APPENDIX D

RECORD OF DECISION SUPPORTING DOCUMENTS

The documents provided in **Appendix D**, *Record of Decision Supporting Documents*, are referenced in the responses to public comments on the Final Environmental Impact Statement. They include:

- Internal Federal Highway Administration memorandum, *FHWA Validation of Alternative Screening Process for the South Mountain Freeway* (D1)
- E-mail from the U.S. Environmental Protection Agency, Region 9, regarding the project-level conformity determination (page D5)
- Two historic planning documents from the City of Phoenix: *Phoenix Concept Plan 2000* (page D6) and *Phoenix Urban Village Model, General Plan 1985-2000* (page D28)
- Letter from the U.S. Army Corps of Engineers related to the strategy for Clean Water Act permitting for the project (page D45)
- E-mail from the Gila River Indian Community Department of Transportation with comments on the project's Initial Location/Design Concept Report (page D46) and meeting notes from a comment resolution meeting (page D47)

U.S. Department of Transportation
Federal Highway Administration

Memorandum

Subject: **FHWA Validation of Alternatives Screening process for the South Mountain Freeway.**

Date: September 25, 2014

From: Alan R. Hansen
Team Leader
Planning, Environment and Realty
Phoenix, Arizona

In Reply Refer To:
202-D(ADY)

HAM-AZ

To: Karla S. Petty
Division Administrator
Phoenix, Arizona

In order to confirm the information contained in the Technical Memorandum prepared by the Arizona Department of Transportation (ADOT) by the consultant HDR regarding Validation of Alternative Screening Process at the Final Environmental Impact Statement (FEIS) stage of the South Mountain Transportation Corridor study, the FHWA Arizona Division carried out an independent review of the alternatives that were eliminated through the screening process. In addition to the subject Technical Memorandum, the Division also used the various documents reference in the Technical Memorandum and particularly, the 2012 and 2014 versions of the Traffic Overview. The Traffic Overview documents are important because the 2012 version is based on an extrapolation of modeled traffic data that was used in the early screening process, and the 2014 version is the modeled traffic data that was updated with the Maricopa Association of Governments (MAG) revised traffic and socioeconomic information based on the 2010 census data. Both of the Traffic Overview documents were reviewed by James Colyar and Ed Fok, who are traffic experts in the FHWA Resource Center, and they found the modeling used to be consistent with established FHWA recommended practices.

Elimination of Transportation System Management (TSM), Transportation Demand Management (TDM), Transit, Arterial Streets and Land Use – This analysis looks at whether other modes of transportation could be used as opposed to a freeway alternative to meet the purpose and need of the project. The supporting documentation for this discussion is in the

DEIS. There is not a lot of quantification in the DEIS with regard to these alternatives, however a few key points are that the projected traffic for the freeway is 175,000 vehicles per day (vpd), and the modal alternative that would be able to handle the greatest amount of that demand is a light rail transit system. The existing Phoenix metro light rail transit system, which is built around areas that have greater demand centers, currently handles around one quarter of the projected demand. Based on this, I agree that the modal alternatives alone would not be able to meet the purpose and need of the project. Since the projected traffic for the project that I used is from the 2014 Traffic Overview and the Phoenix metro usage is based on the City's numbers, I believe this analysis to still be accurate.

Elimination of Corridor A – this alternative was eliminated very early in the process because the ADT maps showed that this alternative would serve the least amount of traffic. The alternative would serve approximately 30% less traffic than any of the other alternatives. An alternative that serves such a significantly lower volume of traffic is less responsive to the regional transportation demand component of the purpose and need and was therefore eliminated.

This screening was done in 2003, so the question is whether the Corridor A alternative would still lack viability given the updated traffic projections. However, since Corridor A was eliminated early in the process, it was not carried forward in the modeling using the updated MAG Traffic and Socioeconomic projection and it is not possible to do a direct comparison of ADT maps. However, it is possible to review the base factors that would have influenced the modeling done in 2002 and determine whether there were any changes to those factors and thereby change the outcome of the model if it were recreated today.

The first factor is the population within the service area of the freeway. Referring back to the Traffic Overview documents, Corridor A is located in the southwest regional population center. It is expected that users of the transportation facility are generally from the regional population center that is served by the facility. In comparing the 2012 Traffic Overview, which is extrapolated from the 2000 census, to the 2014 Traffic overview which is based on the 2010 census, table 4 of the Traffic Overview's show that the population for 2035 in the southwest region dropped from 808,800 with the model based on the 2000 census to 521,000 with the model based on the 2010 census. This demonstrates that the growth for the region directly served by Corridor A has seen a 36% reduction in projected population, and has been significantly affected by the economic downturn that started in 2007. This factor is a good indicator that Corridor A would be even less viable of an alternative based on the updated traffic and socioeconomic information.

The second factor is the modeled ADT volumes, which are included in table 8 of the Traffic Overview, on the roadway network in the area of the proposed freeway. The modeled roadway most relevant to Corridor A is I-10 (115th Avenue to 107th Avenue). This segment of I-10 shows an increase in traffic of

around 7% between the two models. Since the gap in the traffic served was originally around 30%, a change of 7% would not be enough to change the screening process results.

The final factor worth considering is out of direction travel. Roadway users who wish to continue North on SR-101 would be subjected to approximately 5 additional miles of out of direction travel over any of the other alternatives. This factor has not changed from the original analysis.

Based on the above factors, I conclude that validation offered in the alternatives screening Technical Memorandum is accurate and that Corridor A would still be less responsive to the regional demand component of the purpose and need and should be eliminated. The project team also uses the local government general plans to show that the local governments planning efforts do not contain an alternative for Corridor A. The local planning efforts are primarily a factor from the standpoint that the local governments in the Corridor A and B regions are opposed to having the freeway within their jurisdictions due to the impacts that it would have in their communities. Further, had Corridor A moved forward, it would have been eliminated due to other factors such as traffic operational problems associated with having two system interchanges less than three miles apart, costs associated with right-of-way (ROW) that would be needed to construct a longer project, and the above mentioned local government planning efforts.

Identification of Technical Alternatives – this was a process of taking the large number of alternatives that were originally proposed and combining them into a reasonable number of alternatives to carry forward. The basis for the validations offered in the Technical Memorandum was that, while there had been changes to population and housing growth, the physical environmental constraints, design criteria and engineering feasibility had not changed. I agree with that position. I think it is further of note, that the project team added more alternatives for screening that came up during the development process. To my knowledge, there are no proposed alternatives that were not considered as part of the screening process.

Elimination of Corridor H – Corridor H consists of alternatives on the Gila River Indian Community (Community). The project team's validation is that there has been no change in the Community's opposition to constructing the freeway on their land. We have now been working with the Community for a number of years on this and my observation is that the Community continues to be divided on the issue. There are a fair number of Community members who see the freeway as having a negative impact on their culture, through things like increased traffic, noise and visual impacts. There is also a strong contingent of Community members who see the freeway as bringing economic development opportunities. The overall Community perspective on the freeway was and is constantly changing, however I believe the decision we must abide by is the referendum by the Community members in 2012, which is also a tribal resolution, stating that they do not support the freeway being located on Community land. So based on this I agree with the elimination of

this alternative.

Elimination of the Riggs Road Alternative – I agree with the validation offered in the Technical Memorandum. As noted in the elimination of Corridor H, the Community is opposed to alternatives on their lands. Riggs Road also has substantial out of direction travel and would not meet the projects purpose and need. I would further note that the Community is already unhappy with the amount of non-Community traffic (primarily trucks) currently on 51st Avenue. I believe that their opposition to a freeway on the Riggs Road Alternative would be even greater than their opposition to the Corridor H alternatives.

Elimination of the SR-85/I-8 Alternative – I agree with the validation offered in the Technical Memorandum. This alternative is so far out of direction that it would not meet the regional transportation demand portion of the purpose and need for the project. Not mentioned in the screening process is that this alternative lies outside of the MAG region, which means that the project could not be funded using Proposition 400 funding (a major source of funding identified for the project) and in order to fund it there would have to be changes to the funding distribution set out in the Casa Grande Accords with regard to Federal funds. This is important from the standpoint that the project would not meet fiscal constraint.

Elimination of T05, T07, T08 and T09 – I agree with the validation for elimination of alternatives T05, T07 and T08, which were all screened out based on location of system to system interchanges within 3 miles of each other. The Traffic Overviews also show that the freeway traffic volumes, even with the updated MAG Traffic numbers, would still be great enough that having system to system interchanges so close together would cause traffic operational failure of the freeway mainline. This is primarily caused by weaving sections that are created when major freeway ramps are located in close proximity. I concur with the analysis that the system to system interchanges should be located more than three miles apart in order to avoid the reduced traffic operational characteristics, such as delay, congestion and increased crashes, associated with heavy weaving areas on the mainline. However, using this reason for validation of T09 is not appropriate. T09 actually ties back into I-10 at SR-101 and would not be within three miles of another freeway system to system interchange. So I do not concur with using system interchange spacing as the validation for T09.

However, in considering the other factors that are discussed in the Technical Memorandum associated with the T09 alternative, it does appear that it should still be screened out. Of particular note is that poor roadway geometrics in the form of sharp curves that would be required to bring the freeway from its location one mile to the west, back to where it would need to tie into I-10 at SR-101; the greater impact on Tolleson, which was opposed to the freeway in their town; and the greater cost of construction and ROW associated with this alternative.

In summary, I concur with the validation offered for the T05, T07 and T08

alternatives screening which eliminated those alternatives from further study due to system interchange spacing. I do not agree with the system interchange spacing validation being applicable to the T09 alternative, however I do believe that the original screening criteria used is still accurate and it is appropriate to screen the T09 alternative from further development.

Elimination of the Ray Road and Chandler Boulevard alternatives – The validation of the elimination of these two alternatives is due to the system to system interchange spacing and to the impacts to the Ahwatukee community, specifically the increased number of residential displacements needed for this alternative over the E1 alternative and splitting of the community. As noted above, I concur with the system interchange spacing reasoning due to negative impacts to the traffic operations, I further agree that since the residential areas near or within these alternatives were built out prior to the 2003 screening, the land use in the Ahwatukee community has not significantly changed so this impact would still be present. Based on this, I concur that the validation for the screening of these alternatives is accurate.

Elimination of US 60 Extension alternatives – The validation for the screening of these alternatives is that they do not support the regional transportation demand part of the purpose and need. They would also not address the projected capacity deficiencies associated with the existing facilities. FHWA is well acquainted with the regional transportation demand issues in the I-10 corridor between SR-202L Santan and SR-143, including around US-60. These segments are the most congested in Arizona and relieving the congestion is one of the components of supporting the regional transportation demand portion of the purpose and need. As is evident in the Table 26 of the Traffic Overview, the South Mountain Freeway would relieve over 30,000 vehicles per day from these segments of I-10. Further in the review of the table 3 in the Traffic Sensitivity Memorandum that analyzed the US-60 alternatives, it shows that these alternatives would increase the traffic on all existing segments of the regional freeway system. Based on this, I concur with the validation that the US-60 extension alternatives would not meet the purpose and need of the project. Also noted in the analysis and the validation is the much greater impacts to residences, businesses and community character that would occur. In general, I concur with that greater impacts to the residences, businesses and community, however it is not well quantified in the analysis. Because of this, the focus of the FHWA evaluation of these alternatives is on the lack of support for the purpose and need based on not addressing the regional transportation demand issue.

Elimination of the Central Avenue Extension Tunnel - This alternative would extend Central Avenue south out of the downtown Phoenix metropolitan area and under the South Mountains. The validation for screening this alternative is that it does not meet the purpose and need of the project since it does not meet the Regional Transportation Demand needs identified. This alternative would not address the capacity deficiencies on I-10 around the Broadway curve because it would only serve localized traffic from the

Auwatukee community to the downtown area. Regional traffic trying to make the east-west movements would still have to use routes such as I-10 to get across the urban area. Based on this I concur that this alternative would not meet the purpose and need for the project and should be eliminated.

Design Options – The next section of the memo describes the validation of the screening of design options. They represent more design refinement and tweaking of the alignment to address localized impacts, however they do not represent screening of entire alternatives. The one exception is the Elimination of the Community Alignment, which was actually screened out in 2003 as part of the Corridor H discussion above, however it was revisited at the request of the Community in 2010 during the Tier 5 screening so that effort is captured in the design options section.

Elimination of the Bridge and Tunnel Options – The bridge and tunnel design options were both generated to look at alternatives that would not impact the South Mountains which is a Section 4(f) eligible resource. The validations includes two discussion points, the first is that both of these options would directly impact the South Mountains and therefore are not avoidance alternatives, and the second point is that both alternatives would be much more expensive so they would not be prudent and feasible. Based on a review of the memo associated with these options, there are multiple options for tunneling. I believe the most viable of those is the low profile option, since that would keep the freeway profile closest to level, and would balance the lowest tunneling and bridge needs. With that option, tunneling using the SEM/NATM method (the cheapest form of tunneling) would add around $215 million to the project cost, which is roughly 5 times more expensive than an open cut. So based on these factors, I concur that the tunnels not only do not avoid the Section 4(f) resources but also are not prudent due to the upfront construction cost and long term maintenance costs. The only option which has only bridge elements to cross the South Mountain Ridges is the high profile option. The bridge cost associated with this option is $307 million, but would eliminate the need for the open cut estimated at $40 million, so overall the bridge option would increase the cost of the project around $270 million. In addition, the memo discusses eliminating consideration of the bridges based on incident management, constructability and maintenance issues. I agree that cost, incident management, constructability and maintenance are all valid arguments, but I continue to see the overriding discussion point to be that the tunnel and bridge options do not avoid impacts to the South Mountain Section 4(f) eligible resource and they would not be prudent due to the other issues.

