

TUCSON, ARIZONA

**The ULI/AIA Plan for Action:
Preserving Tucson by
Planning Its Future**

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The ULI/AIA Plan for Action: Preserving Tucson by Planning Its Future

A Panel Advisory Report
for
Tucson Tomorrow, Inc.
The City of Tucson
Pima County
Citizens of the Tucson Area

by a combined panel of
ULI—the Urban Land Institute
and
the AIA—American Institute of Architects's R/UDAT Program

May 17–21, 1984

ULI—the Urban Land Institute
Panel Advisory Service
1090 Vermont Avenue, NW
Washington, DC 20005

The American Institute of Architects
Regional/Urban Design
Assistance Team Program
1735 New York Avenue, NW
Washington, DC 20006

ULI Panel Members

Robert T. Nahas, Cochairman
Norman L. Christeller
William R. Eager
Robert M. O'Donnell, AICP, FASLA
H. Pike Oliver, AICP
Gary M. Ryan
George Sternlieb
Robert O. Townsend

AIA Panel Members

Charles Redmon, AIA, Cochairman
Gary A. Hack, AICP
Peter M. Hasselman, FAIA
Jesus H. Hinojosa, AICP

ABOUT THE AMERICAN INSTITUTE OF ARCHITECTS AND THE REGIONAL/URBAN DESIGN ASSISTANCE TEAM PROGRAM

The American Institute of Architects (AIA) is a national professional organization that has grown in its 125 years from 13 to over 43,000 members. It is a voluntary nonprofit corporation in which 50 state societies, nearly 300 local chapters, and more than 125 student chapters are active across the nation. Under the direction of its officers, directors, special committees, and task forces, the AIA's programs and policies are carried out by members and staff at national, regional, and local levels.

Many AIA chapters and the cities they represent seek outside expertise in their efforts to improve community planning and urban design. This assistance is available through the national AIA's Regional/Urban Design Assistance Team (R/UDAT) program. Local organizations—working through AIA chapters—can arrange for an assistance team, comprised of AIA members and other specialists, to visit their communities and advise them on specific community planning and urban design issues or on long-range goals in regional planning.

The objectives of the R/UDAT program are to give national AIA support to chapters in their efforts to take the initiative and become a more effective influence in community planning and urban design; to improve the quality of urban design throughout the nation by involving architects and other professionals in the process; to dramatize problems of urban design to interest the public in solving them; and to assist AIA chapters by suggesting opportunities for urban design and calling attention to existing community assets.

The R/UDAT program is a voluntary service that sends carefully organized, multidisciplinary teams to communities across the country that have asked for assistance. Over 80 such visits have taken place over the past 17 years; team members have been drawn from nearly 30 disciplines or specialties in addition to architecture and urban design.

Bruce M. Kriviskey, AICP
Director of Urban and R/UDAT Programs
American Institute of Architects

ABOUT ULI—THE URBAN LAND INSTITUTE

ULI—the Urban Land Institute is an independent research organization that conducts research; interprets current land use trends in relation to the changing economic, social, and civic needs of our society; and disseminates pertinent information leading to the best and most efficient use and development of land.

Established in 1936 as a nonprofit institute supported by the contributions of its members, ULI has earned recognition as one of America's most highly respected and widely quoted sources of information on urban planning, growth, and development.

Members of the Washington, D.C.-based Institute include land developers, builders, architects, city planners, investors, planning and renewal agencies, financial institutions, and others interested in land use.

Much of the Institute's work is accomplished through its 10 Councils, each headed by an Executive Group of distinguished authorities:

- Urban Development/Mixed-Use Council
- Commercial and Retail Development Council
- Industrial and Office Park Development Council
- Community Development Council
- Residential Development Council
- Recreational Development Council
- Small-Scale Development Council
- Federal Policy Council
- Development Regulations Council
- Development Services Council.

This Panel Advisory Service Report is one of a series of research publications to further the objectives of the Institute and to make generally available authoritative information to those seeking knowledge in the urban field.

Ronald R. Rumbaugh
Executive Vice President
ULI—the Urban Land Institute

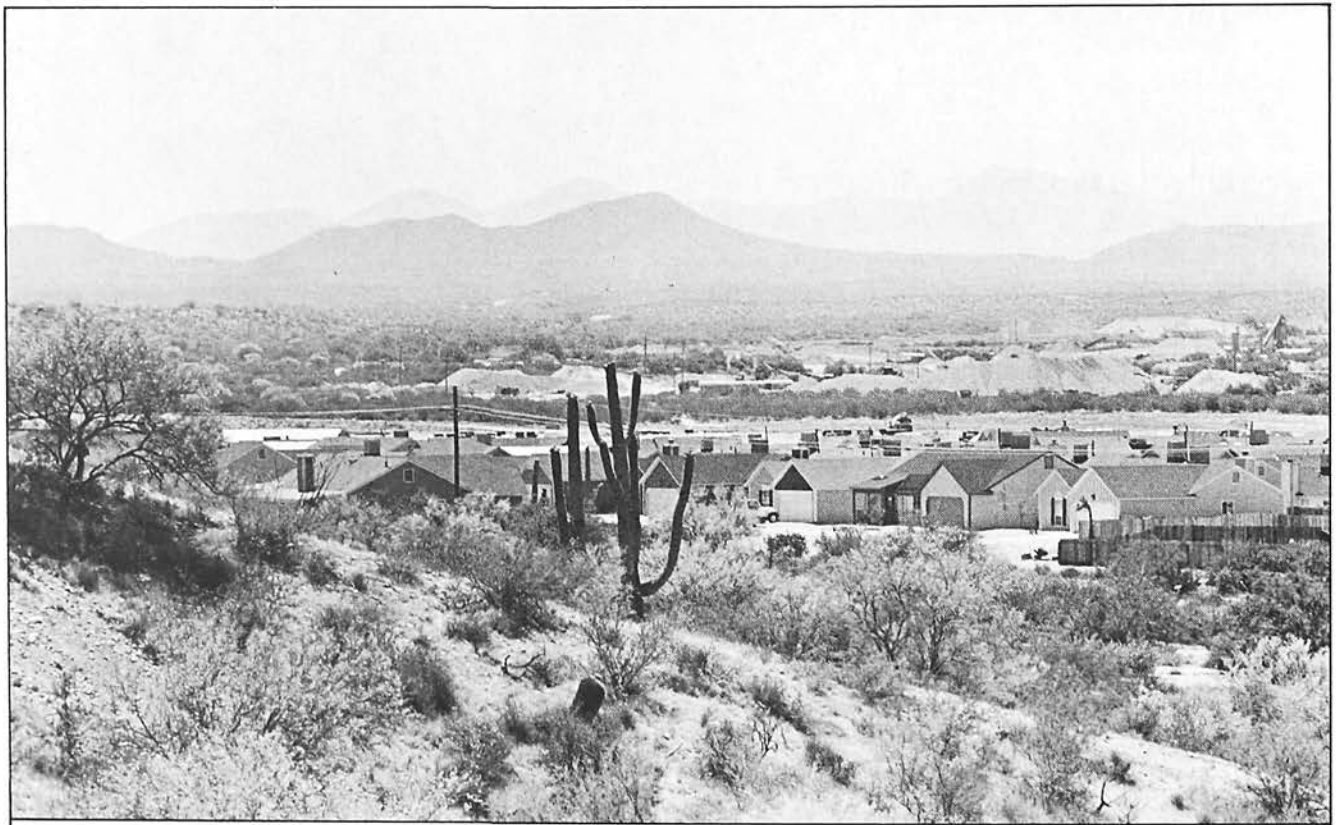
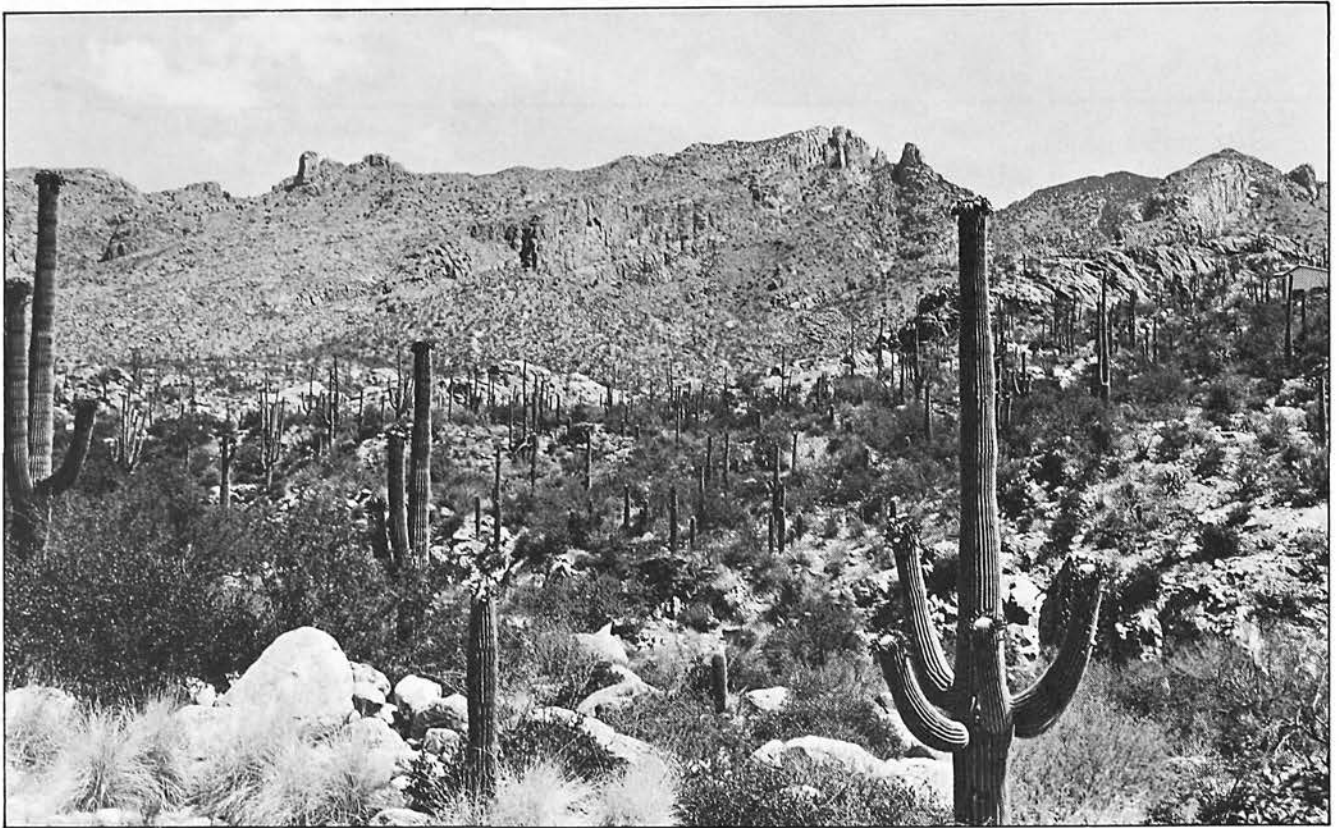
ULI STAFF

Jerry S. Church, Senior Director, Advisory Services
Dean Schwanke, Project Manager
Barbara M. Fishel/Editech, Editor
Regina P. Agricola, Production Manager
Melinda A. Bremmer, Art Director
Betsy Van Buskirk, Artist
Christopher J. Dominiski, Artist
Tawanda R. Queen, Word Processing

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The Tucson Valley lies amidst several desert mountain ranges and a fragile desert ecological system; the joint ULI/AIA panel was charged with making recommendations regarding the planning and preservation of the area in the face of tremendous growth pressures.

