



City of Santa Ana General Plan
Seismic Safety Element

Adopted September 20, 1982
(Reformatted January 2010)

City of Santa Ana General Plan Seismic Safety Element 1982

City of Santa Ana
Planning Division



Adopted

September 20, 1982
(Reformatted January 2010)

RESOLUTION NO. 82-122

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA ANA CERTIFYING THE COMPLETION OF A FINAL ENVIRONMENTAL IMPACT REPORT FOR THE REVISION OF THE GENERAL PLAN OF THE CITY OF SANTA ANA AND ADOPTING THE SAID REVISED GENERAL PLAN

WHEREAS, a proposed revision of the General Plan of the City of Santa Ana (hereinafter referred to as the "Revised General Plan") has been approved by the Planning Commission after public hearing in the manner required by law, and is now on file in the office of the Clerk of the Council; and

WHEREAS, the Revised General Plan includes a draft environmental impact report which has been duly noticed for public review and comment; and

WHEREAS, this Council has held a public hearing on the Revised General Plan, including the said draft environmental impact report, after notice in the manner required by law;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SANTA ANA AS FOLLOWS:

1. The City Council has evaluated all comments and recommendations written and oral, received from persons who have reviewed the draft environmental impact report, and all responses thereto, including those made at the public hearing. The Clerk of the Council is hereby directed to attach all such written comments and responses and the minutes of the said public hearing to the draft environmental impact report, together with a list of persons, organizations and public agencies commenting on the draft environmental impact report. The said comments, responses, and list are hereby incorporated herein as part of the record and, together with the draft environmental impact report, are declared to constitute the final environmental impact report for the Revised General Plan.

2. The City Council hereby certifies that the final environmental impact report for the Revised General Plan has been completed in accordance with the California Environmental Quality Act, the State CEQA Guidelines and local procedures, and that the City Council has reviewed and considered the information contained in the final environmental impact report.

3. The City Council hereby finds, on the basis of the final environmental impact report and other substantial evidence in the record, that changes or alterations have been incorporated into the Revised General Plan which mitigate or avoid the following significant environmental effects identified in the final environmental impact report: (1) additional traffic (2) reduced air quality (3) increases in noise levels, and (4) increases in energy consumption, and that such significant environmental effects have thereby been substantially lessened. This finding is supported by the following statement of facts:

(a) Although identified as significant effects of the project in the environmental impact report, such effects are not in fact caused by the adoption of the Revised General Plan, but rather by the expected growth and development of the City of Santa Ana and the surrounding region. Such effects would occur to an equal or greater extent under the previously adopted general plan or in the absence of any general plan.

(b) The Revised General Plan contains "Circulation," "Conservation," "Energy" and "Noise" elements of which the policies and programs are specifically designed to mitigate the said identified significant effects in a rational, coordinated manner so as to achieve minimal adverse effects consistent with reasonable growth and development.

4. The City Council hereby finds, on the basis of the final environmental impact report and other substantial evidence in the record, that specific economic, social and other considerations make infeasible the alternatives to the Revised General Plan identified in the final environmental impact report. This finding is supported by the following statement of facts:

(a) The Revised General Plan represents the best balance of competing goals and objectives: preservation of residential community integrity; maintenance of affordable housing; encouragement of economic development; avoidance of unacceptable levels of congestion and disruption.

(b) Greater restriction of residential development would discourage the new development of housing available to persons of low or moderate income. Increasing

population, with its consequent increased demand for housing, would result in increasing the cost of the existing housing supply. Less restriction of residential development would result in the disruption of established residential communities.

(c) Greater restriction of commercial-industrial development would reduce employment opportunities in the City of Santa Ana; would deny to City government a tax revenue base sufficient to meet the demand for governmental services; and would lead to stagnation and blight conditions in established commercial areas. Less restriction of commercial-industrial development would allow the intermixture of incompatible land uses and development which is beyond the capacity of streets and other public improvements to serve.

5. The City Council hereby finds, on the basis of the final environmental impact report and other substantial evidence in the record, that the changes in planned land use for areas of the City of Santa Ana accomplished by the adoption of the Revised General Plan are acceptable. Such changes are necessary for the general welfare of the people of the City of Santa Ana over the long-term, in order to achieve a balance between competing needs, as referenced in Section 4 herein, and in order to channel new development into areas in which it will be both financially feasible and compatible with existing uses.

6. The City Council hereby approves and adopts the Revised General Plan. Said Revised General Plan, together with the Revised Housing Element of the General Plan, adopted by the City Council by its Resolution No. 82-7 on January 18, 1982, shall constitute the General Plan of the City of Santa Ana required by Section 65300 of the Government Code of the State of California and the master plan required by Chapter 27 of the Santa Ana Municipal Code. All elements of the general or master plan or amendments thereto previously adopted or approved by the City Council, excepting only the aforesaid Revised Housing Element of the General Plan, are hereby repealed.