System Interchange Options Carried Forward or Eliminated – This phase of screening included alternatives considered for a direct connection to SR-101L at I-10 as well as later consideration of design concepts around the W55 and W71 alternatives. This effort was primarily a refinement of design options. This also includes the screening of the W99 alternatives as part of the W101 alternative. I concur with the validation offered in the Technical Memorandum for eliminating these design options.

Elimination of Depressed Profile Option to the E1 Alternative – This alternative was essentially an evaluation of the costs and feasibility of depressing the freeway below grade. The validation is that the design criteria and legal requirements have not changed and therefore the screening of this design alternative is still valid. Specifically this design option would result in higher construction costs of $470 million and would result in the need to acquire at least an additional 150 residences due to the larger footprint needed for a below grade facility. An additional major concern would be the need for pump stations to facilitate the movement of stormwater drainage, which would have both a higher initial cost as well as long term maintenance costs.

Elimination of the Utility Easement Options for the E1 Alternative – This design option considered moving the utilities that are currently located right at the southern limits of the City of Phoenix, to the North so they would be located directly next to the Ahwatukee Community and then have the freeway run next to the southern limits of the City. This option would essentially use the power line utility easement as a buffer between the freeway and the residential area. There is also concern about relocating 500 kilovolt power lines next to a residential community. The validation for elimination of this design option is the ROW costs and cost of relocation, in addition the increased cost of relocating the power lines underground also continue to be cost prohibitive. I concur with this validation.

Elimination of the Arizona Parkway Concept – The Arizona Parkway Concept is essentially an urban parkway that does not allow direct left turns. Instead the driver must go past their intersection and make a u-turn, followed by a right turn in place of the left turn. The validation for eliminating this concept is that it would not be able to handle the high volumes of traffic projected for the corridor. An Arizona Parkway would have a maximum capacity of 105,000 vpd, which is well below the projected 175,000 vpd in the MAG models. I concur with the analysis and finding that an Arizona Parkway would not be able to handle the projected traffic for this corridor.

Elimination of the Ten Lane facility – ADOT and MAG were looking for alternatives to bring down the cost of the project. The original project concept was to build a six lane freeway, with an additional four lanes constructed when needed, this would be a 4+1 lane facility. MAG instead wanted to reduce costs by constructing an eight lane facility, 3+1 lanes, from the start. Typically each lane is estimated to carry 40,000 vpd. So a 3+1 lane facility should be able to carry around 160,000 vpd. Although the estimated traffic volumes on the freeway, using the updated traffic projections show 175,000 vpd in the design year, MAG and ADOT agreed to build the eight lane facility, rather than the ten lane facility. While FHWA continues to believe that it would be more appropriate to construct a ten lane facility, we do recognize that this is a design option on a non-Interstate route we therefore believe this is a local decision to be made by ADOT in conjunction with MAG.

Shift to the W59 from the W55 alternative – this was essentially a shift of the freeway to connect with I-10 around 59th avenue, rather than the originally

proposed 55th avenue. This shift is also a design option that contains comparable impacts with both alignments. The validation offered is still acceptable.

Elimination of the Community Alignment – This follows along with the elimination of Corridor H earlier in this memo. Although, the Corridor H alternatives had been screened out in 2003, the GRIC Community Governor came forward in 2010 and re-opened the past discussions to allow the study of an alignment on Community lands. While ADOT did attempt to move that alignment forward, the Community ultimately sponsored a vote by their members in February 2012, and they re-affirmed their opposition to an alternative on Community lands. Based on this, the validation offered is still accurate, there is no prudent and feasible alternative on Community land.

Evaluation of Alignments Through Laveen -- The original alignment was proposed to travel along 63rd Avenue through Laveen nearnd Dobbins Road. Unfortunately, the City of Phoenix had zoned a hospital to be built in the path of the freeway. The City asked to have the alignment shifted to the east along 59th avenue in order to not conflict with the hospital, however the 59th avenue alternative would take a historic farmstead that was deemed eligible for the National Register of Historic Places and might be afforded protection under Section 4(f). At the conclusion of the evaluation, it was determined that the best alignment for the freeway was along 62nd avenue which would avoid both the Section 4(f) property as well as the hospital. I concur with this validation.

From: meek, clifton
To: Yedlin, Rebecca (FHWA)
Cc: Hansen, Alan (FHWA); Houk, Jeff (FHWA); Dunning, Connell
Subject: Conclusion of the PM10 conformity consultation between FHWA and EPA for the South Mountain Freeway project
Date: Thursday, August 21, 2014 4:50:27 PM
Attachments: South Mountain Air Quality Response to Comments.xlsx

Hi Rebecca-

I spoke with Alan Hansen this morning regarding the additional air quality comments EPA had sent on both 8/19 and 8/6, and he confirmed that all of the comments are being addressed by FHWA, and the Air Quality Technical Report revised accordingly. With that information, this concludes the PM10 conformity consultation between FHWA and EPA for the South Mountain Freeway project. We'd like to thank FHWA for working so closely with EPA to address our concerns, and we look forward to reviewing and providing comments on the Final EIS when it is circulated for review.

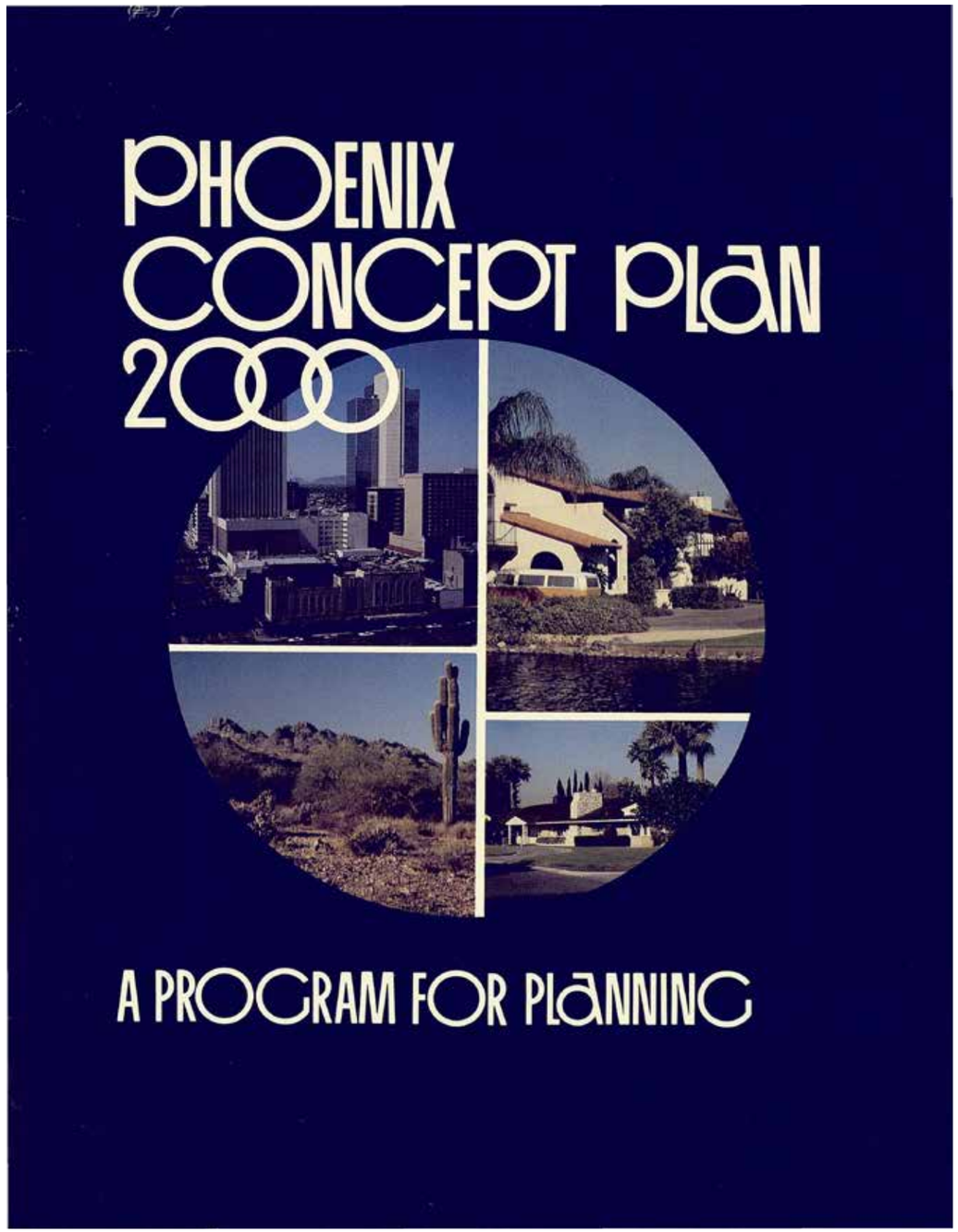
Please see the attached spreadsheet for a summary of the consultation (comments and responses) that has taken place between EPA and FHWA since we received the Air Quality Technical Report on 6/2/2014. If you have any questions or notice any revisions that should be made to the summary, please let me know.

Thanks,

Clifton

Clifton Meek, Life Scientist
U.S. EPA, Region 9
Environmental Review Section - Transportation Team
75 Hawthorne Street, ENF 4-2
San Francisco, CA 94105

phone: 415-972-3370, fax: 415-947-8026
meek.clifton@epa.gov



City of Phoenix, Arizona

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Matthew Saczawa

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:
City Clerk

APPROVED AS TO FORM:
City Attorney

REVIEWED BY:
Marvin A. Andrews
City Manager

TABLE OF CONTENTS

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

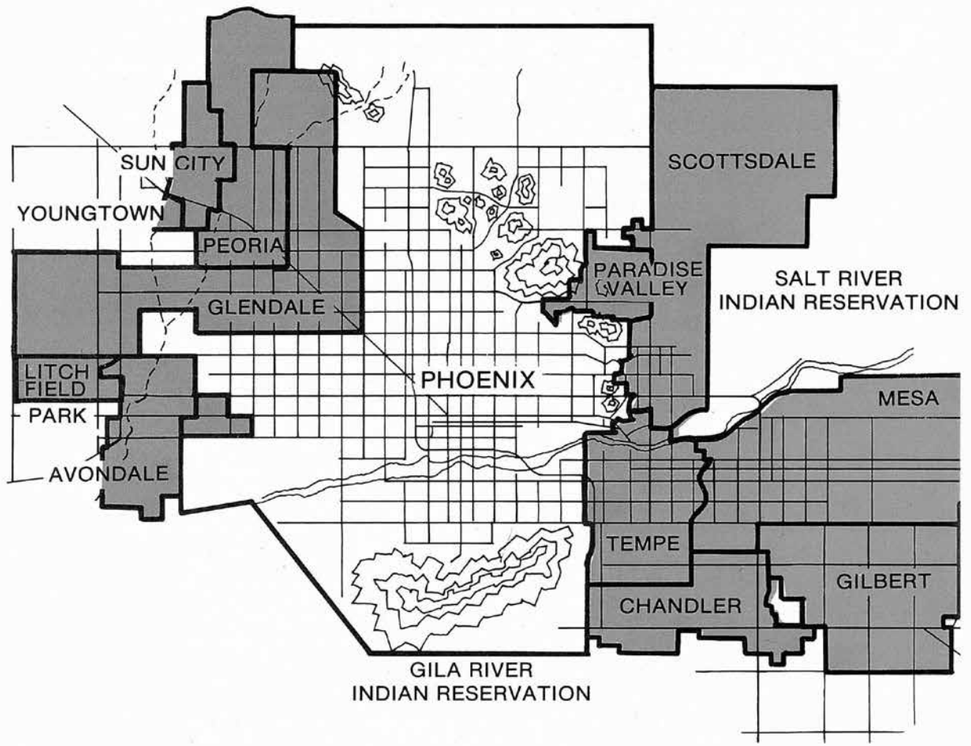
Policies are intended to provide guidance for making decisions about the way the city should grow through the year 2000. They will provide direction in both initiating programs and controlling proposals.

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.