FOREWORD

One of the greatest challenges of urban areas in the twentieth century is to allow for needed economic growth and expansion without destroying or irreparably damaging the natural environment. In many cases, unhappily, the environment has been altered to the disadvantage of the inhabitants.

The Tucson valley, lying as it does between beautiful desert mountain ranges, has a mild, salubrious climate and a fragile desert ecological system. The Tucson metropolitan area is experiencing rapid urbanization. Because of these seemingly incompatible factors, the Urban Design and Planning Committee of Tucson Tomorrow (a private nonprofit organization of concerned citizens), the city of Tucson, Pima County, and a number of private citizens commissioned a combined panel of volunteer experts on land use drawn from the Regional/Urban Design Assistance Team program of the American Institute of Architects and the Panel Advisory Service of the Urban Land Institute to develop a strategy for growth that will result in the least possible environmental degradation.

The impetus for this study began in the late 1970s and early 1980s, when the citizens of Tucson came to realize that their community needed to reassess its goals and values to better plan for future growth and change. In 1981, a group called "Goals for Tucson," led by a broad cross section of community leadership, conducted an extensive analysis to determine what priorities and goals the citizens of Tucson felt to be important. During the same period, a nonprofit organization called "Tucson Tomorrow," made up of key public, business, and neighborhood leaders, was also formed. Its goal is to improve and enhance Tucson's economy and the quality of its life.

Although numerous committees within Tucson Tomorrow addressed specific areas of concern, the Urban Design and Planning Committee was charged with the task of formulating strategies for accommodating Tucson's growth while preserving Tucson's beautiful natural setting and rich cultural heritage. The committee recommended to Tucson Tomorrow that outside professional expertise be acquired to accomplish these tasks. In late 1983, requests for assistance were sent to ULI—the Urban Land Institute's Panel Advisory Service and to the American Institute of Architects's Regional/Urban Design Assistance Team (R/UDAT) program.

Tucson Tomorrow asked AIA's R/UDAT to address the issues of physical planning, design, and the environment and to provide a concept for organizing growth and change. It asked the ULI panel to deal with strategies for providing adequate infrastructure to support the changes and ideas for implementation. The members of Tucson Tomorrow felt that this two-team approach could best

respond to the different concerns voiced by various local interest groups presently in conflict over the impacts of growth and change on the quality of life in eastern Pima County. In response to Tucson Tomorrow's request, ULI-R/UDAT proposed a *joint* team effort as a first attempt to bring Tucson's various local factions together to work on a common agenda. In March 1984, the citizens and leaders of Tucson and Pima County finally accepted this concept, with some reservations.

In early April 1984, Robert Nahas of ULI and Charles Redmon, AIA, of R/UDAT met for two days in Tucson to help plan for the panel's upcoming study. They met with numerous representatives of home builders, developers, city and county officials and staffs, business and neighborhood groups, environmentalists, and home owner associations. A public meeting was held to hear from the citizenry at large. The local steering committee was expanded to include neighborhood representation; it prepared briefing documents and helped to identify resource people for the panel to interview in May.

The 12-member ULI-R/UDAT panel, the "Tucson Team," arrived in Tucson on Wednesday evening, May 16, to begin its assignment. On Thursday, the panel toured the area by air and on the ground to get first-hand impressions of Tucson and the vicinity. On Friday and Saturday, the panel divided into working groups and interviewed nearly 200 people from all sectors of the Tucson community. (These people, as well as other local participants in the study, are listed in Appendix A.) The panel heard numerous conflicting views on common issues as well as many common views from conflicting groups.

On Saturday and Sunday, the panel met in executive session to debate the issues heard and to formulate strategies and recommendations for resolving the potential conflicts between growth and change and the preservation of Tucson's beautiful environment. The panel concurred on most issues but disagreed on a few. The following report represents the panel's consensus on what local actions are necessary to achieve Tucson's goals and values.

This is the first time that ULI and AIA have collaborated on a panel assignment. It has been a challenging and complex assignment, and we hope that the results will be beneficial to the sponsors of the study and to all of the residents of the Tucson valley.

All panel members for this assignment have served voluntarily without financial remuneration. Among the team members are five architects or land planning professionals, three members of development organizations, one transportation planner, two public officials, and one professor of urban economics.

PANEL MEMBERS

Robert T. Nahas, Panel Cochairman
President
R. T. Nahas Company
Castro Valley, California

Charles Redmon, AIA, Panel Cochairman
Chairman, American Institute of Architects,
R/UDAT Program
Principal, Cambridge Seven Associates, Inc.
Cambridge, Massachusetts

Norman L. Christeller, LL.D.
Chairman
Maryland-National Capital Park & Planning Commission
& Montgomery County Planning Board
Silver Spring, Maryland

William R. Eager, Ph.D.
President
TDA Inc.
Seattle, Washington

Gary A. Hack, AICP
Chairman, Department of Urban Studies & Planning
Massachusetts Institute of Technology
Cambridge, Massachusetts

Peter M. Hasselman, FAIA
Whisler-Patri
San Francisco, California

Jesus H. Hinojosa, AICP
Professor, Department of Urban & Regional Planning
Texas A&M University
College Station, Texas

Robert M. O'Donnell, FASLA, AICP
Chairman of the Board, Chief Executive Officer
HOH Associates, Inc.
Denver, Colorado

H. Pike Oliver, AICP
Director, Advance Development Planning
The Irvine Company
Newport Beach, California

Gary M. Ryan
President
Grupe Development Company-Colorado
Englewood, Colorado

George Sternlieb
Director/Professor, Center for Urban Policy Research
Rutgers University
New Brunswick, New Jersey

Robert O. Townsend
Supervisor, Fourth District
San Bernardino County
San Bernardino, California

STAFF

Trish Bryan, Director, Marketing/Public Affairs, ULI
Jerry S. Church, Senior Director, Advisory Services, ULI
Bruce Kriviskey, AICP, Director of Urban and R/UDAT
Programs, AIA
Dean Schwanke, Research Associate, ULI



Panel Co-Chairmen Robert T. Nahas of ULI and Charles Redmon of AIA-R/UDAT. This study is the first joint panel effort between the ULI and AIA.

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THE PANEL'S ASSIGNMENT

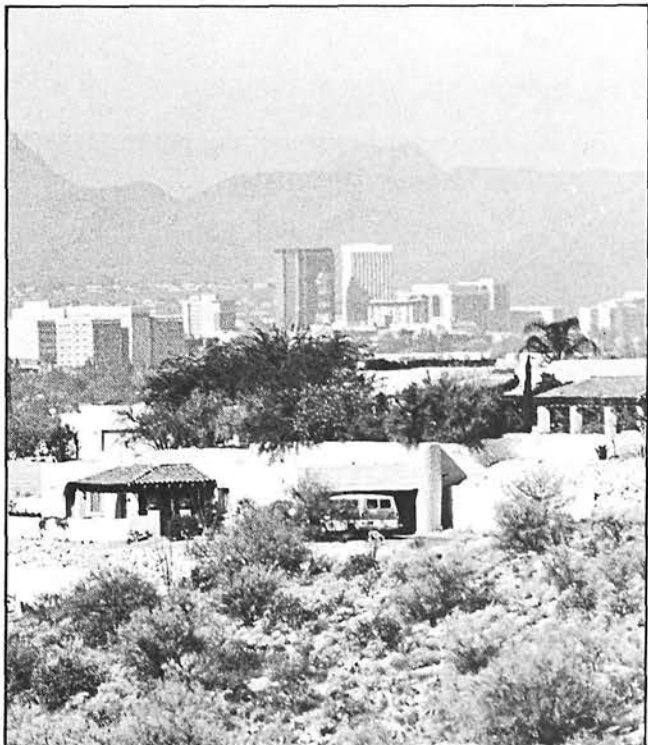
Over the past several years, Tucson has become one of the fastest growing urban areas in the United States. It has proven to be a desired location for the development of high-tech industries like IBM and large research and engineering companies like Garrett Air Research. Other similar organizations and their supporting industries are seriously interested in locating in the Tucson valley.

As a result, one of the problems Tucson and its 550,000 residents are facing is how to continue providing ample job opportunities and housing for the current residents and the approximately 20,000 additional residents coming in each year without seriously damaging its fragile desert ecology, its cultural heritage, its clean air, and its pleasant, livable environment. A second problem is how to improve the overall image and quality of new and existing development in the Tucson region.

The panel's assignment was to provide a strategy and recommendations that would address these general issues. The panel was asked to address the following specific issues:

- **Development planning and urban design**—recommendations for creating an organizing structure for the metropolitan area, retaining Tucson's special character, developing a balanced approach toward development and the environment, strengthening elements of the natural and built environment to enhance the urban form, and developing and improving quality neighborhoods.
- **Land supply and infrastructure**—recommendations on approaches for (1) ensuring a sufficient supply of properly zoned and serviced land available for development, (2) promoting infill development and downtown revitalization, and (3) providing appropriate infrastructure to both accommodate and direct growth.
- **Governmental and other implementation**—recommendations on (1) modifications to taxation and assessment practices, (2) forms of governance or methods to direct growth, (3) the use of University of Arizona resources to bring about quality growth, (4) beginning a comprehensive planning process, and (5) options for a metropolitan form of government.

To accomplish the task, the panel was divided into three teams, each of which focused on one of these three broad issues. The ultimate goal was to achieve a development and implementation strategy that could be promulgated by the whole 12-member team.



Tucson has become one of the fastest growing urban areas in the United States.

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SUMMARY OF RECOMMENDATIONS

- Planning and zoning for the city of Tucson and Pima County need to be increased in relative importance and strengthened materially, supported by elected officials and citizens in general.
- Detailed general plans for land use in strategic areas in the metropolitan region need to be developed as soon as possible, starting with the most critical areas. Outside professional help should be hired because present personnel are burdened with the daily activities of administering this rapidly growing area.
- The city and the county should jointly develop this plan and efficient procedures to enforce the adopted regulations. Building codes and zoning practices should be consistent throughout the metropolitan area.
- The plan should provide for a planned unit development approach to fragile lands with adequate protection for rivers, dry washes, and natural vegetation. Clustering improvements on suitable sites would be advantageous to builders and to the natural terrain. An ordinance on grading needs to be developed, controls on signs instituted, and strip commercial development discouraged.
- A transportation network for undeveloped lands and other necessary infrastructure should be planned for now as structural components of the strategic area plans.
- "Mixed-use activity nodes" to bring residential uses closer to employment centers should be encouraged.
- Dry washes, rivers, and flood plains should be further protected and used as greenbelt areas.
- Designated historic areas and neighborhoods generally need to be emphasized and given an identity. In-town neighborhoods in particular should be maintained and protected. Crime could be dealt with more effectively if neighborhood organizations are strengthened.
- The downtown area should continue to be redeveloped for offices, cultural activities, governmental functions, and specialized retail activities to make it a principal focus of the metropolitan region. Close-in downtown housing should be encouraged.
- Growth will continue in the Tucson metropolitan area with or without adequate plans and land use regulations, but without them the eventual result could be disastrous.



