PHOENIX CONCEPT PLAN 2000

A PROGRAM FOR PLANNING

City of Phoenix, Arizona

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RESOLUTION

NO. 15227

A RESOLUTION ADOPTING THE PHOENIX CONCEPT PLAN 2000.

WHEREAS, the Phoenix City Council directed the Planning Commission to undertake a study of alternative urban forms and their ramifications for application in Phoenix, and

WHEREAS, the Planning Commission proceeded with a seminar for community leaders and the appointment of over 200 citizens to the Urban Form Directions Committee, and

WHEREAS, the Urban Form Direction Committee has worked diligently studying the social, economic and environmental aspects of alternative urban forms, and

WHEREAS, the Urban Form Directions Committee has involved all segments of the community in its planning efforts and has gained broad support for its recommendations, and

WHEREAS, the central focus of the Phoenix Concept Plan 2000 — the urban village — represents a dramatic yet achievable advancement in guiding growth in Phoenix, and

WHEREAS, the plan is intended as a conceptual guide to development rather than a rigid map of the future, and

WHEREAS, the goals of the plan are statements of desired results toward which efforts are directed but are not commitments for full achievement, and

WHEREAS, the City of Phoenix will support appropriate agencies working toward achievement of those goals which are not within the city jurisdiction, legal authority, or policy limits, and

WHEREAS, the Phoenix Concept Plan 2000 is only the beginning of the development of a general plan for Phoenix and plans for each of the villages and areas identified in the plan, and

WHEREAS, the plans should be reviewed and updated every five years to adjust to the changing needs of the citizens of Phoenix,

NOW, THEREFORE, BE IT RESOLVED that the Phoenix City Council hereby adopts the Phoenix Concept Plan 2000 as contained in the attached text and map and identified by the signature of the Mayor, which text and map are by this reference incorporated herein and made a part hereof,

PASSED by the Council of the City of Phoenix this 31st day of July, 1979.

Margaret T. Hance
MAYOR

ATTEST:
Donna Gilbertson
City Clerk

APPROVED AS TO FORM:
J. Linda Stevens
City Attorney

REVIEWED BY:
Marvin A. Andrews
City Manager

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SUMMARY

The Phoenix Concept Plan 2000 defines only the conceptual intent for future land use in Phoenix and is not intended as an inflexible statement of allowable zoning districts in any area.

The unifying element of the 2000 Plan is the concept of urban villages containing a mix of housing types, a variety of jobs and shopping, recreation and education facilities. These villages would help satisfy the psychological need to belong to an identifiable community with a sense of control over its environment. An urban village will have a clearly identifiable core and boundary. Its core will contain the most intense land uses and will be the aesthetic and functional focal point of the village.

The 2000 Plan consists of four major parts:

Goals

Goals are the ultimate accomplishments toward which the city's actions should be directed. They deal with many aspects of city life including land use, transportation, housing, air and water quality, energy, life-styles, economic stability and government responsiveness.

Urban Village Map-2000

The map is a graphic representation of the urban village concept in Phoenix and is intended primarily to identify the areas to be planned by urban village planning committees.

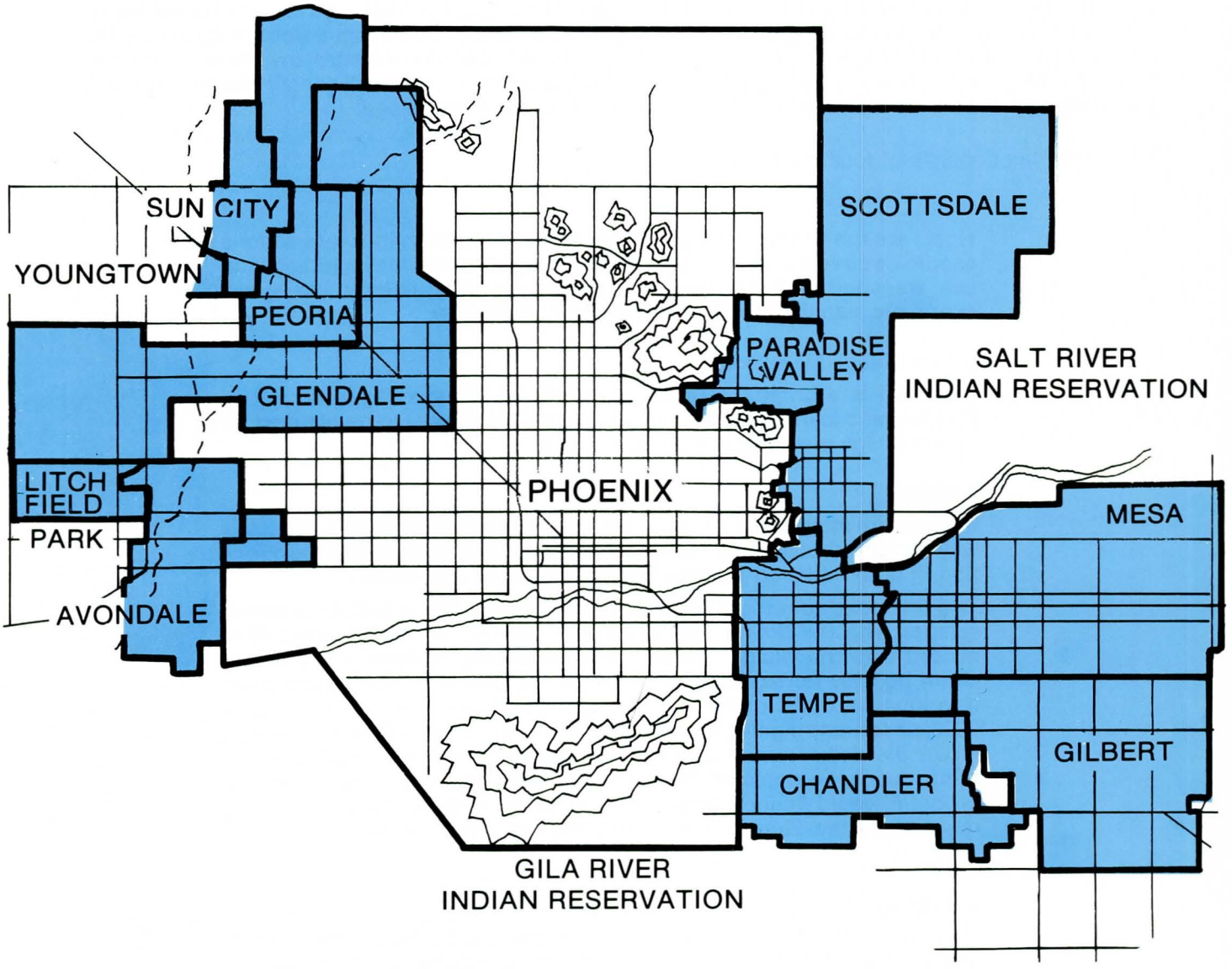
Policies

Policies are intended to provide guidance for making decisions about the way the city should grow through the year 2000. They will provide direction in both initiating programs and controlling proposals.

The first policy directs that growth be structured into a system of urban villages with the timing and location of new growth to be directed in accord with the village concept and the infilling of central city areas. Other policies for example, support the Rio Salado project, discourage development north of the Central Arizona Project until after the year 2000, encourage significant residential infilling in the central villages and direct the development of a planning and implementation program to bring about the goals of this plan. The planning and implementation program would include preparation of the nine general plan elements required by the State and the preparation of a plan for each village by 1985.

Charge to Urban Village Planning Committee

This part requires that village plans be prepared which work toward implementation of the 2000 Plan and include necessary land use and circulation elements.



PHOENIX PLANNING AREA AND SURROUNDING COMMUNITIES

INTRODUCTION

This document includes the four components of the "Phoenix Concept Plan 2000: A Program for Planning," and appendices outlining the basis for selection of the plan. The plan is intended to help public and private decision makers shape Phoenix into the city we want it to become by making the most efficient and equitable use of resources.

Even full adherence to the plan's map and policies will fail to fully achieve all of the goals of the plan. What is important is progress toward the goals which can be measured. After extensive analysis of alternatives, the Urban Village Map 2000 and the policies of the plan were selected because they provide the best compromise toward meeting all of the goals without overemphasizing some at the expense of others. The 2000 Plan which defines the conceptual intent for future land use in Phoenix is not the total comprehensive plan but is the first step toward the development of one. It is not intended as an inflexible statement of allowable zoning districts in any area.

The 2000 Plan also fits into the metropolitan context as its components are in accord with and support the **Guide for Regional Development,** adopted by the Maricopa Association of Governments on January 4, 1978.

Urban Village Concept

The Urban Village Concept is the unifying element of the plan and the best means for achieving its goals.

Within Phoenix, an urban village is an area that provides for a variety of the physical land use needs of its residents. It contains a mix of housing types; a variety of jobs; and shopping, recreation and education facilities. It helps satisfy the psychological need to belong to an identifiable community with a sense of control over its own environment. Urban villages will not all be the same. Some might be rural or suburban in character while others might be highly urban. Types and amounts of housing, jobs, office space, and stores will vary. While urban villages will provide for most of the needs of their residents, they will also be a part of metropolitan Phoenix and will not duplicate unique metropolitan serving activities such as the Civic Plaza or Arizona State University.

The urban village will have a clearly identifiable center (core) and boundary (periphery). Its core will contain the most intense land uses and will be the aesthetic and functional focal point of the village. Land use intensity will decline from the core to the periphery. The concept of urban villages is not contrary to existing land use patterns as elements of urban villages already exist in several areas of Phoenix, such as, the concentration of activity at Metrocenter. In newly developing areas growth could be structured to create new villages and in older areas development of skipped over parcels and redevelopment of underutilized land uses should be directed to create villages.

Phoenix Planning Area

This plan covers an area greater than the present area within Phoenix including 430 square miles. This includes all areas which the City Council has determined to be appropriate for annexation through the year 2000.

The Planning Program

The subtitle, "A Program for Planning," is intended to emphasize both the coordinative role of the 2000 Plan and the shift from thinking of the plan as unchanging to thinking of it as evolving and dynamic. The 2000 Plan is intended as a guide to making better decisions by the City Council, the Planning Commission and the public.

The 2000 Plan will serve as the guide for planning in Phoenix. It suggests that the city government should concern itself with decisions of city-wide importance and delegate responsibility for making decisions of less than city-wide importance. It does this by requiring the development of two sets of plans — (1) a General Plan including the following nine elements: Land Use, Circulation, Conservation, Housing, Recreation, Public Buildings, Neighborhood Rehabilitation and Redevelopment, Public Services and Facilities, and Safety, and (2) a Specific Plan for each urban village or planning area. These plans would be developed, progress toward them monitored, and appropriate amendments made on a continuing basis. The General Plan will be prepared in accord with Arizona Statutes and the Specific Plans for urban villages in accord with the Charge to Urban Village Planning Committees.

GOALS

The following are the long range goals of the City of Phoenix. They have been developed after arduous effort by the many citizens of Phoenix, the Planning Commission and the City Council. The word "goal" has been used in accord with the following definition:

> A goal is a statement of the end result or ultimate accomplishment toward which an effort is directed. It is used more as a call to action than a statement of expected full achievement.

Many of these goals cannot be fully achieved and working toward achievement of some may make it more difficult to achieve others. At the same time all goals are not of equal importance. These factors have been taken into account in the selection of the urban village map and the policies which follow. This map and policies represent the best compromise in achieving the goals. The goals as well as the plan and policies should form the basis for development of General Plan Elements and Urban Village Plans.

I. MAN-MADE ENVIRONMENT

A. Land Use

Develop a land use pattern which provides for the physical, social and economic needs of the citizens of Phoenix.

1. Develop and provide for the continued vitality of all areas of the city.
2. Assure that land use transitions occur with minimum adverse impact.

B. Transportation

Provide for system-wide accessibility and mobility and ensure that transportation and land use plans are complementary.

1. Develop a land use pattern that reduces the need to travel by shortening required travel distances.
2. Provide mobility by improving transportation facilities.
3. Develop an equitable transportation system providing accessibility to nonautomobile users.
4. Provide for safe, efficient and convenient movement and transfer of people and goods.
5. Minimize the adverse impacts of transportation system construction and operation on housing and businesses, parks, schools, historical and archaeological sites and on the aesthetics of adjacent areas.

C. Housing

Provide a sufficient choice of adequate housing in all parts of the city to meet the needs of all individuals.

1. Make available in a range of prices, for purchase or rent, a choice of housing — single-family detached, duplex, townhouse, patio home, garden apartment and mobile home — in all urban villages and, where appropriate, high-rise apartment.
2. Provide low and moderate income housing in all urban villages.
3. Reduce the minimum cost of new housing or decrease the rate of the increase to benefit the home owner or renter.

D. Aesthetics and Urban Design

1. Encourage a contemporary reflection of the heritage, culture and environment of the Southwest in all areas and particularly in public facilities.
2. Provide for the visual identity of various areas of the city.

E. Public Buildings, Services and Facilities

Provide for an optimum balance among service and accessibility to all residents, efficiency, safety and environmental quality in the location and operation of public buildings, services and facilities.

1. Maximize the level of service provided by public buildings, services and facilities to all residents.

2. Maximize accessibility for all residents to public buildings, services and facilities.

3. Maximize efficiency in public buildings, services and facilities.

4. Maximize safety in public buildings, services and facilities.

5. Maximize environmental quality in and around all existing and future public buildings, services and facilities.

F. History and Archaeology

1. Encourage the identification, preservation and restoration of historically and culturally important neighborhoods, sites and structures.

II. NATURAL ENVIRONMENT

Maximize the preservation and the enhancement of the natural environment and encourage the efficient management of scarce natural resources.

A. Air

1. Provide and maintain air quality compatible with health and well-being and with the prevention of damage to property, vegetation, and aesthetic values.

B. Water

Manage the quality and quantity of all water resources in a manner that enhances the quality of life.

1. Provide a safe and adequate domestic water supply to all citizens of Phoenix.

2. Manage the quality and quantity of groundwater resources.

3. Equitably manage urban and agricultural water needs.

4. Provide for multiple use of surface water with due consideration to groundwater quality.

5. Minimize the hazard and damage to life and property resulting from storm water runoff.

6. Provide for the multiple use of canals, floodplains and other waterways in the city.

C. Land

1. Preserve environmentally sensitive areas such as floodplains, wildlife habitats and steep slopes.

2. Preserve agricultural land uses.

3. Develop a land use pattern which responds to the geology and soil characteristics of Phoenix.

D. Energy

1. Minimize the use of nonrenewable energy resources through conservation and increased use of renewable resources.

E. Noise

1. Establish, foster, and maintain high standards for the control of noise pollution, ensuring a noise level that does not cause stress or health damage.

F. Wildlife and Vegetation

1. Enrich and perpetuate the life-style of the present and future citizens of Phoenix by enhancing and maintaining wildlife resources and habitats and by the protection of native and exotic vegetation in the community.

G. Climate

1. Minimize the urban dome effect which tends to reduce normal daily temperature variations.

III. SOCIAL FABRIC

A. Community/Neighborhood

1. Maximize the sense of community felt by urban village and neighborhood residents.

2. Develop physical and social focal points in urban villages and neighborhoods.

3. Create new and preserve existing neighborhoods that support the educational, physical and economic needs of their residents providing for security, leisure time activity, physical and mental health, and social interaction as well as privacy.

B. Life-Style

1. Maximize the opportunity for diversity and flexibility of activity and a choice of life-style.

C. Social Stability

1. Enhance the opportunity for an integration of socio-economic backgrounds.

2. Create an atmosphere in which different types of people interact naturally.

3. Foster community spirit, friendliness, physical and psychological well-being, and high community morale throughout the Phoenix metropolitan area.

D. Physical Security

1. Reinforce public and private capacity to insure physical security.

2. Make street crime less likely by developing urban village cores where employment, recreational, commercial and residential activities occur at a sufficient level of intensity to result in pedestrian activity throughout the day.

E. Recreation

1. Provide a wide range of opportunities for the enrichment of the life of each citizen and the stimulation of his unique talents.

