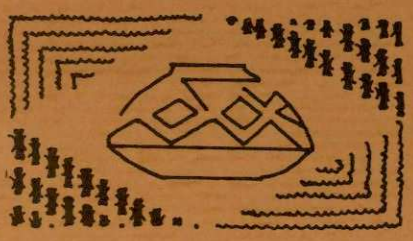
1969



# The Comprehensive Plan 1990

# PHOENIX ARIZONA



PREPARED BY

CITY OF PHOENIX PLANNING DEPARTMENT

November, 1969

# CITY OF PHOENIX, ARIZONA

## CITY COUNCIL

John D. Driggs, Mayor
Howard E. Kraft, Vice Mayor
Henry E. Broderson
Armondo de Leon
John T. Katsenes
Ed Korrick
George F. Miller

## CITY MANAGER

Charles A. Esser

## ASSISTANT CITY MANAGER

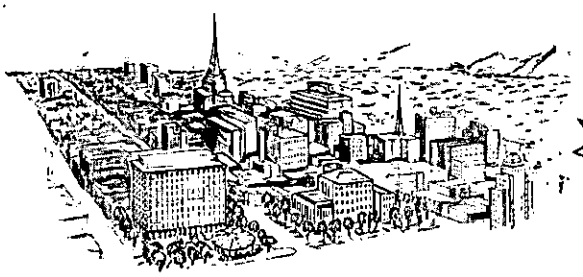
Marvin A. Andrews

## CITY PLANNING COMMISSION

Ray E. Korte, Jr., Chairman
Dwight L. Busby, Vice Chairman
Sidney G. McClue, Jr.
C. Lee Nunley, Jr.
C. Fred Riggins
L. A. Shumway

## CITY PLANNING DEPARTMENT

John W. Beatty, Director



CITY OF PHOENIX
ARIZONA

PLANNING DEPARTMENT • 801 MUNICIPAL BUILDING • 251 WEST WASHINGTON • PHOENIX, ARIZONA 85003

November 12, 1969

Citizens of Phoenix
The Honorable Mayor and City Council
City of Phoenix
Phoenix, Arizona

Dear Citizens:

The Planning Commission is pleased to transmit, for your consideration, "The Comprehensive Plan - 1990" for Phoenix.

This document is the result of several years work by the City of Phoenix Planning Commission and Planning Department. This Plan is a general statement of policy for the future development of the Phoenix Planning Area. It depicts, in broad terms, the general pattern of proposed land uses, both public and private, that are necessary to serve the anticipated population of 1,080,000 in 1990.

This Plan is a basic guide to community development and to the allocation of funds for public improvements. It will be subject to modifications in the future, as changes occur. The Plan is long range, comprehensive, and general in scope. It is intended as a statement of public policy and not as a regulatory document. It is not, therefore, a zoning plan. The Plan should be used as a guide in making decisions such as zoning cases, the location of public facilities and other proposed land use changes.

The Citizens of Phoenix are the key to the implementation of this Plan, for it will achieve its maximum value only through its acceptance by all. Implementation of this Plan will guide the city and its residents in making decisions that will determine the pattern of future Phoenix.

For the above reasons, we urge your careful consideration of this Plan. Public hearings on this Plan before the Planning Commission will be held soon and your comments are invited.

Respectfully,

CITY OF PHOENIX
Planning Commission

R. E. Korte Jr.

RAY E. KORTE, JR., Chairman

# THE COMPREHENSIVE PLAN 1990

PHOENIX

ARIZONA

# TABLE OF CONTENTS


| | | Page |
|---|---|---|
| CHAPTER I | THE COMPREHENSIVE PLAN | 1 |
| CHAPTER II | GROWTH FACTORS AND TRENDS | 7 |
| | History of Phoenix | 9 |
| | Image of the City | 14 |
| | Physical Features | 23 |
| | Land Development Patterns | 28 |
| | Zoning | 35 |
| CHAPTER III | THE FUTURE: POPULATION AND ECONOMIC BASE | 39 |
| | Population and Housing | 41 |
| | Economic Base | 52 |
| CHAPTER IV | PLAN ELEMENTS | 61 |
| | Residential Element | 63 |
| | Commercial Element | 80 |
| | Industrial Element | 97 |
| | Central Phoenix | 108 |
| | Community Facilities Element | 120 |
| | Parks and Recreation | 121 |
| | Schools | 126 |
| | Libraries | 131 |
| | Fire Stations | 134 |
| | LEAP | 138 |
| | Water | 140 |
| | Sewers | 142 |
| | Regional Service Centers | 146 |
| | Refuse Disposal | 148 |
| | Transportation Element | 152 |
| CHAPTER V | PLAN ALLOCATIONS | 165 |
| | Plan Allocations | 167 |
| | Plan Proposals | 169 |
| CHAPTER VI | IMPLEMENTATION | 175 |
| CHAPTER VII | IN SUMMARY | 186 |
| | The Plan: Its Significance | 187 |
| | Growth Guidelines | 189 |

# FIGURE REFERENCE


| FIGURE | TITLE | Page |
|---|---|---|
| 1 | Metropolitan Phoenix | 5 |
| 2 | Prehistoric Phoenix | 9 |
| 3 | Original Townsite | 11 |
| 4 | Annexations - City of Phoenix | 13 |
| 5 | The Pattern of Phoenix | 14 |
| 6 | North Central Avenue | 17 |
| 7 | Image of Phoenix | 19 |
| 8 | Encanto District | 20 |
| 9 | A Proposed Canal Park | 21 |
| 10 | Regional Location | 23 |
| 11 | Physical Features | 27 |
| 12 | Existing Land Use, 1968 | 29 |
| 13 | Phoenix Standard Metropolitan Statistical Area and the Planning Area | 41 |
| 14 | Population Growth (1950-65) By Square Mile (3 Maps) | 42 |
| 15 | Age and Sex Characteristics, 1965 | 43 |
| 16 | Population Projections - 1965-90 | 44 |
| 17 | Areas of New Growth - 1965 - 90 | 45 |
| 18 | Decade of Population Saturation | 47 |
| 19 | Blighted Housing - 1960 | 50 |
| 20 | Housing Units - 1965 - 90 | 51 |
| 21 | Employment Projections - 1965 - 90 | 56 |
| 22 | Buying Power and Retail Sales - 1965 - 90 | 59 |
| 23 | Residential Development Patterns | 67 |
| 24 | Single Family Residences on Major Streets | 68 |
| 25 | Multi-family Residences on Major Streets | 69 |
| 26 | Residential Acreage - 1965 - 90 | 72 |
| 27 | Residential Units | 73 |
| 28 | 1990 Neighborhoods | 75 |
| 29 | Residential Land Use Plan | 79 |
| 30 | Shopping Center Hierarchy | 82 |
| 31 | Shopping Centers - 1965 | 83 |
| 32 | Typical Strip Commercial Area | 84 |
| 33 | Strip Commercial Uses - 1965 | 85 |
| 34 | Office Uses - 1965 | 87 |
| 35 | Central Phoenix Commercial Uses - 1965 | 88 |
| 36 | Commercial Land Use Plan | 96 |
| 37 | Industrial Land Use and Zoning - 1968 | 100 |
| 38 | Southwest Industrial Reserve - Existing Industrial Use | 104 |
| 39 | Southwest Industrial Reserve - 1990 | 104 |
| 40 | Planned Industrial Park | 106 |

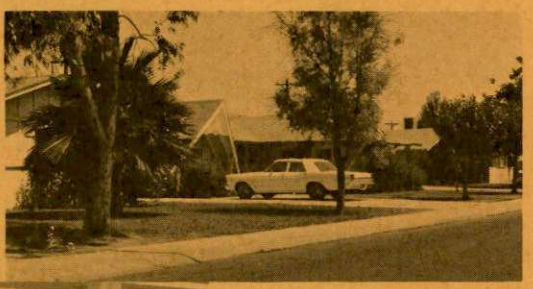
| FIGURE | TITLE | Page |
|---|---|---|
| 41 | Industrial Land Use Plan | 107 |
| 42 | Downtown | 108 |
| 43 | Central Phoenix | 109 |
| 44 | Central Phoenix Floor Space Use - 1967 | 112 |
| 45 | Central Phoenix Land Area by Activity - 1967 | 112 |
| 46 | Districts in Central Phoenix | 113 |
| 47 | Central Phoenix - Hotel and Motel Facilities | 116 |
| 48 | Central Phoenix - Multi-Family Living Units | 116 |
| 49 | Central Phoenix Plan | 119 |
| 50 | Parks and Recreation Areas | 125 |
| 51 | Schools - Existing and Proposed | 130 |
| 52 | Libraries - Existing and Proposed | 133 |
| 53 | Fire Stations | 137 |
| 54 | LEAP Neighborhood Councils | 139 |
| 55 | Waterworks Plan | 141 |
| 56 | Sewers and Sewage Treatment Plants | 143 |
| 57 | Flood Control and Storm Drainage | 145 |
| 58 | Regional Service Centers | 147 |
| 59 | Sanitary Landfill Sites | 151 |
| 60 | Automobile Ownership and Use | 155 |
| 61 | Level of Traffic Service | 157 |
| 62 | Model Neighborhood Street System | 159 |
| 63 | Trends in Person Trips | 160 |
| 64 | Transportation Plan | 164 |
| 65 | Plan Implementation | 184 |
| 66 | Major Features of the Comprehensive Plan | 188 |

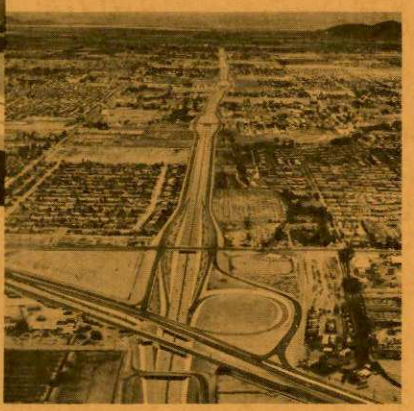
# TABLE REFERENCE

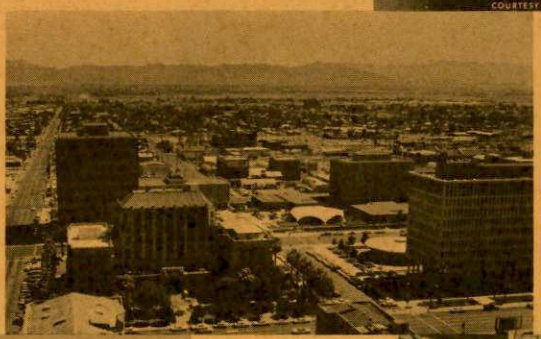

| TABLE | TITLE | Page |
|---|---|---|
| 1 | Existing Land Use - January, 1965 | 31 |
| 2 | Land Use in Acres Per 100 Population | 32 |
| 3 | Land Use as a Percentage of Total Developed Area | 33 |
| 4 | Non-Urban Land - 1965 | 34 |
| 5 | Existing City Zoning - January, 1965 | 37 |
| 6 | Existing County Zoning - January, 1965 | 38 |
| 7 | Housing Units by Type - 1964 - 67 | 48 |
| 8 | Labor Force - 1950 - 65 | 52 |
| 9 | Median Family Income - 1960 and 1965 | 54 |
| 10 | Retail Sales - 1960 - 65 | 55 |
| 11 | Residential Land Use - 1965 | 65 |
| 12 | Residential Land Use - 1980 - 90 | 72 |
| 13 | Commercial Land Use - 1965 | 81 |
| 14 | Commercial Land Use - 1965 - 90 | 92 |
| 15 | Standards for Future Shopping Centers | 93 |
| 16 | Shopping Center Needs - 1965 - 90 | 94 |
| 17 | Industrial Land Use - 1965 | 99 |
| 18 | Industrial Land Use - 1965 - 90 | 103 |
| 19 | Central Phoenix Floor Space Use Projections | 117 |
| 20 | Central Phoenix Land Area Projections | 117 |
| 21 | Standards for Recreation Facilities | 123 |
| 22 | Inventory of Public Schools | 127 |
| 23 | Recommended School Planning Standards | 128 |
| 24 | Fire Company Response Distances | 135 |
| 25 | Classification of Street and Freeway Systems | 156 |
| 26 | Enplaning - Deplaning Passengers, Sky Harbor Airport | 161 |
| 27 | 1965 and 1990 Land Use | 168 |
| 28 | 1990 Land Use Requirements and Plan Proposals | 169 |

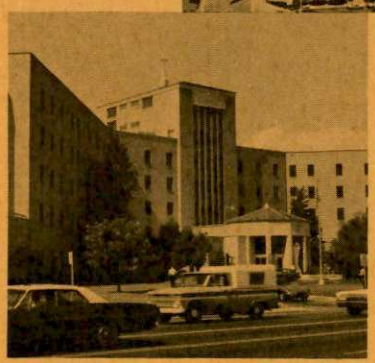
# CHAPTER I

# THE COMPREHENSIVE PLAN







# INTRODUCTION

This report, together with the attached plan map, is the proposed 1990 Comprehensive Plan for the City of Phoenix. To most Phoenicians this statement probably raises a number of questions: What is the Comprehensive Plan? What does it mean to me? Why was it prepared?

## THE COMPREHENSIVE PLAN AND ITS IMPORTANCE

Communities are much like families. In order for the family to achieve its objectives, it must set goals and then develop a plan to achieve those goals. In its broadest sense, the Comprehensive Plan is a series of written statements developed to serve as a guide for public and private decisions in all aspects of urban life. It focuses on identifying and analyzing the forces, relationships and dynamics of Phoenix's growth as they relate to expressed community desires, past trends and long-range goals. In simple terms, it is a public document that is concerned with what we are as a City, where we want to go, and how we are going to get there.

This plan is the first step in the Comprehensive Planning Program. It represents a trends plan which reflects an extension of existing city and regional land development trends and policies curbed, where necessary, and enriched by injections of key regional features and necessary local community facilities and services. In the next phase of the Planning Program, alternatives will be explored in order that we have a choice in guiding future growth.

Specifically, the Comprehensive Plan sets forth goals and objectives designed to guide the growth of Phoenix to the year 1990. It defines the amount of land needed for residential uses, business, industry, parks and other public facilities. It designates general locations for these uses and relates one to the other. It ties these land activities together with a transportation network which will link them together and permit them to function properly. Finally, it sets forth recommendations and implementive measures for achieving the goals of the Comprehensive Plan.

## THE NEED FOR THE COMPREHENSIVE PLAN

There is a simple reason for preparing plans. By 1990, Phoenix will add about 560,000 new residents. In this course of time, we will build more homes, schools, stores, and factories than exist in Phoenix today. For this reason, it must become a legitimate public concern that the land available for future growth be planned so that sound, orderly growth can be achieved.

## MAJOR GOALS AND OBJECTIVES

This Comprehensive Plan will serve to provide Phoenix with means for guiding current development until more extensively studied planning proposals are completed. The following list of community goals and program objectives has been formulated to stimulate discussion and to serve, temporarily, until more detailed goals and objectives are furnished by the Phoenix Forward Committee.

- To increase the choice and opportunity for citizens of Phoenix to determine where and how to live, work, play, learn, and shop without conflicting with one another's needs.
- To achieve the most efficient and orderly pattern of land uses from a social, economic and cultural point of view while achieving both convenience and variety.
- To improve convenience for all citizens in all types of activities while making the best use of the land.
- To make the best use of private and public investments to fulfill community needs.
- To provide an efficient and effective system of community facilities when and where they are most needed.
- To provide continued improvement in the design and effectiveness of planning tools for carrying out the plan and improving the environment.

## PLAN SCOPE

It was determined that the scope of the Comprehensive Plan would include the area roughly bordered by Deer Valley Road on the north, 91st Avenue, the city limits and the Arizona Canal on the west, the Gila Indian Reservation on the south, and the city limits on the east.

The Phoenix Comprehensive Plan — 1990 was also prepared within the context of the entire metropolitan area and in conjunction with guidelines established for other planning areas within the metropolitan area.

# METROPOLITAN PHOENIX

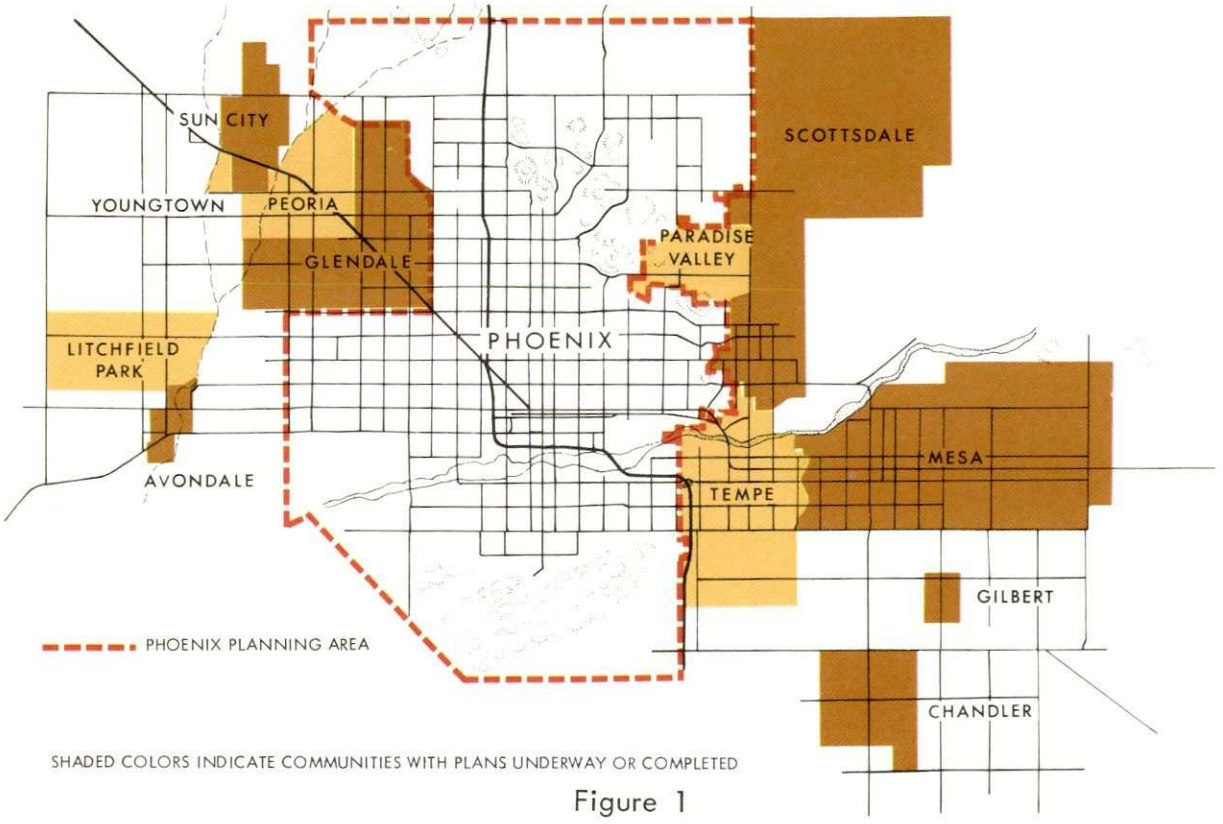
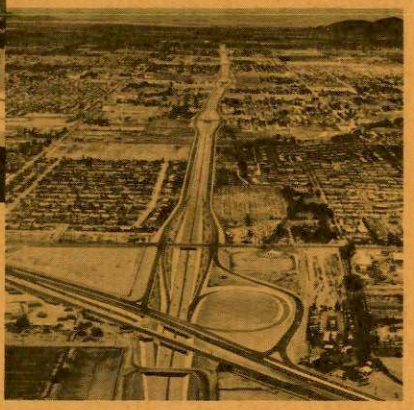
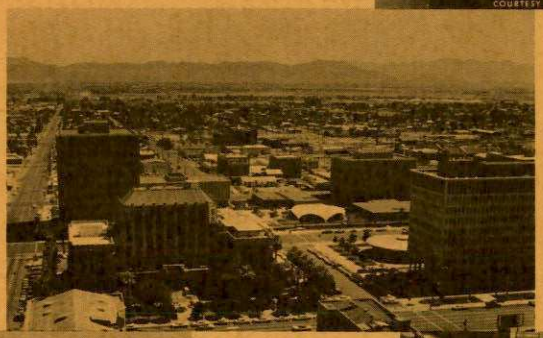


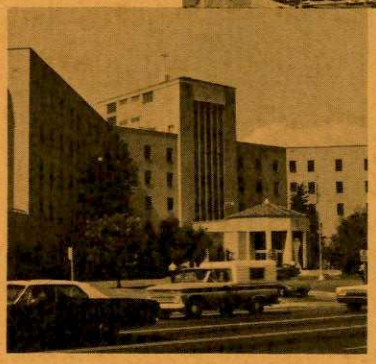

Figure 1

## ORGANIZATION OF THIS REPORT

The Comprehensive Plan is organized into seven chapters. The main body of the plan begins with an analysis of growth trends in Chapter II. Population and the economy are discussed in the next chapter. Chapter IV identifies the various elements of the Comprehensive Plan and forecasts future conditions. Chapter V summarizes Comprehensive Plan proposals. In Chapters VI and VII, implementation of the Plan and the final summary complete the text.






# CHAPTER II

# GROWTH FACTORS AND TRENDS

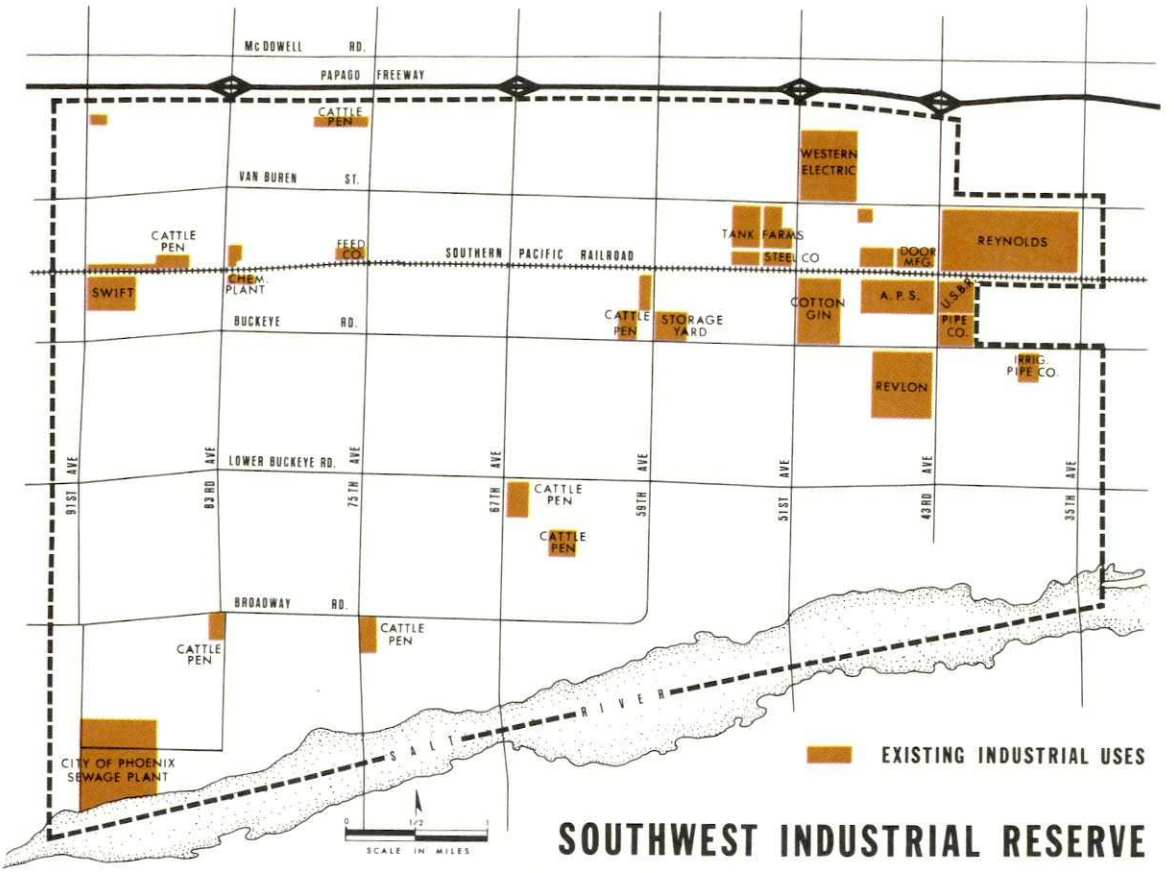



Figure 38

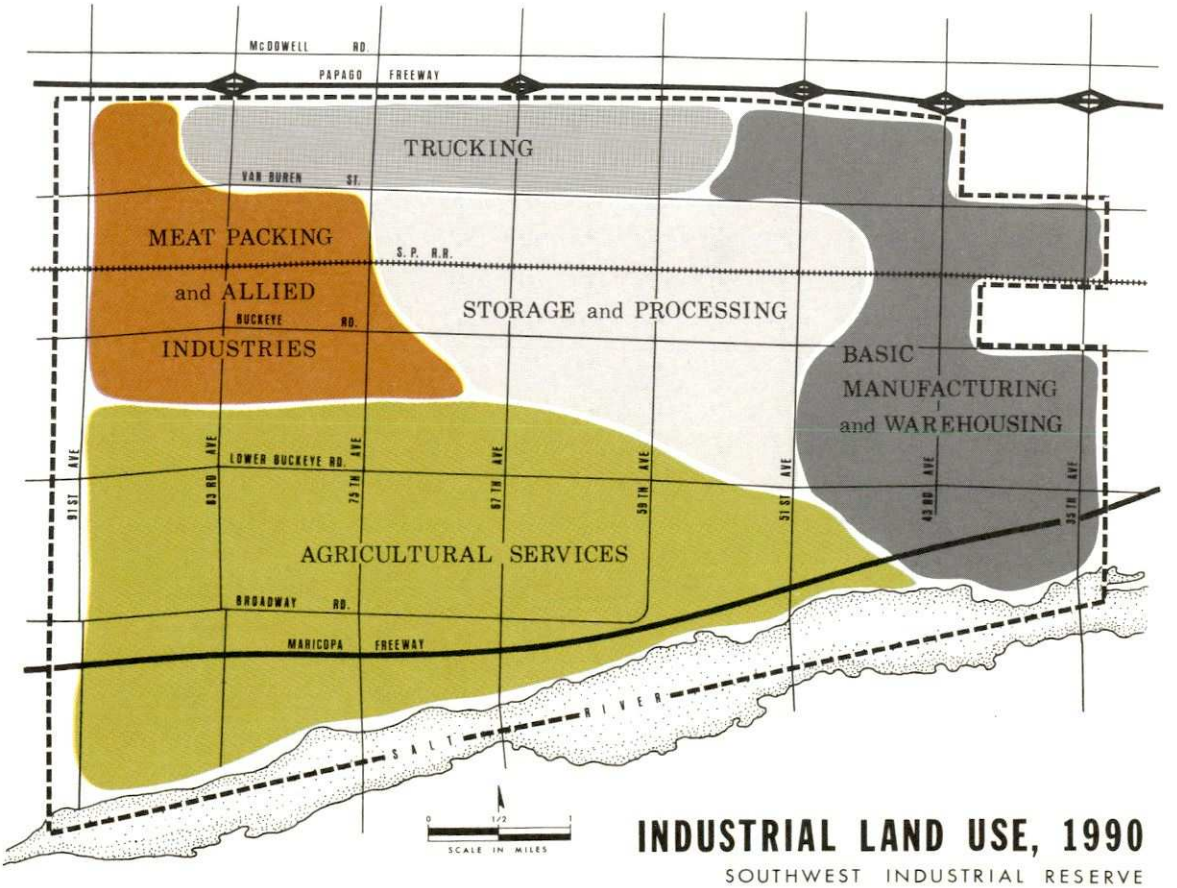



Figure 39

Table 18

INDUSTRIAL LAND USE 1965 - 1990 IN ACRES

Phoenix Planning Area

| Type | 1965 | 1965-1990 | 1990 |
|---|---|---|---|
| Industrial Goods | 2,320 | +6,500 | 8,820 |
| Industrial Services | 1,880 | +2,000 | 3,880 |
| Extractive Industries | 560 | +2,000* | 2,560 |
| Total Industrial | 4,760 | +10,500 | 15,260 |

*Dependent upon the same conditions that exist in the riverbed today.

## Future Industrial Policies

To provide for an orderly development of industrial activities, three policies are suggested: establishment of a Southwest Industrial Reserve, encouragement of planned industrial parks, and a realistic zoning policy.

The first approach is the creation of the Southwest Industrial Reserve. Currently, a number of industrial activities are scattered throughout this area. Manufacturing enterprises will function more efficiently and economically when located in large, contiguous blocks. This reserve will ensure that suitable sites are available to fill the demand for new industrial areas well into the future. The Southwest Industrial Reserve, located generally in the area west of 35th Avenue, east of 91st Avenue, north of the Salt River, and south of the Papago Freeway, would provide an area for industrial use that has superior industrial development characteristics. These include large land parcels, flat, flood free transportation access, and a compatible environment. This too, would be an ideal place for those industrial activities which exhibit obnoxious smells, noise, or other undesirable features. By allowing no incompatible uses, such as residential developments, to intrude within this area, a cohesive industrial area can develop; safe from land use conflicts with other uses. Another objective of the Industrial Reserve is to provide accommodations for some industrial activities that have by-passed Phoenix in the past because of the relatively small local and regional markets. Industrial activity in the Southwest Industrial Area will be dominated by industries that have a low employee density: that is, there will be a few employees per acre of use. Specific recommendations for various areas are shown on the following map. Industrial development within the area should follow a contiguous pattern.

4. Transportation service to industrial areas should be given major consideration in planning.

5. There should continue to be cooperation among government, industry, and other community interests in order to meet the needs of both the community and industry.

## Future Location

Land needed for new manufacturing will be near existing manufacturing plants. Electronic manufacturers have preferred to build in outlying areas near freeways. Examples of this are the recent expansions of the Motorola, General Electric, and Sperry plants. While other manufacturers also prefer outlying areas, they are more concerned with rail access, as is shown by the Reynolds Aluminum plant in Southwest Phoenix. Because of this past pattern of growth, it is estimated that future land needs for the production of industrial goods will be in the outlying areas near transportation routes.

The wholesaling industry is mainly concerned with access to transportation routes. In order to facilitate shipments of goods from throughout the Southwest, a major trucking terminal is suggested. This terminal would provide close freeway access to accommodate the expected wholesale and warehouse activities in Southwest Phoenix.

The current sand and gravel supply is expected to last through the present planning period. Because of the lack of knowledge as to where new deposits can be found or what to do with present locations once they are exhausted, further research is needed on this subject.

## Future Land Use

The land requirements for manufacturing, one of the largest single-use activities, will increase from 2,300 to 8,820 acres by 1990. During this same time period the acreage needed for industrial services will grow from 1,880 to 3,880, an increase of 2,000 acres, while extractive industries will need approximately 2,000 more acres of land.

Phoenix display certain undesirable characteristics: small lots, lack of employee parking, loading and handling problems, poor buffering from nearby residential areas, lack of expansion room, traffic congestion, and blighted surroundings. Timely and orderly development will help avoid traffic congestion and inadequate major streets.

## THE FUTURE

By 1990, it is estimated that 15,260 acres of land will be used by industry. Basic goals must be set up and feasible recommendations brought forth in order to facilitate this growth and answer the future needs of industrial land use in the Phoenix Planning Area.

### Goals

- Establishment and maintenance of industrial lands adequate in both quality and quantity to suit present needs and attract future growth
- Protection of existing and future industrial lands from incompatible uses and blight
- Renewal of existing industrial areas which are blighted, but are otherwise suited to serve industry
- Provision of an orderly transition of lands to industrial uses
- Provision of industrial sites with adequate public facilities, transportation and land to expand

### Area-Wide Recommendations

1. Industrial zoning should be based primarily on calculated need, making allowances to ensure choice and reasonably priced sites for the future, as well as examining the amount of currently zoned industrial land as to its potential for future use.
2. Industrial areas should have sufficient room to allow on-site expansion of existing plants.
3. Industrial areas should be reserved exclusively for industry and supporting services.

# INDUSTRIAL LAND USE and ZONING, 1968

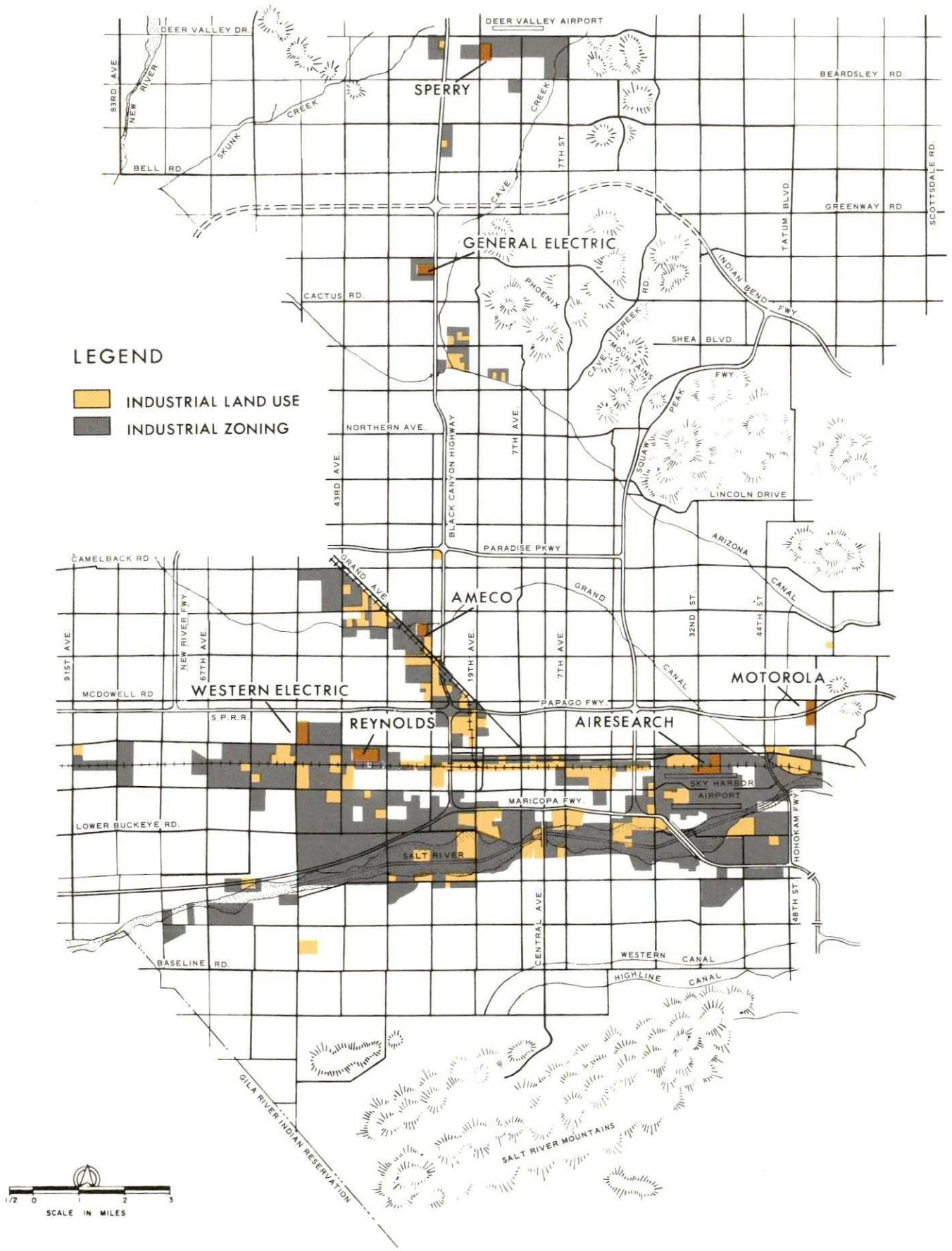



Figure 37

Table 17

INDUSTRIAL LAND USE - 1965

Phoenix Planning Area

| Type | Acres | Percent of Total |
|---|---|---|
| Industrial Goods | 2,320 | 49% |
| Industrial Services | 1,880 | 39% |
| Extractive Industries | 560 | 12% |
| Total Industrial | 4,760 | 100% |

Source: Phoenix Planning Department

Employment density depends on the type of industrial land use. High employment density industries include manufacturing and wholesaling, while warehousing, agricultural services, and extractive industries have few employees per acre of use.

## Zoning

Of critical importance in industrial land development in the Phoenix Planning Area is determining the amount of land needed for industry and the most desirable location for it. The practice of the City of Phoenix and Maricopa County has been to zone large areas for industry in order to make available an excessive amount of industrial sites. It is apparent that the city and county have greatly over estimated future needs for industrial lands. Today, over 15,500 acres are zoned for industry, but only 4,700 acres are being used for industrial purposes. Much of this vacant industrially zoned land is located in the riverbed, in small lots scattered throughout the older areas, or in similarly unusable locations.

## Problems Today

Significant problems relating to industrial activity in the Phoenix Planning Area are: (1) the need for rehabilitation of older industrial areas; (2) the need for public facilities and supporting business activities in newer industrial areas; and (3) the need for a closer examination of the potential of lands zoned for industrial activity in the Planning Area. Many older industrial areas in the Inner City of

Of the 4,760 acres of land now used by industry, 560 are used by the extractive industries (sand and gravel). Almost all of this land is located in the Salt River bed, although there are two decorative stone operations in the northeast section of the Phoenix Planning Area.

## Location Criteria

The main site requirements of industry are proximity to transportation routes (rail, air and trucking), suitable land packages and local utility and power rates. Because long journeys to work may have an effect on employee morale, nearness to housing facilities is important in locating some industrial activities. "Science oriented" industries in Phoenix consider the quality of all levels of educational facilities and availability of technical manpower to be their main concerns. Location of agricultural services depends mostly on rail access, but prevailing winds affect the placement of stockyards.

## Technology

Changing technology has had a profound impact on industry in the Phoenix Planning Area. In some industries (metals), new methods have raised production and lowered employment, while in other industrial activities technology has caused an increase in the demand for technical workers and a decrease in the need for unskilled laborers. The development of air conditioning has facilitated the growth of industries such as electronic manufacturing and metal extrusion in the Phoenix Area. Advances in modes of transportation have also caused changes locally. In addition to railroads, air freight and trucking have become major means of transporting goods. In many cases these faster and more efficient means of transportation have expanded the markets for locally produced goods.

## Existing Land Use And Density

In the Phoenix Planning Area, 4,760 acres of land were used for industrial purposes in 1965. Eighty percent of all such land was located in South Phoenix in the vicinity of the Salt River bed. Most of the remaining industrial land was along the Black Canyon Freeway south of Grand Avenue and along Thunderbird and Deer Valley Roads. The exceptions to this pattern are the electronics firms which have located in dispersed areas throughout the Planning Area. Practically all of the industrial operations in South Phoenix manufacture locally consumed products, whereas most of the industrial activity elsewhere is devoted to the production of goods to be distributed nationally.

# INDUSTRIAL ELEMENT

## EXISTING INDUSTRIAL LAND USE

The economic importance of industry today is increasing and major consideration should be given to industrial needs in a plan for development. The location and land requirements of modern industrial plants cannot be satisfied with leftover land. The broad objective of this section is to underscore the importance of industry in the Phoenix Planning Area and to clarify its needs and problems.

The Industrial Element of the Comprehensive Plan shows present and forecasts future industrial land needs. At the same time, it is concerned with the present problems of industrial land use, possible solutions to these problems, and future industrial development criteria. Industrial uses are comprised of all manufacturing, wholesaling, warehousing, agricultural services, and extractive industries such as sand and gravel.

### Industrial Activities

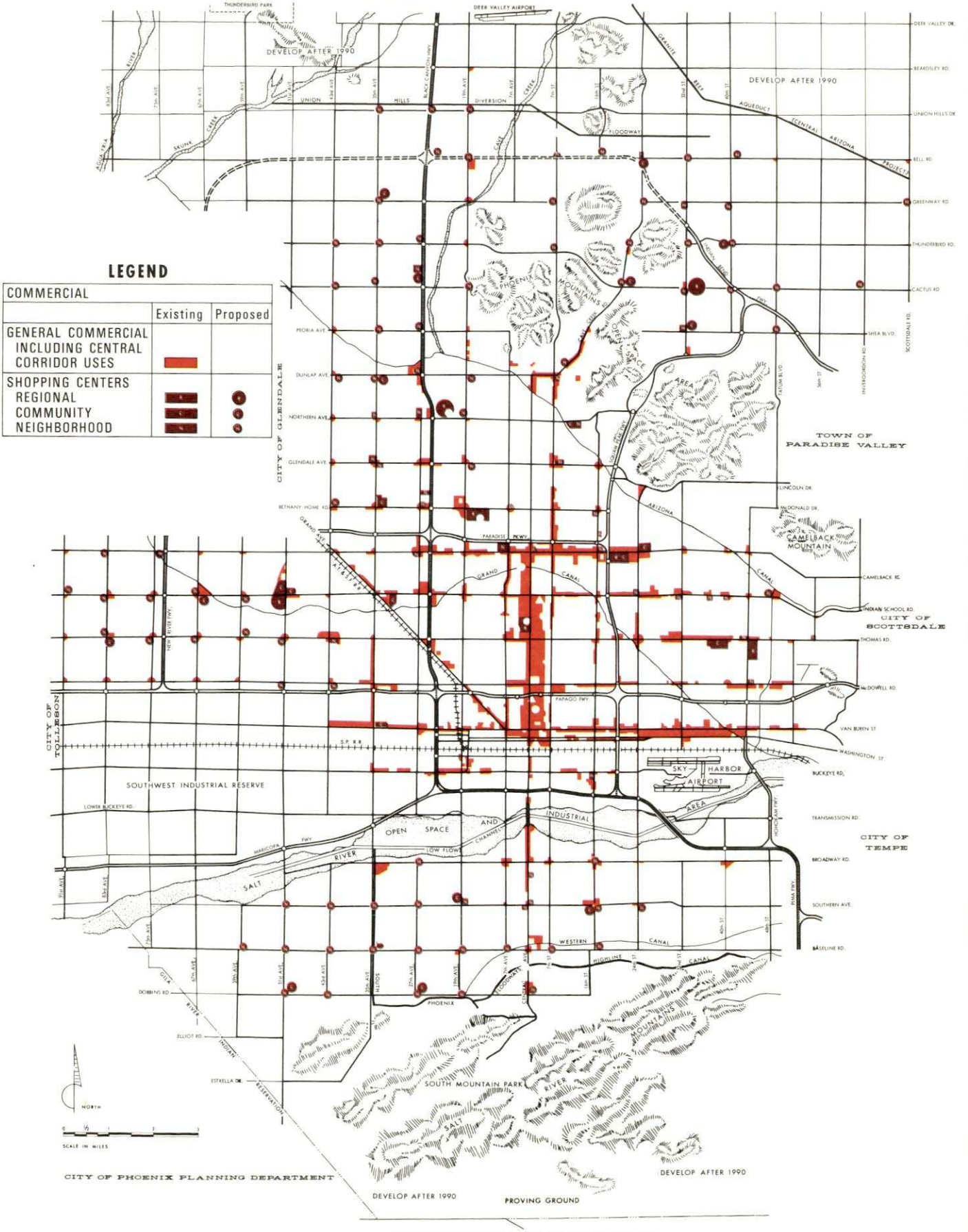
This study classifies three types of industrial activity: production of goods, services, and extractive operations. The manufacture of industrial products for sale is the primary activity in industrial goods, while services include wholesaling, warehousing and agricultural services. Extractive operations are the removal of mineral resources from the earth.

Manufacturing in the Phoenix Area is dominated by the electronics industry. The electronics industry in Phoenix is predominately the production of goods rather than research. Electrical equipment, aerospace, and machinery firms are the leading employers in this area.

Wholesale trade in Phoenix continues to grow as a result of its location within an expanding metropolitan and regional Southwestern market. The railroads, which determined the location of the first Phoenix wholesaling activities, are still present, but trucking is becoming increasingly important. Like early rail routes which conconverged and terminated at a common point, truck routes are similarly emerging and in the same general location.

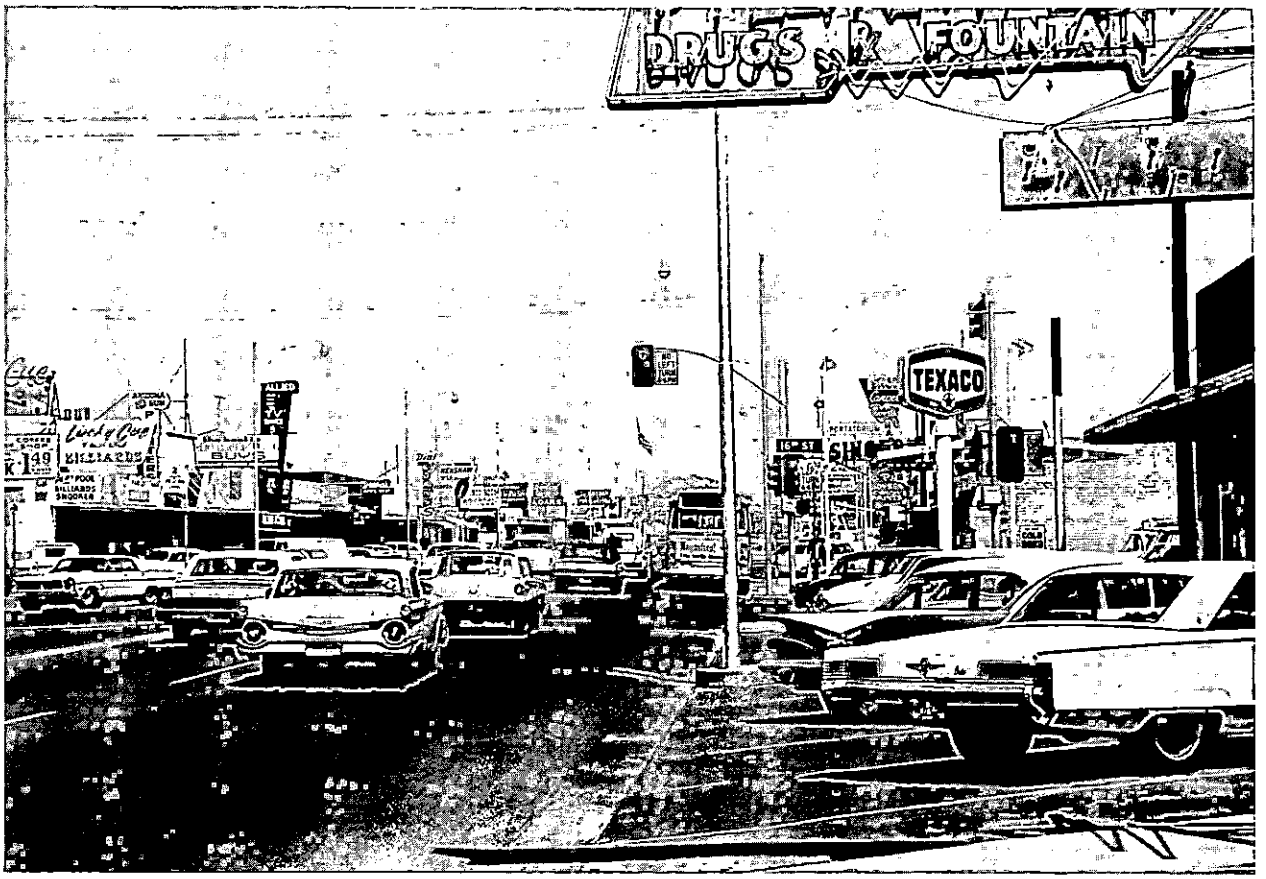
Agricultural services include meat packing and animal rendering, fertilizers and insecticide plants, and other research operations. Since Maricopa County (the Phoenix Standard Metropolitan Statistical Area) was fourth in the nation in value of agricultural production in 1966, agricultural services are important and extensive.

# COMMERCIAL LAND USE PLAN




THIS MAP SHOWS GENERALIZED LOCATIONS OF ALL LAND USES

Figure 36




Strip commercial uses along McDowell Road.

## Future Office Uses

Office uses in the Planning Area will continue to be an important commercial activity in the future. Growth is anticipated in conjunction with shopping centers and in clustered groups of offices serving neighborhood and community needs. Particular new concentrations are expected around hospitals, near regional shopping centers and in close proximity to freeways and major streets.

The technique used for forecasting office uses relied on determining the character and trends of office employment in relation to land use. Employment densities are expected to increase sharply and thus more intensive land use will restrict land absorption in this category. Assuming that this increased density will cause a reduction in land use, the 1965 acreage per 1,000 population figure of 1.3 is expected to drop to 1.0 in 1990. From this ratio, it is anticipated that some 448 additional acres of office uses will be needed by 1990.

Using these standards to determine the acreage needed to service the anticipated 1990 population, a need for nearly 1,000 additional acres of new shopping centers was projected. The projected new shopping centers were located in the Planning Area in relation to neighborhood and community service areas, and in the case of regional centers, major traffic interceptor routes.

Table 16

SHOPPING CENTER NEEDS 1965 - 1990

Phoenix Planning Area

| Type of Center | Number 1965 | Number 1990 | Acreage 1965 | Acreage 1990 |
|---|---|---|---|---|
| Neighborhood | 33 | 113 | 216 | 856 |
| Community | 9 | 25 | 201 | 551 |
| Regional | 4 | 7 | 259 | 439 |
| TOTAL | 46 | 145 | 676 | 1,846 |

## Future Strip Areas

In spite of the recommendations presented before, strip commercial areas in the Phoenix Planning Area will continue to expand, although at a reduced rate. Older strip areas on major streets such as Camelback, Indian School, Thomas, and Van Buren may fill in, while shopping centers may generate some ancillary commercial growth around their peripheries throughout the Planning Area. However, as retailing and service activities become more efficient with fewer stores generating higher volumes, the proportion of land needed for strip use may be expected to decline.

In terms of acres per 1,000 population, strip development is expected to decline from 2.3 acres per 1,000 in 1965, to 1.7 acres per 1,000 in 1990. Thus, only 561 new acres are forecast for the 1965 - 1990 period.

Table 15

STANDARDS FOR FUTURE SHOPPING CENTERS

| Type of Center | Neighborhood | Community | Regional |
|---|---|---|---|
| People Served | 5 - 25,000 | 25-100,000 | Over 100,000 |
| Average Site Size | 8 acres | 22 acres | 60 acres |
| Gross Square Footage | 100,000 | 100-500,000 | Over 500,000 |
| Major Tenant | Supermarket | Junior Department Store | 2 or more major department stores |
| Area Served | Several Neighborhoods | Community | Major Districts |
| Acreage Needed to Serve Population | .8 acres per 1,000 persons | .5 acre per 1,000 persons | .4 acre per 1,000 persons |

Sources: Community Builders Handbook, Urban Land Institute, 1968; Commercial Land Needs (Parts I, II and III), Santa Clara County Planning Department, 1964.

A shopping center mall provides a pleasant and relaxing atmosphere.

Table 14

COMMERCIAL LAND USE 1965 - 1990

Phoenix Planning Area

| Type | 1965 | 1965-1990 | 1990 |
|---|---|---|---|
| Shopping Centers | 676 | 1,170 | 1,846 |
| Strip Development | 1,226 | 560 | 1,786 |
| Office Uses | 674 | 450 | 1,124 |
| Central Phoenix Uses | 559 | * | * |
| TOTAL | 3,135 | N/A | N/A |

* Not included here.

## Future Shopping Centers

A large segment of shopping center growth between 1965 and 1990 will reflect the need for additional neighborhood centers in many sections of the Planning Area— Maryvale, South Phoenix, the Northwest and in North Paradise Valley. Additional community centers will be needed in basically the same areas. By 1990, three more regional centers are expected to be built— in Maryvale, North Paradise Valley and in Northwest Phoenix.

The technique used in projecting future shopping center needs was to relate population to the number of acres of shopping centers needed to service that population. While the number of people needed to support a shopping center of any type is variable, income levels, competition and store size can give some measure to forecasts for new shopping centers.

Strip Areas should be:

1. Consolidated to reduce traffic congestion and to provide more off-street parking
2. Improved by providing better access roads, ingress and egress to off-street parking areas
3. Discouraged from expanding - with a policy of no further strip commercial zoning and a re-evaluation of existing unused commercially zoned areas the necessary first step in this direction

Office Areas should be:

1. Clustered into "office parks" where grouped buildings, parking, landscaping and loading areas are designed as a functional unit
2. Located in designated areas where they are needed in the Planning Area
3. Compatible with surrounding land uses and controlled through site plan review

Future Land Use

Summarizing forecasted commercial activity in the Phoenix Planning Area has revealed two dominant trends. Shopping center growth will follow population expansion and will assume a larger proportion of the total commercial land use. Strip commercial uses will not hold the commanding position in the rapidly evolving commercial pattern of tomorrow. While there will always be a need for certain uses to choose sites in strip or auto-oriented locations, the overall pressure for continued growth of these types will decline. Office land use will increase more slowly due to a rising density of office employees.