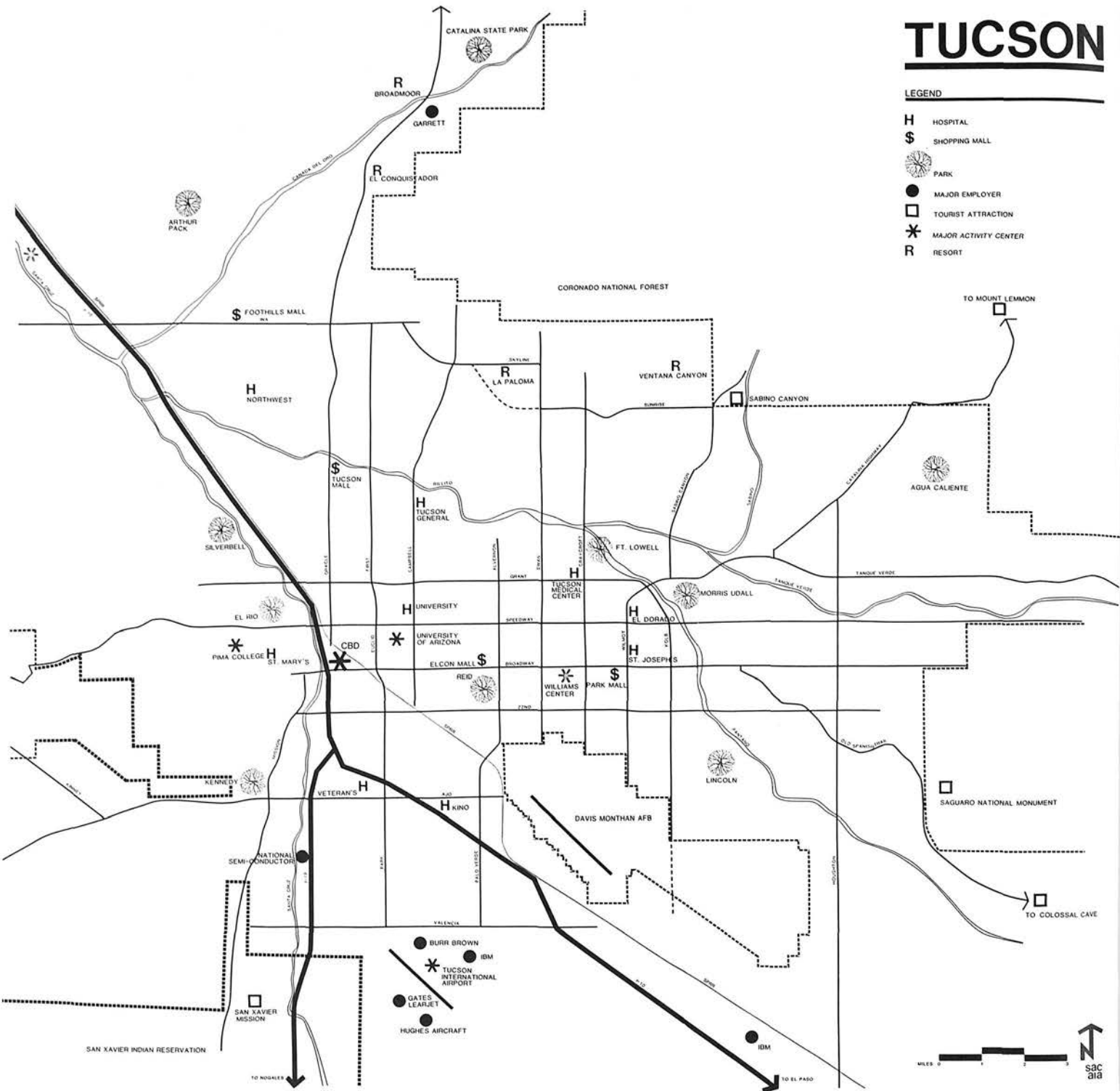
Panel members (above from right to left) Robert Townsend, Norman Christeller, William Eager, Peter Hasselman, and Jesus Hinojosa, during presentation of final recommendations.

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TUCSON

LEGEND

- H HOSPITAL
- \$ SHOPPING MALL
-  PARK
- MAJOR EMPLOYER
- TOURIST ATTRACTION
- * MAJOR ACTIVITY CENTER
- R RESORT

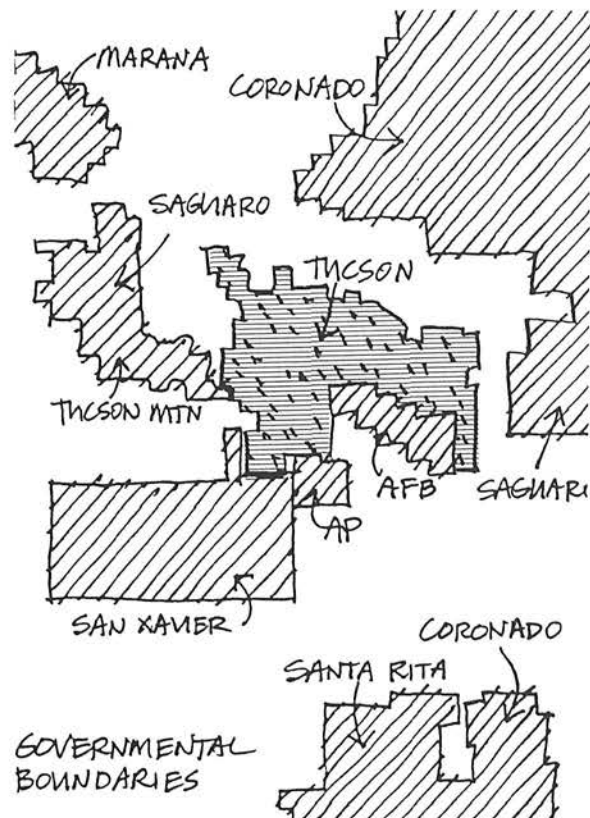
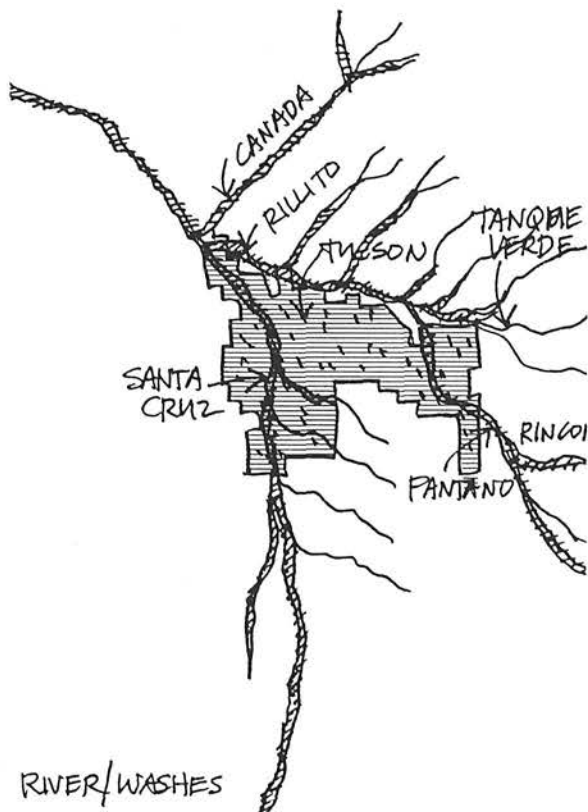
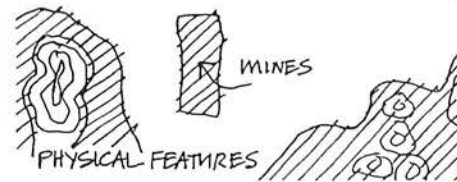
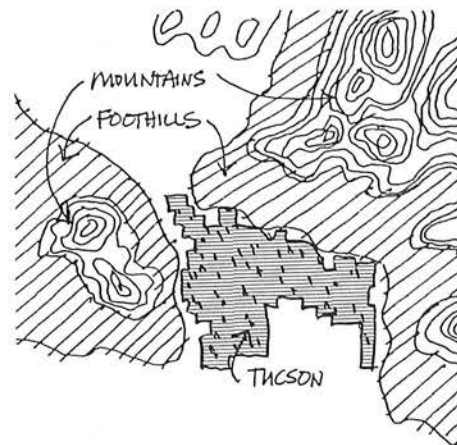


FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

THE METROPOLITAN PATTERN

Rimmed by mountains, the Tucson basin is a natural metropolitan region. Its geographic differences are subtle but must be respected; the hazards of flooding, drought, and air and water pollution are the price of neglect. Current settlement of the basin does not nearly exhaust its capacity, but continued growth will require far more attention to the logic of natural systems.

The basin is the result of water and sun working on the land. The first inhabitants were the plants and animals of the desert, and many of today's saguaro date from the founding of the Old Pueblo. Vegetation is most prominent along the many rivers, creeks, and washes, where it stabilizes the soil and allows the runoff to encourage the recharge of the groundwater. The major rivers—the Santa Cruz, Rillito, and Pantano—are natural divisions of the region, separating foothills from plains. They also could become the seams that join the growing human communities on either side.



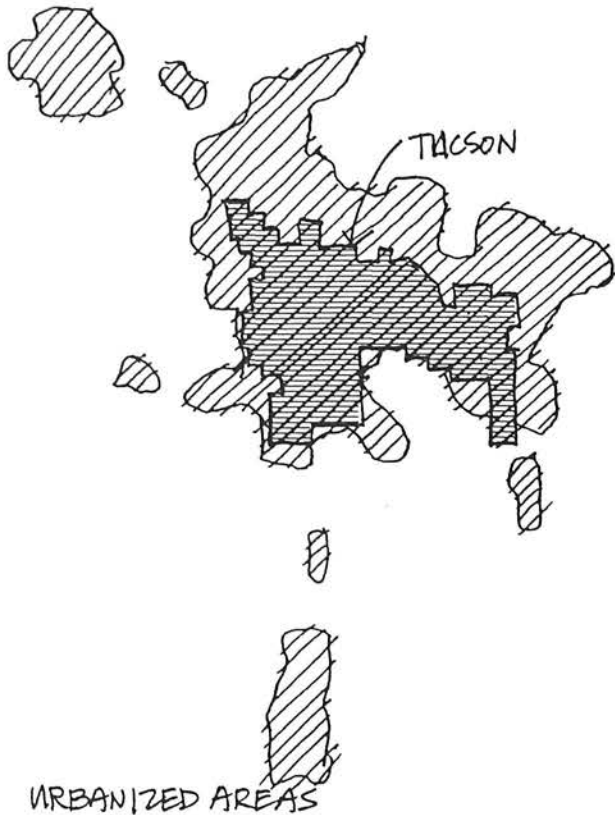
DIRECTIONS FOR GROWTH

Based on interviews with local developers and commercial land brokers, we believe the general pattern and magnitude of growth in the near future can be projected with some confidence. The key factors influencing the areas of growth are accessibility, capacities of the existing infrastructure, recent patterns of growth, and available sites.

In the industrial sector, it appears that the most significant growth will occur in the south, from the area adjacent to the airport extending easterly in the direction of the IBM facility. Secondary industrial growth is likely to occur on the west side and in the northwest sector, although normal industrial growth in those locations is expected to be comprised of smaller companies unless a major employer (8,000 to 10,000 employees) elects to locate on a large site in those areas.

Significant office expansion is expected to occur in the east-central and eastern portions of the metropolitan region. That growth would include service corporations, financial institutions, and data-handling firms. Secondary office growth is expected in the northwest area and, to a more limited extent, in the area immediately north of Tucson International Airport.