2. Provide a park and recreation system adequate to meet the diverse leisure time needs for mental and physical refreshment of residents and visitors alike.

3. Design open space areas to provide relief from continuous urban development, areas for varied recreational needs, and preservation of some of the original character of the area.

4. Design local recreational facilities and open spaces, as an integral part of residential areas, near the center of neighborhoods with pedestrian access.

IV. ECONOMY

A. Stability

Maximize the stability of employment and income generation in Phoenix through diversification of employment opportunities.

1. Facilitate the continued growth of tourism through protecting the natural and man-made attractions which draw people to the valley.

2. Facilitate development of manufacturing enterprises by providing for a wide choice of sites, with good access to labor markets, suppliers and buyers.

3. Protect and encourage agricultural industries.

B. Taxes.

1. Minimize the local tax burden by providing public services and facilities in the most efficient manner possible.

2. Revise the local property tax system to encourage rather than penalize maintenance and rehabilitation of older units.

C. Employment

1. Provide opportunities for diversification of basic employment.

2. Create conditions conducive to attracting and retaining a labor force.

3. Revitalize business and industrial enterprises which provide meaningful employment opportunities to low income people and increase the tax base in low income areas.

D. Development Costs/Incentives

1. Encourage a partnership of the public and private sectors in providing for both development and redevelopment.

2. Emphasize the use of incentives over the use of restrictions to achieve appropriate development.

V. GOVERNMENT

A. Informed Constituency/Electoral and Non-Electoral Participation

1. Involve the public in all phases of the planning process and make them aware of the social, economic and environmental effects of different land use policies.

2. Establish community centers to help in informing the public of governmental activities.

B. Government Responsiveness

1. Create a city in which an individual's participation can have influence on the decisions that affect his or her life.

2. Ensure that property owners will be fairly compensated in the event that property or property rights are acquired in the public interest.

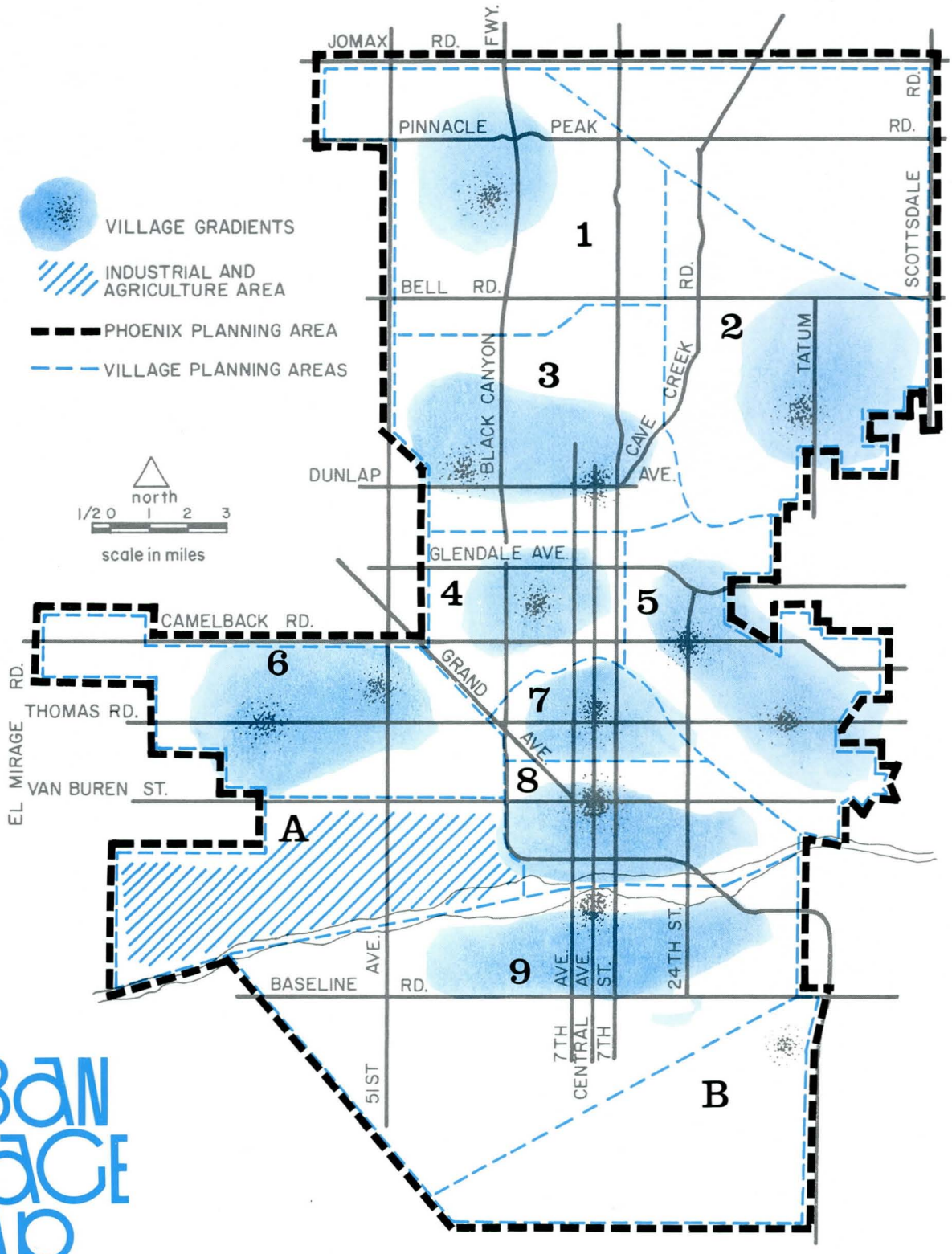
C. Scope of Activity and Involvement

1. Increase public sector involvement in large scale urban development activities in furtherance of urban form goals in projects beyond the capacity of the private sector due to difficulties in land acquisition, long-term financing or interjurisdictional coordination.

2. Encourage and facilitate private sector involvement in urban development activities in furtherance of urban form goals in relatively short-term, profit motivated projects.

3. Participate in area-wide water management and transportation planning.

4. Minimize the level of government intervention necessary to achieve urban form goals.



URBAN VILLAGE Map

Urban Village Map — 2000 is a graphic representation of the urban village concept in Phoenix. Village cores are shown by the most dense dot pattern in the central area of the village and village peripheries by the unshaded area between cores. Villages may have secondary cores providing services to less than the whole village. Some of these secondary cores are shown on the map.

The map is primarily to identify the area to be planned by urban village planning committees and references in the village population and employment control totals of Policy 2 following. The map does not show the exact location of peripheries. Exact locations of cores, gradients and peripheries will be identified by urban village planning committees.

POLICIES

The following policies will provide guidance for making decisions about the way the city should grow through the year 2000. They will provide direction in both initiating programs and controlling proposals.

1. Structure future growth into a system of urban villages characterized by:

   a. High intensity pedestrian oriented cores with a full mix of activities. The downtown core should be the largest and most intense core and provide unique city and metropolitan services. Primary cores in other urban villages should be of similar importance although their character and intensity may differ. Villages may also have secondary cores to facilitate the provision of services to portions of villages.

   b. Identifiable low intensity peripheries incorporating functional open space.

   c. Gradients providing a gradual transition between cores and peripheries.

   d. Similar village population size.

   e. High accessibility to and strong connection of village cores.

   f. The opportunity to live and work in the same village with the number of jobs approximately equal to the average proportion of the population employed except in the downtown village.

   g. A wide range of activities including employment, shopping, recreation and a mix of housing types in each village.

2. Structure the timing and location of future growth to achieve approximately the following distribution of population, employment and housing:

1980

Village or Area	Population	Total Employment	Percent Basic* Employment	Percent Service** Employment	Total Dwelling Units	Average Residential Density DU/A	Percent Dwelling Units by Density Category 0-1.7	1.7-5	5-15	15+
1	35,000	12,000	65	35	14,000	3	6	70	17	7
2	75,000	17,000	20	80	29,000	3	12	66	15	7
3	121,000	31,000	50	50	47,000	4	6	69	15	10
4	109,000	30,000	20	80	44,000	5	2	60	18	20
5	120,000	49,000	35	65	55,000	4	8	47	20	25
6	118,000	30,000	40	60	39,000	5	2	84	9	5
7	56,000	51,000	25	75	26,000	6	1	43	29	27
8	69,000	99,000	45	55	29,000	6	1	42	30	27
9	68,000	16,000	50	50	27,000	3	13	64	13	10
A	15,000	24,000	50	50	6,500	2	14	53	26	7
B	6,000	1,000	25	75	2,400	4	4	70	26	0
TOTAL	**792,000**	**360,000**	**40**	**60**	**318,900**	**4**	**6**	**60**	**18**	**16**

* Basic industries include agriculture, mining, construction, manufacturing, transportation, communication, utilities, and State and Federal government.

** Service industries include local government, public schools, retail and wholesale trade, finance, insurance, real estate and services.

1985

Village or Area	Population	Total Employment	Percent Basic* Employment	Percent Service** Employment	Total Dwelling Units	Average Residential Density DU/A	Percent Dwelling Units by Density Category 0-1.7	1.7-5	5-15	15+
1	50,000	18,000	60	40	20,000	4	5	63	22	10
2	84,000	23,000	30	70	34,000	3	11	62	18	9
3	123,000	33,000	50	50	50,000	4	6	67	16	11
4	110,000	31,000	20	80	46,000	5	2	59	19	20
5	123,000	52,000	35	65	57,000	4	8	47	20	25
6	121,000	35,000	40	60	42,000	5	2	80	11	7
7	66,000	52,000	30	70	32,000	7	1	38	30	31
8	72,000	99,000	45	55	32,000	7	1	39	30	30
9	73,000	19,000	50	50	30,000	3	12	60	15	13
A	17,000	26,000	50	50	8,000	2	11	50	28	11
B	9,000	2,000	35	65	4,000	4	3	61	28	8
TOTAL	**848,000**	**390,000**	**40**	**60**	**355,000**	**4**	**5**	**57**	**20**	**18**

1990

Village or Area	Population	Total Employment	Percent Basic* Employment	Percent Service** Employment	Total Dwelling Units	Average Residential Density DU/A	Percent Dwelling Units by Density Category 0-1.7	1.7-5	5-15	15+
1	62,000	27,000	50	50	27,000	4	4	58	25	13
2	94,000	30,000	35	65	39,000	3	10	59	20	11
3	125,000	35,000	50	50	53,000	4	5	65	17	13
4	111,000	32,000	20	80	47,000	5	2	58	19	21
5	126,000	56,000	35	65	60,000	4	7	47	21	25
6	123,000	41,000	40	60	46,000	5	2	75	13	10
7	79,000	53,000	30	70	38,000	8	1	35	30	34
8	78,000	100,000	45	55	37,000	8	1	37	30	32
9	81,000	22,000	50	50	35,000	3	10	56	18	16
A	20,000	30,000	50	50	10,000	3	9	46	30	15
B	13,000	4,000	35	65	6,000	5	2	52	32	14
Total	**912,000**	**430,000**	**40**	**60**	**398,000**	**4**	**5**	**54**	**22**	**19**

1995

Village or Area	Population	Total Employment	Percent Basic* Employment	Percent Service** Employment	Total Dwelling Units	Average Residential Density DU/A	Percent Dwelling Units by Density Category 0-1.7	1.7-5	5-15	15+
1	78,000	36,000	45	55	33,000	5	3	53	27	17
2	105,000	41,000	40	60	44,000	4	8	56	22	14
3	128,000	37,000	50	50	55,000	4	5	63	18	14
4	112,000	33,000	20	80	48,000	5	2	57	20	21
5	130,000	61,000	35	65	62,000	4	7	46	21	26
6	125,000	50,000	40	60	50,000	5	1	69	16	14
7	91,000	55,000	30	70	43,000	9	1	31	32	36
8	85,000	100,000	45	55	40,000	8	1	34	31	34
9	97,000	35,000	40	60	42,000	4	8	52	21	19
A	26,000	36,000	45	55	12,000	3	7	42	31	20
B	20,000	6,000	40	60	8,000	6	2	44	34	20
TOTAL	**997,000**	**490,000**	**40**	**60**	**436,000**	**5**	**4**	**52**	**23**	**21**

* Basic industries include agriculture, mining, construction, manufacturing, transportation, communication, utilities, and State and Federal government.

** Service industries include local government, public schools, retail and wholesale trade, finance, insurance, real estate and services.

2000

Village or Area	Population	Total Employment	Percent Basic* Employment	Percent Service** Employment	Total Dwelling Units	Average Residential Density DU/A	Percent Dwelling Units by Density Category 0-1.7	1.7-5	5-15	15+
1	95,000	47,000	40	60	40,000	5	3	49	29	19
2	116,000	56,000	50	50	49,000	4	8	52	24	16
3	130,000	39,000	50	50	58,000	4	5	61	19	15
4	112,000	34,000	25	75	49,000	5	2	57	20	22
5	132,000	67,000	35	65	64,000	4	7	45	22	26
6	128,000	60,000	40	60	57,000	6	1	62	18	19
7	103,000	57,000	30	70	48,000	9	1	29	33	37
8	93,000	100,000	45	55	43,000	8	1	32	31	36
9	121,000	56,000	40	60	52,000	4	7	48	24	21
A	32,000	43,000	45	55	15,000	4	6	38	33	23
B	31,000	10,000	40	60	11,000	6	1	38	36	25
TOTAL	**1,093,000**	**569,000**	**40**	**60**	**486,000**	**5**	**4**	**49**	**24**	**23**

3. As a priority high-rise buildings should be concentrated in downtown and midtown before consideration of high-rise in other areas.

4. Promote the development of Rio Salado for multiple uses.

5. Emphasize suitable use of canals, Cave Creek Wash north of the Arizona Canal and the Indian Bend Wash.

6. a. Encourage significant increases in new residential development in the central villages.

   b. Encourage moderate increases in new residential development in villages other than the central village.

7. Reserve the southwestern portion of the city north of the Rio Salado for agricultural uses and for industries with low employment densities and extensive land area requirements.

8. Development north of the CAP aqueduct should generally be discouraged before the year 2000, but all development plans for that area should be reviewed on a case by case basis.

9. Encourage most new employment to locate in village cores.

10. Discourage noncontiguous development adjacent to agricultural areas to prevent the loss of agricultural land.

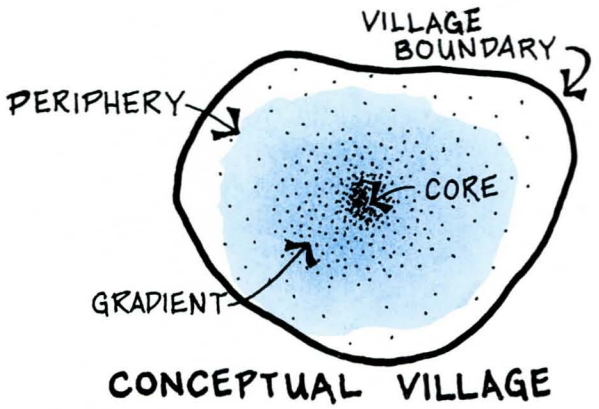
11. Develop a planning and implementation program with a strong citizen participation component to bring about the goals of this plan. This program should include the following accomplishments by 1985.

    a. Preparation of the nine General Plan Elements required by the State. Preparation of the Land Use and Circulation Elements should begin immediately. The circulation element should include a long-range transit plan.

    b. Appointment of a village planning committee and preparation of a plan and implementation program for each village.

12. Reevaluate and update the goals, policies and recommendations of adopted plans every five years to meet the changing needs of Phoenix.

CHARGE TO VILLAGE AND AREA PLANNING COMMITTEES



CONCEPTUAL VILLAGE

To work toward implementation of the Phoenix Concept Plan-2000 in all areas of the city, village and area planning committees shall be appointed and shall refine the city plan in accordance with the goals of their village or area and the following guidelines:

1. Village and area plans shall define actions working toward the goals and policies of the Phoenix Concept Plan-2000.

2. The components of village and area plans shall be as follows:

   a. A 25-year concept plan including:

      (1) Goals and policies.