By 1990, there will be another 2,180 acres (excluding Central Phoenix gains) of commercial uses in the Phoenix Planning Area. Shopping center growth will be the most rapid with an increase of 1,170 acres — about 47 acres per year to 1990. Office uses will increase less rapidly from 674 acres in 1965, to 1,124 acres in 1990. Strip or auto-oriented commercial development will increase to 1,786 acres — a growth of 560 acres. Central Phoenix forecasts can be found in the Central Phoenix Element.

## Goals

Because commercial development should occur throughout the Planning Area, principal recommendations on area-wide commercial development are as follows:

- A strong Central Phoenix Business area must be preserved and revitalized
- Goods and services should basically be provided by three levels of commercial centers
  - neighborhood shopping centers
  - community shopping centers
  - regional shopping centers
- Suitable sites should be provided for all needed commercial activity, while outmoded existing commercial facilities should be encouraged to modernize and consolidate
- Land zoned for commercial use should be brought into line with realistic market needs
- New commercial zoning within an area should reflect the needs of that particular area and should conform to the recommended amount set out in this plan
- Convenient, safe and compact districts shall be the desired goal

## Recommendations

The following are specific recommendations for the various elements of future commercial land use.

### Shopping Centers should be:

1. Properly located to the neighborhood or trade area they serve
2. Protected from adverse effects of too many nearby centers
3. Planned to accommodate nearby commercial developments

## Problems Today

Some of the pressing problems in commercial land use in the Phoenix Planning Area are the changing pattern of retailing in the Central Phoenix business district, the scattering of professional offices, and an overabundance in certain locations of poorly designed shopping centers. Many of these problems stem from revolutionary changes in shopping habits. First and foremost has been the impact of the automobile. The automobile fostered a demand for parking, encouraged strip commercial development, and led to the development of the shopping center. With the growth of shopping centers, adverse trends developed in the downtown section of the central city business district. Shopping centers also became the nuclei around which other commercial uses tended to cluster, some to the detriment of the shopping center.

Shopping centers attract other commercial uses around them.

## Zoning

The most important problem regarding commercial development in the Phoenix Planning Area is that land zoned for commercial use is far in excess to the land utilized for commercial activity. In 1965, some 7,145 acres were zoned for commercial use, yet only 3,135 acres were being used for commercial activities. While some "over zoning" might be justified, most certainly zoning and the economic need for commercial uses should relate more closely. No amount of over zoning will of itself bring investment in commercial facilities. Often over zoning will hinder the development of vacant parcels for many years.

## THE FUTURE

Prior to any development of a plan for future commercial land use, it is wise to establish the intent, purpose and goals of the work to be carried out. Because future commercial development in the Phoenix Planning Area will pose many questions of public policy, it is necessary to appraise the problems of future commercial planning and to suggest some realistic solutions as well.

## Central Phoenix

The fourth major kind of commercial development is Central Phoenix uses. Central Phoenix is located between 7th Street and 7th Avenue -Camelback Road to Grant Street with an arm extending to 19th Avenue to cover the Capitol area. This district comprises the downtown, midtown, uptown and Capitol area of Phoenix. Comparison goods are the largest retail use although local business areas provide some convenience goods. Office uses predominate in the form of high-rise structures.

The Central Phoenix business district has evolved slowly northward from the old "downtown" (7th Street to 7th Avenue, Roosevelt to the Southern Pacific Railroad Tracks). With the development of high-rise structures in the midtown area in the late 1950's, a portion of the financial community migrated northward to new locations along Central Avenue in the midtown and uptown areas.

**CENTRAL PHOENIX COMMERCIAL USES, 1965**

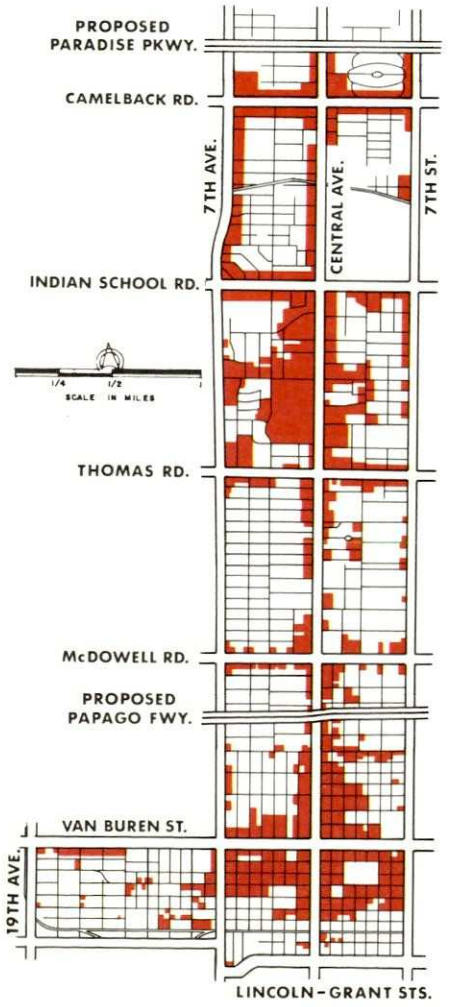



Figure 35

The question of what are the problems in "Central City" can be considered only briefly in this section. Detailed comments can be found in the Central Phoenix Element. Only some of the obvious problems relating to the commercial aspects will be discussed here.

In the Phoenix Planning Area, Central Phoenix today serves as the vital office, governmental, and financial heart of the metropolitan area. Competition from regional and community shopping centers has cut sharply the retail activity in this area. Traffic congestion, conflicts between pedestrians and vehicular traffic and limited off-street parking have caused concern.

# OFFICE USES, 1965

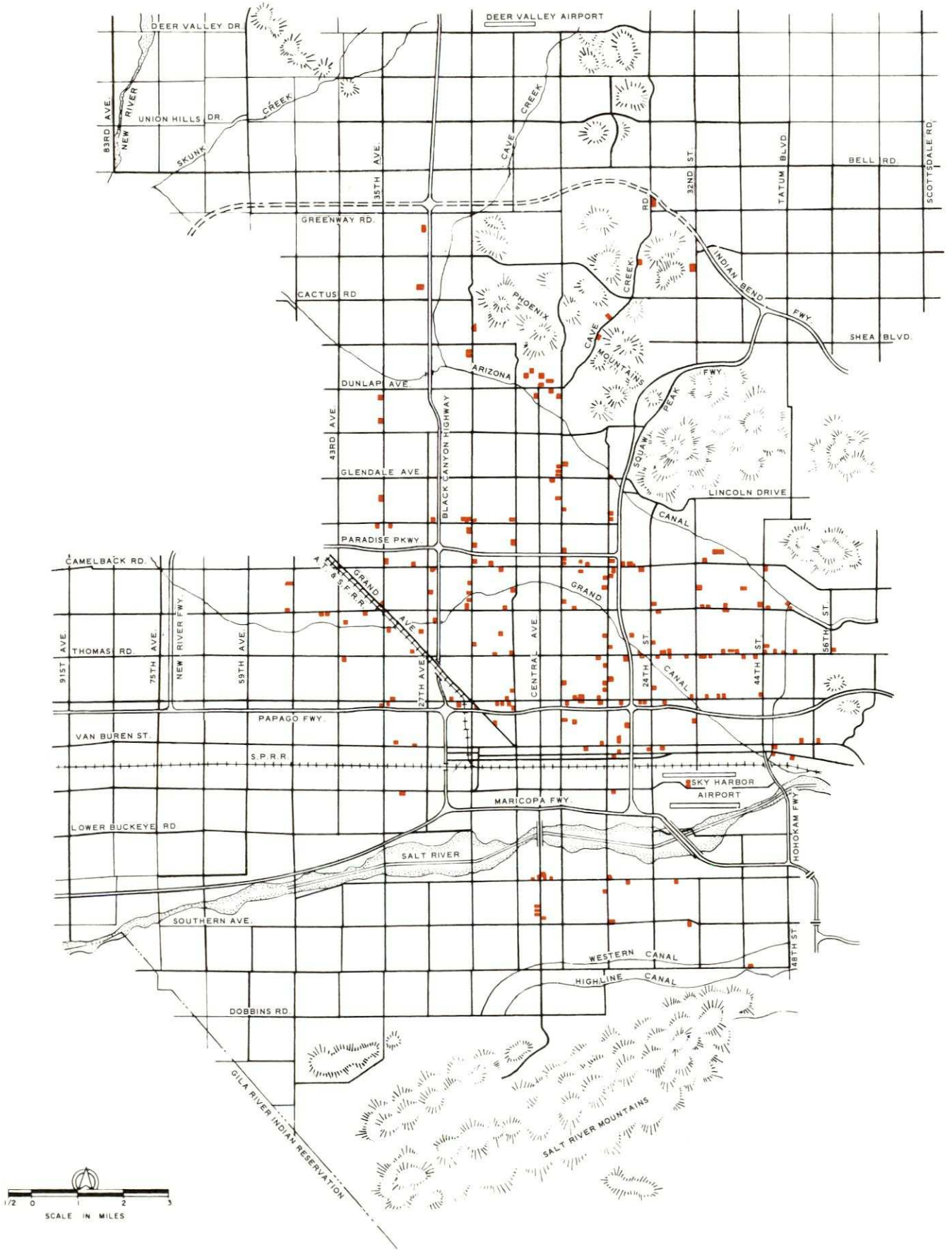



Figure 34

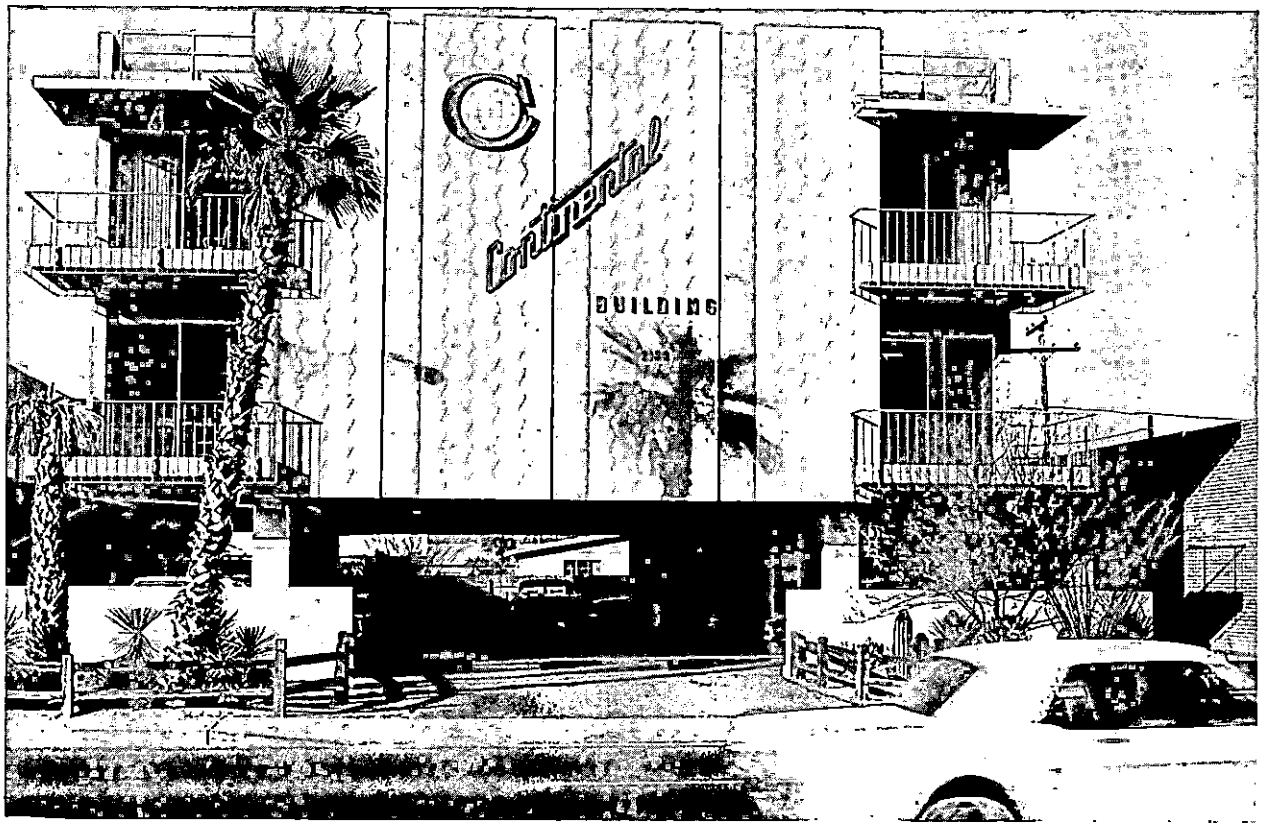
## Office Areas

Office uses form the third kind of commercial development found in the Phoenix Planning Area today.

Some offices, banks,and clinics are located at random near shopping centers while others are clustered in tall buildings and complexes. Office areas offer personal services that cannot be generally classified as convenience or comparison and thus are well-suited to form a major category of commercial land use.

Office uses generally have no specific location in the Planning Area. They tend to be associated with both strip areas, shopping centers, and in conjunction with the central Phoenix business area where most of the high-rise office structures are located. Some services are auto-oriented (such as drive-in banks), while others are more dependent on pedestrian traffic in or near shopping centers.

Present problems include conflicts with residential uses, spot zoning for office uses in residential areas,and traffic congestion.




Attractive office buildings provide convenient off-street parking.

# STRIP COMMERCIAL USES, 1965

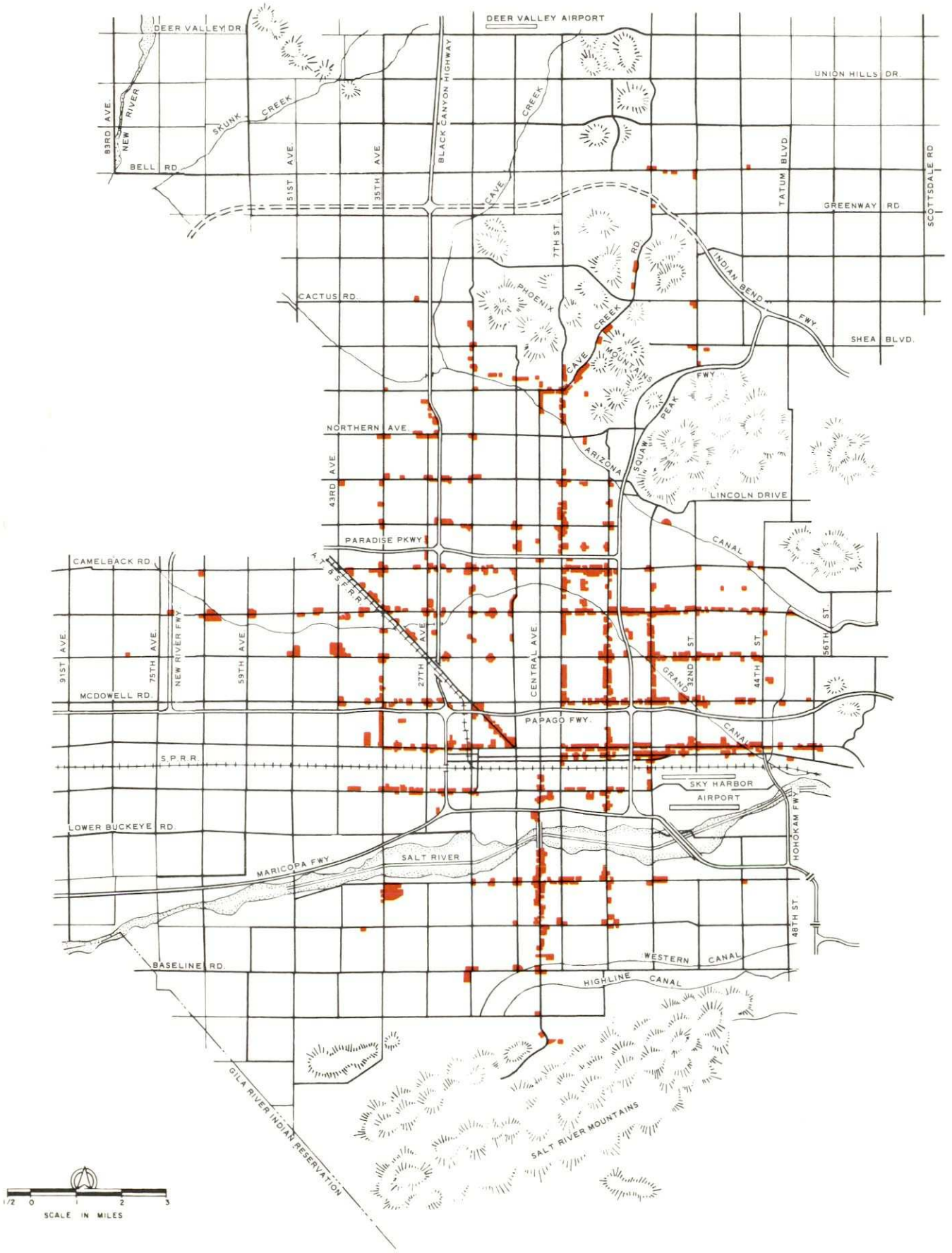



Figure 33

## Strip Commercial

The second major type of commercial development found in the Phoenix Planning Area is strip commercial. Here are located major street businesses that draw their customers because they sometimes offer one-of-a-kind services or goods. There is usually no dependence on the attraction of other, like businesses for increased sales, as the customer must drive directly to that particular store. Typically, strip uses locate side by side along streets in an unplanned manner in adjacent buildings often dissimilar in style and shape. Parking is sometimes located on the premises and often the business is of the "drive-in" variety.

Strip commercial uses in the Phoenix Planning Area have sprouted out along the major streets in the city. Continuous ribbons of establishments along Van Buren, McDowell, Indian School and Camelback exist today. Few areas have been untouched. Cave Creek Road in Sunnyslope, 7th Street in North Phoenix, and Central Avenue in South Phoenix are but a few examples of recent strip development.

## TYPICAL STRIP COMMERCIAL AREA

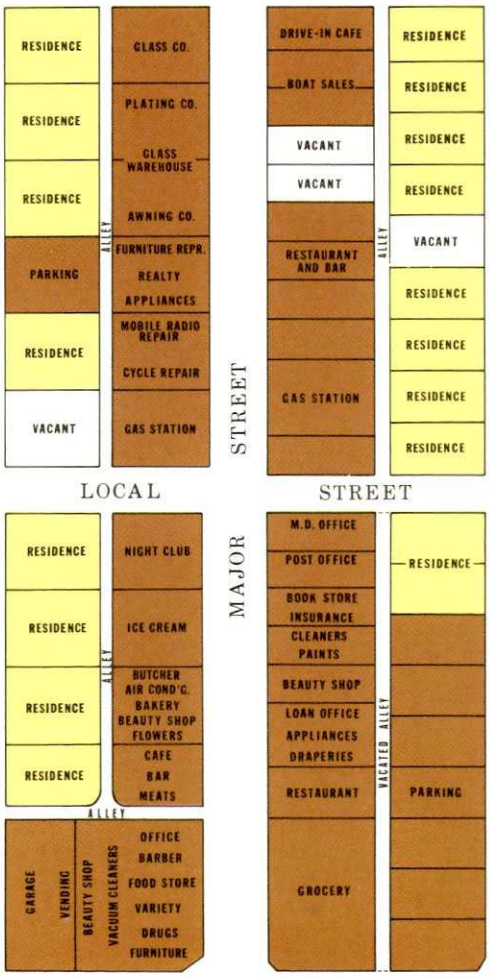



Figure 32

Strip commercial areas suffer from well known maladies: little or no off-street parking, endless rows of signs, dangerous traffic congestion, unrelated building types and styles, conflicts with neighborhood land uses, overcrowding of the site and acute competition from shopping centers. Today, retailing activities in strip areas face an uncertain future. Mute witness of this problem is the great number of vacant buildings within existing strip areas throughout the Planning Area. Even more alarming is the fact that there remains a great deal of vacant zoned commercial strip areas in the Planning Area, particularly along Cave Creek Road and in the older sections. This is a legacy for the future that will be difficult to overcome.

# SHOPPING CENTERS, 1965

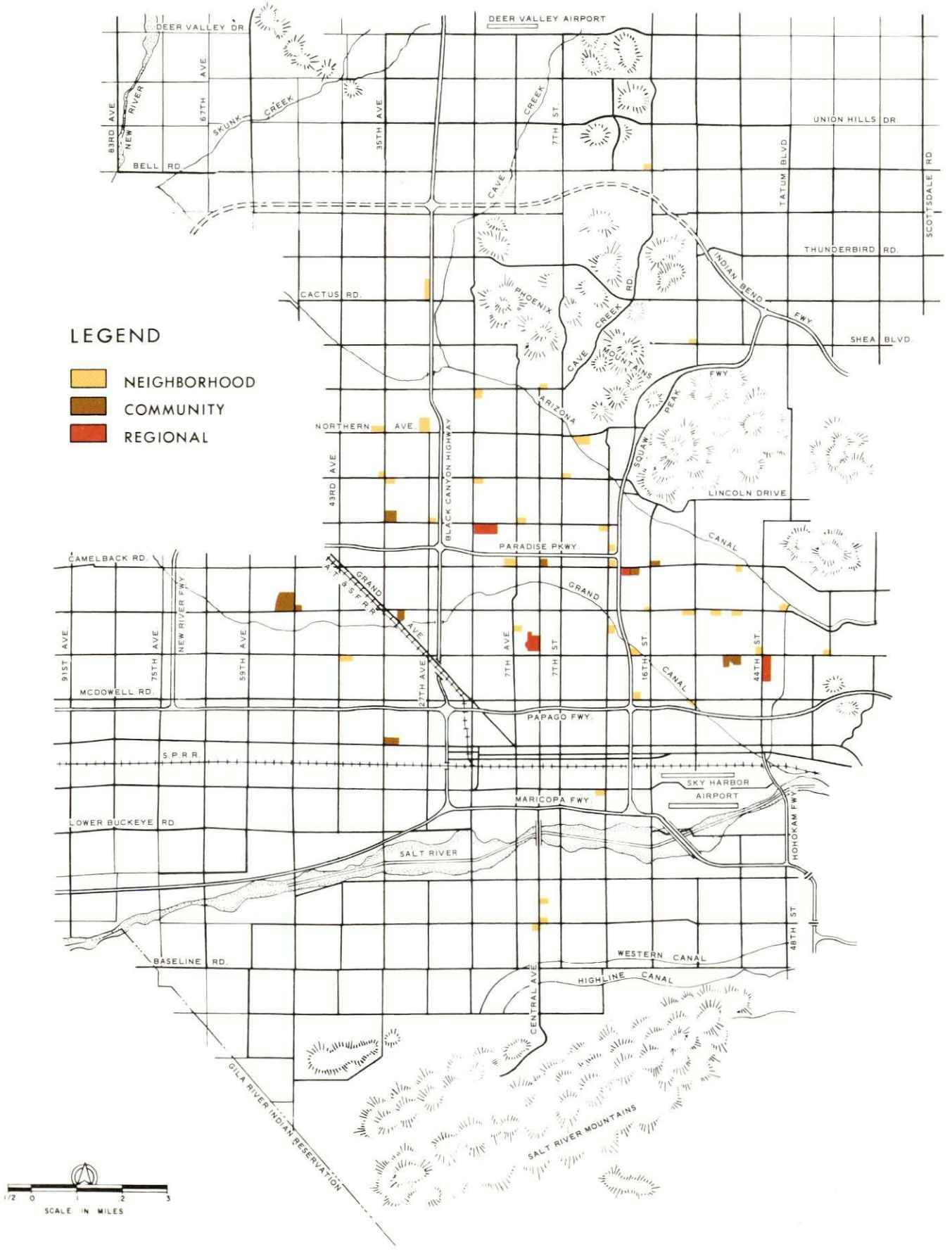



Figure 31

## SHOPPING CENTER HIERARCHY

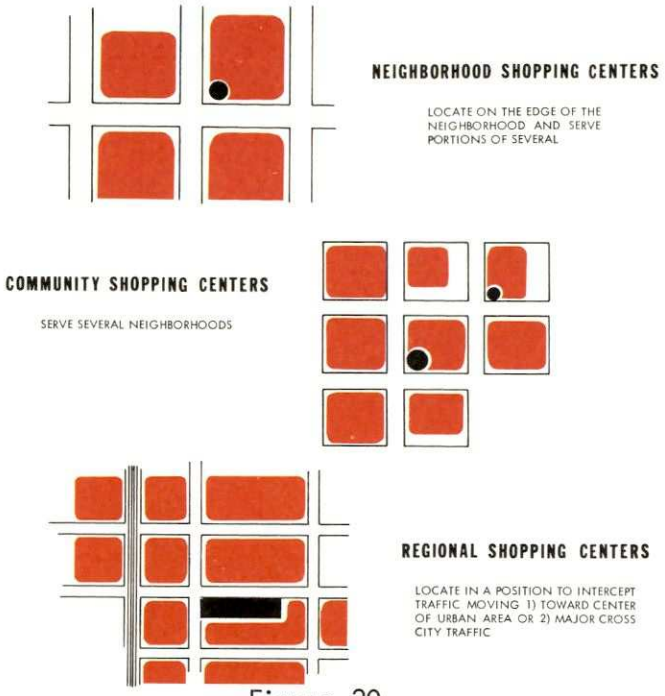



Figure 30

centers which usually serve 5,000 to 25,000 people or several neighborhoods. Community centers offer a mix of convenience and comparison goods and services to an area of some 20,000 to 100,000 people. Comparison shopping is best served by regional centers which often serve areas over 100,000 people.

A look at the following map reveals the four major patterns of commercial land use. Shopping centers are oriented along major streets with a heavy concentration in East Phoenix especially along Indian School Road. Of primary concern is the emergence of the regional shopping center as a major element in the commercial pattern of Phoenix. Their competition has changed shopping habits throughout the planning area.

The regional shopping center first appeared in Phoenix in 1957 with the development of the Park Central Center. Today, four regional centers (Thomas Mall, Sears-Rhodes, Christown, and Park Central) ring the Planning Area's core attracting traffic from major streets. These regional shopping centers have located on the same major streets that have already attracted substantial amounts of strip commercial development. On the minus side, their locations have intensified traffic problems and congestion along the streets, but from a positive angle, they have provided an attractive, enjoyable environment for shopping.

As for neighborhood centers, they have generally located at the intersection of two major streets to intercept traffic movements traveling both north-south and east-west. A great number of these centers have located in the populous East Phoenix area.

An important planning problem with respect to shopping centers is the piecemeal, unplanned growth that has sprung up around the centers. This peripheral growth, often located adjacent to the center, has recreated the very problems that the shopping center was originally designed to solve: Traffic congestion, lack of parking and effective buffers around residential areas.

Shopping centers themselves have not been well located in terms of economic competition or relation to trade area. In East Phoenix, for example, there are just too many close together.

uses were the third largest of the commercial uses, with 674 acres (21.5% of all commercial uses). The growing number of new office structures, clinics, and other services is evidenced by this total. The smallest category, Central Phoenix uses, had 559 acres or 17.8% of the total commercial uses.

Commercial uses are, in spite of their importance to the total economic picture of the Planning Area, a minor part of the total land use picture, occupying but 1.2 percent of the total land area.

Table 13

COMMERCIAL LAND USE - 1965

Phoenix Planning Area

| Major Activity | Acres | Percent of Total Commercial Uses |
|---|---|---|
| Shopping Centers | 676 | 21.6 |
| Central Phoenix Uses | 559 | 17.8 |
| Office Uses | 674 | 21.5 |
| Strip Commercial | 1,226 | 39.1 |
| TOTAL COMMERCIAL | 3,135 | 100.0 |

## Shopping Centers

These are groups of establishments planned, built, and operated as a unit. Among the features of shopping centers are: buildings arranged to allow poeple to walk between stores; separation of automobiles from pedestrians; off-street parking and controlled access; buffers separating the shopping center from adjacent uses; nearness to streets and highways; and unity of design.

Shopping centers usually have a key tenant who is the primary drawing power for the center. They also offer a variety of competing and complementary businesses that collectively attract customers for themselves and each other; and serve a general trade area with either convenience or comparison goods and services.

Convenience shopping (groceries, especially) is provided by neighborhood

# COMMERCIAL ELEMENT

## THE PATTERN TODAY

Commercial land use and its location in the Phoenix Planning Area today reflects many economic factors such as population distribution, income levels, buying power and competition from other commercial areas. Perhaps the most significant commercial pattern to emerge in the past decade has been the movement of commercial activities to the areas where the population lives. Prior to the building boom of recent years, almost all business uses were located in central Phoenix. As the Planning Area grew, strip commercial areas sprouted along the major streets, office uses migrated uptown, and in suburban locations, shopping centers —46 of them since 1950 - dotted the urban area. Downtown Phoenix languished under increased competition from more convenient and attractive business outlets.

For the purposes of this study, the variety of goods and services offered for sale can be classified into two categories: Convenience goods and services, and comparison items. Convenience shopping means shopping for goods and services that are purchased or used frequently (i.e. groceries, laundry). Because these goods and services need to be replenished frequently, establishments selling these goods and services must be located close to the people they sell to.

Comparison shopping refers to shopping for goods, such as furniture and clothing, where prices, styles, and brands are the most important features. Customers often travel to several stores in this category comparing items before making a selection.

Although commercial development in the Phoenix Planning Area varies widely, four types can be identified: Shopping centers, strip commercial, office uses, and Central Phoenix uses. It is according to these types that existing commercial development has been analyzed.

### Land Use

Because wholesaling and other such oriented commercial uses are closely associated with industrial activities in location and characteristics, they will not be discussed in this section. In 1965, there were 3,135 acres of commercial land use in the Phoenix Planning Area. Strip commercial uses were the largest land users, occupying 1,226 acres. This class was 39.1% of all commercial land use. No other major use came even close to occupying this amount. Shopping centers had 21.6% of the commercial uses, with 676 acres. The rapid growth of these centers in the past 15 years has been the most significant expansion of commercial land use. Office

# RESIDENTIAL LAND USE PLAN

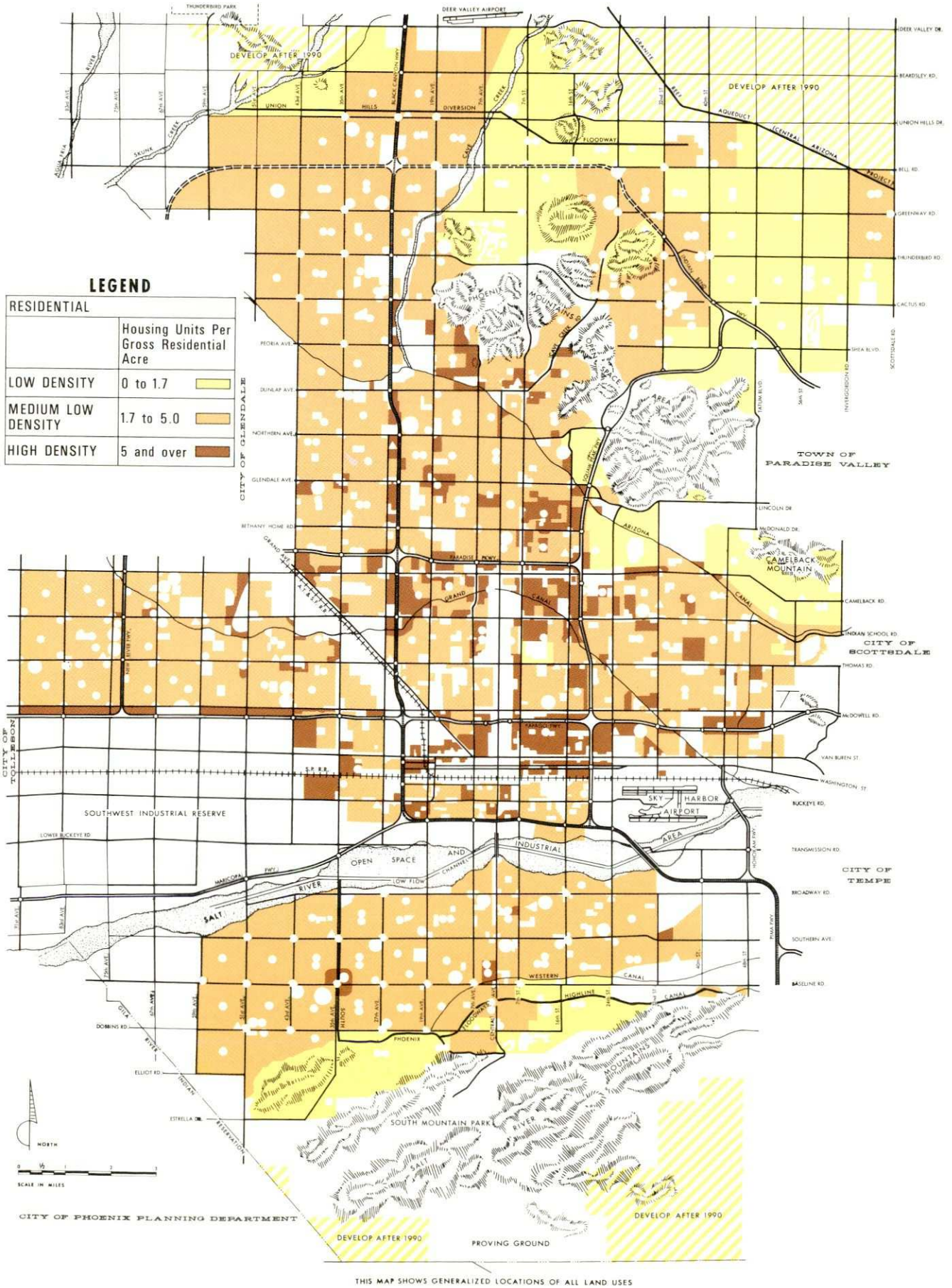



Figure 29

## Future Density Patterns

Different residential densities are provided for in planning the future of Phoenix. Since one of the purposes of this Plan is to accommodate a variety of residential densities and housing types, the following density ranges have been designated:

- Low-density-0 to 1.7 housing units per gross residential acre
- Medium low-density - 1.7 to 5 housing units per gross residential acre
- Medium-density - 5 and over housing units per gross residential acre

These figures are not meant to be either the minimum or the maximum allowed under the zoning ordinance, but only an optimum amount to meet varying circumstances.

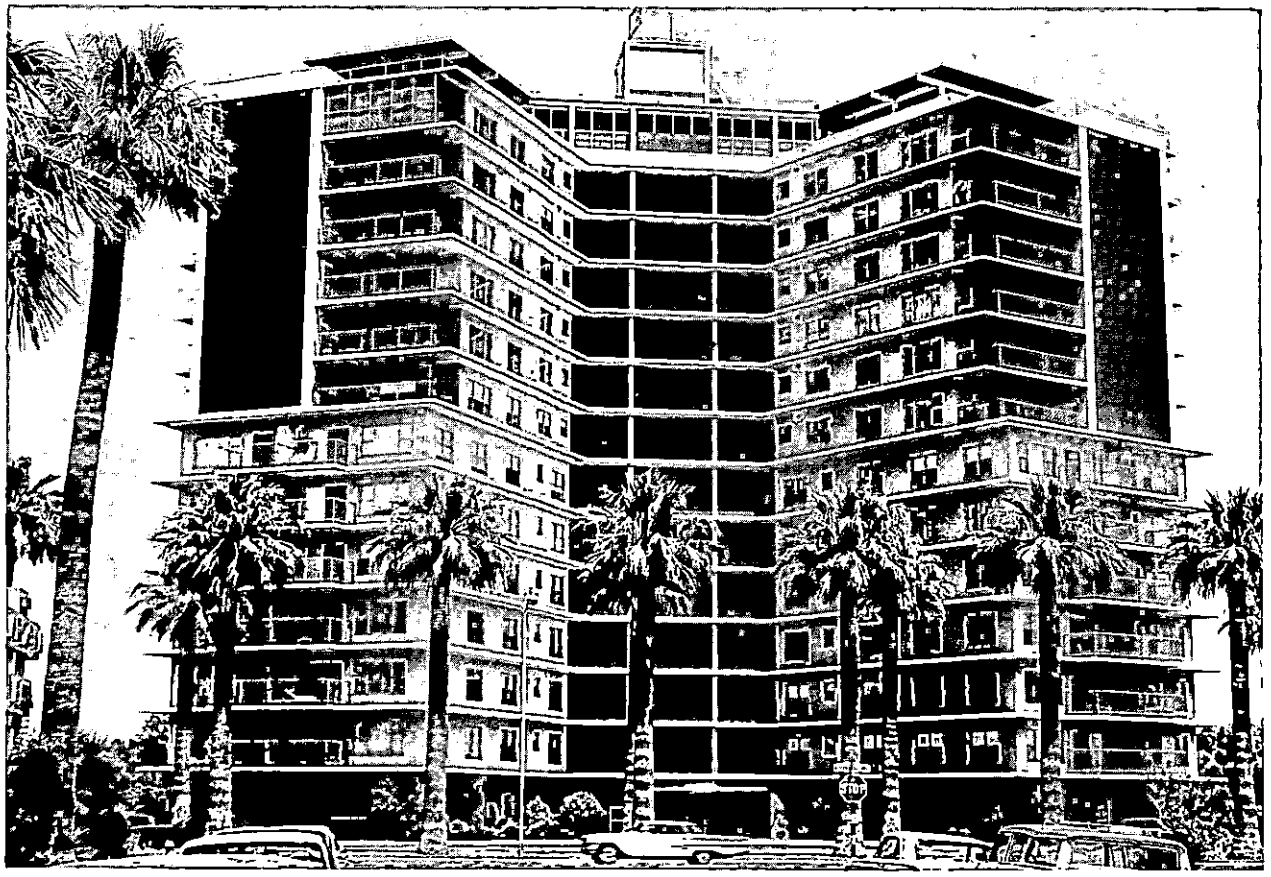
The Land Use Plan indicates proposed residential densities by neighborhoods. Generally, high-density residences are close to major business centers, medium-density residences are near the high-density development, and low-density housing fills in the balance of the proposed residential area.

Residential neighborhoods are proposed to be developed to a population of from 4,000 to 7,000. Density will play a major role in determining population within the neighborhoods. Some neighborhoods will reach a population of under 4,000 persons under the assumption of a predominance of low-density growth. An imbalance of high-density growth will result in a population of more than 7,000 persons. At prevailing and proposed densities, the Phoenix Planning Area will more than accommodate the projected 1990 population of nearly 1,100,000 persons.

Within each density range, a mixture of housing types and structures is proposed. Land can be conserved and more open space provided by encouraging new housing types such as patio houses, townhouses, cluster housing groups, and garden apartments. Through proper design, planned groupings of multi-family dwellings can be desirable in single family areas. Control of overall density, landscaping and design are major elements in adding interest and variety to the urban landscape.

A number of lower income families live near or in high density areas. Public housing and converted single family units generally house these people.

The physical structure of high-density areas requires that special treatment be given to all open spaces. The relationship between building mass and form and open spaces is critical and should be the result of overall design study. Careful attention to detail, creation of a sense of place, and accent on the positive elements of high-density design should characterize these areas. There is neither the space nor the character within these areas for conventional neighborhood facilities, but specially designed facilities will be needed.



High-rise apartment building on North Central Avenue.

A district has a population of 60,000 - 120,000 and is composed of two or more communities. Districts should be distinct geographic areas and may range in size from ten square miles on up.

In the Phoenix Planning Area, some districts are defined by natural barriers, such as the Salt River bed or the Phoenix Mountains, but man-made features, including freeways and wide belts of nonresidential land use, are more prominent as boundaries. Some districts are separated by nothing more than a change in residential character. These districts generally have a projected population of over 100,000 and exhibit a wide range of housing types and neighborhood characteristics. They do not all have the full array of shopping facilities, parks, or work areas generally considered desirable.

Paradise Valley and Maryvale are districts which present a clear image and have distinct boundaries. The rest are not so homogeneous or as clearly defined, but will, in time, assume a more distinct image. District level services can and should be provided to residents based upon these projected units.

In planning neighborhood facilities, it would be nice if all residential areas were neatly packaged into neighborhoods which approach the ideal in form, size and design. However, the course of past development has left several isolated pocket areas which cannot be considered to be part of any neighborhood. These areas cannot be ignored; they must be given public facilities and services to the extent feasible

In cases where these pockets have lasting value, every effort should be made to unite them with neighborhoods either through the removal or bridging of the barriers which set them apart. The uniting of these pockets with neighborhoods will result in more efficient and effective use of public neighborhood facilities.

High-density residential areas cannot be defined as neighborhoods in the usual sense of the word. Their functions are often interwoven with other activities and specialized public facilities which recognize this should be developed.

Their population characteristics are generally quite different from those of typical residential neighborhoods. There are not many children. Most married couples are either old or young and childless. There are many single people living in rental units.

There are two broad income groups in high-density residential areas. The majority of residents have above average incomes or, in cases of many young single people, have a fairly large disposable income as they have no family responsibilities.

# 1990 NEIGHBORHOODS

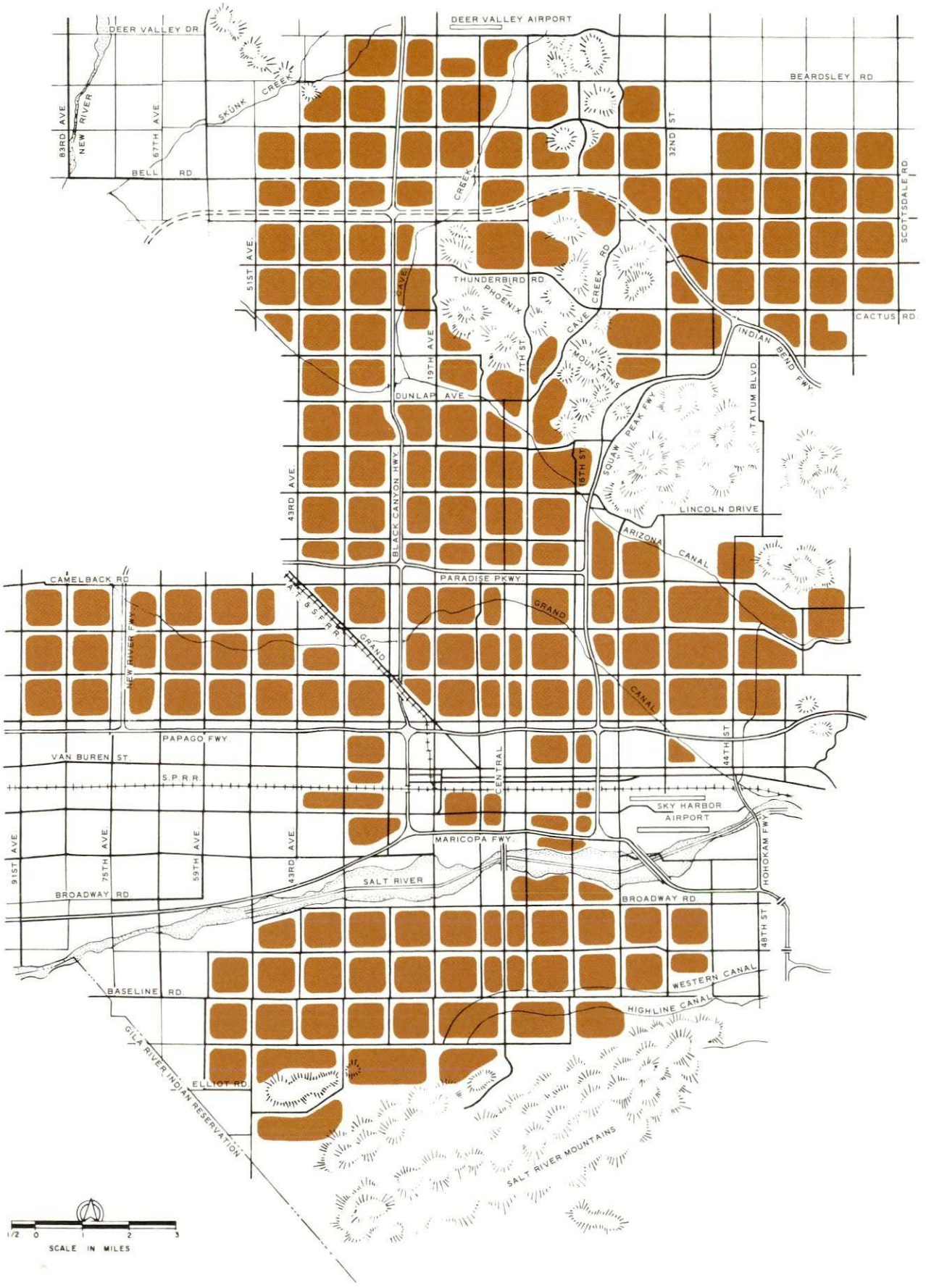



Figure 28

Characteristics of well-designed neighborhoods are:

- Areas of sufficient size to permit development of a well-designed, integrated unit with adequate facilities and amenities
- Sufficient variety to counteract uniformity, utilize topography, and provide a broad range of housing type and quality
- Properly designed schools, parks, shops, and other neighborhood facilities
- An internal street pattern which moves traffic safely and efficiently without dominating the development or interfering with pedestrian movement
- Clearly defined boundaries to the neighborhood unit with no intrusions of nonresidential uses

The neighborhood is usually an area of approximately one square mile, due to the square mile grid system of major streets in Phoenix. Where this was not possible, freeways, canals, changes in land use and mountains were used when delineating neighborhoods. The size of a neighborhood is determined by population densities and physical boundaries and usually constitutes 4 - 7,000 people.

Within the neighborhood, an elementary school, park and churches serve as the focal points for the area. Access to the neighborhood is provided by major streets, while an internal street system discourages through traffic and allows safe pedestrian movement.

A community is generally composed of two or more neighborhoods and has a population large enough to warrant a high school - about 20,000. Communities in this sense are separated by major physical barriers, natural or man-made. They often have similar population characteristics with similar ethnic and economic groups clustering together. In many cities, they have distinct geographic characteristics which set them apart from neighboring communities. A community requires a high school, playfield and park areas, a variety of stores and shops, professional buildings, a fire station, possibly a branch library or post office, and sometimes a theater.

Phoenix does not have many areas which demonstrate enough of these characteristics to be readily classified as communities.

## Residential Areas

Residential areas are grouped into service units, based on a hierarchy of service needs. These units are: neighborhood, community, and district. These are the basic units for planning future residential areas in Phoenix.

The physical relationship of its elements - houses, streets, yards, and so forth - to each other sets the pattern of the neighborhood. Equally important is the maintenance and appearance of the homes. Most people judge the beauty of a neighborhood by the number of well-kept and attractively landscaped homes.

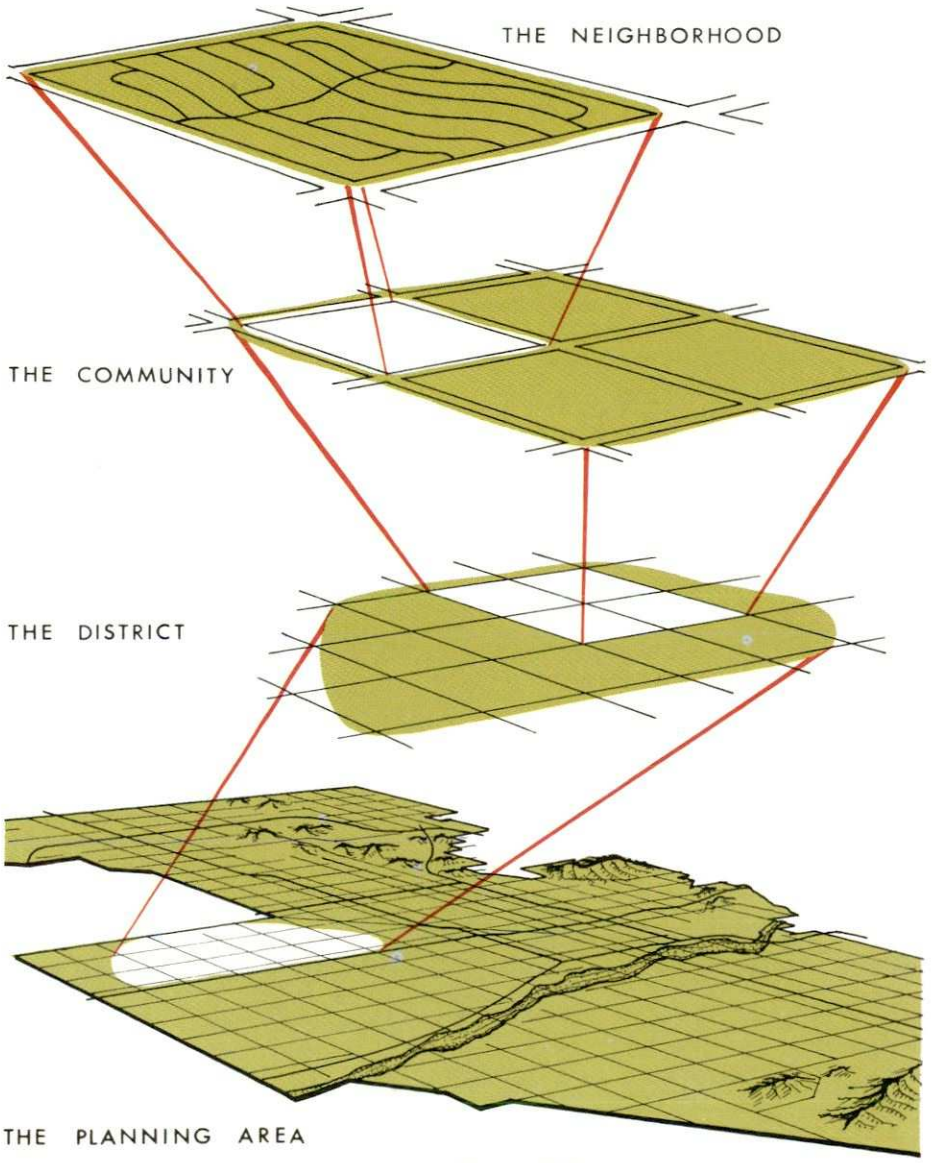



Figure 27

## Future Land Use

Phoenix is expected to increase the amount of land in residential use from a total of 33,700 acres in 1965 to 61,800 acres in 1980, and to a total of 71,710 acres in 1990.

Table 12

RESIDENTIAL LAND USE, 1980, 1990

Phoenix Planning Area

| Type | Acres | | % by Type | |
|---|---|---|---|---|
| | 1980 | 1990 | 1980 | 1990 |
| Single Family | 54,200 | 63,320 | 87.7 | 88.3 |
| Multi-Family | 7,600 | 8,390 | 12.3 | 11.7 |
| TOTALS | 61,800 | 71,710 | 100.0 | 100.0 |

Of the total 61,800 acres of residential land in 1980, 54,200 acres are expected to be in single family use, and 7,600 acres in multi-family use. The proportion of land in single family use in 1965 will rise to 87.7% in 1980, and to 88.3% in 1990. Thus, the trend of an increase in single family development that has been established over the past decade is expected to continue.

The overall land use-to-population ratio, which was 6.5 acres per 100 persons in 1965, is expected to be 6.6 acres in 1980 and 6.7 acres in 1990. The slight increase in the ratio is due to the fact that much of the growth of Phoenix will be in outlying areas, and these are expected to be fairly low-density.

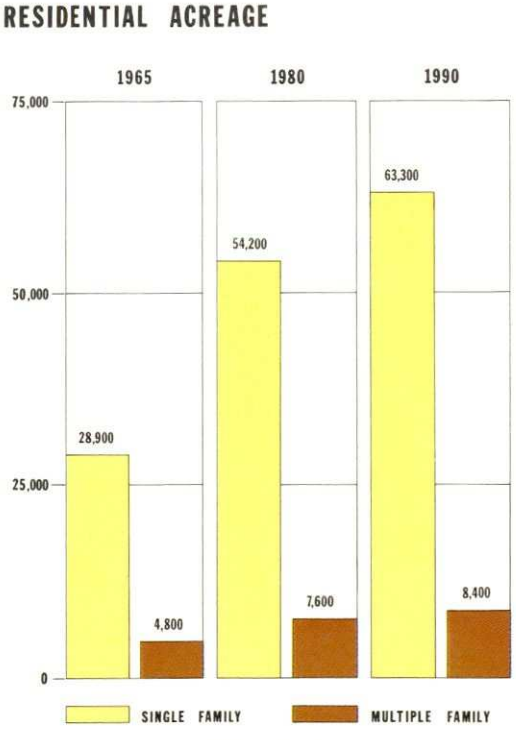



Figure 26

ment to community facility needs, as well as to the transportation system and topography. Principles of site design should be utilized to prevent undesirable activities from interfering with the proper functioning of residential neighborhoods.

## Special Development Considerations

The amount, type, location and quality of residential development is of vital concern to the establishment of a logical and efficient network of community facilities. There is much public effort and expense involved in providing needed services and these should, therefore, be wholly integrated into the planning for residential areas.

Areas in transition should be encouraged to develop logically by using proper safeguards, by providing for adequate public and private services, and by deterring incompatible land uses and furnishing needed transportation linkages. Property values may be maintained by encouraging high standards of construction and maintenance as well as passing laws for the eventual elimination of blighting influences.

The factors affecting the form and function of residential areas need special attention. The proper use of zoning and subdivision review is important to the organization of a pleasing living environment. In addition, access, or the ability of people to travel to and from facilities, commercial centers, and points of interest is especially important and should be ensured in residential planning. All of these considerations, when blended together, will lead to a "well balanced" residential unit; one which is convenient for informal social needs, residential services and facilities, and which gives a feeling of place.