1



PHOENIX PLANNING AREA
AND
SURROUNDING COMMUNITIES

2

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

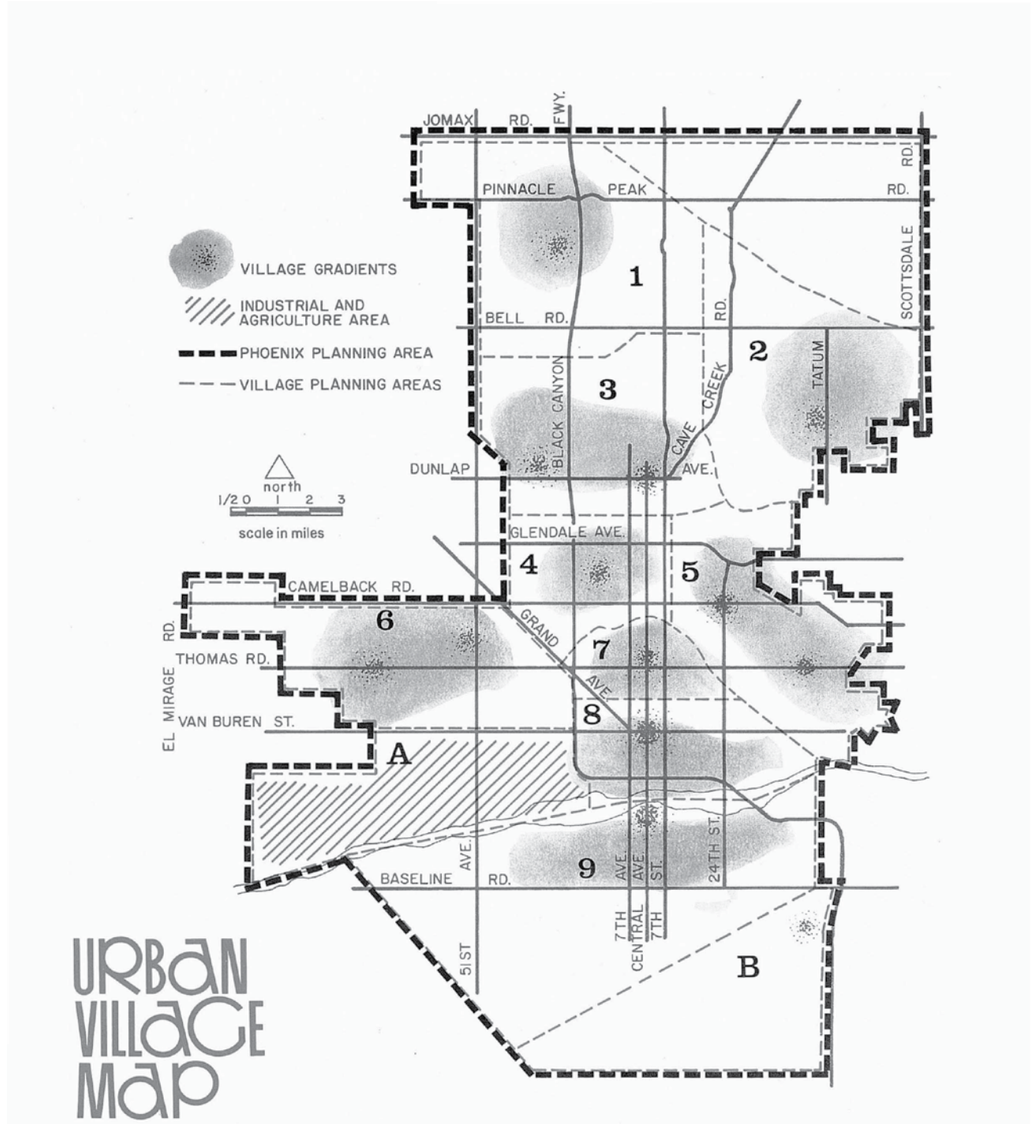
1. Involve the public in all phases of the planning process and make them aware of the social, economic and environmental effects of different land use policies.
2. Establish community centers to help in informing the public of governmental activities.

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.

9

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.

11

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.

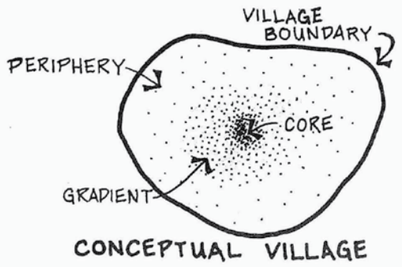
9. Encourage most new employment to locate in village cores.

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.

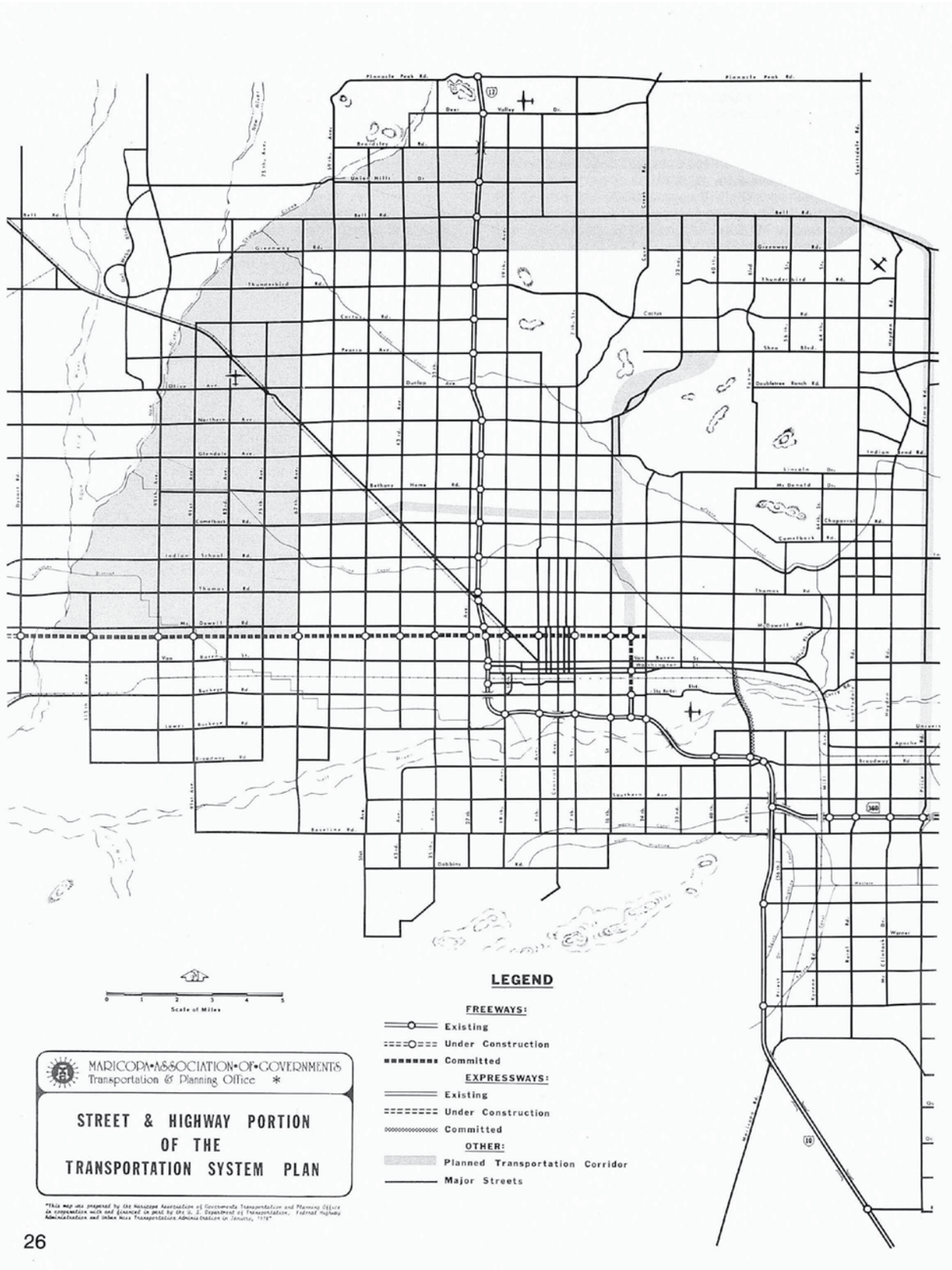
Man-Made Environment and Social Fabric Subcommittee Conclusions

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.



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 approximately 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.

Normalized Scores from

Rank	Goal	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

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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																				

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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 de-emphasizing 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.

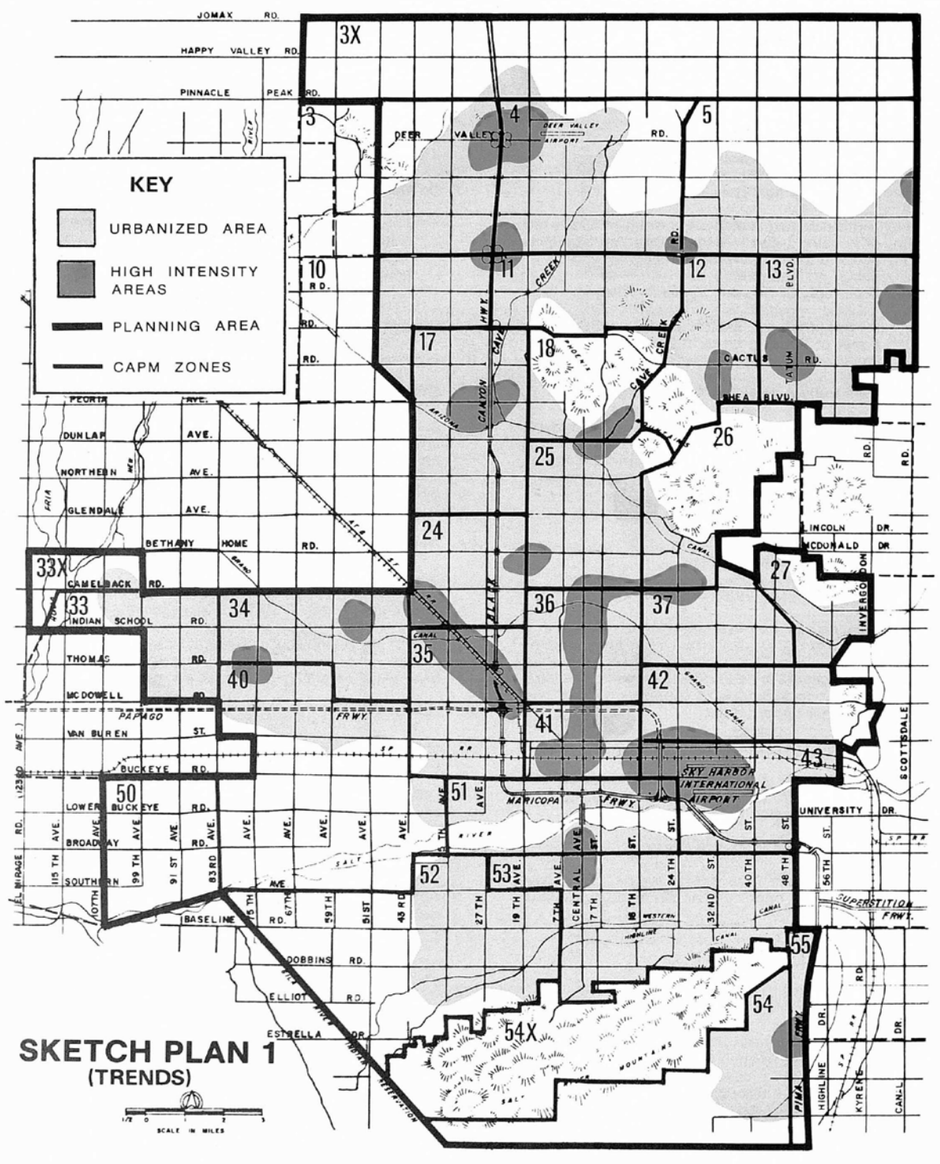
23. **Rate Management — No Rate Management**

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



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 Land Withheld From Development (steep slopes, large parks, selected floodways, and airports)	33,774	Total Service Industry Acres	24,141
		Total Acres in Planning Area	275,398