      (2) A map indicating village cores where appropriate and the general distribution of land use intensity throughout the village or area.

      (3) Components of the city-wide concept plan relating to the village or area.

   b. A detailed plan with five-year staging including:

      (1) Land use maps showing existing development and for the first five-year plan future land uses and intensities in sufficient detail to serve as a basis for making zoning decisions. Subsequent five-year plans would show future land uses in increasingly less detail.

      (2) Employment and population distribution to traffic analysis zones. Total population will be broken into age groups and employment into appropriate categories.

      (3) Land use policies and standards.

      (4) Quantifiable objectives and an implementation program for the first five-year period.

      (5) Transportation policies and standards.

      (6) Components of the city-wide land use and circulation elements relating to the village or area.

      (7) Location of collector streets.

      (8) Transit service.

3. Each village plan shall work toward the development of an ideal urban village containing three elements — core, gradient and periphery.

   Core. The core should be the clearly identifiable central focus for the village and contain a mix of the village's most intense land uses. Employment, commercial, cultural and high-density residential uses should be concentrated there. A pedestrian environment should be emphasized.

   Periphery. The periphery is the outer boundary of the village and contains the village's least intense land uses — low-density residential neighborhoods, agricultural lands and open space. Even where more intense uses exist or are appropriate in a periphery, the average intensity of the periphery should be the area of least intensity between village cores.

   Gradient. The gradient is the area of progressively decreasing land use intensity between the core and the periphery. The gradient contains some concentrations of land use intensity in subcores providing services to portions of a village.

Within the framework of the core, gradient and periphery, each village should offer unique features building upon existing conditions. As each village evolves it should acquire a more distinct and more recognizable identity and character based on the activities, life-styles and attitudes of its residents, creating a pride and enthusiasm of each resident in his or her community.

APPENDICES

A. HISTORY OF URBAN FORM DIRECTIONS

In January, 1974, Mayor Timothy A. Barrow and the City Council charged the Phoenix Planning Commission with the responsibility of presenting them with alternative urban form plans and their implications. The Commission's first step was to hold a seminar in Carefree to discuss urban form.

Next, the Commission appointed over 200 citizens to eight Urban Form Directions committees. During Phase I of the program each committee studied a single topic — Land Use, Transportation, Conservation, Recreation, Public Buildings, Services and Facilities, Housing, Health and Safety, and Neighborhood Rehabilitation and Redevelopment — similar to each one of the elements of a general plan required by Arizona law.

Beginning with a general meeting on April 2, 1975, the committees, or their subcommittees, met weekly until they finished on October 1. While many detailed proposals were developed, the work of the committees focused on one subject — the urban village concept.

After consideration of the reports of the eight committees, the Planning Commission recommended that the City Council adopt the urban village concept described in the introduction to the plan and many of the other Phase I recommendations. The Council found the urban village concept to have merit but wanted more study of its implications. They authorized Phase II of the study reforming the Urban Form Directions Committee and the allocation of Planning Department staff to assist them. To direct Phase II the Planning Commission appointed a Steering Committee composed of the chairmen of the eight Phase I committees, the vice chairman of the Planning Commission and Joe Lort,a member of the Land Use Committee instrumental in the development of the urban village concept. Phase II began in earnest in June of 1976 when the Urban Form Directions Steering Committee began meeting weekly. Over the first few months the committee worked on refining the goals developed by the eight committees during Phase I. These goals were also reviewed by the Phoenix Planning Commission and City Council.

In September of 1977 the Planning Commission appointed representatives from four of the area planning committees to the Steering committee to ensure coordination of the activities of these groups.

The Steering Committee then concentrated its efforts on developing alternative urban village sketch plans. A trends plan showing what Phoenix might look like assuming no change in current land use controls was also prepared.

After the sketch plans were developed, the Steering Committee appointed four subcommittees from the Urban Form Directions Committee to determine the relative benefits or costs which would result from adoption of each of the alternatives. These subcommittees worked for over a year before completing their final reports which provided the basis for the Steering Committee's recommendation of the 2000 Plan. This recommendation was refined during a series of public workshops and meetings in February and March, 1979 and forwarded to the Phoenix Planning Commission. The Planning Commission held two public hearings on the plan in April and the City Council held one hearing in May. The Phoenix Concept Plan 2000 was then adopted by City Council resolution on July 31, 1979.

B. DEVELOPMENT OF GOALS

The goals included in the 2000 Plan are as the definition in the Plan states, "a call to action," but they also formed the basis for evaluating plan alternatives and thus for selection of the 2000 Plan map and policies.

To assist in combining and refining the goals of the eight committees of Urban Form Directions Phase I, the Steering Committee and Planning Department staff compiled three lists in a common format: (1) Urban Form Directions goals from Phase I Urban Form Directions Committee Reports; (2) adopted city goals from the Comprehensive Plan — 1990, Central Phoenix Plan, area plans and other adopted plans, and (3) Phoenix land use problems from Phase I Urban Form Directions Committee Reports and the work of a Phase II subcommittee convened for the purpose. These lists were used by the Steering Committee to identify overlaps and inconsistencies in the Phase I goals and to determine if significant problems or adopted goals were not considered in the Phase I goals.

The Steering Committee approved a preliminary list of goals for use in Phase II in December 1976. These were discussed with the Planning Commission in January 1977 and the City Council in February. The Commission and Council accepted them as appropriate for further work in Urban Form Directions.

In early 1977 the Urban Form Directions Committee and all the area planning committees completed a questionnaire to assist the Steering Committee in determining the relative importance of the goals. A survey of community attitudes was also made in late 1977 and 1978. The results of this survey generally supported the goals of Urban Form Directions and the Steering Committee's ranking of their relative importance.

C. DEVELOPMENT OF SKETCH PLANS

Work on sketch plans began with the identification of positions in the community on significant land use issues such as the strength of downtown Phoenix, types of dwelling units and sizes of residential lots, preservation of agricultural land, and development north of the Central Arizona Project Canal. Eventually 50 different positions on land use issues were identified. Definitions of these are included in Appendix F.

Sets of alternative positions on the issues were selected using the Sketch Plan Matrix included in Appendix E to identify the characteristics of 22 different land use alternatives or sketch plans which would be possible and logically consistent. A rough map of each of these sketch plans was prepared and initially the following three were selected for additional study.

a. Sketch Plan 1 showing a projection of development to the year 2000 under current trends.

b. Sketch Plan 7 showing an urban village plan with much lower residential densities than Sketch Plan 1.

c. Sketch Plan 15 showing the other end of the density spectrum from Sketch Plan 7 with significantly higher residential densities than trends. To match employment and residential uses in Central Phoenix very substantial redevelopment would have been required under this sketch plan and it was eventually dropped in favor of Sketch Plan 18 after initial work had been done on the latter plan. These and later plans were developed using the following steps:

1. Designation of land to be withheld from development including steep slopes, floodways and large public parks and airports. Sketch plans with characteristics of "retention of agricultural land" or "no development north of the Central Arizona Project" would also designate these areas as withheld;

2. Location of urban village cores and boundaries based on natural and man-made features, areas of existing high intensity uses and policy considerations;

3. Determination of residential densities and mix of housing types in the city as a whole and in each village;

4. Determination of employment distribution and the proportion of basic and service employment in each village;

5. Determination of land area requirements for land withheld from development, and residential and employment activities,

6. Preparation of sketch plan map.

After preliminary analysis of Plans 1, 7 and 15, the Steering Committee and Planning Department staff prepared a fourth alternative, Sketch Plan 18 using the Committee's concensus selection of characteristics, core locations, village boundaries and an attempt at achieving the highest possible residential density in Phoenix assuming little redevelopment.

After substantial analysis and refinement of plans 1, 7 and 18 it was determined that the implementation measures required by Sketch Plan 18 — in particular the substantial proportion of high rise residential buildings which would have to be built — were unacceptable in Phoenix. It was decided to develop a new sketch plan using the same villages as 18 and similar characteristics but with more moderate increases in residential densities. The new plan was designated as number 16. All four plans were developed for each five-year period between 1980 and 2000. The following is a brief description of the four plans:

1. Sketch Plan 1. This alternative represents a projection of land use development trends assuming no change in land use controls between now and the year 2000. Average residential densities would increase moderately from 3.9 to 4.3 dwelling units per acre. Employment would increase significantly in Central Phoenix, but population would remain relatively unchanged there. Residential development would extend north of the Central Arizona Project Aqueduct in Paradise Valley but much of the southwestern portion of the planning area would remain in agricultural use.

2. Sketch Plan 7. This plan assumes government management of the location of urban development to create a city composed of 22 relatively equal urban villages by the year 2000. Average residential density would decrease moderately between 1980 and 2000 from 3.9 to 3.3 dwelling units per acre and most present agricultural and vacant lands in the planning area would be developed. Substantially more development is proposed in south and southwest Phoenix than is projected by trends. Central Phoenix would have only slight population and employment growth.

3. Sketch Plan 16. This plan assumes government management of the location of urban development to create a city composed of eight urban villages. Average residential density would increase somewhat faster than trends to 5.0 dwelling units per acre, and growth in new areas would be more balanced between the northern and southern portions of the city. Substantial new residential growth would occur in the center of the city to bring population and employment into a closer balance. More agricultural and vacant land would remain than in trends.

   The southwestern portion of the city north of the Salt River would be reserved for agricultural and low density industrial uses with little new residential development.

4. Sketch Plan 18. This plan assumes government management of the location of urban development to create a city composed of eight urban villages. Average residential density would increase much faster than trends to 6.0 dwelling units per acre with the construction of large number of high-rise apartment buildings in central Phoenix and greater apartment construction in other areas.

The following table shows the significant differences among the sketch plans in agricultural, vacant and residential land areas in the year 2000 but the relatively insignificant differences in other categories. Summaries of year 2000 data by village or planning area is included in Appendix G.

Year 2000 Land Use Areas By Sketch Plan
(Acres in Phoenix Planning Area)

Land Use Category	Sketch Plan 1	7	16	18
Agriculture	29,100	23,800	38,100	39,100
Vacant Developable	52,500	23,300	57,600	69,300
Land Withheld from Development	49,100	49,100	49,100	49,100
Residential	104,400	136,400	91,900	79,700
Basic Employment	16,200	17,000	14,300	13,500
Service Employment	24,100	25,800	24,500	24,600
Total	275,400	275,400	275,400	275,400

D. EVALUATION OF SKETCH PLANS

The evaluation of alternative plans formed the basis for the Urban Form Directions Steering Committee's recommendation of the 2000 Plan map and policies. The process selected for this evaluation uses a Goals - Achievement Matrix to organize the comparison of the disparate factors indicating whether one plan is better than another. After selection of goals, use of the matrix begins with the identification of objectives to permit either qualitative or quantitative measurement of an alternative's achievement of a goal. The results of the measurements are then transformed into a common unit or "normalized" so the results of several measures can be summed.

In September 1977 the Urban Form Directions Steering Committee appointed the following four subcommittees to begin evaluation of the sketch plans:

1. Cost/Revenue
2. Man-Made Environment and Social Fabric
3. Transportation
4. Natural Environment

The charge to each subcommittee included those goals which the Steering Committee found appropriate for study. The subcommittees were also asked to review other goals to determine if these goals had implications in their subject area.

After initial work on refining the goals assigned to them, the subcommittees identified measurable objectives for as many of the goals as possible. At the conclusion of their work only 24 of the goals were found to be measurable with the information available for the sketch plans. The measurement techniques used by each subcommittee differed substantially as is discussed below. A report by each subcommittee explaining these techniques is also available.

Cost/Revenue Subcommittee

This subcommittee's work centered on the fiscal impact of each of the four sketch plans on City of Phoenix and school budgets. To assist the subcommittee the consulting firm of Tischler, Marcou and Associates (TMA) was hired. For the fiscal analysis city-wide projections of population, housing units, and basic and service employment under each sketch plan were broken down by sector or "tier" within the Phoenix Planning Area. This enables TMA to differentiate costs by area of the city where costs might differ substantially. For example, land costs downtown greatly exceed those south of the Salt River, affecting the cost of all land-using public facilities located in one area or the other. These tier areas are defined as follows:

a. Tier I — central Phoenix

b. Tier II — most of the remaining development

c. Tier IIIA — predominantly undeveloped areas in the northern part of the city; and

d. Tier IIIB — predominantly undeveloped areas in the southern and western parts of the city.

Cumulative Fiscal Impacts

The evaluation of four alternative sketch plans for the Phoenix Planning Area shows that the net fiscal impact of the highest density plan, Sketch Plan 18, is better over the 1980 to 2000 time frame than the other alternatives. (See the following table). For the City of Phoenix, the net fiscal surplus generated totals of $105.5 million, while the totals for Sketch Plan 16 and Sketch Plan 7, the other "urban village" options are $54.3 million and $46.1 million respectively. Sketch Plan 1, the "trends" alternative, generates a fiscal deficit of $20.5 million over the 20-year planning period.

The cumulative fiscal impacts noted above also indicate that no plan appears likely to generate major revenue surpluses, relative to the total Phoenix budget, or to foreseeable needs of the current population. Revenue growth, accounting for all the predictable sources, is fairly evenly matched with cost increases projected in this analysis.

Results for the Phoenix area school districts, aggregated here into seven hypothetical districts, are more mixed, and are not easily summarized. Primary factors affecting the surpluses and deficits projected include current tax rates and State aid levels; and new property values projected, relative to the number of new pupils.

Summary of Cumulative Fiscal Results (1980-2000)
By Major Budget Category
City of Phoenix
(1979 Dollars in 000's)

1980-2000 Cumulative Costs/Revenues

Budget Category	Sketch Plan 1	Sketch Plan 7	Sketch Plan 16	Sketch Plan 18
General Government	$ 100,745	$ 100,811	$ 100,763	$ 100,660
Criminal Justice	249,824	249,754	248,792	248,384
Public Safety	107,910	115,845	97,210	106,796
Transportation/Streets	91,762	88,762	68,670	84,606
Transportation/Storm Sewers	97,487	84,445	64,710	50,302
Transportation/Buses	82,483	78,693	82,483	82,483
Transportation/Guideway	30,028	—	30,028	30,028
Sanitation/Refuse	102,693	102,330	103,339	73,171
Sanitation/Sanitary Sewers	52,692	50,497	44,150	44,064
Community Enrichment	159,339	155,502	152,196	132,918
Water System[1]	239,561	239,561	239,561	239,561
Housing and Urban Redevelopment	3,677	3,679	3,677	3,674
Human Resources	16,820	16,830	16,823	16,805
Subtotal	$1,335,021	$1,286,709	$1,252,403	$1,213,451
General City Revenue	682,353	688,210	679,981	681,632
City Property Taxes	392,596	410,038	387,130	397,775
Water System Revenue[1]	239,561	239,561	239,561	239,561
Subtotal	$1,314,510	$1,332,809	$1,306,672	$1,318,969
Surplus or Deficit	$-20,511	$46,100	$54,269	$105,517

Note: Totals may not add, due to rounding.

[1] Revenues assumed to equal costs, shown here as an average of the four sketch plans. The rationale for these assumptions is discussed in the text.

Source: MUNIES Computer Output, January 1979.

No single sketch plan is best for schools in all areas of the city, if results are measured by the level of surplus or deficit generated. Sketch Plan 18 produces the highest surpluses in Tiers I and II, due to high property value added and low pupil generation. Sketch Plan 7 is best in Tier IIIA, due to its high property value added per pupil added, which in turn reflects relatively high employment growth projected for the tier. Sketch Plan 7 also generates the highest surplus for Tier IIIB elementary schools for similar reasons, although Sketch Plan 18 produces slightly better results for high schools. The latter effect is due to the combined impacts of pupil population levels, property values projected and current tax rates. These fiscal results, however, merely reflect the fact that Sketch Plans 7 and 18 are extremes of the spectrum. It appears likely that, overall, Sketch Plan 16 might prove more beneficial to more school districts than any of the alternative plans. Sketch Plan 16, which generates the most even distribution of new pupils and new property values, would probably help to reverse declines in the inner city districts and moderate the strain of new growth in the developing areas.