7. The Clerk of the Council is hereby directed to endorse the Revised General Plan to show that it has been adopted by the City Council and to retain the same on file in her office.

RESOLUTION NO. 82- 122
PAGE FOUR

8. The Director of Planning and Development Services is hereby directed to:

(a) Send a copy of the Revised General Plan to the Planning Agency of Orange County.

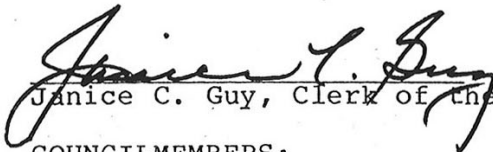
(b) File a Notice of Determination with the County Clerk of Orange County pursuant to Section 21152 of the Public Resources Code and the State CEQA Guidelines.

ADOPTED this 20th day of September, 1982.



Gordon Bricken, Mayor

ATTEST:

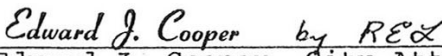


Janice C. Guy, Clerk of the Council

COUNCILMEMBERS:

Bricken	<u>Aye</u>
Luxembourger	<u>Aye</u>
Acosta	<u>Aye</u>
Serrato	<u>Aye</u>
Griset	<u>Aye</u>
Markel	<u>Nay</u>
McGuigan	<u>Aye</u>

Approved as to Form:



Edward J. Cooper, City Attorney

Acknowledgments

CITY COUNCIL

Gordon Bricken, Mayor
Robert W. Luxembourger, Vice Mayor
John Acosta
Alfred C. Serrato
Patricia A. McGuigan
J. Ogden Markel
Daniel Griset

PLANNING COMMISSION

Harold Gosse
Roy Uno
Robert Carrillo
Rita Corpin
Wally Bartelt
Fred Munoz
Wilson Hart

ADMINISTRATION AND STAFF

A. J. Wilson, City Manager
Rex Swanson, Assistant City Manager for
Developmental Services
Phil Freeland, Director of Planning and
Development Services
David Gunderman, Chief of Planning Project
Director, GPRP
Robert Balen, Project Coordinator
David Ream, Director of Redevelopment
Hank Cunningham, Program Manager,
Economic Development
Samuel Johnson, Director of Public Works
Robert Eichblatt, Assistant City Engineer
Dave Grosse, Director of Transportation
John Robinson, Senior Transportation Planner
Richard Lay, Assistant City Attorney

CONSULTANTS

THE ARROYO GROUP

Planners, Architects and Associated Disciplines

Larry, B. Morrison, AICP, AIA, Principal-in-
Charge
Patric B. Dawe, AIA, Managing Principal
P. Patrick Mann, Planning Principal
James Goddell, Consulting Principal
Aron W. Clemens, Planner
Cliff Catlin, Graphic Designer
Annie Smith, Graphics
Patricia Guerrero, Word Processing

POD, INC.

Environmental Planning

Ron Izumita, Principal
Doug Campbell, Project Manager
Gary Bye, Project Planner
Debra Asher, Project Planner

PBQ&D, INC.

Transportation Planning

Michael Scheider, Vice President
Rober Goedhart, Senior Associate
James Douglas, Transportation Planner

ECONOMICS RESEARCH ASSOCIATES

Economists

David A. Wilcox, Principal
Geraldine Kennedy, Associate

MELVIN GREEN & ASSOCIATES, INC.

Seismic Safety

Table of Contents

Seismic Safety Element

Summary	1
Planning Context	6
Historical.....	6
Regional	6
Planning Process	7
Policy Plan	8
Introduction.....	8
Planning Factors	9
Goals, Objectives, Policies and Programs.....	11
Goals.....	11
Objectives.....	11
Policies	11
Programs	11

Exhibits

Exhibit 1	Framework Concept.....	3
Exhibit 2	Regional Context	5
Exhibit 3	Planning Process	8
Exhibit 4	Potential Subsidence Areas.....	13
Exhibit 5	Potential Liquefaction Areas	15

Tables

Table 1	Seismic Parameters for the City of Santa Ana, California	9
---------	--	---



This page intentionally left blank.



Seismic Safety Element

SUMMARY

The new City of Santa Ana General Plan was developed through an extensive process of public participation involving citizens, elected and appointed City officials and City Staff.

The General Plan has been developed to conform to state law and to meet local planning needs through the year 2000. Periodic updates of the new General Plan are anticipated.

The General Plan builds upon Santa Ana's historical assets including the City's heritage as the governmental and financial center of Orange County and the buildings, districts and streetscapes which reflect this heritage.

The General Plan anticipates two major potentials that can shape Santa Ana over the next several decades. The plan anticipates and maximizes the probability of the Countywide rapid transit system to be located in Santa Ana and encourages mixed use development and preservation in corridors and centers relating to this new access and visibility.

The General Plan has three major sections: the Framework Plan, Policy Plan, and Environmental Impact Report.

