfer Station)	2
				Abandoned/Unpermitted	1
				Review of Permit	9
STATE	DEED RSTR	Deed Restrictions: These are voluntary deed restriction agreements with owners of property who propose building residences, schools, hospitals, or day care centers on property that is "on or within 2,000 feet of a significant disposal of hazardous waste".	2	No Description Available	0
STATE	CORTESE	CORTESE: State index of properties with hazardous waste.	72	Leaking Tanks	65
				Cal Sites	7
STATE	TOXIC PITS	Toxic Pits: This list is provided the Water Quality Control Board and summarizes the Toxic Pits Cleanup Facilities.	0	No Toxic Pits sites have been identified within the City boundaries.	0

Database Searched within City Boundary		Site Distribution Summary			
Regulatory Agency	Type of Records	Name/Description of Records	Number of Regulatory Sites within City Boundary ¹	Description ² (Status/Summary of Regulatory Occurrences)	Breakdown of Occurrences
USGS/ STATE	WATER WELLS	Water Wells: Federal and State drinking water sources.	17	No contamination reported.	17
US EPA	RCRA Viol	RCRA Violations/Enforcement Actions: RCRA Violators are facilities which have been cited for RCRA violations at lease once since 1980. RCRA Enforcements are enforcement actions taken against RCRA violators.	25	Various Violations	25
USEPA	TRIS	Toxic Release Inventory Database: Section 313 of the Emergency Planning and Community Right-to-Know Act (also known as SARA Title III) of 1986 required the EPA to establish an inventory of Toxic Chemicals emissions from certain facilities (Toxic Release Inventory System). Facilities subject to this reporting are required to complete a Toxic Chemical Release form for specified chemicals.	27	Various Chemical Releases	27
STATE	UST/ AST	UST/AST: Registered aboveground or underground storage tanks.	381	Reported (Status Not Confirmed)	81
				Permitted	103
				Active/In-Service	591
COUNTY	UNIQUE CO	Unique Co.: Unique County Databases.	90	No Description Available	90
US EPA	ERNS	Emergency Response Notification System of Spills: ERNS is a national database used to collect information on reported releases of oil and hazardous substances.	352	Release of hazardous materials at various locations throughout the City	352

Site Distribution Summary					
Database Searched within City Boundary	Type of Records	Name/Description of Records	Number of Regulatory Sites within City Boundary ¹	Description ² (Status/Summary of Regulatory Occurrences)	Breakdown of Occurrences
US EPA	GNRTR	RCRA registered small or large generators of hazardous waste: The RCRA Program identifies and tracks hazardous waste from the point of generation to the point of disposal.	284	RCRA-Large: Generates at least 1000 kg/month of non-acutely hazardous waste (or 1 kg/month of acutely hazardous waste). RCRA-Small: Generates 100kg/month but less than 1000 kg/month of non-acutely hazardous wastes.	43 241

Note: The governmental sources have been searched by VISTA Information Solutions, Inc. (at the request of RBF), for sites located within the corporate limits of the City of Carson. Upon completion of their search VISTA provided RBF with their findings dated March 9, 1999. RBF makes no claims as to the completeness or accuracy of the referenced sources. Our review of VISTA's findings can only be as current as their listings and may not represent all known or potential hazardous waste or contaminated sites. For a complete list of individual regulatory site addresses, the supporting site map and associated regulatory database(s) identified, refer to Appendix B.

1. Individual properties may be listed on more than one database (i.e., UST, LUST, CORTESE).
2. Status of individual sites may not have been provided within the regulatory database. Summary of regulatory occurrences are approximate and the status of any individual site is subject to change due to on-going remedial activities and/or a change due to regulatory review.
3. The findings of the VISTA Report were updated accordingly after an interview with Western Waste Industries on May 12, 1999.

by VISTA Information Solutions, Inc., there are no Federal National Priorities List (NPL) within the City. However, these fourteen (14) sites are currently being reviewed/assessed for possible inclusions on the NPL.

The composition of waste materials disposed of in several of these facilities is not well known and many of these facilities are undergoing site investigation and/or monitoring for contaminant constituents, including the generation of methane gas associated with waste decomposition. The locations of these facilities are indicated on Exhibit 3.7-2, *Landfills*. Table 3.7-3, *Carson Landfill Inventory*, correspond with the landfills identified on Exhibit 3.7-2 and provides the landfill class and status.

The City currently has 15 inactive sanitary landfills and no active landfills. Although none of these landfills currently accepts materials which decompose chemically or biologically, some of these sites may produce landfill gases. Other sites will probably not produce landfill gases since they contain non-water soluble, non-decomposable inert solids.

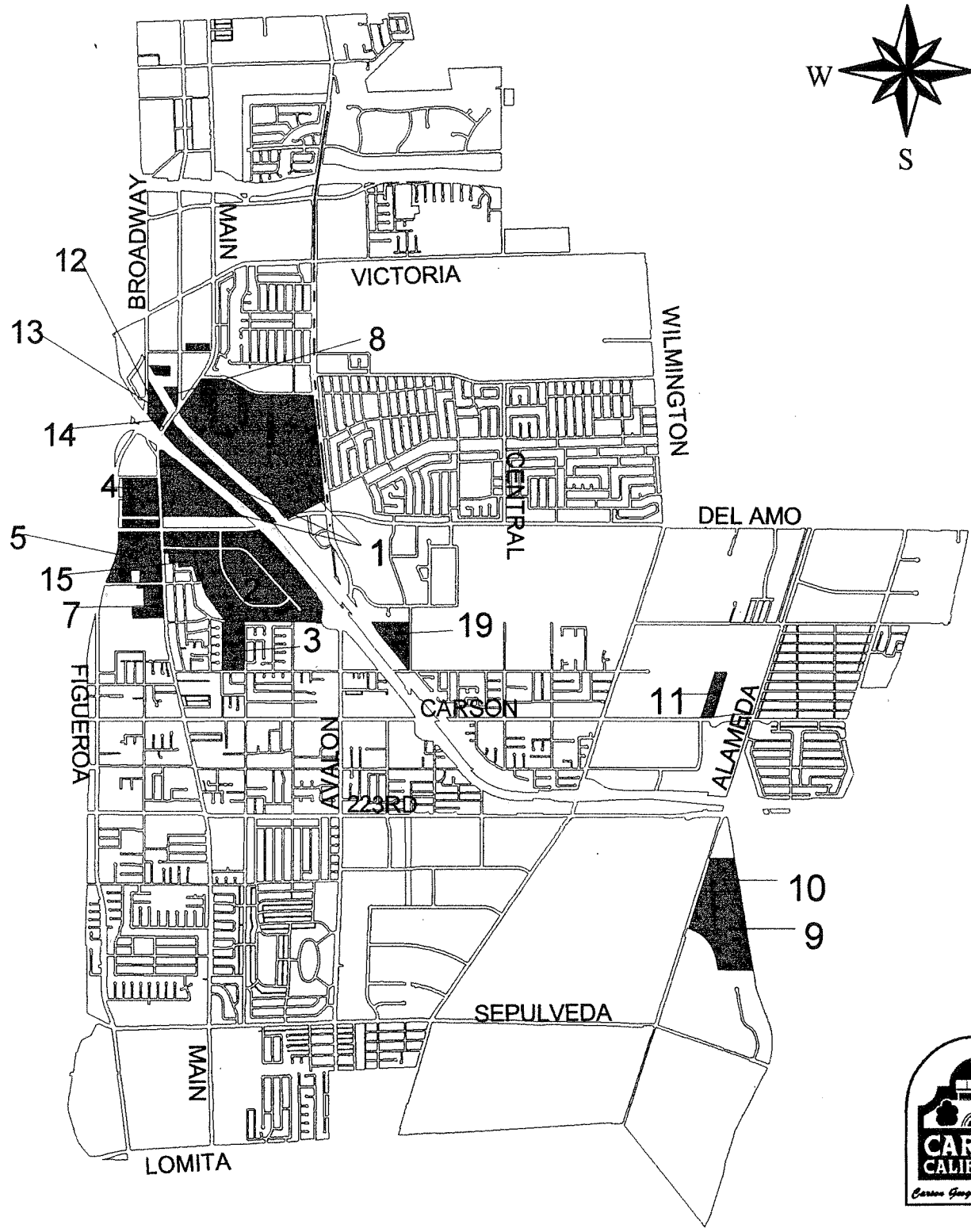
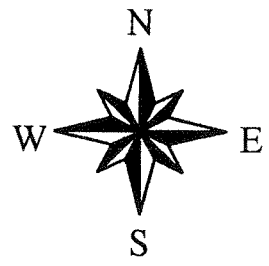
Some areas of the City are sites of previous organic landfill activity and may be subject to decomposition and the production of landfill gases. Any future development proposed on or near these sites should be carefully studied and a landfill gas control plan and monitoring system may be required for safety.

California Integrated Waste Management Board

In 1996, the California Integrated Waste Management Board approved a waste diversion plan for the City of Carson. The plan outlines source reduction, recycling and reuse programs that will enable residents to divert more than 50 percent of their solid waste from landfills by the year 2000. The California Integrated Waste Management Act of 1989 (AB 939, Sher) mandates that the statewide waste stream diversion rate must be at least 50% by the year 2000. According to the Board-approved plan, Carson projects a 51.1% diversion rate for 2000, exceeding the mandate set for that year.

OIL AND GAS WELL INVENTORY

For the purposes of this report an oil well is defined as a hole drilled from the surface into the earth for prospecting for, or production of oil, natural gas, or other hydrocarbon substances. This definition also encompasses a well or a hole used for the subsurface injection into the earth of oil field waste, gases, water, or liquid substances, including any well or hole which has not been abandoned and is now in existence. The depth of an oil or gas well can range from a few hundred feet below ground surface (bgs) to more than 20,000 bgs.



Landfills

Carson General Plan Update

Exhibit 3.7-2

**Table 3.7-3
CARSON LANDFILL INVENTORY**

Site No.	Landfill	Class	Status
1	BKK (Victoria Golf Course)	II	Closed
2	Cal Compact (Metro Mall Site)	II	Closed
3	Martin Adams, Inc. (Imperial Carson MHP)	II	Closed
4	Southwest Conservation	II	Closed
5	Gardena Valley 1 & 2	II	Closed
6	Gardena Valley 4	II	Closed
7	Gardena Valley 5	II	Closed
8	Broadway & Main Corporation Yard	II	Closed
9	Alameda Street Dump	II	Closed
10	Hardwick Disposal Pits	II	Closed
11	California By-Products	II	Closed
12	Southwest Steel Mills #1	III	Closed
13	Sanitation Districts	III	Closed
14	Shell Chemical	III	Closed
15	Werdin Site (Vista del Loma MHP)	III	Closed

Class I: For toxic or hazardous substances
 Class II: For chemically or biologically decomposable substances
 Class III: For non-water soluble, non-decomposable inert solids

State of California

California is one of the nation's preeminent producers of oil. California is the fourth-largest oil producer in the United States, behind Alaska, Texas, and Louisiana, respectively, making the oil industry not only an integral part of the State's economy, but a major contributor to the nation's economic health as well.¹

City of Carson

Portions of the City of Carson are located within the Dominguez and Wilmington Oil Fields. According to the *1998 Preliminary Report of California Oil and Gas Production*

¹ *1998 Preliminary Report of California Oil and Gas Production Statistics*, January 1999.

Statistics, dated January 1999, the Dominguez Oil Field produced approximately 237,000 barrels of oil and the on-shore oil production portion of the Wilmington Oil Field produced approximately 4,400,000 barrels of oil. Table 3.7-4, *Oil and Gas Well Inventory*, provides the number of the different type of wells located within the City of Carson as provided by the Department of Oil, Gas, and Geothermal Resources (DOGGR).

HAZARDOUS MATERIALS INCIDENCE RESPONSE

City of Carson

The City of Carson recognizes that hazardous materials associated with industrial activities are essential to the economy of the City and surrounding communities. It also recognizes that the presence of such material within our boundaries poses unique dangers to the health and welfare of the citizens of Carson. The City of Carson and assisting agencies have developed a comprehensive Hazardous Material Response Plan in order to most efficiently manage a hazardous materials emergency and to minimize its effects. Refer to Appendix B, *Hazardous Materials*, for the City of Carson Hazardous Material Response Plan Statement of Policy).