Bonded Debt — Year 2000

Another measure of cumulative fiscal results, the level of outstanding debt in the Year 2000, shows that Sketch Plan 7 and 16 would leave the City and local schools least burdened by bonded debt. Sketch Plan 7 has the lowest outstanding City debt in the Year 2000, primarily due to the absence of any guideway transit costs. However, this plan also has the highest school debt as a result of high pupil generation, concentrated in undeveloped areas of Phoenix. Sketch Plan 16 is second best for both the City and public schools due to efficient use of existing facilities, but the cost of guideway transit masks other savings.

Relative Rankings

The following table exhibits the relative rankings among sketch plan alternatives for the City of Phoenix cumulative fiscal results and the Year 2000 bonded debt.

SUMMARY RELATIVE RANKINGS
CITY OF PHOENIX
CUMULATIVE FISCAL RESULTS 1980-2000
AND YEAR 2000 BONDED DEBT

	SKETCH PLAN 1	SKETCH PLAN 7	SKETCH PLAN 16	SKETCH PLAN 18
Cumulative Fiscal Results	.89	.94	.95	1.00
Year 2000 Bonded Debt	.59	1.00	.69	.59

With regard to these combined City rankings, higher-density, urban-village-centered concepts appear to be most beneficial. However, **all** alternatives, including Sketch Plan 1 might be within the realm of feasibility. This latter conclusion should be stressed. **No alternative is so outstandingly positive or negative as to merit selection or disqualification on fiscal grounds alone.**

Impacts on schools are even more favorable toward Sketch Plan 18 than the City rankings. This result is due to the assumption that with a high-density housing pattern being promoted by the City, families with children would likely locate in nearby communities rather than Phoenix. There is, thus, an implied upward bias in the age-profile of the population if Sketch Plan 18 is implemented, resulting in modest numbers of new pupils and relatively substantial increases in taxable property values — highly favorable conditions for the schools.

Among the other sketch plans, the overall results of Sketch Plan 16 appear best in Tiers I, IIIA, and IIIB. (Tier I is included here, because surpluses produced by falling enrollment, as is the case with Sketch Plan 1 for Tier I, are not considered a "favorable" outcome for the standpoint of school systems' quality and visibility.) Within Tier II, Sketch Plan 16 emphasizes low-density housing, which implies higher number of pupils, relative to the tax base added. Still, this sketch plan should produce fairly limited difficulty, if any, for the school districts in the tier.

Key Cost/Revenue Factors

Examination of the detailed outputs of calculated costs and revenues indicates that several elements are critical to the results for the City of Phoenix, as discussed above: Public Safety costs, Transportation, Sanitation, and Community Enrichment. In addition, Water System costs could have major impacts on the consumer, if not directly on the City's fiscal position, although the type and magnitude of such possible impacts is still under study.

With Public Safety programs, principally the Fire Department, capital facility requirements are critical, with compact development easier to serve, up to a point, than low-density areas. Capital costs for new facilities range from $4.9 million under Sketch Plan 16 to $8.1 million under Sketch Plan 7. The level and timing of these costs are the main factors affecting cumulative Public Safety costs.

Several factors influence total Transportation program costs, including costs for major streets and storm sewer construction, costs for guideway construction, and costs for street maintenance, lighting, and traffic control. For street and storm sewer cost, Sketch Plan 16 fares best, while Sketch Plan 7 has the lowest overall capital cost for transportation. However, operating costs for transportation programs result in Sketch Plan 7 having higher total costs than Sketch Plan 16. This is due to the huge number of local and collector street miles required by the low density urban village concept embodied in Sketch Plan 7, relative to plans 16 or 18.

Sanitation costs differ widely between Sketch Plan 18 and the other alternatives, because the City is assumed to require private contracts for refuse collection at all high-rise buildings. Given the predominance of this housing type in Sketch Plan 18, the **City** cost (not considering private cost) is understandable.

A second reason for differences among Sanitation program costs is the level of sanitary sewer capital costs required by each plan. These costs range from $15.5 million under Sketch Plan 18 to $23.5 million under Sketch Plan 1. These costs, determined by the Water and Sewer Department, result in substantially different levels of debt service among the alternatives.

Differences among the alternatives for Community Enrichment costs reflect assumptions about land availability for parks under each plan. Due to the limited availability of suitable park sites in central Phoenix, new park facilities in Tier I were assumed to be severely limited. In Sketch Plan 16 and particularly Sketch Plan 18, increased population in Tier I simply results in a higher level of unmet demand for park and recreation facilities. Therefore, as with Refuse, a higher City budget surplus is obtained by reducing the proportion of the population receiving some types of public services.

As noted above, Water System costs were identified as a potentially significant area of difference between sketch plans. However, because water demand, and the means for making up any temporary shortfall of supply, cannot be determined at present, water system costs were estimated and averaged for the four plans in order to avoid unduly biasing the results. Instead, the Water and Sewers Department, as a result of discussions regarding this fiscal analysis, has undertaken a study of long-range water demand, as well as the sources, quality and costs of water supply. With this information, the department can plan to assure a safe and adequate water supply for Phoenix' future, at the most reasonable overall cost.

Cost/Revenue Subcommittee Conclusions

The results of the computerized Fiscal Impact Analysis proved to be beneficial in assessing the relative public costs and revenues associated with each sketch plan alternative. While Sketch Plan 7 achieved the highest score for the cost/revenue goal, followed by Sketch Plan 16, 18, and 1 respectively, it is essential to note that the actual fiscal difference between the two extreme scores when taken on an annual basis is relatively insignificant. **The Subcommittee, therefore, did not wish to recommend any one sketch plan alternative.**

The Subcommittee, however, noted that the Fiscal Impact Analysis study results indicate that some form of managed growth in line with the village concept appears to be fiscally beneficial although not overwhelmingly so.

A number of cost/revenue issues were not able to be objectively measured and were not reflected in the Fiscal Impact Analysis or the Goals-Achievement Matrix. These issues concern the implementation costs of keeping desired parcels of land out of production and redevelopment activities in the older areas of Phoenix.

The difficulty in assigning a cost to public land acquisition is that there are a range of monetary and nonmonetary techniques which could be utilized. Monetary techniques might include outright land purchases, such as the Phoenix Mountains Preserve, or land banking activities. Nonmonetary implementation techniques include variations in current zoning, such as down-zoning. Since many of the possible implementation tools have not been previously tested in Phoenix, accurate measurement and the relative effectiveness of these techniques is difficult to assess.

In assessing redevelopment activities, the degree of public and private involvement must be determined. Due to the currently limited extent of public redevelopment in Phoenix, which is primarily federally funded, the maximum level of public redevelopment activities in years to come is difficult to determine. Also, while the City of Phoenix may encourage private redevelopment activity through tax incentive techniques, the extent of private participation cannot be accurately measured.

In light of these implementation concerns, the Subcommittee concurs with the subjective evaluation of these issues made by the Man-Made Environment/Social Fabric Subcommittee. Their evaluation resulted in Sketch Plan 1 being the least difficult plan to implement followed by Sketch Plan 7, 16, and 18, respectively. The Cost/Revenue Subcommittee feels that substantially greater implementation costs would be incurred in Sketch Plan 18 than would be in Sketch Plan 7 or 16.

Man-Made Environment and Social Fabric Subcommittee

This subcommittee dealt with the most qualitative aspects of evaluation process and eventually found only seven of the fourteen goals it originally considered measurable. The goals it dealt with, however, included some of those central to the urban village concept.

Sense of Community

The most important of the subcommittee's goals, "Maximize the sense of community felt by urban village and neighborhood residents," was evaluated with three measures:

1. The proportion of miles of natural and man-made features as village or planning area boundaries. Using this measure the following scores resulted — Sketch Plan 1 — 93%, Plan 7 — 86%, Plan 16 — 91%, Plan 18 — 91%. The area plan boundaries in Sketch Plan 1 had more flexibility in following natural boundaries as the goal of equal village population used in the other plans was not part of the trends plan. The subcommittee felt that identifiable boundaries would help to reinforce sense of community.

2. The deviation of village areas from the metropolitan employment participation rate. This measure is based on the assumption that people living and working in the same villages will have a greater sense of community. The high residential densities in Sketch Plan 18 permitted a dramatically better match of employment and residential opportunities with only 3600 people in the year 2000 not having the opportunity to live and work in the same village as compared to 7900 in Sketch Plan 16, 14,800 in 7 and 67,800 in Sketch Plan 1.

3. The deviation of each village area from an ideal mix of housing types. The Subcommittee subjectively selected the following mix of residential density ranges as providing the best opportunity for choice of appropriate housing in the year 2000:

Dwelling Units Per Residential Acre in Category	Typical Dwelling Units Type in Category	Proportion of Dwelling Units in Category
0 - 1.7	large lot single family	5%
1.7-5	small lot single family	35%
5 - 15	patio homes and townhouses	30%
15 and over	garden and high-rise apartments	30%

The net difference between each village percentage and the subcommittee percentage for each density range was determined. Sketch Plan 16 had the lowest average variation from the ideal mix and achieved the best score. The normalized scores for this measure were Sketch Plan 1 — .96, Sketch Plan 7 — .92, Plan 16 — 1.00 and Plan 18 .93.

Vitality of All Areas

Another important goal measured by the Man-Made Environment and Social Fabric Subcommittee was, "Develop and provide for the continued vitality of all areas of the city." Eight measures were used to determine a score for this goal including the composite score of the "sense of community" goal. This was identified as an essential ingredient for achievement of the vitality goal. Residents who share a sense of community would be more likely to support efforts to develop and maintain their community as a self-sustaining one. The normalized sense of community scores are as follows: Sketch Plan 1 — .65, Plan 7 — .73, 16 — .82 and Plan 18 — 1.00.

Transportation measures were used assuming that access to opportunities within villages would help the vitality of an area. Sketch Plan 7 received the best score here because of its small villages and low levels of congestion. Lack of congestion also caused Plan 7 to score best for access to opportunities outside villages.

Another measure used was an index of accessibility to employment opportunities. Sketch Plan 16 received the best score for this index because it combined a good match of employment opportunities to population with relatively low levels of traffic congestion. The normalized scores for this measure are: Sketch Plan 1 — .97, Plan 7 — .97, Plan 16 — 1.00 and Plan 18 — .96.

Other measures used for this goal compared the mix of land uses in villages to the average for the City and the diversity of age of housing units. Sketch Plan 7 received the best score for mix of land uses and Plan 16 the best for diversity of age of housing units. Scores for this latter measure were: Plan 1 —.86, Plan 7 — .70, Plan 16 — 1.00 and Plan 18 — .94.

Implementation Problems

Another significant goal studied by the Subcommittee was, "Minimize the level of government intervention necessary to achieve urban form goals." To measure this goal a subjective rating was assigned to each plan denoting the degree of difficulty municipal government would have in implementing the plan. Prior to assigning the rating, the Subcommittee discussed at length the tools municipal government might use for plan implementation. The resulting scores were: Sketch Plan 1 — 1.00 indicating that it would be the easiest to implement and therefore require the least intervention, Sketch Plan 7 - .90, Plan 16 - .80 and Plan 18 - .65 indicating that it would be the most difficult to implement.

While Sketch Plan 16 and 18 scored low on the "minimizing governmental intervention" goal, the Subcommittee feels that the negative political and economic consequences of "government intervention" could be overcome only if the City Council and the Planning Commission are committed to the urban village concept as being the most viable alternative to continued urban sprawl.

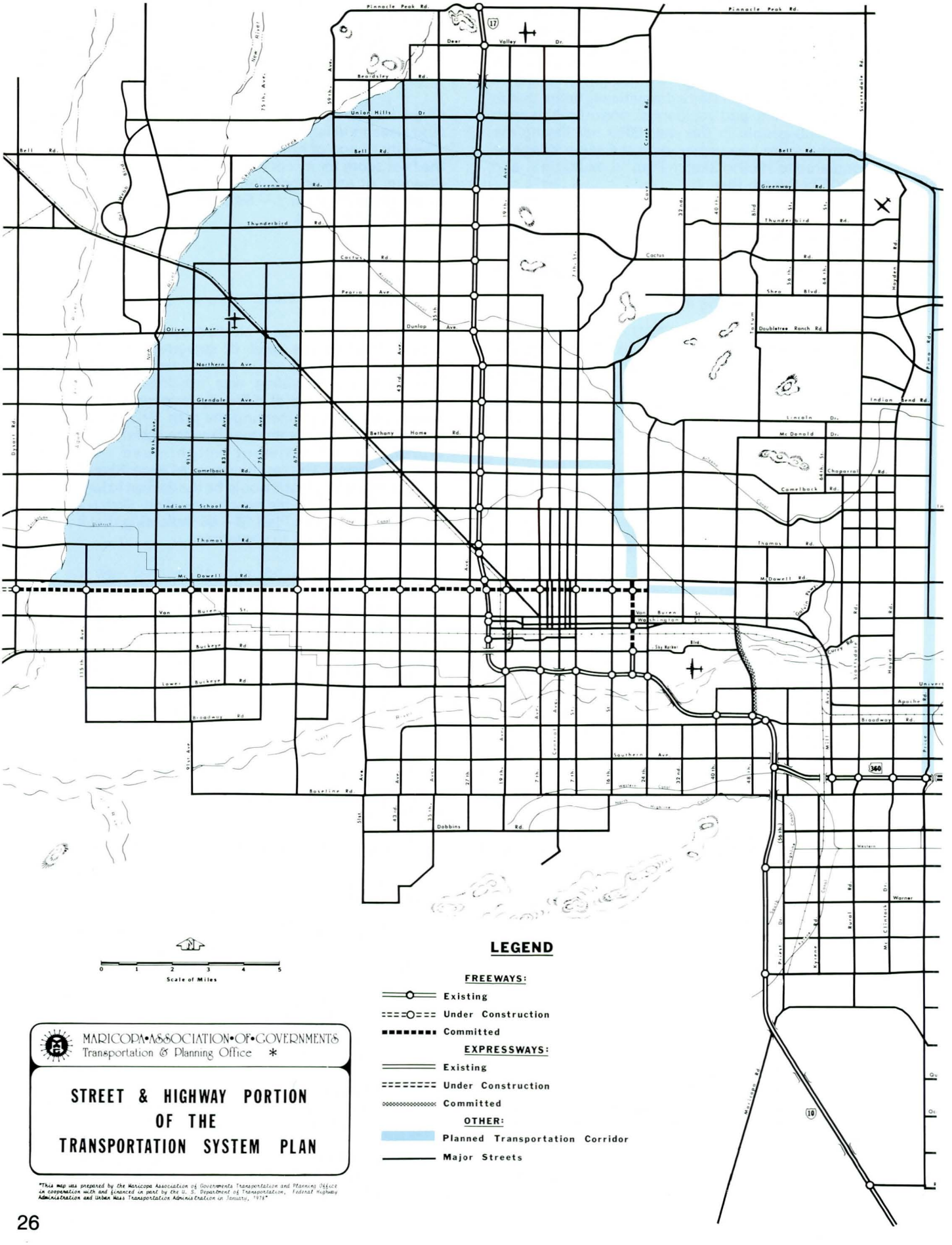
Man-Made Environment and Social Fabric Subcommittee Conclusions

The Subcommittee feels that certain characteristics of Sketch Plans 16 and 18 are necessary for achieving Man-Made Environment and Social Fabric goals and strongly recommend they be retained in the sketch plan ultimately selected for formal adoption by City Council. Characteristics to be included in the recommended plan are:

1. A **strong downtown core** to help establish the City's identity for its citizens. A strong downtown core is also necessary for Phoenix' development and economic growth.

2. **Strong village** definition that promotes a sense of community, provides for a choice of life-styles, and encourages continued vitality.

3. **Retention of agricultural** land for greenbelts within peripheries and buffer between villages and different land uses.