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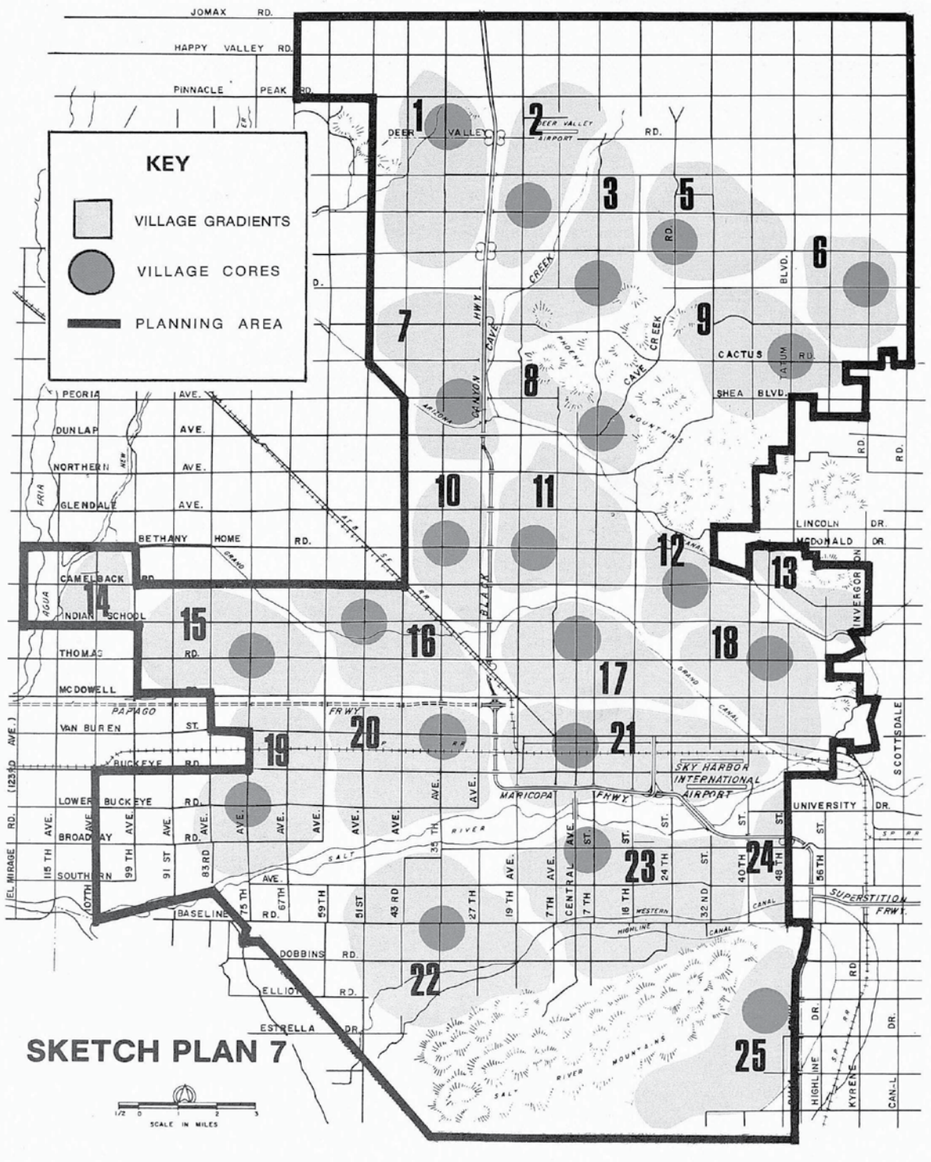
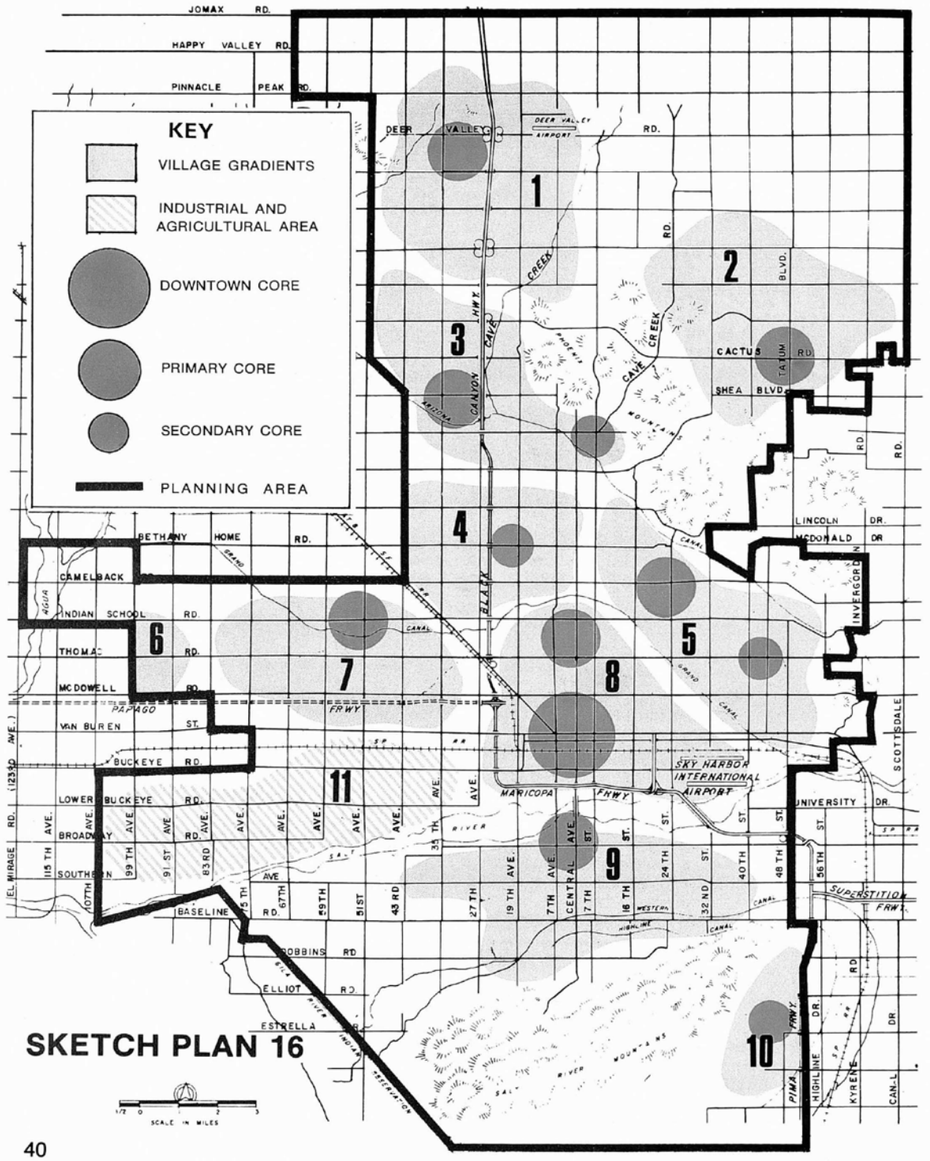


SUMMARY SHEET SKETCH PLAN #7

VILLAGE	Average Residential Density	Percent D.U. 0-1.7 DU/A	Percent D.U. over 15 DU/A	Population	Total Employ-ment	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 flood-ways, and airports)	33,774	Total Service Industry Acres	25,761
		Total Acres in Planning Area	275,398



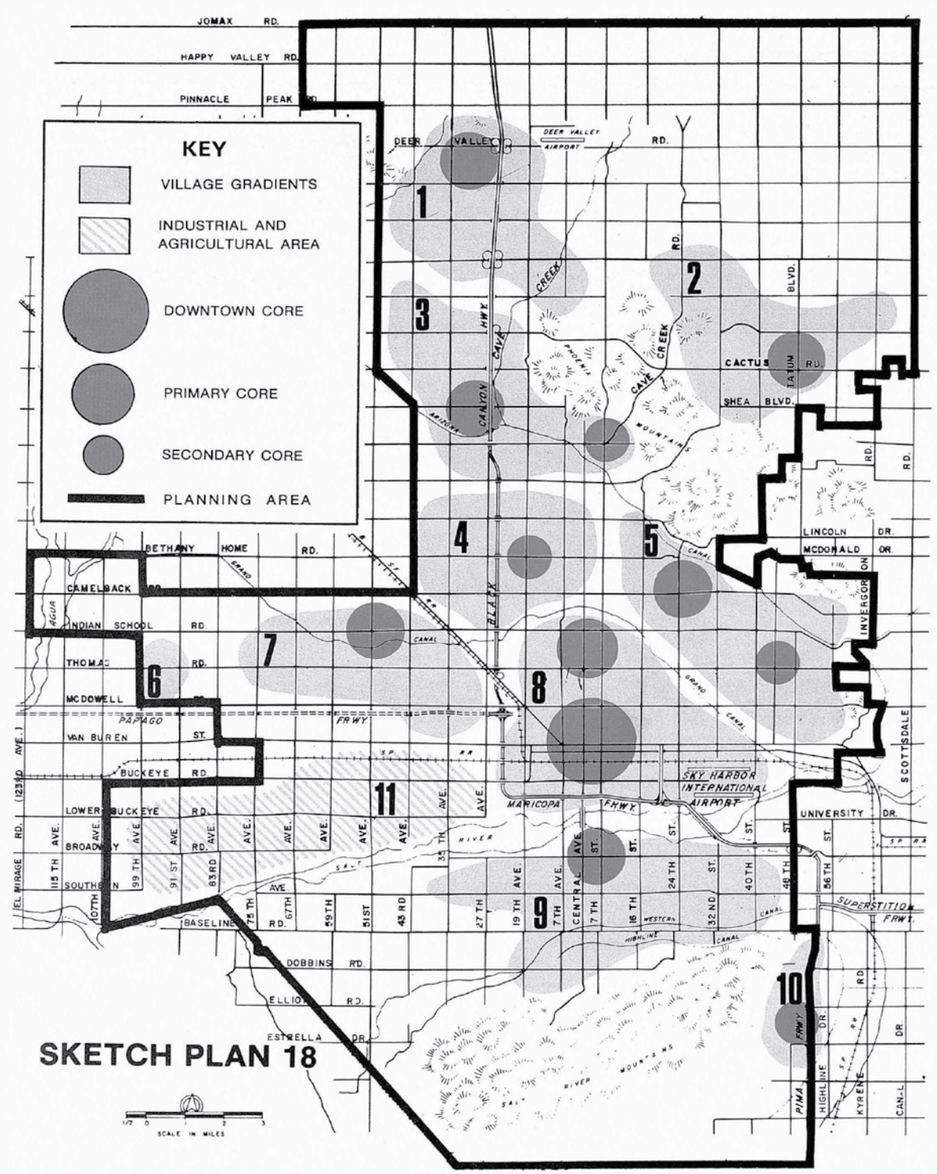
SKETCH PLAN 16

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. Employment	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 floodways, and airports)	33,774	Total Service Industry Acres	24,510
		Total Acres in Planning Area	275,398



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. Employment	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	South Mountain Park	15,341
Total Vacant Developable Unsewered Acres	25,493	Total Residential Acres	79,720
Total Vacant Developable Sewered Acres	43,788	Total Basic Industry Acres	13,530
(steep slopes, large parks, selected floodways, and airports)	33,774	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

BIBLIOGRAPHY

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.

PHOENIX PLANNING DEPARTMENT

Richard F. Counts, Director
Berven M. Forde, Assistant Director
Karl Dunaway, Administrative Assistant
Peter G. Atonna, Deputy Planning Director, Zoning Administration
V. Warner Leipprandt, Jr., Deputy Planning Director, Long Range Planning
George Krempl, Deputy Planning Director, Development Coordination

Study Staff

William R. Mee, Planner III, Advance Planning Section*
D. Kirk Crane, Planner II
John S. Dewhirst, Planner II
Phyllis A. Korab, Planner II
Mark A. Steele, Planner II
Gordon S. Taylor, Planner I
Richard A. Garner, Planner I
Joy A. Mee, Planner III, Research Section
William E. Jacobson, Planner II
R. Anthony Sissons, Planner II

Secretarial and Graphic Contributors

Catherine N. Donovan, Secretary II
Mary Lou Sermeno, Secretary II
Tracy Dowdle, Secretary I
A. Byron Kanel, Illustrator II
Andrew J. Clouse, Illustrator I

*Project Director

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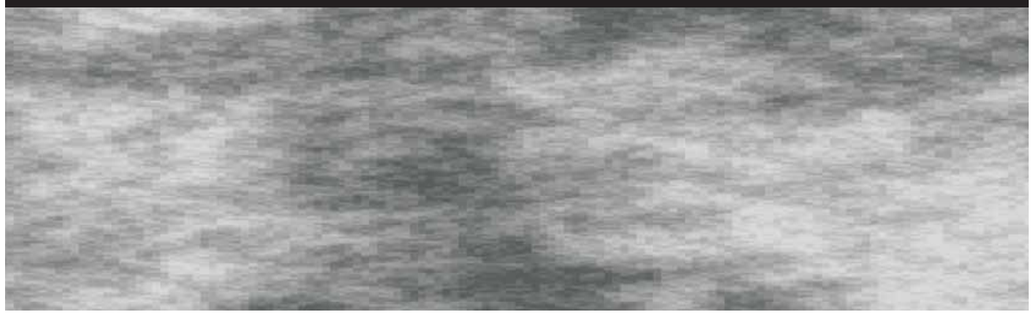
Cover Photography: Bob Rink

City of Phoenix
Planning Department

PHOENIX URBAN VILLAGE MODEL

GENERAL PLAN FOR PHOENIX 1985 - 2000



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STAFF MEMBERS HAVING PRIMARY RESPONSIBILITY

Supervision
Ray Quay, AICP
Assistant Director
Planning

*Michael Kattermann, AICP
Planner III
Planning

Project Manager
Dean Brennan, AICP
Planner II
Planning

STAFF MEMBERS WHO MADE SIGNIFICANT CONTRIBUTIONS

Judith Burke
Graphic Artist
Planning

Rebecca Eppard
Secretary II
Planning

* Former Staff

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Thank you.

Document Prepared by the
City of Phoenix Planning Department

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PHOENIX URBAN VILLAGE MODEL

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PHOENIX URBAN VILLAGE MODEL

NOTES

GENERAL PLAN UPDATE

PHOENIX URBAN VILLAGE MODEL

Introduction

This document provides a new model for the desired urban form of Phoenix. Based on new community perceptions of place and neighborhood, this new model refines the original Phoenix Urban Village Concept. This new model provides both a description of existing development patterns and a prescription for what Phoenix's urban form should be in the future. In existing areas the model provides insight into how redevelopment might modify existing development patterns to enhance the efficiency of urban services and economy while promoting a stronger sense of community. For newly developing areas the model provides a blue print for building a new urban form that better meets the community's desires for function and sense of place.

PURPOSE

The purpose of the model is to provide a physical place for Phoenix residents that promotes a strong sense of community, promotes a healthy and viable economy, promotes the efficient provision of high quality urban services, and protects the quality of life in established neighborhoods.

INTENT

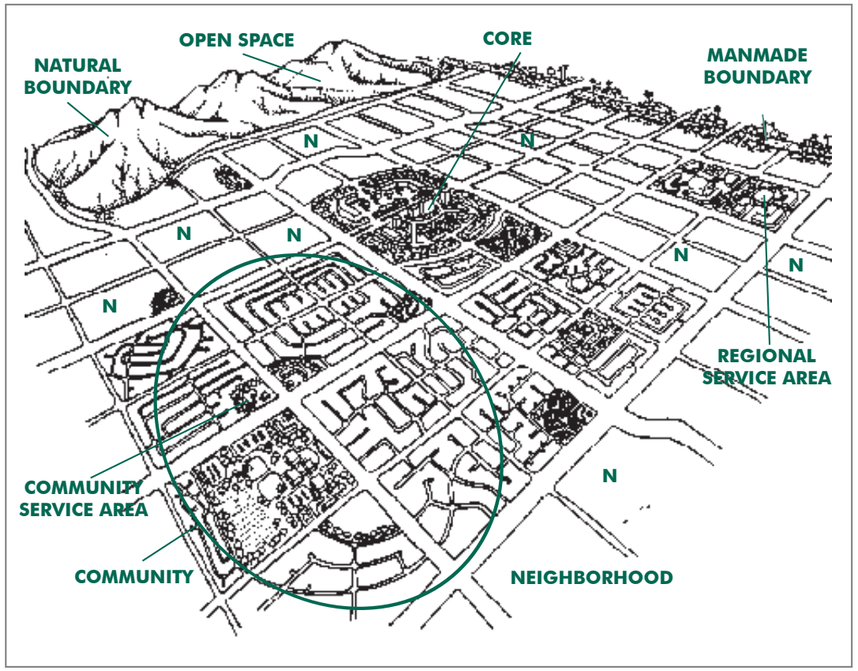
This model provides the basis for updating the Phoenix General Plan. The model contains the general concepts that will be used to update the goals, policies, and strategies of the Land Use and other appropriate elements of the General Plan. The model will implement through the policies of the General Plan and the mechanisms for implementing those policies. The model represents a desired end state. However, because of the dynamics of urban development, the desired end state will likely never be achieved for the City as a whole. It may be achieved within small portions of the City, particularly newly developed areas. For the more urbanized parts of the City, this end state provides a model for which portions may be implemented incrementally as redevelopment and enhancement occur.