Los Angeles County Fire Department

The Los Angeles County Fire Department is responsible for responding to hazardous material release incidents in Carson. The Los Angeles County Fire Department is not a part of a Joint Powers Authority (JPA), however is a member of a Certified Unified Program Agency (CUPA), which conducts inspections of businesses, manages and reviews various hazardous waste permits for business plans, and oversees cleanups.² First response to all hazardous materials incidents within the City is conducted by the Los Angeles County Fire Department. If they require assistance, a hazardous materials response unit is dispatched to the site.

Releases of hazardous materials may occur during a natural disaster, such as during an earthquake; improperly stored containers of hazardous substances may overturn or break, pipelines may rupture, and storage tanks may fail. Containers may also explode if subject to high temperatures, such as those generated by a fire. If two or more chemicals which are reactive when combined make contact as a result of a spill, the hazard may be compounded. The 1996 Uniform Fire Code includes criteria designed to minimize the risk of an accident.

² Telephone interview with Battalion Chief John Tucker of the Los Angeles County Fire Department on March 17, 1999.

**Table 3.7-4
OIL AND GAS WELL INVENTORY**

Well Type		Number of Wells
Plugged and Abandoned Oil	Oil well has been plugged and abandoned.	236
Plugged and Abandoned Dry Hole	Dry well which has been plugged and abandoned.	63
Plugged and Abandoned Waterflood	Plugged and abandoned waterflood well.	9
Idle-Oil	Oil well which has been drilled and closed, however has not been properly abandoned pursuant to DOGGR regulations.	5
Completed Oil Waterflood	Former oil well which has been converted to a waterflood well. These wells are capable of being utilized, however, are not currently used.	55
Completed Oil CO ₂	Former oil well which has been converted to a CO ₂ producing well. These wells are capable of being utilized, however, are not currently used.	2
Plugged and Abandoned Oil Waterflood	Plugged and abandoned oil waterflood well.	74
Completed Gas	Completed (drilled) gas well that is capable of producing. Current well status is available at DOGGR.	2
Completed Oil	Completed (drilled) oil well that is capable of producing. Current well status is available at DOGGR.	136
Drilling Idle	Well which has been drilled and closed, however has not been properly abandoned pursuant to DOGGR regulations.	2
Completed Waterflood CO ₂	Former waterflood well which has been converted to a CO ₂ producing well. These wells are capable of being utilized, however, are not currently used.	3

Source: Wildcat Map #125, dated August 8, 1998
 Wildcat Map #126, dated December 28, 1998
 Wildcat Map #128, dated October 24, 1998
 Regional Wildcat Map #01-1, dated July 4, 1998

NOTE: All closed and abandoned wells have not necessarily been abandoned pursuant to State of California, Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) regulations. Current well status should be confirmed at the appropriate division of Oil and Gas District Office.

There are six (6) primary fire stations that provide fire and emergency medical service to the City of Carson, four (4) of which are located within the corporate boundaries (refer to Section 3.9, *Public Services*, for the location of the fire stations located within the corporate limits). In Carson, all of the businesses that store acutely hazardous substances are located within 1.5 miles of a Los Angeles County Fire Station. Average response time for a hazardous materials release in the City is the same as for a fire, approximately five minutes.

In order to reduce risk associated with earthquakes, recommendations for hazardous materials storage include:

- Enforcement of the most recent Uniform Building Code regarding seismic design provisions for commercial development and critical facilities. Facilities that store hazardous materials should be designed to withstand strong ground motion with only limited structural damage.
- Enforcement of current regulations, including those in the Uniform Fire Code, regarding the storage of hazardous materials, with an emphasis on secondary containment systems, segregation of reactive chemicals and monitoring systems, and immobilization of all unanchored hazardous materials containers.
- Encourage storage of the minimum amount of hazardous materials necessary for day-to-day operation, especially of those materials that can produce toxic gaseous clouds.
- Encourage the use of less hazardous or nonhazardous substances whenever possible.

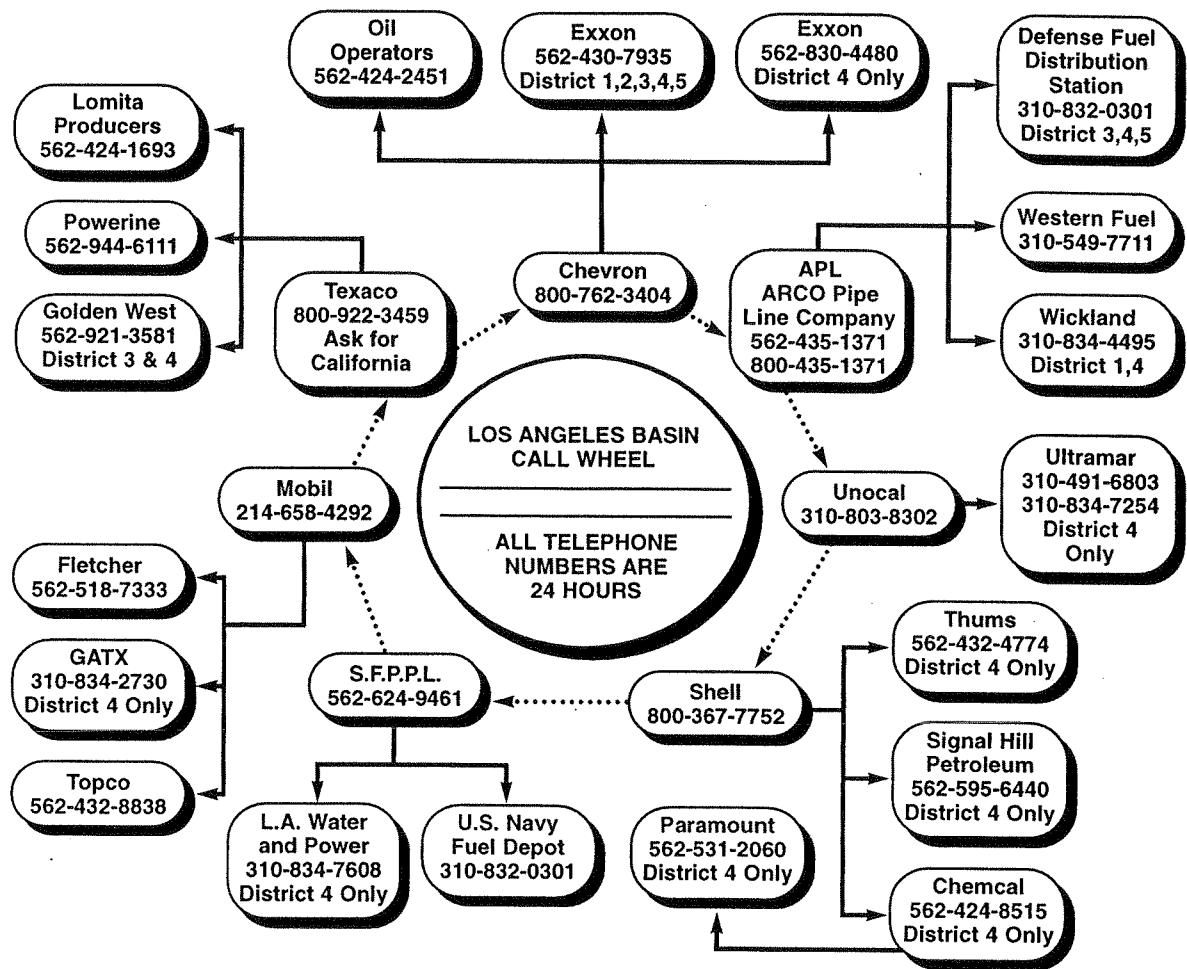
Los Angeles Basin Call Wheel

In addition to the Los Angeles County Fire Department, a "Call Wheel" has been prepared for pipeline leak notification to petroleum companies within the Los Angeles Basin, as shown on Exhibit, 3.7-3, *Los Angeles Basin Call Wheel*. The purpose of the "Call Wheel" is for leak information notification to companies on the Call Wheel and response information on who claimed the leak.

HOUSEHOLD HAZARDOUS WASTE ELEMENT

Adopted in January, 1992, the Household Hazardous Waste Element describes existing and future programs to reduce household hazardous waste. Goals and objectives have been established by the County and supported by the City in this Element, including:

- Providing a means for Los Angeles County residents to safely dispose of household hazardous waste by developing a plan for implementing additional waste collection facilities and expanding current collection facilities, and investigating the feasibility of a pickup-at-the-door collection program for those residents who are unable to bring their waste to the collection facility.
- Increasing the percentage of collected household hazardous waste that is recycled or reused by investigating the feasibility of a waste exchange program for usable products, and continuing to identify end markets for materials with recycling potential.
- Decreasing the amount of household hazardous waste by continuing to use public education programs to influence consumer behavior and continuing to use questionnaires to monitor the participation of Los Angeles County residents in the programs.
- Monitoring and remaining current on regulatory requirements and participating in improving household hazardous waste management methods by monitoring state and federal legislation, and encouraging voluntary initiatives or legislation that would decrease the toxicity of household products sold in Los Angeles County and place more responsibility on product manufacturers to pay disposal costs.



Los Angeles Basin Call Wheel

Carson General Plan Update

3.8 EMERGENCY RESPONSE AND RECOVERY

The City of Carson conducted a hazard analysis study as part of the preparation of its *SEMS Multihazard Functional Plan*, which is summarized on the following pages. The City of Carson is located within Area E, Los Angeles County (southeast section), Region I, Southern Administrative Region of the State Office of Emergency Services. City staff has been designated to coordinate all State Emergency Management System (SEMS) functions. The City has its own Public Safety, Engineering Services, Community Development, Facilities and Maintenance, Finance, Human Resources, and Recreation and Community Services Departments. The City does not have its own police or fire department, but relies on the County of Los Angeles for the provision of these services. During the response phase, the Carson Sheriff's Station EOC or Watch Commander serves as the coordination and communication point, and the access to the Los Angeles County Operational Area. Following are descriptions of various types of events that could trigger the need for emergency response, listing specific conditions or details related to such events in the City of Carson when applicable.

EARTHQUAKE

An earthquake, causing ground rupture, ground shaking or liquefaction, could cause damage to vital public services, systems and facilities, impacting the resident population or the day-time population in many ways. The City of Carson does not have a major medical facility within its borders, but earthquake damage to the nearby Harbor UCLA Medical Center and other acute care hospitals in Los Angeles County would reduce the number of beds available and create the need for several field hospitals.

Telephone systems could be affected by system failure, overloads, loss of electrical power and possible failure of some alternate power systems. Disruption is predicted to disable up to 80% of the telephone system for the first 24 hours; radio systems are expected to be 40 to 75% effective; and microwave systems less than 30% effective.

Because of current design, construction practices, review and modification, catastrophic dam failure is considered unlikely. But many flood control channels are expected to be damaged and pumping stations in coastal communities are expected to fail due to liquefaction.

Major electrical power plants are expected to sustain some damage due to liquefaction and the intensity of the earthquake, with up to 60% of the system load interrupted following the initial earthquake shock. Power outages may occur for days, and damaged areas with underground distribution lines may possibly be affected longer.

Numerous fires due to disruption of power and natural gas networks can be expected. Water supply could vary from little or none, to inadequate, because many connections to major water sources may be out, forcing reliance on storage facilities.

Damage to freeway systems is expected to be major. Many surface streets could experience delays and detours because of collapsed overpasses, debris from buildings, fallen utility lines and pavement damage.

Damage to natural gas facilities would consist primarily of some isolated breaks in major transmission lines and innumerable breaks in mains and individual service connections within the distribution systems. Fires should be expected at a small percentage of ruptured sites, both in the transmission lines and in the distribution system.

Since most major petroleum fuel pipelines cross the San Andreas Fault, pipeline breakage is expected in an earthquake, creating the possibility of fires.

Dramatic drops in railroad service would be expected because of the age, design and construction techniques used in many railroad bridges, or because of blockage caused by damage to freeway overpass structures.

Many of the wastewater treatment facilities could be out of service for months after an earthquake. It may be necessary to discharge wastewater using emergency chlorination procedures. Overflow of sewage through manholes and from ponds, danger of accumulation of explosive sewer gas, flow of untreated sewage in street gutters, and damage to many house sewer connections would occur.