N

0 1 2 3 4 5

Scale of Miles

LEGEND

FREEWAYS:

- Existing
- Under Construction
- Committed

EXPRESSWAYS:

- Existing
- Under Construction
- Committed

OTHER:

- Planned Transportation Corridor
- Major Streets

MARICOPA•ASSOCIATION•OF•GOVERNMENTS
Transportation & Planning Office *

STREET & HIGHWAY PORTION OF THE TRANSPORTATION SYSTEM PLAN

This map was prepared by the Maricopa Association of Governments Transportation and Planning Office in cooperation with and financed in part by the U. S. Department of Transportation, Federal Highway Administration and Urban Mass Transportation Administration in January, 1976

4. The **development of Rio Salado** to promote commerce, flood control, preservation of open space and increased recreation and employment opportunities.

5. **Retention of mountain open space** and environmentally sensitive areas.

6. The **development of multiple cores** in numbers that promote a sense of community, a choice of life-style, and encourage continued vitality.

7. **Maximum transit opportunity** between cores and within cores.

8. **Location management** as required to implement the urban village concept.

9. **Developing north of the CAP** after urban infilling has been accomplished in a manner compatible with surrounding land uses.

Transportation Subcommittee

This Subcommittee considered the interrelationships of the four land use alternatives (Sketch Plans 1, 7, 16 and 18) and several transportation alternatives including the following components:

1. **Streets.** All transportation alternatives included, in the urbanized areas of each sketch plan, completion of major, collector and local streets as shown on the Minimum Right-of-Way Standards Map for areas now within the Phoenix City Limits and extension of similar standards for the remainder of the planning area.

2. **Expressways and Freeways.** Transportation alternatives included one of the following two freeway and expressway systems: (1) the system indicated on the Street and Highway Portion of the Transportation System Plan adopted by the Maricopa Association of Governments on January 4, 1978, and (2) only the existing and committed freeways and expressways shown on the Street and Highway Portion of the Transportation System Plan. These systems are shown on the opposite page.

3. **Public Transit.** Several combinations of public transit service were also analyzed. These included local and express bus service ranging from approxmately 400 to approximately 850 buses in the Phoenix Planning Area in the year 2000 increasing from approximately 250 in 1980. High capacity exclusive guideway transit systems were also tested. These could be either elevated or underground with one of several different types of vehicles. Early in the study an extensive exclusive guideway system providing regional service was tested with Sketch Plan 18 and later a more concentrated 40-mile system in central Phoenix was tested. A more limited 9-mile central corridor system was also tested with plans 1, 16 and 18. Scores in the table below reflect the more limited system.

The Transportation Subcommittee Report concentrated on the impact that different land use configurations would have on transportation service rather than on the suitability of any single transportation system. Additional study and refinement of the transportation system will be undertaken during the development of a Circulation Element upon adoption of the Phoenix Concept Plan 2000. The normalized scores (where a score of 1.00 indicates the alternative with the best results) for the five goals studied by the Subcommittee are as follows:

Normalized Score for Transportation Goals

Goal	Sketch Plan 1		7		16		18	
	E+C	Plan	E+C	Plan	E+C	Plan	E+C	Plan
1. Develop a land use pattern that reduces the need to travel by shortening required travel distances.	.47	.66	.61	.78	.74	.86	.88	1.00
2. Provide mobility by improving transportation facilities.	.80	.87	.86	1.00	.81	.92	.74	.83
3. Develop an equitable transportation system providing accessibility to nonautomobile users.	.83	.90	.93	1.00	.81	.90	.92	1.00
4. Provide for safe, efficient, and convenient movement and transfer of people and goods.	.77	.82	.83	1.00	.80	.88	.71	.77
5. Minimize the adverse impacts of transportation system construction and operation on housing and businesses, parks, schools, historical and archaeological sites and on aesthetics of adjacent areas.	1.00	.95	1.00	.95	1.00	.95	1.00	.95

(See Notes on E + C, Plan and scores on page 28)

Notes: a. E+C indicates the existing plus committed freeway and expressway system.

b. Plan indicates the adopted MAG freeway, expressway and transportation corridor plan.

c. The scores in the table include testing Sketch Plans 1, 16, and 18 with a nine-mile exclusive guideway system in the central corridor and all sketch plans with an 850 bus system in Phoenix.

The implications of these normalized scores are as follows:

Goal 1 was measured by (1) examining how well employment opportunities were matched to residential areas, and (2) by reexamining how accessible village cores are to freeways. Residential location and employment were closely related to density, so as the density of an area increased employment opportunities increased. In all plans an equal percent of cores was accessible from the freeway (Plan 18 achieved the highest score).

Measures for Goal 2 determined a system's mobility by examining inter- and intra- village travel, employment accessibility and public transportation. Results indicate that as the density of an area decreases, the level of congestion decreases and speeds increase improving mobility. If both density and speed are increased, employment accessibility increases which suggests that employment accessibility is determined by (1) the density of an area, and (2) the access to that area from other surrounding areas. (Plan 7 achieved the highest score for this goal).

Measures for Goal 3 determined transit mobility by determining how well users could travel within and between villages. Findings suggest that the ability to travel was dependent on the type of transit system used and travel distance. Smaller villages resulted in greater mobility due to rapid access to cores within the village. Inter-village mobility was determined by the distance between villages. The closer together the location of cores the greater the mobility. Results also imply that as the transit system is improved, mobility is increased. (Plans 7 and 18 achieved the highest score for this goal).

Goal 4 was evaluated by examining the relationships between speed, congestion, density, and safety. As density decreases and speed increases, congestion decreases and system efficiency is improved. A system's relative safety was measured by the proportion of travel on freeways versus major streets. For a given amount of travel the number of accidents decreases as the proportion of travel on freeways increases.

Measures for Goal 5 compared alternate transportation systems by measuring their projected impacts on urbanized land, archaeological sites and historic sites. Results indicate that as freeway development increases, construction impacts on urban land, archaeological sites and historic sites increases although not affecting a significant proportion of those areas. There was no difference among land use alternatives with this measure.

Movement within and between villages is dependent upon mobility. Mobility is a reflection of congestion and density. The availability of accessible employment depends upon both density and mobility. Thus, as residential and employment densities increase, employment opportunities increase, but only so long as the densities do not reach a point where mobility decreases.

Transit movement between and within villages was determined by the design of the sketch plan as well as system improvements. Transit use increased as the transit system improved, or as the travel distance was reduced. In no alternative tested did total regional transit ridership exceed 5% of total trips. Substantially higher proportions of transit ridership were projected for home to work trips in the central Phoenix area however.

The overall results suggest that lower densities improve mobility but do not improve accessibility to employment opportunities. Higher densities produced more conjestion but required shorter trips and greater access to employment and shopping. Ideally, the optimum alternative will maximize employment opportunity to residents while minimizing traffic congestion.

Natural Environment Subcommittee

The Natural Environment Subcommittee determined the achievement of ten goals by the four sketch plans. These goals dealt with air and water quality, agricultural land, energy and open spaces. Measurement of some of the more significant findings was performed as follows:

Domestic Water Supply

The goal, "Provide a safe and adequate domestic water supply to all citizens of Phoenix," was measured by determining the amount of water required by population outside the Salt River Project service area in the year 2000 on days of peak demand. The less water required the better the plan's score. Scores were: Sketch Plan 1 — .64, Plan 7 — .68, Plan 16 — .74 and Sketch Plan 18 — 1.00. Although there will be adequate total water supply in the Phoenix Planning Area for the projected population, water may not be transferred outside the Salt River Project service area unless replaced with water produced outside the service area. Assuming current rates of water use, the well production off-project and the contracted amount of water from the Central Arizona Project will not be adequate to meet peak day demand for water for any alternative throughout the 1980-2000 period when gate water credits are not available. Several alternatives are possible for bringing off-project supply and demand into balance, however, the greater the imbalance, the more drastic the mitigating measures will have to be. Therefore, sketch plans with a smaller imbalance were given a higher score.

Agricultural Land

Two measures were used to assess a sketch plan's ability to preserve agricultural land: 1) the total number of acres preserved, and 2) the intensity of development adjacent to the agricultural land (measuring the compatibility of adjacent uses). The scores for the goal, "Preserve agricultural land," are: Sketch Plan 1 — .81, Plan 7 — .85, Plan 16 — .98 and 18 — 1.00.

Groundwater

The goal, "Manage the quality and quantity of groundwater resources," was measured by estimating the amount of groundwater overdraft resulting from retention of agricultural land uses in the Phoenix Planning Area. The scores for this goal are: Sketch Plan 1 — .93, Sketch Plan 7 — 1.00, Plan 16 — .82 and Plan 18 — .81.

Open Space

The goal, "Design open space to provide relief from continuous urban development, areas for varied recreational needs, and preservation of some of the original character of the areas," was measured by: (1) the acres of open space preserved, and (2) the percentage of community peripheries in open space. Sketch Plans 16 and 18 received the best score of 1.00 for both of these measures with scores for plans 1 = .55 and 7 = .62.

Rio Salado

The goal, "Provide for the multiple use of surface water with due consideration to groundwater quality," was subjectively measured assuming that the three village plans encouraged development of the Rio Salado and in particular the higher density plans with emphasis on downtown and South Phoenix residential development would reinforce the Rio Salado project. Scores for the goal were: Sketch Plan 1 — .82, Plan 7 — .91, and Plans 16 and 18 — 1.00. Using subjective measurement, scores for the goal, provide for the multiple use of canals, flood plains and other waterways in the City were determined by the Man-Made Environment and Social Fabric Subcommittee on a similar basis. This Subcommittee found plans 16 and 18 even more important for implementing Rio Salado resulting in scores for the latter goal of Sketch Plan 1 — .38. Plan 7 — .75, and Plans 16 and 18 — 1.00.

Energy Conservation

The goal, "Minimize the use of nonrenewable energy resources through conservation and increased use of renewable resources," was measured in three ways: (1) estimated total residential energy consumption based on differences in dwelling unit types by a sketch plan (plans with more multi-family units scored slightly better than the lower density plans); (2) a subjective rating of the amount of infilling of central Phoenix in each plan assuming that infilling would result in reducing the need to travel, encouraging better mass transit and reducing the need to construct public facilities, and (3) determining the number of vehicle miles traveled (total vehicle miles traveled equal the average trip length times the number of trips. Sketch plan 7 has the longest trips but Sketch Plan 18 has by far the greatest number of trips). The greater the vehicle miles traveled, the greater the energy use. Overall scores for the goal from these three measures are: Sketch Plan 1 — .92, Plan 7 — .98, Plan 16 — 1.00 and 18 — .96.

Air Pollution

Air pollution differences among the plans was measured by the amount of vehicle emissions, and the acres of vacant and agricultural land causing particulate emissions. Sketch Plan 7 and 16 received a score of 1.00, Plan 1 had a score of .96 and Plan 18 of .97.

Natural Environment Subcommittee Recommendations

The Natural Environment Subcommittee did not wish to recommend any of the four sketch plans as best achieving the intent of the Natural Environment Goals. Although Sketch Plan 18 came out with the highest score for most of the goals, the fact that it was the lowest in water conservation posed a problem. Also, although Sketch Plan 18 retained the greatest amount of open space, a good portion of it was located on the periphery of the planning area and was not readily accessible to all villages.

The Subcommittee did feel that certain characteristics of the sketch plans were important in achieving the natural environment goals and recommended that the following characteristics be included in the development of that plan:

1. Development of the Rio Salado and emphasis of waterways.
2. Retention of mountain open space and other environmentally sensitive areas.
3. Strong village definition to better utilize open space.
4. An overall density high enough to retain adequate open space and reduce energy consumption.
5. Multiple cores in numbers sufficient enough to create villages and not cities.
6. A strong infilling policy that would reduce energy consumption, help preserve agricultural land, and minimize off-project water needs.
7. Retention of agricultural land when it may be incorporated into the open space periphery of a village while minimizing groundwater depletion.
8. Consideration should be given to all characteristics which tend to improve such goals as air quality and noise pollution even though little variation between sketch plans is now evident.

Summary of Evaluation Results

The following table presents the normalized scores for each of the Urban Form Directions goals found to be measurable by the four evaluation subcommittees. The goals are listed in the order of the Steering Committee ranking of their importance with the most important measurable goal listed first.

Rank	Goal	Normalized Scores from Sketch Plan 1	7	16	18
1.	Provide a safe and adequate domestic water supply to all citizens of Phoenix.	.64	.68	.74	1.00
2.	Conserve the quality and quantity of groundwater resources.	.93	1.00	.82	.81
3.	Develop a land use pattern that reduces the need to travel by shortening required travel distances.	.66	.78	.86	1.00
4.	Design open space areas to provide relief from continuous urban development, areas for varied recreational needs, and preservation of some of the original character of the area.	.55	.62	1.00	1.00
5.	Provide and maintain air quality compatible with health and well-being and with the prevention of damage to property, vegetation, and aesthetic values.	.96	1.00	1.00	.97
6.	Provide a sufficient choice of adequate housing in all parts of the city to meet the needs of all individuals.	.96	.92	1.00	.93
7.	Maximize the opportunity for diversity and flexibility of activity and a choice of life-style.	.96	.92	1.00	.93
8.	Provide mobility by improving transportation facilities.	.88	1.00	.92	.78
9.	Provide for the multiple use of canals, floodplains and other waterways in the city.	.50	.80	1.00	1.00
10.	Preserve environmentally sensitive areas such as floodplains, wildlife habitats and steep slopes.	.88	1.00	.94	.94
11.	To minimize the urban dome effect which tends to reduce normal daily temperature variations.	.93	.90	.98	1.00
12.	Minimize the use of nonrenewable energy resources through conservation and increased use of renewable resources.	.92	.98	1.00	.96

Sketch Plan Evaluation

Rank	Goal	Sketch Plan 1	7	16	18
13.	Develop and provide for the continued vitality of all areas of the city.	.88	.99	.99	1.00
14.	Develop an equitable transportation system providing accessibility to nonautomobile users.	.91	1.00	.90	.82
15.	Preserve agricultural land uses.	.81	.85	.98	1.00
16.	Minimize individual and municipal costs, given current levels of service, by providing public services and facilities in the most efficient manner possible.	.80	1.00	.89	.88
17.	Facilitate the continued growth of tourism through protecting the natural and man-made attractions which draw people to the valley.	.95	1.00	1.00	.97
18.	Maximize the sense of community felt by urban village and neighborhood residents.	.65	.73	.82	1.00
19.	Provide for multiple use of surface water without allowing groundwater quality to deteriorate.	.82	.91	1.00	1.00
20.	Equitably manage urban and agricultural water needs.	.99	.98	1.00	1.00
21.	Minimize the adverse impacts of transportation system construction and operation on housing and businesses, parks, schools, historical and archeological sites and on the aesthetics of adjacent areas.	1.00	1.00	1.00	1.00
22.	Provide for safe, efficient and convenient movement and transfer of people and goods.	.82	1.00	.88	.71
23.	Establish, foster, and maintain high standards for the control of noise pollution, ensuring a noise level that does not cause stress or health damage.	1.00	.99	.99	.97
24.	Minimize the level of government intervention necessary to achieve urban form goals.	1.00	.90	.80	.65