## FUTURE RESIDENTIAL LAND USE

The future growth of Phoenix is highly dependent on both the quantity and the quality of the whole living environment. The way in which existing residential development problems are handled will set the pattern of areas which are now unbuilt.

Major guidelines in planning the long-range development of residential areas are as follows:

- a broad variety of housing types and densities
- a compatible relationship with other land uses
- a visually pleasing design
- a safe environment
- an orderly development - contiguous and not scattered
- an identity as a physical and social unit

More specific residential development objectives for Phoenix are:

- providing a sufficient amount of sound, well-maintained housing
- establishing definite service area boundaries bounded by physical features such as hills and major streets
- preventing the spread of blight and deterioration within residential areas
- planning for adequate complementary facilities for education, recreation, and public safety
- providing public utilities in a systematic and economical manner

### Future Design Factors

In planning for residential development, factors of design should play a major role. An example of this is the lessening of conflict between vehicles and pedestrians. Another is the establishment of sound locational criteria for density ranges and patterns. The concept of density should be used to relate residential develop-

Lots backing on major streets have the advantage of infrequent points of intersection between the local street system and the major street; landscaped and fenced rear yards to provide adequate buffering from the major street; no direct vehicular access from private drives to the major street; streets serve two tiers of lots, thus making the municipal services more economical.

A marginal access road provides a good buffer for residences and enhances the value of properties. It also limits the points of intersection along the major street. A disadvantage of this scheme is the extra public expense for maintaining the frontage road parkway.

Figure 25 gives some examples of treatment of multi-family residences on major streets. They should be discouraged from fronting directly on major streets.

## MULTI-FAMILY RESIDENCES ON MAJOR STREETS

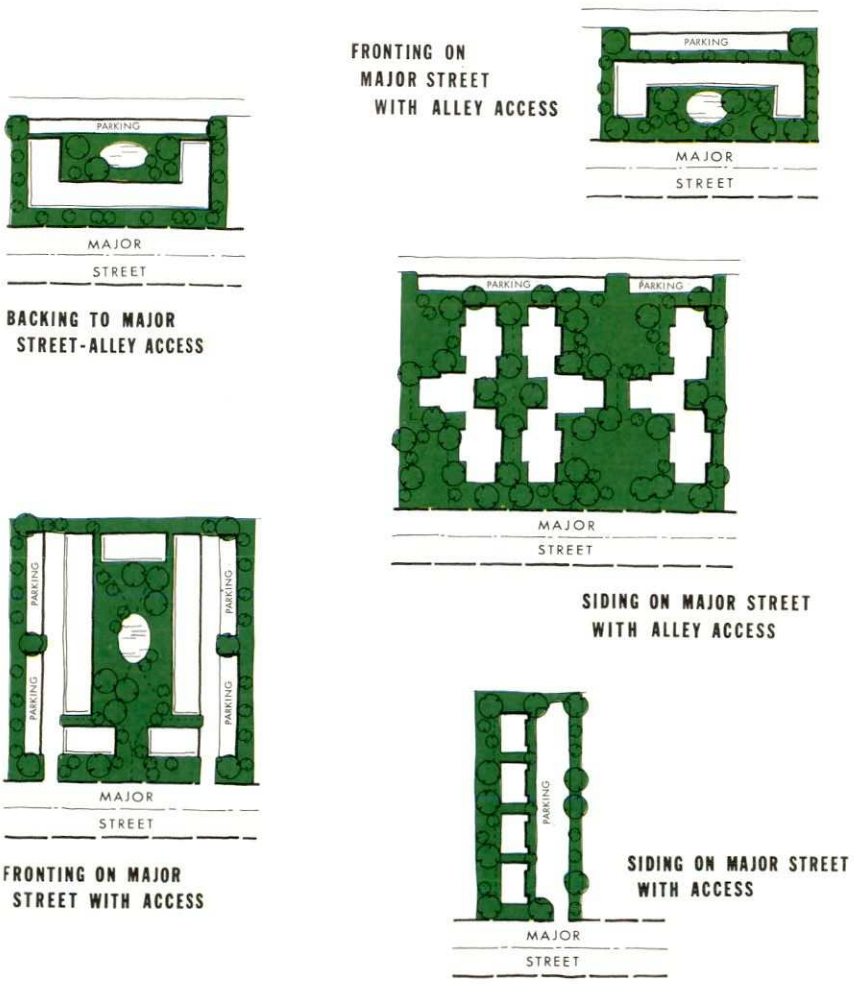



Figure 25

In Phoenix, problems are created by residential construction along major streets. Heavy traffic causes excessive noise, undesirable fumes and odors, hazards to pedestrians, and loss of privacy. The sight of constant motion and passing headlights also has an adverse effect on residents and passersby.

Figure 24 gives some examples of how single family residences on major streets may be treated. Lots fronting on major streets are not recommended because there are too many traffic intersections, and this increases points of conflict and reduces the capacity of the street. Also, residences on lots flanking the street suffer from the obnoxious effects of auto traffic.

## SINGLE FAMILY RESIDENCES ON MAJOR STREETS

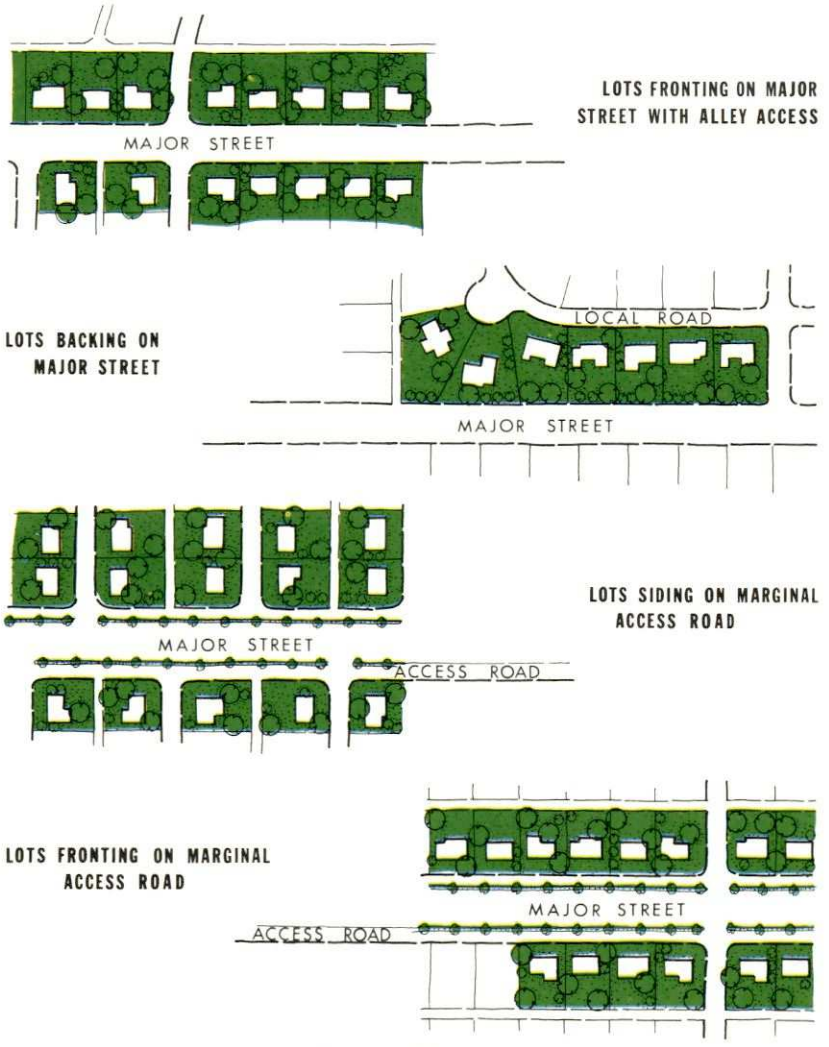



Figure 24

# RESIDENTIAL DEVELOPMENT PATTERNS

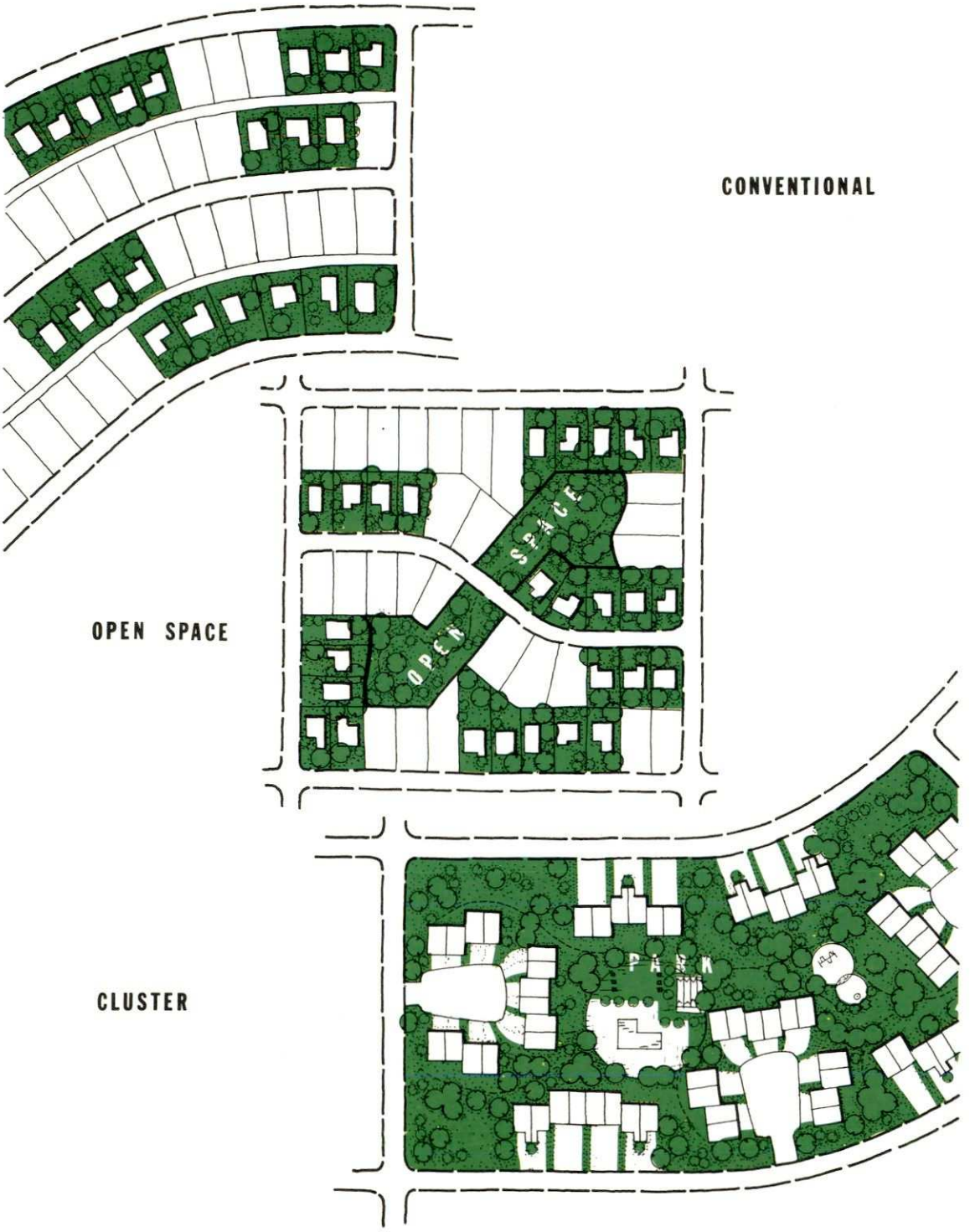



Figure 23

## Residential Patterns

There are three general types of residential patterns that occur in Phoenix: conventional, open space, and cluster. All maintain the same overall density and have the same boundary and service criteria. The difference lies in the internal arrangement of lots and buildings.

- Conventional

  Most of the present residential development in the Phoenix area falls into this category. Curvilinear streets discourage through traffic, introduce variety to neighborhood design, and are highly adaptable to varying types of terrain. Designing the street system to blend with the natural form of the land results in a composition which is pleasing to the eye, economical and efficient. Houses are located on individual lots with adequate yard space to provide some measure of privacy. Schools and parks are ideally located near the center of these developments and accessible via streets.

- Open Space Subdivision

  The general street pattern (curvilinear) and housing style of the conventional subdivision prevails in the open space subdivision. The principal difference is in the provision of connected open spaces which are separate from the street system. School and park are unified with the entire neighborhood by this open space system. The homes still retain most of their yards.

- Cluster Subdivision

  Homes are grouped and land that would ordinarily be in yards becomes common open space in this type of subdivision. Open space weaves in and around all dwelling units creating a feeling of openness. A mixture of housing type may be introduced without reducing amenity. These subdivisions are characterized by careful site arrangement and overall design unity.

## Residential Design On Major Streets

There are three basic considerations in guiding residential development along major streets:

- Determining the use to which properties will be put
- Designing access, separation and aesthetics
- Developing policies to carry out objectives

Table 11

RESIDENTIAL LAND USE, 1965

Phoenix Planning Area

| Type | Acres | % by Type |
|---|---|---|
| Single Family | 28,940 | 85.8% |
| Multi-family | 4,760 | 14.2% |
| TOTAL | 33,700 | 100.0% |

A ratio of residential acres per 100 persons is used to show the general relationship between a given number of people and the amount of land they use. A recent study found that in 48 large cities residential development came to 2.16 acres per 100 persons. By comparison, in 1965, Phoenix had 6.5 acres of residential land use per 100 persons. Of these 6.5 acres, 5.6 were in single family uses and .9 in multi-family. Phoenix has, therefore, an unusually high amount of residential land per 100 persons. This fact is further evidence of the low-density, spreadout pattern of residential development that exists in Phoenix today.

Housing Variety

There is a broad variety of housing types available within the single family and multi-family groups. The single family dwelling is "detached", and is usually found on an 8,000 square-foot lot with the front yard facing a street, a fenced back yard, and service access from the rear through an alley. Another type of single family dwelling is the patio house, characterized by a structure on a lot of 3,000 square feet, interior courts and the elimination of side yards. The single family townhouse may be either one or two stories. It is a modern version of the rowhouse. Apartments may be of the garden type, typically of one or two stories, or they may be several stories and combined with commercial and office activities.

A major consideration in determining a desirable mix of housing types, other than for purposes of function and site design, is the density needed for providing for service from various facilities. A residential area composed predominately of single family detached dwellings will have densities different from those in an area with townhouses.

## Distribution

Phoenix's residential pattern may be described as one of scatteration. The structure of the total community is such that no particular nodes or high intensity corridors of development exist. The historical growth of the city has been primarily outward from a central core. This scheme has been fostered by the annexation of some outlying built-up areas, and by the acceleration of highway and utility construction.

The general residential distribution of land in Phoenix is illustrated by the existing land use map, Figure 12 . Recently, the city has been growing toward the north and west, with growth in the south occurring in a somewhat sporadic fashion. Single family development is scattered throughout the entire area. Multi-family development tends to be clustered in Central Phoenix, but is spreading outward along high-volume traffic routes.

## Land Use Ratios

Residential development is the major land use in the Phoenix Planning Area. In 1965, residential land accounted for 37% of the total developed area in Phoenix. Residential land use occupied 40% of the total developed area in a group of average cities of over 250,000 population in the rest of the United States in 1965. Phoenix is, therefore, a typical area in terms of the proportion of its total developed land in residential use.

The low ratio of residential uses to developed land in Phoenix is quite representative of urban areas in Arizona. However, single family lots are larger and average residential densities lower than in cities and urban areas in other parts of the country. Living patterns are such that many people live far away from their places of work, which is a characteristic of many low-density suburban cities.

Phoenix is characterized by a high proportion of single family development In 1965, 86% of all residential land in the Phoenix Planning Area was being used for single family dwellings. Multi-family land use accounted for 14% of all the land devoted to residential use.

# RESIDENTIAL ELEMENT

## EXISTING RESIDENTIAL LAND USE

Residential land use is the manner in which man adapts the environment to provide a home for himself and his family. It is measured in terms of the amount, type and location of residential activities and studied as a physical design element in the total urban pattern.

Residential land use comprises all places of permanent residence: Single family houses, duplexes, multi-family apartments, townhouses, trailers, and group quarters such as fraternity houses. All tourist accommodations such as hotels, motels and apartment hotels are excluded from residential use.

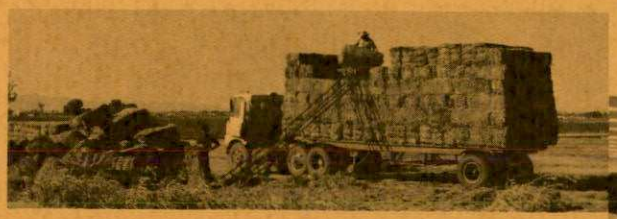
There are two major groups of residential land use: single family and multi-family development. A single family dwelling may occur on its own plot of ground, or it may be grouped or clustered to create usable open space. Multi-family land use has a minimum of two dwellings on one lot, and may contain many dwelling units which may be in one structure or several to a lot.

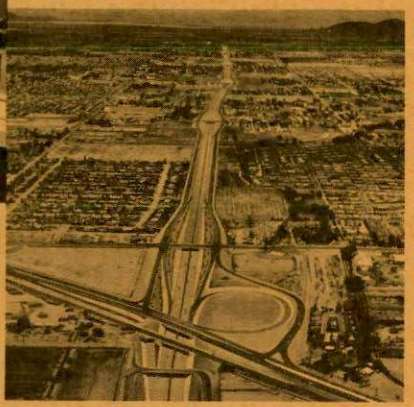
### Density

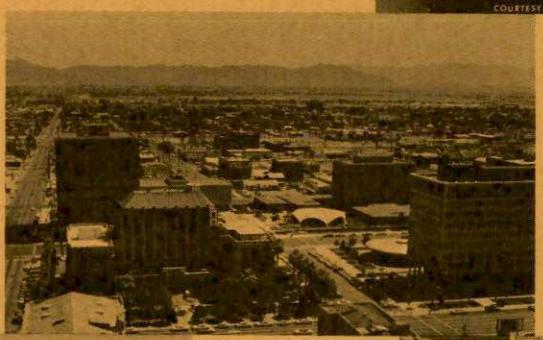
Residential density refers to the number of people living on a given amount of land. Housing density is the number of dwelling units per acre. Density is expressed in terms of the number of housing units per gross residential acre. This means that the amount of land required for streets is included in the overall figure for determining the housing units for each acre. Once the number of units is known, the average number of persons living in each unit is used to calculate density for the number of people living on an acre.

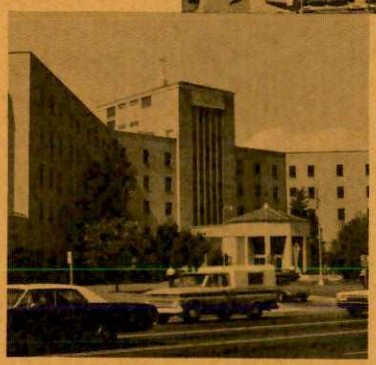
Proper planning requires that the number of people that can be supported by the area under consideration be determined. The setting of density, then, is dependent on a variety of factors, such as the amount and location of land, as well as the existing pattern of development. Service needs of the residents of an area, such as schools and parks, are also based in large part on the determination of appropriate residential density.

Single family densities in Phoenix range from less than one housing unit per gross residential acre to six units per gross residential acre. Multi-family residential densities range from 7 to 16 or more housing units per gross residential acre.







# CHAPTER IV

# PLAN ELEMENTS

Future distribution of income groups in Phoenix will generally follow the present pattern. Family income may be expected to rise as the result of the overall trend toward increased wages and salaries. The tendency of low income groups to seek better housing as their income grows will have the effect of raising the standards for the whole housing industry. Enough new housing will have to be built to replace worn-out and obsolete units in sufficient numbers and quality to satisfy the changing demands of the income structure of the community.

Future consumption will be different than now. The following retail groups may be expected to decline in relative importance: food, automotive, general merchandise, and housing and household goods. Eating and drinking places, apparel, gas stations, and drugs may rise in relative importance. The amount of per capita retail sales is expected to go up from $1,778 in 1965, to $2,377 in 1980, and to $2,870 in 1990.

It is estimated that total retail sales in Phoenix in 1990 will be $3,100,000,000. It can be expected, however, that an increasing proportion of the retail dollar will be spent on goods outside the Planning Area. This trend is expected to be offset by increased spending in Phoenix of persons living elsewhere, including tourists.

The impact of increased income and retail sales will be tremendous in Phoenix. More stores, businesses, and offices with their needed supporting facilities will be built. Determining the amount, location, quality, and compatibility of these uses will offer a real challenge to planning in Phoenix, and will be discussed in the commercial element of this plan.

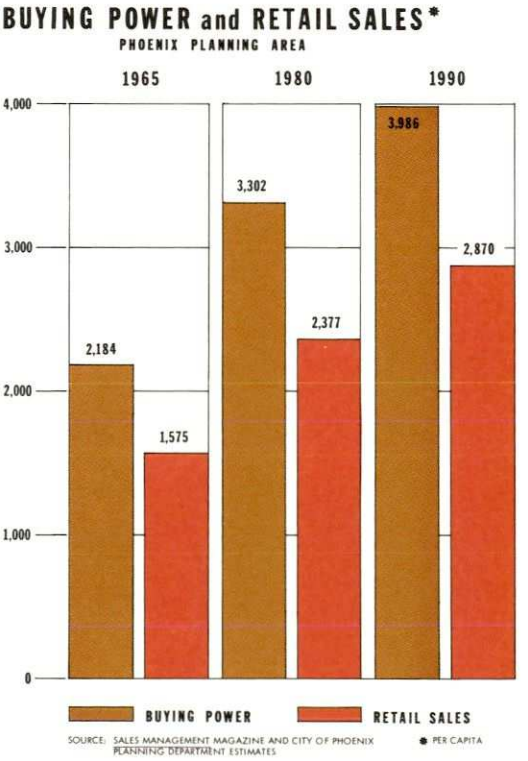



Figure 22

## FUTURE EMPLOYEE LOCATION

It is expected that Phoenix will be able to sustain its role as the work center of the metropolitan area. However, as with many other central cities located in a rapidly growing urban area, Phoenix may experience a shift in commuting patterns whereby an increasing proportion of Phoenix residents will work outside of the Phoenix Area. Similarly, a decreasing proportion of residents of towns outside Phoenix may be working in Phoenix. This trend may be the result of several forces in operation: (1) the movement of industry to outlying locations; (2) the continued spreading out of residences from Central Phoenix; and (3) the heavy reliance on the automobile as the only mode of transportation.

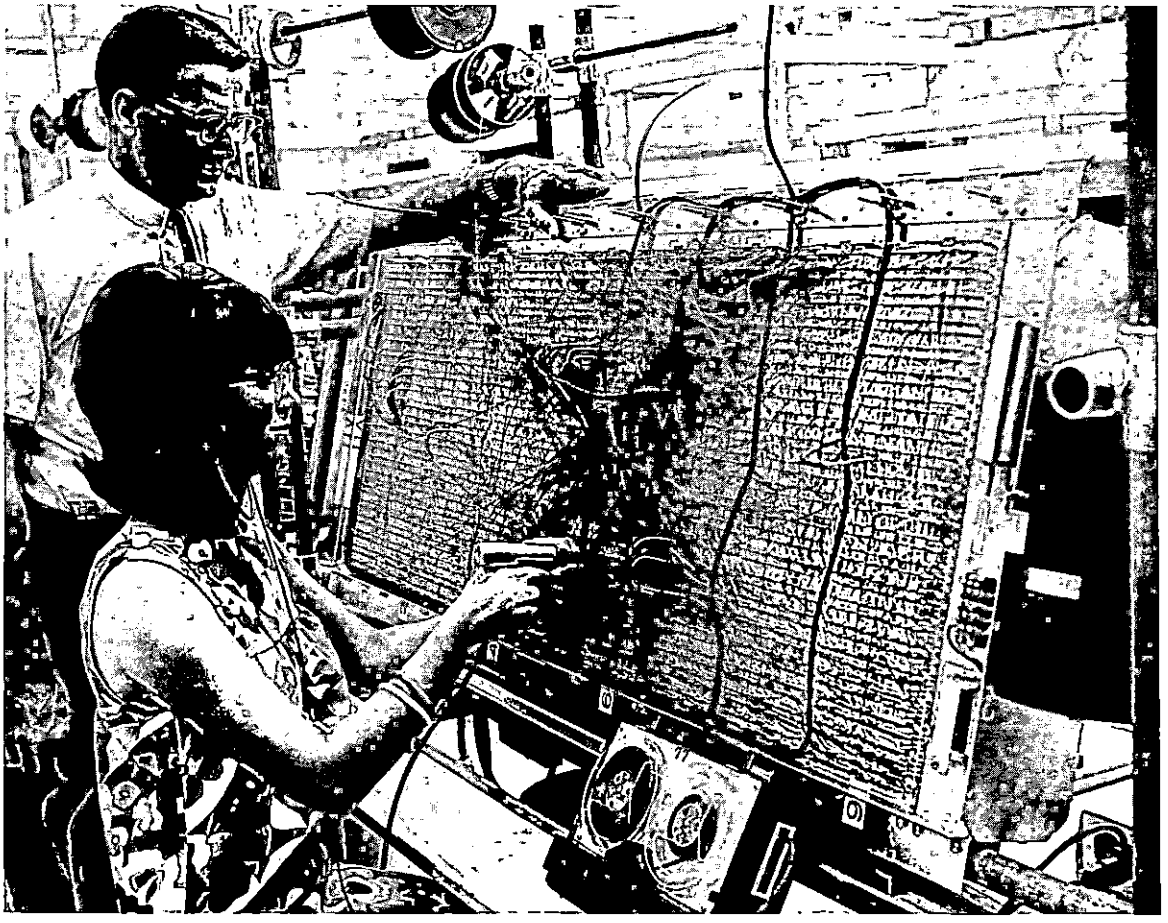
Future nodes of employment in Phoenix may be expected to develop as an outgrowth of present ones. This means that major concentrations will be found in the central core— office workers in the government, financial, legal, and retail— wholesale fields; the Salt River Industrial Area— employees in wholesaling, warehousing, sand and gravel, and miscellaneous industry; the industrial complex in Southwest Phoenix— wholesale and warehouse activities, trucking terminals, agricultural services, oil storage, and other types of heavy industry: the General Electric complex in North Phoenix adjacent to the Black Canyon Freeway— electronics; and the Motorola complex in East Phoenix— electronics. A new major industrial node may spring up at the Deer Valley Airport-Sperry Phoenix area north of Phoenix.

Future locations of employee concentrations are important to the growth of Phoenix. These factors are important. Large concentrations of employment to residential districts, needs of residents of the Inner City and those who choose to reside in outlying parts of Phoenix; the cost-benefit aspects of employees who work in incorporated towns other than where they live; the desirability of establishing nonprofit municipal industrial development corporations for the purpose of acquiring and leasing property to promote and develop industry; and the need and cost of providing transportation of all types to both employers and employees.

## FUTURE INCOME AND CONSUMPTION

Per capita income in the PPA is expected to rise from $2,371 in 1965, to $3,302 by 1980, and $3,986 by 1990. Based on an estimated average family size of 3.0 persons per family, this is an average family income of $11,958 in 1990. A rising trend in income is also forecast on the national, state and county level.

Manufacturing employment is expected to continue to gain as a percent of total employment. This is in response to the growing demands of the expanding population base. The construction and transportation-communication-utilities groups are expected to decline slightly in relative importance due to the continued maturing of the region and to the continued mechanization of some industries. The finance-insurance-real estate group will remain virtually unchanged in importance because of a tendency toward more use of machines. Employment in the wholesale-retail group will rise in importance due to the population influx, establishment of new markets and expansion of old ones, and a rising level of per capita consumption of goods. The service groups should rise substantially in recognition of a national as well as regional trend toward greater use of services of all types. Government employment should increase in reflection of an overall rise in demand for all levels of governmental services — national, state, county and local. Agricultural employment should decline due to increased mechanization and a decline in the amount of land in agricultural production.



COURTESY: GENERAL ELECTRIC

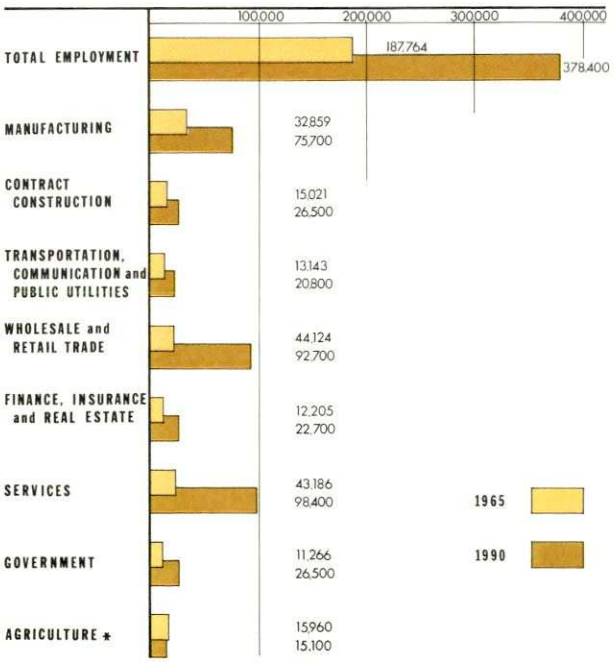
## THE FUTURE ECONOMY

The opportunities for the continued economic growth of Phoenix are many. It should be emphasized, however, that the economic growth of Phoenix will not just happen, but will require much effort and cooperation by all interested citizens and groups. Emphasis should be placed on quality, not quantity, of development. More employees, more industry and more income and sales will not be enough. What is also needed are good jobs to go along with superior business and industrial opportunities. A strong, diverse and secure economic base is a goal worthy of pursuit by all those interested in elevating the standard of living for the majority of Phoenicians.

## FUTURE EMPLOYMENT

Total employment in the PPA will double over the projection period, increasing from 187,764 jobs in 1965, to 378,400 jobs in 1990. This is an increase of more than 7,600 new jobs each year. From 1960 to 1965, employment rose at the rate of 7,100 jobs a year. This was an increase of 130% in total employment. The assumptions inherent in the projection are that the population will grow to indicated levels, resources of the community will be used to attract new industry, and every effort will be made to encourage a favorable economic climate for expansion of existing industry.

**EMPLOYMENT PROJECTIONS**
**PHOENIX PLANNING AREA 1965 - 1990**




SOURCE: U. S. CENSUS, PHOENIX PLANNING DEPARTMENT ESTIMATES.

* INCLUDES SEASONAL WORKERS AND MINING EMPLOYMENT.

Figure 21

Total employment in the Phoenix metropolitan area is expected to grow at a faster rate than employment in the other major metropolitan areas in the Pacific Southwest Region. In addition, Phoenix is expected to increase its overall share of employment in the Pacific Southwest Region up to 1990. On the local scene, the growth rate of Phoenix should be slightly less than that of the rest of the urban area. The Phoenix share of total local employment may decline somewhat.

Phoenix is experiencing a rise in median family income. This is indicative of a healthy economic climate and a favorable competitive position for public and private investment interests. Consumption can be measured through the rise in retail sales.

Table 10

RETAIL SALES - 1960 - 1965

City of Phoenix*

| RETAIL GROUPS | Dollar Volume | | | | Percent Change |
|---|---|---|---|---|---|
| | 1960 (000's) | Percent of Total | 1965 (000's) | Percent of Total | 1960 - 1965 |
| Food | $110,249 | 18 | $189,121 | 20 | + 71 |
| Eating and Drinking Places | $ 51,739 | 8 | $ 78,920 | 9 | + 51 |
| General Merchandise | $ 78,448 | 13 | $180,578 | 20 | +130 |
| Apparel | $ 38,714 | 6 | $ 34,772 | 4 | - 10 |
| Furniture and Household | $ 42,814 | 7 | $ 50,662 | 5 | + 18 |
| Automotive | $140,432 | 23 | $188,072 | 20 | + 34 |
| Gas Station | $ 44,686 | 7 | $ 70,130 | 8 | + 57 |
| Lumber, Building and Hardware | $ 36,906 | 6 | $ 30,424 | 3 | - 18 |
| Drugs | $ 28,075 | 5 | $ 41,407 | 5 | + 47 |
| Other | $ 41,184 | 7 | $ 59,813 | 6 | + 45 |
| TOTALS | $613,247 | 100 | $923,899 | 100 | + 51 |

* Corporate Limits
Source: "Sales Management", 1960, 1965.

In 1960, total retail sales amounted to $613,247,000 in the City of Phoenix. By 1965, they had jumped to $923,899,000, an increase of more than 50%. Per capita retail sales in 1960 were $1,396 and $1,778 in 1965. Shifts in consumer demand occurred in the food, general merchandise, apparel, furniture and household goods, automotive, and lumber, building and hardware groups. Buying habits of consumers are changing due to rising income which provides a wider range of choice for the purchaser.

Although dispersal of job opportunities can alleviate the situation somewhat, it can lead to a perhaps equally undesirable situation of "reverse commuting" whereby those actual and potential employees in the central area are required to travel great distances to work and to compete for jobs. Another aspect is that of the tax imbalance created by employees working in Phoenix and living elsewhere.

## FAMILY INCOME AND CONSUMPTION

Personal income is the amount of money that each individual or family has available for expenditure after taxes and other deductions. The term "consumption" refers to the way in which people dispose of personal income. Income and consumption trends are significant in planning because they determine to a large extent the kind, amount, and location of various land uses and related activities.

In 1960, Phoenix had a median family income of $5,981, as compared to a 1965 figure of $6,673. Per capita personal income was $1,908 in 1960 and $2,371 in 1965. This rise in family income corresponds to a nationwide trend.

Table 9 shows the percentage distribution of all families by income groupings in Phoenix in 1960 and 1965.

Table 9

MEDIAN FAMILY INCOME

1960 and 1965

Phoenix Planning Area

| Income Group | Percent Distribution - Families 1960 | 1965 |
|---|---|---|
| Under $3,000 | 16.7% | 15.5% |
| $ 3,000 - $ 5,000 | 19.0% | 16.7% |
| $ 5,000 - $ 8,000 | 33.7% | 29.8% |
| $ 8,000 - $10,000 | 13.0% | 16.0% |
| $10,000 - $15,000 | 11.7% | 15.1% |
| $15,000 - Over | 5.9% | 6.9% |
| TOTAL | 100.0% | 100.0% |

Sources: U. S. Census, 1960; "Inside Phoenix," 1965; and Phoenix Planning Department estimates.

natural and man-made; (2) the absence of specific locational requirements for such kinds of industry; (3) the favorable attitude on the part of local decisionmakers as to the desirability of attracting and retaining "clean" industry; (4) the availability of technical manpower and the willingness on the part of businessmen and educators to cooperate in the development of a skilled labor force; and (5) the favorable tax structure that exists at the state and local level.

In the nondurable goods manufacturing group, Phoenix is dominated by food and kindred products, apparel and related products, and printing and publishing. These activities tend to be transport oriented and are influenced mainly by proximity to raw materials. The existence of a local and regional market is also an important factor in the rise of nondurable goods manufacturing in the Phoenix area.

Wholesale and retail trade and services together made up 46.5% of total employment in 1965 in the PPA. The fact that almost one half of all employment comes from only two groups is indicative of a somewhat nondiversified economy. The importance of tourism and the "winter visitor" has led to much of this situation.

## LOCATION OF EMPLOYMENT

For planning purposes, it is important to know the location of employment concentrations in the Phoenix Planning Area. The location of employment is a strong influence on the location of population, housing development, and associated urban functions such as schools, parks, and transportation routes.

Four areas contained 10,000 or more employees in 1965; Downtown Phoenix, Central Phoenix, the Grand Avenue Industrial Corridor and East Phoenix. Downtown had 12,205 employees per square mile, the highest density of employment. Downtown Phoenix is, then, the core or center of the daytime workers in Phoenix. Most of the employees downtown are office workers who commute to and from work from their place of residence outside of downtown. North, East, and West Phoenix workers generally tend to work closer to their place of residence, and because of recent suburbanization of industry and commerce, are commuting to a place of work located outside of the present boundary of the Phoenix Planning Area.

There are some special problems associated with the distribution of employment and with employee commuting patterns in Phoenix. As residential development continues to spread outward in all directions, the travel distance and travel time increases for commuters whose work trip destination is some place in Central Phoenix. The failure to provide jobs closer to major existing residential nodes has compounded this problem. Increased taxes to pay for continued street construction and improvement is also a side effect of excessive commuting.

# ECONOMIC BASE

## PRESENT EMPLOYMENT

The story of the Phoenix economy is told in its past population and employment — the interrelated elements of the underlying economic base. Table 8 shows the close relationship between population and economic growth from 1950 to 1965. In the Phoenix Planning Area, population increased 106% from 1950 to 1960 and during the period 1960 to 1965 it increased 14%. Comparable figures for employment are 100% and 15%.

Table 8

LABOR FORCE

1950 - 1965

| | Total Persons | | | Percent Change | |
|---|---|---|---|---|---|
| | 1950 | 1960 | 1965 | 1950-60 | 1960-65 |
| PHOENIX PLANNING AREA | | | | | |
| Population | 221,577 | 456,381 | 519,516 | +106% | 14% |
| Labor Force | 88,178 | 172,261 | 197,646 | 95 | 15 |
| Employment | 81,746 | 163,429 | 187,764 | 100 | 15 |
| Unemployment | 6,432 | 8,832 | 9,882 | 37 | 12 |
| PHOENIX STANDARD METRO STATISTICAL AREA | | | | | |
| Population | 331,770 | 663,510 | 877,619 | 100% | 32% |
| Labor Force | 121,252 | 249,994 | 303,600 | 106 | 21 |
| Employment | 111,678 | 238,922 | 288,800 | 114 | 21 |
| Unemployment | 9,574 | 11,072 | 14,800 | 16 | 34 |

Sources: U. S. Census, 1960; Employment Security Commission of Arizona; Phoenix Planning Department Estimates.

A look at the composition of employment reveals that there was a shift taking place from 1950 to 1965. Employment in manufacturing, which had 10.4% of all employment in 1950, had 17.5% of total employment in 1965. Other significant changes have taken place in contract construction, services, and government employment. The increase in manufacturing employment has been due in large part to the expansion of the electrical equipment, aerospace, and machinery industries. The factors responsible for this are: (1) the pleasant climate and other attractions,

Blighted housing is expensive to Phoenix. It is suspected that blighted areas require municipal expenditures far out of proportion to the tax revenues they produce. These increased public expenditures take the form of more police protection, fire protection, welfare costs, health programs, and the like. As buildings deteriorate, tax revenues on the buildings generally decrease more slowly than do the assessed values; therefore, it is necessary to evaluate our tax policies so that maintenance and improvement of property is encouraged rather than discouraged. Proper enforcement of codes and ordinances to alleviate blight would be a powerful tool, especially if Phoenix had a housing code. In this manner, the goal of decent housing for all could be best obtained.

## FUTURE HOUSING

Total housing units in Phoenix are projected to be 311,400 by 1980, and 362,000 by 1990. Whereas single family units comprised 75.5% of all units in 1965, in 1980, they are expected to make up 70.2% of all units, and in 1990, 71.8% of all units. The proportional decrease in single family units from 1965 to 1980 is the result of a continuation of past trends. Builders are expected to construct an increasing proportion of multi-family units from 1965 to 1980 in response to changing demands of the population and to higher land costs. The slight proportional decrease in multi-family units from 1980 to 1990 corresponds to the decrease in the proportion of multi-family land use during the same period.

Changes in the character of the housing market structure in Phoenix will depend on many factors. Physical conditions will be dictated by replacement of units in marginal areas with preservation of existing dwelling types in substantial areas.

Townhouse

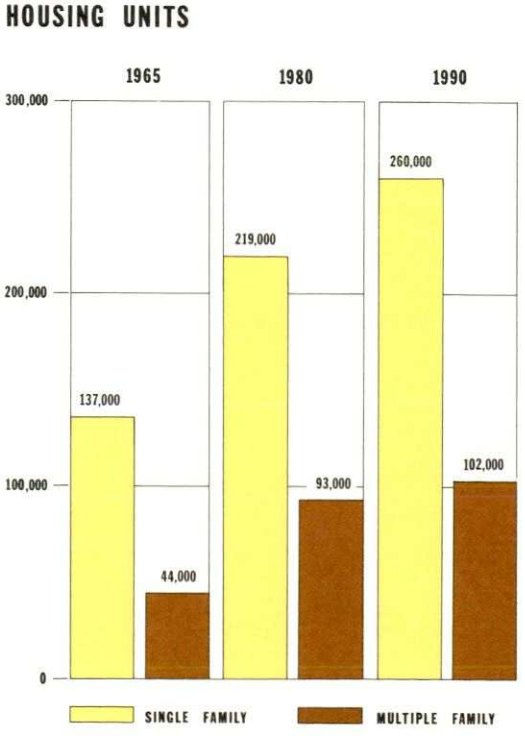



Figure 20

# BLIGHTED HOUSING, 1960 *

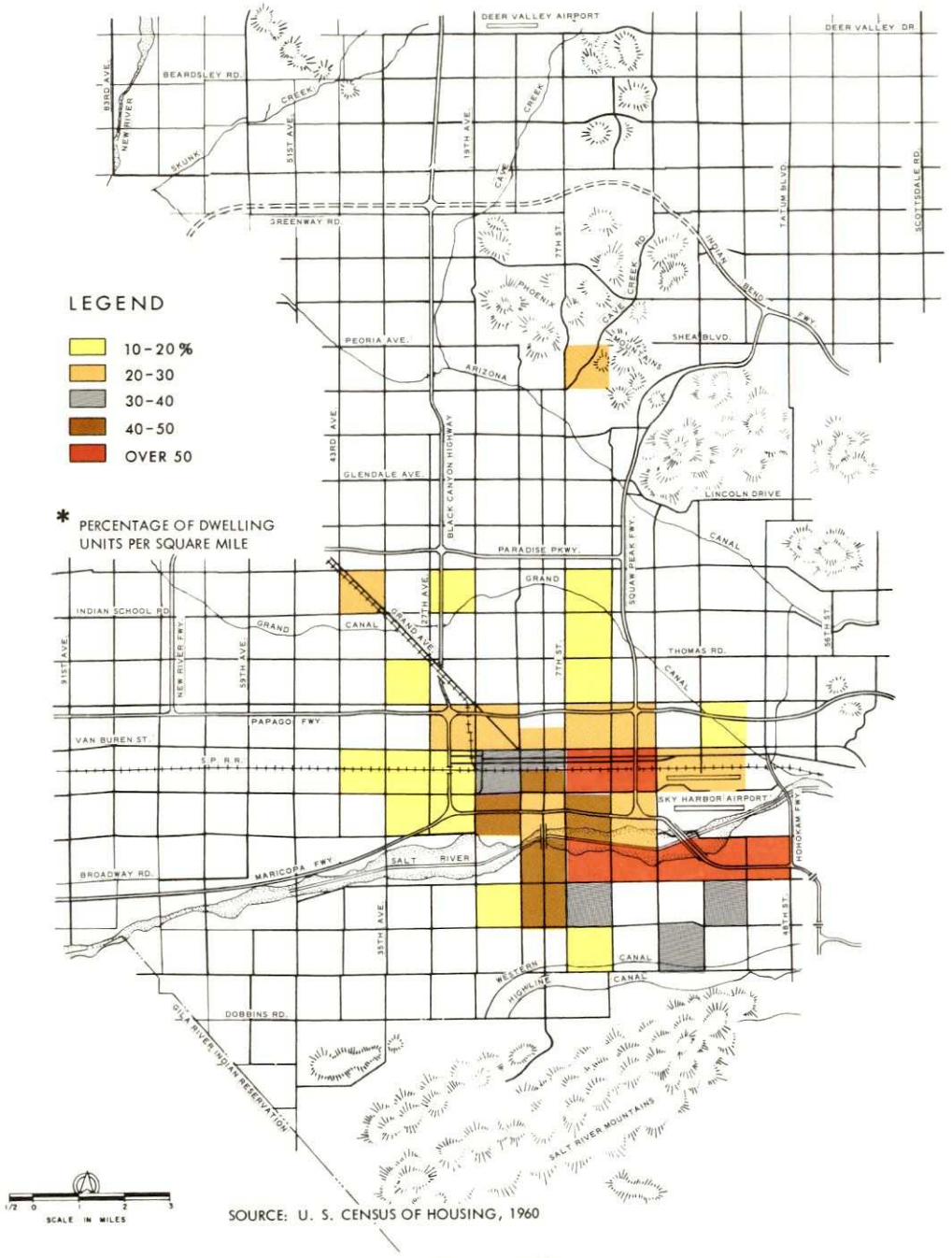



Figure 19

The problem of maintaining an adequate housing supply should be approached in a three-fold manner: (1) new housing must be constructed at a rate commensurate with population growth; (2) existing housing must be protected and preserved; and (3) that portion of the housing inventory which has become affected by slum and blight conditions must be replaced.

ly Maryvale, Westown, and between the Black Canyon Freeway and Glendale city limits, large scale low density tract development has occurred. Here the bulk of new single family homes is to be found. While in older sections, especially in East Phoenix and between McDowell and Camelback, 27th Avenue to 24th Street, previously bypassed areas have been developed to multiple dwellings almost exclusively.

## STRUCTURAL CONDITIONS

Along with growth into presently vacant land, the Phoenix Planning Area must increase the area available for housing by the renewal of blighted areas. As one element in determining the amount of land needed for future housing, it is necessary to make an inventory of the land occupied by uses and structures that will need to be replaced.

The following map shows areas of substandard housing in the Phoenix Planning Area as of 1960, the last official areawide housing survey. The most seriously blighted areas, with over 50% of the total dwelling units either deteriorated or dilapidated, were located in the "Inner City" area near downtown and in a belt south of the Salt River. Other areas of lesser blight were scattered in north central Phoenix.

Blighted housing does exist in Phoenix. In 1960, 12.4% of Phoenix homes were in need of conservation, rehabilitation, or renewal. This accounted for over 19,000 living units which housed over 57,000 people. More recent studies place these figures even higher today. In 1960, a substantial majority of these families were earning incomes of below $3,000 annually. Some of the reasons for this decay are:

- overcrowding of structures
- inferior original construction
- inadequate utility lines
- obsolete street layouts
- improper zoning
- use of neighborhood streets for heavy through traffic
- lack of adequate public transportation
- smoke and fumes from nearby industrial areas
- neglect of property
- personal or social indifference by property owners
- nearby areas of harmful or nuisance land uses

## HOUSING TODAY

At present, the Phoenix Planning Area can still be characterized by the words "single family residence". This fact itself is strange because the Planning Area is so large that it embraces both older built-up areas and newer, more suburban areas. Unlike older cities, as in the East, which contain a preponderance of multi-family apartments and flats, our housing supply reflects the desire of the population to live in single family, detached dwellings, each with its own yard. A glance at Table 7 shows the predominance of single-family houses in Phoenix.

Table 7

NUMBER OF HOUSING UNITS BY TYPE, 1964 - 1967

| Type of Unit | 1964 Number | % | 1967 Number | % | % Increase |
|---|---|---|---|---|---|
| Single Family | 135,338 | 75.9 | 138,218 | 75.3 | +2.1% |
| Multi-Family | 43,055 | 24.1 | 45,292 | 24.7 | +5.2% |
| TOTAL | 178,393 | 100.0% | 183,510 | 100.0% | +2.9% |

Between 1964 and 1967, the number of housing units in the Phoenix Planning Area increased by 2.9%. By type, single family units, which account for three-fourths of all units, increased by 2.1%. Multi-family units increased by 5.2%, or nearly two and one-half times as fast as single family units. Much of the multi-family unit gain stemmed from large apartment construction. This change in housing development reflects (1) the upsurge in demand for townhouses and condominiums as an acceptable form of living for families; (2) the increasing number of young adults and elderly persons in the Planning Area; and (3) the previous overbuilding of single family units and consequent tightening of the mortgage market.

Thus, in the short span of three years, housing development in the Phoenix Planning Area has changed to meet the increased demand for new multi-family units.

## RESIDENTIAL PATTERNS

In spite of the growing emphasis on multi-family structures, the entire Planning Area is not becoming as densely populated as the typical central city. In fact, two separate patterns have emerged in recent years. In newer areas, especial-

# DECADE OF POPULATION SATURATION

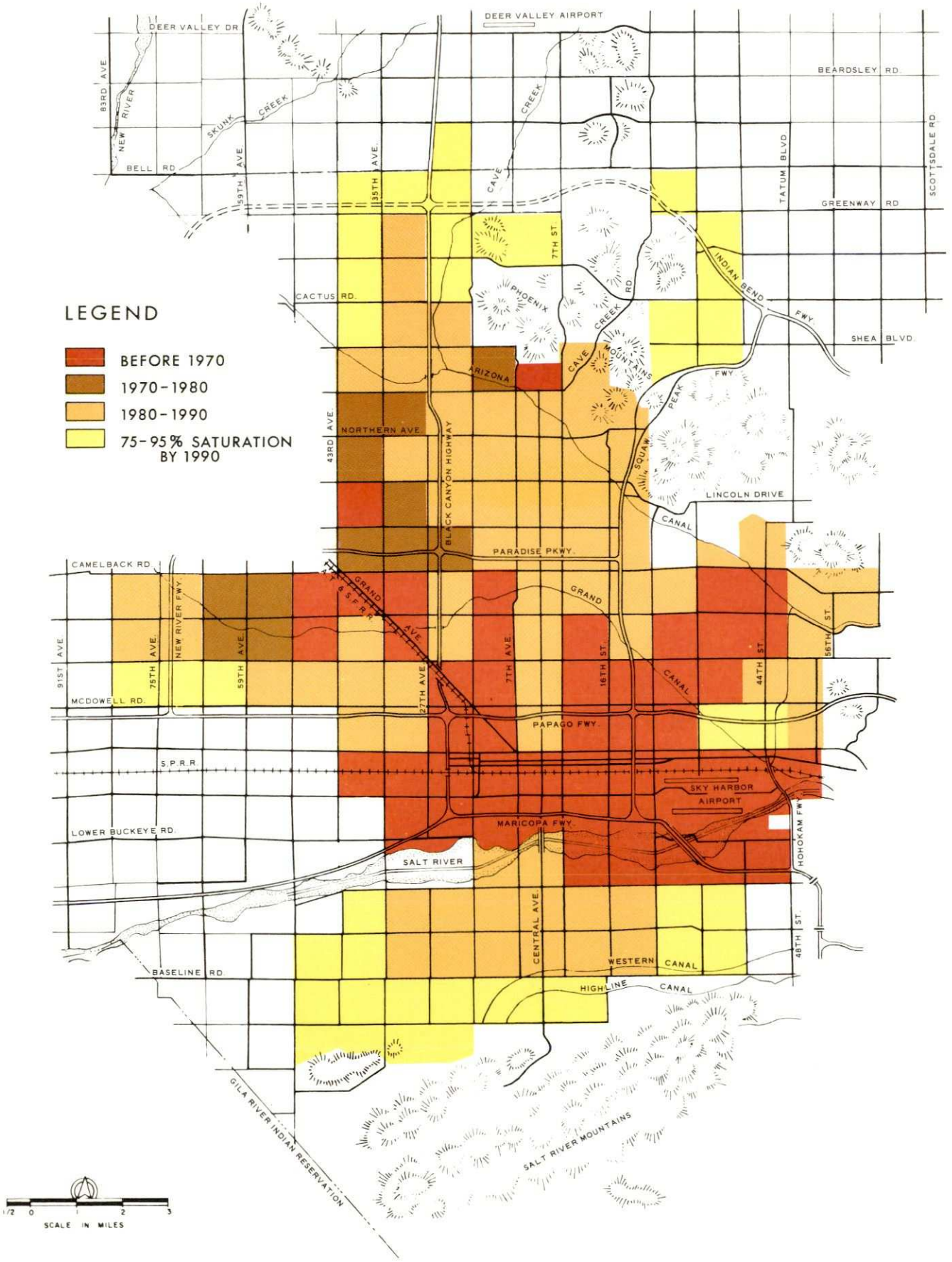



Figure 18

## SATURATED AREA - 1990

Figure 18 shows that a large proportion of the Phoenix Planning Area will probably reach a plateau of population by 1990. This plateau is referred to as "saturation", i.e., the approximate maximum population that the available land will accommodate under present development standards. This saturation figure is only an approximation and may be exceeded or never reached in various areas.

By 1990, almost 30% of the land within the PPA will be saturated, while another 10% will have 75-95% of its land developed. The only areas with a significant amount of developable land will be Paradise Valley and the Laveen area. Because much of the desirable, close-in area of the PPA will be saturated by 1980, population growth during the decade 1980-1990 will be profoundly influenced by nearby competitive areas. By 1980, there will be large populations in Tempe-Mesa, Scottsdale, North Deer Valley along the Black Canyon Freeway, and in Litchfield Park. The PPA's attraction for new development will be hampered by a lack of close-in, developable land.