HISTORY

The Urban Village Model is a refinement of the Phoenix Urban Village Concept. This concept was originally identified as the urban form for Phoenix by a citizen committee that worked from 1974 to 1979. This work resulted in the adoption by the City Council of the ***Phoenix Concept Plan 2000***. This Plan defined the Urban Village Concept and was used as the basis for developing the ***General Plan*** adopted by City Council in 1985. The Plan initially established nine villages and the urban form for Phoenix. The Plan also established Urban Village Planning Committees, charged with providing advice to the City Council on planning related issues in each village.

PHOENIX URBAN VILLAGE MODEL

In 1989 and 1990, the City sponsored the Futures Forum, a series of meetings which provided an opportunity for the community to discuss and articulate a vision for Phoenix's future. Some of these discussions focused on Phoenix's existing urban form and the strengths and weaknesses of the Urban Village Concept. In 1991, as part of an update of the General Plan, the City used the results of these discussions as a basis to refine the existing Urban Village Concept into a new urban form model for Phoenix. From 1991 through 1994, the City worked with the Village Planning Committees and other citizens to refine and finalize these concepts into a new Urban Village Model. This document contains the results of these efforts.



PHOENIX URBAN VILLAGE MODEL

Principles

The Urban Village Model is based on five principles.

Principle 1. *Balancing housing and jobs*

The idea of living, working, and playing in the same village is a basic principle of the Model. This principle focuses on creating a sense of community by providing living, employment, and recreational opportunities in close proximity to village residents. Residents of Phoenix, and the entire metropolitan region, have many choices as to where they will live, work, and play. Factors such as the transportation system, disparities in educational system quality, ongoing changes in provision of retailing services, a range of job opportunities available, and a variety of lifestyles, are examples of what impacts where people live, work, and play.

Although it may be difficult to achieve a standard citywide ratio for each village, consideration should be given to identifying a ratio for each village. This should be based on the long term economic development goals of the community, the unique characteristics of each village, and the opportunities for future employment and population growth for each. Thus the appropriate ratio of jobs to population will be determined for each village. This will result in a range of ratios based on the historic development patterns of each individual village.

Principle 2. *Concentrating intensity in village cores*

The core is considered the central focus for each village from both a physical and social standpoint. To become that focus, the core should include a variety of land uses that will create a reason for village residents to come to and congregate in the core.

Because the core is the central focus for each village, it should contain the highest development intensity - concentration of people and activities. Core intensity in a village will be based primarily on the intensity of development in the village. However, the absolute intensity of village cores will be different from one village to another.

Principle 3. *Promoting the uniqueness of each village*

Each of the urban villages has a unique natural, urban and social character. That character should be enhanced by the types and intensities of land uses that are developed in the village The Model establishes land use categories which provide each village flexibility as to how those land use categories are used to enhance the character of the village.

Principle 4. *Preserving and enhancing the quality of life in each village*

There are a variety of factors that contribute to the quality of life in Phoenix and each of its villages - i.e., climate, environment (air, water,

PHOENIX URBAN VILLAGE MODEL

Principles

open spaces), recreation opportunities, employment opportunities, educational opportunities, and a variety of housing opportunities. In some instances desirable factors exist that are unique to specific villages - freeway access, natural features, housing stock, and historic resources. Those factors should be identified, and where possible preserved, and enhanced for each village.

Historic structures, both residential and commercial, add character and create identity. Preservation of historic sites and structures should be encouraged. Development in or adjacent to historic structures should be sensitive to the area. Whenever possible, the structure should be preserved in its entirety. If the site is redeveloped, every attempt should be made to incorporate the historic facade.

Principle 5. *Providing for a majority of resident needs within the village*

In addition to providing employment opportunities for village residents, other types of private and public services should must be equitably provided to satisfy resident needs. Private and public services should include, but not necessarily be limited to, programs and facilities that address critical social issues such as homelessness; substance abuse; domestic violence; dependent child and adult care; criminal justice services; and residential treatment of AIDS, Alzheimers, chronic mental illness and other health problems. Consideration, where reasonable, should be given in each village to insure that these services needs are provided in a balanced manner within a reasonable distance of each resident. A balanced City-wide distribution will help alleviate the problems that may be created when these services are concentrated in a particular village or area of the City. In addition, efforts should be made to insure that both private and public services are distributed equitably among all the cities in the metropolitan region and not concentrated in Phoenix.

Principle 6. *Directing urban planning through the Village Planning Committees*

The central planning unit for each urban village shall be the village planning committee which shall have the opportunity to formulate its recommendations regarding the following factors in consonance with the affected neighborhood groups registered with the City of Phoenix and any other affected property owners:

- ❑ Location of the five components of the Urban Village Model, including identification of the need for new service areas.
- ❑ An appropriate mix of land uses based on the residential component.
- ❑ Character, uses and intensities within cores.
- ❑ Appropriate ratio of jobs to population.

The recommendations of the village planning committees shall be forwarded to the Planning Commission and City Council for review, comment, and action.

Principle 7. *Balancing economic impacts and land use decisions*

Land use decisions should be evaluated in the context of the potential impacts on the economic viability of the village as a whole. In addition, the impacts on the short and long term revenues of the City should be determined. Consideration of the economic viability in each village is essential to the overall viability of the entire City.

Components

The Urban Village Model is comprised of five components which identify the basic land use relationships within each urban village. Those are: *CORE, NEIGHBORHOODS, OPEN SPACE, COMMUNITY SERVICE AREAS,* and *REGIONAL SERVICE AREAS***.** Each identifies a broad range of similar land use types that exist in each village.

ARRANGEMENT OF COMPONENTS

The diagram on Page 8 shows how the five components might be arranged, particularly within newly developed areas. Within more urbanized parts of the City, the arrangement of these components might look quite different and reflect transition areas between commercial and residential uses. Where single family stock exists within the transition area, or within any of the five components, its retention is encouraged.

CHARACTERISTICS

Each Component has characteristics that determine the land use relationships within each component and between the various components.

For each component these characteristics are defined in the following terms:

- ***function*** describes the purpose, or role, of each component. Function remains consistent throughout all villages. For example, the function of neighborhoods - to provide housing and support services - is the same throughout all the villages.
- ***relative intensity*** describes the level of concentration of activities and people. The intensity of development will be a related to the development character and unique circumstances that exist in each village. The relative intensity of the cores will not be the same in every village. In addition, relative intensity will be further defined by the "development character" both in the context of each village and in the context of the City.

Components

Development character identifies three levels of relative intensity that can be generally applied to land use patterns in Phoenix. Development character addresses the basic site development elements of building type, configuration and placement, lot coverage, pedestrian amenities, automobile orientation, and access to transportation systems. Specifically these characteristics are further described by the following:

Urban character refers to a development pattern which maximizes buildable area. Character includes features such as narrow streets, minimal building setbacks, maximum lot coverage, minimum surface parking, and pedestrian accessibility to adjacent buildings. These features provide enhanced opportunities for multimodal transportation services.

Suburban character refers to a development pattern which is oriented towards automobile accessibility. Features include wide streets, large building setbacks, low percentage of lot coverage, and extensive surface parking frequently between the building and the street. These features limit opportunities for pedestrian access from the street and transit stops.

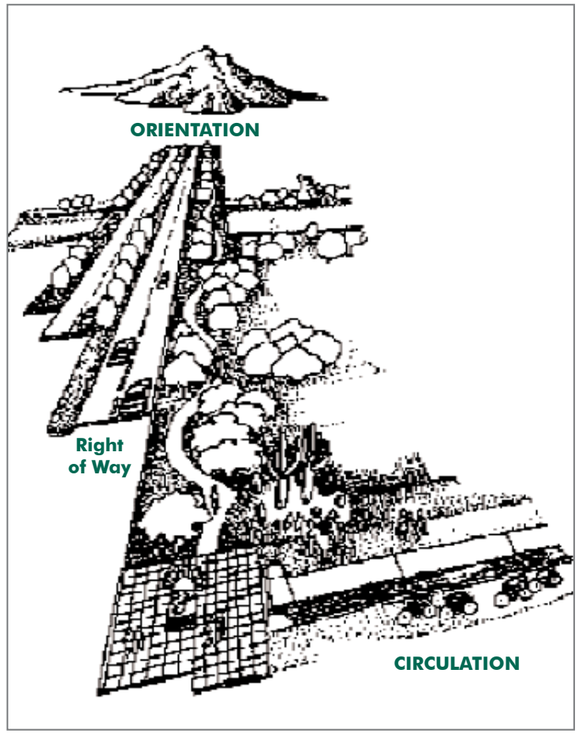
Rural character refers to a development pattern which minimizes buildable area and maximizes the use of open land for natural, recreational, or agricultural uses. Features include narrow streets or unpaved streets with minimal or no curbing, minimal or no sidewalks, variable building setbacks, low lot coverage frequently with low profile buildings, and parking associated with an equivalent or greater area of natural vegetation. Low density development severely limits transit and pedestrian opportunities though recreational pedestrian, bicycle, and equestrian opportunities may be provided.

Generally relative intensity will decrease from the core to the village boundary. There will be nodes of more intense land use activity located at prescribed areas throughout the village based on resident needs for employment opportunities and services.

Relative intensity can be described based on Floor Area Ratio (FAR), trip generation, land use characteristics, density, and other unique site factors. Also, high intensity does not necessarily mean high rise buildings.

- ***land use*** describes the types and the mix of land uses desirable in each component. The mix of land uses will vary by village, but land use types will be generally consistent among all villages. For example, the types of residential development (single family detached, single family attached, and multi-family) will be the same in most villages but the mix among those residential types will vary.

❑ ***transportation*** describes the factors of the component which impact the transportation system and define the types of transportation services that may be required.



Components

	COMPONENTS				
	Core	**Neighborhoods**	**Open Space**	**Community Service Areas**	**Regional Service Areas**
Function	Village downtown.	Residential base.	Recreation and environmental preservation.	Commercial.	Basic employment.
	Village focus.			Office facilities.	Commercial.
				Services.	Services.
Relative Intensity *	Very high.	Low.	Very low.	Medium.	High.
	Greatest heights.	Lower heights.	City and village wide orientation.	Low to medium heights.	Large facilities.
	High commercial employment.	Range of densities.		Retail and professional.	Strong employment base.
	High density residential.			Community oriented.	City to global orientation.
Land Use	Retail and wholesale trade.	Single and multi-unit housing.	Regional parks.	Small to medium retail.	Transportation hubs.
	Office complexes.	Residential support services.	Mountain and desert preserves.	Professional offices.	Manufacturing.
	Government centers.	K-6 schools.	Zoos and botanical gardens.	Shopping centers.	Research centers.
	Pedestrian plazas.	Local parks.	Flood plains.	Repair centers.	Medical centers.
	Entertainment/ cultural centers.		Linkage systems.	Restaurants and entertainment.	Universities.
	Multi-unit housing.**		Access and user services.	Local government facilities.	Supporting services.
			Streets.	Community hospitals.	Hotels and resorts.
				Community colleges.	
				7-12 schools.	
Transportation	Important destination.	Trip origins.	Destination area.	Destination within village.	Regional destinations.
	High trip generation.	Low trip generation.	Low/medium trip generation.	High trip generation.	High trip generation.
	Multi-modal.	Auto/external trips.		Auto dominant.	Auto dominant.
		Ped-bike/internal trips.			

* Relative Intensity will depend on the character of each village. For example, the "greatest heights" in an urban core may be 25 stories, whereas in a suburban core it may be only two stories.

** Where single family stock exists within or adjacent to the Core Component, its retention is encouraged.

Boundary

Because a village boundary is generally considered to be a line on a map and does not occupy space, it is not considered to be a component of the Model. The boundary for each village does serve an important function.

1. The boundary is a line on a map that identifies the planning area for each village planning committee.
2. Where a physical feature serves as a boundary, it has the potential to be a clearly identifiable symbol for the village. As such, it contributes to the unique character of that village and becomes a symbol for identification of and association with a village. Where there is a physical feature, the appropriate village planning committee(s) should be actively involved in the planning process with respect to such feature.

Within each village, the Model can be used to identify boundaries in the context of physical barriers and edges that serve as distinct separations between neighborhoods and communities. This requires an examination of internal neighborhood and community relationships to ensure that the boundaries do not conflict with those relationships. Once the boundary relationships between neighborhoods and communities are identified, the Village boundaries should not divide neighborhoods and or communities.

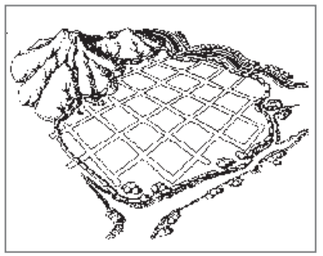
Examples of boundary types:

Natural feature:

- mountains
- drainageways

Manmade features:

- freeways
- arterial streets
- canals



NATURAL BOUNDARIES

The most effective edge or border for a neighborhood, community or village is a natural feature such as mountains, desert areas, or washes. Manmade boundaries include freeways, canals and arterial streets.