E. SKETCH PLAN MATRIX

	CHARACTERISTIC	SKETCH PLAN																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LAND USE	1a. STRONG DOWNTOWN CORE	■															■		■		
	1b. WEAK DOWNTOWN CORE							■													
	2a. MULTIPLE CORES - LESS THAN 10																				
	2b. MULTIPLE CORES - 10 to 20																■		■		
	2c. MULTIPLE CORES - OVER 20	■						■													
	3a. HIERARCHY OF CORES																■		■		
	3b. EQUAL CORES							■													
	4a. STRONG VILLAGE CORES							■									■		■		
	4b. WEAK VILLAGE CORES	■																			
	5a. VILLAGE SPECIALIZATION-NON-METRO USES	■																			
	5b. VILLAGE INTEGRATION-NON METRO USES							■									■		■		
	6a. VILLAGE SPECIALIZATION-METRO USES	■															■				
	6b. VILLAGE INTEGRATION-METRO USES							■											■		
	7a. RETENTION OF AGRICULTURAL LAND																■		■		
	7b. DEVELOPMENT OF AGRICULTURAL LAND	■						■													
	8a. RIO SALADO							■									■		■		
	8b. NO RIO SALADO	■																			
	9a. EMPHASIZE WATERWAYS							■									■		■		
	9b. AGRICULTURAL LAND																				
	10a. RETENTION MOUNTAIN OPEN SPACE	■						■									■		■		
	10b. DEVELOPMENT OF MOUNTAINS																				
TRANSPORTATION	11a. MAXIMUM TRANSIT OPPORTUNITY																		■		
	11b. MAXIMUM AUTO OPPORTUNITY	■						■									■				
	12a. NO NEW FREEWAYS EXCEPT I-10 CONNECTION	■																			
	12b. FREEWAY NETWORK							■													
	12c. PARKWAY NETWORK																				
	12d. FREEWAY - PARKWAY NETWORK																■		■		
	13a. BUS AND/OR DUAL MODE SYSTEMS	■						■									■		■		
	14a. FIXED GUIDEWAY SYSTEMS																				
	15a. UNIFORM ACCESSIBILITY	■																			
	15b. HIGH ACCESSIBILITY TO CORES							■									■		■		
	16a. STRONG CONNECTION OF CORES							■									■		■		
	16b. WEAK CONNECTION OF CORES																				
HOUSING	17a. LOW DENSITY - UNDER 5 DU/ACRE	■						■													
	17b. MEDIUM DENSITY-5 to 10 DU/RESIDENTIAL ACRE																■		■		
	17c. HIGH DENSITY - OVER 10 DU/ACRE																				
	18a. MIX OF HOUSING TYPES IN VILLAGES							■									■		■		
	18b. UNIFORMITY OF HOUSING TYPES IN VILLAGES	■																			
EMPLOY-MENT	19a. DISTRIBUTION UNRELATED TO CORES	■																			
	19b. CONCENTRATION IN CENTRAL CORE																				
	19c. CONCENTRATION IN VILLAGE CORES							■									■		■		
AES-THETICS	20a. STRONG VILLAGE DEFINITION							■									■		■		
	20b. WEAK VILLAGE DEFINITION	■																			
GROWTH MANAGEMENT	21a. LOCATION MANAGEMENT							■									■		■		
	21b. NO LOCATION MANAGEMENT	■																			
	22a. DEVELOPMENT NORTH OF THE CAP	■						■													
	22b. NO DEVELOPMENT NORTH OF THE CAP																■		■		
	23a. RATE MANAGEMENT																				
	23b. NO RATE MANAGEMENT	■						■									■		■		
	24a. NO GROWTH																				

F. CHARACTERISTICS OF SKETCH PLAN

The following are definitions of the characteristics used to define sketch plans for study in Urban Form Directions Phase II. The numbers reference those in the Sketch Plan Matrix. Each number indicates a group of alternative characteristics, while letters in the matrix indicate alternatives within the group.

Land Use

1. **Strong Downtown Core — Weak Downtown Core**

   Sketch plans with a strong downtown core would include a downtown core with a significantly greater land use intensity and proportion of employment, cultural and recreational opportunities than any other core. In sketch plans with a weak downtown core, the Central Phoenix area would not have an average intensity of land use significantly greater than other core areas even though employment might be in high rise office buildings rather than single story industrial buildings.

2. **Multiple Cores**

   The "less than 10" category would represent major activity centers serving more than the current population of Scottsdale or Mesa with regional shopping, community colleges, large employment centers, etc. The "over 20" category would represent cores serving generally less than 60,000 population with community shopping centers and high schools.

3. **Hierarchy of Cores — Equal Cores**

   In sketch plans with a hierarchy of cores, one core, probably Central Phoenix, would be significantly larger than the others and contain land uses serving all of the city. A second level of cores would serve areas similar to the service area of regional shopping centers. A third level, often called the community, would serve areas similar to those served by high schools and include shopping centers such as the medium sized ones including large discount stores. The smallest service level is normally the neighborhood with uses such as elementary schools and supermarkets.

   In contrast to a hierarchy, sketch plans with the equal cores characteristic would concentrate activities at one of the above levels such as the community and distribute uses that would ordinarily serve more than one community among the several cores. Uses serving areas smaller than a community would be more or less randomly distributed within each community.

4. **Strong Village Cores — Weak Village Cores**

   The strength of a village core increases as the mix and intensity of land use activity increases. Single use cores such as shopping centers without entertainment or employment opportunities would be classified as weak cores. Strong cores would be readily identifiable with 24 hour-a-day activity.

5. **Village Specialization and Integration — Non-Metro Uses**

   Non-metro uses are those urban land uses normally serving less than the entire metropolitan area and repeated in several sub-metropolitan areas. Examples are elementary and secondary schools, shopping centers and housing. Non-metro uses are those one would expect to find in a small town providing for most of the needs of the population. The small town would also be an example of integration of non-metro uses. When a metropolitan area begins to work as a unit rather than a group of small towns, some areas begin to specialize in, for example, one housing type or one type of land use, such as employment or residential. In village specialization of non-metro uses, the village areas are interdependent for the total supply of social and economic needs and require substantial movement of persons and goods between various village areas.

6. **Village Specialization and Integration — Metro Uses**

   Metro uses are those serving the entire metropolitan area. There are normally only one or very few metro uses of each type. Examples of metro uses in Phoenix include ASU, the Civic Plaza, and major bank headquarters. In village integration each village area would be relatively autonomous providing four-year colleges, a full range of services, hotels, etc. In village specialization — metro uses, metropolitan serving uses could be concentrated in one core or single unduplicated uses could be randomly dispersed to several locations throughout the metropolitan area.

7. **Retention — Development of Agricultural Land**

   Self explanatory.

8. **Rio Salado — No Rio Salado**

   Sketch plans with Rio Salado would include full development of the Rio Salado project as suggested in the study by Daniel, Mann, Johnson, and Mendenhall with additional associated development that might be expected. No Rio Salado would assume no significant development of the Salt River floodplain other than industrial and extractive land uses.

9. **Emphasize — Deemphasize Waterways**

   Sketch plans emphasizing waterways would make substantial use of the canal system and/or floodways for uses such as transportation, low density separation of villages and parks. Plans deemphasizing waterways might include covering canals and channelizing washes.

10. **Retention of Mountain Open Space — Development of Mountains**

    Sketch plans retaining mountain open space would continue or expand the present mountain preserve areas while sketch plans showing development of the mountains would indicate substantial high density development on the mountains.

11. **Maximum Transit Opportunity — Maximum Auto Opportunity**

Sketch plans with maximum transit opportunity would provide convenient transit access to all or nearly all commercial, recreational and employment opportunities. Transportation facility construction and land use configuration would emphasize transit opportunity. Although transit ridership would be significantly higher than it is now, it would still account for much less than a majority of person trips. Maximum auto opportunity would emphasize construction of facilities to improve automobile movement.

12. **Freeways — Parkways**

a. **No New Freeways Except I-10 Connections**

Although selection of an I-10 connection has not occurred, for the purpose of this study only the inner loop and the Durango Bend alternatives will be considered.

b. **Freeway Network**

This category would include sketch plans with a freeway system using new and existing freeways providing interconnection of significant metropolitan subareas with a high proportion of total trips using a freeway during some portion of the trip.

c. **Parkway Network**

Sketch plans in this category provide interconnection of significant metropolitan subareas by parkways as a supplement to the major street system. A parkway is a six or more lane heavily landscaped major street with limited frontage access.

d. **Freeway — Parkway Network**

This category is a combination of b (some freeways in addition to existing ones) and c above with parkways sometimes substituting for what might have been new freeways under b.

13. **Bus and/or Dual Mode Systems**

This category includes sketch plans with a bus or other flexible broad-area transit service to most of the city. A dual mode system would have the capacity of providing door-to-door vehicular service as well as automated fixed guideway movement for a portion of its trip.

14. **Fixed Guideway Systems**

This category included sketch plans with a significant portion of the population served by a mass transit system employing a fixed guideway. Examples of this type of transit system include streetcars, subways, railroads, monorails, and separate bus lanes. Feasibility of this system would depend upon a high volume of transportation demand in the corridor including the fixed guideway. The demand would normally be generated by high intensity land use along the corridor or by a concentration of trip ends at points connected by the corridor. The concentration of trip ends could be accomplished through a combination of a fixed guideway system and a bus or other flexible transit system feeding points on the fixed guideway.

15. **Uniform Accessibility — High Accessibility to Cores**

a. **Uniform Accessibility**

This would provide relatively equal access to most employment, shopping, and recreational opportunities from most areas of the city. As an example, a grid major street system would meet the definition of providing relatively uniform accessibility on a metropolitan scale even though there would be differences on a local scale between the area around major street intersections and areas midway between major streets.

b. **High Accessibility to Cores**

This would provide significant differences in accessibility on a metropolitan scale. Area of intense land use (cores) would have much higher levels of accessibility than areas of less intense land use. For example, some type of radial transportation system would converge on cores and/or cores would be near freeway interchanges or high capacity transit terminals.

16. **Strong — Weak Connection of Cores**

With strong connection of cores it would be relatively easy to get from one core to another. Interaction and interdependence among cores would be facilitated. Conversely, weak connection of cores would lead to more autonomous integrated subcity areas.

Housing

17. **Density**

a. **Low Density — 0 to 5 DU per Residential Acre**

This category includes sketch plans where the average residential density of Phoenix would be less than five units per acres. The residential character of the city would be similar to that of today with most dwelling units in medium-low density (1.7-5 DU/A) subdivisions. A small proportion of dwelling units on a significant land area would be in low density area (under 1.7 DU/A) and a somewhat large proportion of dwelling units on a small land area would be in densities over 15 dwelling units per acre.

b. **Medium Density — 5 to 10 DU per Residential Acre**

This category includes sketch plans with an average residential density for Phoenix of five to ten dwelling units per acre. While there would still be a substantial proportion of dwelling units in medium-low density (1.7-5 DU/A) developments, almost all new residential construction between 1980 and 2000 would be at densities in excess of 5 DU/A with a significant proportion in excess of 15 DU/A.

c. **High Density — Over 10 DU/Residential Acre**

This category includes sketch plans with an average residential density for Phoenix in excess of ten dwelling units per acre. Almost all new construction would be at densities well in excess of 15 DU/A and large areas of existing housing would be redeveloped to higher densities.

18. **Mix-Uniformity of Housing Types in Villages**

a. **Mix of Housing Types in Villages**

In this category sketch plans would include a mix of housing types in each village approximately equal to the City average in the year 2000.

b. **Uniformity of Housing Types in Villages**

In this category sketch plans would include a mix of housing types in each village approximately equal to the City average in the year 2000.

b. **Uniformity of Housing Types in Villages**

In this category sketch plans would include villages with a single housing type being a considerably greater proportion of the dwelling units in that village than the City average of each type in the year 2000.

Employment

19. **Distribution — Concentration**

a. **Distribution Unrelated to Cores**

This category represents sketch plans with a random distribution of employment opportunities. That is, employment opportunities would generally be unrelated to residential locations or to locations of shopping, recreational and other opportunities.

b. **Concentration in Central Core**

This category represents the situation of extreme centralization. Most employment opportunities would be located in the central core.

c. **Concentration in Village Cores**

This category represents sketch plans with employment opportunities dispersed throughout the City but concentrated in village cores.

Aesthetics

20. **Strong — Weak Village Definition**

a. **Strong Village Definition**

This category includes sketch plans where there is a considerable difference in visual characteristics among villages as well as a well-defined boundary between villages.

b. **Weak Village Definition**

This category includes sketch plans where there is little visual difference among villages and no attempt to create well-defined village boundaries.

GROWTH MANAGEMENT

21. **Location Management — No Location Management**

Other than the normally small area impact of zoning restriction, Phoenix exercises little direct control over the location of new development. Thus, any change from current trends in the location of new development will require additional location management activities. The more the sketch plan differs from trends the more control will be required over the location of new development.

22. **Development — No Development North of the Cap**

Self explanatory.

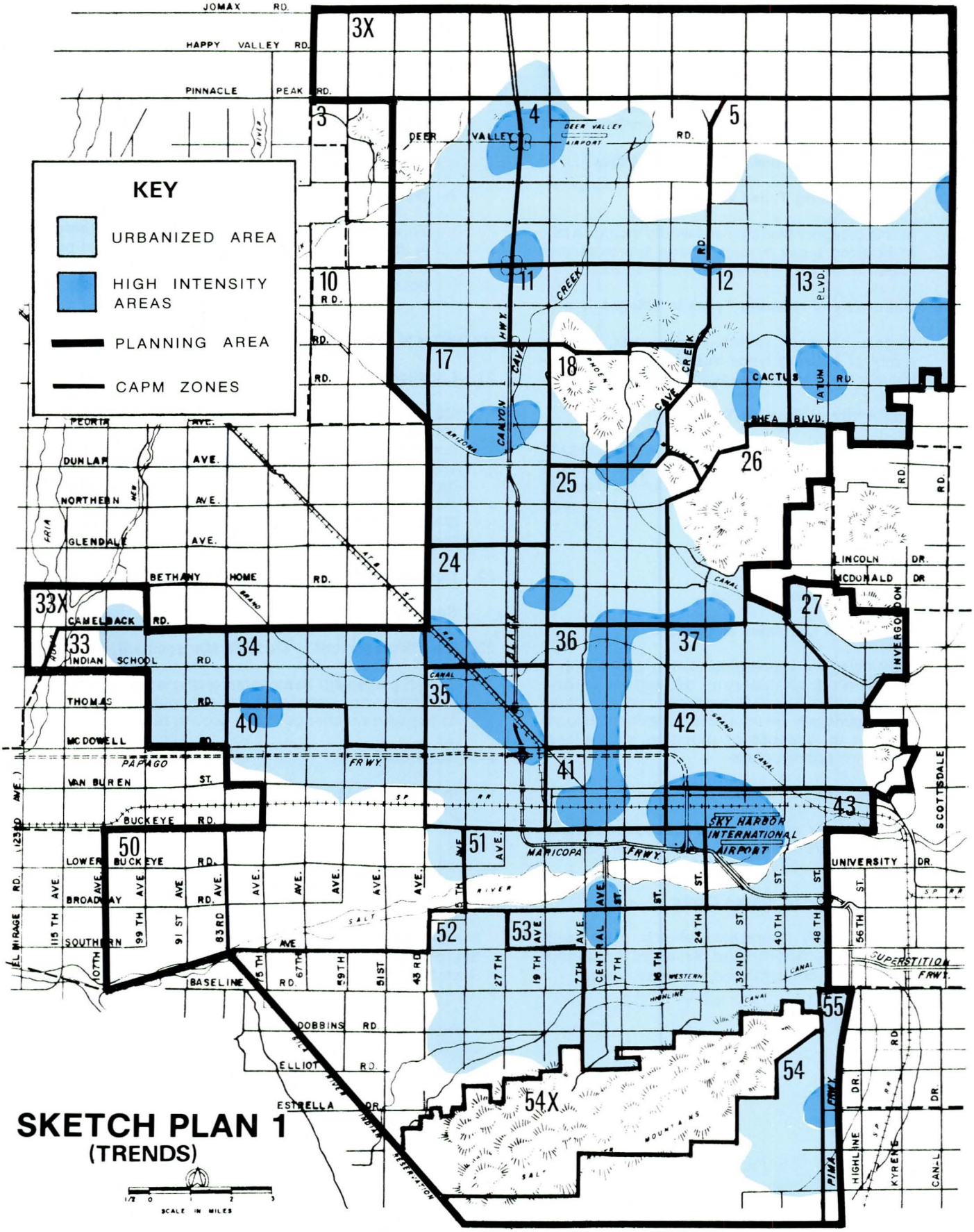
23. **Rate Management — No Rate Management**

Sketch plans with this characteristic would attempt to increase or decrease the rate of population growth or to make no change in the growth rate.

24. **No Growth**

In this characteristic a population size similar to the present one would be retained.