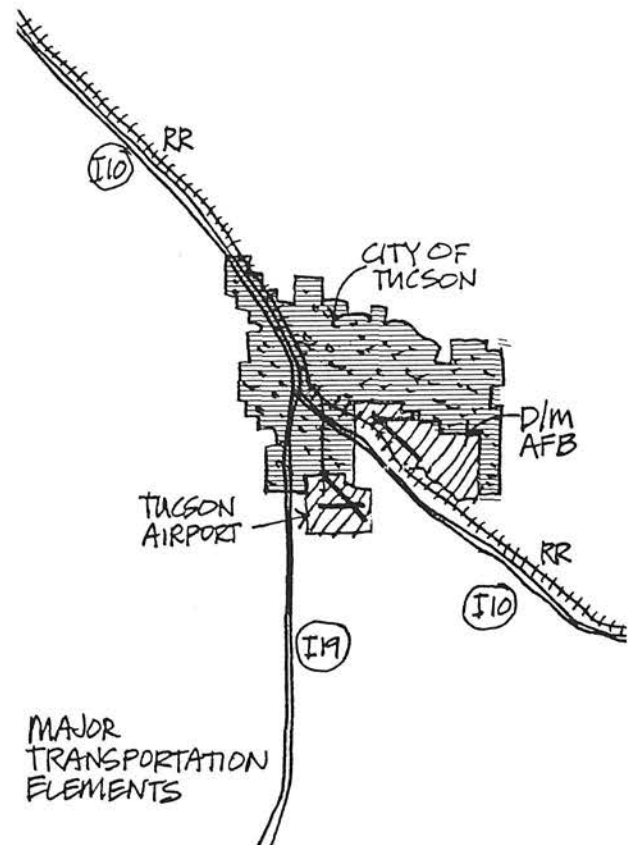
Short-term residential growth is expected to occur in those areas where significant activity has occurred in the last three years: the eastern edge of the metropolitan area where significant middle-income housing has been



On this desert basin, man has overlaid an even grid of roadways and highways that depart to follow the paths of least resistance. The city's arterial roads provide orientation and access to the main shopping and business areas. Tucson has few generous central city parks, although many areas on its perimeter and beyond warrant a visit. As the city has spread, large gaps have been left in the metropolitan fabric, and they now offer the possibility of infill for new purposes.

Several districts of citywide importance—the downtown, the university, the medical center areas, the airport and its industrial neighbors—give special character to the surrounding areas. Between them, a quilt of communities is emerging, partly the accident of development history, other times drawn together by common social or ethnic ties or by threats of neighborhood change. The communities range from a few blocks to several square miles; in only parts of the city have they organized into formal groups. Yet they represent an emerging social structure that must be recognized as part of the urban pattern.

Each element of the metropolitan pattern—natural, man-made, and social—requires attention if Tucson is to get better as it gets larger. The following paragraphs outline ways to achieve this goal.



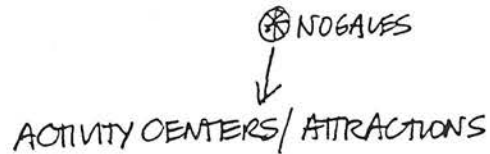
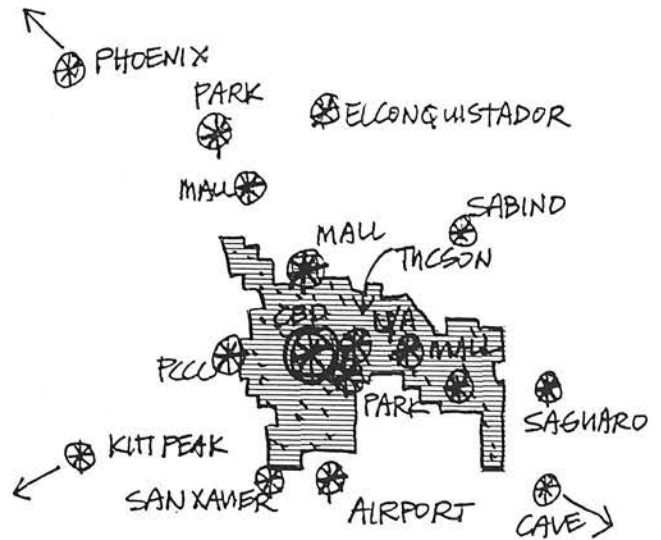
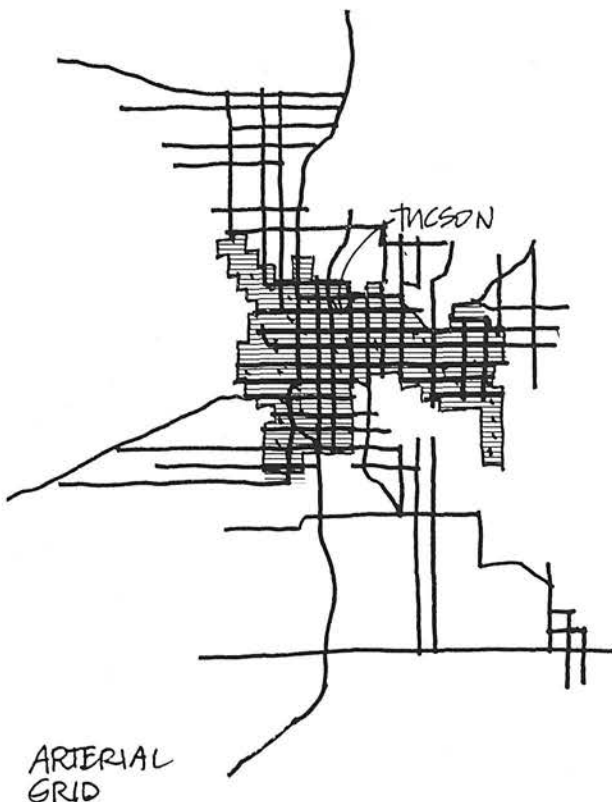
constructed, along the northern tier, and to a lesser extent in the southwest sector. Over the longer term, we believe that patterns of housing development will shift somewhat, with a major thrust of housing into the southeast and far south sectors of the region.

This presumed shift in pattern rests on our assumption that the Hughes State Land Trust lands and other sites in the area will become available and that developers in those areas will be able to service land either through major extensions of infrastructure or through interim local service facilities. It also appears that the south-southeast sector is highly suitable for development in view of its topography, soils, and hydrological conditions. Construction of limited-access and arterial roadways to handle traffic efficiently seems possible at a relatively low cost. As a result, opportunity exists for the construction of a substantial amount of moderately priced housing.

Similar opportunities may exist on the far west side and to a lesser extent in the northwest. But we believe less residential development will occur in these areas because of historic housing patterns and because of greater physical constraints on drainage and sanitary sewers.

LAND SUPPLY

It may seem incongruous to be concerned with the supply of land in the millions of acres of northern Sonora desert surrounding metropolitan Tucson. For thousands



of years the amount of land was ample for campsites, homes, fortifications, trading centers, churches, recreation, agriculture, and even inspiration. But today's constraints—steep slopes, drainage patterns, the presence of water and sanitary sewer facilities, soils, access, ownership, governmental authorization, maintenance of the desert environment, and sense of place—beg the question of availability.

Industrial Land

Before the recent sale of 13,000 acres by the Howard Hughes estate, the supply of appropriate industrial land was dwindling in the Tucson area. That sale, however, has single-handedly changed the picture. A consensus now exists, reinforced by zoning maps and utility service district plans, that land will not constrain the continued growth of employment in the research, manufacturing, defense, and industrial sectors of the Tucson region. While not all of the lands designated for industrial use are currently served by utilities or transportation networks, sufficient land has utilities to take care of the short- to mid-term needs, and additional lands can be served by modest extensions of existing infrastructure. Industrial users have a wide selection of sites throughout the region, with the exception of the northwest and northerly sections, where fewer areas are available.

Commercial Land

The market has absorbed nearly a million square feet of office space in the past four years. In addition, expand-

ing retail activity has required an additional 3,000 to 4,000 square feet annually. The total supply of office space in buildings of 50,000 square feet and larger (excluding public and institutional buildings) is 2.5 million square feet. The aggregate size of mall shopping centers is currently more than 3.4 million square feet.

As with industrial land, an adequate supply of serviced sites appears to be available for mid-term needs, and additional lands are available that could be developed with the extension of roads and utilities as the region grows.

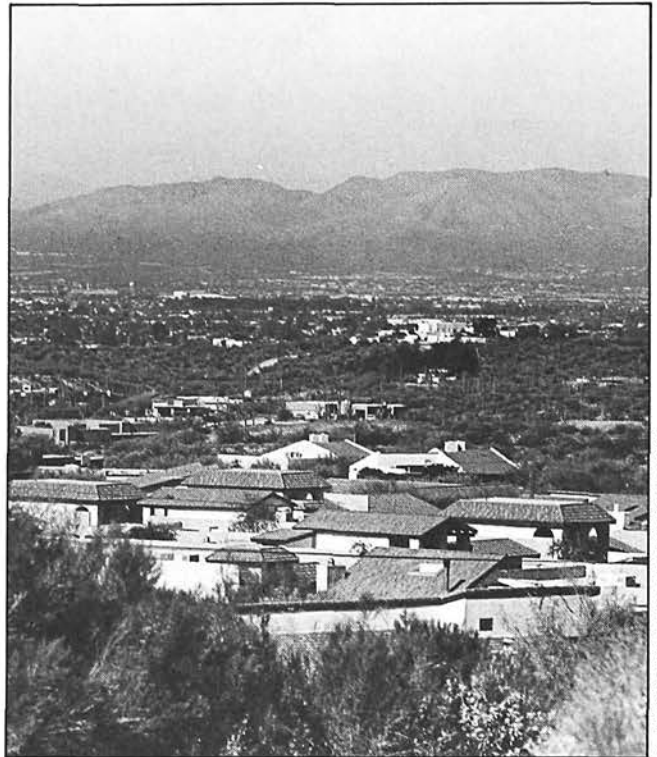
Residential Land

While thousands of undeveloped acres have been zoned for residential use, the question of available land for housing is much more complex than for industrial and commercial uses. Many acres must be deducted from the total because of their location or as a result of soils, slopes, serviceability, and constraints. Nonetheless, we have identified suitable residential lands throughout the region that should allow the construction of approximately 30,000 homes and apartments in the near term. Set against the demand for housing in metropolitan Tucson over the past decade, this supply is fairly short, equivalent roughly to three years of housing consumption. Additional land can be made available for four to seven years by the extension of existing infrastructure.

We believe that the supply of residential land is critical to maintaining the character of the Tucson community and its quality of life. So far, a variety of new housing has been available for the residents of the area, and a particularly good job has been done in keeping prices down. If an adequate inventory of available residential land is not maintained, however, shortages will push land prices up, and the higher prices of raw land will be reflected directly in the cost of new housing. If the major road system is not extended to connect raw residential areas with employment and commercial centers, the resultant traffic congestion will significantly alter land use patterns and the intensity and character of Tucson's residential areas. Over time, significantly higher housing prices and higher residential densities resulting from increased congestion would have a major negative impact on both Tucson's economy and the area's quality of life.

To mitigate such negative impacts, the county and the city should establish and maintain a land inventory system to monitor the supply of developable residential land throughout the Tucson region. The essential data already exist for such an inventory. While many aspects of the supply should be cataloged, the most important roles of such a system should be to distinguish between levels of available land and to monitor the supply:

- **Short-term inventory**—land available to accommodate demonstrated housing patterns for three to five years, which should be adequate.
- **Mid-term inventory**—land for demonstrated housing patterns, with approved zoning and programmed infrastructure, to accommodate demands for five to ten years. This category of supply is important to maintaining stable land values.



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The panel believes that ensuring an adequate supply of residential land is critical to maintaining the character of the Tucson community and keeping housing prices at a reasonable level.