Water availability and distribution for needed life support, to treat the sick and injured, and for fire suppression activities is of major concern. Damage to two or three major water aqueducts serving Southern California, ruptures along the water pipelines in the County, damage to reservoir outlets, and the disability of water wells is expected to occur.

HAZARDOUS MATERIALS

The increasing volume and variety of hazardous materials that are generated, stored, or transported within the City of Carson is a problem of great concern to public officials and the community. Hazardous materials are any substances or combination of substances which because of quantity, concentration, or characteristics may cause or significantly contribute to an increase in death or serious injury, or pose substantial hazards to humans and/or the environment.

The greatest probability of a major hazardous materials incident is from a transportation accident. The Harbor Freeway (I-110) borders the western edge of Carson, the San

Diego Freeway (I-405) bisects the City, the Long Beach Freeway (I-710) runs from north to south touching the eastern perimeter of the City, and the Redondo Beach/Artesia Freeway (SR-91) runs east to west across the northern portion of the City. Of every 10 commercial vehicles, one or more usually carries hazardous materials. A number of freight trains also traverse the City (refer to Section 3.2, *Circulation*, for railroad line locations), hauling various types of cargo, including hazardous and explosive materials.

Although there are many industrial business sites that deal with hazardous materials, referred to as "fixed facilities," they are less of a threat due to required plant contingency and evacuation plans. Also, the Waters Bill (AB 2185), effective January 1, 1987, strengthens previous emergency plans by levying heavy fines on violators who fail to supply plans, and requiring industrial firms to disclose the types of chemicals being manufactured, used, and stocked.

There are numerous major underground petroleum pipelines located in the City of Carson. Several petroleum handlers (Equilon, Tosco, a portion of the Texaco Refinery, and Arco which was recently acquired by BP, British Petroleum) are located within the City. Southern Pacific Pipeline transports various petroleum products through the City from several locations.

Clandestine dumping, the criminal act of disposing of toxic material and hazardous waste on public or private property, can also trigger a hazardous material incident. As the costs and restrictions increase for legitimate hazardous waste disposal sites, it can be anticipated that illegal dumping of hazardous materials will increase proportionately.

FLOODING

During heavy rains, run-off water from the northeast part of the City is caught and contained in Del Amo Park, located at Avalon Boulevard and Del Amo Boulevard. Del Amo Park is designated by the Los Angeles Food Control District as a catch basin to relieve the storm drain of excessive water that cannot be immediately handled during a rain storm. A Los Angeles County pump station, located at the northeast corner of the catch basin, pumps the basin dry when the water flow subsides. An area for potential flooding is in the southeast corner of the City at a catch basin located on Santa Fe Street between Carson and Wardlow Streets. Run-off water is handled in the same manner as at Del Amo Park, which is used on a daily basis as a City recreation park facility. The catch basin on Santa Fe Avenue is also a public street on a day-to-day basis.

If evacuation due to flooding is necessary, the selection of sites for relocation centers should consider the following:

- Carriage Crest Park and Del Amo Park are low points and should not be used during a flooding incident.
- Dolphin Park may flood during a heavy storm. Its safety should be ascertained before use.
- If schools are to be used, avoid Town Avenue Elementary, which is in a flood prone area, and Leapwood Avenue Elementary, which is in a mudslide prone area.
- California State University at Dominguez Hills is on high ground and is large enough to handle a major relocation, but access from south Carson may be blocked by flooded intersections and mudslides near the campus. Access routes must be carefully planned, if the campus is to be utilized as an emergency shelter.

TRANSPORTATION

A transportation incident such as a major air crash, train derailment or trucking incident could impact areas within the City.

The skies above Carson are heavily occupied by aircraft originating and departing from a number of airports located in Southern California. The airports nearest to Carson which handle the greatest amount of air traffic are as follows:

- *Los Angeles International Airport (LAX)* – It is the fourth busiest airport in the world and in 1995 served 53.9 million annual passengers. Planes arrive and depart at a rate of one per minute. This airport is located 12.7 miles northwest of the City of Carson.
- *Long Beach Airport* – In 1995, the Long Beach Airport served 400,000 passengers. Planes arrive and depart at a rate of 1.5 every two minutes. This airport is located 13 miles southeast of the City of Carson.
- *John Wayne Airport* – It is ranked tenth nationally in terms of air traffic and served 7.2 million annual passengers in 1995.
- *Ontario Airport* – In 1995, 6.4 million annual passengers were served at the Ontario Airport, which is experiencing a three percent growth rate that is projected to continue. This airport is located 70 miles east of the City of Carson.
- *Burbank Airport* – In 1995, 4.9 million annual passengers were served at this airport.

Aircraft flying over Carson are within the Los Angeles Terminal Control Area (TCA). The TCA is airspace restricted to large, commercial airliners. Each TCA has an established maximum and minimum altitude in which a large aircraft must travel. Smaller aircraft desiring to transect the TCA may do so by obtaining Air Traffic Control clearance. The aircraft may then proceed to transect when traffic conditions permit. Aircraft departing from other than LAX, whose route of flight would penetrate the TCA, are required to give this information to Air Traffic Control on appropriate frequencies. Pilots operating small aircraft often rely on geographical landmarks, rather than charts, to indicate their locations. If a pilot is unfamiliar with the geographical landmarks of the Southern California basin, he/she may misinterpret a particular landmark and inadvertently enter the restricted TCA airspace, which could result in a mid-air collision.

A major train derailment could encompass many threats, such as a hazardous materials incident, fire, severe damage to either adjacent building or vehicles, and loss of life to pedestrians and those in adjacent buildings or vehicles. (For locations of railroad lines within the City of Carson, please refer to Section 3.2, *Circulation*.)

A major truck incident could encompass many threats, such as a hazardous materials incident, fire, severe damage to either buildings or vehicles, and loss of life to pedestrians or those in buildings or vehicles. Carson is served by four major freeways, several major north-south/east-west truck routes, and contains 29 truck parking zones.

The Metro Blue Line runs through the extreme eastern portion of the City of Carson. Although the Metro Blue Line was designed to withstand the effects of an earthquake, damage to the line may still occur. Additionally, an earthquake may trigger secondary events which can impact the transit system's ability to safely operate. In the event of a major earthquake on the Newport-Inglewood fault (magnitude 7.0 or greater), it is expected that the entire Metro Blue Line can expect to sustain significant damage and will probably close. Segments of the line are also subject to liquefaction. Segments of the line from the Long Beach to the Del Amo passenger station are expected to sustain serious damage.

CIVIL UNREST

An incident of civil unrest could impact not only the immediate area, but possibly the entire City. Civil unrest can be spurred by specific events, such as large sporting events or criminal trials, or can be the result of long-term disfavor with authority. Civil unrest is usually noted by the fact that normal on-duty police and safety forces cannot adequately deal with the situation until additional resources can be acquired. The City of Carson has faced civil unrest in various forms since the Watts Riots of 1964. The 1992 Rodney King verdicts caused the most widespread rioting in recent history, with losses of property in the millions.

NATIONAL SECURITY EMERGENCY

The entire Los Angeles basin is considered a risk area for a nuclear weapons event; therefore, both sheltering and evacuation should be considered. Neither the City nor the County of Los Angeles has the capability to plan for the organized evacuation of the basin; therefore, the extent of planning at this time is restricted to assisting and expediting spontaneous evacuation. In the increased readiness stage, expedient shelters would be utilized as appropriate and information would be provided to the public, but the fallout shelter identification program is no longer maintained or utilized within the State of California. The City of Carson is not within the planned range of a radioactive plume from any nuclear power plants.

TERRORISM

Throughout California there is a nearly limitless number of potential targets for terrorist activity, depending on the cause supported by a terrorist or a terrorist group. Some of these targets include: religious facilities, government offices, abortion clinics, public places, schools, power plants, refineries, utility infrastructures, water storage facilities, dams, private homes, prominent individuals, financial institutions, and businesses. In conducting a threat assessment, a variety of situations should be considered: the groups that exist or operate within an area; the structural targets; the significant dates for specific terrorist groups; the potential personal targets; and the special events held in the area.

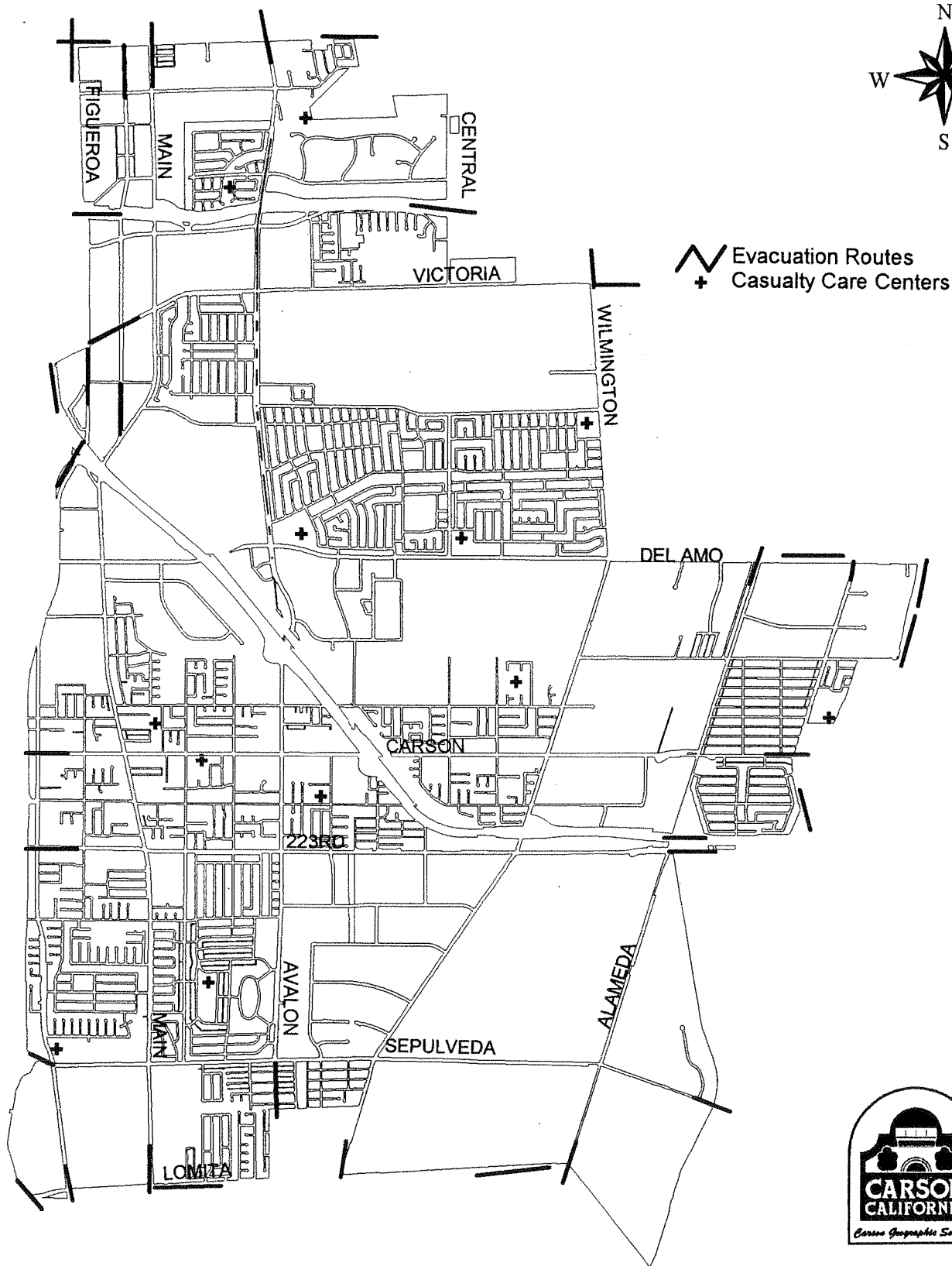
Any single incident or a combination of events could require evacuation and/or sheltering of the population of Carson.

EVACUATION ROUTES

Evacuation, if necessary because of an emergency, would be conducted by the Los Angeles County Sheriff's Department in accordance with the City's Evacuation Plan. Evacuation routes are shown in Exhibit 3.8-1, *Evacuation Routes/Casualty Care Centers*. Should the City Hall Emergency Operations Center (EOC) not be available because of damage, an alternate EOC would be activated. Alternate EOC and staging sites are as follows: a) City of Carson Facilities and Maintenance Building at 2930 E. Dominguez Street, b) City of Carson City Hall, second floor Executive Conference Room, c) mobile command vehicle located at Carson Sheriff's Station parking lot.