1. The Framework Plan describes Santa Ana's overall planning strategy and program. This strategy reorganizes the City's land use and urban design structure to take maximum advantage of:
 - the economic development advantages offered by Santa Ana's historic regional location and functions
 - an improved multi-modal transportation system including:
 - Countywide rapid transit access to Santa Ana
 - improved local transit
 - improved auto access to major activity centers
 - a new Amtrak station
 - a downtown multi-modal transportation and bus center



- a downtown shuttle system
- new pedestrian connections within and between land use districts and to public transportation facilities.

The Framework Plan provides an overview of the City’s implementation program which includes:

- continuing involvement of the community in developing the detailed implementation plans that will be developed for subareas of the Framework Plan
- efficient processing of development and rehabilitation proposals by means of a Development Review Team
- a carefully coordinated development program to foster and assist private investment through:
 - land assembly
 - coordinated provision of public improvements
 - Specific Plans
 - citizen participation coordination
 - low interest loans and grants
 - project promotion

2. The Policy Plan spells out the:

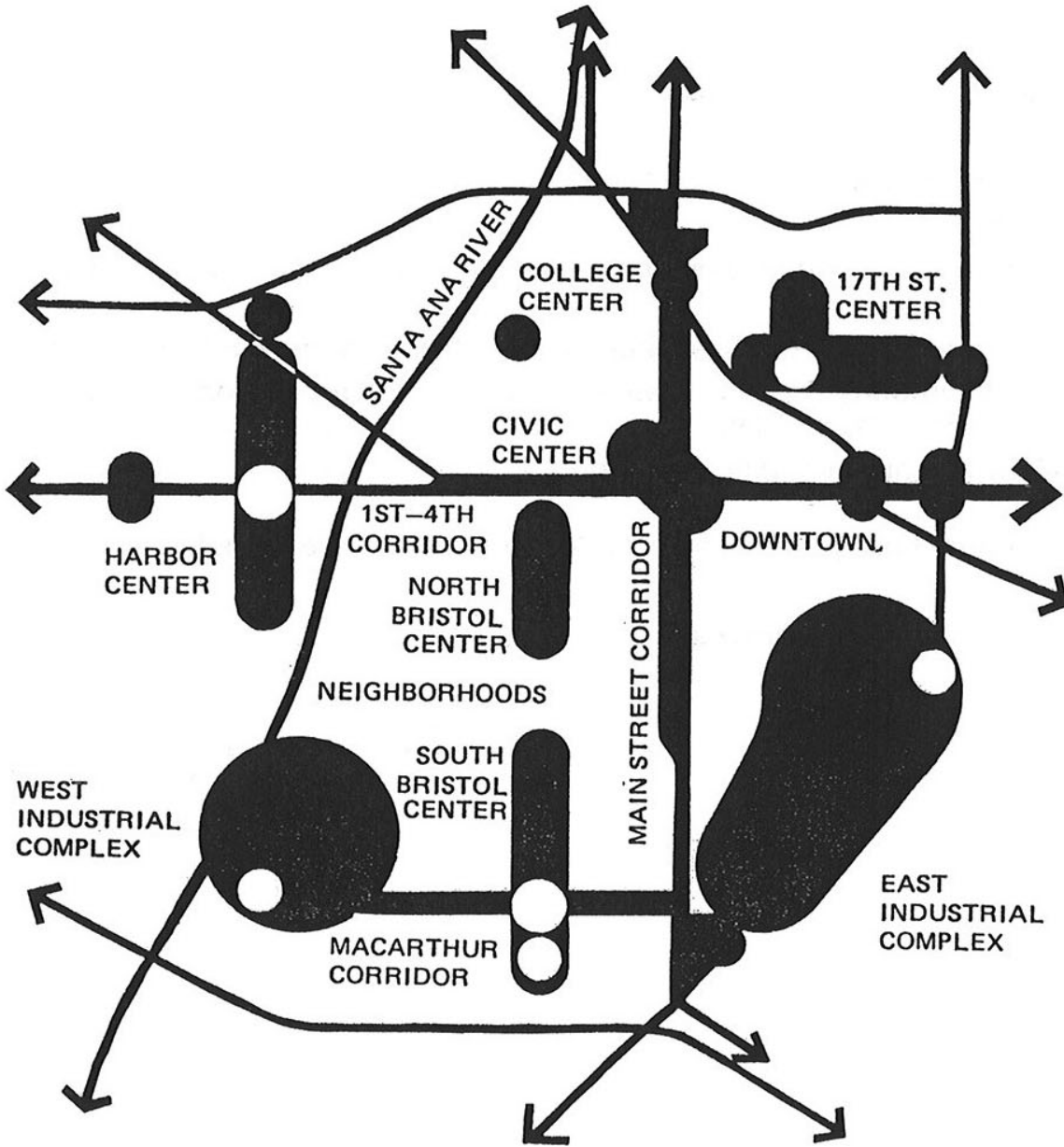
- goals and objectives which underlie the Framework Plan
- greater detail regarding implementation policies and programs supporting the Framework Plan