Thus, by 1990, the Phoenix Planning Area will not have the potential for rapid growth. Large parcels of readily accessible undeveloped land will no longer be present. The PPA will be an essentially "saturated" area. The social and possibly the economic structure of the population will reflect this fact.

# AREAS OF NEW GROWTH, 1965-1990

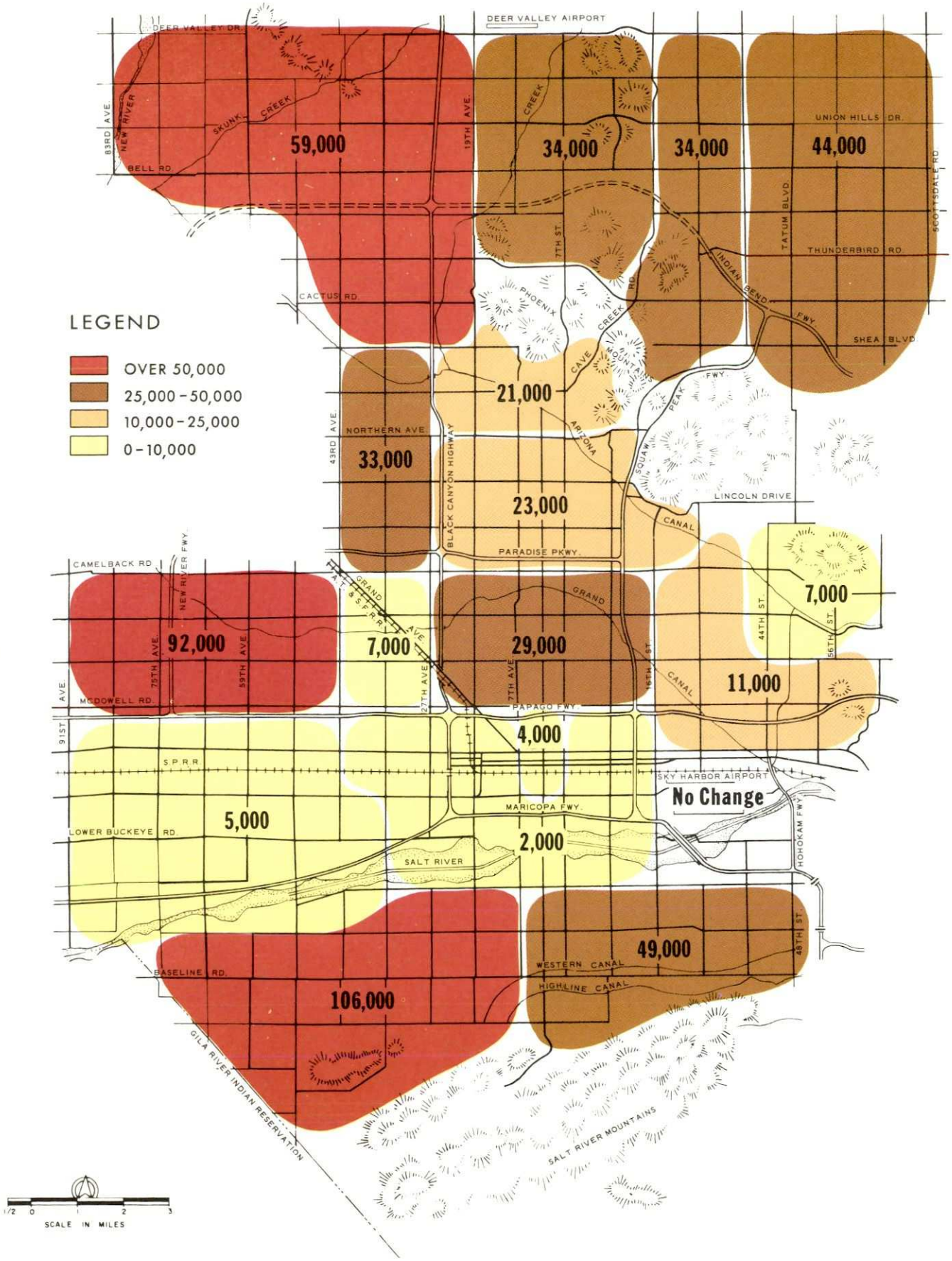



Figure 17

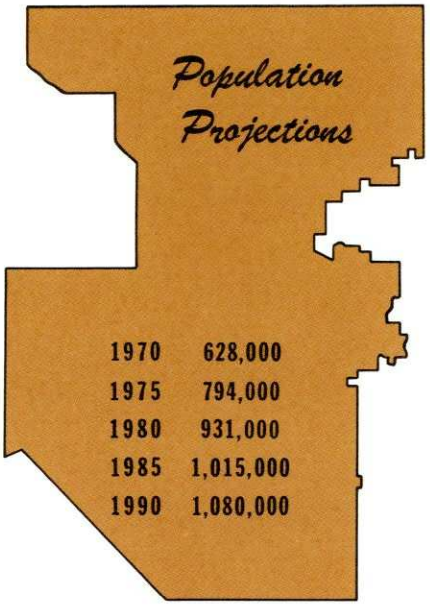



Figure 16

COURTESY: GOOD SAMARITAN HOSPITAL

## FUTURE POPULATION

Between 1965 and 1990, the Phoenix Planning Area is expected to grow dramatically, from 519,516 to 1,080,000.

Population projections to 1990 were developed by the City of Phoenix Planning Department for the Phoenix Planning Area. Population distribution was based on: (1) the direction of trends evidenced over the past fifteen years: (2) an analysis of land resources; (3) development practices prevalent today; and (4) current and planned public works improvements.

## LOCATION OF NEW GROWTH

As can be seen in Figure 17, the majority of new population growth will be in two directions: (1) south in South Phoenix and (2) north and west in Maryvale, Westown, and Paradise Valley. The West Papago Freeway will provide the impetus for rapid expansion in Maryvale in the 1970's. South of the Salt River, in Laveen, development will enter an area that is now agricultural. This area is readily accessible to major employment centers and has few physical impediments to future development.

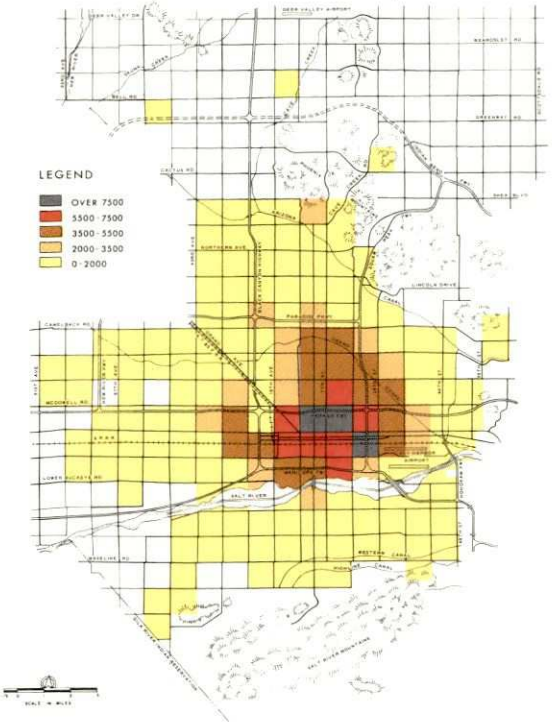
## CHARACTERISTICS

In 1965, the Phoenix Planning Area had a larger proportion of young people and a lower percent of persons over 65 than the United States as a whole. The Phoenix Planning Area also exhibited a characteristic common to most urban areas– a higher proportion of females to males in almost every age bracket. The male ratio was unusually low in the age group 20-24 when there were 81 males for every 100 females. Some of this imbalance was due to the in-migration of females into the area following high school, a corresponding decline in the males due to higher education and military service, and a general out-migration of men in this age group.

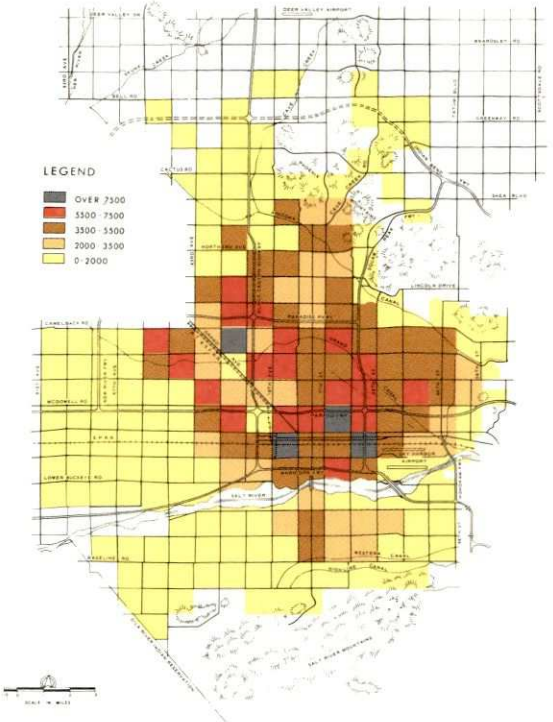
Between 1960 and 1965, the Phoenix Planning Area gained 19,600 people from natural increase and 43,600 people from net in-migration. Estimates for net in-migration by age groups show that almost every age group experienced a net gain except the 15-20 and the 50-55 brackets. Out-migration in these groups can be attributed to educational opportunities and military service for the younger group and job opportunities elsewhere for the older group.


Figure 15

**1950 POPULATION DENSITY PER SQUARE MILE**




**1960 POPULATION DENSITY PER SQUARE MILE**




**1965 POPULATION DENSITY PER SQUARE MILE**

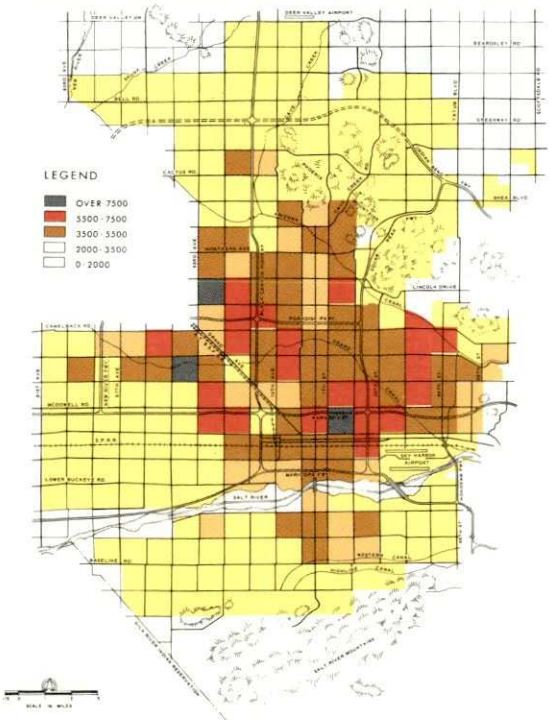



Figure 14

# POPULATION AND HOUSING

The Phoenix Standard Metropolitan Statistical Area, of which the Phoenix Planning Area is the largest segment, is one of the fastest growing metropolitan areas in the United States. In 1960, the Phoenix SMSA was the 41st largest such area in the country. By 1965, Phoenix was the nation's 34th largest metropolitan area and was exceeded in its growth rate by only two of the top 40 metropolitan areas between 1960 and 1965 - the Anaheim-Santa Ana-Garden Grove and San Jose SMSA's in California.

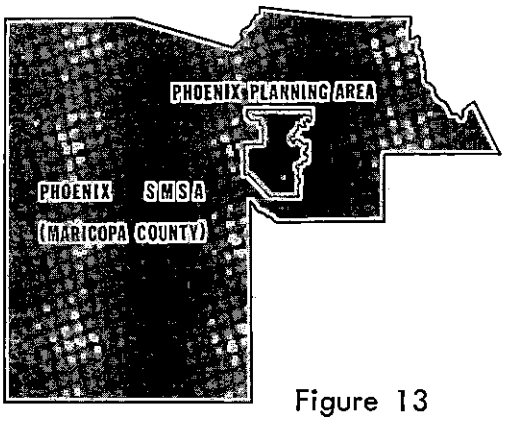



Figure 13

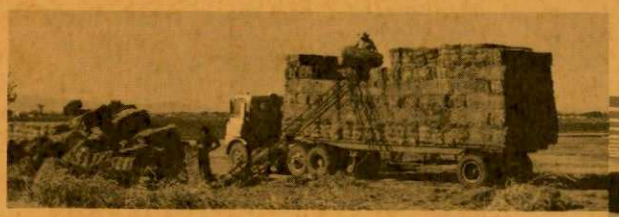
## GROWTH TO THE PRESENT

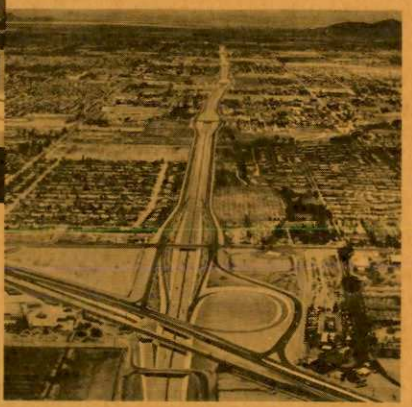
The growth of Phoenix between 1950 and 1965 was rapid, increasing from 221,000 to 520,000. It can be attributed to two factors: (1) a high birth rate, and (2) massive in-migration of newcomers into the area. During the past fifteen years, 31% of the population increase was due to more births than deaths and 69% of the increase was due to in-migration.

Most of the past population growth has occurred in outlying areas. Between 1950 and 1960, the largest increases were primarily in the north and northeast sections of the Phoenix Planning Area where the rapid expansion of subdivisions accounted for a large proportion of the growth. During the five year period 1960-1965, the location and distribution of population growth shifted west and north into Maryvale and the west side of the Black Canyon Freeway. The opening of the Black Canyon Freeway was an impetus to this growth, particularly in Westown. In contrast to these growth areas was the sharp decline of population in the "Inner City" area near downtown Phoenix where the population declined by 14,700 during this period.

# CHAPTER III

# THE FUTURE: POPULATION AND ECONOMIC BASE



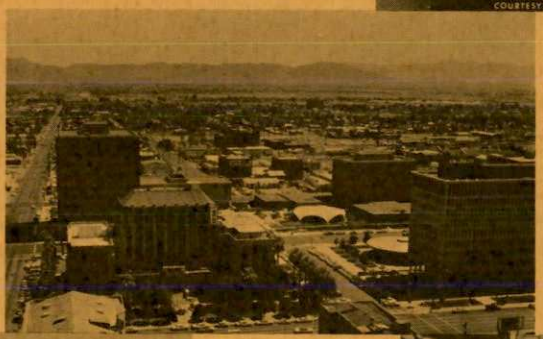


Table 6

EXISTING ZONING - JANUARY, 1965

Maricopa County*

| ZONING DISTRICT | ZONED AREA IN ACRES | PERCENT OF ZONED AREA |
|---|---|---|
| Rural | 81,800 | 81.3% |
| Single Family Residential | 14,100 | 14.0 |
| Multi-Family Residential | 1,600 | 1.6 |
| Commercial | 1,100 | 1.1 |
| Industrial | 2,000 | 2.0 |
| Total | 100,600 | 100.0% |

* Zoning in the County part of the Phoenix Planning Area

Source: Phoenix Planning Department Survey

Table 5

## EXISTING ZONING - JANUARY, 1965

City of Phoenix

| ZONING DISTRICT | ZONED AREA IN ACRES | PERCENT OF ZONED AREA |
|---|---|---|
| Single Family Residential | | |
| R1-6 | 34,800 | 27.5% |
| R1-8 | 1,100 | .9 |
| R1-10 | 13,000 | 10.3 |
| R1-14 | 7,600 | 6.0 |
| R1-18 | 600 | .5 |
| RE-24 | 1,400 | 1.1 |
| RE-35 | 19,800 | 15.6 |
| RE-43 | 3,900 | 3.1 |
| | 82,200 | 65.0 |
| Multi-Family Residential | | |
| R-3 | 7,900 | 6.2 |
| R-4 | 2,100 | 1.7 |
| R-5 | 4,900 | 3.9 |
| | 14,900 | 11.8 |
| Commercial | | |
| C-1 | 300 | .3 |
| C-2 | 2,700 | 2.1 |
| C-3 | 2,200 | 1.7 |
| PSC | 900 | .7 |
| Parking | 100 | .1 |
| | 6,200 | 4.9 |
| Industrial | | |
| A-1 | 8,700 | 6.9 |
| A-2 | 8,600 | 6.8 |
| Industrial-Park | 900 | .7 |
| | 18,200 | 14.4 |
| Agriculture | | |
| S-1 | 4,800 | 3.8 |
| S-2 | 100 | .1 |
| | 4,900 | 3.9 |
| Total Area | 126,400 | 100.0% |

Source: Phoenix Planning Department Survey

# HISTORY OF PHOENIX

## THE BEGINNING

The Salt River Valley is the focal point of the Gila Basin where six rivers once converged in flat and fertile land. The Hohokam Indians, the first known residents of the area, settled along the Salt River about 2000 years ago. At the peak of the Hohokam culture (ca. 1200 A.D.), there were 22 large villages and several smaller ones. This degree of development was made possible by the network of irrigation canals the Indians had begun sometime between 500-700 A.D.. By 1200 A.D. the irrigated farmland surrounding the villages was served by over 150 miles of canals. This was a remarkable example of engineering, social organization, and environmental adaptation for a primitive society. For reasons still unclear, possible drought or pressure from hostile nomadic tribes, the Hohokam abandoned their pueblos, fields, and canals and left the Valley between 1200 A.D. and 1400 A.D.

## PREHISTORIC PHOENIX

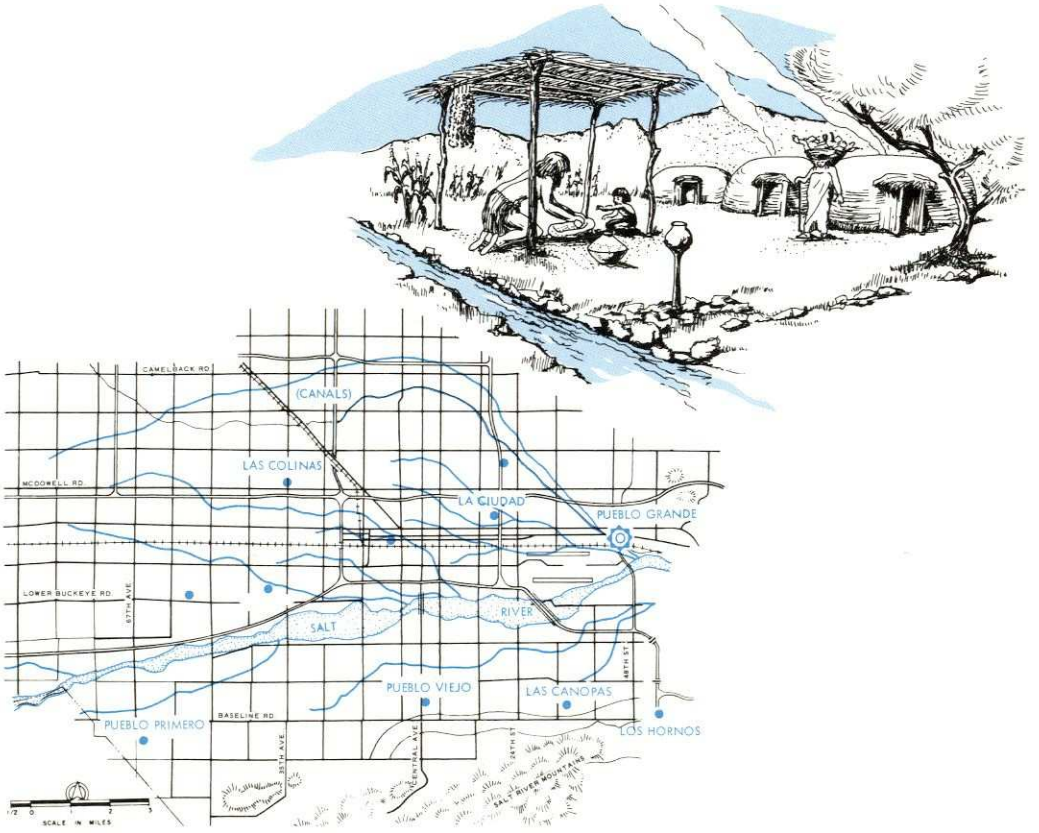



Figure 2

Evidence of their achievements is still apparent today. Much of our contemporary canal system, upon which modern Phoenix was founded, follows the routes of the Hohokam canals laboriously dug so long ago. The ruins of one of their largest villages is now a city museum and park – Pueblo Grande. The remains of many other ancient pueblos are buried beneath modern Phoenix.

The Valley lay fallow and deserted for 500 years after the exodus of the Hohokam. For the last three of these centuries it was part of the immense Spanish empire wrested from the Indians by the conquistadores of Spain. At least 15 major exploratory expeditions trekked through Arizona during the Spanish dominion, most of them searching for gold and silver. The Spanish presence was sporadic and transitory in most of the state. They built no missions, presidios, or communities north of Tucson.

With the disintegration of the Spanish empire, control of the Southwestern territories passed to newly independent Mexico in the early 1800's. The aggressive "manifest destiny" policy of the United States focused attention on the vast lands of the West. One result was the Mexican War of 1846-1848. Defeated Mexico ceded California, most of Nevada, New Mexico, Utah, part of Colarado and Wyoming and Arizona (north of the Gila River) to the United States. The United States acquired the rest of Arizona, south of the Gila in the Gadsden Purchase of 1853. The Valley of the Salt River lay empty during these years with only the crumbling Hohokam pueblos to testify to man's brief existence in the area.

## MODERN HISTORY

The modern history of the Valley begins with the founding of Fort McDowell, 30 miles northeast of Phoenix, on September 7, 1865. A trader at the fort, John Y. T. Smith, saw an opportunity to make a profit. The cavalry horses had to be fed and natural grasses grew waist high along the banks of the Salt River so, later that year, he set up a "hay camp" near the river. There he harvested the grass and sold it for fodder to Fort McDowell.

A few months later, John E. (Jack) Swilling visited Smith's camp. Swilling was an adventurer who played a varied role in the territorial history of Arizona. He commanded the Confederate detachment at the "Battle of Picacho Peak", the westernmost action of the Civil War. Later, leading a small party of armed prospectors, he captured the great Apache chief, Mangas Coloradas. Swilling noticed the fertile soil at Smith's camp and saw an opportunity to turn a profit. Only water was needed to turn the Valley floor into farmland. He went to Wickenburg, then booming with the Vulture Mine, found backers, and organized the Swilling Irrigation Canal Company with $10,000 in capital. Late in 1867 he returned with men

Phoenix, 1872 – Corner of 3rd Street and Washington.

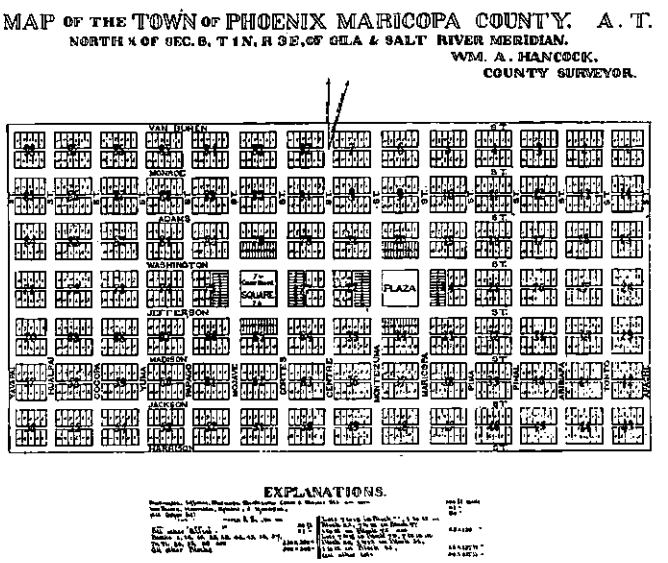



Figure 3

and equipment and built the "Salt River Valley Canal", familiarly called Swilling's Ditch. A few farmers followed and, after 500 years, man again had settled in the valley.

A small town had grown by the river by the spring of 1868. Swilling, still a rebel at heart, wanted to call the new settlement "Stonewall." However, Darrel "Lord" Duppa, an educated English soldier of fortune, suggested "Phoenix" after the bird of Arabian myth which burned itself every 500 years on a funeral pyre, to rise renewed and youthful from its own ashes, because the new community had figuratively risen from the ashes of the Hohokam. The first official appearance of the new name was for an election precinct created by Yavapai County (Maricopa County did not yet exist) on May 4, 1868.

Late in 1871 the people decided it was time to survey an official townsite. How it was chosen is told by Neri Osborn: "On the Friday evening preceding the Meeting [to choose a site], father and I visited the present site of Phoenix to get a load of wood. We found two men quarreling over the quarter section which lies directly east of Center Street [Central Avenue]. Father asked the men why one did not take the quarter in dispute and the other the quarter adjoining to the west. They refused, and it occurred to the Osborns that this land would be a good townsite. With coaxing, the men agreed to quit their interest in the claim for $25 each. At the meeting, the $50 was raised by popular subscription and what is now the south half of downtown Phoenix, worth millions, was surrendered for a pittance!" The first lots were sold in 1871 for an average of $48 apiece.

In March, 1872, a San Diego journalist appraised the future of Phoenix with uncanny accuracy. . ."When it has become the capital of the territory, which it will undoubtedly. . ., and when the 'Iron Horse' steams through our country. . . the Salt River will be the garden of the Pacific Slope and Phoenix the most important inland town." This was written 17 years before the capital was moved to Phoenix, a small town with fewer than 1,500 people. At its first census, in 1880, the population of Phoenix was 1,708.

From 1897 to 1899 a drought nearly destroyed the economy of Phoenix. Heavy rains brought relief and a flash flood which destroyed most of the earthen diversion dams. The ensuing outcry helped bring about congressional passage of the Reclamation Act of 1902. This law enabled the construction of the huge reclamation projects, of which the Salt River Valley Project was the first, that have changed the face of the West. With the completion of Roosevelt Dam in 1911, and six smaller dams between 1908 and 1945, the arable acreage surrounding Phoenix increased rapidly.

The new farmland, good rail transport, and the sudden demand for crops, especially cotton, created by World War I, helped Phoenix to prosper. By 1920, Phoenix had become a small city with a population just over 29,000. In the booming mid 1920's, Phoenix and Arizona first attracted attention as a winter resort. However, poor highways, the depression, and war delayed the development of tourism, an industry which was to grow until it rivaled agriculture in the economy of Phoenix.

## THE BOOM

Phoenix was a city of 65,000 at the start of World War II, still almost completely dependent on farming. The war changed this picture completely. Taking advantage of the sunny climate, the Army built large flight training bases and a desert combat training center. Thousands of servicemen came to Arizona to teach or be taught. The pressure of wartime demands required rapid expansion of America's industries. The aluminum extrusion plant now owned by Reynolds Metals was one of several war plants which brought industry to Phoenix for the first time.

After post-war demobilization, thousands of ex-servicemen stationed in Arizona during the war returned to live and created the nucleus of a skilled labor force. Electronics and allied light industry, their development spurred by the war, faced a growing demand and sought new plant sites. The climate of Arizona was ideal and the isolation no handicap. Motorola, General Electric, AiResearch, Sperry and others came to Phoenix. The "westward tilt," that extraordinary migration of Americans to the West, was on and Phoenix took its share. From 1950 to 1965 our population quintupled to about 500,000. Rising incomes, more leisure, and easier travel created a boom in tourism. In 1956, tourist spending in Arizona totaled $200,000,000. In 1967 the tourist total was $480,000,000, just a little less than the value of crops and livestock production in the state. Half of the tourist money was spent in Phoenix.

In less than a century, Phoenix has grown from a tiny farm town to an urban area of nearly 1,000,000 people with a diversified economy. The end is not yet in sight.

# ANNEXATIONS

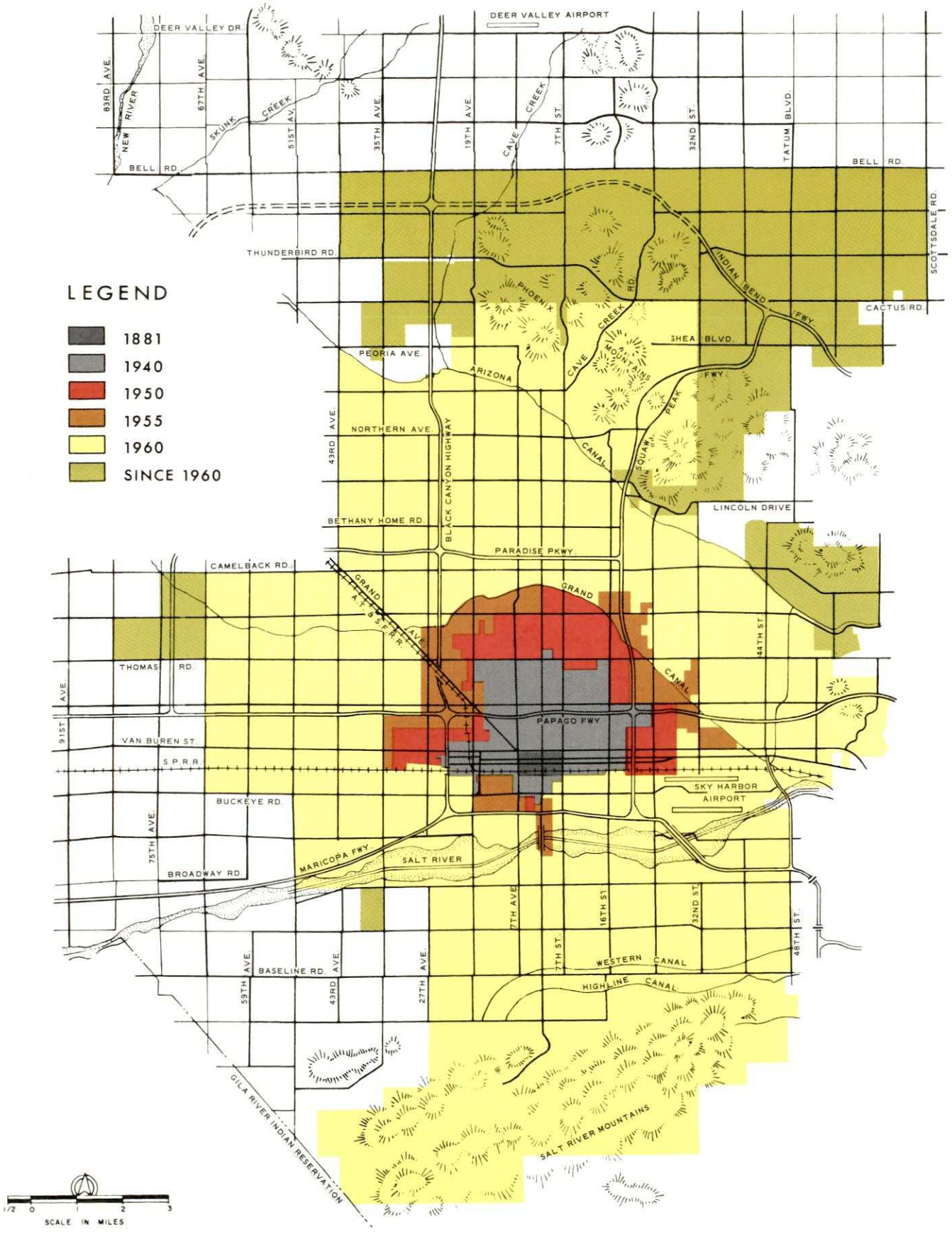



Figure 4

# IMAGE OF THE CITY

"Man has created some beautiful things - sculptures, paintings, vases, and, occasionally, a building. But such beautiful things are few by comparison with the uglinesses he is responsible for, and I do not see how anyone could dispute the statement that the physical world he has taken over is less good to look at because of him or that it grows less and less so from day to day."

- Joseph Wood Krutch

Have we, in Phoenix, escaped Mr. Krutch's indictment? This section looks impartially at Phoenix, the man-made city and its natural setting, and briefly describes the image of our city. It limits discussion to general observations of the city as a whole, excluding comments on particular neighborhoods, districts, or buildings, except for an occasional clarifying example. Then it shows how this image can be altered for the greater benefit and enjoyment of all Phoenicians.

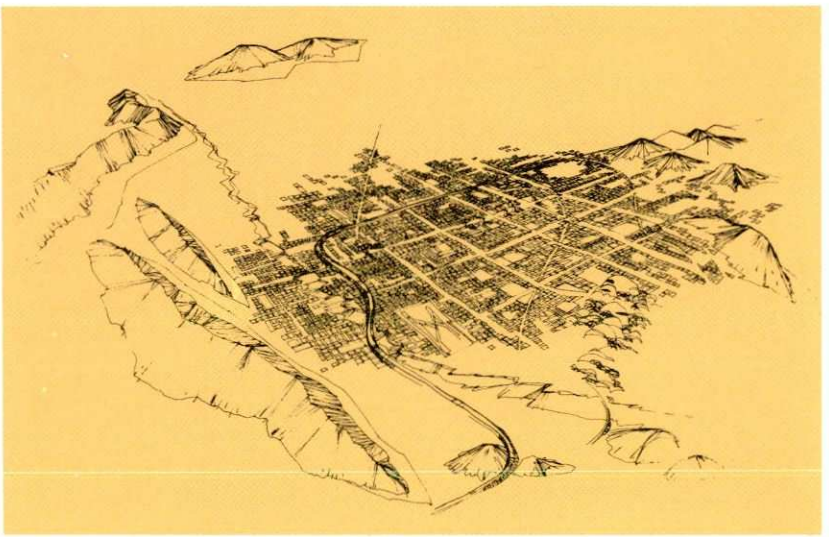


Figure 5

## THE PRESENT

Imagine yourself standing high on the Papago Buttes looking at the panorama of Phoenix. You would see that Phoenix lies on the nearly level floor of the Salt River Valley. The city is nestled in a crescent of low mountains within the larger

valley: the Phoenix Mountains, including Camelback Mountain and Squaw Peak, to the north and east; the Salt River (South) Mountains to the south and east; and, the Sierra Estrellas to the southwest. The mountains rise about 1,000 to 1,500 feet above the valley floor forming a pleasing background from almost everywhere in the city. They are the most prominent landmarks of Phoenix, particularly Camelback Mountain, the jagged outline of Squaw Peak, and the weirdly eroded slopes of the Papago Buttes. The wide dry bed of the Salt River cuts across southern Phoenix, partially isolating it from the rest of the city. Luckily, it's a clear day so the contrast of white clouds in a vivid blue sky, the rugged browns of the mountains and desert, and the greens of the contrasting lush foliage in the city below is unimpaired by a smudgy layer of smog and dust.

What can you tell of the city itself? In the middle distance a bit to the south is a cluster of tall buildings, the original downtown. Along a line due north from the downtown for about three miles is a scattered line of a dozen or more tall buildings, some in a smaller cluster near the north end of the line, the "North Central high-rise corridor." The rest of the city, from mountain to mountain, appears as a uniform layer of trees and low buildings.

This is a new city, less than 100 years old. Most of its growth has taken place since World War II, and a majority of the buildings are less than ten years old. Newness and bright desert sun accentuate its cleanliness although an increasing number of smoggy, dusty days can sometimes spoil that impression.

Phoenix is spacious and uncongested. The average population density is only 1,320 per square mile. Compare this with over 44,000 per square mile for Brooklyn and Manhattan or 73,000 in central Paris. Broad streets, many of them lined with trees, enhance the spacious feeling. Traffic congestion has not yet become a critical problem, as it has in many cities, and cars usually move smoothly along the streets. Vacant land is scattered all over the city from large tracts of desert on the outskirts to vacant lots, even pastures, in town.

Although there are a number of fine apartment buildings here, the overwhelming majority of Phoenicians live in so-called single-family detached houses. Probably, more than any other factor, this large percentage of single-family houses has created the diffuse appearance of Phoenix.

Many thoughtful people believe that there are serious, even crucial, physical and social shortcomings in contemporary American cities. Urgent as they are, the social ills of our city are outside the scope of this discussion. We are considering here only the physical aspect of Phoenix and its major problems -- the sprawl, poor or thoughtless design, and human scale.

Phoenix is a city of automobiles. There is no rapid transit; bus service is rudimentary; even pedestrians are few. Many streets of all types are without sidewalks. Strolling or promenading is largely confined to parks and shopping centers. Even the casual meeting of boys and girls has been motorized in the teenagers' ritual of cruising Central Avenue. In downtown Phoenix, land devoted exclusively to automobiles--roads, parking garages, gas stations, etc.--occupies two-thirds of the total land area. Surely this disproportionate catering to the machine over man is a gross distortion of the values of urban life.

There is so much land in Phoenix that we have a casual attitude toward it. If a developer thinks the price for a likely site close-in is too high, he goes out farther where land is cheaper. Since nearly everyone has a car, it's only an extra five or ten minute drive. Places of work, living, shopping and recreation are spread so far apart that even the most trivial of errands requires a trip by car. The extra cost of building and maintaining roads and utilities for such a sprawl city is a needlessly heavy burden on the taxpayers. More importantly, sprawl contradicts the function of a city which is, as Lewis Mumford has said,". . .to permit — indeed to encourage — the greatest possible number of meetings, encounters, challenges, between varied persons and groups, providing as it were a stage upon which the drama of social life may be enacted. . ."

Phoenix is a clean and, in many ways, a beautiful city; North Central Avenue, with its landscaping, tall palm trees, tall buildings, and lack of clutter does us proud. But its uniqueness is not something we should be proud of, for it only amounts to six out of 300 miles of major streets in the city. What do the other 98% look like? To anyone who has lived fifteen or more years in Phoenix, what has happened to East Camelback Road is a disaster. It used to be a fine choice for a short Sunday drive — pleasant green pastures with fresh white rail fences, citrus orchards, on into the desert. Now, words can hardly describe the jungle of cheap signs and buildings that line the traffic choked road. Nothing better can be said of our other main roads. Drive along East Van Buren, for instance, and see what impression highway travelers get of Phoenix.

Good city design means that the elements of the urban environments--buildings, landscaping, roadways, pedestrian paths, utilities, and all appurtenant facilities — are designed and situated to provide a supporting background for our lives that is appropriate and attractive, efficient, and that lends human scale to the natural setting of the city.

The idea of human scale needs explanation. To an observer, the huge expanse of nature spread before him is overwhelming; it can give one a real visual shock. Think how often we describe a spectacular view as "breathtaking". Surrounded by nature, awareness of distance and location are often lost. The layout

and structures of the city must subdivide nature in a rational and comprehensible way so that those within are able to keep a mental map, as it were, of their location, destination, and the distance between.

This term "human scale" refers also to the feeling induced by the size and appearance of the open spaces formed by the surrounding structures and the sequences, contrasts, and relationships between them. Compare, for example, the feeling aroused when walking along Manhattan's artificial canyon to the relaxed atmosphere of window shopping along Park Central Mall. Imagine the impact of a large square or plaza when it is approached from a narrow street; the sudden contrast of confinement followed by spaciousness accentuates both. Even the size of doors and windows, and the color and texture of surfaces help create the mood. In our city, these effects usually arise haphazardly, but the potential is great for creating an exciting and satisfying city by planning for human scale. Small changes, a new color, a simple awning or canopy can change the character of a street, for example.

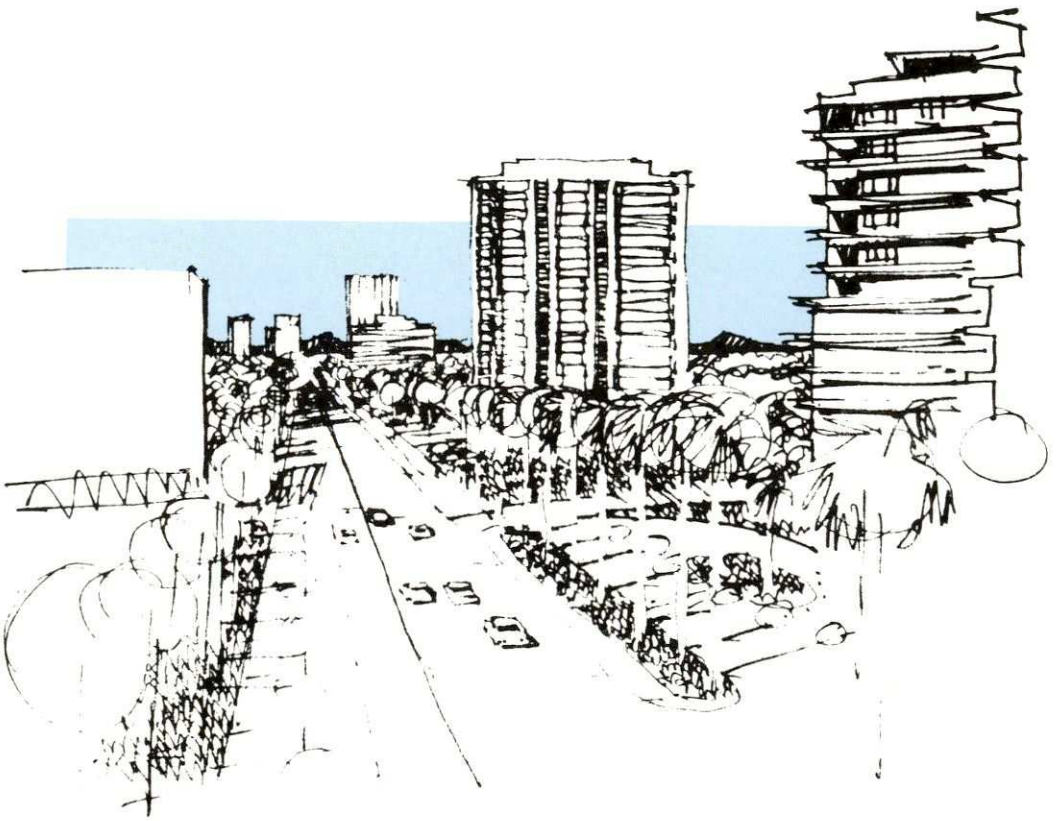


Figure 6

## THE FUTURE

If we are to improve the image of Phoenix, we must first compile a kind of visual inventory of our city, one listing the defects and the potentials of each part of Phoenix. The Planning Department has taken a first step by sending questionnaires to selected citizens asking their opinions of the appearance of Phoenix, particularly their neighborhoods. With these replies, we hope soon to begin a detailed survey of Phoenix using an analytical system devised by Kevin Lynch of MIT and described in his book, The Image of the City. Professor Lynch has classified five elements which comprise the image of a city -- paths, edges, districts, nodes and landmarks. Brief definitions of each follow.

- PATHS are routes along which the observer may move — roads, walkways, railroads.

- EDGES are linear boundaries not used for travel. They may be barriers obstructing cross movements, or seams, visual demarcations not obstructing movement. Examples are walls, shorelines, riverbeds, and edges of development.

- DISTRICTS are distinctive areas of the city having some common identifying character such as architectural style, activity or use, inhabitants, and topography. Such local areas might be Sunnyslope, Downtown, Biltmore,and Maryvale.

- NODES are small areas of concentrated activity to and from which people travel. Usually they are located at the junctions of major paths or where there is a break in transportation. In Phoenix, the airport, regional shopping centers (Chris-Town, Thomas Mall, etc.), and the City-County Government Complex are examples.

- LANDMARKS are prominent natural or man-made objects with a distinctive aspect and visible over a wide area. They are external reference points used for identification and orientation. Camelback Mountain and the Westward Ho Hotel, with its old television tower, are among the landmarks of Phoenix.

# IMAGE OF PHOENIX

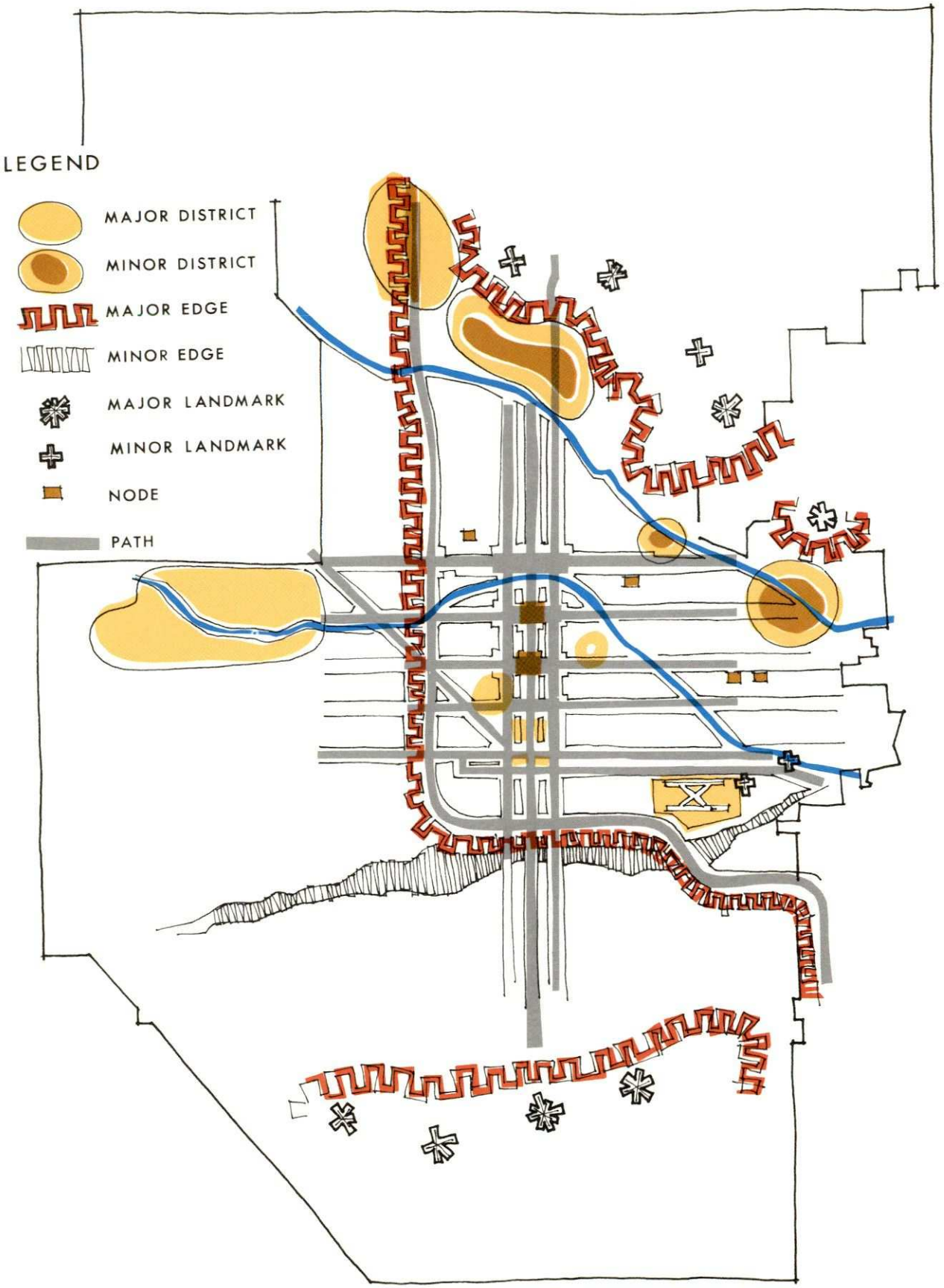



Figure 7

## Open Space

Open space in Phoenix ranges from the overgrown vacant lot on the corner or an apartment courtyard to the 15,000 acres of South Mountain Park.

All open spaces are either random or purposeful and may be either publicly or privately owned. Random open spaces are the spaces including the temporarily vacant lot left as odds and ends between structures or other development. Purposeful open spaces are those remaining undeveloped for a reason. These include parks, playfields, etc. where the open space itself fills a primary need and such areas as airport approach zones where the open space is a secondary need to permit the safe movement of aircraft.

Open spaces serve two main purposes in cities. They are an element of the urban structure, helping to shape the city by separating neighborhoods and giving identity to parts of the city, e.g., the Encanto District of Phoenix surrounding Encanto Park. They also serve the people by offering recreation spaces, protecting scenic and historic sights, aiding in flood control and conservation of resources.

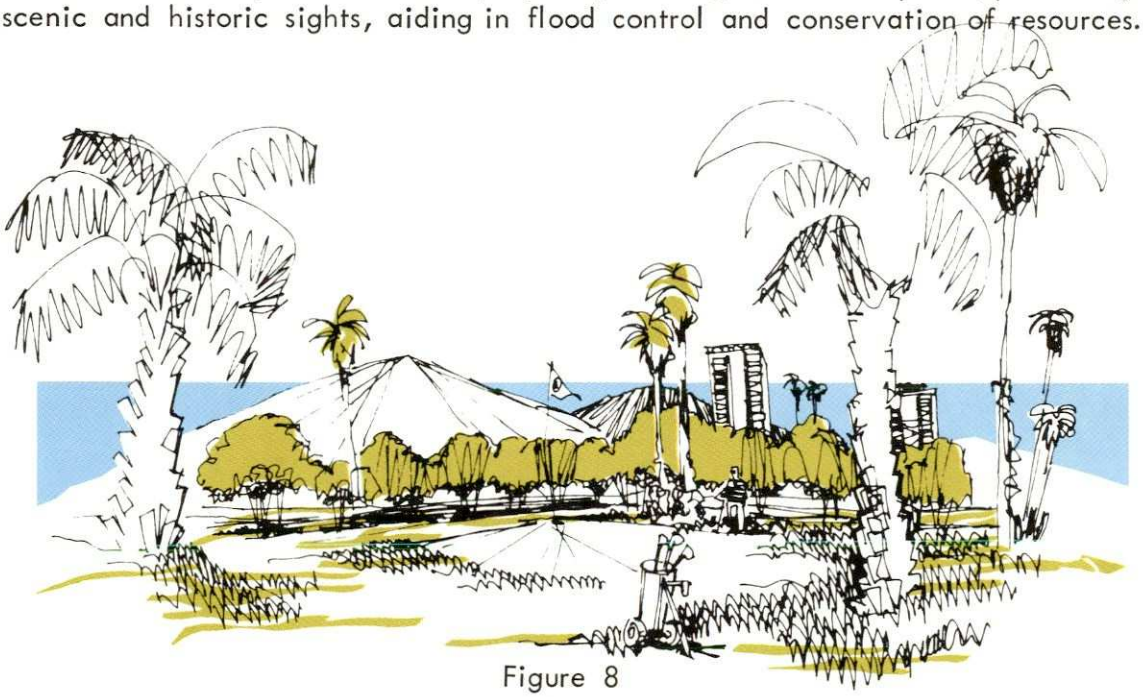


Figure 8

Open spaces are a necessary part of the urban environment. How barren and harsh our cities would be without the fragrance and softening outlines of grass and foliage to relieve the hard outlines of asphalt and concrete. The amount and pattern of open space within the city are important elements in forming the image of a city.

The preservation of primary open spaces can be a vexing problem. Many areas of particular value because of their beauty, historical association, location, and so forth, are also choice sites for urban development. Very often the intangible values of beauty, refreshment, awareness of the past, and the opportunity to enjoy nature yield to the formidable economic pressures for profitable development. In Phoenix, the surrounding mountain slopes illustrate this point. They form a dramatic backdrop to nearly every vista in the city. Their beauty and visual impact depend largely on the contrast between the rugged slopes and the city below. The bulldozed scars of roads and building sites would destroy this. The area encompassed by the General Open Space Plan for the Phoenix Mountains, Lookout Mountain, and the rest of the mountain crescent should be kept free from such encroachments.

It's quite the opposite problem with another of our open space assets — the irrigation canals. Wending their way through the heart of Phoenix, the Arizona and Grand Canals are effectively isolated from the people. Between high fences the typical canal bank is overgrown with weeds and scrubby bushes with a dusty, unpaved maintenance road along one side. Public access is discouraged or actively denied. Their potential beauty and recreational value have been neglected. In place of this, picture a series of lagoons every three or four miles along the length of each canal, each offering boating and each set in a park with picnic areas, playing fields, a small pond, and the like. Parks and lagoons would be connected by hiking trails and bicycles and bridle paths. The U. S. Bureau of Reclamation and the Salt River Project have agreed to permit canal parks. Some imaginative designs for such parks were done in 1966 by student architects at Arizona State University; while Maricopa County has published a report, Canal Parks: Guidelines for their Planning and Development, done by Victor Pinckney, Jr., a landscape architect.

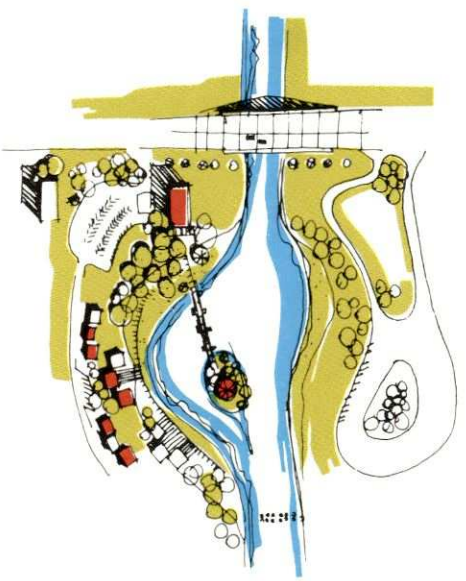


Figure 9

Potential Improvements

As an example of current developments, a joint committee of the city, state county and Federal governments have approved a proposal to create a Capitol Mall extending from the City-County Government Complex to the State Capitol. Ranged along Washington and Jefferson Streets would be most government offices now scattered around the city, offices of labor unions, trade associations and similar non-profit organizations, and small shops and restaurants to serve the employees. Along the mall would be large parks with monuments and memorials.