LOCATION OF CASUALTY CARE CENTERS

Table 3.8-1, *Casualty Care Centers in Carson*, lists the locations within the City of Carson that would be used in case of a disaster or major emergency. These locations are also shown in Exhibit 3.8-1, *Evacuation Routes/Casualty Care Centers*.



Evacuation Routes/ Casualty Care Centers

Carson General Plan Update

Exhibit 3.8-1

**Table 3.8-1
CASUALTY CARE CENTERS IN CARSON**

Name	Address
Walnut Street Park	440 E. Walnut
Avalon Park	700 E. Gardena Boulevard
Anderson Park	19101 S. Wilmington Avenue
Mills Park	1340 E. Diamonddale Drive
Del Amo Park	703 E. Del Amo Boulevard
Carson Park	21411 Orrick Street
Boxing Center	424½ Carson Street
Dolphin Park	21205 Water Street
Calas Park	1000 E. 220 th Street
Scott Park	23410 Catskill Avenue
Carriage Crest Park	23800 S. Figueroa Street
Dominguez Park	21330 Santa Fe Avenue

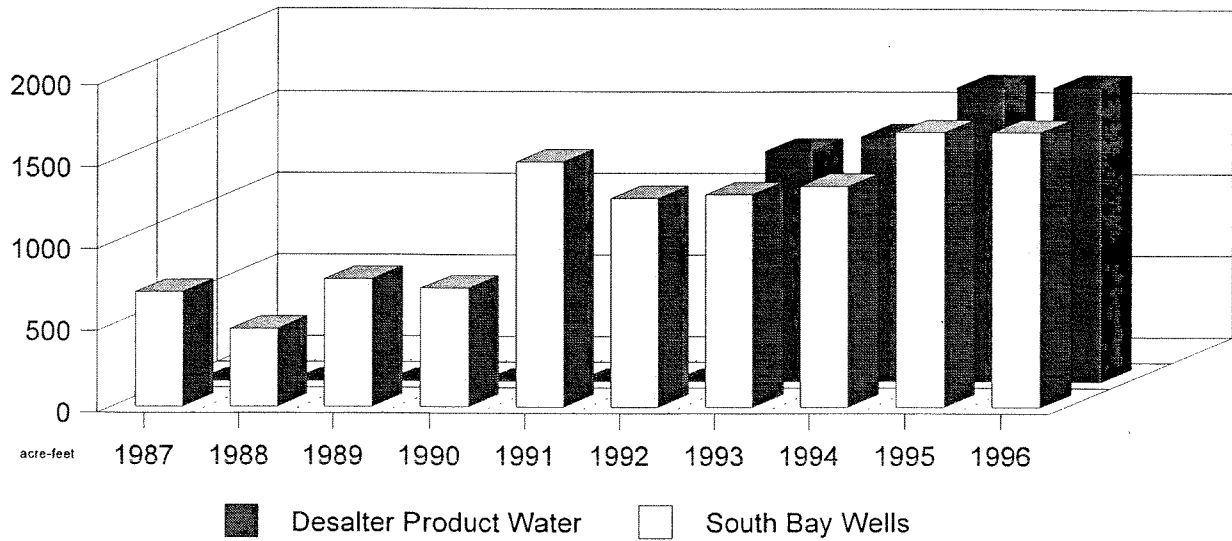
EMERGENCY WATER SUPPLY

According to the Los Angeles County Fire Department and the Uniform Fire Code, fire flow water requirements for single-family detached homes shall be 1,250 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration. Commercial and multiple residential developments require fire flows up to 5,000 gallons per minute at 20 pounds per square inch residual pressure for up to a five-hour duration. Final fire flows are based on the size of a building, type of construction used, and relationship to other structures and property lines.

Table 3.8-2, *Thirty-Day Emergency Water Supply Available*, shows the estimated maximum monthly well capacity for the Dominguez Water Corporation, Carson's main water provider. This is the amount of water that the system could produce and deliver if a major disaster interrupted deliveries of imported water. Although Dominguez wells can pump more water than the adjudicated rights on an annual basis, the maximum monthly demand is nearly twice the capacity of the wells. The three-year average maximum monthly demand is 3,500 acre-feet. The completion of the C. Marvin Brewer Desalinization facility in May 1993 added approximately 125 acre-feet to the

local emergency supply. Additional pumping capacity is being added through the drilling of new wells and the rehabilitation of older wells. Approximately one new well has been added every three years to compensate for the capacity lost due to the aging of older wells, which are normally abandoned and destroyed once they are determined to be no longer economical to operate.

**Table 3.8-2
THIRTY-DAY EMERGENCY WATER SUPPLY AVAILABLE**



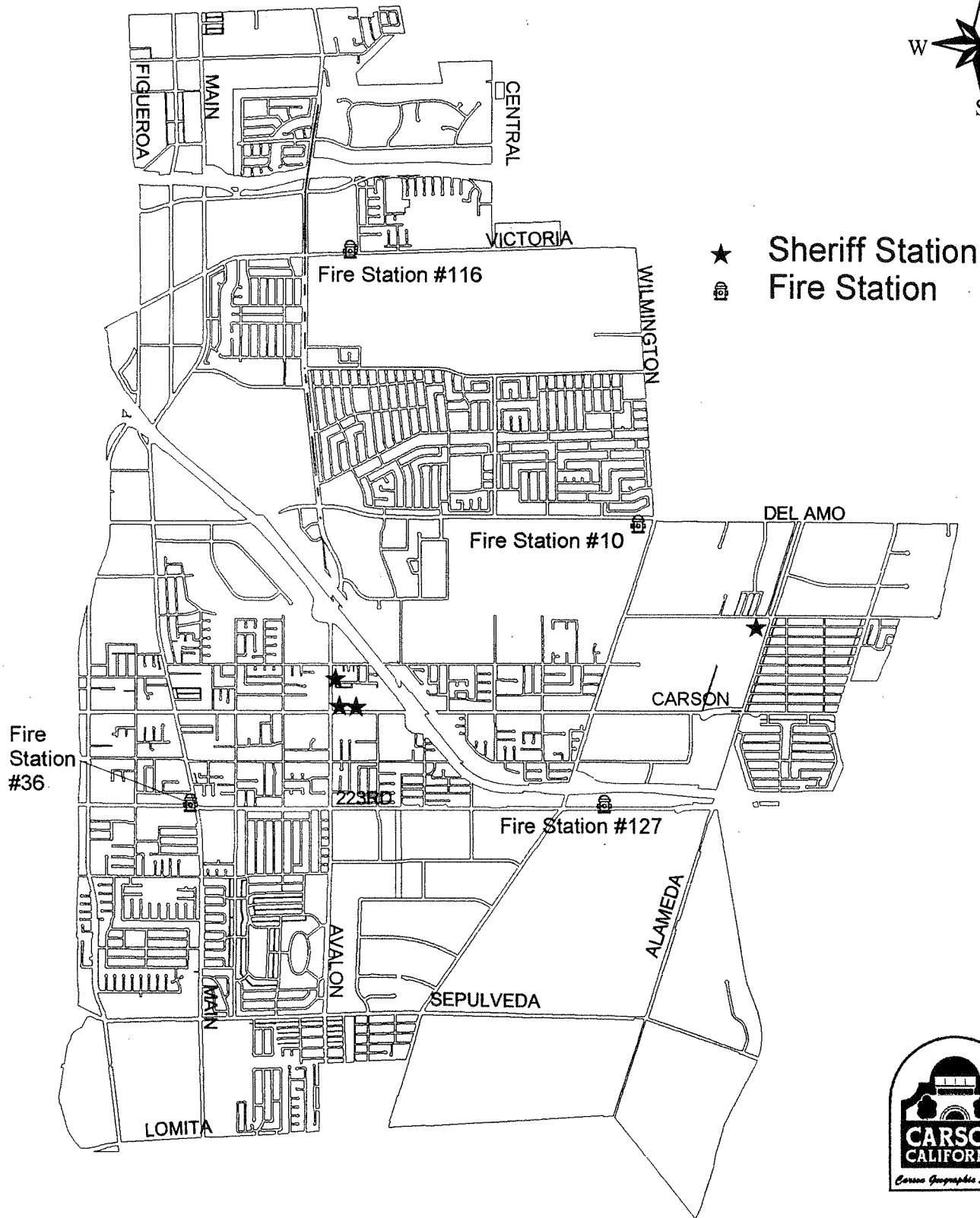
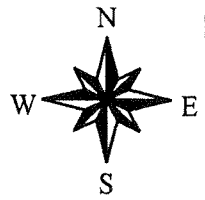
3.9 PUBLIC SERVICES

POLICE

Police services are provided by the Los Angeles County Sheriff's Department. There is one existing Carson Sheriff Station, located at 21356 South Avalon in Carson, as shown on Exhibit 3.9-1, *Existing Fire and Sheriff Stations*. Currently, 178 sworn personnel and 36 civilian personnel operate from this station. There are approximately 1.96 sworn personnel per 1,000 residents and 0.40 civilian personnel per 1,000 residents. A standard of 1.7 officers per 1,000 residents is considered excellent. Within a 24-hour period, there are approximately 31 patrol cars serving the Carson area, divided among three work shifts.

Following are the reported crime statistics from January 1, 1998 to December 31, 1998 for the Carson area. These represent about an 11% drop in Part I category crimes (homicide, rape, felony and misdemeanor assault, robbery, burglary, larceny/theft, automobile theft, and arson) compared to the previous year.

Description	Number of Crimes
Homicide	8
Rape, forcible	20
Robbery, weapon	111
Robbery, strong-arm	90
Assault, felonies	375
Burglary, residence	308
Burglary, other structure	278
Grand Theft	361
Grand Theft Vehicle	639
Worthless Documents	192
Fraud	49
Sex Felonies	32
Sex Misdemeanors	19
Assault Misdemeanors	318
Weapon Laws	144
Defrauding	7
Offenses Against Family	13
Narcotics	761
Liquor Laws	27
Drunk	37
Disorderly Conduct	173
Vagrancy	1



Existing Fire and Sheriff Stations

Carson General Plan Update

Exhibit 3.9-1

Description	Number of Crimes
Gambling	0
Drunk Driving	296
Vehicle and Boating	28
Vandalism	446
Arson	33
Warrants	1
Receiving Stolen Property	19
Federal Offenses	2
Miscellaneous Felonies	206
Vehicle Burglaries	388
Other Burglaries	0
Petty Theft	740
Miscellaneous Misdemeanors	<u>143</u>
Total 1998 Crime Reports	6,285

Response Times

Data for response times is divided into three categories: *emergent response* (a call which requires a code-3 response), *immediate response* (a call which requires a prompt non code-3 response), and *routine response* (a call of a non-emergent nature).

Emergent Response

<u>Month</u>	<u>Early Morning Shift</u>	<u>Day Shift</u>	<u>P.M. Shift</u>	<u>Average</u>
October 1998	4.1	5.0	3.9	4.3
November 1998	5.3	4.0	4.3	4.5
December 1998	4.7	4.6	4.3	4.5
Average	4.7	4.5	4.2	4.5

Immediate Response

October 1998	6.1	7.0	8.7	7.3
November 1998	5.9	7.0	6.9	6.6
December 1998	5.7	7.4	7.6	6.6
Average	5.9	7.1	7.7	6.9

Routine Response

<u>Month</u>	<u>Early Morning Shift</u>	<u>Day Shift</u>	<u>P.M. Shift</u>	<u>Average</u>
October 1998	26.6	24.9	31.2	27.6
November 1998	23.0	20.6	25.2	22.9
December 1998	23.2	24.6	29.6	25.8
Average	24	23	29	25

FIRE

Fire protection services in the City of Carson are provided by the Los Angeles County Fire Department. There are six primary fire stations that provide both fire and emergency medical service to the City of Carson, with four of the stations located within Carson city boundaries. Each of the primary stations has established an expanded response matrix for its individual jurisdiction, which increases the resources available to help a fire station respond to an emergency. These include additional engine companies, truck companies, paramedic units and hospitals. As 911 emergency calls are processed, a computer dispatching system selects from this matrix to provide the closest available unit that can meet the emergency need. The Los Angeles County Fire Department operates under the 1996 Uniform Fire Code.