Together, the Framework Plan and Policy Plan envision a new image for Santa Ana consisting of:

- increased economic activity to provide jobs and maintain a solid financial base for city services
- improvement of Santa Ana’s housing stock for a full range of income groups and lifestyles
- the finest multi-modal transportation system in Orange County
- a new physical environment consisting of:
 - preserved and enhanced viable Neighborhoods
 - District Centers combining new shopping facilities with recreational, cultural, education, employment and special housing types
 - improvement of Santa Ana’s major Industrial Districts
 - Mixed Use Corridors with a range of uses similar to the District Centers but with more facilities related to regional transit and auto access.



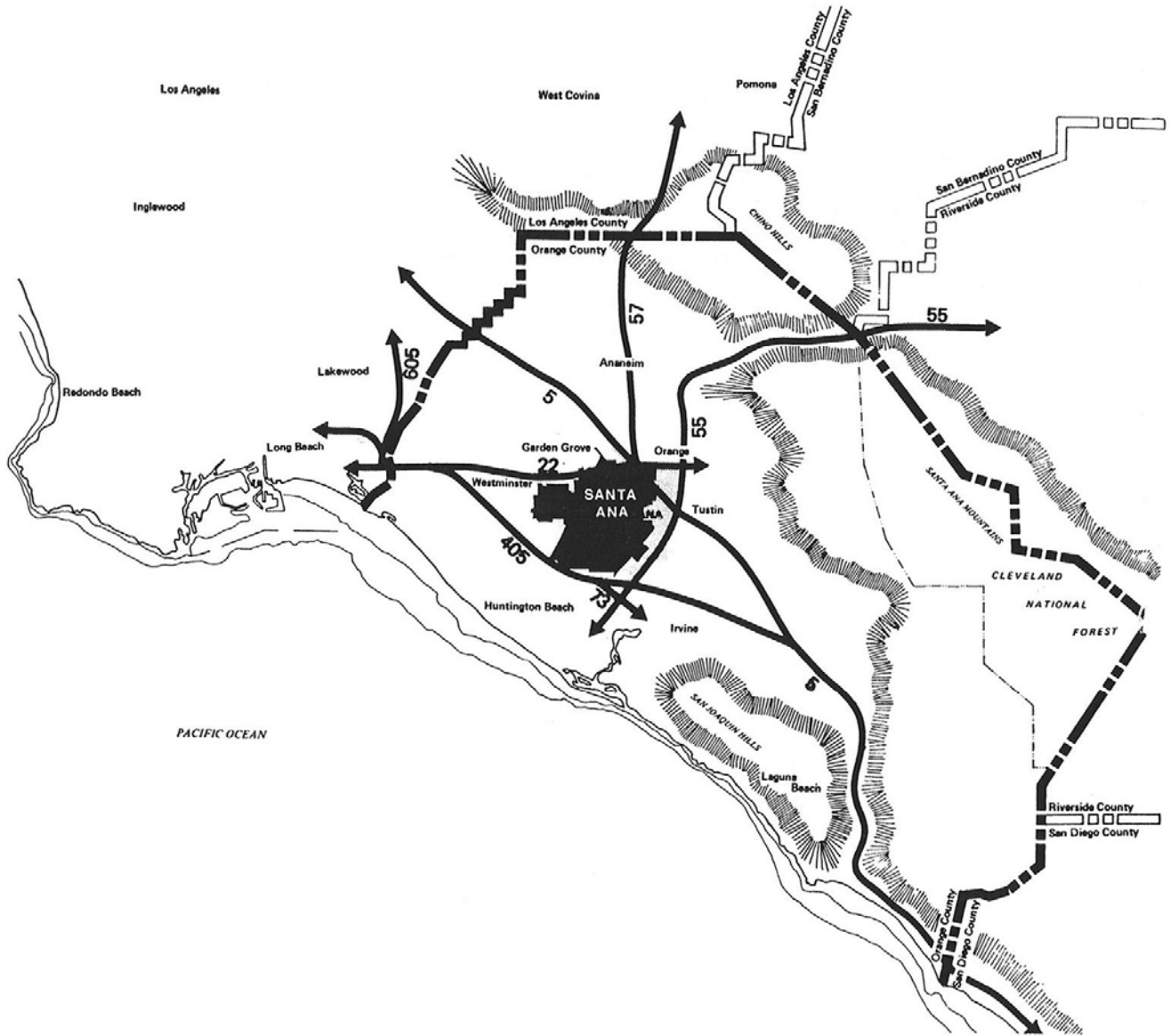
Exhibit 1 Framework Concept



This page intentionally left blank.