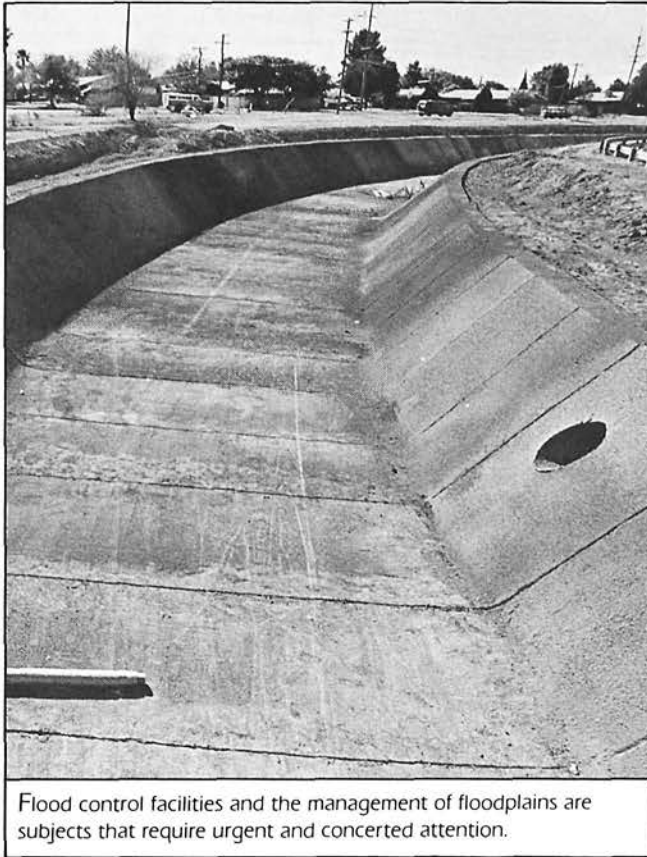
- **Long-term inventory**—land designated on the region's general plans for various residential uses. It is not critical that the precise intensities of residential development be established for all lands within this long-term inventory. In fact, specific zoning actions should probably be deferred until the area is likely to be used within 10 years, but it is essential that overall densities be established for the major geographic sectors of the region to aid in projecting needed roadways, drainage, and water and sanitary sewer facilities, and financing strategies.

GENERAL INFRASTRUCTURE

After reviewing current and projected requirements for infrastructure, the panel focused on four areas of infrastructure not related to transportation—water supply, wastewater, flood control, and schools. Transportation-related infrastructure is covered in the following section.

Water Supply

The development of imported water supplies through the Central Arizona Project combined with active management of the groundwater basin should provide an adequate supply of water to meet Tucson's needs in the foreseeable future. Conservation programs are an essential third leg of this strategy. While issues in each of these areas will require attention over the coming years, stat-



Flood control facilities and the management of floodplains are subjects that require urgent and concerted attention.

utory authority for effective action appears adequate. Equally important is the business and community support for the development and management of water resources through the Southern Arizona Water Resources Association.

Nonetheless, several areas need future action to ensure an adequate water supply. The panel recommends:

- Developing an effective nonpoint source water pollution management program
- Designating one lead agency for coordinating and directing management of groundwater
- Matching the quality of water to its specific uses
- Examining connection fees in outlying areas to ensure that costs are being allocated fairly.

Wastewater

With the exception of a few privately operated local area systems, Pima County handles wastewater. We could identify no significant problems with the current system. Excess capacity in the system should provide for continued growth, and an existing plan extends to the year 2000, based on population projections that are consistent with those used for other elements of infrastructure. Despite voters' recent rejection of a bond issue, potential revenue appears adequate for this expansion.

A significant element of current plans involves the re-use of effluent for irrigation. Such programs should be continually and carefully monitored to ensure the quality of groundwater supplies.

Flood Control

Flood control facilities and the management of floodplains are subjects that require urgent and concerted attention if Tucson is to achieve quality urban development and avoid unnecessary economic loss and environmental damage. Four times since 1977, the President has declared Tucson a flood disaster area. It is clear that intense storms can cause flooding in streambeds that are otherwise dry river beds.

A vitally important step is to devise a flood control program that provides facilities to protect existing properties and a floodplain management scheme to reduce the need for expensive capital facilities in future development areas.

Tucson also has an opportunity to pursue floodplain management in combination with an open-space development program. Tackling the problem in this way could provide for the preservation of significant natural areas adjacent to the flow channels, thereby reducing the needed capital expenditures for flood control facilities and increasing the available open space. To accomplish it will require clear criteria for identifying hazardous locations and regulations and incentives for locating development away from the floodplain.

Smaller watercourses, especially in the foothills, should be dealt with more effectively. In those areas, sites are often crossed by one or more smaller arroyos. Development projects must be scrutinized to ensure that these arroyos can perform their original function of providing an avenue for storm flows.

Schools

The panel believes that existing school districts will be able to serve the projected growth of the school population. Changing demographics, the density of development, and future population totals, however, may suggest that a fresh look at the size of schools is necessary.

TRANSPORTATION FACILITIES, SERVICES, AND MANAGEMENT

The automobile has been vital to Tucson's development, and it will continue to be the dominant means of transportation in the region. The panel spent many hours probing the needs and plans for transportation and hearing the comments of citizens and government officials. We offer several conclusions:

Arterial Streets

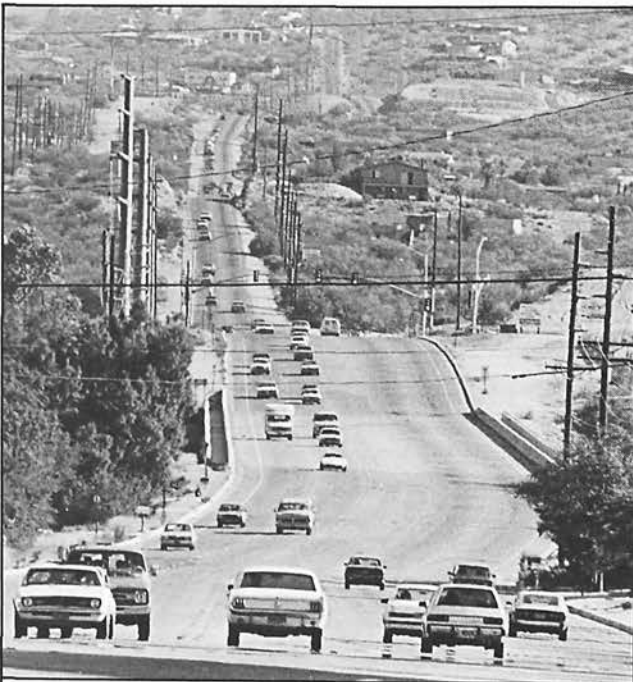
Tucson has a well-established grid of arterial streets, with major roadways generally spaced one mile apart. This pattern is appropriate to the topography of most of the area, and it has served the city well for its first 600,000 residents. Trips on the network generally require a short amount of time. Current traffic operations are at generally acceptable levels for a city of this size.

In the existing areas, these arterial streets are usually wide enough to provide adequate traffic capacity. Some

congestion occurs downtown and in the area to the east of downtown. In many locations of strip commercial development, street capacity is limited by the large number of curb cuts.

Concern has been expressed that additional highways will be an inducement to regional growth and that additional highway capacity will bring about unnecessary growth in traffic volume. Unquestionably, highway development and growth are somewhat related, but the relationship is not simple. In fact, growth is influenced by a large number of factors, and access is only one of them. If this statement were not true, then several large cities with excess traffic capacity should be experiencing employment and population growth, yet they are not. Conversely, several others with inadequate traffic capacity—Houston and the Silicon Valley are notable examples—should not be growing, yet they are. In fact, we believe that Tucson's growth will be most strongly influenced by other factors—its location in the Sunbelt, the availability of land and labor, and land prices, for example. Road and highway improvements will be more important in affecting the quality of travel than in determining the amount of growth.

In existing areas, we believe that the citizens, neighborhood groups, and local government officials are to be commended for their careful work on the fine tuning of the existing arterial network. The issues have been complex, and it has not always been possible to find solutions that satisfy all the diverse requirements. The strong feelings engendered are perfectly natural and understandable.



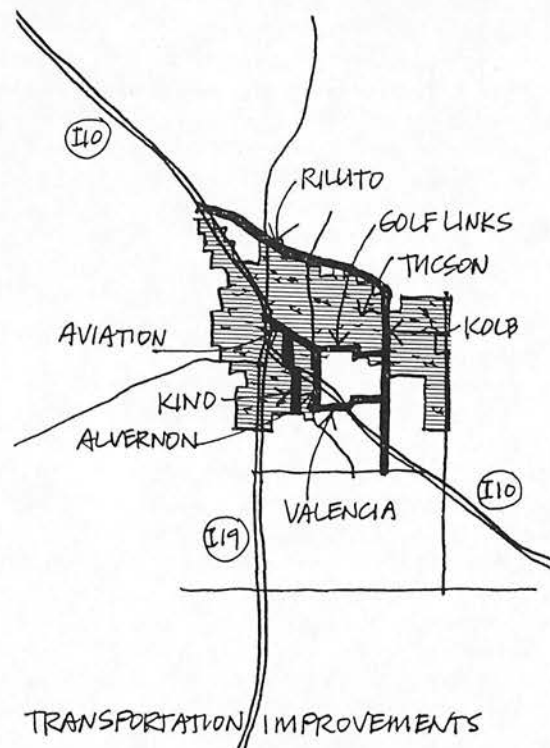
Although new roads and highways lead to some new growth, the panel believes that highway improvements will be more important in affecting the quality of travel than in determining the amount of growth.

We believe that the new and expanded transportation links have promise and recommend that more detailed work continue. As plans are refined, they should continue to balance the needs of the rivers, the neighbors, and the city as a whole. We have several specific reasons:

- The new arterial links (Kolb, Golf Links/Alvernon, Kino, Rillito, and Aviation Way) will serve the area of the city with the highest traffic volumes. The projected major growth of population and employment to both the north and south will further increase these demands (see figure below).
- Together with the links already under construction (Kolb, Kino, Golf Links/Alvernon), the Rillito and Aviation Way links will reinforce the continuity of the roadway network.
- While the existing network could probably handle future volumes, it would involve less flexibility and greater volume at existing streets, which will not be in the city's best interest.

When terrain permits, the one-mile grid of arterials should continue into new growth areas. In implementing this suggestion, we urge:

- Rigid control of access from adjacent property to the arterials. This control should specify the location of driveways, the number of driveways, median cuts, and acceleration/deceleration lanes.
- Expansion of the current 150-foot right-of-way requirement to 180 feet or, better yet, 200 feet to allow for development of a landscaped strip of meaningful dimensions (see figure opposite). In addition, any opportunities to preserve larger portions of the desert environment should be capitalized upon.





Panel members Gary Ryan (left) and Pike Oliver and Bill Eager (right) during interview sessions regarding land supply and infrastructure issues.

Transit

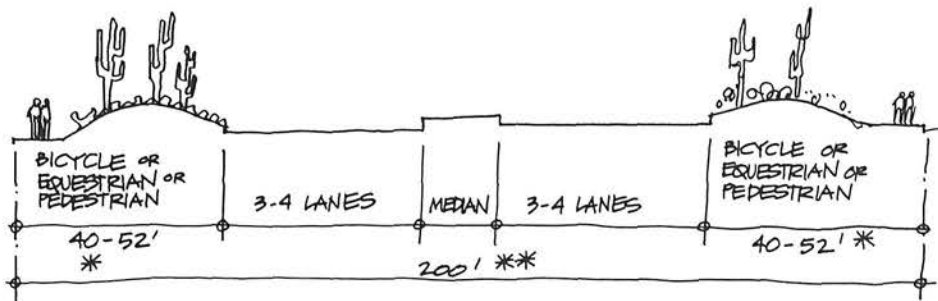
The city of Tucson operates the transit service, with extended service, by contract, into developed areas of Pima County. These services are and will continue to be an important element of the transportation system. While enjoying growth in ridership, the transit system has not yet been significant in reducing the volume of traffic in the streets.