Location and Equipment/Personnel

- Fire Station 10 (Battalion Headquarters) -- 1860 E. Del Amo Boulevard, Carson
Equipment: Engine Company 10, Foam Unit 10, Reserve Foam 501, Reserve Foam 510
Personnel: 3 Captains, 3 Engineers, 3 Foam Engineers, 6 Fire Fighters
- Fire Station 36 -- 127 W. 223rd Street, Carson
Equipment: Engine Company 36, Engine Company 236, Paramedic Squad 36, Reserve Squad 536
Personnel: 6 Captains, 6 Engineers, 3 Fire Fighters, 9 Paramedics
- Fire Station 95 -- 127 Redondo Beach Boulevard, Gardena
Equipment: Engine Company 95
Personnel: 3 Captains, 3 Engineers, 6 Fire Fighters
- Fire Station 105 -- 18915 South Santa Fe Avenue, Compton
Equipment: Engine Company 105, Haz Mat Squad 105, Deluge 105, Reserve BC 5105
Personnel: 6 Haz Mat Captains, 3 Engineers, 18 Haz Mat Fire Fighters

- Fire Station 116 -- 755 E. Victoria Street, Carson
Equipment: Engine Company 116, Truck Company 116, Paramedic Squad 116
Personnel: 6 Captains, 6 Engineers, 6 Fire Fighters, 9 Paramedics
- Fire Station 127 -- 2049 E. 223rd Street, Carson
Equipment: Engine Company 127, Truck Company 127, Utility 7
Personnel: 3 Captains, 6 Engineers, 9 Fire Fighters

In addition to the six fire stations listed above, there is a Fire Prevention Office located at Carson City Hall:

- Fire Prevention – Area 1 Office
Carson City Hall
Room B-24, 701 East Carson Street, Carson
Personnel: 1 Captain, 5 Inspectors/Engineers

As shown in Table 3.9-1, *Comparison of Fire Station Jurisdictional Areas*, the jurisdiction for Fire Station 36 is nearly 50 percent larger than the average fire station jurisdiction, with twice the assessed valuation, over twice the incidents, and almost three times the inspections.

**Table 3.9-1
COMPARISON OF FIRE STATION JURISDICTIONAL AREAS**

Average Jurisdictional Area	Fire Station 36
4.95 square miles	7.30 square miles
\$1,109 million in assessed valuation	\$2,341 million of assessed valuation
1,976 incidents	3,940 incidents
72 major incidents	152 major incidents
2,030 fire station responses	4,464 fire station responses
591 fire prevention inspections	1,403 fire prevention inspections

Therefore, the addition of a strategically located fire station would reduce response distances and improve service. According to the Los Angeles County Fire Department, plans by the City of Carson to develop either residential or commercial property in the northern and western sections of Carson without constructing and staffing a fire station would certainly exacerbate this situation.

Table 3.9-2, *Fire Station Response Times for Carson*, shows the number of incidents and the average response time for each category of fire calls.

**Table 3.9-2
FIRE STATION RESPONSE TIMES FOR CARSON**

	Number of Incidents	Average Response Time
Emergency Medical Service	1,047	4.7
Fire	81	5.0
Hazardous Materials	78	5.0
Other	377	5.4
Grand Total	1,583	4.9

PARAMEDIC CARE

Squads 36 and 116, located within the City of Carson, provide paramedic definitive care. Additional paramedic squads are located in the surrounding area (Lomita, Lawndale, Hawthorne, Lakewood, Paramount and Rolling Hills) to augment coverage in Carson. Three Los Angeles County Fire Helicopters are strategically located to provide air ambulance and paramedic service to the area that includes Carson.

Ambulance service for the Carson area is provided by American Medical Response, with units based at East 223rd Street and Lucerne Avenue in Carson.

PUBLIC SERVICES AND FACILITIES ELEMENT

The Carson Public Services and Facilities Element was adopted in May 1982 by Resolution Nos. 82-076 and 82-077. The Public Services and Facilities Element is available for review at the City of Carson, Community Development Department. Public services and facilities described in the Element include: schools, colleges, water, parks, libraries, fire stations, Sheriff station, post office, golf courses, the Olympic Velodrome, and the Civic Center complex.

Goals and objectives included in the Element relate to the development of a Civic Center site, these are summarized below:

- Provide a Civic Center complex which is accessible and convenient to residents and surrounding jurisdictions.

- Create a focal center to further community identity and represent the community's Spanish heritage.
- Provide a site for City Hall and related activities. Ensure that the site is such that it will be compatible with surrounding land uses.
- Provide a site which is highly accessible by major arterial streets and with good connections to the San Diego and Harbor Freeways.
- Provide a site which is adjacent to major shopping, office and commercial centers.
- Provide a site which would minimize costs of acquisition, grading, etc.

3.10 PUBLIC FACILITIES

SCHOOLS

The public school districts serving the Carson area include:

- Los Angeles Unified School District
1208 Magnolia Avenue, Gardena
- Compton Unified School District
604 S. Tamarind Avenue, Compton

Los Angeles Unified School District

There are three regions within the Los Angeles Unified School District that serve the Carson area: Banning-Carson Cluster (Administrative Cluster 27), Gardena-Washington Cluster (Administrative Cluster 23), and San Pedro - Narbonne Cluster (Administrative Cluster 26). Table 3.10-1, *Los Angeles Unified District Schools Serving the Carson Area*, lists the schools that serve the Carson area and the approximate current enrollment and maximum capacity of the schools. Detailed student generation rates can be found in Appendix D, *Student Generation Rates*. Exhibit 3.10-1, *Educational Facilities*, shows the locations of schools within the City of Carson boundaries.

Compton Unified School District

Table 3.10-2, *Compton Unified District Schools Serving the Carson Area*, shows the schools within the Compton Unified School District that draw students from the Carson area, along with approximate current enrollment numbers. Student generation rates are not calculated by the Compton Unified School District at this time.

Other Education Facilities

In addition to the public schools listed above, Carson is home to two parochial schools, an adult school, and the Dominguez Hills campus of the California State University system.

- ***Peninsula Christian School***
22507 S. Figueroa Street, Carson

This private school has a current population of approximately 80 students, with a total capacity of approximately 120 children. At least 50% of the enrolled students live within the City of Carson. The facility consists of eight classrooms. The school offers instruction for Kindergarten through 8th Grade children, and also provides day care services both before and after school. It operates on a traditional calendar, but is considering holding summer classes that would be both academic as well as activity-oriented.

Table 3.10-1
 LOS ANGELES UNIFIED DISTRICT SCHOOLS SERVING THE CARSON AREA

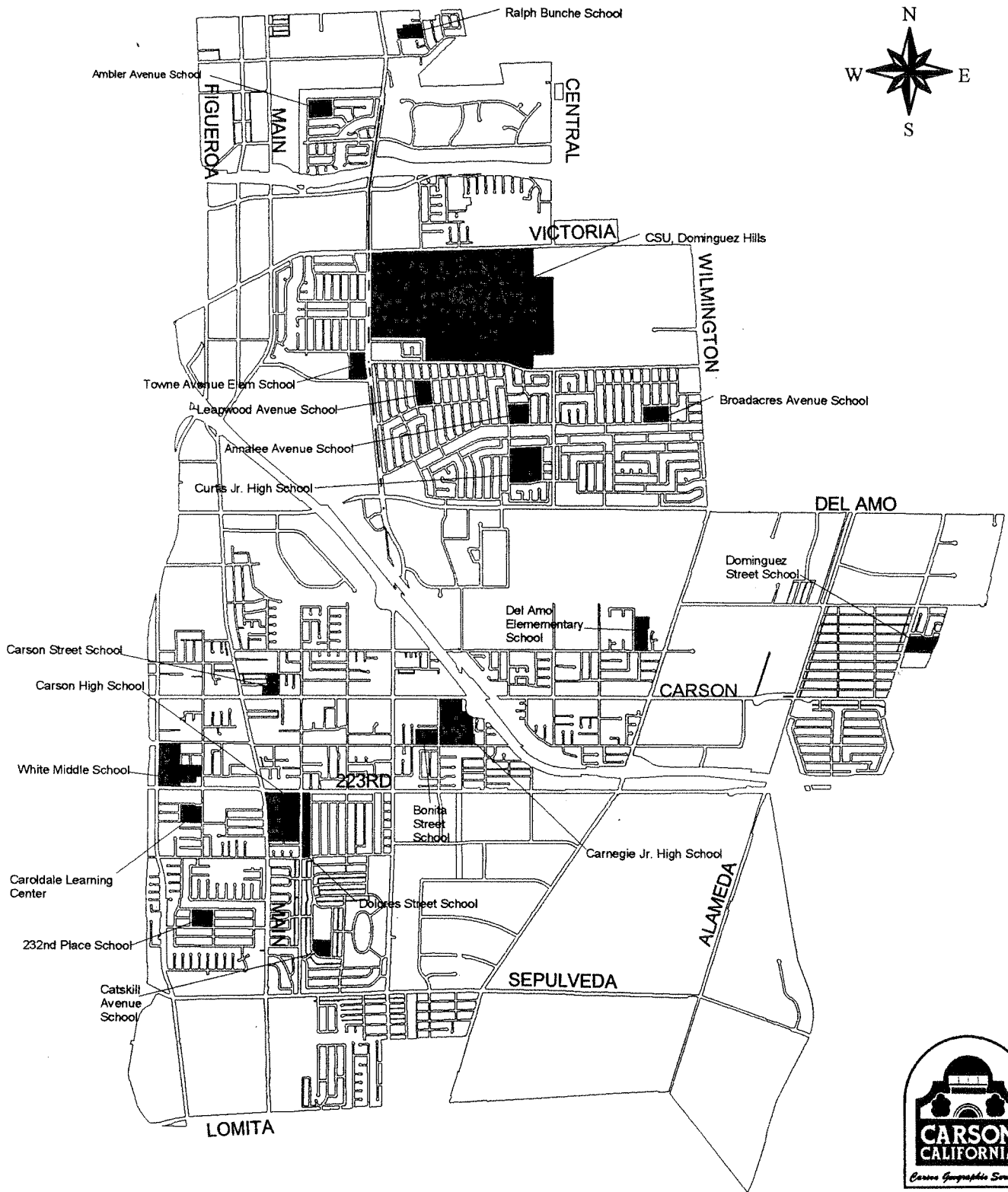
School	Current Enrollment (approximate)	Maximum Capacity (approximate)
BANNING - CARSON CLUSTER		
<i>Elementary Schools</i>		
232 nd Place School 23240 Archibald Avenue Carson, California 90745 310/830-8710	510	517
Ambler Avenue School 319 E. Sherman Drive Carson, California 90745 310/532-4090	473	586
Annalee Avenue School 19410 Annalee Avenue Carson, California 90746 310/537-4740	487	579
Bonita Street School 21929 Bonita Street Carson, California 90745 310/834-8588	683	736
Broad Avenue School 24815 Broad Avenue Wilmington, California 90744 310/835-3118	1,193	1,250
Broadacres Avenue School 19424 S. Broadacres Avenue Carson, California 90746 310/537-1980	473	506
Caroldale Avenue School 22424 Caroldale Avenue Carson, California 90745 310/320-8570	838	811

School	Current Enrollment (approximate)	Maximum Capacity (approximate)
Carson Street School 161 E. Carson Street Carson, California 90745 310/834-4508	902	981
Catskill Avenue School 23536 Catskill Avenue Carson, California 90745 310/834-7241	851	884
Del Amo Elementary School 21228 Water Street Carson, California 90745 310/830-5351	535	552
Dolores Elementary School 22526 Dolores Street Carson, California 90745 310/834-2565	864	931
Dominguez Elementary School 21250 Santa Fe Avenue Long Beach, California 90810 310/835-7137	730	742
Leapwood Avenue School 19302 Leapwood Avenue Carson, California 90745 310/327-8245	481	587
Towne Avenue Elementary School 18924 Towne Avenue Carson, California 90746 310/329-3505	518	588
Middle Schools		
Andrew Carnegie Middle School 21820 Bonita Street Carson, California 90745 310/830-1330	1,411	1,618
Glenn Hammond Curtiss Middle School 1254 E. Helmick Street Carson, California 90746 310/537-3551	799	1,191