Exhibit 2 Regional Context



3. The Environmental Impact Report contains:
 - an analysis of the impacts of implementation of the General Plan
 - an evaluation of alternative strategies and
 - mitigation means to insure compatibility of the proposed plans and policies.

PLANNING CONTEXT

HISTORICAL

Santa Ana's rich history provides a legacy for community planning and revitalization in the 1980's. Santa Ana was founded in 1869 by William Spurgeon. The original town, laid out by Mr. Spurgeon, consisted of 24 blocks. The town served as a shopping center and post office for surrounding agricultural areas.

In 1878 the Southern Pacific Railroad arrived and the Santa Fe Railroad followed in 1886. This encouraged development of the City. In 1889 the County seat was located in Santa Ana and this further stimulated the development of businesses, stores, financial institutions and hotels serving the metropolitan population. Citrus and walnut farms were still plentiful and buying and selling land became the number one enterprise. The First to 17th Street area was subdivided during the building boom of the 1880's. Many of the structures in downtown and the surrounding bungalow homes were built in the early 1900's and 1920's.

The City is retaining and building upon its important governmental, retailing and employment roles in the County and the rich architectural and streetscapes heritage associated with the City's history.

REGIONAL

Santa Ana is geographically central to the developable land within Orange County. The City has excellent relationships to freeways, rail services via Amtrak and air transportation at the John Wayne Airport. Because of Santa Ana's geographic centrality and functional importance to the County, the Orange County Transit District is planning major fixed rail transit corridors in the Main Street and Pacific Electric right-of-ways. These regional transportation improvements, combined with improvements to freeway access points and local streets, provide Santa Ana with abundant development opportunities for the 1980's.



PLANNING PROCESS

The Planning Process used in creating the Santa Ana General Plan is summarized in Exhibit 3 and related photographs. The process involved:

- a 150-person Citizen Advisory Committee (CAC) to which all citizens applying were appointed by the City Council
- the Planning Commissioners who served as chairpersons of five CAC subcommittees: Land Use and Urban Design, Circulation, Housing, Economic Development and Environmental Factors
- the City Council who participated in goal setting and policy making workshops
- the public-at-large who participated in a series of Town Forums and Public Hearings
- City Staff who worked with The Arroyo Group (TAG) in conducting the planning process and who evaluated the program as it evolved.

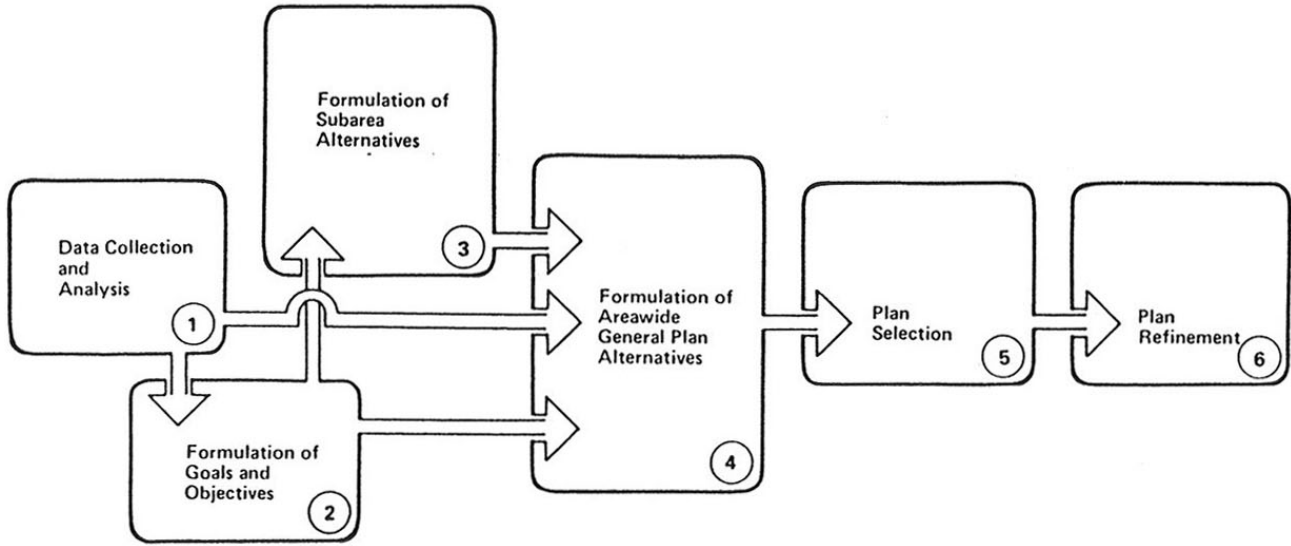
The six key steps in the planning process were:

1. **Data Collection and Analysis.** The data base for the previous General Plan was outdated and up-to-date census data was not available. Emphasis was placed on community definition of problems and opportunities through CAC and Staff Steering Committee workshops and mapping. TAG subcontractors also gathered key data in areas such as market demand, traffic, seismic, etc. This data was summarized and analyzed in a separate Problems and Opportunities Report.
2. **Formulation of Goals and Objectives.** Initial goals and objectives were developed through workshops, with the CAC and City staff. Several cycles of refinement were done by TAG based on input from the Planning Commission, City Council, CAC and staff.
3. **Formulation of Subarea Alternatives.** Santa Ana has a large number of fixed elements such as streets and land uses. Therefore, subarea plans were developed to provide alternative land use patterns in different parts of the City. Each subarea plan was related to an urban design framework previously approved by the CAC, Planning Commission and City staff.
4. **Formulation of Areawide General Plan Alternatives.** Areawide General Plan alternatives focused on different combinations of subarea plans.
5. **Plan Selection Plan.** Selection was done through a series of meetings with the CAC, Planning Commission and City staff.
6. **Plan Refinement.** Plan refinement was accomplished by staff review of a Preliminary Draft, and CAC, Planning Commission and Public-at-Large comments on a Public Hearing Draft.



Exhibit 3 illustrates some of the materials utilized during the planning process.

Exhibit 3 Planning Process



POLICY PLAN

INTRODUCTION

The Policy Plan section of the General Plan sets forth the detailed policies of the City relative to the framework Plan described in Section 1.

Each element of the Policy Plan contains goals, objectives, implementation policies and implementation programs.

Each element also contains a Planning Factors section which reflects the major issues identified through the citizen participation process.

The Plan Components section of each element describes the planning and design concepts illustrated in the maps and provides an overview of implementation considerations.

Seismic Safety consists of identification and appraisal of seismic hazards including susceptibility to surface ruptures, groundshaking and ground failures. The aim of seismic safety is to reduce deaths, injuries, damage to property, and economic and social dislocation resulting from earthquakes and other geologic hazards.



The Seismic Safety element is primarily a vehicle for identifying hazards that must be considered in planning the location, type, and density of development throughout Santa Ana.

PLANNING FACTORS

No faults, active, potentially active, or inactive are known to exist in Santa Ana. However, Santa Ana is in close proximity to two major faults: the Newport-Inglewood Fault Zone and the Whittier-Elsinore Fault Zone. The San Andreas and Raymond Faults are also proximate to Santa Ana. Of these faults, the Newport-Inglewood Fault Zone should be considered the most likely source for future earthquakes. Seismic parameters associated with each of the active faults (those most likely to produce the greatest earthquake shaking intensities within the City) are listed in Table 1.

Table 1
Seismic Parameters for the City of Santa Ana, California

<i>Potential Causative Earthquake Fault</i>	<i>Greatest Distance from Fault to Site</i>	<i>Length of Fault</i>	<i>Richter Magnitude of Historical Earthquake</i>	<i>Approximate Age of Most Recent Surface Displacement</i>	<i>Maximum Credible Event</i>		<i>Maximum Probable Earthquake (Design Earthquake)</i>	
					<i>Richter Magnitude</i>	<i>Bedrock Acceleration at Site (Fraction of Gravity)</i>	<i>Richter Magnitude</i>	<i>Bedrock Acceleration at Site (Fraction of Gravity)</i>
San Andreas Fault (south of Garlock Fault)	64 km 40 mi	50 km 310 mi	8.0 + 0.5 (1957) 6.5 (1948)	Historic (1857 & 1948)	8.25	.20	8.25	.20
Raymond Fault	48 km 30 mi	26 km 16 mi		Historic	6.8	.15	6.5	.10
Whittier-Elsinore Agua Caliente Fault	20 km 12.5 mi	260 km 162 mi	5.5 (1938) 6.0± (1910)	Historic (1910)	7.1	.33	6.6	.27
Newport-Inglewood Fault	13 km 8 mi	80(+) 50(+) km	6.3 (1933)	Historic (1933, unconf.)	7.1	.42	6.5	.35



Historically, Santa Ana has been exposed to other geologic hazards not necessarily associated with earthquakes. Subsidence and liquefaction are the two of primary concern in Santa Ana.

Subsidence is a general lowering of the ground surface over a large area. Area subsidence has occurred within various parts of the City and is generally attributed to lowering of the ground water levels, settlement of peat and oxidation of peat.

More localized or focal subsidence or settlement of the ground can occur as a result of earthquake motion. This type of settlement and consequent differential settlement results from compaction of loose cohesion less soils.

Exhibit 4 delineates those areas of Santa Ana with the greatest potential for subsidence. The potential for ground subsidence is largely dependent on the magnitude, duration and frequency of the earthquake waves. The design earthquake in Santa Ana is one of along period rolling-type motion rather intensive high frequency shaking making the occurrence of subsidence less likely. The potential for area and focal ground subsidence due to earthquakes is relatively low in Santa Ana.

Soil liquefaction is the phenomenon in which water saturated cohesionless soil temporarily loses its strength when subjected to dynamic forces. The soils primarily vulnerable to liquefaction are saturated sands in a loose to medium dense condition.