The continued expansion of the transit system should be encouraged. It will provide a choice for those needing an alternative, an option for some commuters, and a reserve of capacity for unexpected growth, fuel prices, or the availability of fuel. For the foreseeable future, the system is unlikely to reduce materially the need for streets and highways.

The community should expand its range of choice in transit service. Innovative alternatives should be encouraged appropriate to the low density of the Tucson area and to Arizona's policy of deregulating transit services.

Traffic Management

Tucson, its employers, and its commuters should be commended for their efforts to reduce peak-hour traffic. Continued efforts to limit the growth of demand through sharing rides, alternative work hours, commuting by bicycle, and walking can reduce long-term construction requirements. More attention to pedestrians' needs—sidewalks and crosswalks—is needed in the redevelopment of existing areas and the design of new areas.



PROPOSED ARTERIAL R.O.W.

* EXISTING 15-27'
 ** " 150'

OPEN SPACES

Tucson valley is almost completely ringed by preserved lands: Coronado National Park, Saguaro National Monument, the San Xavier Indian Reservation, the Santa Rita Wild Life Preserve, and Coronado National Forest. If open spaces along the washes and rivers are extended outward from the metropolitan area to these areas, an outstanding web of multipurpose recreation lands could be created. Such a strategy will give Tucson a unique character and provide a model for open space planning.

Tucson already has an open space plan—the conceptual plan for open space and parks of June 1978—and the panel believes that this guideline is full of timely recommendations. It should be implemented. Land is not likely to become less expensive; on the contrary, delay probably will mean added costs. The Santa Cruz Riverside Master Plan, adopted in 1978, is an excellent example of the detail that would be needed before the plan could be implemented.

The panel strongly recommends the early acquisition of open areas along the Rillito and Pantano Creeks, at least to Kolb Road. This ribbon is one of the important recharge areas for Tucson's water aquifer and part of the proposed alignment of the Rillito Parkway. Acquisition should include the recreation areas that may be part of the proposed Rillito Parkway plan.

A second priority for action is maintenance, in an undeveloped state, of the southern edges of the Coronado

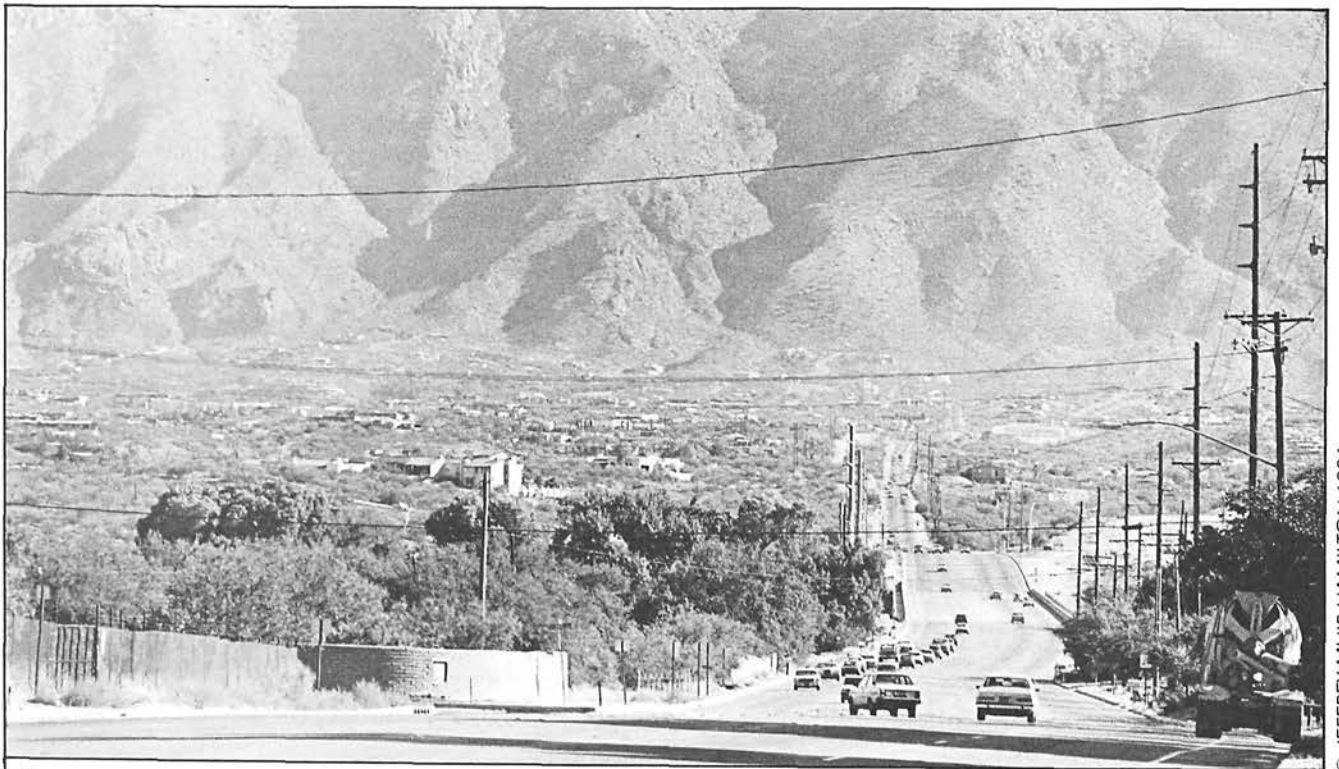
Forest and the eastern and western edge of the monuments. A special mountain management zone should be created to ensure they will continue to serve as recharge areas for the aquifer and as buffers against downstream flooding.

Many techniques are available to accomplish these two proposals. It seems critical, however, that the city and the county obtain the authority to issue improvement bonds and to enter into long-term purchase agreements for advance acquisition and for flexibility in negotiation.

We also recommend forming a private nonprofit open space trust—possibly called "Tucson Open"—to actively pursue the preservation of open space in Tucson and Pima County. It would facilitate donations of land from property owners (who would receive benefits in local and federal taxation) and would pursue a variety of other methods for obtaining ownership or easements. (Such easements would require state enabling legislation.) A number of national foundations, including the Nature Conservancy Foundation, have shown a willingness to aid such groups financially.

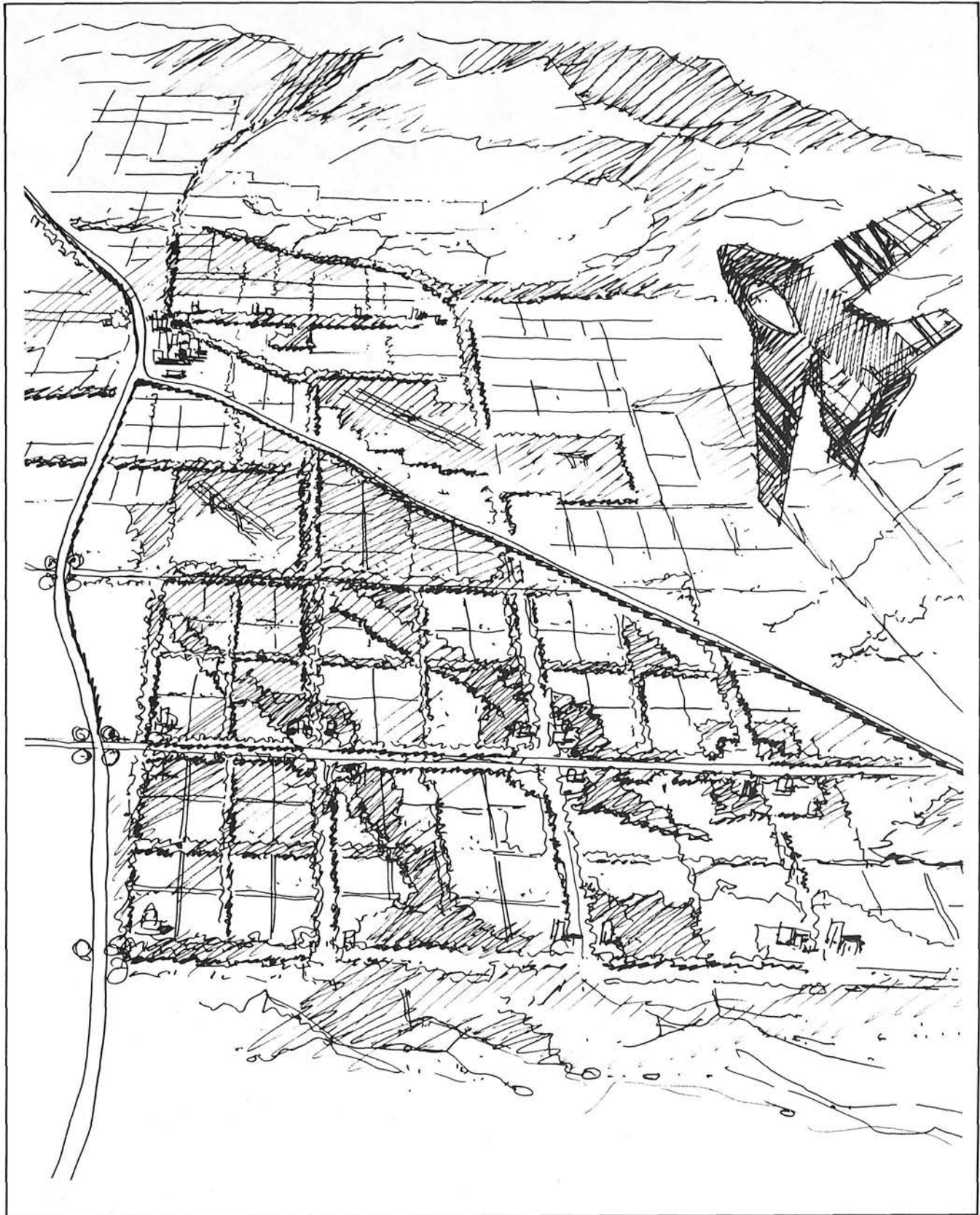
OVERALL STRATEGY

While the Tucson settlement dates back over a thousand years, it was not until the early 1960s that Tucson became a large metropolitan area, passing 250,000 in



A plan to maintain open space, both in mountain areas and along washes and rivers, could lead to an outstanding web of multipurpose recreation lands throughout the area.

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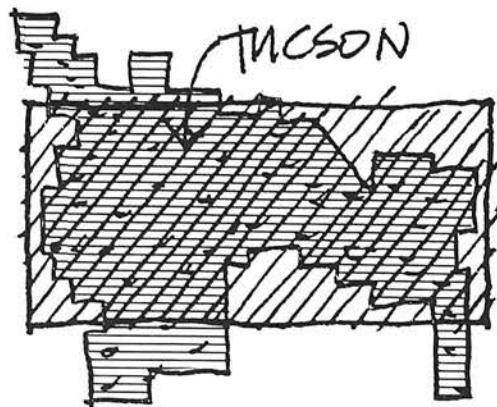
The sector south of the airport and airbase is one location where a conscious strategy is essential for the location of land uses, development of infrastructure, and designation and maintenance of open space areas in combination with flood zones.

population. Since then the population has more than doubled, to about 550,000.

We believe that the continuing pattern of rapid growth in the Southwest is likely to result in another doubling of the Tucson area's population over the next 30 years. This prediction is consistent with the projections of the Pima Association of Governments and the Arizona Department of Economic Security. Whether or not Tucsonians find that growth desirable, pressures of that magnitude are probably inevitable. The question for Tucson is how to accommodate it—what conscious or unconscious actions are necessary to influence its location and bring about a higher quality environment for Tucson.