In the field of government, rigorous use of the powers of our zoning and subdivision regulations can help shape new development to fit the desired image of Phoenix. Our new sign ordinance will help reduce and control the rows of gaudy signs that line too many of our major streets. We could give support and encouragement to the rehabilitation and rebuilding of dilapidated housing. Various assistance programs of the Federal government might be used to help us achieve this.

The gaunt silhouettes of utility poles and their attendant webs of wire are seldom seen in European cities while we clutter our roadside and sky with them to save a few dollars. Improved technology has made it possible to install telephone and low voltage electric distribution lines underground at modest cost. Phoenix should have laws requiring underground wires, particularly in residential areas.

Will Phoenix, in its own way, be as memorable as Chicago or San Francisco? Our preoccupation with the political and economic problems of expansion has caused us to neglect our social and aesthetic responsibilities. We have deferred quality to quantity in our cities. We have plunged into new techological advances heedless of their side effects; among which have been widespread pollution of our air, water and food with toxic chemicals, and technological unemployment— the automation problem. We have resorted again and again to old cliches of style and the easily accepted design.

We must harmonize natural and man-made forms into a coherent and significant image. We need the determination and imagination to inspire creative designers to make the most of their talents and the realism to gain the confidence of responsible builders and persuade them to seek and use such designs. Finally, we must set an example with public improvements that will be an incentive for private investment.

# PHYSICAL FEATURES

## LOCATION

The Phoenix Metropolitan Area, which is synonymous with Maricopa County, constitutes one of the major centers of economic activity in the Pacific Southwest Region of the United States. The metropolitan areas of Los Angeles, San Diego, and San Bernardino-Riverside in Southern California, along with Phoenix, comprise the bulk of the population and economic base of the fastest growing area in the country.

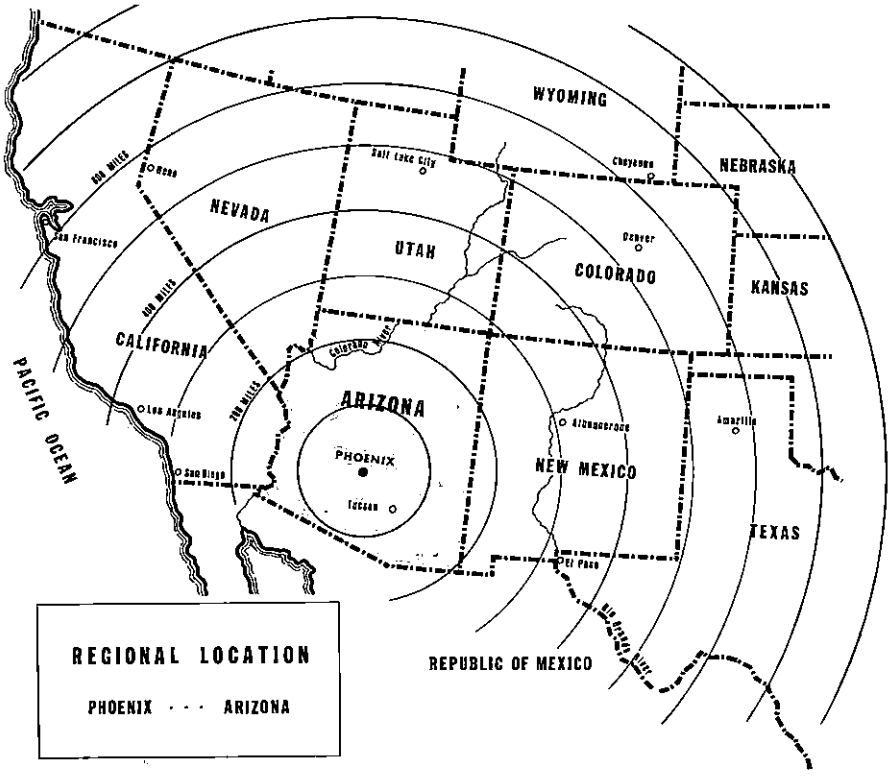



Figure 10

A central location in the southwestern United States enables Phoenix to capitalize on certain economic functions taking place throughout this area. For example, Phoenix performs a significant trade and distribution function because it is within a one-day delivery distance of burgeoning Southern California markets. It also serves as a storage point for goods which are being shipped from one region to another.

Although Phoenix has developed without being on the main line of an intercontinental transportation route, it has been able to attract route connections for two major railroads, several major truck carriers, two bus lines, and a part of the national interstate highway system. Phoenix itself is an important economic center, being a "central city" and the "hub" of a dense metropolitan area. In 1965, Phoenix had 65% of the total employment of Maricopa County and today is attracting the largest share of retail sales in the metropolitan area.

## CLIMATE

Climate is the result of temperature, sun penetration, humidity, rainfall and wind. The Sonoran desert climate of Phoenix is mild in the winter, hot in the summer, and sunny and dry the year round. January temperatures average near 65 degrees in the daytime and in the high 30's at night. In July, corresponding daytime and nightime figures are 105 and 75 degrees. The winters are warm and sunny, with frost an uncommon occurrence and snowfall an even rarer one.

Compounding the natural summer heat problems are climatic changes caused by urbanization. The hard building surfaces absorb more heat than open ground and release it slowly during the evening. In addition, building masses break up wind currents which might otherwise carry heat away.

Climatic and topographic conditions have set the stage for a relatively new problem. An inversion layer above the valley prevents vertical mixing of air and a low wind velocity, coupled with a ring of mountains, greatly reduces lateral air movements. As a result, air pollutants are trapped in the valley.

The amount of moisture in the air is slowly rising as the result of more vegetation, more water on yards, and the loss of moisture to the atmosphere by city surfaces. The increased air moisture reduces dry skin problems and produces more dew to help keep lawns green. However, it also reduces the effectiveness of evaporative cooling and increases the discomfort of a hot day.

## TOPOGRAPHY

For the most part, the Phoenix Planning Area occupies a broad, gently sloping plain ringed on the north by the broken mountain masses of the Phoenix Mountains, on the south by the Salt River Mountains, and on the east by the high rocky hills and eroded slopes of the Papago Buttes and Camelback Mountain.

The native vegetation was long ago removed for irrigation, and virgin desert vegetation is found only in the rocky hills and mountains.

The valley is crossed by one major stream bed, the Salt River, and many minor washes. Most rainfall is from brief heavy showers. The unpenetrable mountain slopes and parched desert soil cannot absorb all of this rainfall and a large runoff results. Urbanization adds to this runoff by replacing natural water absorbing surfaces with hard pavement and buildings. The runoff then flows in the numerous washes or across the land in sheets.

The valley floor is well-suited to urban development if the unique climatic conditions are recognized. Consideration must be given to the flatness of the topography, the problems caused by the extreme summer heat, advantages of the mild winters, location of water sources, and natural drainage patterns.

Flooding – 3rd Street and Roosevelt

## SOILS AND GEOLOGY

The arid soils of the Phoenix region are composed of water-deposited soil material and rock debris. They are weathered and generally well drained, with the exception of some areas which have a heavy clay base.

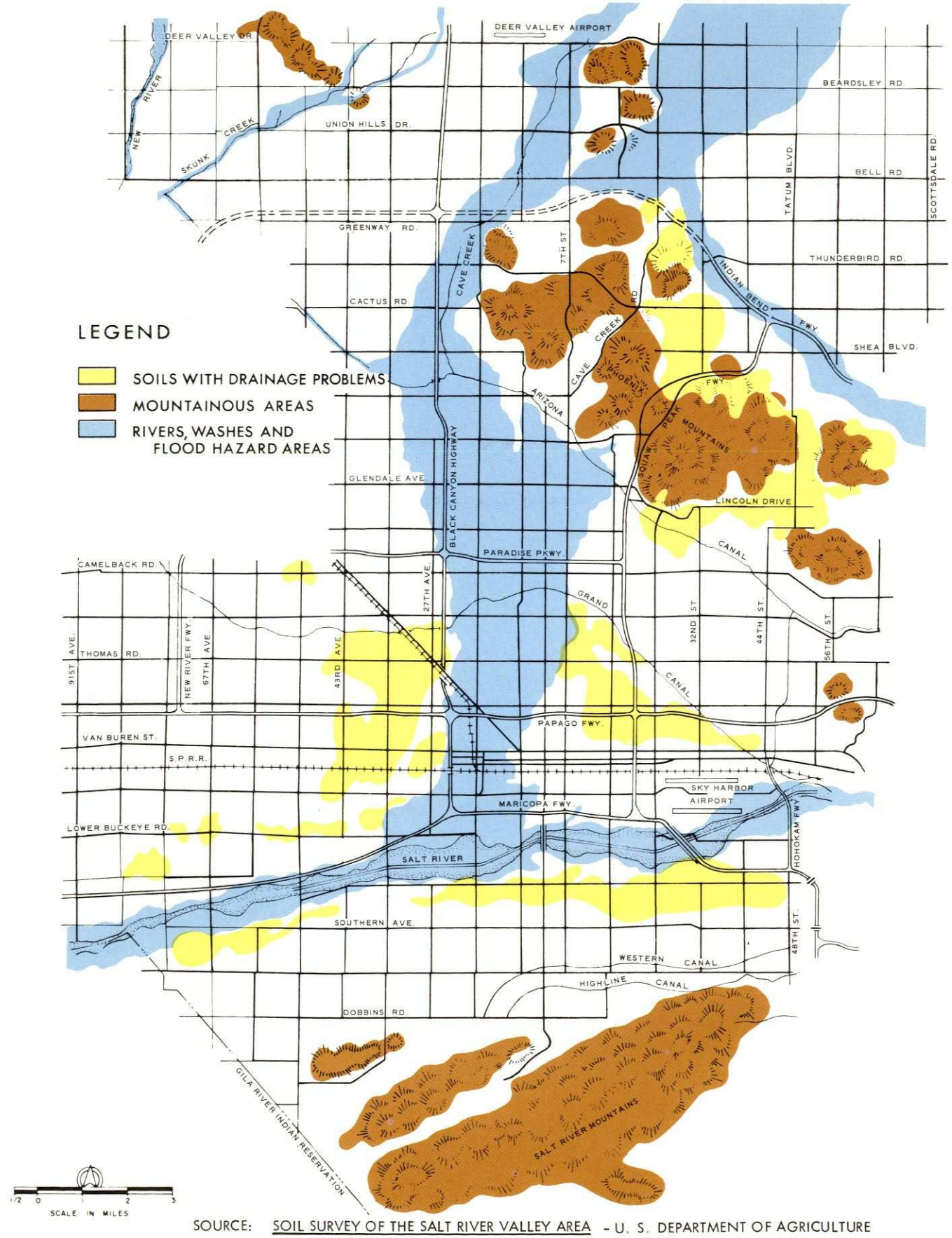
Most of the soils on the valley floor are deep enough to support crops. They are rich in minerals and nutrients as they have not been leached by rains. These minerals exist in a critical balance in the soils, however, and over-irrigation can float them to the surface causing damage to the crop-sustaining ability of the soil. Careful irrigation practices to avoid water logging can reduce the danger of soil damage.

Natural desert soils are characterized by a compact, adhesive layer of soil particles called desert pavement. Little of these soils blow into the air and dust storms are rare. Once this pavement is broken, however, the soil is freed and care must be taken to prevent wind erosion. Ground covers and careful farming techniques are necessary.

The mountains around Phoenix are composed of igneous and metamorphic rock. While this provides a pleasant variety of scenery, it also presents a mixture of subsurface conditions which, due to unstable soil foundations, are often hazardous to build upon. Geologic faults and nonconformities are common. The mountains are generally steep, barren, impermeable to water, and ill-suited for urban development. Construction is feasible, however, if a site plan is carefully chosen and grading controls are utilized.

Squaw Peak

# PHYSICAL FEATURES




SOURCE: SOIL SURVEY OF THE SALT RIVER VALLEY AREA - U. S. DEPARTMENT OF AGRICULTURE AND POTENTIAL FLOOD HAZARD AREAS - DIVISION OF ENGINEERING - 1968

Figure 11

# LAND DEVELOPMENT PATTERNS

## EXISTING LAND USE

Existing land use, as shown in the generalized land use map in Figure 12 portrays a graphic picture of the extent and arrangement of land use in the Phoenix Planning Area. The map is intended to show a broad, but simple picture of the general patterns, functions, and interrelationships of land use on an area wide basis and to facilitate general understanding of the influences exerted upon land use by such factors as utilities, highways, nearby mountains, flood areas, airports, political boundaries, and major employment centers. The map shows land uses grouped into eight basic categories: agriculture, residential single family, residentail multi-family, commercial, industrial, public, semipublic and vacant land.

Maintaining current data on land use information for the Phoenix Planning Area is a massive undertaking. In years past, Phoenix was able to complete a rather extensive land use survey on the entire city within a short time. Today, our needs are much more precise. In retailing we must know the type of retail activity; whether it is a jewelry store, department store, meat market, furniture store, and so forth. If it is a personal service, we must know specifically the kind of service, such as a beauty shop, barber shop, attorney's office, or architect's office. In the case of industry, we need to know the types of products being assembled, fabricated, or manufactured. In addition to parcel use information, knowledge of the structure, structural condition, structure size in floor area and stories, land area, building coverage, number of off-street parking spaces, and many other items have valuable use today in land use analysis and in effectuation of the Comprehensive Plan.

At the present time one of our major problems is that of treating automatic methods for up-dating information systems in order to avoid continual field inspections. With data collections growing so rapidly, it is no longer possible to afford expenditures of funds in the magnitude necessary to field inspect as in the past. It is our hope that automatic methods for data collecting will be established in the metropolitan area in the near future.

### Land Use Surveys

Land use surveys have been conducted during several summers from 1950 to the present. In 1964, a survey noting the use of each parcel of land within the entire Phoenix Planning area was done. The results were mapped, using a color code and the number of acres in each use measured and tabulated. The results are shown in Table 1.

# GENERALIZED EXISTING LAND USE PHOENIX, ARIZONA

DECEMBER 1968

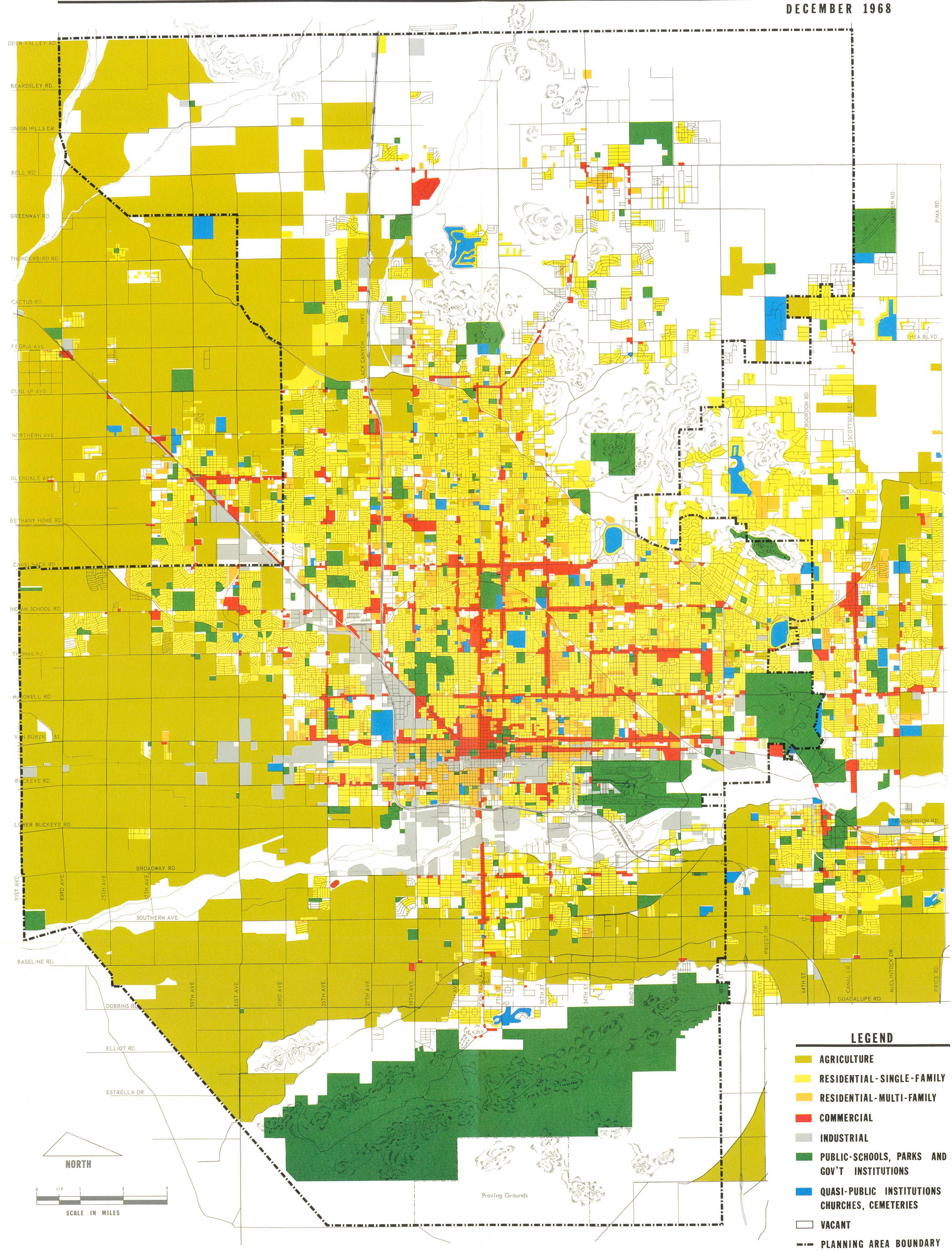



Figure 12

Table 1

EXISTING LAND USE — JANUARY 1, 1965

Phoenix Planning Area

| LAND USE | Area in Acres | Percent of Total Land Area |
|---|---|---|
| Single Family | 28,927 | 11.4 |
| Multi-Family | 4,775 | 1.9 |
| Commercial | 3,135 | 1.2 |
| Industrial | 9,236 | 3.7 |
| Railroads & Canals | 1,169 | 0.5 |
| Expressways, Streets, & Alleys | 18,156 | 7.2 |
| Parks & Playgrounds | 18,296 | 7.2 |
| Schools | 1,809 | 0.7 |
| Other Public & Semipublic | 4,619 | 1.8 |
| Agriculture | 60,220 | 23.8 |
| Vacant | 102,566 | 40.6 |
| Total Acres | 252,908 | 100.0% |

## Land Use and Population

In general, a predictable relationship exists between urban land use and population. Knowledge of the present population density for each land use can be used to estimate the amount of land in each category that will be required to support projected future populations. Table 2 shows the ratios of land use to population for the Phoenix Planning Area in 1965, and compares them with Phoenix in 1957, Tucson, and five other cities.

## Developed Land

Another opportunity for judging the developmental nature of Phoenix and projecting land uses into the future is to examine the ratio of developed land by each type of land use. Table 3 shows land use as a percentage of total development. Comparisons are also made with Phoenix 1957, Tucson, and an average of five major cities with populations over 250,000. This data shows that Phoenix is developing considerably higher residential ratios while the street and alley ratio is substantially lower than each of the other categories. Again, this information becomes very useful in the forecasting of future land use.

Table 2

## LAND USE IN ACRES PER 100 POPULATION

Phoenix Planning Area

| | PPA 1965 | Phoenix 1965 | (b) Phoenix Less Major Mountain Parks | Phoenix 1957 | Tucson 1960 | (c) Average 5 Cities Over 250,000 Pop. |
|---|---|---|---|---|---|---|
| Residential | 6.5 | 5.5 | 5.6 | 4.6 | 4.9 | 2.0 |
| Single Family | 5.6 | 4.7 | 4.8 | 3.6 | 3.9 | 1.4 |
| Two Family & Multiple | .9 | .8 | .8 | 1.0 | 1.0 | .6 |
| Commercial | .6 | .5 | .6 | .6 | .7 | .2 |
| Industrial | 1.8(a) | .7 | .7 | .4 | .2 | .4 |
| Railroads & Canals | .2 | .2 | .2 | .1 | .4 | .2 |
| Expressways, Streets & Alleys | 3.5 | 2.6 | 2.7 | 2.6 | 3.3 | 1.3 |
| Parks & Playgrounds | 3.5 | 3.5 | .5 | .3 | .5 | .4 |
| Schools | .4 | .3 | .3 | - | - | - |
| Other Public & Semipublic | .9 | .8 | .8 | 1.2 | 1.2 | .5 |
| Total | 17.4 | 14.1 | 11.4 | 9.8 | 11.2 | 5.0 |

(a) Included International Harvester proving grounds (4,400 acres)

(b) South Mountain, Papago, North Mountain and Squaw Peak Parks

(c) Dallas, Texas; Dayton, Ohio; Memphis, Tennessee; Newark, New Jersey; and St. Louis, Missouri.

Table 3

## LAND USE AS A PERCENTAGE OF TOTAL DEVELOPED AREA

Phoenix Planning Area

| LAND USE | PPA 1965 | Phoenix 1965 | Phoenix Less Major Mountain Parks | Phoenix 1957 | Tucson 1960 | Average* Cities Over 250,000 Pop. |
|---|---|---|---|---|---|---|
| Residential | 37.4 | 39.0 | 49.2 | 47.0 | 42.7 | 39.9 |
| Single Family | 32.1 | 33.1 | 41.9 | 36.8 | 34.0 | 28.3 |
| Two Family & Multiple | 5.3 | 5.9 | 7.3 | 10.2 | 8.7 | 11.6 |
| Commercial | 3.5 | 3.8 | 5.1 | 5.9 | 6.4 | 4.3 |
| Industrial | 10.3 | 4.9 | 6.2 | 4.5 | 2.0 | 8.5 |
| Railroads & Canals | 1.3 | 1.1 | 1.3 | .9 | 3.6 | 4.4 |
| Expressways, Streets & Alleys | 20.1 | 18.6 | 24.0 | 26.5 | 30.0 | 24.7 |
| Parks & Playgrounds | 20.3 | 24.7 | 4.1 | 2.9 | 4.7 | 8.6 |
| Schools | 2.0 | 2.2 | 2.7 | - | - | - |
| Other Public & Semipublic | 5.1 | 5.7 | 7.4 | 12.3 | 10.6 | 9.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

* Dallas, Texas, Dayton, Ohio, Memphis, Tennessee, Newark, New Jersey and St. Louis, Missouri

## OPEN LAND

Open land today can be classified into three categories: (1) vacant land that is suitable for development; (2) vacant land that is unsuitable; and (3) agricultural land that is suitable for development.

Table 4

NON-URBAN LAND-1965

Phoenix Planning Area

| Type | Acreage |
|---|---|
| Vacant - Developable | 73,500 |
| Vacant - Unusable | 29,000 |
| Agricultural | 60,200 |

### Future Development

Land that is currently vacant and is suitable for future development is located in all sections of the Planning Area. Large acreages lie toward the fringe of the Planning Area in Paradise Valley and Deer Valley. The land use map also shows many pieces of close-in vacant land scattered throughout the built-up portion of the Planning Area. These pieces of vacant land were bypassed for various reasons including lack of access or utilities, relatively greater development appeal in other areas, and lack of owner incentive to develop.

Vacant land that is unsuitable for future urban growth is confined to areas that have rough topography (the mountainous areas), are subject to flooding (rivers, washes and flood areas), or are otherwise unsuitable. Much of this land has been allowed to remain in its natural state.

Large areas devoted to agricultural activities remain today in the Planning Area, particularly in the Laveen and South Phoenix areas. A critical problem in the future will be the conversion of many thousands of acres of farm lands to urban uses. Still more may be virtually committed to urbanization by the sprawl pattern and "leap-frogging" of subdivisions.

As demand for the use of currently vacant and agricultural land is created by urban growth, compact and orderly development outward from the core should be encouraged in the interest of providing economical municipal services. Compact development not only minimizes travel distances for residents, but it also results in economies for streets, public utilities, and other public improvements.

Careful control of the development of bypassed vacant lands close to the city will be a necessity in the future as well. Detailed planning should be made for these small vacant parcels to determine their best use in the future.

Another critical issue is the potential for development within the mountainous sections of the Planning Area. Today, there has been little development on the hillsides except in the Camelback Mountain area.

# ZONING

In theory, planning should precede zoning. Phoenix, like many other communities, has grown rapidly over the last few decades without the benefit of a comprehensive plan. Zoning has been used as the main tool for developing the present pattern of land use. With the initiation of the City's first plan, zoning can be applied more effectively to translate planning proposals into reality.

## HISTORY

Cities in Arizona are authorized to zone by virtue of State Enabling Legislation passed initially in 1928 and revised in 1956. Phoenix enacted its first zoning ordinance in 1930, but since then the ordinance has been amended many times. The present ordinance, Number G-449, was adopted December 28, 1961.

The Phoenix Zoning Ordinance specifies residential, commercial and industrial zoning districts, each with its own set of permitted uses and setback regulations. The ordinance also provides general policy and procedural guidelines, defines terms used, specifies enforcement and penalties for violations, stipulates the method for amendment, gives the jurisdiction of the Board of Adjustment, describes the means of handling non-conforming uses and use permits, and specifies methods for zoning changes. The ordinance also has regulations governing the zoning of newly annexed territory.

## EXISTING ZONING

Table 5 shows the areas of zoning districts as of January, 1965. Special attention should be given to the fact that the statistics represent "zoned area" and "percent of zoned area." Table 6 gives similar information for the part of the Planning Area that is not in the corporate limits of the city.

In 1965, 76.8% of all zoned land in the City of Phoenix was designated for residential use. Single family residential represented 65.0% of all zoned area while multi-family residential represented 11.8%. Phoenix is predominantly a residentially zoned community. Single family residential districts occupy 84.6% of all land zoned for residential purposes. The single family districts are being used almost exclusively for single family detached dwellings, although the ordinance allows for planned area development as long as similar density requirements are met. There is no residential zoning district devoted exclusively to two-family dwellings; therefore, a wide range of density exists between single family uses and higher density multi-family uses.

Commercial zoning in Phoenix takes up 6,200 acres, or 4.9% of all zoned area. There are a number of large parcels of commercially zoned land located in a scattered pattern throughout the city. Problems are created by "spot" and "strip" commercial developments. The granting of improper commercial zoning has led to a great deal of pressure for even more commercial zoning.

The land zoned for agriculture is scattered throughout the city with many large parcels on the outskirts of the city. In Phoenix, this land is being treated as a "holding zone;" essentially vacant land that will be put to an urban use at some future time. The question of reserving prime agricultural land exclusively for agriculture or other open space is a key issue in Phoenix and needs public resolution.

Existing zoning in the unincorporated portion of the Planning Area indicates expected expansion of residential uses into the outlying parts of Phoenix. The City of Phoenix has subdivision review power in an area within three miles of the present corporate limits, but this right of review includes no enforcement powers. Coordination of zoning districts with adjacent cities and towns is done only as a courtesy between agencies. The current annexation policy of Phoenix is to accept county zoning patterns of newly annexed areas, making only minor changes where zoning district regulations do not exactly match.

Of the twenty-seven square miles of land proposed for the Southwest Industrial Reserve, about 34% is expected to be developed by 1990, with 11,300 acres of suitable land remaining for growth beyond 1990. Land policies on this undeveloped acreage should encourage compatible interim uses such as agriculture and transitory open uses.

An industrial park is a planned industrial district designed to ensure compatibility between the industrial operations carried on and the existing activities and character of its surroundings. This proposal for orderly industrial development involves encouragement and leadership by the city in the development of planned industrial parks. The land needed for such parks must be acquired by industry. Nevertheless, because of the substantial residential and commercial activity generated by them, the city should ensure responsible planning and development of such parks. The following guides are suggested for planned industrial parks:

- Emphasis on appearance and compatibility with the community.
- Subdivision and development according to a master plan which includes detailed provisions for streets, railroads, utilities, and landscaping.
- Control of land use and building construction through zoning, deed restrictions, and provision of continuing management.

In conjunction with the City's recent acquisition of the decommissioned Litchfield Park Naval Air Facility, 180 acres of abutting developable land was obtained. The City could provide a model by developing that acreage into a showcase planned industrial park.

The third method for orderly industrial development is a realistic industrial zoning policy. Today, there remains nearly 10,000 acres of industrially zoned land some of which is not suited for industrial activities. New areas should be examined for their industrial potential and the presently unused portion of industrially zoned land should be examined for possible reclassification or rezoning.

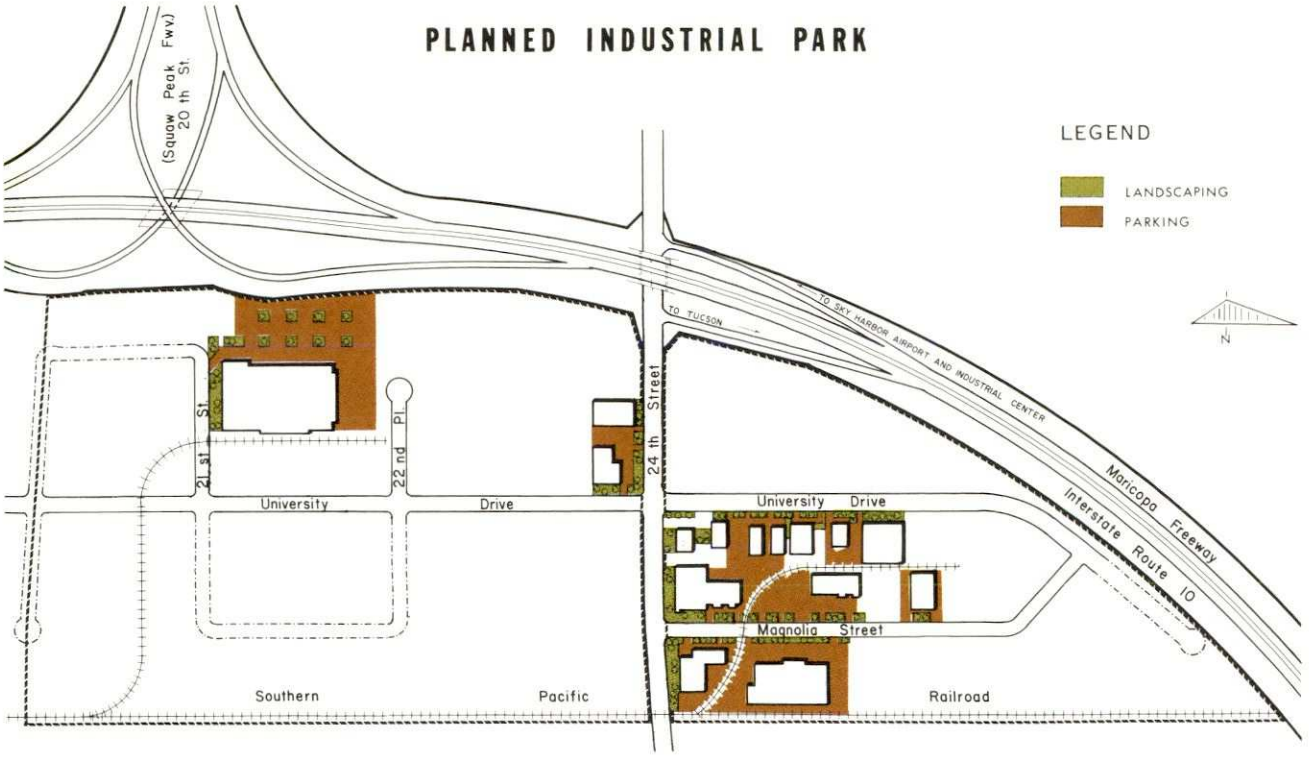
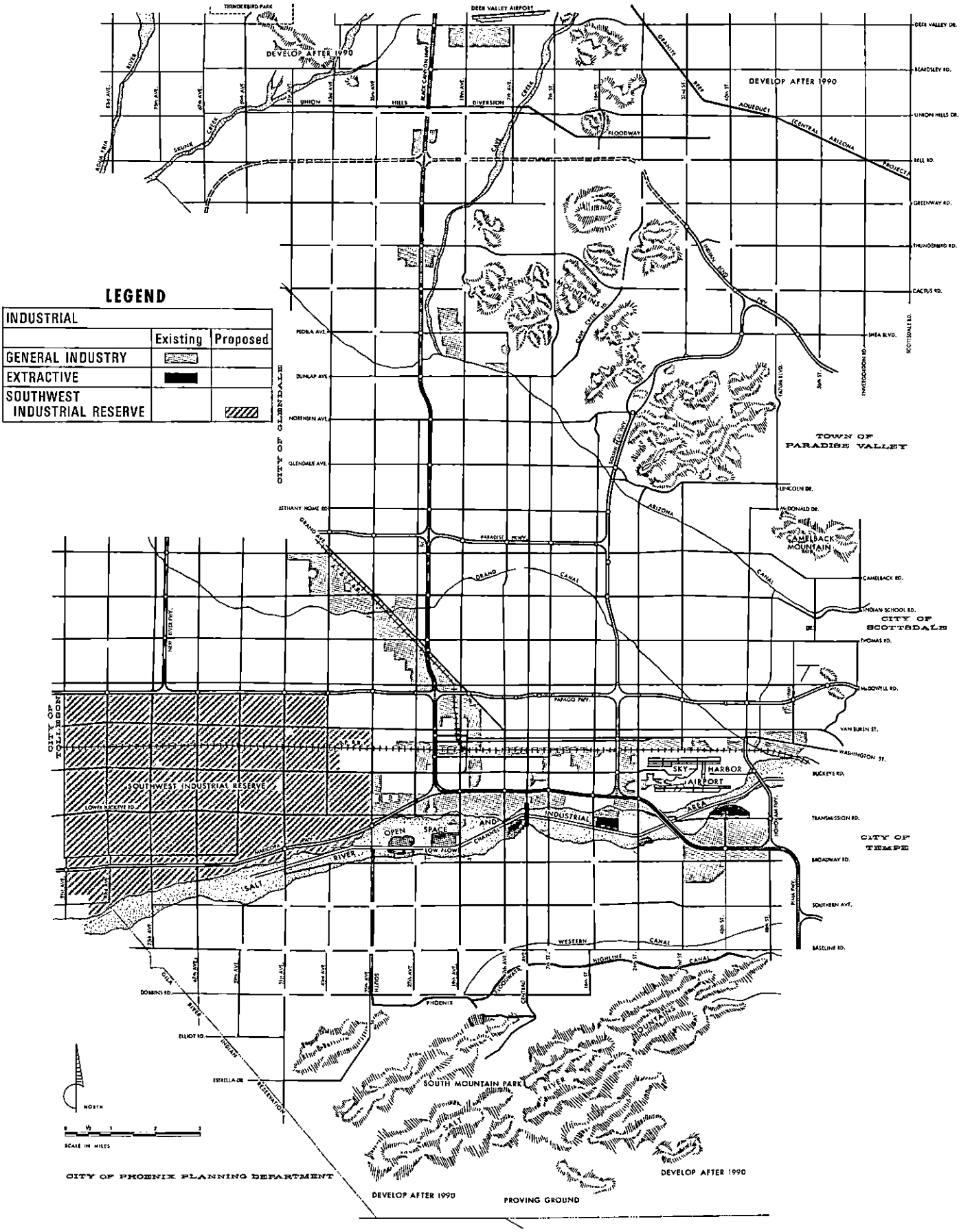



Figure 40

An industrial park is designed to ensure compatible surroundings for industrial operations.

# INDUSTRIAL LAND USE PLAN




THIS MAP SHOWS GENERALIZED LOCATIONS OF ALL LAND USES

Figure 41

# CENTRAL PHOENIX

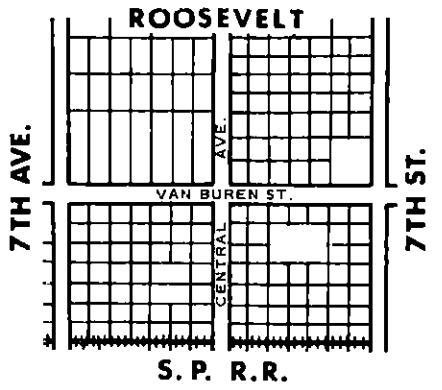


Figure 42

## HISTORY

Downtown Phoenix, for many years, was the hub of entertainment and cultural activities, as well as the business center for the Valley. Downtown included the seat of county government, city government, and later, state and federal governments. As the city grew, the growth of the area's population caused an expansion of business including the first hotels, a print shop, and a civic center. The new growth brought about by agricultural development and the gaining of statehood saw downtown become the business center and a major distribution point for imported goods too. It served and grew as a center of finance with personal and professional services the leading activities during those years of expansion. For a time, downtown increased in retailing importance, but with rapid growth and the expanding market, the retailing significance began to wane.

The first dramatic evidence of this came with the construction of Park Central Shopping Center in the midtown portion of Central Phoenix. This development, initiated in the mid-1950's, marked the first departure of major department stores from the previously known downtown section of the city.

Faced with the need for expansion and more convenient distribution points, many uses began to relocate. Those included warehousing, distribution operations, trucking firms, and fabrication operations. Certain types of offices and other activities found it unnecessary to be in a central city location. Conversely, certain uses, such as title companies and law firms, found it very important to be in a central city location where related activities were located. This shift, meant a new role for the Downtown area.

During the early 60's, Phoenix experienced a tremendous expansion. However, it only increased the signs of a serious decline for Downtown. New high-rise development appeared on north Central Avenue, but it stood apart from the existing pattern of development. Shopping centers, also were developed in outlying areas, and they became the dominant retail outlet.

This expansion of the city in the past fifteen years had greatly increased the problem of land use in the core area. Some of the problems regarding land use in this area included:

- A disorderly mixture of uses
- Lack of proper land use controls
- Many small spread-out parcels creating a need for land assembly to accommodate larger development areas
- Vast amounts of vacant space
- Aging and deteriorating housing
- Intrusion of non-residential uses into residential areas
- Inadequate community facilities
- Lack of support for vigorous code enforcement
- Inadequate tax policies.

The result of this decline was evident. The city had outgrown the existing central core both in area and function. Downtown was no longer the hub of Saturday shopping, but was emerging as a regional center for the exchange of ideas, goods and services and as a ceremonial and cultural center.

## THE PRESENT

As metropolitan Phoenix has expanded, central city and its functions have also grown. Today, Central Phoenix, the core area, is physically defined as an area from 7th Street to 7th Avenue and from Camelback on the north to Grant-Lincoln on the south. It also includes an area between Van Buren and the railroad tracks and westward to 19th Avenue (the State Capitol area).

The new Central Phoenix has become a focal point for four major functions: decision making, exchange, ceremony, and government. Not only are the functions of Central Phoenix important, but the area is the most interesting and active place in the city.

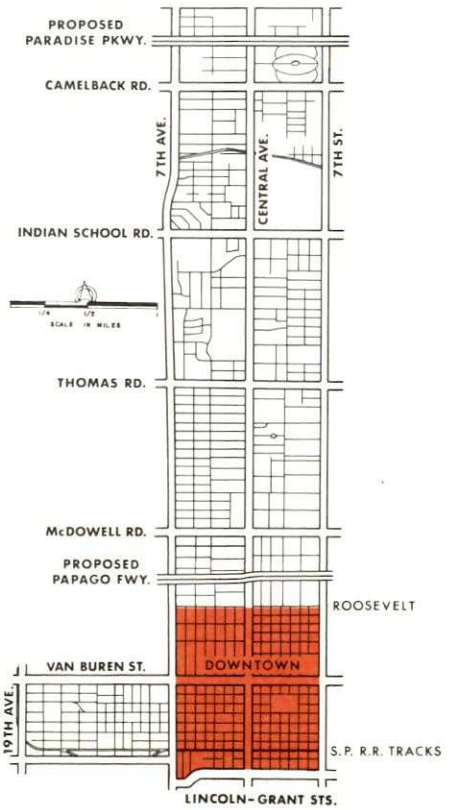



Figure 43

## Types of Activity

Central Phoenix is the employment center of not only the city or metropolitan area, but the state, and southwest region. It should, and will, remain the focal point of this region. A short synopsis of the major functions in Central Phoenix today is examined below:

Retail–Central Phoenix is unique in its relation with retail trade. In most cities, the major downtown stores have established branch facilities. In Phoenix, the entire facility has been relocated to an outlying area. The three basic reasons for this are:

- Major development in the city occurred in recent times
- The growth rate has been extremely rapid
- The city has been experiencing an expanding economy.

Today, the downtown section of Central Phoenix is not a major center for retail activity. However, for the total Central Phoenix area, the total sales volume is currently remaining fairly stable.

Finance, Insurance and Real Estate — This activity constitutes nearly two million square feet of floor space— approximately 35% of the metropolitan total. In Phoenix, brokers and investment firms are the most highly centralized. Banks and insurance offices occupy a substantial amount of Central Phoenix space, with credit institutions along with savings and loan firms somewhat less. Maintenance of ease of access to and from Central Phoenix and convenience of movement within the district are determinants of the benefit these activities derive from a central location.

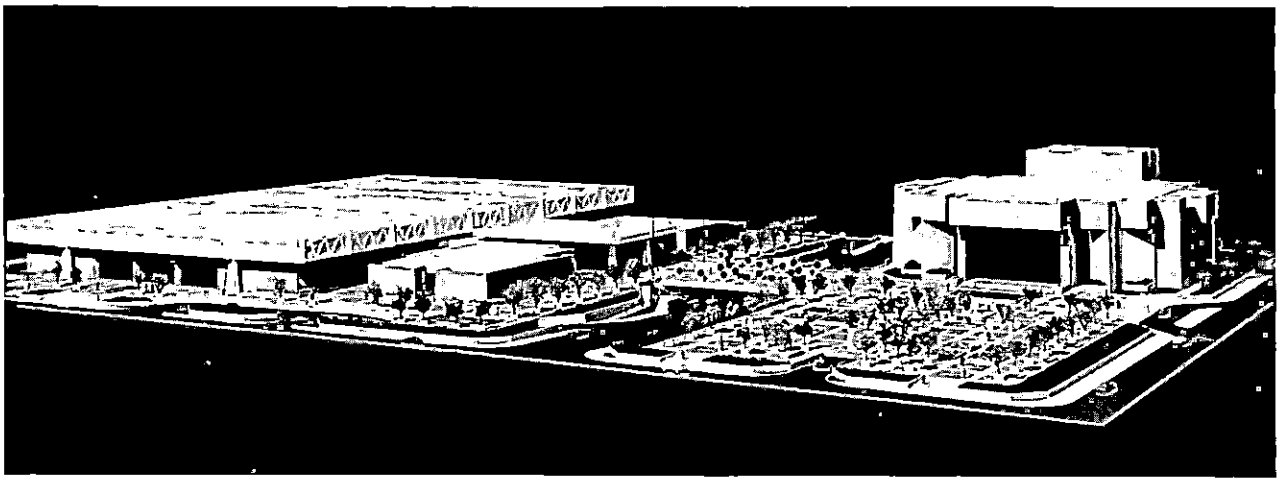
Government— The Federal, State, County, and City governments are all located and expanding in Central Phoenix. Currently, 9,000 government employees occupy approximately 1,700,000 square feet of office space. The growth has been directly related to the amount of population increase under the jurisdiction of the specific government. A government mall along West Washington Street from the Municipal Building to the State Capitol has been discussed for years, and now definite plans for such a mall have been drawn up for implementation.

Industrial— Industrial activities and warehouse space exist along the southern portion of Central Phoenix, as a result of a major railroad line penetrating this area many years ago. New development of this type has not been occurring in Central Phoenix, largely due to land assembly problems. Many of the present structures are old and the area currently suffers from a competitive disadvantage compared to new outlying industrial areas.

Business and Professional Services— In this category, the major services are business, legal, medical and health, and others professional in nature. About 30% of the valley's total floor space in this category is in Central Phoenix today with medical and health services occupying the largest amount. Legal services are also highly centralized, largely due to the location of the courts. Many professional services today are located because of market and customer service advantage.

Personal, Entertainment, and Repair Services— Personal services, such as barber and beauty shops are dependent upon employees working in Central Phoenix. In general, repair services such as automotive, are fragmented in Central Phoenix between the independent shops and retail stores. Today, approximately 20% of all entertainment services are in Central Phoenix. At present, the situation is stable. The recent opening of the Palace West Theater for the presentation of live drama is the first clue or evidence of this stability. Also, the development of the new Phoenix Civic Plaza, which will include a first-class concert hall, signals an upward trend. This will be one of the major focal points for the people in the entire valley to use and take great pride in.

Hotels, Motels and Convention Facilities— Presently being developed in Central Phoenix is a major auditorium-convention center well-known as Phoenix Civic Plaza. The 120,000 square foot exhibition and assembly hall and the meeting room facilities will have an enormous impact not only on Central Phoenix, but, in fact, the entire metropolitan area. In the past three years, Central Phoenix has had an increase of approximately 440 motel and hotel rooms, to a total of about 3,800. This accounts for about one-third of the total in the metropolitan area. With a large increase in convention business and a continuing growth in tourist activity, accommodations must be expanded still further.



A model of the Phoenix Civic Plaza.

Education - In recent years educational facilities in Central Phoenix have increased slowly. The Phoenix Junior College system now has general administration offices and the new Maricopa Technical College located in the downtown area. Arizona State University also operates a downtown extension. Of the 244 acres devoted to education, only about 9 acres are in the education-for-profit sector. Over 80% of the total lies in the northern part of Central Phoenix, a large part of this being the Phoenix Indian School property.

Residential - Central Phoenix is much larger than the average central business district and as a result the residential land area is a larger and more important segment. The present resident population in Central Phoenix is about 20,000 persons. A majority of the 12,000 housing units are occupied by older couples or single persons. The median age (44) of the residents is well above the city average.

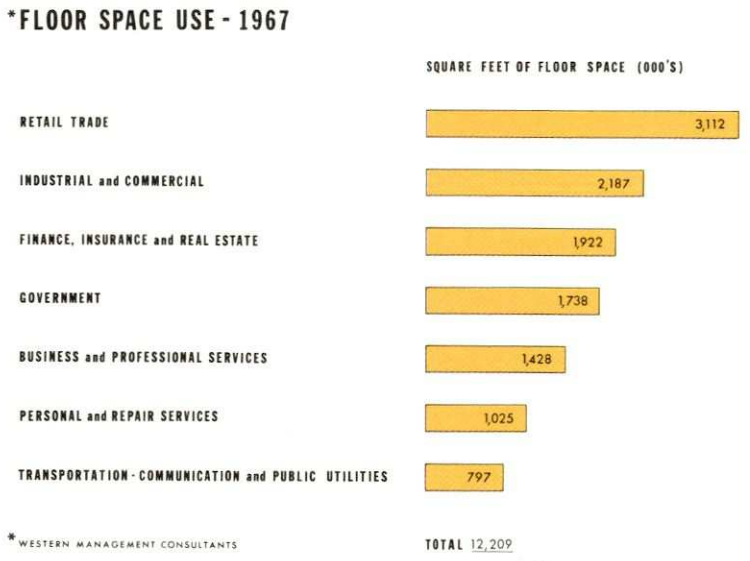



Figure 44

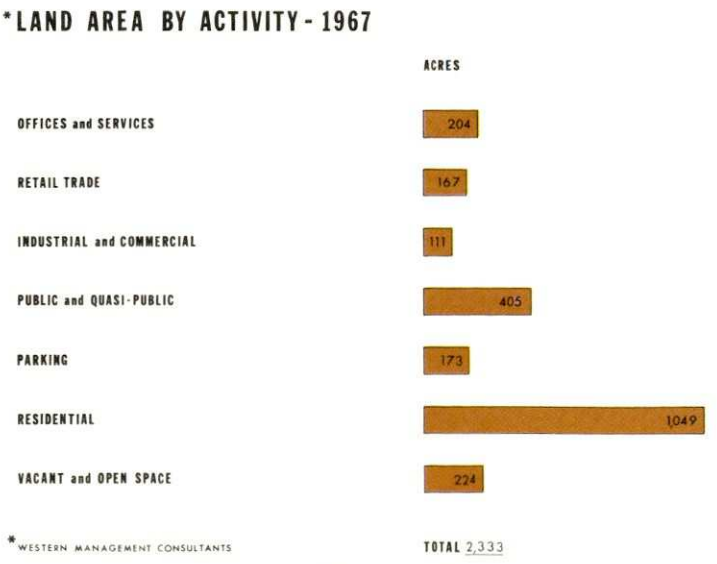



Figure 45

## THE FUTURE

As the development of the Comprehensive Plan was being completed, another major study of powerful significance was also underway. This involved a special study of the Central City which is termed the "Central Phoenix Plan".

The firms of John Carl Warnecke and Associates of San Francisco and Western Management Consultants Incorporated of Phoenix were retained by the City of Phoenix to perform this study. The firms worked as a team; Western Management doing the Economic Analysis and Warnecke, the Planning Study. The consultants, working closely with the City of Phoenix and the Planning Commission, developed a long range general plan for guiding the future growth of Central Phoenix.

The basic objective of this study was to prepare a plan that would:(1) increase economic opportunities; (2) encourage improved city-wide services: (3) enhance the residential neighborhoods; (4) and create an environment in the downtown-mid-town area that expresses aspirations of the city.

For analytical purposes, it became necessary to segment the approximate five square mile area into five functional sub-districts. These districts are the Uptown Area, Midtown, Papago, Downtown, and Capitol Areas. Both the Economic Study and the Plan utilized these areas for de-tailed studies.

**DISTRICTS IN CENTRAL PHOENIX**

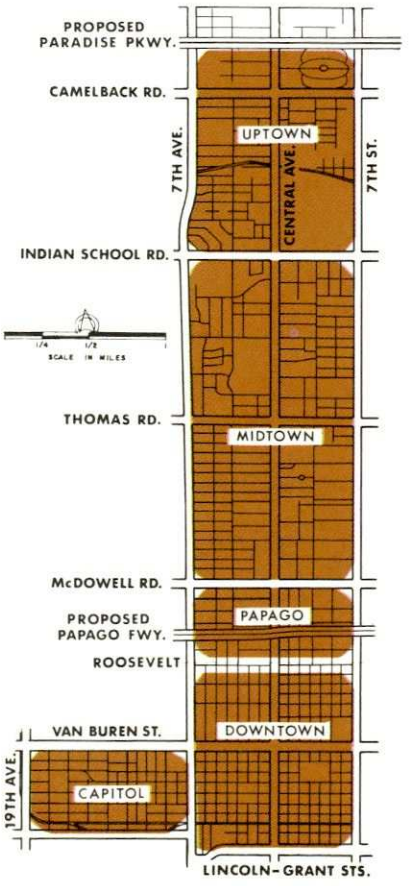



Figure 46

## Economic Potential

The economic study revealed that the potential of Central Phoenix will not be realized unless important consideration is given to:

- Accessibility - Necessary urban area transportation links
- Internal Traffic - Automobile mobility within area
- Parking - Convenient to the destinations
- Amenities - Proper blend of both natural and man-made
- Public Investment - Public facilities necessary to provide catalysts
- Regional Role - Growth, geography and favorable economic factors

The analysis of future potentials indicated that Central Phoenix is becoming an important administrative and service hub for an increasingly broad geographical area. This influence will spread from the metropolitan area, to the State of Arizona and into other portions of the Southwestern United States. This means that the efforts of both public and private interests should be directed toward enhancing the district as a center for administrative offices; business, professional, and governmental services; visitor activities; and community-wide cultural events.

The economic study projected the future of Central Phoenix for future population levels for the Phoenix Metropolitan Area; one, when the population reaches 1.5 million, and the other, when a population of 2.5 million is attained. The specific dates have not been assigned; however, it is assumed that the two population levels will be reached near the years of 1980 and 1990 respectively.

## Future Activities

Government— The rate of governmental growth is expected to increase more rapidly than the growth rate of the population due to an expected increase in government participation in solving problems of unemployment, urban growth and poverty. Activities such as health, welfare, and employment services will grow more rapidly than the population. It is expected that many of these services will be housed in the vicinity of the state capitol or in the downtown area.

Finance Insurance and Real Estate— Many of these activities derive only marginal benefit from a Central Phoenix location. In general, it can be assumed that the

larger and well established finance and insurance firms will seek a location within the central financial district to attain prestige and remain competitive.

Manufacturing and Heavy Commercial – Manufacturing, wholesaling, construction and similar activities are not usually classified as central place functions. However, shop and warehouse space for these activities continue to represent a sizable portion of total floor space in Central Phoenix. Additional space use considerations would be the possible development of a merchandising trade mart or the development of an industrial park. The suggestion of a trade mart has been advanced in conjunction with the convention facilities of the Phoenix Civic Plaza development. Other sections of Central Phoenix are not proposed locations for industrial or heavy commercial activities. However, there appear to be advantages in the location of the administrative offices of some manufacturing firms away from the plant site and in Central Phoenix.