G. SKETCH PLAN MAPS AND DATA SHEETS

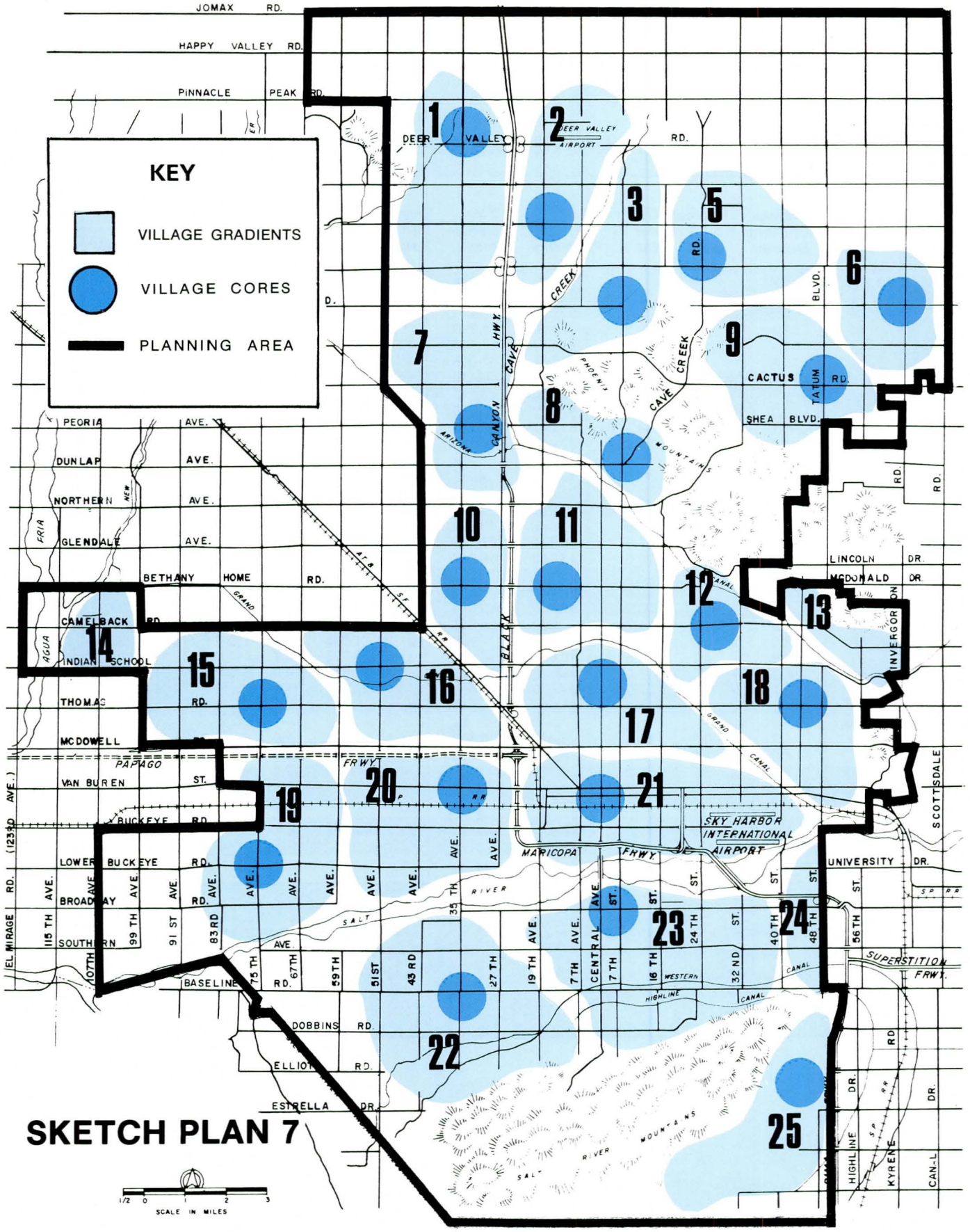


SKETCH PLAN 1
(TRENDS)

SUMMARY SHEET SKETCH PLAN # 1 (TRENDS)

CAPM	Average Residential Density	Percent D.U. 0-1.7 DU/A	Percent D.U. over 15 DU/A	Population	Total Employ-ment	Emp. Part. Rate	Total DU	Employee Density (Emp./Acre) Basic	Employee Density (Emp./Acre) Service	Area (acres)
3	3.7	6.6	7.7	37,963	5,939	.16	16,008	12.8	9.7	8,000
4	4.3	2.6	9.0	46,673	23,167	.50	19,972	15.3	9.0	12,512
5	3.2	11.5	3.1	23,134	2,491	.11	9,744	8.9	4.6	15,347
10	3.4	5.6	9.3	32,910	5,290	.16	13,822	12.4	10.0	4,845
11	4.4	1.7	8.4	41,514	7,094	.17	17,785	5.6	7.7	6,496
12	4.2	1.7	6.9	47,067	7,006	.15	19,814	5.8	9.3	7,066
13	3.1	10.2	6.6	58,940	16,474	.28	24,689	13.1	12.9	9,888
17	5.1	1.2	15.0	76,078	44,144	.58	33,089	31.1	13.6	9,600
18	5.3	2.7	13.3	27,602	6,343	.23	12,375	15.4	8.1	6,144
24	6.1	0.7	18.4	51,847	19,140	.37	23,071	17.3	11.6	5,760
25	4.2	6.2	20.2	62,402	16,173	.26	28,053	11.1	18.1	8,109
26	3.5	10.4	17.6	28,336	11,481	.41	12,397	18.2	11.6	8,806
27	2.1	33.9	15.9	15,603	3,963	.25	6,559	19.1	6.6	4,160
33	4.5	1.4	5.1	38,062	2,780	.07	15,632	2.6	6.1	5,248
34	4.7	0.4	5.8	67,380	14,740	.22	27,699	9.6	10.2	7,680
35	5.8	1.2	15.8	37,586	48,536	1.29	16,672	12.0	10.3	7,680
36	7.4	1.1	41.2	56,734	63,135	1.11	26,629	33.5	34.2	5,722
37	5.1	3.5	23.6	46,446	16,008	.34	20,809	18.1	15.4	5,152
40	4.3	3.1	8.3	31,198	23,265	.75	13,481	6.7	5.3	18,560
41	10.0	0.2	45.4	27,745	83,507	3.01	13,635	34.4	40.1	3,840
42	6.1	2.3	23.2	52,946	35,003	.66	24,526	36.5	13.9	7,603
43	6.3	3.9	31.7	7,902	35,643	4.51	3,812	13.2	15.7	7,014
50	2.3	16.2	0.0	1,491	406	.27	585	0.5	1.6	7,123
51	4.9	4.2	23.3	12,652	30,582	2.42	5,720	10.1	6.1	7,763
52	2.3	20.5	6.0	18,829	3,185	.17	7,822	4.0	4.2	19,162
53	3.2	8.2	7.3	53,400	13,841	.26	22,034	8.9	7.4	13,331
54	4.0	1.4	0.0	21,861	543	.02	8,789	—	1.9	12,480
54X	0	—	—	0	64	—	0	—	—	15,341
55	5.7	0.3	13.8	6,429	2,500	.39	2,898	2.9	10.2	1,062
61	4.3	1.2	0.0	3,984	350	.09	1,661	2.6	4.0	1,120
3X	1.9	37.2	3.9	6,318	400	.06	2,580	10.0	5.0	20,352
33X	2.8	13.4	0.0	1,045	107	.10	410	—	5.0	2,432
TOTAL	**4.34**	**4.5**	**15.0**	**1,042,077**	**543,300**	**.52**	**452,772**	**14.6**	**12.8**	**275,398**

Total Agriculture Acres	29,100	South Mountain Park	15,341
Total Vacant Developable Unsewered Acres	0	Total Residential Acres	104,406
Total Vacant Developable Sewered Acres	52,478	Total Basic Industry Acres	16,158
		Total Service Industry Acres	24,141
Total Land Withheld From Development (steep slopes, large parks, selected flood-ways, and airports)	33,774	Total Acres in Planning Area	275,398


KEY
VILLAGE GRADIENTS
VILLAGE CORES
PLANNING AREA
JOMAX RD.
HAPPY VALLEY RD.
PINNACLE PEAK RD.
DEER VALLEY
DEER VALLEY AIRPORT
RD.
CAVE CREEK
CAVE CREEK RD.
CACTUS
TATUM BLVD.
SHEA BLVD.
PHOENIX
ARIZONA CANYON
MOUNTAINS
HWY
PEORIA AVE.
DUNLAP AVE.
NORTHERN AVE.
GLENDALE AVE.
BETHANY HOME RD.
GRAND CANAL
CAMELBACK RD.
INDIAN SCHOOL
THOMAS RD.
MCDOWELL
PAPAGO FRWY
VAN BUREN ST.
BUCKEYE RD.
LOWER BUCKEYE RD.
BROADWAY RD.
SOUTHERN
BASELINE
DOBBINS RD
ELLIOT RD.
ESTRELLA DR.
SALT RIVER
MARICOPA FRWY
SKY HARBOR INTERNATIONAL AIRPORT
UNIVERSITY DR.
SUPERSTITION FRWY.
LINCOLN DR.
MCDONALD DR.
SCOTTSDALE
INVERGORDON
HIGHLINE CANAL
WESTERN CANAL
CENTRAL AVE
BLACK
AGUA FRIA
EL MIRAGE RD.
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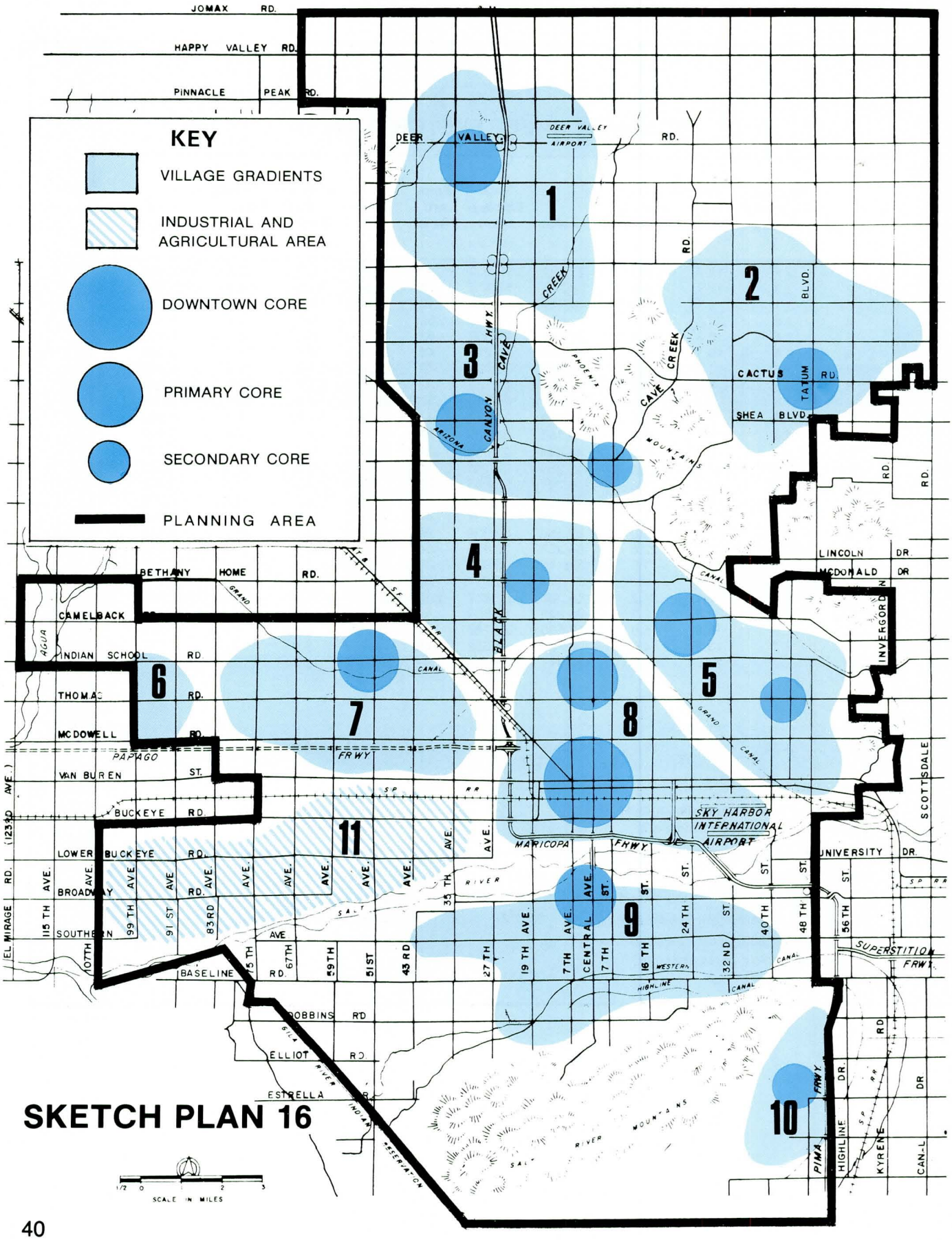
SKETCH PLAN 7
1/2 0 1 2 3
SCALE IN MILES

SUMMARY SHEET SKETCH PLAN #7

VILLAGE	Average Residential Density	Percent D.U. 0-1.7 DU/A	Percent D.U. over 15 DU/A	Population	Total Employment	Emp. art/ Rate	Total DU	Employee Density (Emp./Acre) Basic	Employee Density (Emp./Acre) Service	Area (acres)
1	2.1	18.6	5.6	37,582	15,609	.42	15,621	8.9	12.8	16,300
2	2.3	17.7	4.0	38,374	17,174	.45	15,977	17.9	14.0	12,615
3	3.1	9.3	8.4	40,717	17,172	.42	17,208	9.4	7.4	12,019
4	1.8	32.8	0	675	350	.52	274	6.6	6.2	15,136
5	2.4	16.8	7.5	35,562	15,066	.42	14,919	9.8	10.6	10,227
6	2.9	19.1	5.2	35,915	16,217	.45	15,042	14.4	14.7	6,368
7	3.7	4.0	9.5	65,299	28,405	.43	26,947	27.2	11.7	9,965
8	4.8	4.4	17.3	35,695	11,334	.32	16,172	21.0	10.0	6,899
9	2.9	9.4	4.5	59,777	24,977	.42	24,606	14.9	12.3	12,045
10	4.9	2.7	15.2	44,649	18,729	.42	19,071	14.5	9.3	5,760
11	4.4	5.1	25.4	79,155	30,187	.38	34,616	19.8	13.9	9,907
12	3.9	8.7	20.0	45,444	21,056	.46	19,932	18.7	10.7	10,502
*13	1.8	44.4	17.0	11,260	4,785	.42	4,728	17.0	7.6	3,552
*14	2.2	18.0	5.8	9,747	3,805	.39	4,033	8.5	13.5	3,840
15	2.9	9.1	3.0	45,000	19,748	.44	18,212	9.3	14.0	8,960
16	4.4	3.4	5.7	63,044	27,737	.44	25,853	14.0	9.4	8,768
17	6.2	1.6	30.0	63,560	53,824	.85	28,794	24.2	28.9	6,886
18	4.6	5.0	22.6	54,257	29,195	.54	23,851	38.0	11.9	8,358
19	2.1	19.6	1.5	38,115	13,956	.37	15,782	6.0	8.8	16,723
20	3.2	9.8	10.0	37,124	22,317	.60	15,887	7.3	5.9	10,400
21	6.2	2.1	24.2	61,025	92,657	1.52	27,704	26.4	19.8	12,787
22	2.0	22.8	2.3	39,925	15,854	.40	16,571	7.8	9.0	19,162
23	2.6	15.5	5.9	52,555	22,787	.43	21,558	6.7	7.7	15,373
*24	2.7	13.2	14.0	9,706	4,652	.48	4,112	5.9	6.2	2,842
25	2.2	22.0	1.0	38,347	15,707	.41	15,977	6.6	9.9	14,662
TOTAL	**3.25**	**10.0**	**12.4**	**1,042,509**	**543,300**	**.52**	**443,447**	**13.9**	**12.0**	**260,057** [a]

*Partial villages (remainder outside PPA)
[a]Excludes South Mountain Park

Total Agriculture Acres	23,804	South Mountain Park	15,341
Total Vacant Developable Unsewered Acres	0	Total Residential Acres	136,388
Total Vacant Developable Sewered Acres	23,334	Total Basic Industry Acres	16,995
Total Land Withheld From Development (steep slopes, large parks, selected floodways, and airports)	33,774	Total Service Industry Acres	25,761
		Total Acres in Planning Area	275,398