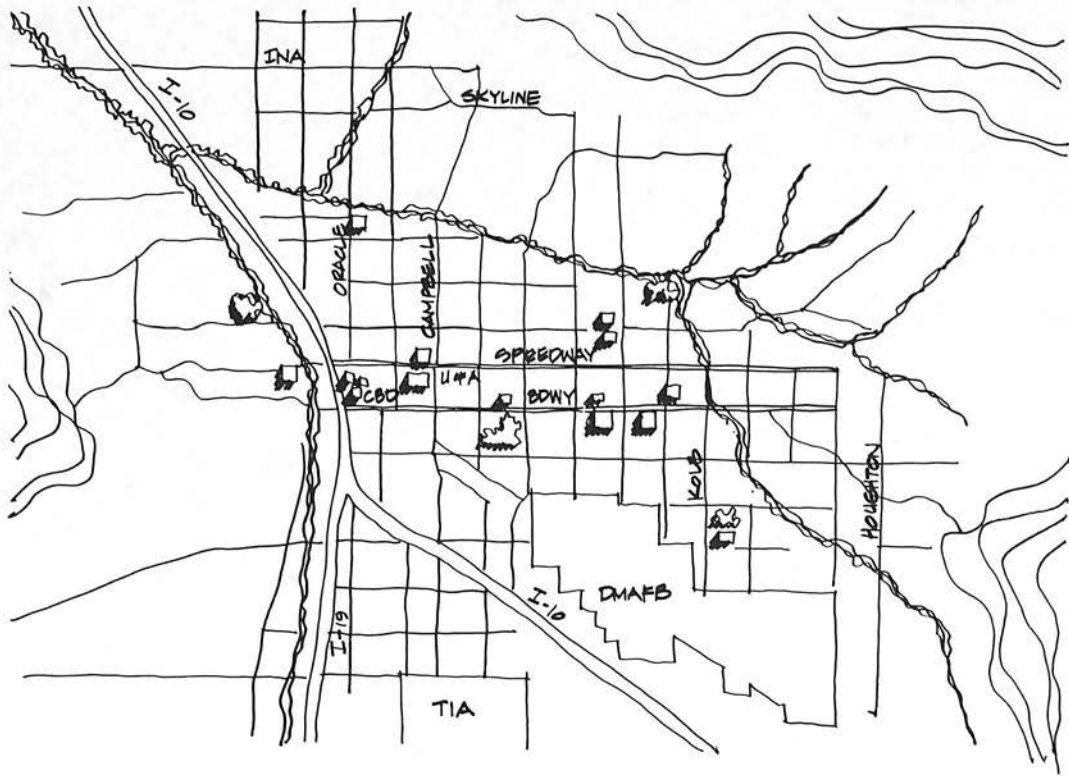
To be effective, such a strategy must deal realistically with market factors and environmental constraints and opportunities. It must show how to provide adequate roads, sewers, water distribution facilities, and the other needed infrastructure for community life. Such a strategy can help Tucson avoid some of the pitfalls typically associated with development in the southwestern United States. It may be possible to influence the mix and location of new development so that housing can be made available near employment centers. While circulation has been easy in the past, growth will make it impossible to maintain the ease of travel from business centers to residential areas without advance planning.

The sector south of the airport and air base is one location where a conscious strategy is essential for the location of land uses, development of infrastructure, and designation and maintenance of open space areas in combination with flood zones. This strategy should encompass the areas east of Interstate 19 as well as the San Xavier Indian Reservation. With the recent availability of the former Hughes estate primarily for industrial but also for some residential development (approximately 12,700 acres), momentum for more intensive development of this area has begun to build. This movement reinforces a pattern originally set in motion by IBM's location at the intersection of I-10 and Houghton Road. Beyond the Hughes properties are thousands of acres of state trust lands that could be made available for urban development, not to mention land in the San Xavier Indian Reservation if the tribe chose to pursue urban uses. It appears that the movement to develop employment in this area will accelerate significantly in the next few years.

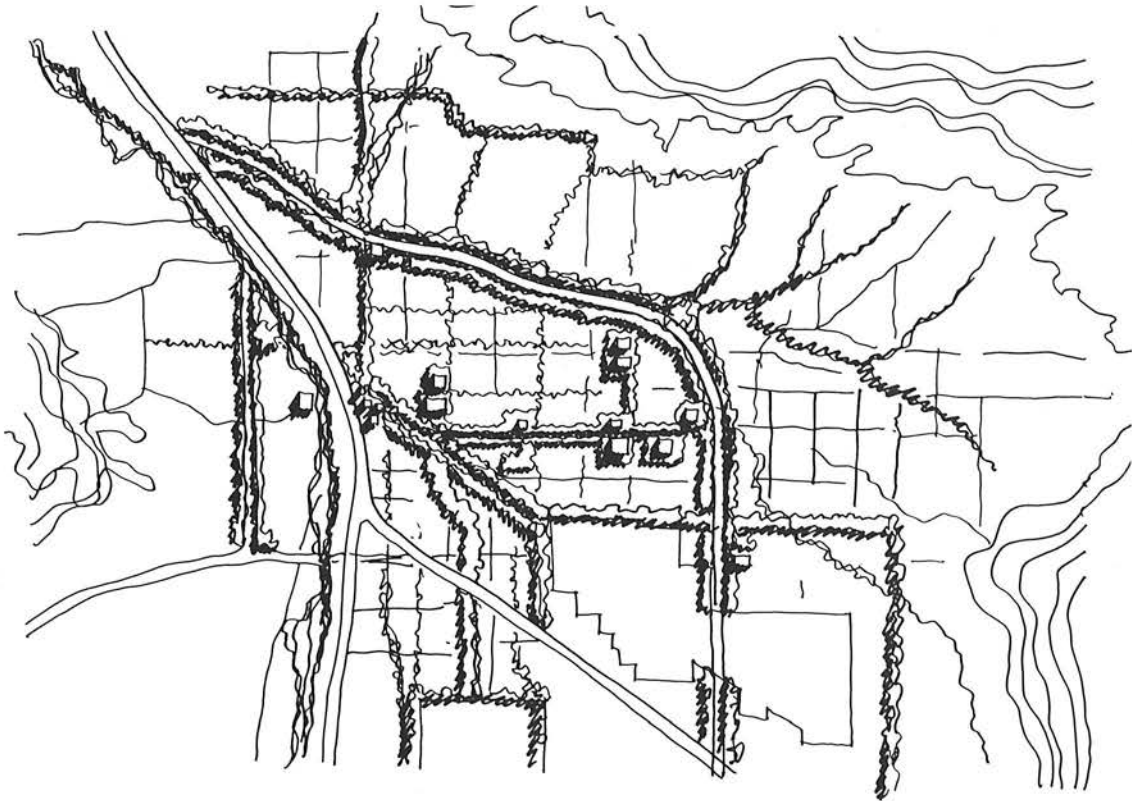


DEVELOPMENT LAND REQUIREMENT FOR 2015

One way to consider the importance of the overall development strategy is to consider the amount of land area that will be needed to accommodate a doubling of the Tucson metropolitan area's population. Currently, urban uses occupy approximately 100,000 acres in the basin, a relatively low density of development. While land economics in the region and the life style preferred are likely to encourage the continuation of relatively low density, some modest increase in average densities, especially residential densities, may occur over the coming years. Nonetheless, we estimate that nearly 100,000 additional acres of land will be required to accommodate the projected growth for the metropolitan area over the next 30 years. The figure above shows this needed area overlaid on a map of the greater Tucson region. Sufficient undeveloped land is available to accommodate the new settlement, but the choices of land will be greatly restricted. It is therefore imperative to make plans now rather than leave the pattern of growth to the vagaries of the market.



EXISTING URBAN SETTING



FUTURE TUCSON FABRIC

IMAGE AND VALUES

The image and values of the Tucson area are a product of many factors, including the quality and form of major routes, gateways, and corridors, the character and treatment of the natural landscape, and the historic nature and design of the architecture.

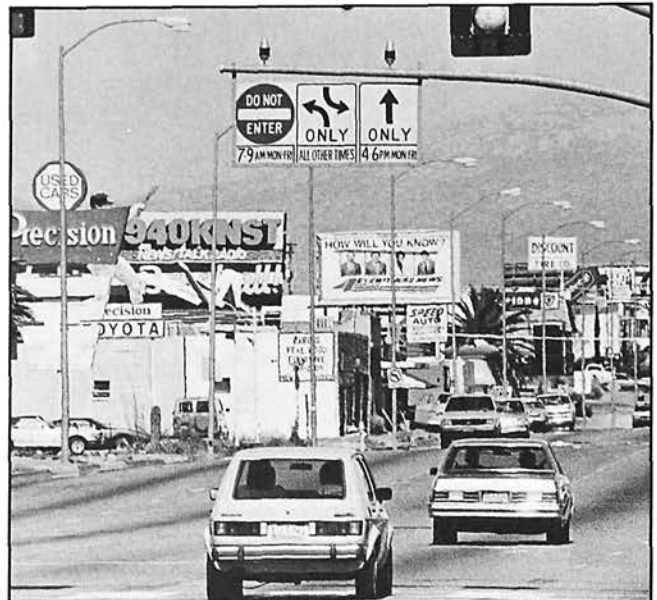
ROUTES, GATEWAYS, AND OPEN CORRIDORS

Tucson took its modern form from the demands of the automobile. While the plain and the foothills contain many fine residential streets and several neighborhoods have a distinct and consistent character, the public image of the city remains largely that of its heavily traveled routes. The few breaks in the pattern of arterial roads that occur each half mile are a welcome relief. Speedway, Broadway, Alvernon, Oracle, and the other major arteries are the public city most shared by city residents.

If the city's image is to be improved, the starting point must be the routes traversed by city residents on their daily trips. The main roads are now subtly different; their differences can be emphasized. They need careful and consistent landscaping along their lengths, although a different landscape pattern could be adopted for each. Broadway begs to be a grand ceremonial street lined by tall palms and desert shade trees to encourage walking along its length. Office and higher-density housing should be encouraged along the street to increase the intensity of its use and justify regular transit service. In contrast, Twenty-second Street, with its glittering signs, is the quintessential automobile street. Elements at ground level like fences and ground cover are more important there as is the occasional introduction of a densely planted median to break the deadly pattern of pavement, metal, and neon. The sense of movement along the street might be celebrated by banners. Stringent controls on signs, appropriate along Broadway, seems less pertinent on Twenty-second. We suggest instead of citywide standards, the use of rules governing signs. Other arterial streets, Alvernon for example, might acquire their special character from a predominance of a particular plant, such as acacias, encouraged in private and public frontages. Still other arteries in newly developing areas, like Houghton, might become linear corridors with bicycle routes and convenience outlets along them.

We recommend detailed and careful attention to the everyday city of Tucson—its arteries. Built-up areas require considerable remedial work, not simply landscaping. As strip frontages are redeveloped, a more logical pattern of access, which places large parking areas at the rear, should be insisted upon. The new shopping area at Broadway and Country Club Road is one good example of such a form.

In other locations, separate service roads would limit curb cuts and allow parking to be screened from the



If the city's image is to be improved, the starting point must be the routes traversed by city residents on their daily trips.

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street. Each major artery will have its own logic for development, and it would be wise to urge property owners and merchants to form associations to permit coordinated actions to improve their streets. In some areas, like the Broadway corridor, where possibilities for redevelopment and infill abound, creating an authority equivalent to the downtown development authority may be warranted. Tax increments could then be employed to improve the street and to consolidate parking and other facilities.

Perhaps the greatest opportunities for influencing the future character of the Tucson area are found in the newly developing areas. The Ina-Skyline-Sunrise artery promises to become the new connector with much of the foothills area north of the city, yet current construction shows little evidence that it is being considered as anything more than lanes to move traffic. Points along its length offer magnificent views of the city, yet no places to stop and observe the view have been provided.