Retail Trade – When considering retail trade in Central Phoenix, two specific areas are important. These are: the Park Central Shopping Center and the Downtown section of Central Phoenix. Park Central center will remain a major regional facility for many years to come. As for Downtown, it is not likely to regain its former position as the dominant retail district in the Salt River Valley. However, the construction of hotels stimulated by the City's new convention center and the expected growth of office employment in the downtown section could result in a substantial increase in the demand for space for eating and drinking places, specialty shops, and miscellaneous retail stores.

Business and Professional Services – A rapid rate of growth is expected for this activity in Central Phoenix, as many business services definitely are central place functions. A good example of this is legal services which have close ties with the courts and government offices. Medical and health services can experience additional growth due to the location of St. Joseph's and Good Samaritan hospitals. Central Phoenix can maintain its dominance as a professional services center by improving its regional influence.

Personal, Entertainment, and Repair Services – Personal and repair services are not expected to be major space users in Central Phoenix in the future and will be geared to serving employees rather than residents of the area. Higher land prices in Central Phoenix would inhibit the growth of independent repair services; therefore, an decrease in space use in Central Phoenix appears likely.

Amusement Services – These will increase due to convention and other like visitors. For instance, the old Paramount Theater being transformed into a live drama theater is evidence of the influence the Phoenix Civic Plaza is generating. One or two

new motion picture theaters are also expected to complement the new Plaza. Beyond this, the extent to which Central Phoenix grows as the cultural and entertainment center of the metropolitan area depends upon the emphasis placed on such development by the community.

Hotels, Motels and Convention Facilities — The new Phoenix Civic Plaza which includes major convention exhibit and cultural facilities will have a strong impact upon the hotel and motel facilities in Central Phoenix. Coupled with tourism, another major industry in Phoenix, the impact becomes even greater. Hotel and motel accommodations may also have to be expanded substantially if there is a large increase in convention business accompanied by continuing growth of the regular tourist activity in the Phoenix area. Other factors, such as growth of regional and headquarters offices, may also be significant in creating demand for hotel accommodations.

Residential — A majority of the future households in Central Phoenix will be composed of older couples or single persons. Even so, the growth of the younger group will be considerably more rapid between now and 1980 than that of the older group. The amount of land in single-family residential use is expected to decrease. It appears either garden-type or high-rise residential development will be practical within Central Phoenix throughout the planning period, although land prices in certain portions of the area would exclude anything but high-rise construction.

Figure 47

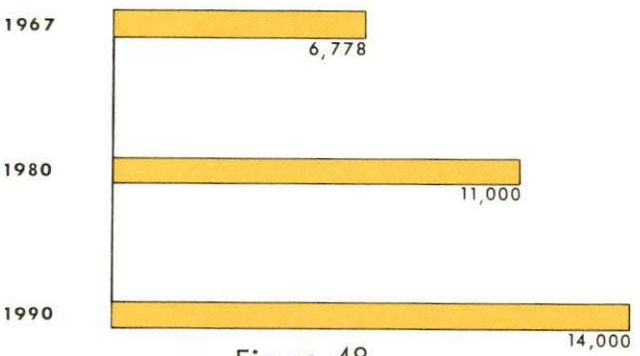


Figure 48

Sources: City of Phoenix Planning Department and Western Management Consultants, Inc.

Overall Potential Demand — In summary, office space and parking facilities are expected to provide the major demand for additional land in Central Phoenix during future years. The following table provides approximate total land required for projected expansion.

## Table 19

FLOOR SPACE USE AND PROJECTIONS

CENTRAL PHOENIX

Square Feet of Floor Area (000's)

| Activity | 1964 | 1967 | When Population of Maricopa County Is: 1.5 Million | 2.5 Million |
|---|---|---|---|---|
| Retail Trade | 3,135 | 3,112 | 3,695 | 4,370 |
| Industrial and Commercial | 1,637 | 2,187 | 3,680 | 5,250 |
| Finance, Insurance & Real Estate | 1,594 | 1,922 | 3,090 | 5,890 |
| Government | N/A | 1,738 | 4,115 | 7,830 |
| Business & Professional Services | 1,150 | 1,428 | 2,310 | 4,570 |
| Personal & Repair Services | 1,083 | 1,025 | 1,260 | 1,535 |
| Transportation, Communications & Public Utilities | N/A | 797 | 815 | 860 |
| Total | N/A | 12,209 | 18,965 | 30,305 |

## Table 20

PROJECTIONS OF LAND AREA BY ACTIVITY

CENTRAL PHOENIX

Acres of Land

| Activity | 1964 | 1967 | When Population of Maricopa County is: 1.5 Million | 2.5 Million |
|---|---|---|---|---|
| Offices & Services | 179 | 204 | 227 | 265 |
| Retail Trades | 145 | 167 | 173 | 180 |
| Heavy Commercial & Manufacturing | 128 | 111 | 127 | 143 |
| Public & Quasi-public Use | 392 | 405 | 453 | 493 |
| Parking | 185 | 173 | 387 | 676 |
| Residential | 1,116 | 1,049 | 966 | 576 |
| Vacant & Other Open Space | 180 | 224 | - | - |
| Total Acres | 2,325 | 2,333 | 2,333 | 2,333 |

Sources: City of Phoenix Planning Department and Western Management Consultants, Inc.

Parking for the expected Central Phoenix employment of 115,000 persons when the County population is 2.5 million could use an additional 500 acres of land if all the parking were provided at existing grade. A more realistic figure (assuming parking structures) might be 150-200 acres. Many streets in the area will probably need to be widened, and some extended, to accommodate the increased volume of traffic anticipated.

## Physical Planning Implications

Just how should this expansion be managed? The role of physical planning is to assure that this economic growth will be converted into real economic, personal, and social gains for the community, and that the results of growth will not be dissipated in a wasteful and unnecessarily costly manner. Some of the elements considered in the physical development of Central Phoenix have been:

- Life style desired
- Relationship of functions
- Degree of centralization
- Physical form
- Ease of accessibility
- Modes of travel
- Image and prestige values
- Amenities (i.e. attractiveness and landscape treatment)

Central Phoenix will grow in a corridor development with higher density along Central Avenue. Intermittent peaks of intensity will occur, generally created by major intersection points and high-rise office clusters. The overall result will be a sharp decline in development densities as we move away from North Central Avenue. However, some exception to this will occur along 7th Avenue and 7th Street where some increase in residential structures will likely occur.

Within Central Phoenix a majority of land between 3rd and 7th Avenues and 3rd and 7th Streets will not be required for office and commercial use; therefore, the existing residential uses will represent the most economic use. In part, however, the result is to be an orderly transition from single-family to apartments — garden type or high-rise.

Along Washington and Jefferson Streets, the opportunity exists to create an exciting corridor of governmental and institutional uses that would benefit both the state and Phoenix. By joining the state and local government centers, both would be given a setting appropriate to the dignity of government and the scale and organization of this automobile city. The distance between the capitol and city hall is substantial — over a mile — but, because it is an automobile corridor, very few elements will be needed to give it unity. In practice, the character of the streets will count the most. Accordingly, the plan does not propose to fill in the full distance, either with parks or buildings, but rather it proposes to carry through a cohesive open space theme.

It must be a public concern that future Central Phoenix development functions at an optimal level. This can be achieved by maintaining a condition of equilibrium between development and the necessary amenities such as freeway access routes, local street improvements, open space, utilities, etc.

To conclude, Central Phoenix must not produce a typical problem infested core, but an image expressing an open and free linear development, providing adaptability to changes in the future and re-establishing the amenities that people come to Arizona to find.

Aerial view of the heart of Phoenix

**CENTRAL PHOENIX PLAN**

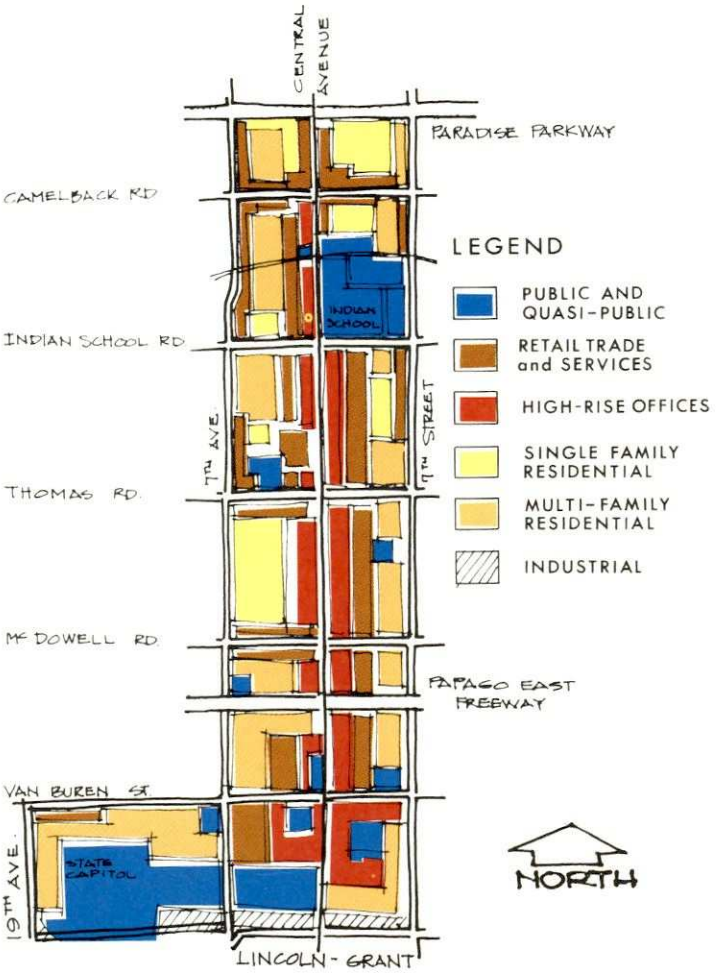



Figure 49

# COMMUNITY FACILITIES ELEMENT

Traditionally, the term community facilities has meant those publicly owned or operated institutions necessary for the health, safety and welfare of the people. Since the chief purpose of this plan is to present information and establish guidelines for future planning on the part of the municipal government, first attention will be given to those community facilities supported by public funds and in particular those facilities for which the City of Phoenix has a major responsibility. Included under the term community facilities are specific institutions such as the Fire Department, water system, sewage and waste disposal, as well as others such as schools, libraries, parks and recreation areas.

The primary goal is to develop an interrelated, well-distributed system of facilities which meet the needs of Phoenix, its people and its economic livelihood. Without this goal, no real planning can be accomplished. For example, the supply or quality of water has a direct effect on subdivision location; fire protection methods influence the design of streets; and, the location of schools is dependent on the growth, density, and characteristics of our residential areas.

## OBJECTIVES

- Strive toward the highest and most efficient levels of service from fire protection, libraries, parks, schools and other public institutions
- Achieve the best neighborhood relationships for all community facilities
- Achieve a higher level of community identity
- Time development to coincide with residential growth so facilities will be available when needed

The ability of a city to finance a program of community facilities is governed by its economic base, the legal limitations imposed by its charter and statutes, and by the willingness of the people to pay the costs to meet present and future needs. In Phoenix, major bond programs are a prime source of revenue for public improvements. For example, the 1957 bond program included $4.8 million for park improvement, $49 million for water and sewer projects and $400,000 for library improvements. All of the 1957 programs have been completed except for $144,000 still earmarked for the Central Library.

In 1961, Phoenix voters authorized a $103 million bond program which included $33 million in water revenue bonds, $14.2 million in airport revenue bonds, $3 million in street improvement gasoline tax bonds, and $52.8 million in general obligation bonds which included money for parks, libraries, fire stations, airports, sewers, municipal buildings, and a stadium.

Many community facilities are metropolitan in scope. In the future, greater emphasis should be placed on the development, coordination, and implementation of area-wide community facilities plans. A good start in this direction occurred with the development of the five-city sewer interceptor project. Another was the creation of the Maricopa Association of Governments (MAG). This is a voluntary association created in 1967 by officials of local government in urban portions of Maricopa County. MAG's formation was in response to the Demonstration Cities and Metropolitan Development Act of 1966 which, among other things, required the establishment of a regional entity to coordinate area-wide efforts in such diverse fields as zoning, law enforcement, air pollution, water and sanitation.

## PARKS AND RECREATION

Recreation is a form of leisure behavior. It is any experience or activity which the individual chooses simply for the enjoyment and sense of achievement it brings him. It includes the broad and complex range of human play and aesthetic satisfaction, and covers virtually every free activity, especially creative activities which enrich life.

Phoenicians engage in almost every conceivable form of play from watching ice hockey to scuba diving off Baja, California, and from checker playing to water skiing. The facilities to meet these varied demands are classified as either user-oriented, intermediate, or resource-based. User-oriented facilities are those most accessible to the public and require considerable artificial development. They include mini-parks, neighborhood recreation centers, community recreation centers, and special facilities such as local open spaces and park malls. Intermediate facilities combine natural landscape features with man-made improvements for day-long or weekend outings. District parks, such as Papago and Encanto Parks, and several multiple-use areas fall into this category. Resource-based facilities like South Mountain Park are the opposite of user-oriented facilities in that their characteristics are natural beauty and remoteness. They encompass complete resource areas and include regional and semi-regional parks, hiking and riding trails, the driving for pleasure system, historic areas, and landmarks.

The provision of park and recreation facilities is accepted as a public responsibility as only the city government has the resources to acquire and allocate

Phoenix offers great diversity in park facilities

recreation resources and services sufficiently over the entire city. Facilities such as private golf courses, racing tracks, private zoos, and amusement parks were studied for their effect on demand, but as they exhibit highly market oriented characteristics(except for golf courses), they were classified as commercial enterprises.

## Past Park Development

The need for parks to provide cool, green areas for urban recreation has long been recognized in Phoenix. The wisdom of preserving large tracts of unique desert areas has also been understood; e.g. by 1920, Papago Park was in federal ownership as a National Monument and far-sighted citizens were acquiring South Mountain Park. Parks have been acquired through annexation, purchase and as gifts. To date, Phoenix has over 2,500 acres of user-oriented and intermediate recreation facilities and over 16,500 acres of resource-based parks.

With the exception of the large resource-based parks, most of the parks in Phoenix have been modeled after their eastern counterparts. They are located throughout the city, generally near their potential users.

To plan adequately for the increasing role of parks and recreation areas, the following goals provide the needed guidance:

- The provision of a park and recreation system designed to meet the needs of Phoenix
- The location of recreation facilities close to the people served
- The preservation of landmarks and other areas of historical or scenic significance
- The acquisition and development of facilities based on the City's ability to pay

## Standards

Standards for user-oriented and intermediate facilities are expressed in Table 21. Present city development standards for regional and semi-regional parks conform to those of the Maricopa County Regional Park System Plan. In essence, a regional park is a large, unspoiled, natural area encompassing an environment precinct and protected from urban encroachment by a buffer zone. Its purpose is to offer remoteness from things urban.

Table 21

STANDARDS FOR RECREATION FACILITIES
PHOENIX, ARIZONA

USER-ORIENTED FACILITIES

| | Mini-Parks | Neighborhood Centers | Community Centers | Intermediate Facilities District Parks |
|---|---|---|---|---|
| Minimum Acres per 1,000 population | Not applicable | 2.7 acres adjusted for population characteristics | 2.0 acres | 2.5 acres |
| Desirable Site Size | One or more city lots | 10.0 to 18.5 acres | 20 to 50 acres | 100 to 1,000 |
| Age Group Served | Variable | All, with emphasis on 5-15 year group | All | All |
| Population Served | 500 to 1,000 | 4,000 to 7,000 | 16,000 to 32,000 | 60,000 to 150,000 |
| Service Radius | One block to 1/4 mile | 1/4 to 1/2 mile | 1 to 2 miles | 15 minutes travel time |
| Location | Where needed | Next to Elementary School | Next to High School School | Where needed |
| Site Facilities | Variable | Play lot<br>Apparatus area<br>Spray pool<br>Court game area<br>Field game area (lighted)<br>Free play area<br>Recreation Building<br>Picnic area<br>Nature or crafts area<br>Old People's area<br>Landscaping<br>Parking | Same as Neighborhood plus:<br>Sports fields<br>Special events area<br>Swimming pool<br>Natural area<br>Lagoon (optional) | Same as Community Center plus:<br>Arboretum<br>Creative playground<br>Lagoon<br>Golf course (if needed)<br>Day camping area<br>Horseback riding center with paths (optional) |

Semi-regional parks have many of the attributes of regional parks with a greater extent of artificial facility development. Hiking and riding trails should be placed wherever a need and opportunity exists. Trails should be clearly marked, well-maintained, safe and of sufficient width to accommodate potential users. Their location and design should harmonize with their surrounding environment and separation from auto-traffic is mandatory.

## Future Demand

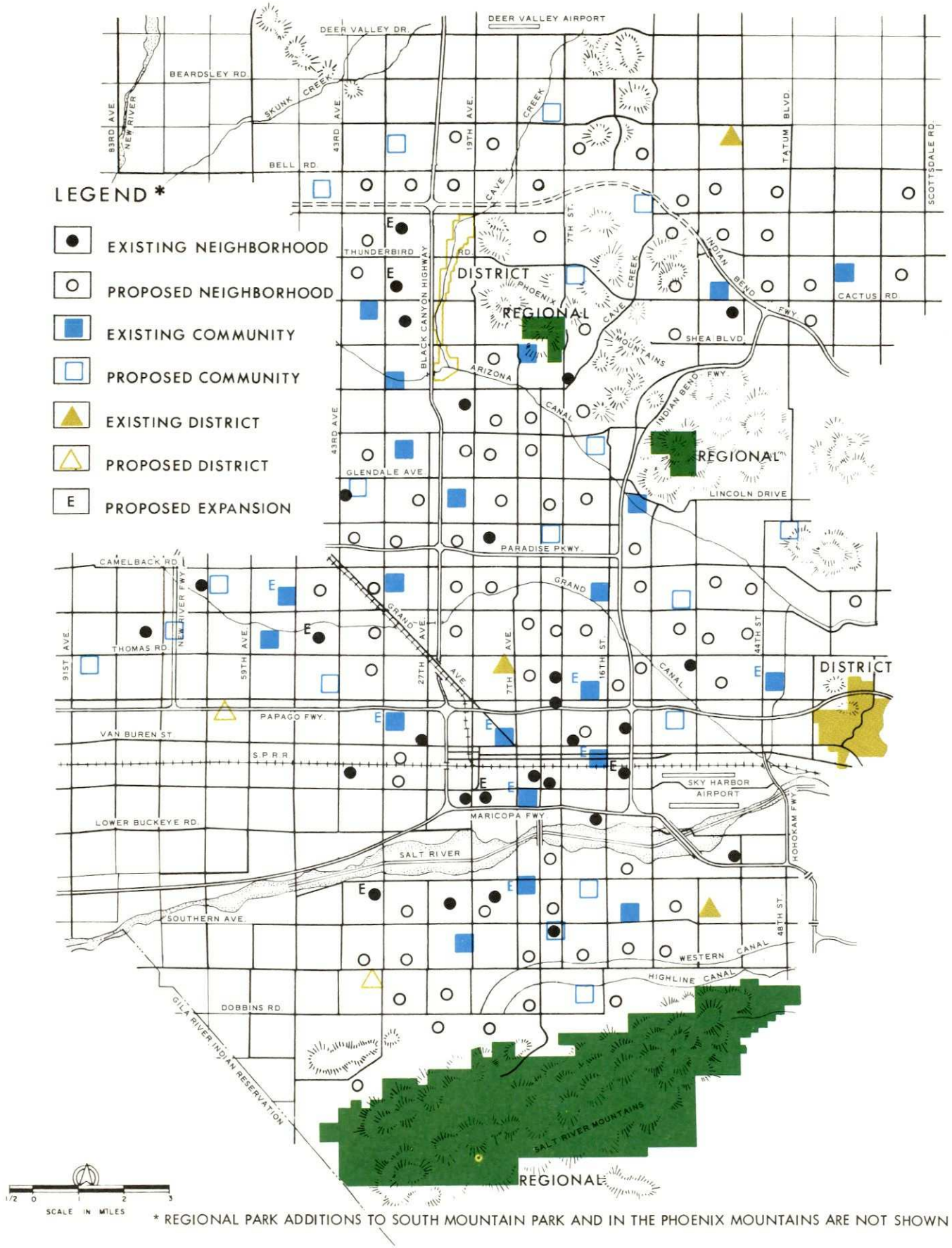
The demand for recreation is that amount of recreation people would engage in if a full range of facilities were readily available. In Phoenix, the current demand exceeds the supply, particularly of adequate recreation space near to users. Urbanization has already consumed much-needed recreation land. If land is not set aside now for recreation, future generations may never know the joy of participating at their leisure. On some Sunday afternoons, Encanto Park looks like the site of a national convention rather than the pastoral scene which should provide escape from urban stress. The measure of a park's success is in the crowds it attracts, but when a trip to the park becomes an experience in crowd engineering rather than free play, the recreation value of that park is severely limited.

Future demand for recreation is expected to increase at a rapid rate. Increases in population, combined with increased participation rates (the result of higher incomes, more leisure time, increased mobility and more desire to participate) will result in an increase in demand of up to 500 percent by 1990. The anticipated increase in leisure time not only adds to demand, but is also a determinant of the type of recreation engaged in (user-oriented vs. resource-based). Increased mobility and a greater desire to participate contribute to both the type and numerical increase of demand.

The shorter work day, and better health predicted for those over thirty point to a demand for close-to-home, user-oriented facilities in the next ten to fifteen years. Towards the end of this century, the longer weekends and paid vacations will probably lead to a greater demand for more remote resource-based facilities.

The present supply of recreation space in Phoenix is barely adequate to meet today's needs and will have to be increased dramatically by 1990 to serve our burgeoning population. Presently, there are 865 acres of user-oriented recreation facilities under the supervision of the Parks and Recreation Department with an additional 910 acres provided by school playgrounds. By 1990, an additional 3,100 acres will be needed, and schools will provide a substantial part of it. There will be a need for about 1,000 additional acres of intermediate recreation facilities by 1990. Analysis of resource-based needs for 1990 shows that an additional 6,000 acres will be needed in the Phoenix Mountains and adjacent to South Mountain Park. Figure 50 shows existing and proposed parks and recreation areas.

# PARKS and RECREATION AREAS




* REGIONAL PARK ADDITIONS TO SOUTH MOUNTAIN PARK AND IN THE PHOENIX MOUNTAINS ARE NOT SHOWN

Figure 50

## SCHOOLS

In any community it is impossible to talk about community facilities without some reference to — schools – perhaps the most important facility of all. No single element of the Comprehensive Plan is more important in improving Phoenix's total environment and expanding human opportunities than the provision of high-quality educational facilities. In Phoenix, the selection of a place to live often depends on the quality of a local school district.

### Existing Situation

Within the Planning Area there are portions of 23 elementary school districts and seven high school districts, which contain 123 elementary and 16 high schools. In the last ten years, school enrollments have been increasing rapidly in the metropolitan area which includes the cities of Phoenix, Scottsdale, Glendale and Tempe. For example, in 1960-61 the average daily attendance for elementary and high schools was 121,000; in 1965-66 there were 155,000 students: in 1966-67 this figure rose to 160,000, a 32% increase since 1960.

A comprehensive program for future school planning in metropolitan Phoenix is hampered at the present by the multiplicity of school districts. There is an overlapping of elementary and high school service areas which causes an apparent duplication of facilities and services. There are wide variations among various elementary and high school districts in the number of students they must educate and their ability to finance the necessary facilities and manpower to accomplish the task. The relationship between the assessed valuation available to the school district to tax and the number of students they must provide for is significant. One school district will have an assessed valuation tax base of $12,000 per student while others will be below $6,500. Under present conditions, an equal tax base between the various school districts is impossible. This has serious implications on the quality of education.

Each school district in metropolitan Phoenix follows its own policies regarding planning standards and site selection. The haphazard shape of school district boundaries has resulted in dividing cohesive neighborhoods as well as placing some schools near the edge of their service areas. This pattern has caused excessive walking distances for some Phoenix elementary and high school age children.

Table 22

INVENTORY OF PUBLIC SCHOOLS
IN THE PHOENIX PLANNING AREA

| School District | Elementary | Junior High | Secondary |
|---|---|---|---|
| Phoenix Union High School District | | | 10 |
| 1. Alhambra | 12 | - | - |
| 2. Balsz | 4 | - | - |
| 3. Cartwright | 9 | 2 | - |
| 4. Creighton | 7 | - | - |
| 5. Isaac | 4 | 1 | - |
| 6. Laveen | 2 | - | - |
| 7. Madison | 7 | - | - |
| 8. Murphy | 3 | - | - |
| 9. Osborn | 5 | - | - |
| 10. Phoenix | 25 | - | - |
| 11. Roosevelt | 12 | - | - |
| 12. Wilson | 2 | - | - |
| 13. Riverside | 1 | - | - |
| Glendale Union High School District | | | 4 |
| 1. Washington | 15 | - | - |
| Paradise Valley High School District | | | 1 |
| 1. Paradise Valley | 5 | - | - |
| Peoria High School District | | | |
| 1. Peoria | - | - | - |
| Scottsdale High School District | | | 1 |
| 1. Scottsdale | 5 | - | - |
| Tempe Union High School District | - | - | - |
| 1. Tempe | - | - | - |
| Tolleson Union High School District | - | - | - |
| 1. Fowler | 1 | - | - |
| 2. Pendergast | - | - | - |
| 3. Tolleson | - | - | - |
| 4. Union | - | - | - |
| Deer Valley Elem. School District | 1 | - | - |
| Total | 120 | 3 | 16 |

Table 23

RECOMMENDED SCHOOL PLANNING STANDARDS

| | Elementary | High School |
|---|---|---|
| Distance - Home to School (Miles) | 1/2 | 2 |
| Enrollment | 500-1,000 | 1,500-2,500* |
| Classroom Size | 28-30 | 25-30 |
| Site Acreage (Acres) | 10-15 (5 acres plus 1 acre per 100 pupils ultimate enrollment) | 40-50 (25 acres plus 1 acre per 100 pupils ultimate enrollment) |
| Street Access | Access to Collector Type Street | Access to Major Type Street |
| Service Area | Neighborhood | Community |
| Population Served | 4,000-7,000 | 16,000-32,000 |

* The enrollment standard for Phoenix Union High School District is 2,000-4,000 pupils per high school.

## Objectives

There are three basic kinds of educational goals – cultural, economic and civic. The cultural objectives are aimed at enabling a person to acquire information to lead a full life. The economic objectives are concerned with one's preparation to make a living. The civic objectives are related to developing a degree of understanding of the political, economic, and social problems in order to participate in their solutions.

Physical facilities designed to inspire the young and to offer a variety of opportunities for educational development are important goals to follow. Proposals for location and distribution should be based on standards calling for convenience, multiple use, and good design.

## Site Selection

The job of selecting a school site is so important that an analysis should be made not only of today's needs, but of the future planning program of both the school and the community. Selecting a school site involves financial, legal, personal, political, public relations and communication problems.

The basis for selecting and developing a school site should be sufficiently broad and flexible to allow for variations in the character of the school district, the size and type of plant to be built, and the nature of the educational program and activities to be accommodated. In general, a desirable site which will satisfy most educational programs must be appropriately located within the pattern of existing and future school facilities and population growth, have sufficient aesthetic qualities, and have suitable topography and soil characteristics. Undesirable elements such as heavy traffic and unusual dust, odor, or noise annoyances close to school sites should be avoided.

An important principle involved in good site selection is central location—convenient accessibility to the area that it must serve. This is usually measured in terms of the time it takes for students to get from home to school.

Another factor in school site selecting is the park-school concept. In Phoenix today, a number of schools have been designed for multiple use of the site by both a school facility and park. In this way, the school site can function as a logical neighborhood center catering to both the educational and recreational needs of the neighborhood. Joint utilization of the site permits greater efficiency and reduces the total area required for both the school and neighborhood park.

## Future Needs

By 1990, there will be approximately 207,000 elementary school-age children in the Phoenix Planning Area— an increase of 115,000 over the 1965 figure— and about 81,000 high school-age children—an increase of 42,000 over the 1965 figure. Translated into schools, this means at least 115 new elementary and 11 new high schools for a total land requirement of 2,275 acres.

The 1990 School Plan proposals indicate general locations based on anticipated residential development and the ensuing school needs. In the selection of new school sites, vacant land was used wherever possible.

There will be a diligent need to continually update the recommendations of the 1990 Plan proposals. Changing teaching technologies, school plant construction, population shifts and the ability of the people of Phoenix to finance new and renewed facilities are only a few of the situations that require a continued planning effort. Figure 51 indicates existing and proposed school sites.

# SCHOOLS - EXISTING and PROPOSED

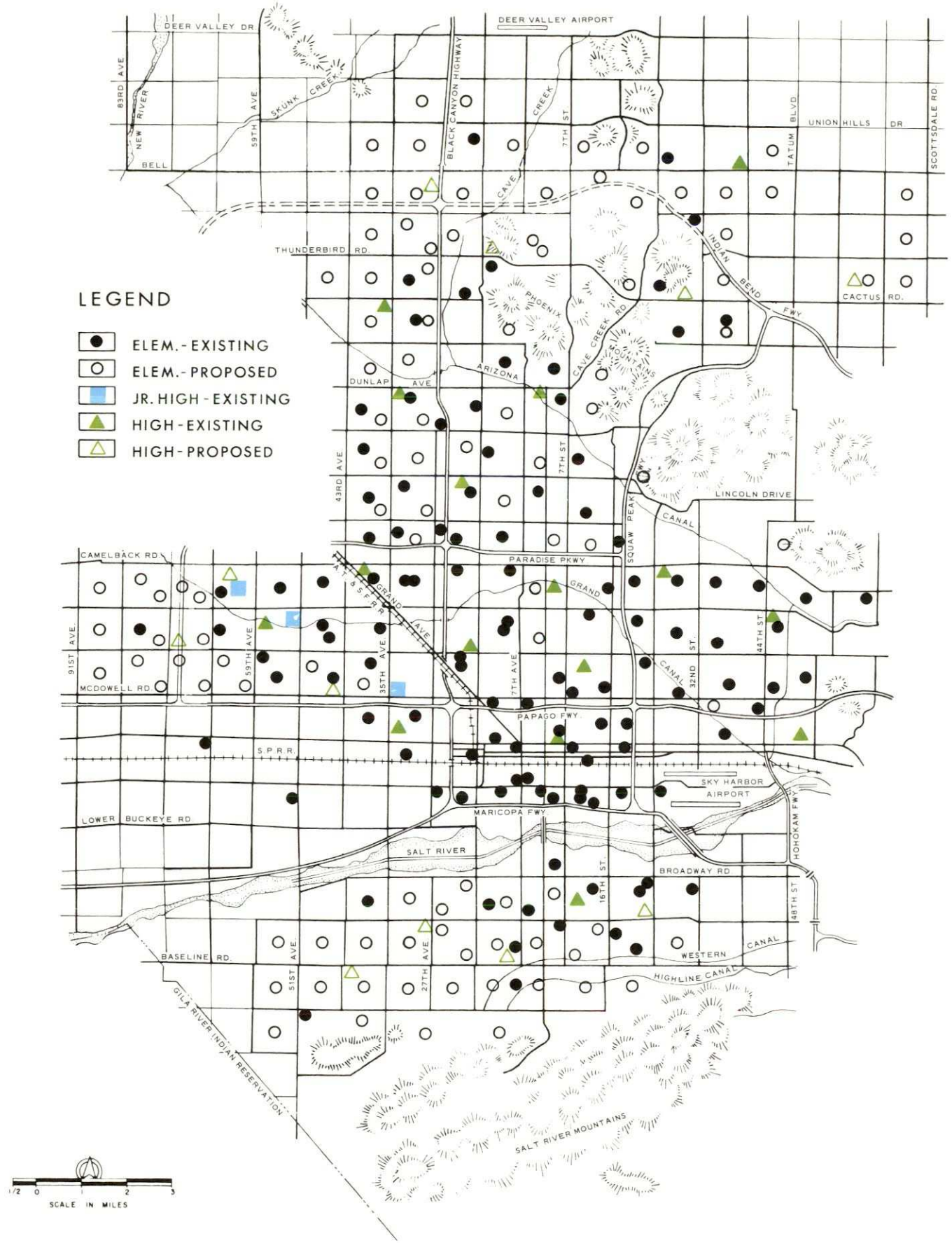



Figure 51

## LIBRARIES

Public libraries play a vital part in the life of every strong and flourishing community. They supply information, stimulate thought, generate ideas, clarify opinion, feed imagination, and interpret experience through books, films, recordings and microfilm. As a result, they have a profound and decisive influence on the many concerns that help to make a community.

The complexity and rapid tempo of the modern world puts a responsibility on the citizen to educate himself continuously, and on the government to provide the means for the citizen's self-education. The public library is an agency to meet this need.

### Present Situation

Presently, the City of Phoenix is being served by a central library and six branch libraries. A library system decentralized in conjunction with emerging major shopping district patterns has been the recent trend in Phoenix. It relates permanent book borrowing and common information service facilities to the pattern and the scale of the developing urban area.

An appropriate library system for Phoenix includes the facilities described below. Their aim is to complement each other in providing adequate service to all areas of the city.

- A Central Library— This facility should continue to serve as the headquarters of the system. There is a trend towards the shifting of the central library into a metropolitan-wide facility providing intensive reference service including research material, information service and one-of-a-kind facilities and collections. This trend suggests the expansion of the existing facility.

- Major Branches— Library concepts and demands are ever changing. Today, it is hoped that branch libraries can be improved to render a more comprehensive service. This can be accomplished by building larger (minimum 10,000 square feet) facilities than in the past and by placing them at greater distances from each other.

- The Bookmobile Stations—The traveling library has a place in today's service plan. The bookmobile is a well-proved device for distribution of books in areas too far removed from the central library or a branch library. It's chief role in city service is to extend the library's program to newly-annexed or sparsely populated residential communities.

Central Library

Saguaro Branch Library

## Site Selection

The following criteria are suggested as a basis for evaluating sites for new branch library facilities:

- A branch usually should serve a minimum of 25,000 to 30,000 people within a 1½ mile radius of the branch, subject to topographic conditions. Branches should be spaced two to three miles apart to eliminate area coverage duplication.
- A branch library should be located within reasonable proximity to a residential area so that a sizable number of children and adults will be within walking distance.
- A branch should be adjacent to or near an important street intersection, especially where public transportation is available.
- A branch library should be either in or adjacent to a community level or regional shopping center.
- A branch library should be located where it can be clearly seen by people as they walk or drive in their normal round of daily activities.
- A branch library should provide parking space equal to its interior area if general parking facilities are not available.

## Future Needs

Sites of existing and proposed libraries are shown in Figure 52. The locations of the 12 proposed libraries are general in nature and are based in part on the findings of the 1961 Phoenix Library Report. However, some of these locations differ from those in the report due to further research and study by the Planning and Library Departments. The map shows a library need based on the amount and location of future residential population.

# LIBRARIES-EXISTING and PROPOSED

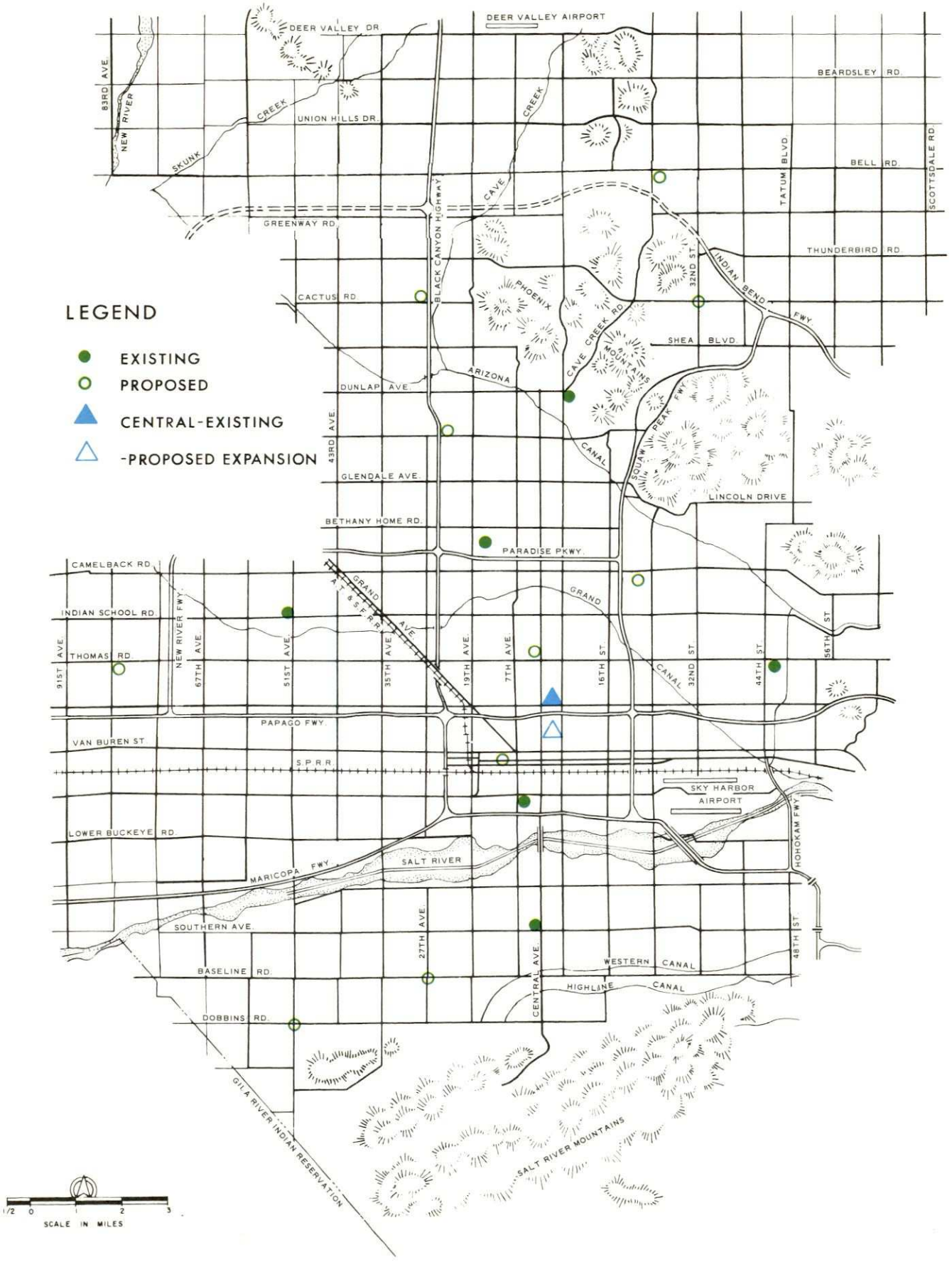



Figure 52

## FIRE STATIONS

One of the most important functions of government is the protection of life and property through efforts to prevent and combat hazards of fire. Fire protection operations depend on many things— effective water supply and distribution resources, fire alarm systems, building controls, fire prevention programs, and most importantly, an effective system of fire stations properly located.

### Existing Situation

Since 1961, the City of Phoenix has completed twelve new fire stations making a total of twenty-eight. Of the twelve new stations, nine are additions to the department and three are replacements of outmoded stations.

From a fire protection point of view, there are certain characteristics peculiar to the Phoenix Area. Such characteristics include:

- The phenomenal speed at which growth is occurring
- The extensive use of one-story masonry construction
- The regularity of the major street grid of section and half-section line roads
- The irregular long block pattern of local streets inside this grid
- Restricted accessibility because of topography, canals and lack of adequate railroad and arterial street bridge crossings

Implications from these characteristics are:

- Fire station responsibilities must be extended to dispersed areas of both concentrated and low density development
- Wide variations in accessibility and, therefore, variations in response time exist in some parts of the Planning Area
- A greater than normal opportunity exists to contain a fire threat in most residential districts because of the typical type of construction and density of development

- Fire runs are particularly restricted to the major arterials and some collector streets, even in major traffic congestion, because of the discontinuous local street pattern which eliminates by-passes and short-cuts.

## Objectives

The four objectives of fire protection are: to prevent fires from starting, to prevent loss of life and property when a fire starts, to confine a fire to the place where it started, and to put out the fire.

From the viewpoint of city government, these objectives involve fire protection, the first duty of the fire department, and fire fighting. The purpose of fire prevention is to lessen the physical and occupational hazards which contribute to the occurrence and spread of fire.

Table 24

STANDARDS

AMERICAN INSURANCE ASSOCIATION RECOMMENDED STANDARDS*

FIRE COMPANY RESPONSE DISTANCES

| Type of District | Gallons per Minute | Engine or Hose Company | Ladder Company |
|---|---|---|---|
| High Value-Low Intensity | Under 4,500 | 1½ miles | 2 miles |
| High Value-Medium Intensity | 4,500 to 9,000 gpm | 1 mile | 1¼ mile |
| High Value-High Intensity | Over 9,000 gpm | mile | 1 mile |
| Residential-Areas with building separation less than 100 ft. | | 2 miles | 3 miles |
| Residential-Sparsely built areas with building separation 100 ft. or more | | 4 miles | 4 miles |
| Residential-Closely built areas having buildings 3 or more stories | Over 2,000 | 1½ miles | 2 miles |
| Residential-Closely built areas with life hazard above normal (1) | | 1 mile | 1¼ miles |

(1) Severe fire hazard can exist in commercial, manufacturing, institutional, and residential districts if streets are narrow or in poor condition, if traffic, one-way streets, topography, or other unusual local conditions hinder response.

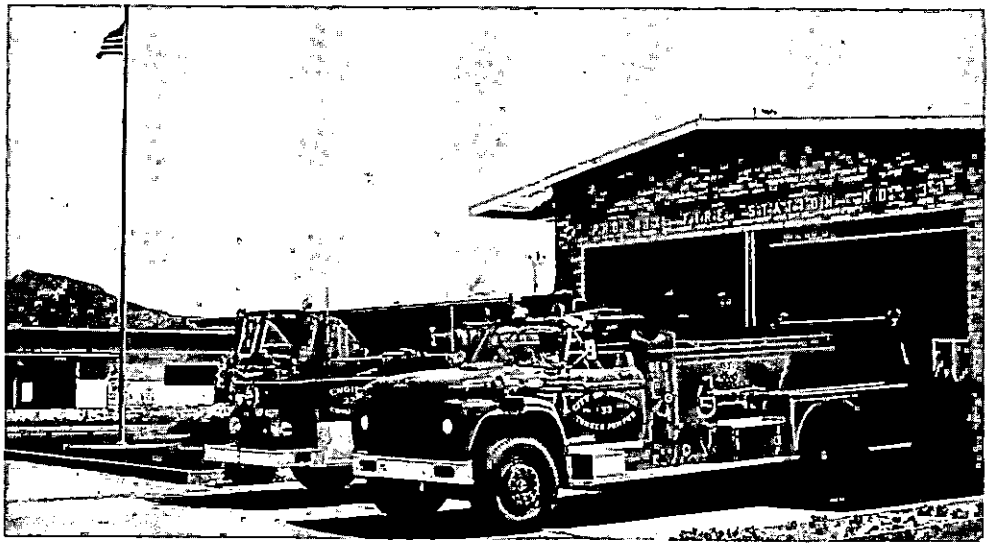
* Revised January, 1963.

## Site Criteria

- Locating a station directly on heavily traveled streets is ordinarily not desirable
- Where heavily traveled streets are a problem, a station may be located on a parallel street or a cross street with traffic lights at nearby intersections arranged for control from the station in order to permit response across or onto the heavily traveled street
- Location on two-way streets is desirable
- A site at an intersection is good as it permits response in more than two directions
- Stations should be set well back from curb line
- The lot should be of ample size for parking and company drills

## Future Needs

The General Plan recommends a system of fire stations which are distributed to provide a high level of fire protection. Only general locations of the 15 proposed fire stations are shown on the plan map. At the time of precise location, the above locational criteria should be used as a guideline. Figure 53 indicates existing and proposed fire stations.



One of the new fire stations.

# FIRE STATIONS

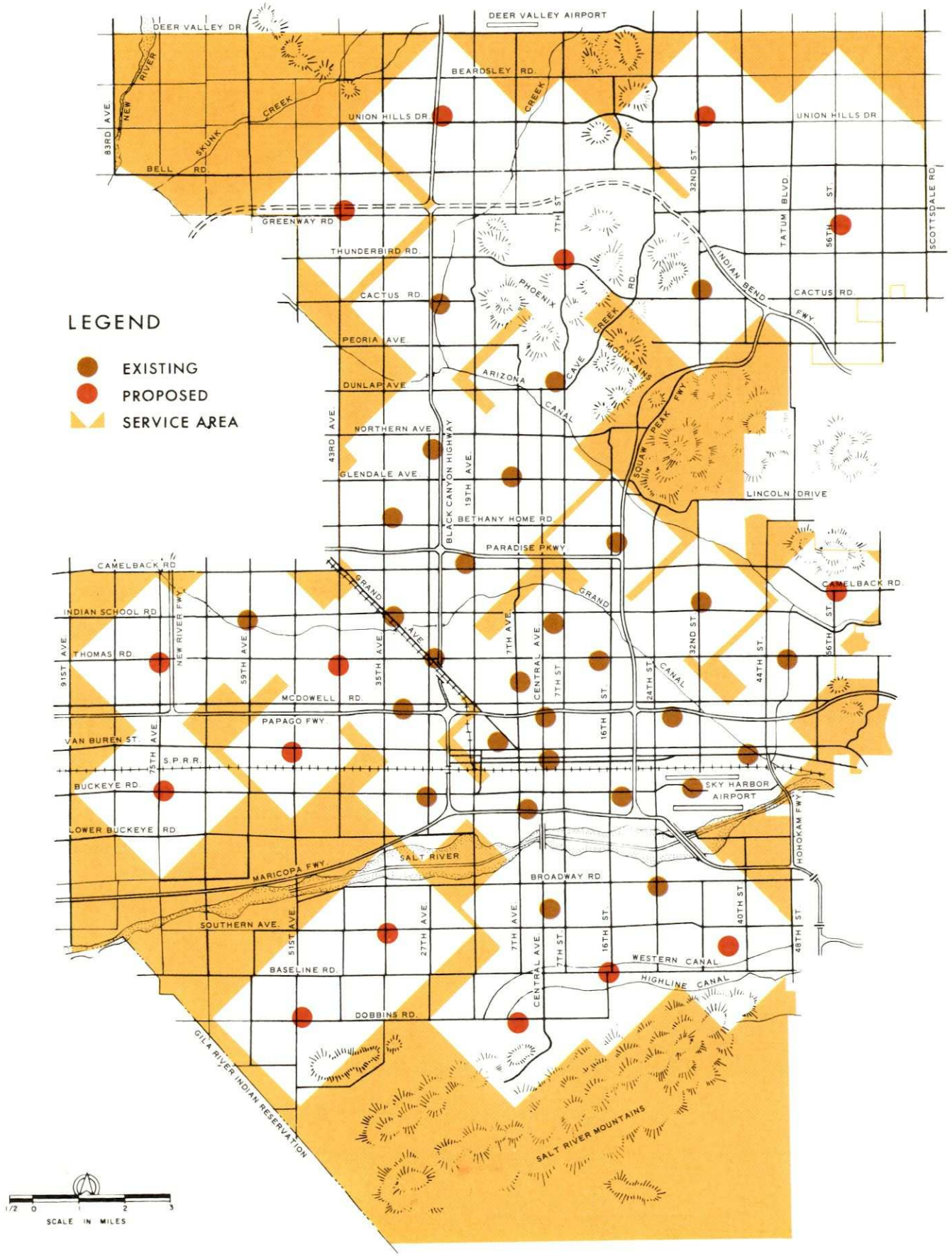



Figure 53

# L E A P
(Leadership and Education for the Advancement of Phoenix)

## NEIGHBORHOOD COUNCIL PROGRAM

The purpose of the LEAP Neighborhood Council Program is to create local neighborhood organizations consisting of persons who live in each council area. Its job is to develop programs and activities which will improve the social and physical environment; to implement these improvements, and to cooperate with other councils in citywide community development efforts.

### Present Situation

The Neighborhood Council Program has established facilities called Opportunity Centers to carry out the Council's activities and programs. At the present time, there are 18 such centers. Some leadership has been developed in the Neighborhood Council areas and direct communication with the City Council and other major agencies has been established.

Along with these Opportunity Centers, there exists a Community Service Center in South Phoenix and one currently proposed near 7th Avenue and Buckeye Road. This center provides a coordinated system of services to individuals through a centralized location and cooperative services by the various agencies housed in the center. The basic purpose is to deal with the total problem of individuals and families through its centralized system of services which provides for a high degree of interagency collaboration on individual problems.

### Problem Areas

The five areas of major concern are: employment, education, housing, health and transportation. Along with these, there are additional problems such as: an increase in juvenile delinquency, a lack of recreation facilities for young people, a problem with the aged and their needs, a lack of day care centers, a high rate of high school dropouts, and an insufficient number of volunteers in the neighborhood areas.

There is great need to expand service facilities on a decentralized basis and the changing of our service delivery system to prevent overlapping and improve the coordination of services. A system of multi-service centers is badly needed.

A major problem is the under-utilization of existing services because of inaccessibility to service facilities and lack of knowledge as to their availability. This is particularly true in a highly mobile and rapidly growing urban center.

## Future Needs

There is need for a re-evaluation of the existing neighborhood organization structure so as to produce more efficient and economic service. Some of the factors to be considered in the discussion for planned change are the natural physical boundaries within a given area, ethnic representation, population distribution, housing conditions, and amount of interest generated by neighborhood groups for services offered. Figure 54 indicates existing Neighborhood Council locations.

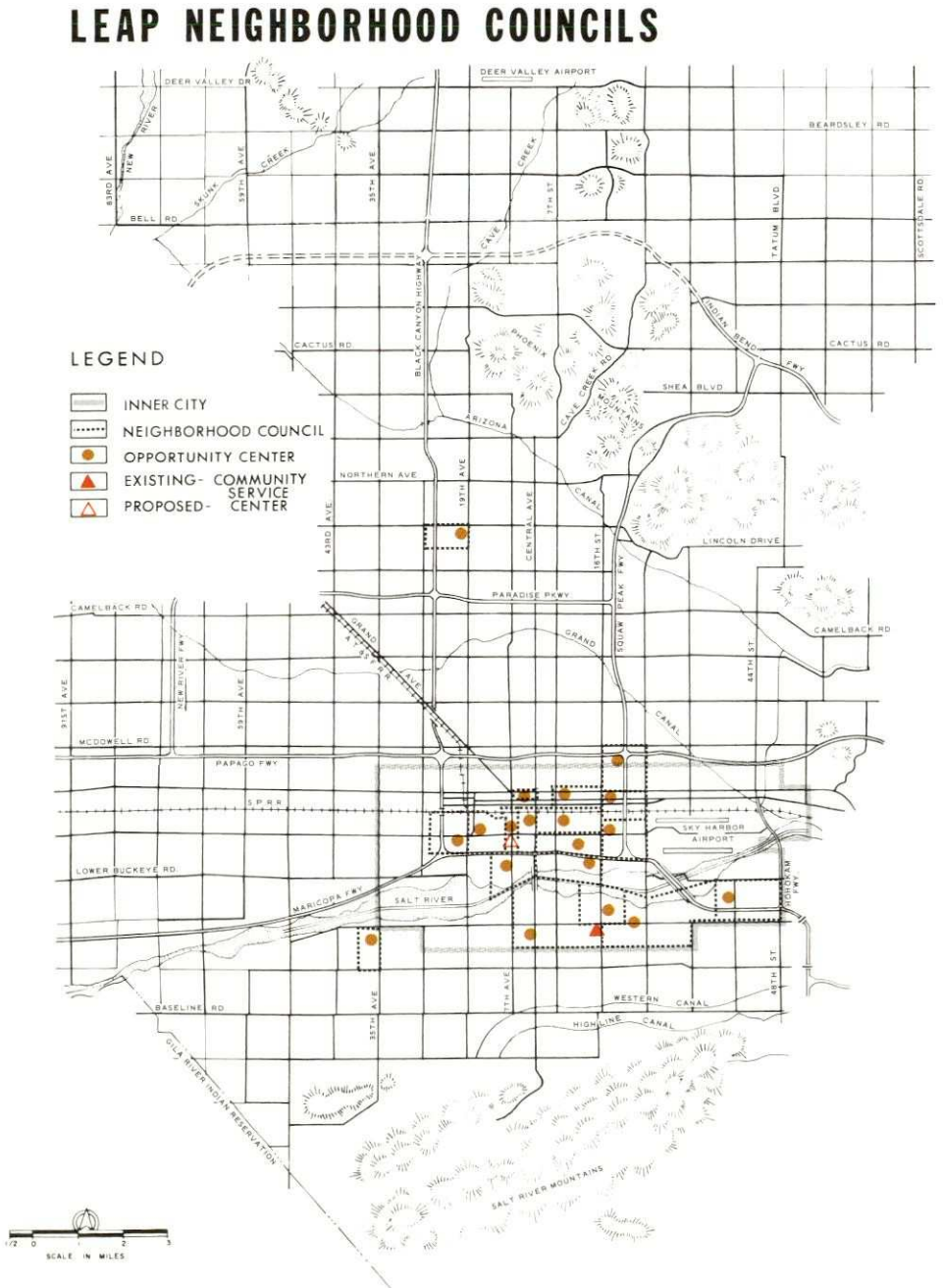



Figure 54

## WATER

The development of an adequate water supply system is one of the most vital necessities of every community. Water is required for sustaining life, safeguarding health, promoting sanitation, cooling air, providing fire protection, maintaining civic beauty, and supplying the needs of industry, commerce, and agriculture.