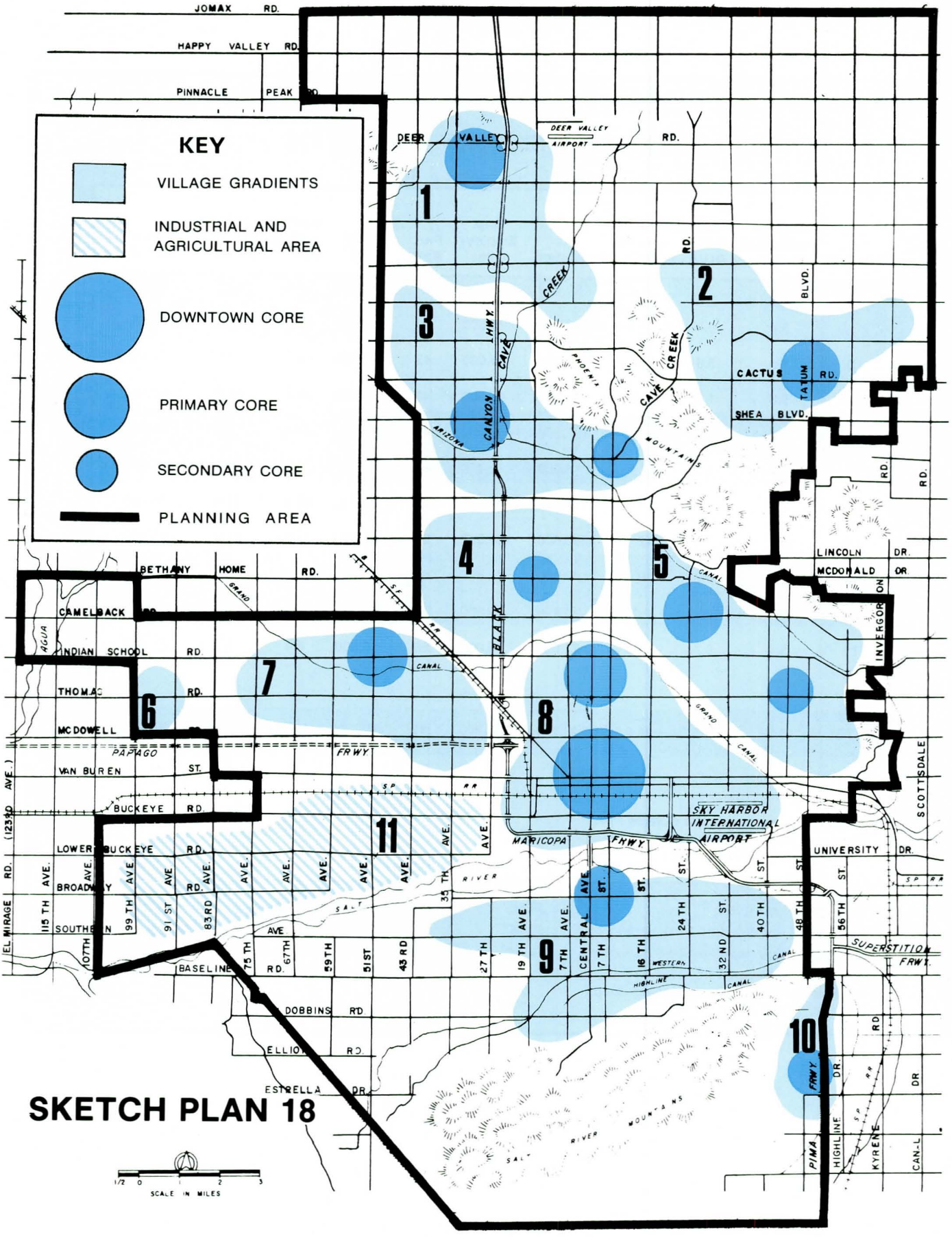
SKETCH PLAN 16

SUMMARY SHEET SKETCH PLAN #16

VILLAGE	Average Residential Density	Percent D.U. 0-1.7 DU/A	Percent D.U. over 15 DU/A	Total Population	Emp. Employ-ment	Part. Rate	Total DU	Employee Density (Emp./Acre) Basic	Employee Density (Emp./Acre) Service	Area (acres)
1	4.8	2.4	5.6	85,000	35,290	.42	39,470	11.4	8.7	28,963
2	3.4	8.9	7.4	100,000	42,500	.43	42,550	11.5	10.8	30,082
3	4.4	3.8	11.9	128,000	55,000	.43	55,760	25.0	13.1	20,410
4	5.6	1.2	21.0	115,000	45,500	.40	50,460	38.7	13.3	12,147
5	4.2	7.3	25.0	135,000	57,000	.42	59,530	21.1	12.0	24,838
6	4.2	1.9	6.8	15,000	6,360	.42	5,840	6.7	10.2	7,680
7	5.5	.2	11.9	117,000	49,700	.43	49,730	16.8	10.4	16,768
8	10.6	0	42.4	206,000	188,000	.91	99,000	21.6	21.9	23,462
9	3.6	8.2	16.5	90,000	38,600	.43	37,720	11.2	7.6	36,454
10	5.1	1.3	0	24,100	10,350	.43	10,250	2.4	11.6	14,662
11	3.4	8.3	2.3	27,000	15,000	.56	10,800	6.4	4.0	21,843
TOTAL	**5.02**	**3.5**	**20.0**	**1,042,100**	**543,300**	**.52**	**461,110**	**16.5**	**12.6**	**237,309**[a]

*Partial villages (remainder outside PPA)
[a]Excludes South Mountain Park and area north of Central Area Project

Total Agriculture Acres	38,067	South Mountain Park	15,341
Total Vacant Developable Unsewered Acres	35,387	Total Residential Acres	91,850
Total Vacant Developable Sewered Acres	22,179	Total Basic Industry Acres	14,290
Total Land Withheld From Development (steep slopes, large parks, selected flood-ways, and airports)	33,774	Total Service Industry Acres	24,510
		Total Acres in Planning Area	275,398



SKETCH PLAN 18

SUMMARY SHEET SKETCH PLAN #18

VILLAGE	Average Residential Density	Percent D.U. 0-1.7 DU/A	Percent D.U. over 15 DU/A	Total Population	Emp. Employ-ment	Part. Rate	Total DU	Employee Density (Emp./Acre) Basic	Employee Density (Emp./Acre) Service	Area (acres)
1	3.2	5.6	6.7	40,000	15,800	.39	16,560	11.8	6.7	28,963
2	3.7	7.7	14.4	95,000	49,500	.52	41,060	18.3	9.5	30,082
3	4.7	3.3	17.4	110,000	53,300	.48	48,170	26.0	14.6	20,410
4	5.8	.5	26.2	115,500	49,800	.43	51,420	36.6	15.1	12,147
5	5.6	3.1	27.2	135,000	58,300	.43	61,230	23.1	12.2	24,838
6	4.3	.8	8.2	12,000	2,000	.16	4,870	5.2	5.6	7,680
7	6.1	0	25.5	113,000	53,300	.47	49,470	13.5	10.6	16,768
8	17.6	0	73.7	290,000	190,000	.65	148,820	22.3	20.8	23,462
9	4.0	6.3	19.0	108,600	51,300	.47	47,720	13.8	8.4	36,454
10	2.9	2.3	2.9	8,000	4,000	.50	3,420	2.9	5.8	14,662
11	2.4	19.2	3.8	15,000	15,000	1.00	6,440	6.6	3.0	21,843
TOTAL	**6.01**	**2.4**	**37.1**	**1,042,100**	**543,300**	**.52**	**479,180**	**17.4**	**12.5**	**237,309** [a]

*Partial villages (remainder outside PPA)

[a]Excludes South Mountain Park and area north of Central Area Project

Total Agriculture Acres	39,112
Total Vacant Developable Unsewered Acres	25,493
Total Vacant Developable Sewered Acres	43,788
(steep slopes, large parks, selected flood-ways, and airports)	33,774

South Mountain Park	15,341
Total Residential Acres	79,720
Total Basic Industry Acres	13,530
Total Service Industry Acres	24,640
Total Acres in Planning Area	275,398

H. POPULATION, EMPLOYMENT, LAND USE AND DEVELOPMENT AND DWELLING UNIT ASSUMPTIONS

Population Projections

All sketch plans provided for a projected population of 1,042,077 for the Phoenix Planning Area in the year 2000. The source for this projection is the Maricopa Association of Governments **Guide for Regional Development, Transportation and Housing,** January 4, 1978, and the projection in the Guide is based on the Arizona Department of Economic Security projection for Maricopa County. The projection assumes a decline in the Phoenix proportion of county population from 52.7% in 1980 to 45.4% in 2000.

The total population allocated to the Phoenix Planning Area and the other planning areas in Maricopa County is based on an initial distribution by each jurisdiction in the county and Maricopa Association of Governments staff. The final distribution is negotiated by the city managers to reach a distribution which does not exceed the control total. Once the control total is given, persons per household factors are applied to compute the number of households. Vacancy rates are then applied by dwelling unit type to produce the number of dwelling units.

Between 1970 and 1975 the number of persons per household in the City of Phoenix declined from 3.13 to 2.85 or .28. The national household size declined .22 during the same period. The Census Bureau predicts that households will continue to decline in size until 1990 although the rate of decline will gradually decrease. Using Census Bureau information we were able to determine the range in projected decline for each five year period and used the midpoint of that range for our decline. This resulted in the following persons per household:

1975	2.85
1980	2.70
1985	2.60
1990	2.54
1995	2.54
2000	2.54

We have no reason to believe that Phoenix will not follow the national trend.

The number of persons per dwelling unit was established based on data from the 1975 census on total dwelling units and overall vacancy rates, 1970 census data and comparison with household sizes by type in other cities. The number of persons per dwelling unit by type for 1980 were projected to be as shown in the following table.

The overall vacancy rate includes both on and off market units and counts as vacant all units occupied by persons who reside here less than six months of the year. If the vacancy rates were cut in half to four percent (the 1970 vacancy rate was 4.5 percent and the 1975 rate 9 percent) and the number of dwelling units were kept constant, the population would increase to 773,200 or by 30,300. Conversely if the population and persons per household were held constant, the number of dwelling units would decrease about 12,000 with the reduced vacancy rate.

The number of persons per dwelling unit per gross acre in each of the four residential density categories used in the alternative plans was developed based on the current percentage of each type in each of the categories and on assumptions about new construction and demolition in the future. The number of persons per dwelling unit were then applied to the percentage of each type. For example, in one density category:

0 — 1.7 dwelling units/acre

Single-family	95% x 2.77	=	263.15
Multi-family	1% x 1.81		1.81
Mobile Home	4% x 1.69		6.76
			271.72

or 2.71 persons/d.u.

Employment Projections

All sketch plans provided for total projected employment of 543,300 for the Phoenix Planning Area in the year 2000. The source for this projection is the Maricopa Association of Governments **Guide for Regional Development, Transportation and Housing,** January 4, 1978. The projection assumes an increase from the 1980 employment participation rate of 45% for Phoenix to 52% by 2000 as a result of a greater participation of women in the labor force and of Phoenix becoming more of an employment center for the metropolitan area. Employment was broken into basic and service groups for distribution within the planning area. The components of these groups are as follows:

Basic — Agriculture/Mining; Construction; Manufacturing; Transportation, Communication and Utilities, and State and Federal Government.

Service — Local Government; Public Schools; Retail and Wholesale Trade; Finance, Insurance and Real Estate, and Services.

1980 Trends

D.U. Type	No. of D.U.	Percent Vacant	No. of Households	Persons Per D.U.	Persons Per Household	Total Pop.
Single family	208,300	6.0	195,800	2.77	2.95	577,600
Attached	10,000	8.0	9,200	2.20	2.39	22,000
Multi-family	67,000	13.0	58,300	1.81	2.08	121,300
Mobile Home	13,000	10.0	11,700	1.69	1.88	22,000
Total	298,300	8.0	275,000	2.49	2.70	742,900

A summary of the employment projections for the Planning Area are as shown in the following table.

Number of Employees 1980-2000
Phoenix Planning Area

Employment Group	1980	1985	1990	1995	2000
Basic exc. Government	110,350	121,800	135,700	153,300	176,600
Federal & State Gov.	23,810	26,000	28,400	31,500	35,900
Basic Subtotal	134,160	147,800	164,100	184,500	212,500
Service exc. Government	172,430	190,900	215,100	224,700	285,200
Local Gov. & Public Sch.	28,960	31,700	35,300	39,700	45,600
Service Subtotal	201,390	222,600	250,400	284,400	330,800
Total Employment	335,550	370,400	414,500	468,900	543,300
Employment Participation Rate	.45	.46	.47	.49	.52

Land Use and Development

1. For all plans no development was permitted in the following areas:
   a. Selected floodways for the Salt River, Cave Creek Wash, the Indian Bend Wash, New River and the Arizona Canal between Cave Creek Wash and New River.
   b. The Phoenix Mountain Preserve, South Mountain Park and all existing district parks.
   c. All land with a cross slope in excess of 10% (although this assumption does not consider some probable very low density development it simplifies plan preparation and computer testing).
   d. Land within the future planned boundaries of Sky Harbor Airport including land to be acquired for safety and noise protection west of the airport.
   e. Deer Valley Airport.
   f. The Arizona National Guard and United States Army Reserve Centers adjacent to Papago Park.
2. Traffic congestion will not be sufficient to restrict development in any area of the city.
3. There will be adequate water available for urban and industrial needs.
4. Sewage treatment plant capacity will be expanded as necessary to meet the demands of projected population.
5. There will be no extended gasoline shortages sufficient to restrict use of private automobiles.
6. Federal air and water quality standards will not be so restrictive as to limit growth.

Dwelling Units

The Sketch Plans were developed using the following four residential density categories: 0 to 1.7, 1.7 to 5, 5 to 15 and 15 and over dwelling units per gross residential acre. Based on the 1970 Land Use Information System and building permit activity since then, the proportion of dwelling types within each density category was estimated for 1980, 1985, 1990, 1995 and 2000 for the trend plan. Seven types were used for the fiscal impact analysis — large lot single-family, small lot single-family, patio house, townhouse, garden apartment, high-rise, and mobile home. These proportions were adjusted for each of the other sketch plans based on the extent of differences in distribution to density categories from the trends plan. A summary of the results of this procedure is shown in the following table.

1980-2000 Change in Dwelling Units by Type

DWELLING UNIT TYPE	SKETCH PLAN 1		7		16		18	
	#	%	#	%	#	%	#	%
Single Family — Large Lot	4,014	3	28,315	20	-565	0	-4,568	-3
Single Family — Small Lot	66,554	42	60,611	41	39,535	26	10,171	6
Patio House	4,445	3	5,478	4	7,515	5	6,580	4
Townhouse	24,961	16	23,227	16	65,000	43	28,136	15
Garden Apartment	52,282	34	32,426	22	36,586	24	54,031	30
High-rise	2,639	2	-255	0	6,575	4	90,624	50
Mobile Home	-423	0	-4,655	-3	-2,420	-2	-4,092	-2
Total	154,472	100	145,147	100	152,226	100	180,882	100

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The Phoenix Concept Plan 2000 is based on the continuing Phoenix Planning Department research on current and future population, employment, housing and land use as well as the following reports prepared specifically for the Urban Form Directions Program:

Evaluation Subcommittee Reports:

Natural Environment Goals, February 1, 1979

Cost/Revenue Goals, February 9, 1979

Transportation Goals, March 28, 1979

Man-Made Environment and Social Fabric Goals, February 9, 1979

Community Attitude Survey, Summary Report, July 3, 1978

Central Phoenix Forum, Record of September 29, 1977, Meeting

Fiscal Impact Analysis, February, 1979

Urban Form Directions Committee Reports, November, 1975.

All of these reports are available from the Phoenix Planning Department, 6th Floor, 251 West Washington.

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