The areas of Santa Ana estimated to be susceptible to liquefaction are shown on Exhibit 5. The potential for liquefaction is believed to be the greatest in those areas in which the ground water is less than 20 feet in depth, and the soils are predominately clean, relatively uniform sands of loose to medium relative density.

The probability of liquefaction occurring is relatively small because of the type of earthquake expected and the distance from active faults. However, the possibility of soil liquefaction should be considered in the planning, design and construction of structures located within potential liquefaction areas.



GOALS, OBJECTIVES, POLICIES AND PROGRAMS

GOALS

Goal 1

Provide a safe environment for all Santa Ana residents and workers.

Goal 2

Minimize the effects of natural disasters.

OBJECTIVES

- 1.1 Provide a high level of life safety in structures with high occupancy such as schools and hospitals.
- 1.2 Reduce risks presented by older structures with inadequate earthquake-resistant design.
- 1.3 Minimize seismic risk in the construction of new structures.
- 2.1 Minimize the probability of loss of function of key disaster response facilities in emergencies.
- 2.2 Minimize adverse impact on individuals and businesses of seismic disasters through assistance in reconstruction.

POLICIES

- Use a higher standard of design for structures with high occupancy than for other structures.
- Require older structures to meet minimum seismic standards within a reasonable time or be vacated.
- Locate and design key public facilities to minimize risk, including communication, command/control and emergency medical facilities.

PROGRAMS

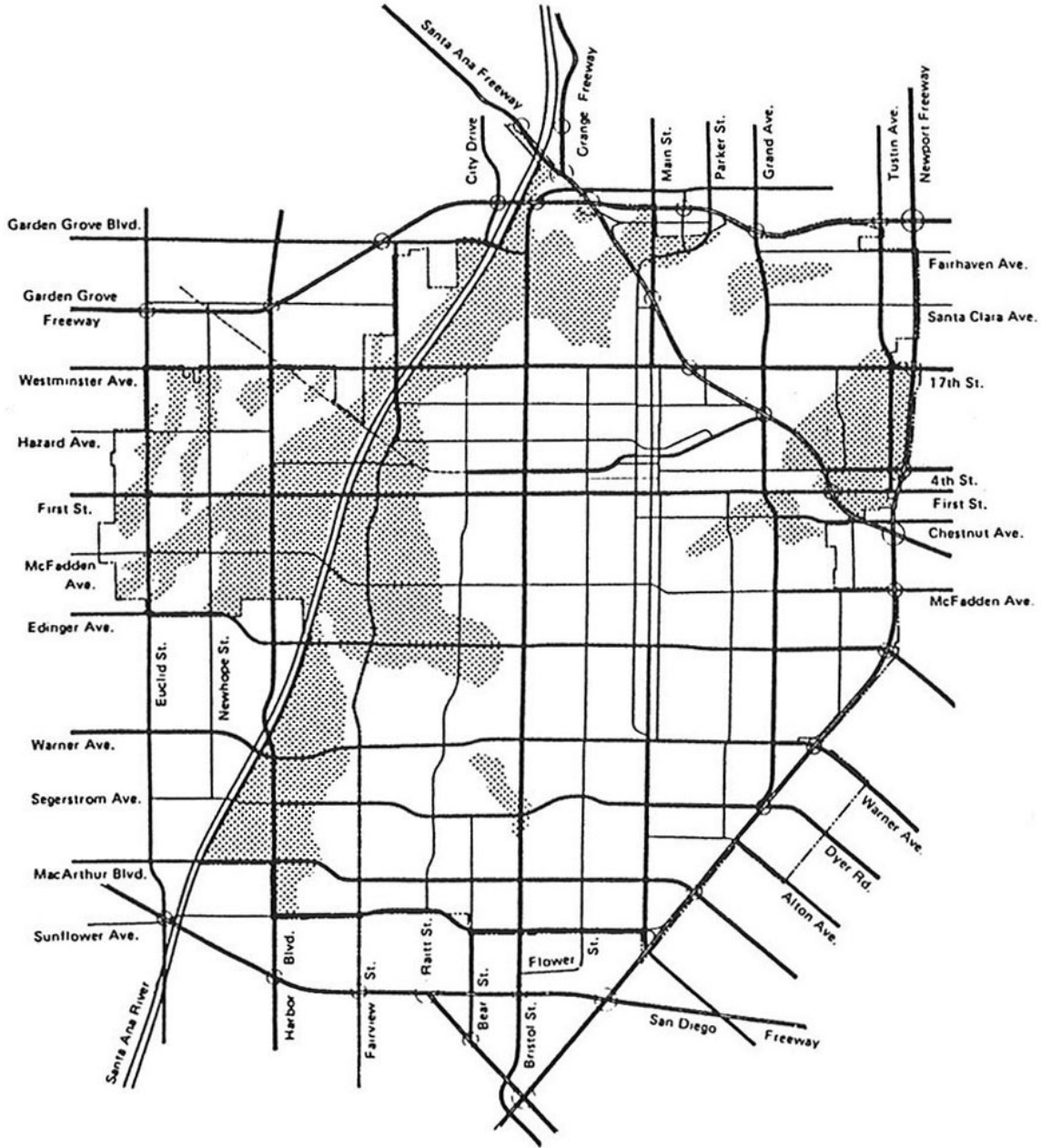
- Enforce seismic design provisions of the Uniform Building Code.
- Identify all unreinforced masonry buildings.
- Develop seismic standards specifically addressed to architecturally or culturally significant older buildings.
- Develop a risk assessment and strategy for location and seismic protection of key communication, command/control and emergency medical facilities.