### Present Situation

Phoenix lies in the Salt River drainage area. Except during very infrequent flood periods, no water flows in the Salt River channel in the Phoenix area. The reason for this is that large storage dams have been constructed on both the Salt River and its main tributary, the Verde River, for the purpose of storing irrigation water.

The primary sources of water supply for the City of Phoenix are a group of fourteen shallow wells located along the Verde River, 75 deep wells in the Scottsdale and West Phoenix area, and diversion of impounded surface waters of the Salt and Verde Rivers. The total water that can be produced from all these sources is 350 million gallons per day.

### Water Service Areas

Before 1920, several organized irrigation districts were created, to distribute surface water and ground water to the agricultural areas as needed. The largest irrigation district is the Salt River Valley Water Users' Association of the Salt River Project with some 250,000 acres. It initiated the development of the Phoenix area.

The city limits of Phoenix embrace about 160,000 acres, a large portion of which has been previously irrigated by the Salt River Project. Phoenix obtains a major part of its water supply by transferring Salt River Project water from irrigation to municipal use, as irrigated lands are subdivided.

The City of Phoenix is currently serving considerable areas of land which does not have surface water rights both inside and outside the reservoir district; including: (1) the area south of the Highline Canal; (2) the bottom lands of the Salt River; (3) the Papago Park area; (4) the Arcadia area; (5) the Sunnyslope area; and (6) parts of Paradise Valley and Deer Valley. The remaining land is served by private water companies.

The firm of John Carollo, Engineers, under the supervision of the Phoenix Water and Sewer Director, recently completed a three-phase study encompassing (1) a comprehensive report on the water requirement, supply, treatment, primary

# WATERWORKS PLAN

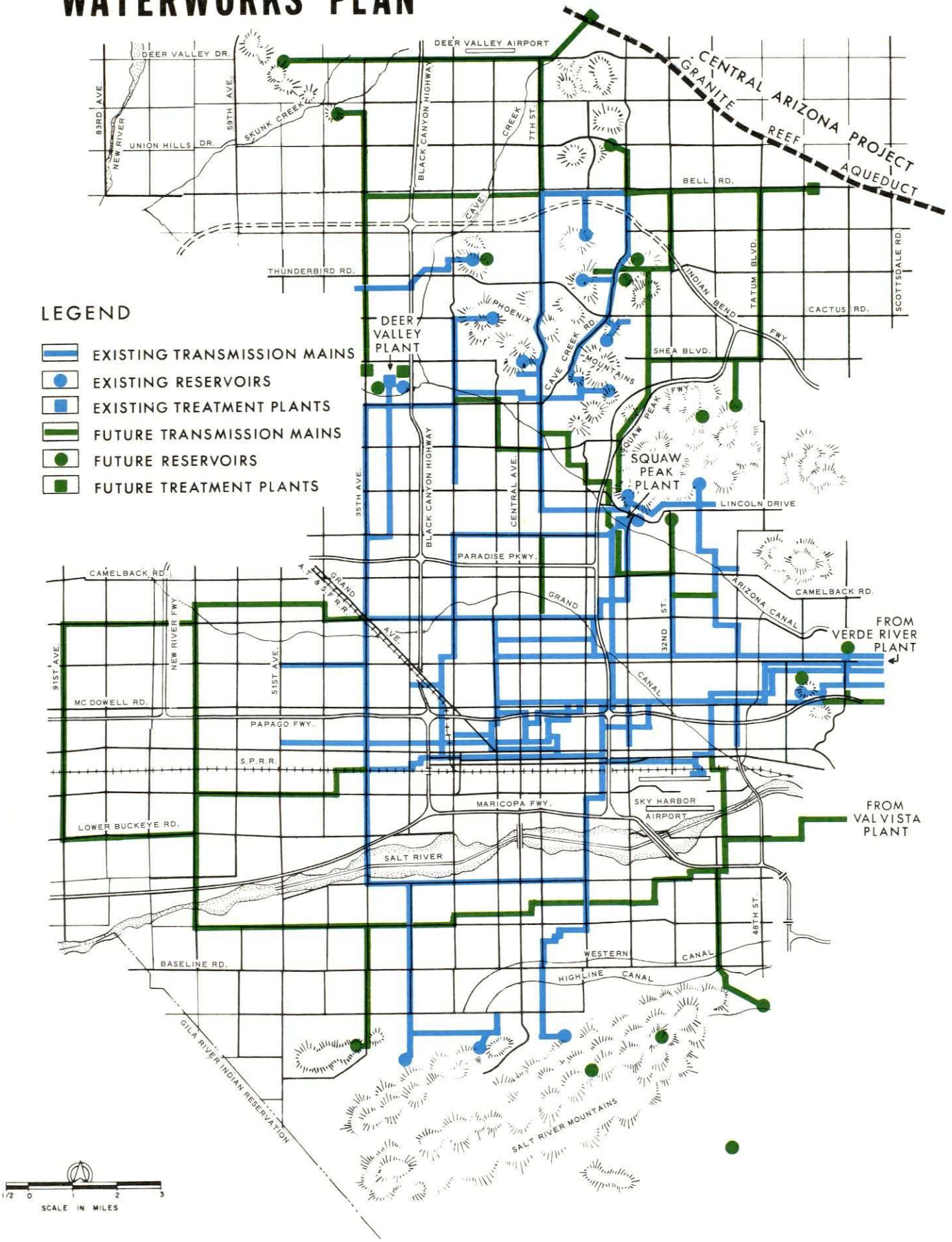



Figure 55

transmission, and storage facilities for the entire Phoenix Metropolitan Area: (2) a comprehensive report on the primary sewer systems and treatment works for the metropolitan area; and (3) a report on the condition and adequacy of the water and sewage systems to serve Phoenix until the year 2000.

According to the City of Phoenix Water Department, all lands within the Salt River Reservoir District boundaries, that have water rights, will have an adequate source of water supply, well beyond the foreseeable future. Therefore, Phoenix's future need of water will be confined to land without these water rights, principally north of the Arizona Canal.

The City of Phoenix Water Department has projected future water service area boundaries which encompass a large part of the Deer Valley, Paradise Valley, West Phoenix and Southwest Phoenix areas. On the long range basis, wells in the southern part of the Deer Valley Area probably can be expected to continue to produce some water to support a small segment of the future population. However, it it is the belief of the City Water Department that the Paradise Valley Area will be in need of water importation before many years pass. Based on this lack of adequate local water supply plus future population figures, it is estimated that by the year 2000 a large portion of the land not served by the Salt River Project will require many thousands of acre feet of additional water per year. Additional water from the Central Arizona Project will be needed to augment local supplies.

## SEWERS

Among the major physical facilities provided by a municipality are sewers and treatment structures for disposing of sanitary sewage and storm water. These facilities are provided in response to existing and future development patterns.

The system used for disposing of liquid wastes is called the sewerage system. The material carried in the sewerage system is sewage. The type and capacity of a sewerage system depend upon a number of considerations, including (1) present population and anticipated growth; (2) character of industries; (3) the amount of rainfall and (4) the topography. The City of Phoenix has separate sewerage systems— the surface waters are collected and carried in one set of mains (storm sewers), while domestic sewage is collected and carried away in another set of mains (sanitary sewers).

### Sanitary Sewers

In 1932, Phoenix built its first sewage treatment plant at 23rd Avenue and the Salt River. The original plant was enlarged from 12 to 30 million gallons per day (MGD) capacity in 1946 and to 45 million gallons per day in 1962. Fiscal year

# SEWERS and SEWAGE TREATMENT PLANTS

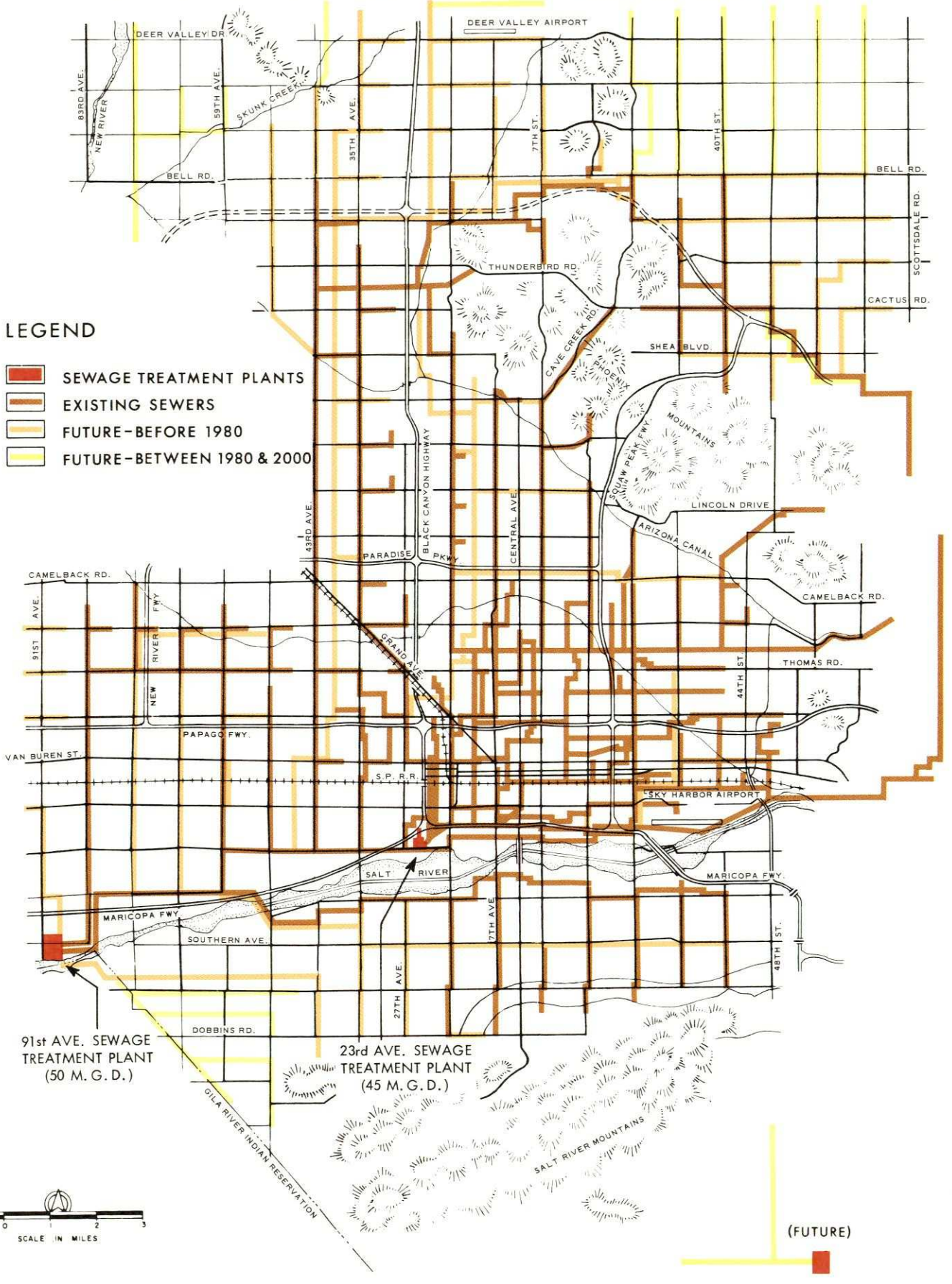



Figure 56

1964-65 saw the completion of a 50 million gallon per day addition to the 91st Avenue Sewage Treatment Plant, and a transmission main connecting the 23rd Avenue and 91st Avenue Plants. The Sewer Collection System serves a 154 square mile area, including 1,747 miles of sewer lines and has some 151,400 service connections.

The 50 MGD addition to the 91st Avenue Sewage Treatment Plant was the first stage of a large plant which will have a future capacity of 275 MGD. A 15 MGD addition to this plant is now under construction. The 91st Avenue plant now serves the communities of Phoenix, Glendale, Mesa, Scottsdale and Tempe, and planning studies are underway for a new interceptor sewer that would permit the serving of additional areas of Glendale and several smaller communities located in the Northwest Phoenix Area.

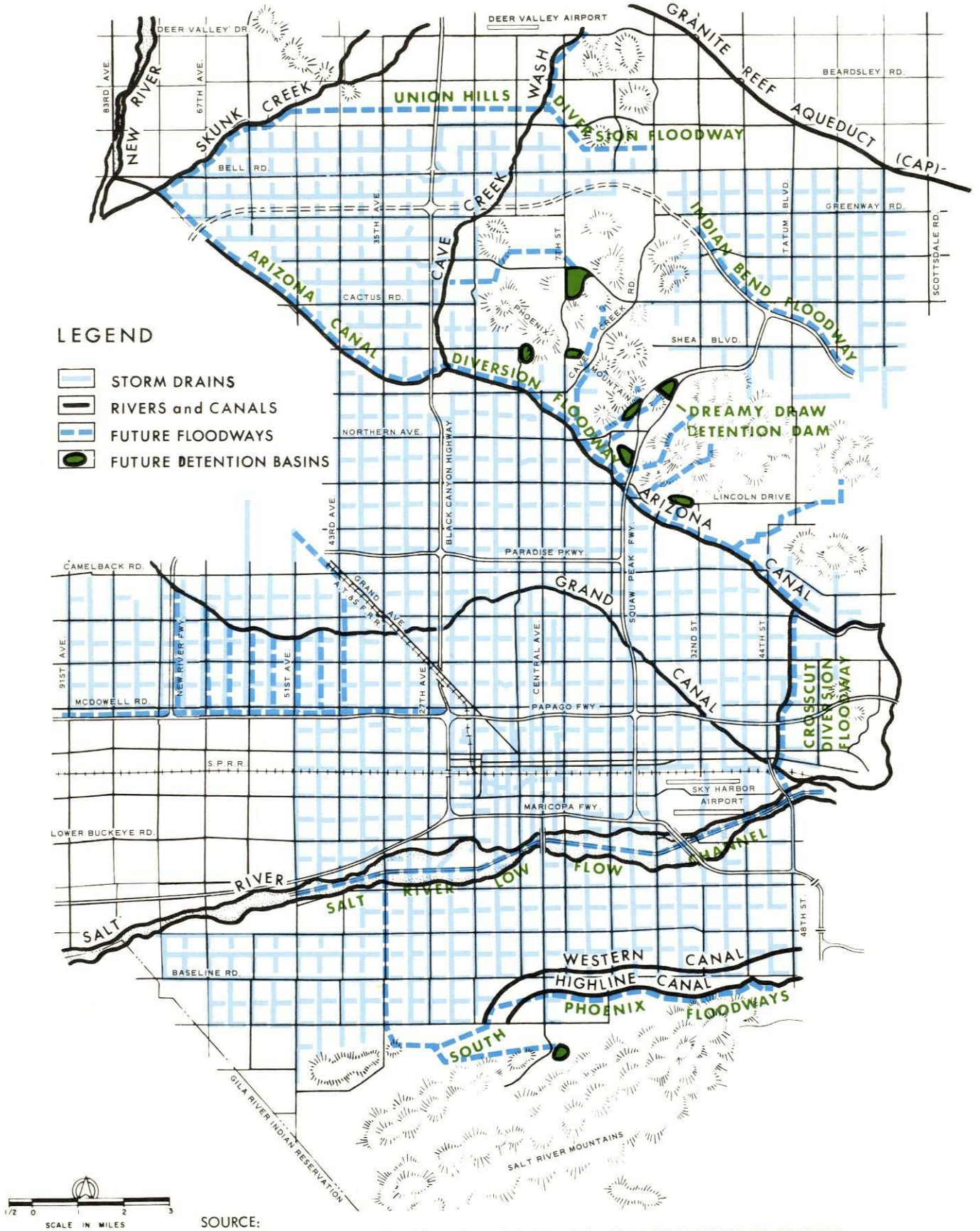
In addition to the 91st Avenue Sewage Treatment Plant, there is a Multi-City Sewage Project which includes a 24 mile long intercity outfall sewer line to collect and transport the combined wastes of several cities. A continuous expansion of the intercity sewer system is necessary to keep up with future growth. In addition to the Glendale Interceptor Sewer mentioned above, the proposed Paradise Valley Interceptor Sewer will provide sewer service to an additional 35 sections of land in Northeast Phoenix and Scottsdale; a Southside sewer outfall recently completed will permit the future expansion of sewer service to a large area in Southwest Phoenix; and the many other planned sewers will help to permit orderly growth throughout the Phoenix Area.

Storm Sewers

For many years, the Salt River Valley area has been deficient in its storm drainage system. While the Valley does not receive a great deal of rainfall (about seven inches per year average), rain often falls in heavy showers causing flash flooding. The drainage deficiencies have been aggravated by the rapid urbanization of the Phoenix metropolitan area since World War II.

In 1961, a three part, $10 million bond program was approved. This included: (1) construction of some large storm sewer trunk lines at approximately one mile intervals on a few north-south major streets; (2) smaller projects designed to carry some of the storm water runoff south from the mountains in the Sunnyslope area and alleviate localized flooding conditions which occur after rainstorms in various areas of the city; and (3) utilization of the unique system of large irrigation canals which cross the city in several places and parts of the extensive irrigation delivery system. Most of the drainage improvements from the 1961 program have been completed, however, the storm sewer problem is far from being solved. These steps are just the bare beginning.

# FLOOD CONTROL and STORM DRAINAGE




SOURCE:
COMPREHENSIVE FLOOD CONTROL PROGRAM - MARICOPA COUNTY FLOOD CONTROL DISTRICT; PHOENIX, 1963 AND DEPARTMENT OF PUBLIC WORKS - PHOENIX

Figure 57

Significant drainage problems within the Phoenix Area are:

- Potential danger from flood waters from the Salt River, Cave Creek, Indian Bend Wash, and Dreamy Draw.
- Potential damage to the city from a flood originating in the South Mountains.
- Potential damage from major irrigation canals.

One of the major objectives of the current City program is to install storm drain trunk lines in advance of, or in conjunction with, major street projects. It is important that additional storm drainage funds be obtained if drainage facilities are to keep pace with an accelerated major street program. In addition, much of the storm sewer system under older streets is inadequate and will need updating.

Since many of the drainage problems in Phoenix are area-wide by nature, the City of Phoenix cannot alone provide flood protection to the city. The United States Corps of Engineers has prepared a Valley-wide flood control plan which was the basis of a $22.7 million bond election defeated in 1966. Portions of this program can still be implemented gradually with other financing methods. The Maricopa County Flood Control District, which was created to solve some of the flooding and and drainage problem, still exists and does have a taxing ability . An agressive program by this district, with or without Federal assistance, could provide a partial solution to Valley flood control problems.

## REGIONAL SERVICE CENTERS

Regional service centers are places where the vehicles, equipment and materials of several municipal agencies are stored and where employees assemble for work each day. Decentralizing these centers and equipping them with maintenance shops for all but major repairs, reduces travel distances significantly and provides more efficient service.

Service centers are best located near the center of 45 to 55 square mile service districts with a ten minute travel time from any point in the district to the site. Freeways and major streets are important in reducing trip time while mountains, canals, rivers and similar barriers should be at the edge of districts. The service center site should be in an area where the heavy trucking and equipment storage operation will be compatible with surrounding uses; preferably in an industrial area.

The plan proposals are an updating of the city's 1963 Plan for Regional Service Facilities . The three existing sites were located according to the 1963 plan. The Dreamy Draw site deviates slightly from the earlier proposal and now serves the area north of the Phoenix Mountains. A new site is proposed near the Black Canyon Freeway at 19th Avenue and Thunderbird Road to serve Northwest Phoenix north of Northern Avenue.

The Paradise Valley area to the northeast should be large enough and populous enough to warrant its own center shortly after 1990. At such time, a new site should be constructed there. Until then, the Dreamy Draw site will serve the area.

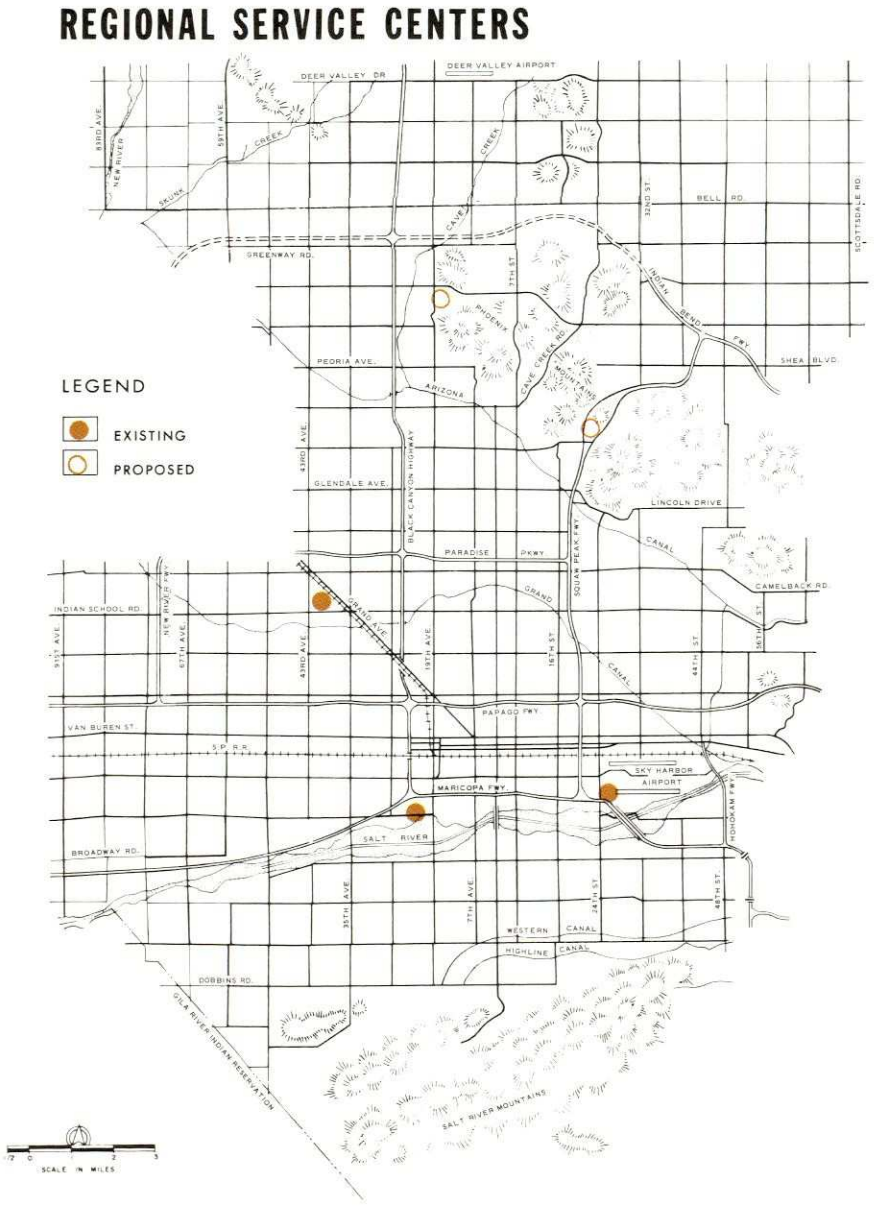



Figure 58

## REFUSE DISPOSAL (SANITARY LANDFILL)

Cities throughout the country are experiencing difficulty in disposing of their ever-mounting volume of solid refuse. The City of Phoenix has the same problems. Effort must be made to dispose of refuse economically and in a manner which does not impair health or cause undue blight to the community.

### Existing Situation

Phoenix is now, and for the foreseeable future will be, disposing of refuse by sanitary landfill. Sanitary landfill differs from a dump or burning dump in that all refuse is deposited on the site, compacted with heavy earthmoving equipment and then covered with earth so that it, in effect, becomes part of the terrain. Three landfill sites are currently in use, two near the north side of the Salt River, one at 16th Street and the other at 15th Avenue. The other site is at 19th Avenue and Greenway. The city landfills are accepting about 483,000 tons of refuse each year.

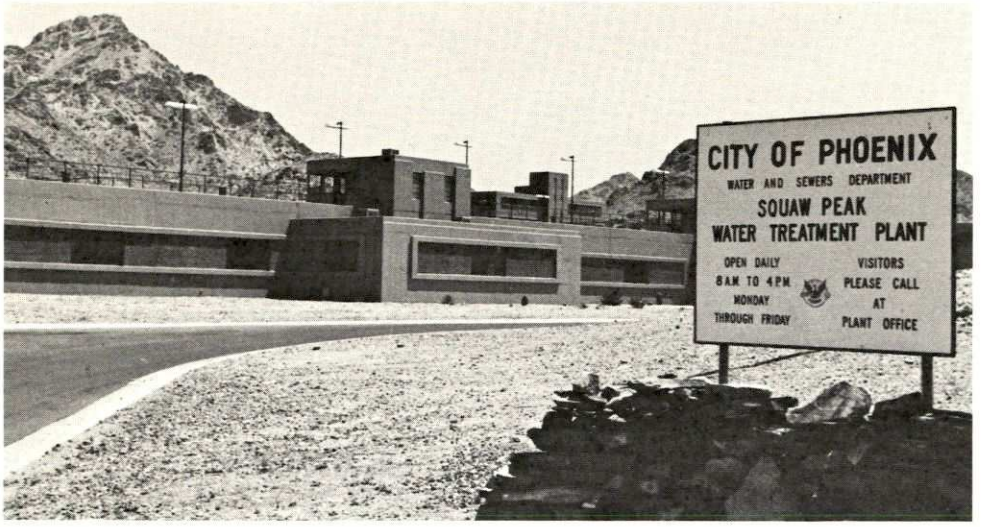
The landfill at 16th Street will be filled about 1970. The 15th Avenue site will last at least six more years and longer if the construction industry excavates ample sand and gravel to provide pit areas in the river bed. These sites are owned by private parties and the land will belong to them when they are filled.

The 19th Avenue and Greenway site is owned by the City. This site is accepting about 100,000 tons of City-hauled refuse and 60,000 tons of privately-hauled refuse yearly. It is estimated that this site will be filled and ready for the planned Deer Valley park use in about three years. It is the approaching filling in of this landfill site that makes necessary the purchase of a new site to serve the northside area.

Two new sites have recently been added. One at 7th Street and the Salt River is leased and will serve for at least ten years. The other is on land purchased at Beardsley Road and Central Avenue extended, which will not be in service for 10 years or so until the sand and gravel at the site is exhausted. Efforts will be made to acquire interim sites.

### Standards

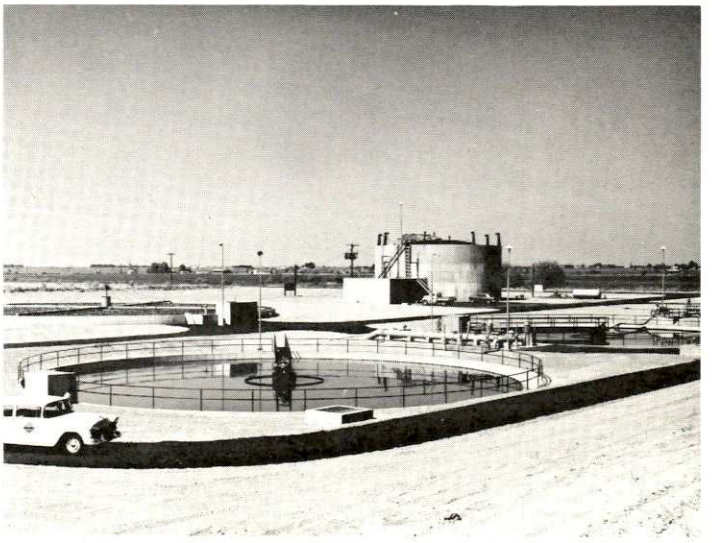
The amount of land required for landfill depends on quantity of refuse received, depth of fill, amount of compaction accomplished, amount of land required on site for roads, service areas, landscaping, etc. As an example, 320 acres of land might be expected to lose 10 acres for service area scales, office space, etc., 20 acres for roads, 60 acres for landscaped slopes and perhaps 20 acres for drainage. This leaves only 210 acres (or 2/3 of the acreage acquired) left to be filled.




Water treatment plant


Storm drain installation

Sanitary Landfill



Sewer treatment plant

Desirable Characteristics of a Sanitary Landfill Site are:

- Lowest possible haul time from center of refuse collection to site.
- As few sites as possible. Disposal costs get smaller as tonnage figures get larger at one site.
- Supply of easily handled earth for cover material.
- Suitable for carrying out a good neighbor policy. This means that the landfill operation will not be a nuisance to any development in the area.
- Valuable for future open space use. A site which can be used as a park, golf course, etc. after completion is desirable.
- Freedom from unsolvable flood control or drainage problems.
- Availability and cost of land. Long term sites (20 years or more) are most desirable except for very special cases where short term sites might be available as temporary expedients. Long-term sites are usually 300 acres or more.
- Present and prospective other use of land. If at all possible, it would be desirable to use non-productive land for landfill sites.

Future Plans

The 1968 Report on Solid Wastes Disposal for Maricopa County by John Carollo, Engineers presents the magnitude of future waste disposal problems in the planning area. In the 1970 to 1980 decade, waste will be generated on an average of 839,500 tons per year. Depending on the depth of the pit, this will require up to 120 acres of land per year in new landfill space. For the 1980 to 1990 decade, an annual average of 1,200,000 tons will be generated requiring an additional 170 acres per year for disposal.

The proposed landfill sites on the following map will take care of some of this demand, but additional sites will be needed.

# SANITARY LANDFILL SITES

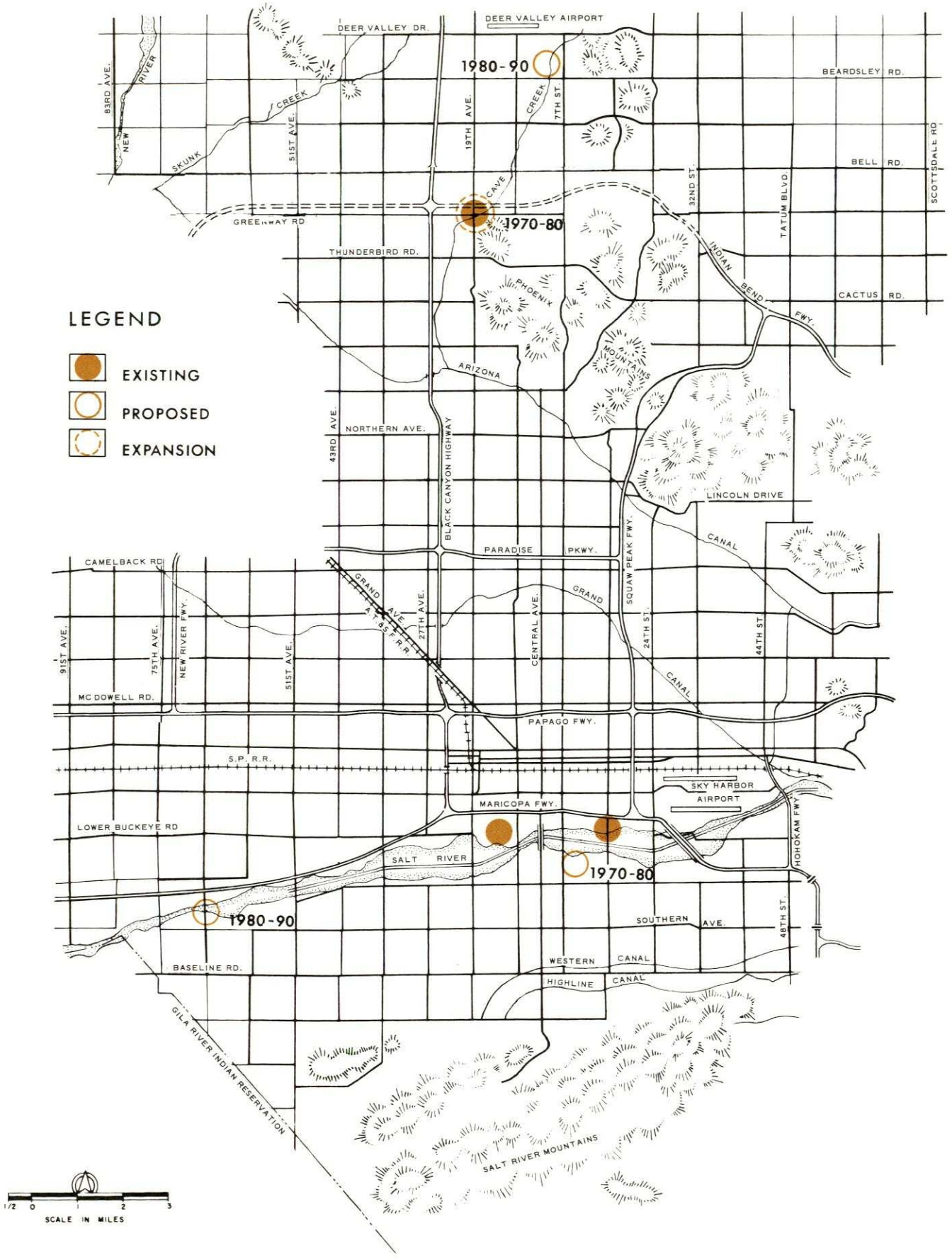



Figure 59

# TRANSPORTATION ELEMENT

The objective of transportation is the safe, efficient, and convenient movement of people and goods. It enables people to carry on life's many endeavors at separate sites selected for these purposes. Transportation ties together all the vibrant parts of the urban area linking together neighborhoods, regions, and states.

Many people have come to Phoenix seeking a new way of life — a life with a freedom from constraint that is not available in older metropolitan areas. This is reflected by the spread-out development of the area, the low population density, a low building profile, and the great distance between centers of activity. Further, this is amplified by the desire of the people for a personalized type of mobility which has given use to rubber-tired oriented transportation. Thus, in the Phoenix Urban Area, the predominate method of travel for people is by automobile — now and in the forseeable future.

The development of an adequate transportation system is vital to the continued economic growth of the Phoenix Area. The great population growth of the 1950's generated many of the transportation problems of today; for this growth accelerated the needs beyond the ability to finance improvements.

The City of Phoenix has had the benefit of continuous transportation planning over the past several decades, and the entire urban area has benefited from a Major Street and Highway Plan that was adopted in 1960 and 1961 by the Arizona State Highway Commission, Maricopa County Board of Supervisors, and the City Councils of Phoenix, Glendale, Avondale, Mesa, Buckeye and Tempe. In 1965, the Valley Area Traffic and Transportation Study (VATTS) was established as an on-going transportation planning program for metropolitan Phoenix.

## GOALS

The basic goal is the development of a transportation system that will foster, support and serve the economic, cultural, environmental, and social development of the community as well as provide for the safe, efficient and economical movement of people and goods. Included within this goal are:

- To provide a high quality of service by reducing travel time and promoting the convenience and safety of the users commensurate with available revenues.
- To maintain a continued balance between the travel requirements

generated by the land use and the capacity of the transportation system serving these requirements.

- To periodically re-appraise the total transportation needs and the available financial resources.

The following objectives are essential to the implementation of these goals:

- Coordinate transportation planning with general land use planning.
- Develop a balanced transportation system of streets and freeways based on a functional classification — access and mobility.
- Provide a street system that considers the neighborhood as the basic planning unit.
- Plan for adequate terminal facilities to serve the transport systems— ground, rail and air.
- Continue the comprehensive, cooperative transportation planning process.
- Periodically re-evaluate the transportation system and its various modes with due consideration for the desires of the people.

The end product of these goals is the construction of facilities to serve the public.

## Transportation Planning and Land Use

The existing and projected land use pattern for the entire urban area must be the major consideration reflected in transportation planning. The essence of transportation planning is concerned with the safe, efficient, economical, and convenient transport of people and goods from one place to another. The transportation system should be so designed as to accommodate the future patterns of human activity work, shopping, leisure time, school, recreation, and personal. Therefore, the location and functioning elements which comprise the transportation system, i.e., freeways; major, collector, and local streets; air, rail, and ground terminals; must be mutually complementary if the Phoenix area is to remain healthy. Developing a balanced, integrated transportation system is a key objective of the plan.

Following the proposed general land use plan for the area is of the utmost importance; for, if this basic plan is not adhered to and other types of land use are

allowed to develop, i.e., a large regional shopping center instead of a low-density residential development, the transportation plan could be seriously affected. Further, if the means of ingress to adjacent developments are allowed, the efficiency of a street can be affected and, at the same time, cause intolerable congestion. Traffic congestion contributes to the blighting of adjacent areas and can result in costly widening and often destroys the productive use of the land for which the transportation system is intended to serve.

Therefore, the success of the Major Street and Highway Plan and the entire Transportation Plan depends on how well the general land use plan is adhered to.

## Aesthetics

In the development of future streets and highways, great care should be exercised to preserve the scenic qualities of Phoenix. Many possibilities exist in relating highway design with the natural and man-made landscape in order to create a more pleasant environment. Both the view of the street or freeway and the view from the street or freeway should be carefully developed.

Many of our major streets and highways have been designated as parkways. Several have been landscaped already and others will be in the future. A total design study is now underway for the proposed East Papago Freeway; and it concerned with the effect on the area that it will pass through.

## Elements of the Transportation System

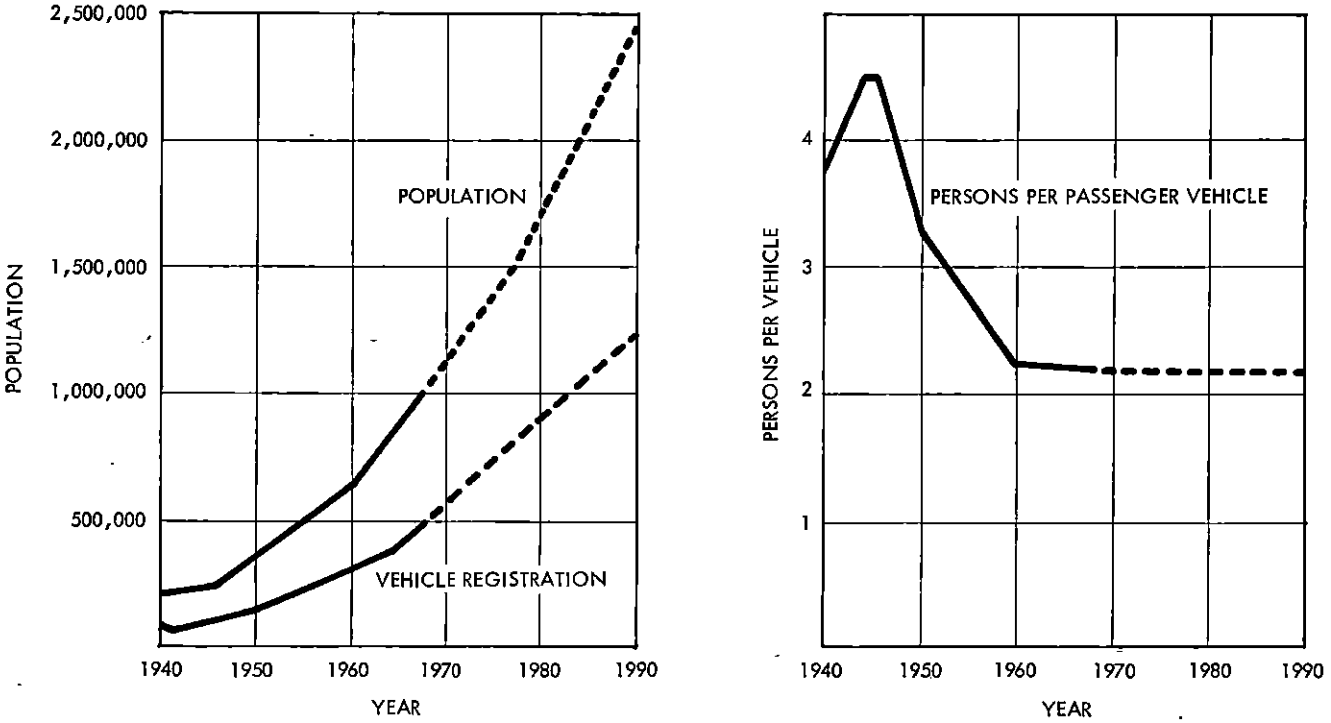
Within the total transportation system, six basic elements were studied; the major street and highway system, public transit, air transportation, railroads, pipelines, and parking and terminal facilities. These elements together form the transport system today and form the foundation of the future.

## Major Street and Highway System

Figure 60 portrays the dynamic growth of the Phoenix area in terms of population and automobile ownership. The chart shows the projected growth for which the transportation plan is intended to serve. Not only has the number of vehicles increased, but the usage has also grown. Origin-destination studies of the Phoenix area demonstrate this growth through an increase in total daily person trips from 675,000 to 859,000 in the decade 1947-57 (a 49% increase). The 1980 forecast is for 4,000,000 person trips in the average day.

The network of major streets and highways now serving Phoenix is a basic

# AUTOMOBILE OWNERSHIP & USE PHOENIX METROPOLITAN AREA

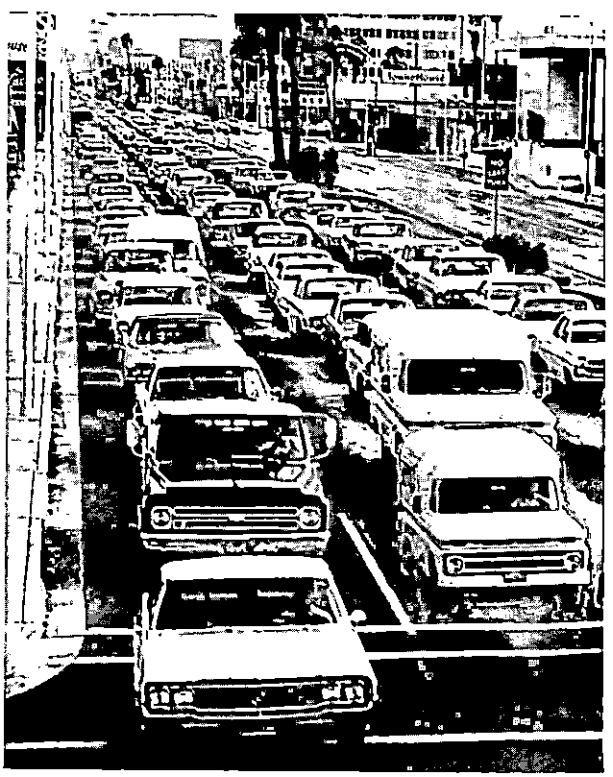



SOURCE: A Major Street and Highway Plan For The Phoenix Urban Area. Wilbur Smith and Associates. 1960; Traffic Study, 1958, Phoenix-Maricopa County Traffic Study.

Figure 60

grid system, with a major street designated along almost every one-mile section line. The Major Street and Highway Plan has been developed from the foundation that was established by the Maricopa County Board of Supervisors in 1892. Merged with these major streets is the developing freeway system.

The functional classification of the physical elements making up the streets and highways system is the foundation for administrative and design policies essential for effective implementation of the plan.



Rush hour – Central Avenue.

The following table summarizes the functional role and general characteristics of these streets and highways.

Table 25

CLASSIFICATION OF STREET AND FREEWAY SYSTEMS

| CHARACTERISTIC | FREEWAY | MAJOR STREET | COLLECTOR STREET | LOCAL STREET |
|---|---|---|---|---|
| BASIC FUNCTION | | | | |
| Traffic Movement | Sole | Primary | Partial | Incidental |
| Land Access | Controlled | Secondary | Partial | Basic |
| PLANNED SERVICE | | | | |
| Area Served (Linkage) | Regional & State | Community | Neighborhood | Individual Properties |
| Speed | 55-70 MPH | 30-45 MPH | 25-30 MPH | Under 25 |
| Trip Length | Over 3 miles | Over 1 mile | Under 1 mile | Under 1/2 |
| No. of Lanes | 4 - 8 | 2 - 6 | 2 - 4 | 2 |
| Parking | None | Limited | Permitted | Permitted |
| FUNDING RESPONSIBILITY | State & Federal Gov't. | Local Gov't. | Property Owner & Local Gov't. | Property Owner |

The geometrics of any given street classification may vary and will often change with growth, but the basic function of that street will remain.

## Quality of Service

One of the most easily understood measures of the level of service, or quality of flow, on the street system, is the average speed that vehicles operate on the system. Figure 61 shows the average vehicle speed on major streets since 1947 and projected into the future. There has been a great effort in the past to increase the efficiency of freeways and major streets through improved design standards, traffic control, and accelerated construction programs. Yet with this in mind, many of our major streets are still operating at, or above, their desired capacity and the level of service will continue on a downward trend unless the development of a modern urban major street and freeway system is accelerated.

## Freeway System

The development of the modern freeway, a controlled access, multi - laned

## LEVEL OF TRAFFIC SERVICE

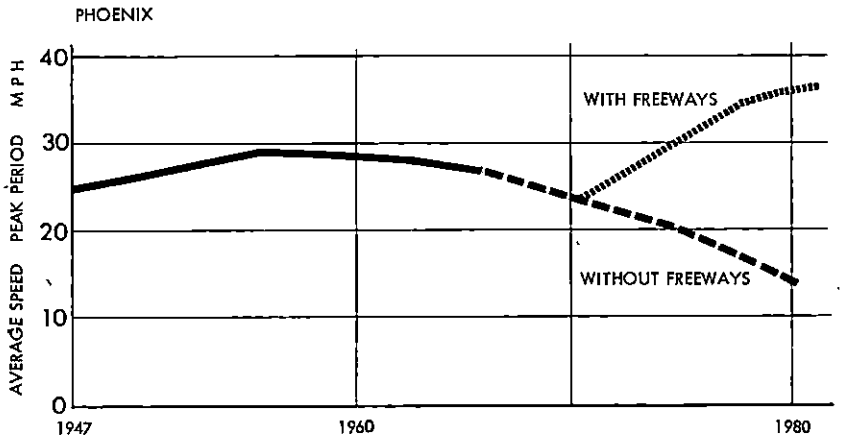
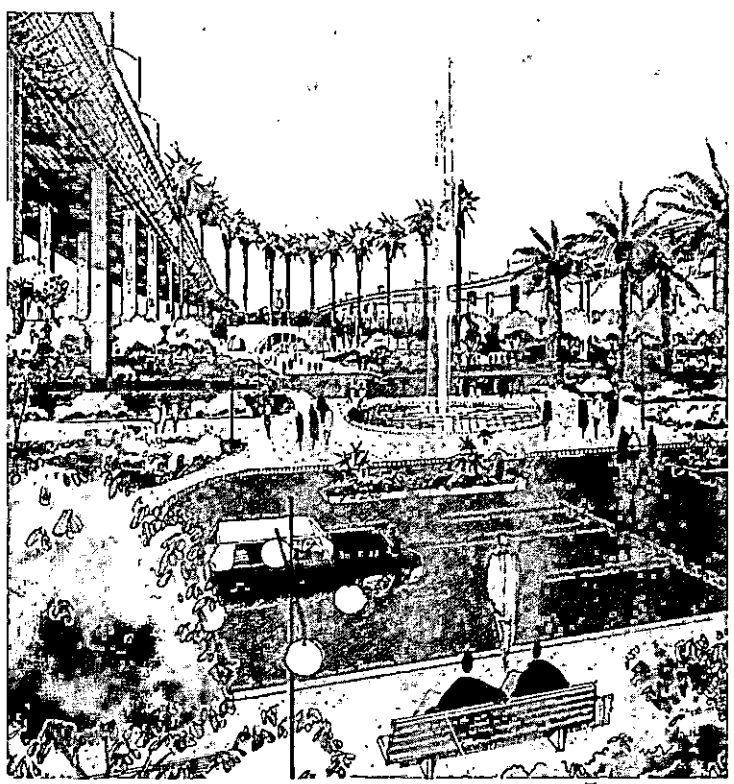



Figure 61

attractive major highway has been a great advance in the safe, convenient movement of people and goods. Freeways are an essential element to the development of the total transportation system. The freeway system is superimposed on the major street system to function as the prime mover of traffic. The great advantage of freeways can be summed up by one statement — one lane of a freeway will carry three times as much traffic at twice the speed and three to five times safer than one lane of a major street.

The lack of freeways has put an excessive amount of traffic on the major street system. This overloading of major streets is not only detrimental to them and abuting property, but also to the collector streets and, in some cases, local streets; because as the major streets become congested, motorists seek other routes, thus forcing undesirable through-traffic into residential neighborhoods.

Freeways, if properly designed and properly planned, can add much to the quality of urban community life. By planning for the sociological impact as well as the aesthetic characteristics when merging a freeway system into the physical fabric of a community, many economic and developmental benefits can be realized. The lack of an adequate freeway system can be expected to have an effect upon economic development and orderly urban growth.



A rendering of the proposed Papago Freeway, showing elevated freeway with park underneath.

Greater emphasis should be placed on freeway right-of-way acquisition in advance of development. In this way, substantial public savings can be realized, and other land planning benefits accrue when highway rights-of-way acquisition precedes, stimulates and gives guidance to development. This early acquisition avoids the need to tear down relatively new buildings and uproot neighborhood patterns and businesses.

## Major Street System

The function of major streets is primarily to move traffic and secondarily to provide access to abutting properties. The major street system is of great importance and is designated on the Major Street and Highway Plan.

The City of Phoenix, recognizing the important role major streets play in the building of a modern city, has made progress toward the development of an adequate major street and highway system. Since 1960, 40.9 miles of major streets have been constructed or are under construction at a total cost of 22.3 million dollars. The present six year program provides for the improvement of 33.5 miles of modern major streets, at an estimated cost of $23.0 million.

Major street construction plus traffic engineering improvements are the two programs which have kept traffic problems from becoming intolerable.

However, we are investing less than half as much each year as is needed to bring our major streets up to adequate standards within the next twenty years.

## Local and Collector Street System

The relationship of local and collector streets to the residential areas and major street and highway system is depicted on Figure 62. The functions of these streets are to directly serve the basic planning unit — the neighborhood. These streets move people from their homes to major streets as well as providing circulation within the neighborhood

The local and collector street deficiencies in the already established areas of the city are being eliminated through the Local Street Improvement District Program. A new approach to this program is the neighborhood concept, i.e., where all the unimproved streets within a square mile or so are improved as one district. Not only are streets improved, but water lines, alleys, traffic signs, street trees and other general improvements are completed by the city as each neighborhood project proceeds.

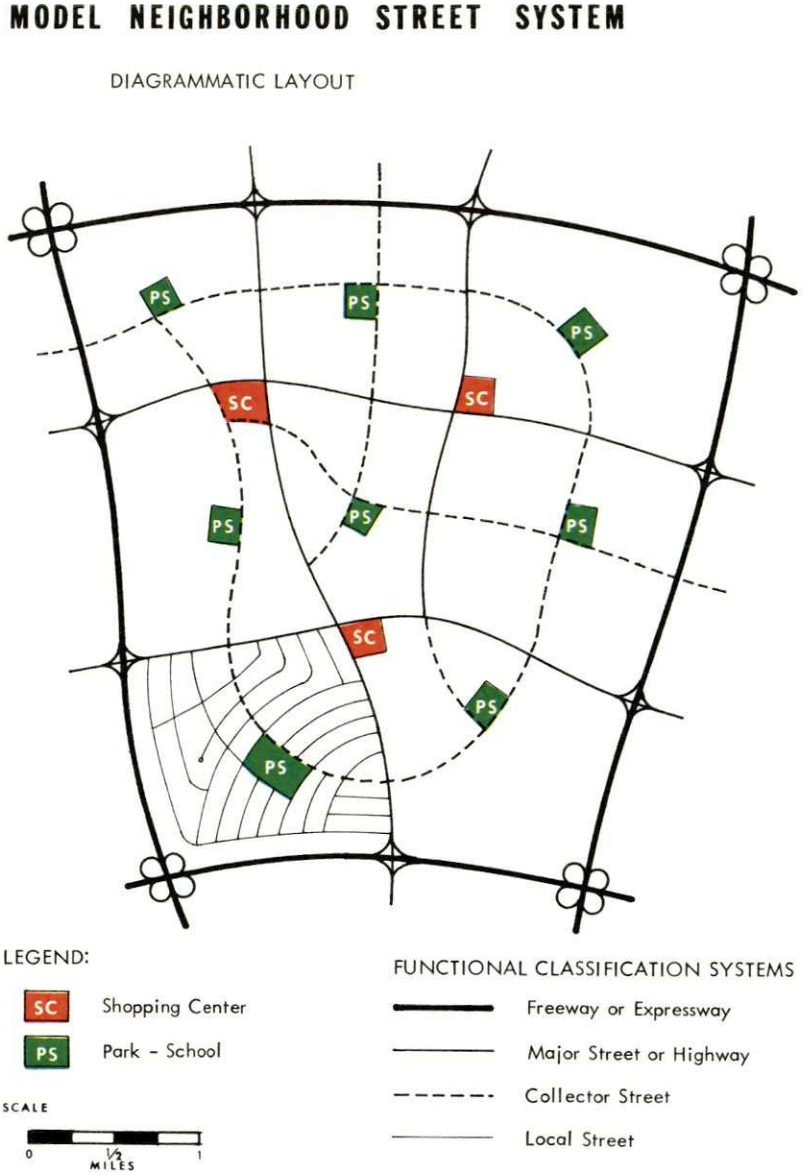



Figure 62

The city policies and procedures, along with FHA requirements and competent subdividers, have resulted in development of streets built to proper standards as new areas are subdivided and developed. The subdividers have the initial responsibility to develop the street layouts with review and approval by the city staff.