Public Facilities

School	Current Enrollment (approximate)	Maximum Capacity (approximate)
Stephen M. White Middle School 22102 S. Figueroa Street Carson, California 90745 310/328-7540	1,922	2,042
Wilmington Middle School 1700 Gulf Avenue Wilmington, California 90744 310/518-1120	2,000	2,278
High Schools		
Avalon High School (Continuation) 1425 N. Avalon Boulevard Wilmington, California 90744 310/549-2112	included within Phineas Banning High School	included within Phineas Banning High School
Carson High School 22328 S. Main Street Carson, California 90745 310/835-0181	3,121	3,005
Eagle Tree High School (Continuation) 22628 S. Main Street Carson, California 90745 310/549-0970	included within Carson High School	included within Carson High School
Phineas Banning High School 1527 Lakme Avenue Wilmington, California 90744 310/549-7500	2,716	3,077
GARDENA - WASHINGTON CLUSTER		
Middle Schools		
Robert E. Peary Middle School 1415 Gardena Boulevard Gardena, California 90247 310/324-6606	2,450	2,467

School	Current Enrollment (approximate)	Maximum Capacity (approximate)
High Schools		
Gardena High School 1301 W. 182 nd Street Gardena, California 90248 310/327-5900	2,820	3,345
SAN PEDRO - NARBONNE CLUSTER		
High Schools		
Narbonne High School 24300 S. Western Avenue Harbor City, California 90744 310/326-0920	2,663	3,000



Educational Facilities

Carson General Plan Update

Exhibit 3.10-1

**Table 3.10-2
COMPTON UNIFIED DISTRICT SCHOOLS
SERVING THE CARSON AREA**

School	Current Enrollment (approximate)
<i>Elementary Schools</i>	
Bunche Elementary School 16223 S. Haskins Lane Carson, California 90746 310/898-6120	442
<i>Middle Schools</i>	
Walton Middle School 900 W. Greenleaf Avenue Compton, California 90220 310/898-6060	687
<i>High Schools</i>	
Compton High School 602 S. Acacia Street Compton, California 90220 310/635-3881	2,134

- ***St. Philomena Catholic School***
21832 S. Main Street, Carson

This parochial school has an enrollment of 317 students, with classes for kinder-prep through 8th Grade. The school, which is associated with a church facility, contains ten classrooms for daily instruction, a library, computer room, music room, meeting room and various offices. The school also offers both before and after school daycare for its enrolled students. It operates on the traditional school calendar.

- ***Carson Community Adult School***
22328 S. Main Street, Carson

With over 3,000 students enrolled, the Carson Community Adult School serves both the Carson and Wilmington area by providing ESL (English as a Second Language) classes, high school subject classes leading to a diploma, GED test preparation instruction, and computer and reading skills classes aimed toward the general community. The classes are offered at a number of facilities, including Carson High School, Catskill Avenue Elementary School, Dominguez Elementary School and Carson Park.

- ***California State University, Dominguez Hills***
100 E. Victoria Street, Carson

The campus had an enrollment of 12,054 students as of Fall 1998, including both on-campus students and those in the state-wide nursing program. The campus was founded in 1960 and served its first students in 1965. The campus continues to expand, with buildings for extended education purposes under construction and a new technology-oriented building that should begin construction by the end of 1999. The campus is known for its school management and education programs. It also has an extended education program that aims to offer professional development and personal learning opportunities through degree, certificate and credential programs and non-credit courses. These programs are offered on campus and via television, teleconferencing and the internet.

In addition, Carson residents also use many educational facilities which are found in surrounding communities. Some of these include:

- Banning-Carson Community Adult School, 1527 Lakme Avenue, Wilmington
- Compton Community College, 1111 E. Artesia Boulevard, Compton
- El Camino College, 16007 Crenshaw Boulevard, Torrance
- Harbor Occupational Center, 740 N. Pacific Avenue, San Pedro
- Hawthorne Christian School, 1050 Stonebryn Drive, Harbor City

- Los Angeles Harbor Community College, 1111 Figueroa Place, Wilmington

LIBRARIES

There are two libraries which serve Carson, these are discussed below.

Carson Regional Library

151 East Carson Street, Carson

The Carson Regional Library is a part of the Los Angeles County Library system, which is part of the South State system. The building is 29,112 square feet and houses 193,345 volumes; 3,500 audio materials; 6,000 video materials; 47,000 federal and state documents; and 825 magazine and newspaper subscriptions. Some of its important programs/collections/facilities include: CHIPS (Consumer Health Information Programs and Services) which offers both reference and circulating medical resources and a designated librarian who researches medical and health-related issues; a language literacy department which offers tutoring to youth age 16 and over who have English deficiencies; free internet access through seven computer workstations; a children's reading program in the Summer; regular weekly story times for Preschool and Kindergarten children; and a meeting room that accommodates up to 100 people, which is available to rent for a fee.

Victoria Park Library

17906 South Avalon Boulevard, Carson

Part of the Los Angeles County Library system, the Victoria Park Library offers approximately 35,265 volumes. The 5,822 square foot library's special collections includes an extensive black history collection. It offers many programs aimed towards children, including a Summer reading program that features story tellers, ethnic dancers, entertainers and others who help to bring the library's literary works to the children and families of the community. The library's programs also include special activities through affiliations with the Los Angeles Dodgers and the Los Angeles Unified School District. The library is currently developing programs for adults.

HOSPITALS

There are seven hospitals that are accessible to the Carson area. They are located as follows:

- Harbor UCLA Medical Center
1000 W. Carson Street, Torrance

- Long Beach Memorial
2801 Atlantic Avenue, Long Beach
- Gardena Memorial
1145 W. Redondo Beach Boulevard, Gardena
- St. Mary's Hospital
1050 Linden Avenue, Long Beach
- Torrance Memorial
3330 W. Lomita Boulevard, Torrance
- Little Company of Mary
4101 Torrance Boulevard, Torrance
- San Pedro Peninsula Hospital
1300 W. 7th Street, San Pedro

CITY ADMINISTRATION

Incorporated on February 20, 1968, the City of Carson is a general law city that operates under the council/city manager form of government. The Carson City Council consists of five members. As of 1994, the mayoral position is specifically elected to a two-year term. The other council positions are elected to four-year terms. The City Clerk and City Treasurer are also elected positions. The City Manager is a professional position appointed by the City Council.

The City of Carson City Hall consists of the following departments:

- Community Development
- Engineering Services
- Facilities and Maintenance
- Finance
- Human Resources
- Public Safety
- Recreation and Community Services

The City has several commissions, committees and boards comprised of volunteers who are appointed by the City Council for a term of two years:

- Citywide Advisory Commission (7 members)
- Environmental Commission (7 members)
- Fire Arts and Historical Commission (7 members)
- Human Relations Commission (9 members)

- Planning Commission (9 members)
- Parks and Recreation Commission (7 members)
- Senior Citizens Advisory Commission (11 members)
- Youth Commission (11 members)
- Economic Development Committee (9 members)
- Public Relations Committee (7 members)
- Public Works Committee (5 members)
- Public Safety Committee (7 members)
- Mobilehome Park Rental Review Board (7 members)
- Relocation Appeals Board (5 members)

Police and fire services are provided on contract through the Los Angeles County Fire Department and the Los Angeles County Sheriff's Department, respectively. Details on Fire and Sheriff services were discussed previously in this section.

CHILD AND DAYCARE PROGRAMS

Carson residents have several options available for daycare and before or after school child care within the Carson area. These are available from a variety of sources, including: Federation Headstart, California State University at Dominguez Hills Infant/Toddler Development Center, City of Carson Parks and Recreation Department, and private, licensed child care agencies within the area.

Federation Headstart

22504 South Avalon Boulevard, Carson

Free services are provided for children of low income families and children with special needs. This program serves children between 3.9 to 5.0 years of age, or 3 to 5 years of age in the case of children with special needs. The services offered include developmental assessments, mainstream preschool programs, social work, parent training/counseling, audiology, psychological services, speech/language therapy, vision services, medical services, and nutritional counseling.

California State University, Dominguez Hills

Infant/Toddler Development Center

1000 Victoria Street, Carson

This facility serves children ages 14 months to 3 years. Those eligible are persons with any disability, including infant drug exposure, tonal or feeding problems, parents that are mentally ill or developmentally delayed, teen mothers, children that were premature/low birth weight, those who suffer from child abuse or neglect, or children of parents who are homeless or drug addicted.

City of Carson Early Childhood Program

The preschool curriculum is designed to encourage child development at all levels, and includes a variety of school readiness skills, creative experiences, psychomotor skills, and social interaction. Opportunities include a year-round co-op preschool held at selected park facilities, a year-round community center preschool, and an all day preschool option.

City of Carson Kids Club

This program focuses on "latchkey" children by offering both before and after school activities. Daily schedules consist of educational activities such as homework completion time; reading activities; tutoring in math, science, and social studies; and group activities revolving around home safety, drug and alcohol awareness, and survival skills for children home alone. Recreational activities focus on arts and crafts, sports, music, dance, creative dramatics, tumbling, games and cooking. Children are provided daily snacks, and special activities include seasonal parties, excursions and special events.

Other Daycare Providers

Table 3.10-3, *Pre-Kindergarten Classes*, and Table 3.10-4, *Child Care Providers*, list the pre-kindergarten and licensed daycare services located within the Carson area.

**Table 3.10-3
PRE-KINDERGARTEN CLASSES**

School	Address
Ambler Avenue School	319 E. Sherman Drive Carson, California 90745
Annalee Avenue School	19410 Annalee Avenue Carson, California 90746
Bonita Street School	21929 Bonita Street Carson, California 90745
Broad Avenue School	24815 Broad Avenue Wilmington, California 90744
Broadacres Avenue School	19424 S. Broadacres Avenue Carson, California 90746
Caroldale Avenue School	22424 Caroldale Avenue Carson, California 90745
Carson Street School	161 E. Carson Street Carson, California 90745
Catskill Avenue School	23536 Catskill Avenue Carson, California 90745
Del Amo Elementary School	21228 Water Street Carson, California 90745
Dolores Elementary School	22526 Dolores Street Carson, California 90745
Friendship Children's Center	23033 S. Avalon Boulevard Carson, California 90745
Leapwood Avenue School	19302 Leapwood Avenue Carson, California 90745
Towne Avenue Elementary School	18924 Towne Avenue Carson, California 90746

**Table 3.10-4
CHILD CARE PROVIDERS**

Child Care Providers	Address
Agape Love Christian Child Care	903 East Gladwick Carson, California 90745
Andrade's Family Day Care	20927 South Margaret Street Carson, California 90745
Artie's Licensed Day Care	19303 South Scobey Avenue Carson, California 90745
Audrey Christine Andersen	628 Elsmere Drive Carson, California 90745
Beezer Family Day Care	19227 Cliveden Avenue Carson, California 90745
Carson Montessori Academy	812 East Carson Street Carson, California 90745
Cobb Family Day Care	19021 Kemp Avenue Carson, California 90745
Community Development Center, Inc.	23033 South Avalon Boulevard Carson, California 90745
Connie M. & Jesse Jackson	17906 Lysander Drive Carson, California 90745
Dani's Garden Day Care	19409 Reinhart Street Carson, California 90745
Davis Family Day Care	357 Centerview Drive Carson, California 90745
Dotty's Day Care	1413 East 220 th Street Carson, California 90745
Elisia & Rofino Cardoso	337 East Double Street Carson, California 90745
Golden Wings Academy	20715 South Avalon Boulevard, #100 Carson, California 90745
Gonzalez Family Day Care	519 East 237 th Street Carson, California 90745