This page intentionally left blank.



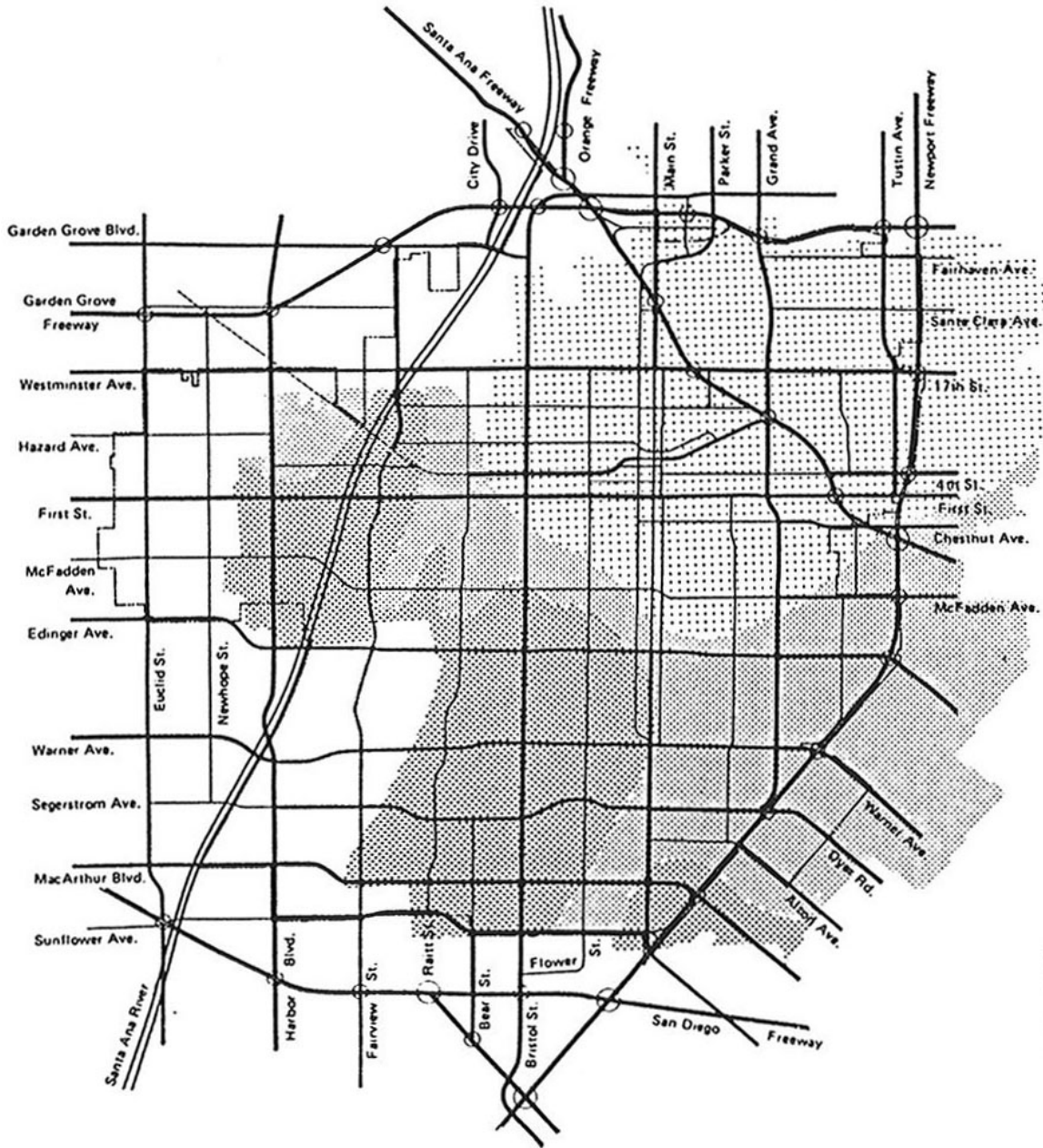
Exhibit 4 Potential Subsidence Areas



This page intentionally left blank.



Exhibit 5 Potential Liquefaction Areas



This page intentionally left blank.