Arterial streets and canals, which can serve as boundaries, also have the potential to serve as linkages within the open space network. Used as linkages, streets and canals serve the residents of adjacent neighborhoods, communities, and villages.

Critical issues to be addressed for boundary identification;

- the potential impacts of land use decisions that occur near the boundary of two villages
- the use of physical features, mountains and canals, which help to identify the unique character of the village
- the relationship of the land uses in a village and the land uses that may exist in adjacent cities
- consideration of the impacts a boundary location has on a neighborhood or a community
- consideration as to whether physical features such as canals are appropriate for use as boundaries.

Core Component

The Core is the central focus for the village. The core should contain a mix of uses including office, retail, public, governmental, and residential. Flexibility of land uses is important. The variety of uses will be determined by the uniqueness of each village core and the development character of each village.

The core should contain the most intense land uses and generally the tallest buildings. That does not mean that there will be high rises in every core. The concentration of intensity and activity will create a core that is identifiable as the physical central focus for the village. The concept of physical focus recognizes cores with two distinct characters: suburban and urban.

Suburban cores provide services to areas that are primarily suburban in character. Development is typified by freestanding buildings with large setbacks, generally surrounded by surface parking lots. The automobile is the predominant transportation mode for trips to and from the core as well as within the core. Pedestrian amenities are encouraged but are not the primary focus. Public transportation is available and its primary function is to serve commuters who work in the core. A secondary function is to serve commuters who drive to the core and switch to public transportation for the commute to work. The suburban core should have a mix of land uses but depending on the development character of the core, a particular land use type may predominate, e.g., retail or office. Because of the development character and the fact that a suburban core evolves, the mix of land uses may not be as critical as the mix in the urban core.

Urban cores are characterized by a development pattern which maximizes buildable area and minimizes use of land for parking. Development is typified by close proximity of structures with little or no setbacks. This results in the development of structured or underground parking facilities with minimal surface parking. Because of the compact nature of development, there is a strong emphasis on providing pedestrian amenities primarily on public property. The urban core should serve as the focus for the development of a multi-modal transportation system because of the concentration of employment and housing opportunities. Public transportation serves as a major role by

providing commuter access within the core as well as serving as the connection with other concentrations of activity in the city and region. Urban cores can include activities which provide services to the entire region and surrounding urban areas.

The core should also contain a "gathering" space that can serve as a central focus for social interaction of village residents. Both outdoor and indoor spaces, either public or private, have the potential to provide this social central focus. The type of space available will depend on the development character in each core.

The character, uses, and intensities within cores may change over time. Villages that are primarily suburban in character today have cores that are primarily suburban. Uses and movement within these cores are highly dependent on the automobile. As long as land costs relative to the central city remain low and the densities of the villages necessitate use of automobiles for travel, these cores will remain suburban in character. However, as the villages build out (30 - 50 years) and intensities and land costs increase, the character of the suburban core may become more urban.

Phoenix Urban Village Model

Core Component

PURPOSE

The Core Component

- identifies an area of the most concentrated, highest intensity land uses in each village.
- identifies the internal organization of different types of cores, urban and suburban, and that cores may evolve over time from suburban to urban.
- strengthens the importance of the core as the central focus for the village.
- emphasizes concentration of development intensity in the cores.

CHARACTERISTICS

Function:

- ❑ central focus for village residents
- ❑ "downtown" for the village

Relative Intensity:

- ❑ highest intensity in village
- ❑ the location and transition of intensities within the core will depend on the development patterns of the core and surrounding areas.

Phoenix Urban Village Model

Core Component

Land Uses:

- ❑ retail, office, public, hotels
- ❑ may include some regional services
- ❑ multi-family*
- ❑ entertainment/cultural centers
- ❑ pedestrian plazas

* *Where single family stock exists within or adjacent to the Core Component, its retention is encouraged.*

Transportation:

- ❑ important destination for the village
- ❑ high trip generation rate
- ❑ multi modal - vehicle, transit, pedestrian
- ❑ accessed by two or more arterials - internal circulation on local and collector streets

GOALS AND POLICIES

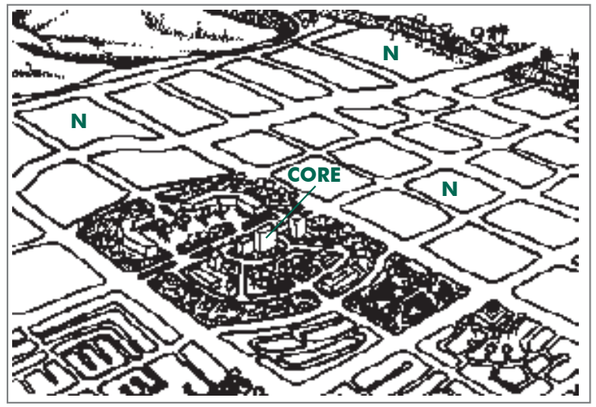
The goals and policies to be included in the revised Land Use Element of the General Plan will focus on the following:

- ❑ Provision of a central focus that creates a physical identity for the residents of each village.
- ❑ Provision of a mix of employment and housing opportunities in an area with the village's most intense development.
- ❑ Provision of an area that serves as a central focus for social interaction in each village.
- ❑ Provision of a transition and/or buffer between intense core development and other less intense development including residential neighborhoods. Transition can be provided through reduction of building height, siting of buildings, and/or changes in land use. Buffer can be provided through the use of open space landscaped areas and major streets. The transition and/or buffer may occur within or adjacent to the core, although in those areas where a neighborhood is adjacent to the core, the transition/buffer should occur within the core.

SECONDARY CORES

The General Plan identifies secondary cores in the Camelback East Village, Maryvale Village, and North Mountain Village. This designation recognizes existing secondary cores, but additional secondary cores should not be designated. The secondary cores may provide areas of major office employment and support services or may serve as a central focus for a community. Secondary cores are differentiated from the Core in that a secondary core generally would not have the mix of uses or the intensity of development that should occur in the core.

PHOENIX URBAN VILLAGE MODEL



Core Component

Neighborhoods Component

The Neighborhoods Component recognizes the importance of residential areas as the major land use in each village. Preservation and enhancement of existing neighborhoods and the creation of strong viable neighborhoods in developing areas are the focus of this component. It includes single family detached houses, townhouses, apartments, other types of residential land uses, and low intensity nonresidential uses that serve the recreational, educational, and retail needs of the neighborhoods.

Neighborhoods are "places" where people live and socialize. Neighborhoods provide the potential to facilitate interaction between residents. That is the primary function of a neighborhood. The mix of residential and nonresidential land uses contributes to the creation of a viable social structure and to the stability and long term health of a neighborhood.

This component addresses land use relationships that exist or will exist between neighborhoods and intense nonresidential land uses. It also recognizes the importance of maintaining an adequate supply of land for residential development where the need for that type of development has been identified.

The Neighborhoods Component is general and does not address specific neighborhood issues. Uses not permitted by right should not be introduced into a residential neighborhood without thorough review, discussion, and consensus by the neighborhood(s). Specific neighborhood issues are addressed in the Neighborhood Element of the General Plan.

PHOENIX URBAN VILLAGE MODEL

Neighborhoods Component

NEIGHBORHOOD SERVICES

These are land uses that provide basic services and goods to neighborhoods within a 1 or 2 mile trade area. This includes a range in size from the smallest commercial development site to a commercial development no larger than a site anchored by a small grocery store. In many of the more urbanized villages, neighborhood services are sometimes provided in a development type recognized as linear or strip commercial areas along arterial and heavily travelled collector streets. This type of development is not desirable, and strip commercial should not be permitted in future commercial construction because of the negative impact it has on neighborhoods.

PURPOSE

The Neighborhoods Component

- recognizes neighborhoods as an essential component of urban form.
- emphasizes the relationship between neighborhoods, communities, and urban villages.
- identifies the predominant, but not exclusive, residential nature of each village.
- reaffirms the composition of neighborhoods by including nonresidential land uses which are important to viable residential neighborhoods and the mixture of housing types which are essential to their long term stability.

CHARACTERISTICS

Function:

- provides a stable residential base for the villages and the City

Relative Intensity:

- varies based on proximity to core (generally higher intensity closer to the core)
- varies by village with different overall village intensities
- areas of greater intensity may be located in conjunction with community services or in areas with enhanced regional accessibility

Land Uses:

- residential
- residential support services

Transportation:

- ❑ location of trip origins
- ❑ low trip generation rate
- ❑ auto is predominant mode for access to outside areas
- ❑ pedestrian/bicycle travel occur within neighborhoods
- ❑ accessed by minor collectors and local streets
- ❑ outflow in the morning and inflow in the evening

GOALS AND POLICIES

The goals and policies to be included in the revised Land Use Element of the General Plan will focus on the following:

- ❑ Preservation and enhancement of existing neighborhoods.
- ❑ Provision of compatible land use relationships for new neighborhoods.
- ❑ Inclusion of a mix of housing types and densities that support a broad range of lifestyles.
- ❑ Location of high density residential uses in the core. High density residential uses may locate near the core, but not at the expense of existing low intensity development.
- ❑ Location of clusters of medium density residential land uses throughout the village in proximity to higher intensity development not located in the core.
- ❑ Provision of schools and parks to serve the neighborhoods in each village.
- ❑ Mitigation of potential impacts that may exist or be created between neighborhoods and more intense land uses.
- ❑ Provision of appropriate physical linkages (i.e., pedestrian walkways) between neighborhoods to create a sense of community.
- ❑ Provision of physical linkages between neighborhoods and nonresidential land uses that serve the neighborhoods.

Within each village there are groups or clusters of neighborhoods that have a common recognizable sense of identity for the residents of the area. This identity may be linked to a natural or manmade physical characteristic or a social/cultural characteristic that contributes to a "sense of place". These areas are identified as "communities".

A sense of identity may be difficult to accomplish on a village level because of the geographic size and diversity of the villages. The community provides a sense of identity on a geographical scale smaller than a village but larger than a neighborhood.

Neighborhoods Component

Community Concept

Depending on the character of the community, there may be a identifiable "central focus" for the residents of the community. This could be a school, community center, adult center, a park, or a commercial area (community service area).

An identifiable community may not exist in every area of a village. Designation of these areas should be done by the village planning committee in conjunction with local residents.

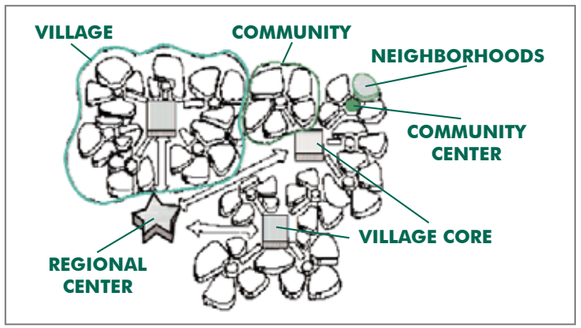
Community Concept

A Community is a cluster of neighborhoods that possess some or all of these characteristics:

- ❑ Has a physical and/or social central focus.
- ❑ Functions as a service area for schools, parks, commercial, and similar uses which may be located within or adjacent to the community.
- ❑ Has an internal circulation system that encourages pedestrian and bicycle traffic within the neighborhoods and between the neighborhoods and the uses located in the service areas.
- ❑ Has an external circulation system that creates few major separations between different neighborhoods in the community.
- ❑ Has neighborhoods and communities in which local destinations can be reached on foot or by bicycle.
- ❑ Has local schools, parks and other community facilities which serve as neighborhood and community focal points.
- ❑ Has facilities for public services and assembly and celebration in neighborhood and community service centers.
- ❑ Has area of concentration of commercial development surrounding neighborhood.

COMMUNITY CONCEPT

Clusters of neighborhoods form communities and groups of communities form villages.



PHOENIX URBAN VILLAGE MODEL

Open Space Component

The Open Space Component recognizes the important contribution that open areas make to the quality of life. Open space is important for several reasons. It provides physical form and contributes to the visual context of the community. Open space provides recreational and educational opportunities for residents and enhances the quality of life for those who live in proximity to open space areas.

Open Space areas are either man made or natural. These areas comprise the "ecological infrastructure system" which provides shape and form for the community. This system includes a variety of open space areas and the linkages that connect those areas. The system recognizes the relationship open space has with other land uses and the contribution that open space makes to the quality of life in each of the villages.

Open space can be either public or private. Public open space includes mountain preserves, washes, trails, canals, parks, golf courses, streets, detention basins, and similar open space areas. Private open space includes uses such as golf courses, areas within planned area developments and areas within commercial developments.