## Public Transit

The existing public transit system in Phoenix consists of a privately owned bus company. There are about 16,000 average daily transit trips accounting for about one percent of the total person trips in the urban area (Figure 63). Buses provide transportation for people who cannot afford a private automobile, who are unable to drive, and who choose transit as an alternate means of travel.

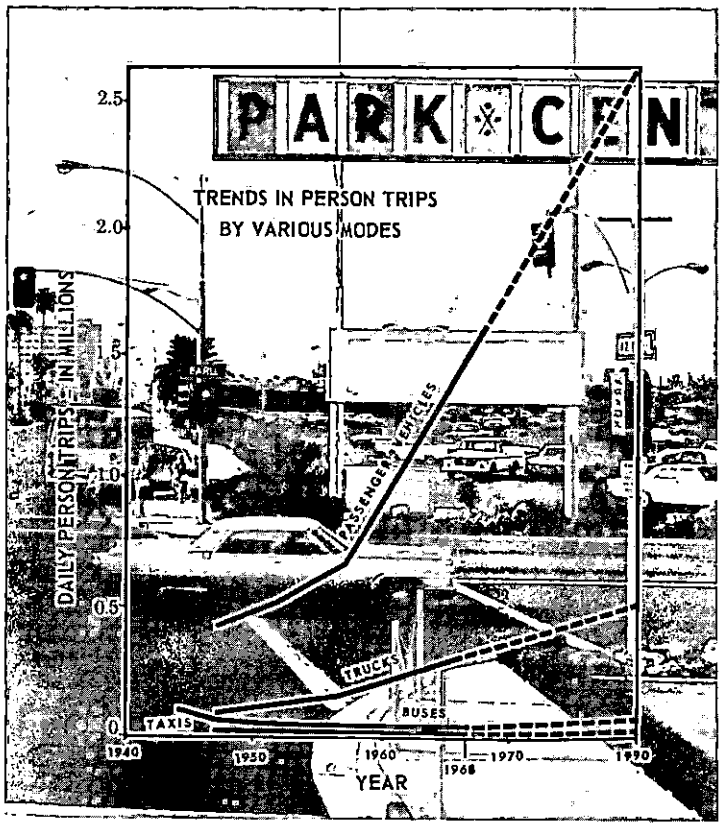



Figure 63

The existing and projected low densities of land use development, anticipated high levels of automobile ownership and present trends in transit use do not suggest a greatly expanded role for public transit in the Phoenix Urban Area. In the future, as population densities increase, a higher demand for public transit may develop to serve the urban area. It should be noted that public transit and automobile transportation cannot be considered as simple alternatives, for each has its appropriate role in serving the travel requirements of the urban area.

There is currently discussion, both nationally and locally, on rail transit. A recent report by the U.S. Department of Transportation to Congress says: "Five U.S. cities now have rail transit systems in operation, a sixth has one under construction, and five others are seriously considering such systems for the future. In four of the five urban areas considering rail rapid transit systems, estimates are that such systems would serve about five percent of the urban area's total daily person trips, and ten percent of the area's peak-hour trips. (Estimates for the fifth area, Los Angeles, are about one-half of these values)."

The Phoenix Urban Area projected size, density and form would not support a rail transit system in the frame of present long range planning, through 1990. Rail rapid transit is primarily intended to serve centrally oriented commuter trips along dense travel corridors, a situation which is not foreseen for Phoenix. However, there should be periodic re-evaluation of the transportation system and its various modes with due consideration for the desires of the people. In the future, if it appears that citizens attitudes change in favor of increasing density of living or as we approach 2,000,000 people, a broad base mass transit study to explore the potentials of all transportation modes should be undertaken. Thus Phoenix can take advantage of new technology and experience of other urban areas in the field of mass transit over the next decade.

To continue from the D. O. T. Report — "Bus transit is and probably will continue to be the only form of mass transit in nine-tenths of our urban areas of over 50,000 population...." For these areas, which will include Phoenix under our

present plan, improved transit will depend considerably on an improved street and freeway system and public acceptance of buses. The basic need is for an area-wide balanced urban freeway and major street system. Of equal importance, however, is a periodic re-evaluation of the transportation system and its various modes with due consideration for the desires of the people and the new technology that may be developed.

## Air Transportation

Sky Harbor Airport is very centrally located to the Phoenix urban area, only four miles from the Phoenix Central Business District. This ideal location is expected to provide rapid and convenient access to the entire region now and in the future. It is vitally important that the air-oriented, terminal and transfer, and ground-oriented facilities be designed as a complete transportation system.

The growth and usage of enplaning and deplaning passengers at Sky Harbor Airport has been phenomenal, averaging 18% per year, as compared to the average national growth of 11% per year. The following table illustrates past and expected growth in enplaning and deplaning passengers.

Table 26

| Fiscal Year | Total Enplaning and Deplaning Passengers |
|---|---|
| 1950-51 | 209,702 |
| 1960-61 | 863,717 |
| 1966-67 | 2,073,643 |
| 1969-70 | 3,000,000 |
| 1974-75 | 5,000,000 |
| 1979-80 | 7,000,000 |
| 1989-90 | 13,000,000 |

Much of this increased passenger traffic will be carried by the new "air bus" jets, which will carry 400 or more passengers each. The impact of increased passenger use will strain the facilities at Sky Harbor. Future planning will have to cope with the myriad of scheduling, baggage, parking and street use problems inherent with increased passenger loads.

More important, a total system design concept must be implemented to insure that all phases of aircraft and airport operations, runway characteristics, terminal facilities and ground transportation are considered. Helicopter and VTOL type aircraft

may become an important function in channeling passengers to and from major buildings, hotels and convention facilities in the metropolitan area.

General aviation usage of Sky Harbor may have to be curtailed and increased use of satellite airposts encouraged. Already, the city has taken the first step in this program with the acquisition of the Phoenix Litchfield Park Municipal Airport as a satellite airport.

The rapid growth in the number of commercial airline passengers will put great additional loads on our street and highway system serving Sky Harbor Airport. The proposed east access which will connect the airport with the HoHoKam Freeway, should serve about thirty-five percent of the airport users. This will help relieve some of the traffic load on the existing west access. Eventually, it may be necessary to construct a direct freeway ramp from the Squaw Peak Freeway to the airport serving the north and west.

## Railroads

Freight service to nearby markets is offered by two transcontinental railroads. Although Phoenix is not on the main line of either railroad, it is not anticipated that Phoenix will suffer in the future because of a lack of fast through service, as both lines presently offer adequate service.

It can be expected that, in the years ahead, the railroads will still continue to be the major mover of freight on a ton mile basis. Passenger use of railroads into Phoenix has decreased to the point where one railroad recently requested discontinuance of passenger service which was established in 1894 through Phoenix. The railroads now find they have been challenged by truck and, to a lesser extent, by air freight as the top freight carriers. However, the volume of freight handled by railroads is on the increase.

Growth of industrial activities in the Phoenix Planning Area will be enhanced by the fact that adequate rail spurs can be developed easily, especially in the Southwest Industrial Reserve and along the Grand Avenue industrial corridor.

## Pipelines

Pipelines are an important part of transportation as a mover of goods—liquids and gas. Pipelines transport all of the natural gas used in the Phoenix Urban Area. Pipelines have become a major source of petroleum products. The complex domestic water distribution system and canal system for irrigation can also be considered a mover of goods.

## Parking and Terminal Facilities

Phoenix obtained most of its growth in the last 15 years during a period when the automobile was recognized as the primary means of transportation. Providing adequate off-street parking as an integral part of all types of development, from shopping center, to high-rise, to single-family residences is absolutely necessary. City ordinances require adequate off-street parking except in the core area. Progressive developers in some cases have even exceeded these requirements. In the downtown area, the parking demand has decreased considerably due to the decentralization that has taken place.

Future parking demands will be important where a change in transportation mode is involved. For example, at Sky Harbor Airport, it will be necessary to expand greatly the parking facilities to take care of the exceptionally high increase in airline passengers which is anticipated. Constructing parking lots next to freeway interchanges in conjunction with express bus service on freeways may be needed. Continued development of off-street parking to adequately serve the land use is absolutely essential as part of the total transportation system.

## Conclusion

Older communities developed when the predominant mode of transportation was some form of steel wheel and rail facility, either street car, elevated, subway, or commuter railroad systems. The newer cities, especially those in the West, have essentially had their population growth in the automobile era. Thus, they present a very different picture with regard to the urban land use pattern. Phoenix is one of the nation's prime examples of such a city, in that it possesses a very dispersed density land use pattern. This dispersal has allowed Phoenix to grow with fewer acute street and highway problems than cities of comparable size, even though it lacks an adequate number of freeway miles open to traffic.

The rapid population growth of Arizona in the last decade and the increasing urbanization that has come with this growth has brought with it a rapidly developing need for adequate streets and highways. Streets, highways and freeways touch every aspect of Phoenix's economy, development, recreation and tourism, and the daily life of our citizens. Historically, our Nation, our West, our State, County and our City have developed where there is adequate transportation.

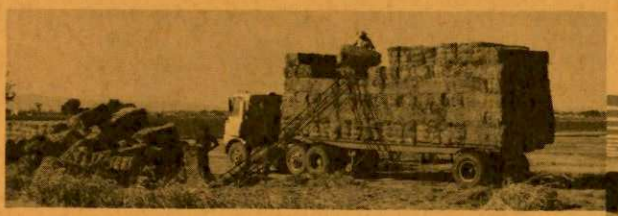
NEVER HAS THE NEED FOR AN ADEQUATE STREET AND FREEWAY SYSTEM, WITH RELATED TERMINAL FACILITIES, BEEN MORE ACUTE THAN IN OUR MODERN, AFFLUENT SOCIETY WHICH DEMANDS SAFE, EFFICIENT, AND CONVENIENT MOBILITY .....MOBILITY - PHOENIX STYLE.

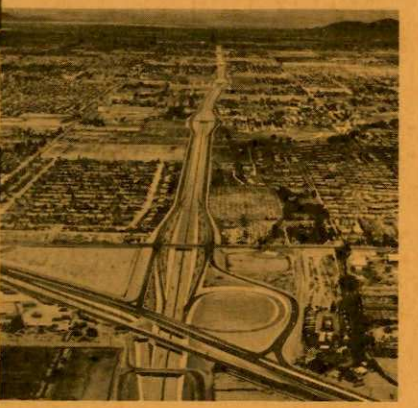

CERTIFICATE OF ADOPTION
I Hereby Certify That This Master Plan, Designating The General Location And Extent Of Existing And Proposed Major Streets And Highways, Is Adopted
ARIZONA STATE HIGHWAY COMMISSION
MARICOPA COUNTY BOARD OF SUPERVISORS
PHOENIX — CITY COUNCIL
GLENDALE — CITY COUNCIL
AVONDALE — CITY COUNCIL
MESA — CITY COUNCIL
BUCKEYE — TOWN COUNCIL
TEMPE — CITY COUNCIL
LEGEND
PROPOSED CHANGES AND ADDITIONS TO ADOPTED MAJOR STREET AND HIGHWAY PLAN
MAJOR STREETS ADDED
ULTIMATE MAJOR STREET
DELETED MAJOR STREET
MAJOR STREET and HIGHWAY PLAN
Phoenix Urban Area — Maricopa County
PHOENIX-MARICOPA COUNTY TRAFFIC COORDINATING COMMITTEE
APRIL 1969
NORTH
SCALE IN MILES
PHOENIX
SCOTTSDALE
TEMPE
MESA
GLENDALE
PEORIA
SURPRISE
YOUNGTOWN
AVONDALE
GOODYEAR
TOLLESON
BUCKEYE
MARICOPA
GILBERT
CHANDLER
1962 LOCATION

Figure 64

# CHAPTER V

# PLAN ALLOCATIONS



# PLAN ALLOCATIONS

The Comprehensive Plan is grounded on economic and population projections and does not present an ultimate development pattern. The Plan projects a population of 1,080,000 and a labor force of 378,000 for 1990. These people and jobs will require a certain amount of land in various categories of use, and in the locations indicated on the Land Use Plan map.

The Phoenix Planning Area contains enough land to accommodate at least double the projected 1990 population. The Comprehensive Plan, therefore, assumes that some sections of the Planning Area will still be undeveloped by 1990. Large areas in the northern and southern sections of the Planning Area will remain vacant or essentially undeveloped beyond 1990, and thus are crosshatched on the map. The development of these areas should not be encouraged until the other development occurs.

To portray the changes that will occur in the amount of land utilized by various uses, Table 27 compares existing 1965 land use with projected amounts needed by 1990. Table 28 relates the projected 1990 land use to the amount of land set aside on the Land Use Plan for that purpose. It is important to note that in many categories, particularly Residential and Industrial, only a small portion of the land set aside on the Land Use Plan will be in use by 1990; and a substantial amount will be available for future development beyond 1990.

Table 27

1965 AND 1990 LAND USE

Phoenix Planning Area

(In Acres)

| Developed Land | 1965 | 1990 |
|---|---|---|
| Single-Family | 28,927 | 63,300 |
| Multi-Family | 4,775 | 8,400 |
| Commercial | 3,135 | 5,400 |
| Industrial | 9,236 | 15,300 |
| Railroads & Canals | 1,169 | 1,200 |
| Streets & Alleys | 18,156 | 38,000 |
| Parks & Recreation | 18,296 | 29,100 |
| Schools | 1,809 | 3,600 |
| Other Public & Semipublic | 4,619 | 8,600 |
| Total | 90,122 | 172,900 |
| Non-Urban Land | | |
| Agriculture | 60,220 | 13,300 |
| Vacant | 102,558 | 66,700 |
| Total Land | 252,900 | 252,900 |

Table 28

1990 LAND USE REQUIREMENTS AND PLAN PROPOSALS

| Major Use | 1990 Projected Need | Plan Proposals | 1990 as a percent of Plan Proposals | Acres Left for Development Beyond 1990 |
|---|---|---|---|---|
| Residential | 71,700 | 91,800 | 78 | 20,400 |
| Commercial | 5,400 | 5,500 | 98 | 100 |
| Industrial | 15,300 | 22,700 | 67 | 7,400 |
| Railroads & Canals | 1,200 | 1,200 | 100 | - |
| Streets & Alleys | 38,000 | 38,000 | 100 | - |
| Parks & Recreation | 29,100 | 29,100 | 100 | - |
| Schools | 3,600 | 3,600 | 100 | - |
| Agriculture | 13,300 | 13,300 | 100 | - |

# PLAN PROPOSALS

## Residential

Residential density allocations appear on Figure 29. By far, the major portion of residential land use within the Phoenix Planning Area is projected to remain in the medium low density range of 1.7 to 5 units per gross acre. Topography, market demands, and tradition will play important roles in maintaining certain areas in the low density category. Much of Paradise Valley, Arcadia, and certain sections of South Phoenix will have residential densities below 1.7 units per gross acre.

Medium density residential pockets will be scattered throughout the Planning Area. Specific areas of unusual activity will include: (1) Central Phoenix, which has areas of high density apartment development; and (2) North Central Phoenix, expecially along Camelback Road.

## Commercial

Commercial facilities (Figure 36) include shopping centers, highway oriented and Central Phoenix uses. New major commercial facilities will be located in rapidly growing areas, such as Maryvale, Paradise Valley, and South Phoenix.

The following categorize the three major commercial proposals of the plan:

Highway Oriented — A wide variety of commercial enterprises, including offices, fall in this category. Highway access is necessary and groups of businesses often string out along major streets in commercial strips. Within this category are enterprises which rely strictly on highway traffic for their livelihood, such as service stations and motels, as well as enterprises which serve more general retail functions.

The Land Use Plan map shows only those highway oriented commercial uses where they are concentrated in significant amounts.


Typically, strip commercial uses locate side by side along major streets.

Shopping centers allow people to walk between stores, while protected from automobiles.

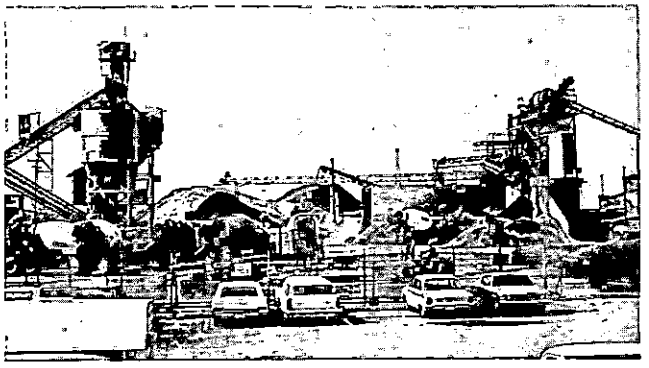
Shopping Centers— Shopping centers are commercial establishments, planned, developed, owned and managed as a unit. Off-street parking is provided on the property. The location, size, and type of shops are related to the trade area that the unit serves. Within the Plan, two specific types of locations for proposed shopping centers are shown. Where an existing vacant commercial site that is properly zoned and of sufficient size exists, the proposed shopping center is located at that site. In undeveloped areas where no currently zoned site is available, the proposed shopping center is shown in the middle of an intersection, as an indication that there is a need for this type of facility at this location. Final determination of the proper site near the intersection will be dependent on the population and economic growth of the area.

Central Phoenix— Central Phoenix contains the central city commercial and office functions. It includes highway oriented commercial establishments, shopping centers, and large office complexes. Most City, County, and Federal offices as well as major financial institutions are in this corridor. This area can be identified by the large red linear area between 7th Avenue and 7th Street, Camelback Road to Grant-Lincoln Streets.

## Industrial

Industrial areas are shown in Figure 41. Areas for general manufacturing, shipping, receiving, and storage are generally classified as industrial. Some agriculturally related activities such as cotton ginning, feed lots, and food processing are also included in this category.

The Plan shows two basic industrial categories: (1) Extractive uses and (2) Industrial Uses. A detailed discussion of these uses can be found in the Industrial Element.



Extracting sand & gravel from the Salt River bed.

Associated Grocers warehouse.

## Transportation

The Land Use Plan shows a transportation system covering all modes of travel from airplanes to automobiles.

Railroads encompass those areas devoted to tracks, switch yards and railroad buildings. Small spur lines to individual sites are not included.

Only large canals are considered. Laterals and ditches are not included as they are often covered, and some different land use placed above them.

The street system includes freeways, expressways, major streets, collector and local streets, and other rights-of-way for vehicular movement including alleys. Their purpose is to move wheeled traffic and provide access to abutting property.

## Community Facilities

The Land Use Plan proposes a complete system of community facilities. Basically, these facilities have been located throughout the Planning Area in relation to expected population densities, service areas, and neighborhoods. Some of the items covered are discussed below.

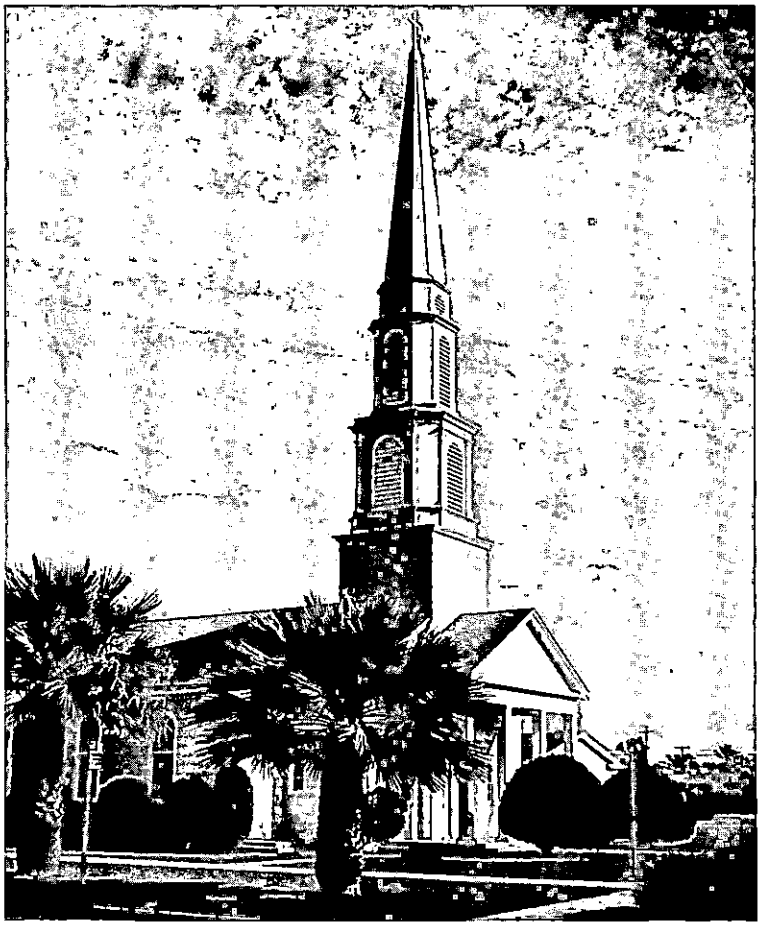
Parks and Recreation — All public recreation areas are in this category. Included are neighborhood, community, district, and regional parks as well as wilderness areas, landmarks, historic sites and special purpose recreation facilities.

Schools — Public schools only are in this category. Included are elementary, junior high, and high schools. The Maricopa County Junior College System is included, but private trade schools, business colleges and similar institutions are not.

Other Public Uses — This category covers the wide array of necessary facilities which are not large enough to warrant a special classification. Their use characteristics are often quite similar. Included are such public facilities as fire and police stations, libraries, hospitals (both public and private), administrative and governmental offices, service centers and similar publicly-owned or operated uses.

## Quasi-Public Uses

These facilities include cemeteries, private and parochial schools, country clubs and other privately owned, but public purpose facilities.



## Agriculture

Some of the present agricultural lands will remain in use beyond 1990. The Plan shows two areas, in Laveen and in the extreme northwestern corner of the Planning Area, that should continue as viable, productive agricultural areas. These two areas account for some 11,000 acres.

Harvesting carrots


# CHAPTER VI

# IMPLEMENTATION

# PLAN IMPLEMENTATION

This Comprehensive Plan is an outline for action. Its value will be determined by the extent that it is used for directing public and private development decisions; in other words, how it is implemented. Its function as a road map to guide the location and timing of development, requires that it be constantly applied to all proposed projects and developments in the Phoenix Planning Area.

The plan is a synthesis of closely related elements rather than a list of desirable projects. Thus, the implementation of the plan is not just the completion of a series of individual projects, but a day-to-day, continuous process involving a broad range of governmental and private decisions.

Plans are generally transformed into public policy, implemented, by legislative enactment, administrative action, citizen action, or a combination of these. For the most part, this plan will be implemented by direct governmental action or governmental regulation. However, acts of private individuals undertaken in compliance with decided public policy play an important role.

## DIRECT GOVERNMENTAL ACTION

Governments, through their development and management of public properties, can directly implement physical plan objectives. The distribution of public welfare funds and the operation of social welfare programs will greatly affect social and economic plan objectives. Public plans for future development, renewal, or rehabilitation are future commitments to specific implementive projects.

### Development Plans

The Comprehensive Plan is only the beginning of plan making to guide community growth. It will be refined through development of area and project plans, and will be periodically updated to reflect new technology, new community objectives or other events which could not be foreseen at the time the plan was developed. However, all such plans must be developed within the context of the Comprehensive Plan.

### Capital Improvement Programs

The most direct of all implementation measures are the various improvement projects a city undertakes;as the city has control over the type, location, and timing of these projects. Other governments also play the developer role through their

capital programs. Plan objectives can be realized if these programs are coordinated with the city's capital improvements program.

A good financial program, based upon comprehensive plan recommendations, will not only help implement the plan, but will also:

- Provide a sound basis for deferring requests for less important and premature capital expenditures. Coordinate construction of all water lines, sewer lines, power lines, street surfacing, etc.

- Provide credit for the city's share of projects assisted by other governments.

The capital improvements program is a reasonably firm commitment on projects to be undertaken, matched with revenue sources on a year-to-year basis. It is developed as a cooperative enterprise by city management, the City Council and is updated annually. The program should include a capital needs list, a planned projects reserve and the capital budget.

The capital needs list is a complete listing of all the capital improvement recommendations of the comprehensive plan along with the approximate cost, priority, and responsible agency for each improvement.

The planned projects reserve lists plan recommendations which are unlikely to be undertaken because of the present financial condition of the city. Private bequests, new federal or state grants, changes in legislation, or new revenue sources may activate these programs and place them on the capital improvements program.

The capital budget lists projects scheduled for completion during the current fiscal year which are included as capital items in the annual budget.

The normal time period for the capital improvements program is six years with the first year expressed as the capital budget. The present streets improvement program follows this pattern. The relatively short time period, when compared to a plan for 20 years and the direct impact of capital projects make the capital improvements program an effective short range tool for plan implementation.

## Social Action Programs

The capital improvements program provides physical improvements in the city. Social action programs are designed to provide for the social needs of citizens. Many of the programs administered by LEAP, federal old age assistance programs, and various

federal, state and county welfare programs and facilities, help to provide decent living standards for everyone. While the effects of these programs are not as apparent as capital projects they are every bit as direct so far as the recipient is concerned.

LEAP serves as the clearing house for the vast array of welfare programs directed at the urban poor. It also works with neighborhood councils and similar organizations to help people in the Inner City improve their living environment.

Various old age assistance programs including social security and medicare, provide senior citizens with a higher standard of living and enable them to participate more fully in urban life. A multitiude of housing programs for the elderly make available an attractive living environment for them in accordance with plan objectives.

There are a multitude of federal, state and county welfare programs aimed at eliminating or easing specific problems of the poor. Housing, food, education, health, and many other programs act in concert to improve the quality of life for many Phoenix area residents.

### Conservation, Rehabilitation, and Redevelopment

In order to insure a decent living environment, existing blighted areas must be upgraded and the formation of additional blighted areas prevented. Programs to achieve this end range from conservation to redevelopment and feature governmental involvement as well as private action with government incentives.

The Community Renewal Program (CRP) is a city-wide study which identifies and measures the need for conservation, rehabilitation, and redevelopment. The needs are related to resources and a long range redevelopment program established. This program guides individual projects to upgrade the living environment.

Housing programs to fill the need for decent, safe and sanitary housing for low income groups include public housing, under complete government control, on one hand and private efforts on the other. A broad range of programs with varying mixes of governmental participation fill the middle ground. In sum, they all serve to implement the plan by providing needed housing.

## REGULATORY AND ADMINISTRATIVE MEASURES

Direct governmental action, while involving large sums of money, accounts for a relatively small portion of the development in the planning area. The vast majority of development is carried on by private parties. It is through the coordinated regulation of this private activity that governments are able to influence the location,

timing, and type of development. Most codes and ordinances are designed to accomplish a specific purpose, but are most effective in plan implementation when they are used to reinforce and supplement each other.

## Ordinances and Codes

The most effective indirect governmental tools for implementing plans are ordinances, codes, and administrative regulations. Such tools are accepted as necessary to protect the health, safety, morals, and general welfare of the public; and to prevent chaos in urban development.

The zoning ordinance regulates the use of land and buildings. Its purposes are to prevent overcrowding of land and buildings; to secure safety from fire, panic and other dangers; prevent overtaxing of public utilities and facilities; and to avoid undue population concentrations. Effective zoning can help to achieve a logical development pattern while insuring that sufficient and suitable land is available for future development.

Zone changes should be made to further plan objectives and in the interest of the community at large. Rezoning requests which are contrary to plan objectives should be denied.

Inadequate state enabling legislation, the annexation practice of accepting existing county zoning, permitted expansion of nonconforming uses, and inadequate hillside development controls have created zoning problems in Phoenix. The separation of zoning administration and enforcement weakens both. A planning consultant should be retained to work in conjunction with city management to modernize the zoning ordinance in accordance with the Comprehensive Plan.

Subdivision regulations control the division of land and the arrangement of parcels. As a tool for plan implementation, good subdivision practice leads to stable, attractive, and livable neighborhoods while poor or haphazard practices have proven to be major contributors to deterioration and blight.

Building setback lines along streets and highways are established for the purpose of reserving an area along the thoroughfare within which structures may not be placed. The purpose of such setbacks is to provide space to dilute exhaust fumes, provide room for landscaping, space for maneuvering traffic, space for parking, unobstructed areas for vision clearance at intersections, and area for future street widening.

Architectural design review by a board of competent experts can assure the suitability of a structure or project in character, appearance, size, or cost in relation to the surrounding area. This type of review adds an important aesthetic dimension to development decisions.

The Federal Housing Administration, through its regulation of the design of subdivisions and buildings it offers mortgage insurance on, has played a positive role in improving the living environment.

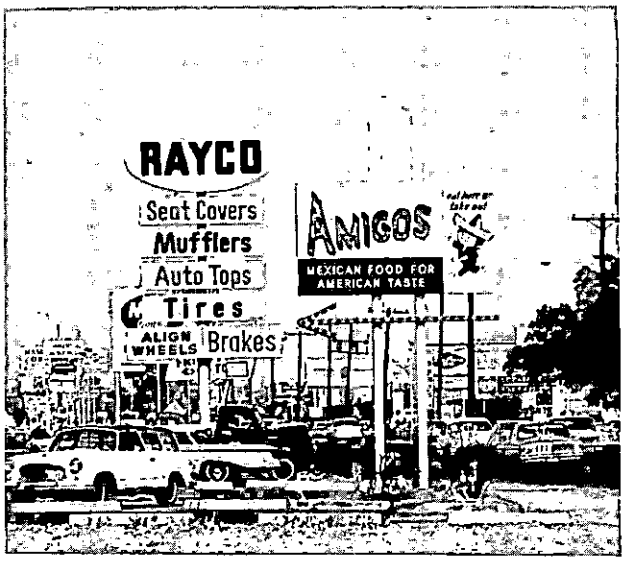
An official map ordinance, by recording projected street rights-of-way, is instrumental in prohibiting the erection of structures within designated areas which would have to be removed at public expense when the street is widened. Right-of-way acquisition should be based on the premise that any further intensification of land use obligates the developer to dedicate adequate right-of-way to carry the anticipated increase in traffic.

When used in conjunction with subdivision regulations, a map act assists in the acquisition of other lands for public uses. This acquisition may be by dedication or by public purchase within a fixed period of time from the publishing of the map.

Housing codes and building codes establish minimum conditions under which dwellings may be lawfully occupied. Building codes regulate the construction of buildings while housing codes are aimed at preserving safe and sanitary conditions in existing housing. Minimum health and safety standards in relation to plumbing and heating systems, sanitation, and provision of light and air are absolutely necessary if blight is to be arrested.

Billboard and sign controls protect community scenic, aesthetic and economic values: Unsafe signs or signs which would adversely affect the character of the district in which they are located, are prohibited. Traffic safety is aided by prohibiting signs which obstruct vision or draw the driver's attention away from the road.

Sign controls regulate signs by encouraging proper placement and size and eliminating over-concentration.




Signs along a major street.

Health codes and sanitary codes serve the general public welfare, and when combined with other regulations, such as housing codes, further plan objectives. The recent use of such codes to control air and water pollution is an important step toward increasing environmental amentiy.

By licensing business activities better control of many activities can be realized without the need for overly detailed zoning districts.

Certificates of occupancy incorporate in one document an indication of conformance with the several codes which apply to a property. Here is one tool which enables a city to insure that a property conforms to all applicable regulations prior to occupancy. These records are also vital for updating land use inventories and for other planning information.

A policy of licensing all general trades, professional offices, and general commercial interests would assist in better land use controls and elimination of illegal uses in residential districts through denial of a certificate of occupancy.

### Taxation Policies

While the primary purpose of taxes is to raise revenue, the manner in which taxes are levied has an indirect, but significant, effect on land development practices. Tax policy should be explored for use in conjunction with other implementation tools to achieve plan objectives. However, a thorough understanding of the hidden taxes within urban economic systems is necessary to do this properly.

Property tax abatement or redistribution should be explored as a means of guiding growth through economic incentives. Site value taxes, rather than taxes on improvements, are a means of preventing undue land speculation and sprawl (with its additional hidden tax in terms of utility costs) and encouraging more efficient land utilization. Tax abatement combined with protective zoning and easement purchases can encourage farming and other important open uses near to urban areas.

## EFFECTIVE CITIZEN ACTION

Citizen participation is most prevalent during plan formulation while plan implementation rests primarily on government authority. However, many aspects of planning can be effectuated by citizen action without government sanction. For maximum effectiveness, citizen actions should be related to official governmental processes.

In order to gain acceptance of programs, citizens must be informed of the consequences of the programs so they may judge for themselves whether the programs are desirable. Organized citizen support can disseminate information on proposed programs and express the need for action. Citizen groups can serve as observers at meetings where planning matters are discussed, and can focus attention on specific problems. They can help pass bond issues, tax levies and needed legislation by incorporating the views of the public in these proposals and demonstrating support for them.

Citizen action is most effective when tied closely to the news media. In this manner, information will receive wider distribution.

## LEGISLATIVE NEEDS

Many of the tools for plan implementation are already in effect in Phoenix while others could be instituted at the will of the City Council. Some tools, however, will not become available for local use until adequate state enabling acts are passed. The following proposals, while not all inclusive, list several tools not now in use which would be most useful in accomplishing plan objectives.

### Tools Requiring Council Action

The following tools can be instituted by the City Council with no special enabling legislation required:

- adopt a capital improvements program
- start a Community Renewal Program
- establish an ordinance relating setbacks to street function
- adopt a housing code
- revise the zoning ordinance
- utilize Federal programs

### Tools Requiring State Enabling Legislation

These tools for plan implementation are not presently available to local governments due to a lack of state enabling acts permitting their use.

- An official map act
- Planning enabling legislation
- Flood plain zoning
- Architectural review
- An office of zoning administrator
- Mandatory property dedication or lieu fees for park and school sites in residential areas

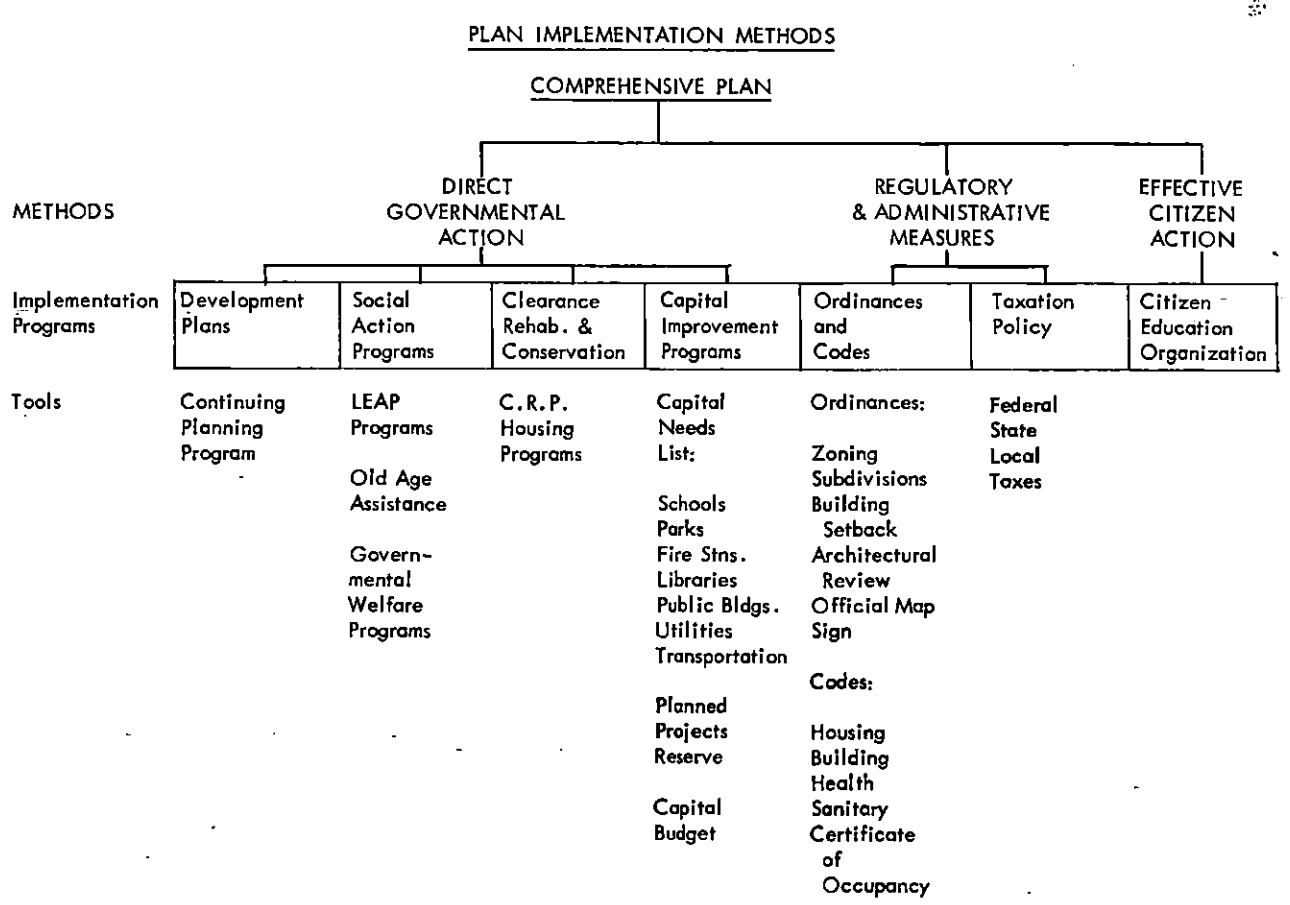
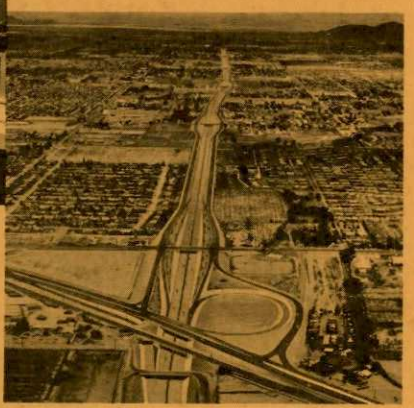
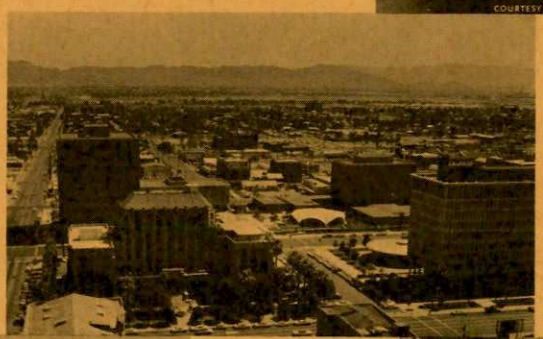


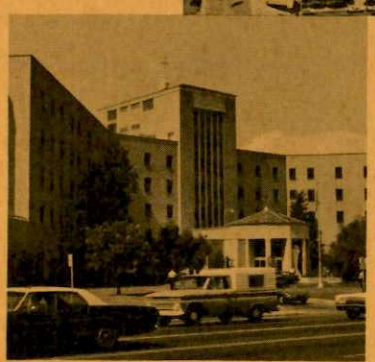

Figure 65

# CHAPTER VII

# IN SUMMARY





# THE PLAN: ITS SIGNIFICANCE

## The Objective

This Comprehensive Plan is the culmination of a planning program initiated in 1965. It is the result of a detailed analysis of the community's needs and the physical development of the city.

The basic objective of the Plan is to increase the opportunity for the citizens of Phoenix to determine where and how to live, work, play, learn and shop, while achieving an efficient, orderly and attractive environment.

## Principal Features

The major features of this plan are:

- The southwest portion of Phoenix will experience substantial new residential development at densities of four to six dwelling units per acre. The southeast portion has several residential areas which are in need of a stronger identity. A combination of governmental programs and controls will help achieve these ends.

- Continued residential development at existing densities in Northwest Phoenix and Maryvale using zoning and subdivision design controls to create harmonious neighborhoods.

- Paradise Valley, up to Bell Road, will continue to develop to low density residential uses while the Cave Creek Road-32nd Street corridor near Bell Road will have mobile home concentrations. The area north of Bell Road is largely government owned and should be reserved for timely urban growth.

- Continued agricultural use in the area north and west of Skunk Creek and the western portion of the Laveen Area.

- In the Inner City, residential identity should be reconstituted through rehabilitation programs and protective zoning. The East Papago Freeway area will experience an orderly transition to multi-family development while the close-in portion of Northeast Phoenix will need neighborhood conservation programs to preserve its single-family residential character.

# MAJOR FEATURES OF THE COMPREHENSIVE PLAN

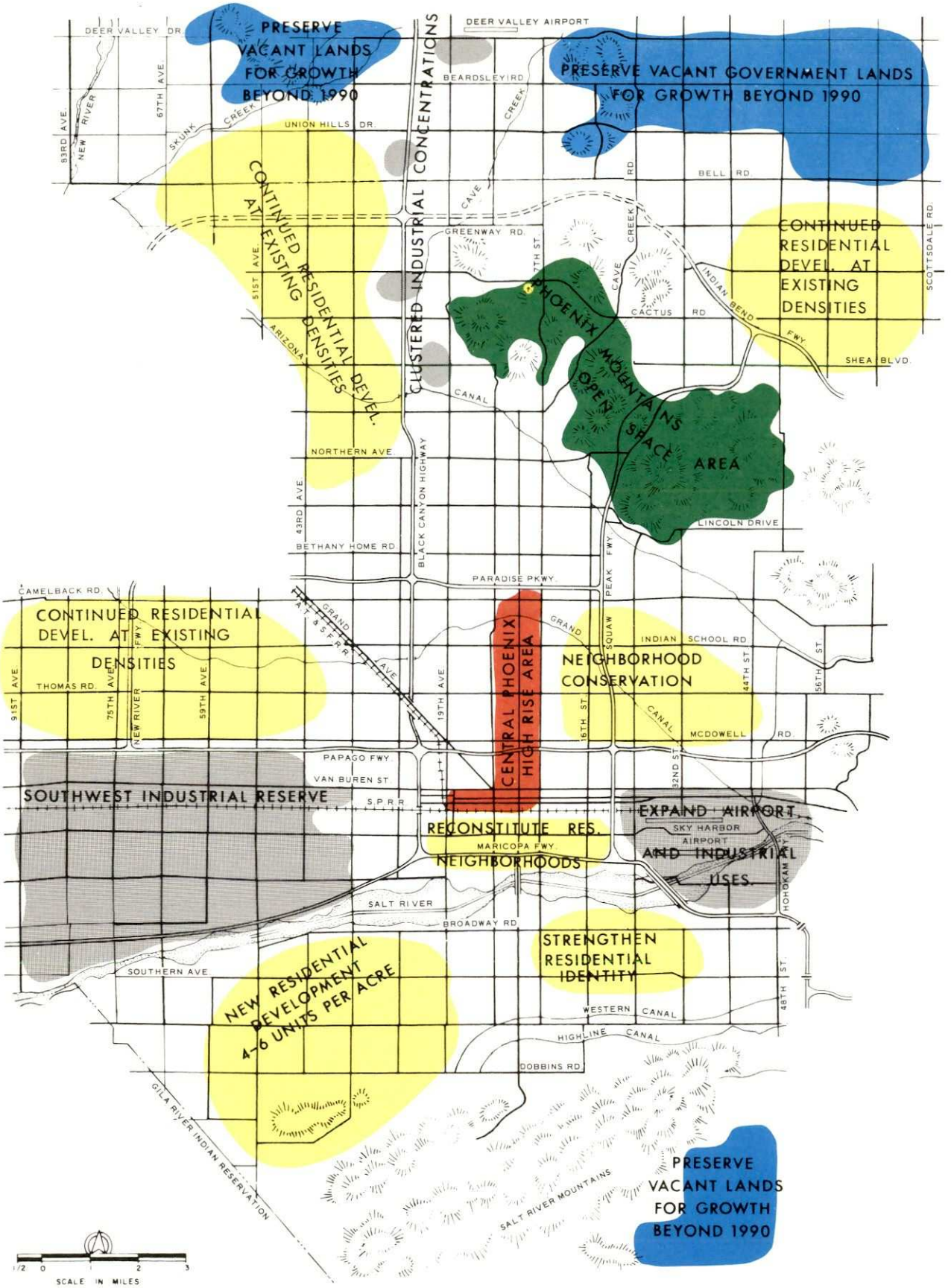



Figure 66

- High density residential, commercial,and office uses are anticipated in the Central City Corridor to be developed according to the Central Phoenix Plan.

- The open space characteristics of the Phoenix Mountains will be preserved through hillside development controls and land acquisition in accordance with a detailed land use plan for the area.

- Flood plain preservation is proposed in the Cave Creek and Indian Bend Washes to prevent flood damage and for needed open space. Continued industrial activity is proposed along Grand Avenue, with expanded specialized activities near Sky Harbor Airport and selected centers along the Black Canyon Freeway.

- Extractive industries and landfill operations will continue in the Salt River bed until the resources are depleted. Further plans, such as the recent Rio Salado project of the A.S.U. College of Architecture, will be needed to determine the future of the reclaimed riverbed.

- The Southwest Industrial Reserve is proposed as a land bank for future industrial use. Orderly transition from agricultural uses to industry will be encouraged.

# GROWTH GUIDELINES

General principles to guide the development of the plan will help to insure that future Phoenix will be an attractive place to live. Most of the principles discussed below refer to new development, but may be applied equally as well to the upgrading of the present environment.

## ORDERLY EXPANSION

The development of new lands in an orderly sequence aids efficiency and economy in planning, financing,and constructing public improvements. Adequate provision of space for public uses coupled with advance site acquisition will insure that these facilities are available when needed. City policy toward zoning requests, particularly as to timing, along with subdivision plat approval and the extension of utilities and services can prevent leapfrogging and land speculation. The cooperation of Maricopa County is needed to minimize the proliferation of scattered and unrelated urban uses and to encourage contiguous development and the filling in of bypassed areas.

## EFFICIENT AND FUNCTIONAL LAND USE RELATIONSHIPS

The continued spread of the city with dispersal of services and jobs is costly in terms of dollars, and wasted commuting time. Greater efficiency of land use will reduce land use conflicts and needless duplication of services. Higher residential densities in core areas increase the efficiency of use of core facilities and curtail duplication of some facilities in outlying areas. The reduction of commercial strip development and consolidation of shopping activities in planned centers can alleviate land use conflicts along major streets, consolidate utility needs, and release land for other public and private uses. Organized industrial areas are similarly more efficient with the added benefit of encouraging rational home to work travel patterns.

## ECONOMIC BALANCE OF LAND USE

Rarely do payments into city treasuries by new developments exactly match dispersals for public facilities and services to serve them. Residential areas generally require more in terms of public facility and service costs than they return through taxes.

New industry increases employment opportunities and it places no burden on schools and parks and pays taxes beyond the cost of services it requires.

New businesses increase a broader citizen choice while generally paying its own way, only that the total revenues received are sufficient to pay for public facilities and services. Land use relationships should be such that economic stability and an attractive environment are assured.

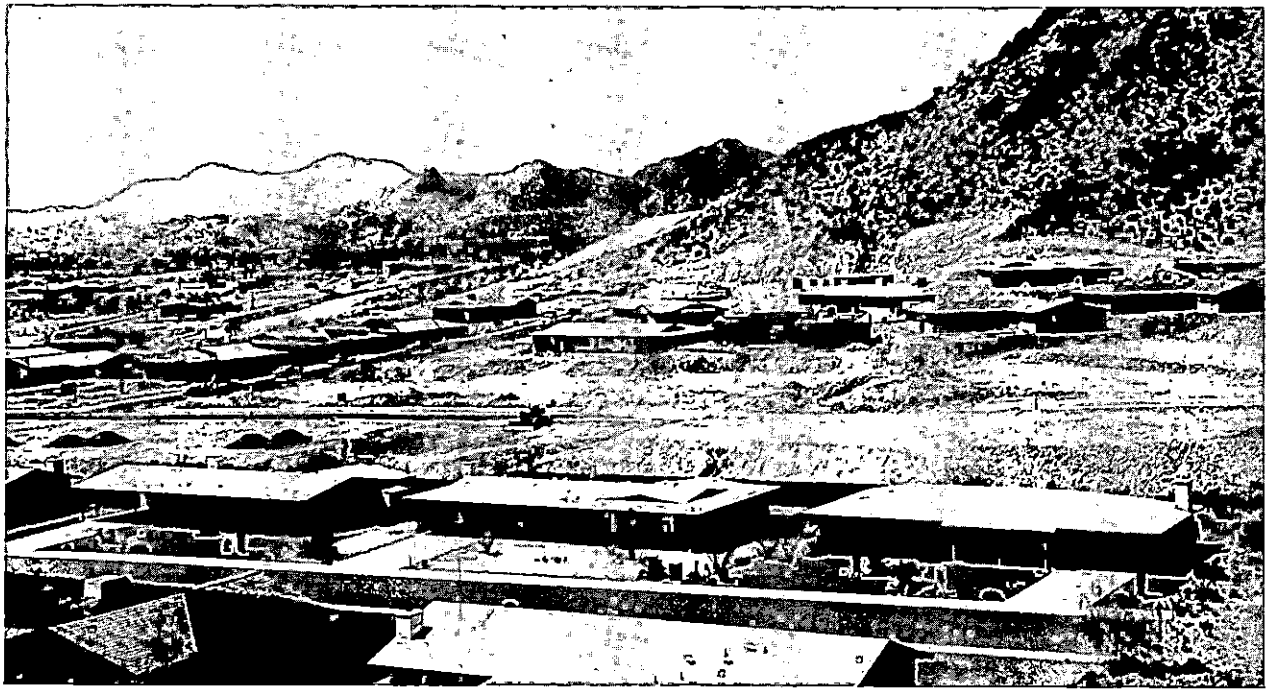
## VARIETY OF LIVING, WORKING AND SHOPPING ENVIRONMENTS

Phoenix has a wide variety of economic, social, cultural and family groups. These different types of people require different types of living, working, and shopping areas. Future planning must offer freedom of choice for all residents by providing a wide variety of environments.

## COMMUNITY APPEARANCE

Equally as important as economy, efficiency, and variety in a city is the attractiveness of the visual environment. Good design is not a deferrable extra and should be encouraged in all development. Causes of poor design should be identified and eliminated.

Development controls and incentives are important in creating attractive new residential areas. Cognizance of the special design requirements of mountain and wash areas will insure the preservation of their unique character.



Hillside development problems.

The unsightly trappings of modern technology such as utility lines and junk yards belong out of sight. Billboards, garish signs, and storefront clutter result from insensitivity to aesthetic values. These and other eyesores should be restricted and in many cases, removed.

Public projects can be examples of good design and functional efficiency. Improved street appearance will result from unified programs of building rehabilitation, curb and sidewalk installation, median island construction, and street tree planting. These approaches are, however, only the first step and to be truly effective should follow sound planning for adequate rights-of-way and to clean up land use conflicts on major streets.

Good housekeeping habits — neatness and cleanliness in the surroundings, will do much to improve community appearance. Removal of rubbish; cleaning of vacant lots; and maintenance of buildings, fences, and sidewalks should continue at all times.

## PRESERVATION OF NATURAL AND HISTORIC FEATURES

Phoenix is blessed with a mild climate and clear skies. The climate cannot be changed, but already the skies are sometimes murky. All activities which contribute to air pollution should be prohibited or cleaned up.

Open space is not just land awaiting development. Major open spaces lend character and amenity to the urban area and should be preserved to serve a multitude of recreational, flood control, and form giving functions.

Phoenix is rich in history dating from ancient Indian settlements. Preservation of a record of the past through the acquisition of historic buildings and sites is necessary, or development pressures will erase the very ties which lend significance to present day Phoenix.

# ACKNOWLEDGEMENTS

This report represents four years of work effort by the City of Phoenix Planning Commission and members of the Planning Department Staff. A special note of thanks must go to the many past and present Planning Commissioners who have given generously and freely of their time in study sessions, reviews, and official meetings during the production of this work.

Appreciation is also expressed to the City Manager's Office and the following city departments for their contributions and active support in developing this plan: Airports, Building and Housing Safety, Engineering, Fire, Law, LEAP, Library, Parks and Recreation, Sanitation, Traffic, Water and Sewer, and including the Advance Transportation Research Team, and the Elementary and High School Districts in the Phoenix Planning Area.

Those members of the Planning Department Staff who contributed to the development of the plan were: Berven M. Forde, Assistant Planning Director; V. Warner Leipprandt, Jr., Principal Planner; Don E. Patterson, Principal Planner; Eddie Peabody, Jr., Planner III; Theodore P. Brookhart, Planner III; Fredrick M. Colson, Planner III; Robert L. Johnson, Planner III; L. R. Forman, Planner III; Rudolph Pineda, Planner III; Francis C. Oswald, Planner III; Beverly E. Moodey, Jr., Planner II; Keith Kopischke, Planner II; Charles Martin, Illustrator; Byron Kanel, Illustrator; and Helen G. Pabst, Secretary.