Child Care Providers	Address
Jacqueline Brown Family Day Care Center	1754 Fernrock Street Carson, California 90745
Jenkins Day Care	16117 Haskins Lane Carson, California 90745
Jenkins Day Care	16220 Malloy Avenue Carson, California 90745
Kids World	21601 South Moneta Avenue Carson, California 90745
Kurious Kids	530 Moorhaven Drive Carson, California 90745
Lakeshore Kids and Company	2695 East Dominguez Street Carson, California 90745
Little Angels' Retreat	18419 South Avalon Boulevard Carson, California 90745
Little Lambs Training Center	19129 Radlet Avenue Carson, California 90745
Manna Manor, Inc.	24825 Neptune Avenue Carson, California 90745
McClendon's Family Day Care	1242 East Cloverbrook Street Carson, California 90745
McCoy Family Child Care	409 E. Centerview Drive Carson, California 90745
McNeil Family Day Care	17202 South Billings Drive Carson, California 90745
Olivia's Family Day Care	2556 East Jackson Street Carson, California 90745
Parra Family Day Care	177 West 234 th Street Carson, California 90745
Patricia Shanklin	22821 Catskill Avenue Carson, California 90745
Peace and Joy Day Care Center	1691-1693 Del Amo Boulevard Carson, California 90745
Precious Gems Child Care	146 East 213 th Street Carson, California 90745

Child Care Providers	Address
Ravenna Home Manna Manor, Inc.	24713 Ravenna Avenue Carson, California 90745
Ruiz Family Day Care	19509 South Annalee Avenue Carson, California 90745
Schmitt Family Day Care	21826 Moneta Avenue Carson, California 90745
Shirley Currie	1860 East Kamm Street Carson, California 90745
Sotelo Family Day Care	135 East 229 th Place Carson, California 90745
Taylor's Family Day Care	551 East 222 nd Street Carson, California 90745
Tweet's Day Care Center	921 East Dimondale Drive Carson, California 90745
Voneta Day Care	1225 Bankers Drive Carson, California 90745
Wilson & Wilson Child Care	1672 East Cyrene Drive Carson, California 90745

3.11 INFRASTRUCTURE/UTILITIES

SEWER

The Los Angeles County Public Works Department (LACPWD) maintains the local sewer lines that run from individual structures to the main sewer lines. Most local sewer lines are currently 8 inches in diameter and no new upgrades are currently planned. The LACPWD also maintains two small lift stations that are located within the Carson boundaries:

- Scottsdale Pump Station
23426 Avalon Boulevard
Capacity: 100 gallons per minute
- Belshaw Pump Station
22650 Belshaw Avenue
Capacity: 1,125 gallons per minute

The Los Angeles County Sanitation District (Sanitation District) maintains the trunk sewer lines within the City of Carson. There are approximately a dozen trunk sewer lines, ranging in size from 50 inches to 8 feet in diameter, that are generally located as follows:

- Del Amo Boulevard – running east to west
- Main Street – running north to south
- Wilmington Avenue – 3 lines running north to south, 2 lines running east to west along railroad tracks
- Alameda Street – 2 lines running north to south
- Broadway – 2 lines running north to south

The Joint Water Pollution Control Plant, located at 24501 S. Figueroa Street in Carson, is part of the Joint Outfall System that provides sewage treatment and disposal for residential, commercial and industrial users within the 17 sanitation districts in Los Angeles County that are participants in the Joint Outfall Agreement. The Joint Water Pollution Control Plant (JWPCP) is one of the largest wastewater treatment plants in the world. It serves a population of about 3.5 million people and many industries in southern and eastern Los Angeles County. It provides advanced primary and partial secondary treatment for 350 million gallons of wastewater per day.

WATER

Water service in the City of Carson is provided by the Dominguez Water Corporation and the Southern California Water Company. The Dominguez Water Corporation

(Dominguez) is an investor-owned public water utility. Its rates and operations are regulated by the California Public Utilities Commission. Its service area, located in the South Bay, covers a 35 square mile area, including most of the City of Carson.

The Dominguez water supply has two principal sources: local groundwater and purchased imported water. Imported water is purchased from the Metropolitan Water District of Southern California (MWD) through a member agency, the West Basin Municipal Water District (WBMWD). Dominguez has eight direct MWD service connections and one indirect MWD service connection. Dominguez also participates in the MWD-sponsored "In-Lieu" Water Programs, whereby water suppliers purchase imported water from MWD at a reduced rate instead of pumping groundwater. The non-pumped groundwater then stays in the basins for use in the future when imported water may not be as plentiful. Table 3.11-1, *Sources of Dominguez Water Production*, illustrates the amount of groundwater, imported water and desalinated water production for 1990 through 1995. The company treats all of its water supply to meet drinking water standards, regardless of source.

**Table 3.11-1
SOURCES OF DOMINGUEZ WATER PRODUCTION**

	1990	1991	1992	1993	1994	1995	Average
Groundwater (acre feet) % of Total	7,873 20%	8,594 27%	6,612 20%	1 0%	4,006 12%	10,654 30%	6,290 18%
Imported Water (acre feet) % of Total	30,988 80%	23,603 73%	26,963 80%	32,647 97%	29,150 84%	24,324 67%	27,946 80%
Desalinated Water (acre feet) % of Total				905 3%	1,563 4%	1,181 3%	608 2%
Total Water Production (acre feet)	38,861	32,196	33,575	33,553	34,719	36,159	34,844

Source: Sources of Water Production 1990-1995 (Acre Feet).

The total number of Dominguez Water customers is projected to grow approximately 6.2% from 1995 to 2015. Water demand is expected to increase slightly until approximately the year 2000, but no additional increases in water demand are anticipated thereafter. Future shifts in water demand most likely would result from either the expansion/downsizing of major industrial customers, new industrial customer growth and the introduction of recycled water. To meet water demands for the next decade, the company will rely on a mix of ground, imported, desalinated and recycled water sources. Dominguez water projections indicate that, under normal precipitation conditions, it will have sufficient water supplies to meet annual customer water demand through 2015. This is based on the continuation of conservation programs,

on desalinated and recycled water becoming available, and on planned efforts to emphasize groundwater supplies and to reduce reliance on imported water sources.

The Southern California Water Company, Southwest District, serves a small portion of north Carson. It is an investor-owned private utility company that supplies water service to approximately 2,030 customers within the City of Carson. Carson lies within the Lawndale/Gardena Zone, which has an average daily demand of 13,900 gpm, a maximum daily demand of 20,850 gpm, and a peak hour demand of 35,445 gpm. The Southwest District of Southern California Water purchases approximately 80% of its water demand from MWD connections within the service area, and approximately 20% of its water demand is supplied through company-owned deep wells.

ELECTRIC

Electric service is provided to the Carson area by Southern California Edison, Compton Service Center. There are three major substations with the Carson boundaries: 1) Carson Substation at Alameda Street and Johns Manville Street, 2) Nola Substation at South Broadway and Victoria Street, and 3) Neptune Station at 213th Street and Grace Avenue. There are approximately a dozen transmission facilities (66kV) that extend along Wilmington Avenue and Alameda Street that feed the SCE service area or distribute directly to select high voltage customers. There are also numerous high voltage easements, ranging from 120 kV to 500 kV, that traverse the City of Carson.

Electrical consumption factors are not available specifically for the City of Carson; however, annual estimated use factors are offered by Southern California Edison in Table 3.11-2, *Electrical Consumption for Various Land Uses*.

**Table 3.11-2
ELECTRICAL CONSUMPTION FOR VARIOUS LAND USES**

Land Use Type	Unit Type	SCE Factor
Residential	Kilowatt-hour/Unit/Year	6,081.0
Food Store	Kilowatt-hour/Square Feet/Year	51.4
Restaurant	Kilowatt-hour/Square Feet/Year	47.3
Hospital	Kilowatt-hour/Square Feet/Year	17.9
Retail	Kilowatt-hour/Square Feet/Year	11.8
College/University	Kilowatt-hour/Square Feet/Year	11.6
High School	Kilowatt-hour/Square Feet/Year	8.8

Land Use Type	Unit Type	SCE Factor
Elementary School	Kilowatt-hour/Square Feet/Year	6.3
Office	Kilowatt-hour/Square Feet/Year	8.8
Hotel/Motel	Kilowatt-hour/Square Feet/Year	6.8
Warehouse	Kilowatt-hour/Square Feet/Year	3.4
Miscellaneous	Kilowatt-hour/Square Feet/Year	8.8

Source: South Coast Air Quality Management District, *CEQA Air Quality Handbook, Appendix 9*, September, 1992.

Southern California Edison is constantly analyzing the capacity of its systems and projecting and planning for new load growth based on commercial, industrial and residential customer demand.

NATURAL GAS

Natural gas is supplied to the City of Carson by Southern California Gas Company, Pacific Region. As a public utility, the Southern California Gas company is under the jurisdiction of federal and state regulatory agencies. A medium and high pressure distribution pipeline system and a high pressure transmission pipeline system transect the Carson boundaries. There are no current deficiencies in the natural gas supply systems that serve Carson. The Southern California Gas Company constantly assesses and upgrades its systems to meet current and future needs, and thus can accommodate any future expansion in residential, commercial or industrial uses. The Southern California Gas Company has also developed several programs to provide assistance in selecting energy efficient appliances and systems.

SOLID WASTE DISPOSAL

Waste Management provides residential, commercial and industrial waste collection service for the City of Carson. Waste Management collects approximately 34,000 tons from residential customers; 40,750 tons from commercial customers; and 26,600 tons from industrial customers per year. The disposal service uses traditional methods of solid waste collection using standard trash trucks and crews. The service also includes the pickup of sorted recyclable materials, which are taken directly to a company that separates and sells them.

The solid waste collected by Waste Management is taken to the company's transfer station at 321 W. Francisco Street in Carson, where it is sorted. The 10-acre facility has a permitted capacity of 5,300 tons per day. After the materials are sorted, including

special wastes such as tires, green waste, steel, and wood that are sent to special facilities for disposal or recycling, the remaining waste materials are loaded onto trailers and taken to the Bradley Landfill in Sun Valley.

CABLE

MediaOne serves the zip codes 90745 and 90746 within the City of Carson. Having upgraded its system within the last year to the latest fiber optics, the increased capacity now allows the company to offer 65 basic channels and a choice of 12 premium channels.

TELEPHONE

Pacific Bell provides telephone service to the City of Carson. The telephone service facilities consist of both fiber and copper facilities. A light span technique that enhances service is also in use in the Carson area. A sonet ring provides improved service to the general South Bay area. There are both aerial and underground lines within the City of Carson. Undergrounding of new facilities is considered on a case-by-case basis. Pacific Bell is constantly forecasting and planning to meet customer needs, and upgrading their facilities as needed to provide new services to existing customers or to expand services to new customer facilities.