PURPOSE

The Open Space Component

- recognizes that natural open space provides the opportunity to preserve the natural high quality desert environment for visual, recreational, and educational benefits
- recognizes open space areas as important because of the aesthetic, social, psychological, economic, cultural, and recreational benefits that are derived from these areas
- recognizes that open space helps shape urban form and provides identity for the community

CHARACTERISTICS

Function:

- preserves significant natural environment that contribute to urban form and protect open space areas
- provides recreational, educational, and cultural opportunities

Relative Intensity:

- zero to very low

Land Use:

- passive and active recreational facilities

PHOENIX URBAN VILLAGE MODEL

Open Space Component

Transportation:

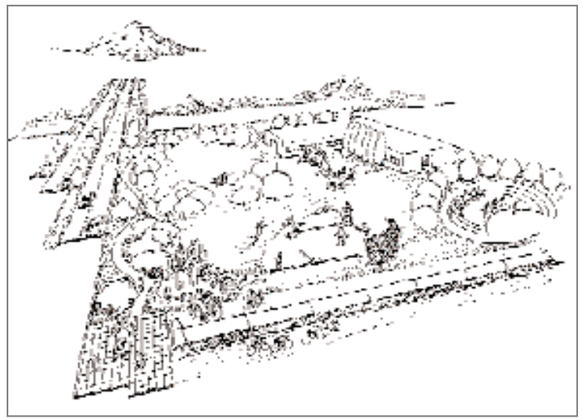
- destination area
- range of medium to low trip generation
- auto predominates in serving area
- usually accessed from major arterial or arterial streets
- minimum interaction with transportation facilities
- may be reached by trails
- not all need to be directly accessible

GOALS AND POLICIES

The goals and policies to be included in the revised Land Use Element of the General Plan will focus on the following:

- Support regional open space planning efforts through creation of an open space system that identifies open space areas and provides physical linkages of those areas within each village; within the City; between cities within the region; and between the region and the state.
- Development of open space areas that provide recreational opportunities for walking, jogging, bicycling, equestrian, and other individual participant activities.
- Preservation and protection of natural open space areas in either public or private ownership.
- Provision of open space areas in major developments and areas of activity concentration.
- Use of open space, where possible, as a transition/buffer between different types of land uses (residential - commercial) and between similar land uses of different intensity (single family residential - multiple family residential).
- Support the *Long Range Parks Plan* through provision of adequate open space in each village to meet the recreational needs of the residents.
- Provision of the opportunity for protection, preservation, and where possible, restoration of riparian areas along natural drainage courses.
- Provision of the opportunity for protection and expansion of the mountain preserve systems.
- Support working with the Parks Department on desert preserve concept. This can be accomplished through the provision of the opportunity for protection of flatland desert areas that have been identified by the community for preservation.

- Opportunity for all residents, no matter what their physical limitations, to have accessibility to the open space system.
- Improve much of the open space system with comfort and safety amenities.



Open Space Component

Community Service Areas Component

Community Service Areas designate activity areas where services are provided, primarily for the benefit of residents in adjacent neighborhoods and communities. Generally, the market area for most uses within this category will be smaller than a typical village, although if located at the edge of a village may extend into the adjacent village.

Community Service Areas designate a variety of land use types and intensities. The form of these areas is in three configurations - General Commercial, Linear Commercial, and Non Commercial. The designations apply to both developed areas and to future development, although in the case of Linear Commercial, there should be no new approvals for linear commercial development.

GENERAL COMMERCIAL

General commercial land uses provide goods and services that meet the broad based commercial needs of village residents. This commercial designation generally consists of retail and service establishments clustered at a specific site and/or a specific area. The General Commercial or Community Service Areas include land uses which

Community Service Areas Component

serve a market area of several neighborhoods - or communities within a 2 to 5 mile trade area. This will typically include commercial development with more than one anchor, e.g., a grocery store and a junior department store.

LINEAR COMMERCIAL DEVELOPMENT

As in the case of Neighborhood Services, Community Services are sometimes provided in a linear configuration. Linear Commercial is not a land use designation but rather a development type that recognizes the existence of "strip commercial" areas along arterial streets. However, this type of development is not desirable, and strip commercial should not be permitted in the future because of negative impacts associated with this land use category. Inherent conflicts with traffic and parking are detrimental to surrounding businesses and residential development. Frequent curb cuts contribute to the reduction in carrying capacity of the adjacent street and an increase in accidents. Linear Commercial tends to be unattractive because of parking adjacent to the street and lack of pedestrian amenities. The linear nature of this type of development creates the largest possible impact with adjacent residential, frequently resulting in service, loading and trash areas being located next to adjacent houses.

There are linear commercial areas, i.e., McDowell Road east of Central Avenue, that have been rehabilitated and remain viable commercial areas. Where economically feasible, it may be appropriate to rehabilitate areas that have the potential to provide basic retail services to adjacent neighborhoods. This may include improved pedestrian access from adjacent neighborhoods, relocating parking, maximizing opportunities for shared parking, and design treatments which maintain high street visibility and easy access by automobile yet minimize the visual and functional impacts of signage, parking, and traffic interaction with pedestrians.

Some linear commercial areas that are not economically viable, may be redeveloped. Such redevelopment should focus on uses viable within the existing available land area. Uses which serve adjacent neighborhoods or communities are preferred. Redevelopment feasibility should not be based on the assemblage of adjacent residential lots or housing to facilitate redevelopment.

NON COMMERCIAL COMMUNITY SERVICES

There are non commercial uses that serve a community or subarea of a Village. These uses may create a high concentration of activity which has the potential to impact adjacent neighborhoods. Examples includes junior high schools, high schools, churches, community

colleges, community centers, and similar uses. These uses should be consistent in character with the neighborhood in which they are located.

PURPOSE

The Community Service Areas Component

- recognizes existing areas of intense land use activity for the purpose of establishing guidelines that will address the long term develop/redevelopment of these areas. Identifying these areas does not legitimize these uses, but recognizes that over the life of the General Plan there may be changes in how these areas are used and redeveloped.
- identifies the need for the development of new service areas. This can be accomplished by establishing development standards and locational criteria. Development standards should be used to eliminate or minimize potential impacts on adjacent land uses. Locational criteria will be based on market analysis and help minimize land use speculation in developing areas.
- acknowledges existing nodes of activity and/or employment which are located outside the core.
- recognizes the diverse nature of these activity areas for which different standards can be developed depending on the character and intensity of land use activity.
- sets in motion a process of developing policies that will address existing situations and ensure the appropriate siting and design of future developments.

Goals and policies developed for the different levels of commercial intensity will guide the location, transportation access, site size, building bulk and land uses to ensure compatibility with surrounding uses.

CHARACTERISTICS

For this category, specific land uses are not identified for the Land Use Characteristic. Land use types are used that reflect a broad range of potential uses.

Function:

- identify existing areas of activity outside the core
- provide appropriate areas for increased land use intensity outside the core

Relative Intensity:

- based on compatibility with adjacent areas and the transportation system

Land Uses:

- retail
- office
- public/quasi public

Transportation:

- destination area for sub-village area
- high trip generation - pm peak and weekend activity
- auto dominant mode with some transit
- usually accessed from arterial streets

GOALS AND POLICIES

The goals and policies to be included in the revised Land Use Element of the General Plan will focus on the following:

- Prohibition of additional linear commercial and development of methods to encourage rehabilitation, redevelopment or the phasing out, where appropriate, of existing linear commercial. Redevelopment of linear commercial areas should focus on providing neighborhood services that don't have a detrimental effect on adjacent neighborhoods and encourage pedestrian and bicycle transportation modes.
- Preparation of locational standards* for the various types of community services ensuring compatibility of these uses with adjacent neighborhoods.
- Preparation of performance standards* that will mitigate or eliminate the potential land use conflicts that may be created through the redevelopment of an existing community service area or the development of a new community service area and provide a transition to residential uses.
- Provision of a mechanism for the identification and/or creation of community service areas as the central focus for communities within each village. Village planning committees working in concert with Planning Department staff, will prepare locational and performance standards that are compatible with the unique character of each village, and which provide the basis for identifying community service areas.
- Provision of transportation standards addressing access to and from the site, and on the site.

** The use of standards whether locational and/or performance shall not in any way interfere or limit the ability of residents to have a full and complete hearing cycle before the village planning committee, Planning Commission, and the City Council prior to any possible approval of the reclassification of any residential property to a commercial designation or prior to the reclassification of any commercial property to a use with a*

different intensity.

Regional Service Areas identify land use areas which are one of a kind, unique, and/or special purpose. This category recognizes the existence and the importance of the identification of areas available for basic employment or the provision of unique services. Regional Service Areas are generally land use areas that are oriented to the metropolitan area. These areas do not compete with village cores because they are single purpose or located at areas of unique natural or transportation features. Uses in these areas focus on specific purpose or site characteristics while cores are a concentration of mixed uses focused on providing general services to the Village or region.

Regional Service Areas Component

PURPOSE

The Regional Service Areas Component

- identifies land use areas that relate to a regional context rather than to the context of the individual village. In certain situations, where a regional service area is under public jurisdiction, the village planning committee may have no review authority over the land use modifications that may occur within an existing regional service areas site. However, village planning committees should be kept informed on a timely basis of any such land use modifications. The village planning committees should have review authority over the location of new regional service areas.
- identifies special purpose areas that serve a much broader area than the urban village in which they are located.
- recognizes areas with high concentrations of activities and people.
- recognizes the importance of basic employment to the long term economic health of the city and provides areas for the location of those types of employment opportunities.

Because of their single purpose nature, and limited support services, a Regional Service Area will not compete with the village cores. There may be situations where a Regional Service Area may complement a core, e.g., Governmental Mall complements Downtown, St. Joseph's Hospital complements the Encanto Core.

On the following page are several common types of regional service areas. Each has its unique function and design issues related to the special purpose or site characteristics. Regional Service Areas are not

Regional Service Areas Component

limited to these types, though most will fall under one of these types.

Regional Services

Commercial uses that provide goods and services which serve a regional market but which are not located in a village core. Examples include "power centers" and "automalls".

Highway Services

Highway Commercial is a specialized area and/or node of activity where goods and services related to intercity vehicle travel are provided. Uses located in these areas typically have special development needs, i.e., larger site requirements, increased parking requirements, and higher and larger sign needs than in other commercial areas. Highway commercial generally occurs adjacent to freeway interchanges such as the Papago Freeway. A freeway truck stop and freeway oriented motels are examples.

Medical Services

Frequently businesses that provide medical services congregate around a large medical institution such as a hospital. These areas cater to regional markets as well as providing services within the immediate business area.

Entertainment Services

There are several uses in the valley that provide regional entertainment services. Examples in Phoenix are the dog and horse racing facilities, Papago Park, and the Desert Sky Pavilion. These facilities typically require large land areas and attract large numbers of regional trips at off peak hours.

Transportation Services

Airports are unique regional service areas. Though the function of the airport itself is special purpose, areas around airports often develop with multiple uses. Many of these uses have operations focused on easy access to airport services while others simply provide services to the local businesses. Phoenix currently has two such areas, Sky Harbor Airport and the Deer Valley Airport. Phoenix also borders on similar areas - the Scottsdale Airport and the Glendale Airport.

Industrial/Warehousing

These are areas that include activities such as heavy industrial, manufacturing and warehousing facilities. These can occur in fairly small to very large districts, be freestanding, or oriented to major roadways and

freeways. Some locations may be significant employment centers while others may use large amounts of land with very little employment.

CHARACTERISTICS

Function:

- provide a unique facility, service, and associated uses which primarily serve the metropolitan area and/or beyond (e.g., Sky Harbor, Deer Valley Airport, Southwest Industrial Area, ASU West)

Relative Intensity:

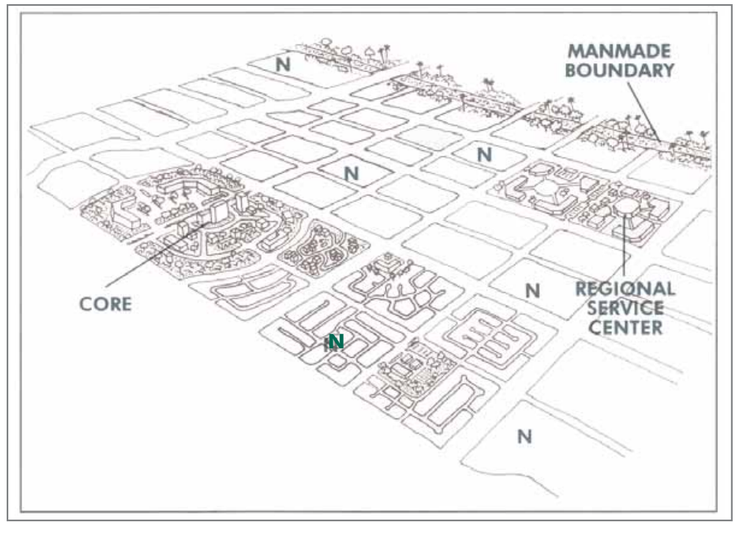
- varies based on land uses

Land Uses:

- could be a single purpose use with associated/support land uses

Transportation:

- some areas may be important destination areas for the region



- some areas may have high trip generation rates while others may have very low rates
- auto dominant mode
- usually served by freeways and major arterials

GOALS AND POLICIES

The goals and policies to be included in the revised Land Use Element of the General Plan will focus on the following:

- Provide locations for uses needed for the economic and cultural viability of the region which would have adverse impacts on neighborhoods if integrated as a component of a village.
- Recognize areas which have urban or natural features that create unique opportunities for regional services.
- Recognize places which have unique cultural significance to the region but are not part of the character of a community or a village.
- Provision of regional service areas that indicate a community commitment to encouraging the creation of new jobs.

COMMUNITY - A community is an area of undefined boundaries containing several neighborhoods, yet maintaining a size smaller than an urban village. Social communities can be classified according to their predominant activities, common traditions, loyalties, attributes, and life-ways. Physical and social communities are neither mutually inclusive nor exclusive.

DENSITY - The number of dwelling units divided by the gross land area, generally expressed in units per acre. The gross land area should include one half of all abutting streets and alleys which are dedicated to the public.

FLOOR AREA RATIO (FAR) - The ratio of the gross floor area of a building, excluding those parts of the building specifically excluded in the Zoning Ordinance, to the gross land area of the site. The gross land area should include one half of all abutting streets and alleys which are dedicated to the public.

GOAL - A stated aim of the City which represents a broad purpose towards which policies, programs, and implementation actions are directed. A goal may not be achievable but rather represents an end state that can not be measured.

HIGH-DENSITY HOUSING - More than fifteen (15) dwelling units per gross acre.