3.12 PARKS AND RECREATION

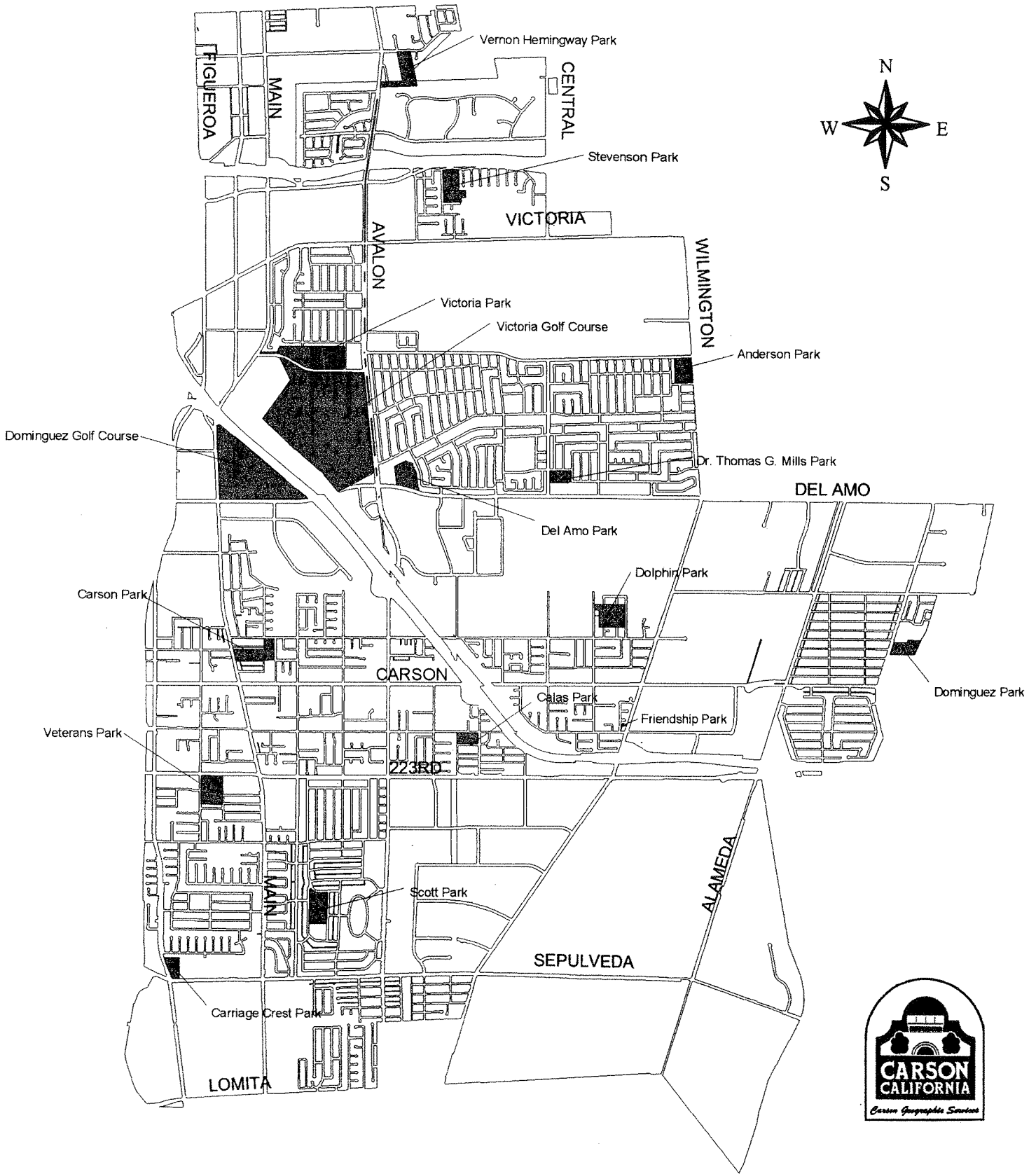
There are 19 City-owned parks and recreation facilities in Carson that total approximately 124.5 acres, as shown in Table 3.12-1, *City Parks and Recreation Facilities*, and on Exhibit 3.12-1, *Parks*. Using an estimate from the California State Department of Finance as of January 1, 1998, the population of the City of Carson is estimated to be 90,554. Thus, the actual parks to population ratio is approximately 1.4 acres per 1,000 population. *Unit One of the Carson General Plan Land Use, Open Space, Public Services and Facilities and Recreation Elements*, 1982, refers to a guideline of 10 acres of recreational facilities per 1,000 people, which would produce a target parks-to-population ratio of over 900 acres of needed recreational facilities for Carson. However, 5 acres of recreational facilities per 1,000 people is a more recent target standard. The actual parks-to-population ratio calculated above does not take into consideration the facilities that are not City-owned, such as Los Angeles County facilities, public school athletic fields and equipment, and commercial recreational facilities. Including these facilities, the City of Carson comes closer to meeting its target parks-to-population ratio. Also, the City of Carson does provide bicycle trail facilities, which are discussed in Section 3.2, *Circulation*. Although ideas have been discussed in the past, according to the City's Recreation and Community Services Department, there are no current plans for new recreation facilities along Dominguez Channel or Compton Creek.

**Table 3.12-1
CITY PARKS AND RECREATION FACILITIES**

Name/Location	Improvements
Anderson Park 19101 S. Wilmington Avenue	8.5 acres: basketball courts, children's play area, frisbee golf course, meeting/craft rooms, picnic areas, tennis courts
Calas Park 1000 W. 220 th Street	8.7 acres: ball field, basketball courts, children's play area, football field, meeting/craft rooms, picnic areas, snack bar, soccer field, tennis courts, wading pools
Carriage Crest Park 23800 S. Figueroa Street	3.4 acres: ball field, basketball court, children's play area, football field, meeting/craft room, picnic areas, snack bar, soccer field
Carson Community Center 3 Civic Plaza Drive	31,000 sq. ft.: 26 meeting/craft rooms

Name/Location	Improvements
Carson Park 21411 S. Orrick Avenue	10.9 acres: ball fields, basketball courts, children's play area, football field, horse-shoes, meeting/craft rooms, picnic areas, snack bar, soccer field, volleyball courts
Carson Pool 21436 S. Main Street	Swimming pool
Del Amo Park 703 E. Del Amo Boulevard	9.5 acres: ball fields, basketball courts, children's play area, football field, meeting/craft rooms, picnic areas, snack bar, soccer field
Dolphin Park 21205 Water Street	11.8 acres: ball fields, basketball courts, children's play area, football field, meeting/craft rooms, picnic areas, snack bar, soccer field, tennis courts, volleyball courts, wading pools
Dominguez Park 21330 Santa Fe Avenue	9 acres: ballfields, basketball courts, children's play area, meeting/craft rooms, picnic areas, snack bar, soccer field, tennis courts
Fabela Chavez Boxing Center 424 ½ E. Carson Street	Boxing equipment, fitness center
Friendship Mini Park 21930 S. Water Street	0.3 acres: children's play area, picnic areas
Hemingway Park 700 E. Gardena Boulevard	13 acres: ball fields, basketball courts, children's play area, football field, meeting/craft rooms, picnic areas, snack bar, soccer field, tennis courts
Mills Park 700 E. Gardena Boulevard	13 acres: ball fields, basketball courts, children's play area, football field, meeting/craft rooms, picnic areas, snack bar, soccer field, tennis courts
Scott Park and Pool 23410 Catskill Avenue	11.2 acres: ball fields, basketball courts, boxing equipment, children's play area, gymnasium, horse-shoes, meeting/craft rooms, picnic areas, snack bar, soccer field, tennis courts, volleyball courts, wading pools, swimming pool
Stevenson Park 17400 Lysander Drive	11.7 acres: ballfields, basketball courts, children's play area, football field, horse-shoes, meeting/craft rooms, picnic areas, snack bar, soccer field, tennis courts, volleyball courts, wading pools
Walnut Street Mini Park 440 E. Walnut Street	1.5 acres: basketball courts, children's play area, picnic areas

Name/Location	Improvements
Veterans Park 22400 Moneta Avenue	12 acres: ball fields, basketball courts, children's play area, football field, horse-shoes, meeting/craft rooms, snack bar, soccer field, tennis courts, wading pools
Veterans Sports Complex 22400 Moneta Avenue	25,000 sq. ft.: basketball courts, gymnasium, volleyball courts, fitness center, racquetball courts
Other Recreation Facilities Located in Carson	
Victoria Park (County) 419 E. 192 nd Street	36 acres: ball fields, basketball courts, swimming pool, gymnasium, tennis courts, play area, recreation building, picnic area
Victoria Golf Course (County) 340 East 192 nd Street	161.6 acres: public regulation golf course
Dominguez Golf Course 19800 South Main Street	39.18: 18-hole, par 3 golf course with two tier driving range



Parks

Carson General Plan Update

Exhibit 3.12-1

RECREATIONAL PROGRAMS

In addition to the facilities listed above, the City of Carson provides a wide variety of recreation and community services. These include: early childhood classes, special interest classes that focus on education, hobbies or sports, work-out classes and facilities at the Veterans Sports Complex, an after-school Kids Club, adult sports leagues and tournaments, boxing/weightlifting, park activities, teen activities, recreation for people with special needs, senior recreation, and fine arts programs. A detailed description of each type of activity offered is provided below.

Early Childhood

The preschool curriculum is designed to encourage child development at all levels, and includes a variety of school readiness skills, creative experiences, psychomotor skills, and social interaction. Opportunities include a year-round co-op preschool held at selected park facilities, a year-round community center preschool, and an all day preschool option.

Special Interest Classes

A wide variety of classes are offered and directed to meet the needs and interests of the Carson community. These include an extensive list of computer workshops covering operating systems, software applications and the Internet. Educational classes span a range of topics from languages to child care and safety instruction. There are exercise classes that teach aerobics and various levels of ice skating. Music, craft and wood working classes are also included.

Veterans Sports Complex

This facility offers many activities, including aerobics, gymnastics, racquetball, self-defense, machine weights, free weights, cardiovascular area, fitness center, gymnasium, sports camp, basketball and volleyball leagues, youth fitness services, personal fitness evaluations, childcare and health seminars.

Kids Club

This program focuses on "latchkey" children by offering both before and after school activities. Daily schedules consist of educational activities such as homework completion time; reading activities; tutoring in math, science, and social studies; and group activities revolving around home safety, drug and alcohol awareness, and survival skills for children home alone. Recreational activities focus on arts and crafts, sports, music, dance, creative dramatics, tumbling, games and cooking. Children are provided daily snacks, and special activities include seasonal parties, excursions and special events.

Adult Sports

This program, coordinated by the City of Carson Recreation Division, offers a variety of leagues and tournaments for adult participation in various sporting activities, such as softball, flag football and golf.

Boxing/Weightlifting

Many levels of boxing and weightlifting classes are offered to children, youth and adults at the Fabela Chavez Boxing Weightlifting Center in Carson.

Park Activities

Special activities at Carson parks, in addition to the facilities and equipment already at park sites, include baseball, softball and t-ball, annual seasonal parties such as an Easter Party, and Winter, Spring and Summer camping trips.

Teen Activities

The City of Carson organizes monthly Teen Summits at City parks that draw participants from all ethnic backgrounds within the City, featuring "rap sessions" focusing on positive topics, group games, group sports, skits and refreshments. A Teen Conference is held annually, with an essay/poetry/art contest, workshops, career topics, discussion groups, guest speaker, talent showcase and conference dance. Teen dances for ages 12-18 are also held a few times per month, rotating among the City park facilities.

Special Needs Recreation

These programs are designed to meet the basic recreational, social and physical fitness needs of Carson's disabled population groups, including the physically and sensory disabled and the developmentally disabled. Activities include recreation and exercise classes, monthly dances, basic classroom skills classes, arts and crafts, Special Olympic Basketball and Track and Field events, Loyola Marymount University Special Games, and an annual Talent Show.

Senior Recreation

These activities are available to Carson residents age 50 years and older. Classes and programs include crafts, various types of dancing, exercise classes, social activities including bridge games, and watching and participating in the performing arts. There are also a handful of Senior Clubs that are co-sponsored by the City of Carson, yet operate independently. The City also offers Senior Social Services, some of which fall into the recreation arena, such as some programs of the Senior Stroke Activity Center.

Fine Arts

There are many opportunities to enjoy or participate in both fine arts and performing arts in Carson. The Carson Players organizes stage productions and cultural arts events, and provides training in various fields associated with the arts and performing arts. The Carson Art Association holds meetings which feature guest artists. The lobby of City Hall is the backdrop for the art work displayed through the "Artist of the Month" Program. The Carson-Dominquez Hills Symphony Association organizes the non-musical aspects that are needed to provide support to the symphony. Both the Carson-Dominguez Hills Symphony Orchestra and the Carson Civic Light Opera offer opportunities for local citizens to perform and heighten their artistic talents.

RECREATION ELEMENT

The Carson Recreation Element was adopted in May 1982 by Resolution Nos. 82-076 and 82-077. The Recreation Element is available for review at the City of Carson, Community Development Department. Parks and recreational needs are discussed in terms of existing and proposed facilities and parks-to-population ratios. The Element also includes discussion relating to accessibility of park sites, size and shape, compatibility with adjacent land uses, cost of acquisition, and typical park facilities. In addition, a table is provided which identifies the City's existing and proposed parks and their approximate acreage.

Goals and objectives included in the Recreation Element are briefly summarized below:

- Encourage citizen participation in parks and recreational activities and develop new recreational facilities and programs to respond to the needs of residents.
- Determine the needs of current and future populations for outdoor activities and provide adequate active and passive recreational facilities for the community.
- Program facilities and activities for all age groups.
- Inventory the existing and potential supply of recreational resources and programs and encourage public involvement in the creation of new plans and programs as necessary.
- Ascertain existing and future recreational deficiencies by relating anticipated supplies to anticipated demand.
- Coordinate the plan with surrounding jurisdictions.

- Maintain the local park system in order to complement the regional park facilities provided by Los Angeles County.
- Encourage maximum utilization of existing parks and recreational facilities and easy accessibility from residential areas to parks and recreational facilities.
- Utilize utility corridors for low intensity recreational uses wherever possible.