INFILL - Development of vacant land (usually individual lots or left-over properties) within areas that are already largely developed.

INFRASTRUCTURE - Public services and facilities, such as sewage-disposal systems, water-supply systems, other utility systems, airports, bridges, railroads, road, etc.

INTENSITY - The degree to which land is used. While frequently uses synonymously with density, intensity has a broader meaning, referring to levels of concentration or activity in uses such as residential, commercial, industrial, recreation, transit, or parking. Frequently measured by FAR, traffic generation and/or number of employees.

NEIGHBORHOOD - A group of residential and residential serving land uses which share a common sense of identity and a limited geographic area. Neighborhoods can be formed or united by any number of social, political, geographic, service area, or demographic factors. Specific neighborhood boundaries can best be defined by individual residents who live there.

OPEN SPACE - Any parcel or area of essentially unimproved land specifically dedicated or reserved for public or private use and enjoyment. Open spaces can be any size or shape; they can be linear areas between incompatible land uses, hillsides, detention basins for flood control, washes, streets, canals, or other appropriate places.

PEDESTRIAN FACILITY - Any type of path, trail, sidewalk, or walking area, paved or unpaved, within or outside of the street right-of-way, which provides for safe pedestrian circulation throughout the area, and to and from area services and facilities.

POLICY - A specific City statement of principle or of guiding actions that implies clear commitment but is not mandatory. A general direction that the City sets to follow, in order to meet its goals and objectives before undertaking a program.

RESIDENTIAL - A land use devoted primarily to living functions. In order to preserve these areas from the distractions and adverse impacts which can result from immediate association with non-residential uses, these areas are typically restricted from commercial uses.

RETAIL - The sale of goods and services directly to consumers, usually in small quantities.

RURAL - An area that generates very low levels of human activity and interaction by emphasizing site design characteristics which primarily focus on living in an open space or agricultural environment. Design

characteristics include very low density development with a reduction in requirements for public infrastructure and pedestrian facilities.

SERVE THE NEIGHBORHOOD - To render service to a neighborhood from a facility located either within or near the neighborhood area of service (e.g., an elementary school, grocery store, or fire station).

SUBURBAN - An area which generates low levels of human activity and interaction by emphasizing site design characteristics which primarily focus on accommodating the private automobile over transit and pedestrian use. Design characteristics include low to medium density residential development, relatively large street setbacks, little attention given to mass transit or pedestrian facilities, and, for commercial and industrial uses, highly visible surface parking lots separating the building from the street in centers of varying sizes.

URBAN - An area that generates high levels of human activity and interaction by emphasizing site design characteristics which primarily focus on promoting mass transit and the pedestrian experience. Design characteristics include small or no building setbacks, medium to high density residential development, maximized lot coverage, mixed land uses, structured or street parking predominating over surface lots, and a generally high amount of mass transit and pedestrian facilities.

URBAN VILLAGE - A land use form adopted as the unifying element of the *General Plan*. Urban villages have been designated in the *General Plan*, each having its own planning committee. The urban village model encourages major village-serving uses to be concentrated in one place, the core, thereby fostering interaction and reducing travel times and trips. Each urban village is unique, while following the same village form and allowing urban, suburban, and even rural lifestyles to coexist within one village.

VILLAGE PLANNING COMMITTEE - Each urban village has its own village planning committee. The committee's activities include identifying provisions of the *General Plan* text which need refinement and updating, identifying opportunities related to implementation of the *General Plan*, defining in greater detail the intended future function, density and character of subareas of the village, and commenting on proposals for new zoning districts or land use districts. Village Planning Committees operate in accordance with the Council adopted Village Planning Handbook.

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
3636 N CENTRAL AVENUE, SUITE 900
PHOENIX, ARIZONA 85012-1939

January 28, 2015

Karla S. Petty
Division Administrator
4000 N. Central Ave, Ste 1500
Phoenix, AZ 85012

Attention: Rebecca Yedlin

SUBJECT: SPL-2002-00055-KAT South Mountain Freeway EIS

Dear Ms. Petty:

I am responding to your request (File No. SPL-2002-00055-KAT) dated January 26, 2014 for a letter describing the Corps of Engineers Arizona Regulatory Branch (Branch) approach on the permitting for the South Mountain Freeway (33.319040°N,-112.161501 °W, NAD 83) located in the City of Phoenix, Maricopa County, Arizona. Below is the permitting approach we would follow unless conditions change. These conditions could include changes to our regulations and or guidance, changes in design that avoid and minimize impacts to waters of the US (allowing additional use of Nationwide Permits), or changes to the Nationwide Permit program.

The Branch has been involved in the South Mountain Freeway EIS since early 2000. For Transportation projects, it has been the approach of the Branch that permitting occur during the final design/construction development process. Typically a jurisdictional delineation (JD) doesn't occur when the EIS process starts due to the fact that it could take many years to build this size of freeway and the JD would have to be revisited and potentially revised due to changes in geomorphology of the wash or changes in the Corps regulations.

It wasn't until the final EIS that there was the potential that two of the drainages at the eastern end would possibly require an individual permit. Since then ADOT and the Branch have met and discussed the various options of permitting. It was decided that the project would be permitted in two segments, the eastern end which starts at Pecos Road and the I-10 freeway interchange and end at what would be the intersection of Pecos Road and 51st Avenue. The western segment would start there and end at connection with I-10 freeway. This break would allow each permit to be completely within individual watersheds. The eastern end would encompass the South Mountain and Firebird Lake 12-digit HUC of the Middle Gila (15050100) and the western segment would encompass the Co-op Village-Gila River, City of Laveen - Gila River, Town of Santa Maria - Salt River 12-digit HUC of the Salt Lower Salt (15060106).

The eastern segment would be permitted as an individual permit if those wash impacts exceed 0.5 acre and the western segment would be permitted using nationwide permits. Breaking the segment at the South Mountain 12-digit HUC watershed makes sense because the eastern segment is mostly residential/commercial development with the most ephemeral washes. The western segment is predominantly agricultural lands with minimal jurisdictional washes. Each segment would meet the definition of single and complete and each segment would have independent utility based on 33 CFR § 330.6(d).

Thank you for participating in the regulatory program. If you have any questions, please contact Kathleen Tucker at 602-230-6956 or via e-mail at Kathleen.A.Tucker@usace.army.mil.

Sincerely,

Sallie Diebolt

Digitally signed by DIEBOLT.SARAH.D.1231388229
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=DIEBOLT.SARAH.D.1231388229
Date: 2015.01.28 12:20:58 -07'00'

Sallie Diebolt
Chief, Arizona Branch
Regulatory Division

C: Paul O'Brien, ADOT EPG

From: Sreedevi Samudrala
To: Spargo, Benjamin
Cc: Steven Johnson
Subject: SR 202L (SM Fwy) DCR Comments
Date: Monday, July 22, 2013 11:25:40 AM
Attachments: SM Fwy 202 DCR GRIC Comments-July 22-2013.docx

Good Morning Ben,

Per our discussion at Progress meeting on July 17th Please find attached GRIC's comments on DCR for SR 202L (South Mountain Freeway) Project, Tracs No. 202L MA 054 H5764 01L, federal Project No. NH-202-D(ADY).

Please let me know if you have any questions.

Thank You

Devi

Sreedevi (Devi) Samudrala, P.E.
Civil Engineer

Department of Transportation
Gila River Indian Community
204 West Pima Road
Sacaton, Arizona 85247

Phone No. 520-562-0950
Fax No. 520-562-0957 / 6307
Email: sreedevi.samudrala@gric.nsn.us

GRIC Comments on Initial Location/Design Concept Report
State Route 202L (South Mountain Freeway)
Tracs No. 202L MA 054 H5764 01L
July 22, 2013

1) DWG No. C-03.04 & C.03.05: Existing and proposed watershed map needed to determine if historical peak discharges remain the same as proposed. Mainly referring to new channel culvert installs at Sta. 2160 & Sta. 2205.

2) DWG No. C-03.03: Existing 10'X4' CBC with extension may convey flow to existing Pecos Storage Facility on Reservation (near Sta. 2135).

3) DWG No. C-03.08: For culvert at Sta. 2383, new 3-10'X4' CBC conveying flows into existing 1-84" CMP. New culverts are oversized.

4) DWG No. C-03.09: At Sta. No. 2447, existing culvert is 2-36" RCPs, new culvert is 3-10'X4' CBCs. There is potential for increased discharge onto Reservation.

5) DWG No. C-03.10: From Sta. No. 2464 to Sta. 2494, New culverts concentrate flows to Reservation. No calculations provided that equates Historical Hydraulics to proposed Hydraulics/Hydrology.

6) DWG No. C-03.12: How does new culverts compare with Historical Hydraulics/Hydrology?

7) DWG No. C-03.14: At Sta. No. 2595, it appears to be concentrated flow.

8) DWG No. C-03.18: Where does First flush basins?

MEETING SUMMARY

Meeting Date and Time: November 7, 2013, at 9:00 am
Meeting Location: GRIC DOT Conference Room
Documented by: Ben Spargo, HDR
Distribution Date: November 15, 2013

MEETING PURPOSE (Check one.)

____ Internal Team Meeting
____ PIT Meeting
____ GRIC Meeting
___ Progress Meeting (HDR Team, ADOT & Cooperating Agencies)
___ Information Meeting with _____
_X_ Other: GRIC Coordination Meeting

ATTENDEES

Tim Oliver, GRIC DOT
Steve Johnson, GRIC DOT
Devi Samudrala, GRIC DOT
Seaver Fields, GRIC LUPZ
Khalid Marcus, GRIC LUPZ
Carmelo Acevedo, ADOT
Ben Spargo, HDR
Ray Carranza, HDR

DISCUSSION

Ben and Ray provided a brief description of the roll plots that were presented at the meeting. The main plot showed the major outflow points with the current conditions and the proposed (post-freeway construction conditions). The drainage design is constrained so that the existing and proposed conditions are the same. Notable discussion related to this included:

- Runoff from the 50-year storm currently overtops Pecos Road in some locations.
- In the proposed conditions, some culvert sizes have been increased to allow runoff from the 50-year storm to flow under the freeway and also to maintain existing water surface elevations upstream of the culvert.
- While the size increases, the total flow remains the same (existing culvert capacity + overtopping flow = proposed culvert capacity)
- The Community staff suggested that future roll plots show the existing conditions without the freeway overlayed on the map.

The group discussed the purpose and location of the drainage basins along the freeway. Notable discussion related to this included:

- The basins serve as first-flush for treating water quality of first ½-inch of water that hits the freeway and ADOT right-of-way.
- The basins also provide temporary storage to reduce the inundation of the 100-year storm on adjacent properties.
- The basins sizes and locations are preliminary. During final design (especially 30% stage), the on-site drainage design would be developed in more detail.
- GRIC staff questioned how successful the basins are in treating water quality. HDR responded that with good maintenance the basins are successful. Additional information will be provided related to the first-flush basin design and function.

The group discussed the possibility of moving the discharge locations and possibility of reducing the peak flows. Notable discussion related to this included:

- There is an existing storage lot just south of Pecos Road at 32nd Street. An existing wash outfalls directly into the storage lot.
- There are no certainties surrounding other development south of Pecos Road.

- The main concern is that moving the outfalls or reducing the peak flows could affect other property owners (allottees) in the area.
- These types of adjustments may need the approval of the Community Council with input from other groups such as the Bureau of Indian Affairs (representing allottees), GRIC DEQ, and possibly others.
- GRIC staff recommended that as possible, concentrated flows should be mitigated with spreader basins to provide sheet flow downstream of the freeway.

Ray led the group through a review of the specific comments submitted by GRIC staff on the Initial L/DCR. Most of the responses were addressed in the earlier discussion. Notable discussion included:

- The flows identified in the L/DCR in the area of the new casino are much higher than those used to design the drainage channels around the casino. GRIC staff will review the casino design.
- First flush basins are not located within the mountain areas. In these areas, it is assumed that on-site flows will be collected through catch basins and conveyed in pipes to a basin at the southwest corner of the freeway.

Open discussion included the following items:

- GRIC staff recommended that the team coordinate with El Paso Natural Gas who has a gas line parallel to Pecos Road on Community land. The main issue would be access.
- The group discussed the upcoming Flood Control District of Maricopa County Area Drainage Master Study and Plan for the South Mountain area. The proposed freeway is within the ADMS/ADMP area. The ADMS/ADMP could provide refined and more detailed flows at the proposed freeway.
- GRIC staff questioned how the Community's vote for the no-build option affects future coordination with ADOT. GRIC DOT agreed to take the lead in confirming with Community leadership their ability to continue coordination.
- GRIC staff recommended that future meetings include staff from BIA, GRIC DEQ, and GRIC Irrigation and Drainage District in addition to GRIC DOT and LUPZ (Steve provided contact information for these groups to ADOT). Issues of concern would be water quality and drainage.
- GRIC staff will continue to be involved in design reviews through the final design stage. The next deliverable for this study will be the Final L/DCR. The Final EIS is anticipated for public review next spring. The Record of Decision is anticipated in late summer 2014.

NEXT MEETING

No future meeting was identified. The following contact information was provided for additional meeting attendees.

Ondrea Barber
Executive Director
Department of Environmental Quality
(520) 562-2234
Ondrea.Barber@ gric.nsn.us

Parker, Gary
Director
Gila River Indian Irrigation and Drainage District
520-562-6782
GLParker@griidd.com
Gary.Parker@gric.nsn.us

Cecilia Martinez
Superintendent
BIA Pima Agency
520-562-3326
cecilia.martinez@bia.gov

These minutes reflect the understanding of HDR Engineering, Inc or its representative. If revisions or additions are needed, contact Ben Spargo.

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