Kolb Avenue will become the new connector to the enormous growth area south of the air base, but its use or its character has been given no special consideration.

The scenic routes leading to and from the mountains and the highway gateways to the city also deserve special attention, because they are a newcomer's introduction to the city. Corridors with views need to be plotted—toward both the mountains and the city—and development limited accordingly. Current efforts to regulate scenic routes seem not to be tied to a careful analysis of the visual character of the routes.

While the "square-mile city" currently dominates the public view—and we believe it can be capitalized upon to give distinctive character to the region—the anomalous and accidental breaks in the pattern should be given

BUILDINGS SET
BACK AND
TERRACED.



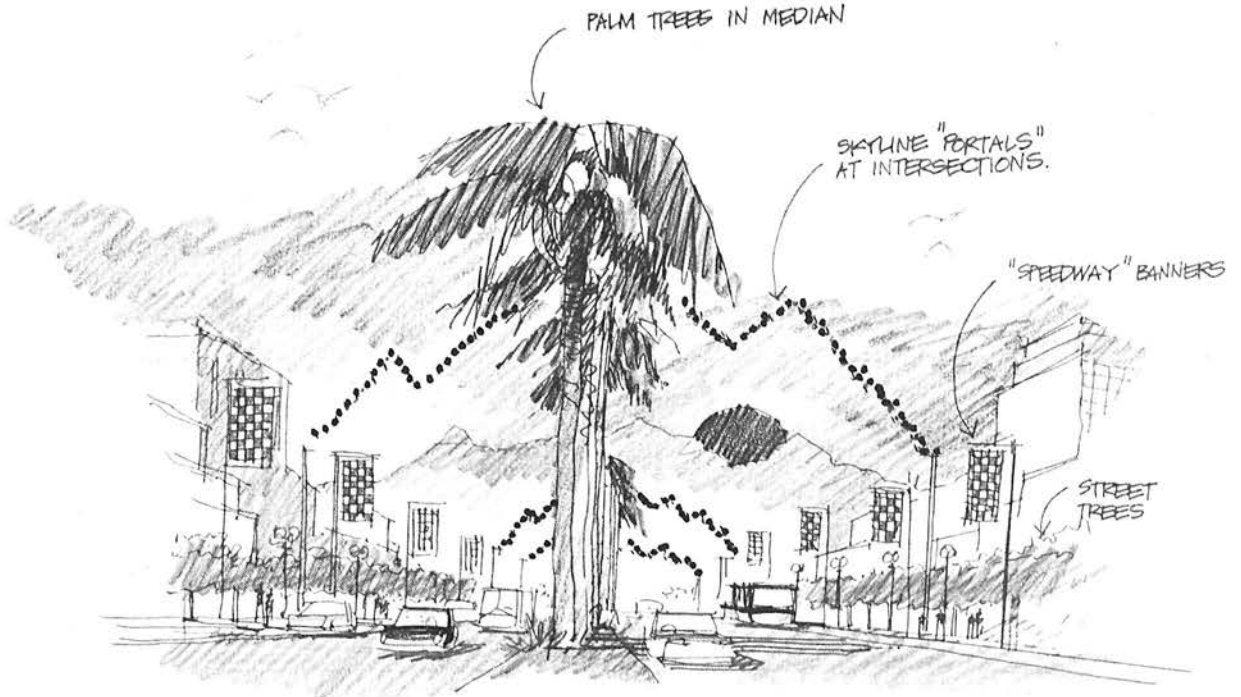
PALM TREES
AT STREET
EDGES.

STREET
TREES
BEYOND
PALMS.

LANDSCAPED MEDIAN

BROADWAY BLVD.

PALM TREES IN MEDIAN

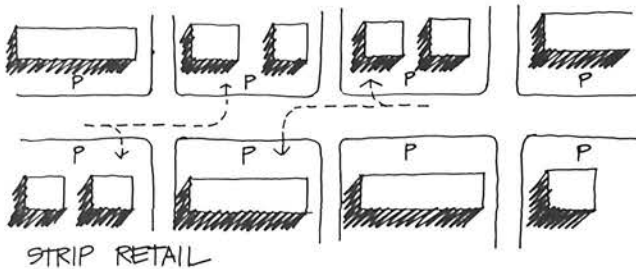
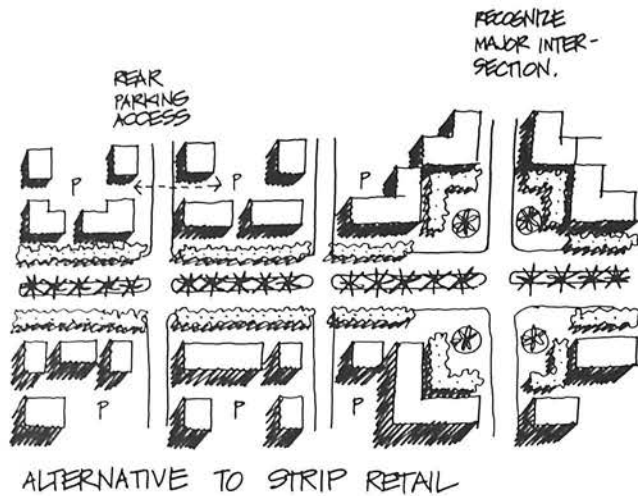


SKYLINE "PORTALS"
AT INTERSECTIONS.

"SPEEDWAY" BANNERS

STREET
TREES

SPEEDWAY BLVD.



more prominence. University Boulevard is memorable because it departs from the standard pattern of streets. Many other such opportunities exist. When arterial streets cross washes, more can be made of the break in the built-up pattern, and the eye can be drawn away from the roadway. Where roads are offset slightly because of correction lines or accidents of location, a landmark structure or fountain or other object can lend a sense of place.

In some areas, such as that surrounding the university, streets might be modified to include a web of permanent bicycle lanes on what is now roadway, ultimately connected to washes and other off-street routes to the suburbs.

In some districts of the city, opportunities exist to reduce the amount of land devoted to roadways, making streets into linear parks. The broad streets in the Barrio Historico, once needed for parking wagons and other vehicles, seem inappropriate to the district's current state. A number of neighborhood groups have made plans to transform areas within the major grid into precincts preventing through traffic, yet public agencies have provided little apparent support for this worthwhile effort.

In some districts of the city, where large-scale development is possible or where collections of institutions predominate, opportunities will exist to make more significant additions to the public environment and to create traffic-free zones. These solutions should be encouraged, but they should always be part of a district plan where neighbors and institutions jointly consider the effects of changes.



Panel members Peter Hasselman (left) and Chuck Redmon (lower right), together with Larry Mann of the University of Arizona, preparing drawings for the final presentation and report.

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Thus, we are proposing a two-pronged approach to improve Tucson's image—a concerted effort to improve the character of the arterial streets that are the most used elements of the city pattern and steps to heighten the uniqueness of the districts developing between them. This proposal is not a luxury. We invest great energies into "decorating" the interiors and exteriors of our homes; we should demand the same attention to the public environment.

CHARACTER OF THE LANDSCAPE

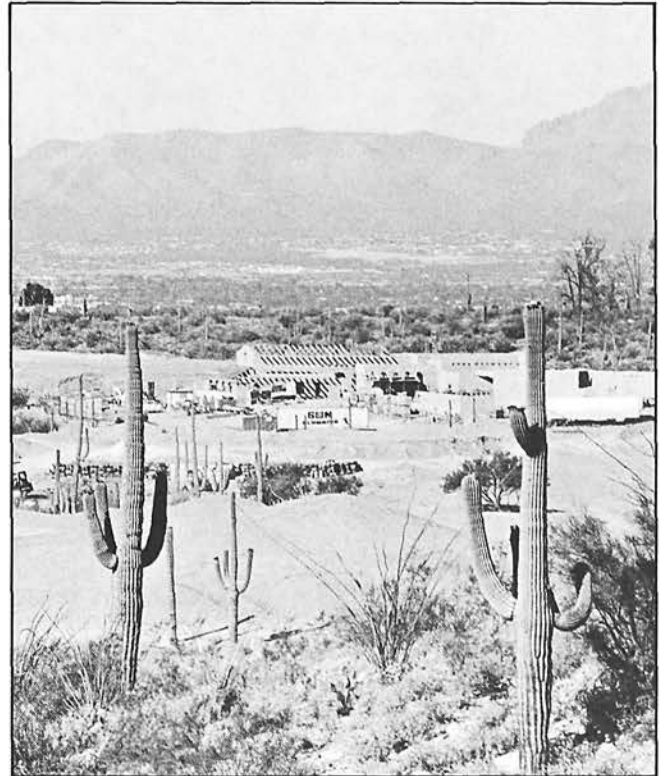
The desert landscape in the Tucson basin is extremely fragile and precious. The native flora and fauna would require many years to grow back if they were stripped away by construction and development. Builders and developers should take special care to preserve what now is part of the desert environment. We recommend the development of standards for landscaping in the combined metropolitan subdivision regulations. Careful use of gravel, rock, and stone with desert plants in lawns and irrigated areas is an excellent method of landscaping around buildings.

As development occurs, every effort should be made to replant and protect what is now a part of the entry into Tucson from all directions. Trees indigenous to Tucson that are hardy and require minimal watering and maintenance should be carefully selected and planted to frame the streets into the area. Desert plants, vines, and ground cover will enhance the community's image.

REGIONALLY APPROPRIATE ARCHITECTURE AND DESIGN

The history of human settlement in the Southwest spans 25,000 years of adaptability from the lush land of glacial times to a postglacial environment of a harsh if beautifully fragile desert environment. The shifting climate caused plentiful water and game to diminish so that the nomadic life based primarily on hunting shifted to the consumption of seeds and plants whose domestication led to permanent settlements in locations where conditions were most favorable. By 1000 A.D., the village dwellers, or Pueblo Indians, had reached a golden age. They viewed land and water as gifts from God to be held in common as *resources* for the benefit of the community, not *commodities* to be squandered.

The whirlwind arrival of the Spanish conquistadores in 1539 in search of Cibola and the seven cities of gold upset the local order by the introduction of their values, cultural influence, and Code of Indies. This comprehensive code for planning, design, and administration brought a new structure to the form of cities. The Mexican influence continued in the Spanish tradition with the issuance of land grants but perhaps less strict territorial control.



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The desert landscape is fragile in the Tucson Valley, and builders must avoid wholesale stripping of land and should take special care to preserve what now is part of the desert environment.

This tradition of planning clashes with the laissez-faire tradition of market forces shaping the use of the land and its resources today. Land and water are now seen more as commodities than as resources to be husbanded for the community. Short-term gain replaces the long-term view of protecting and conserving resources, as evidenced by the depletion of groundwater and water courses as a result of the disappearance of desert grasslands caused by excessive overgrazing.

The Southwest and Tucson have seen indigenous, regionally appropriate architecture evolve across many centuries of experimentation with architecture and site planning. The use of site and materials was carefully thought out to produce a deliberate design whose environmental awareness reconciled form and function. Energy-conscious design is the hallmark of indigenous urban and architectural form. The ancient cliff dwellers discovered the tempering qualities of building into earth, finding the sheltering cliffs would keep them warm in the winter and cool in the summer. The use of thick walls for thermal mass and the clustering of dwelling units enhanced environmental control and economy in the use of materials and firewood. The Pueblo and other Indian settlements emerged as organic urban forms of beauty and functional utility.

The Spanish cities were by contrast the result of a prescribed set of planning and design guidelines set in the comprehensive Code of Indies. Fortunately, the Moorish

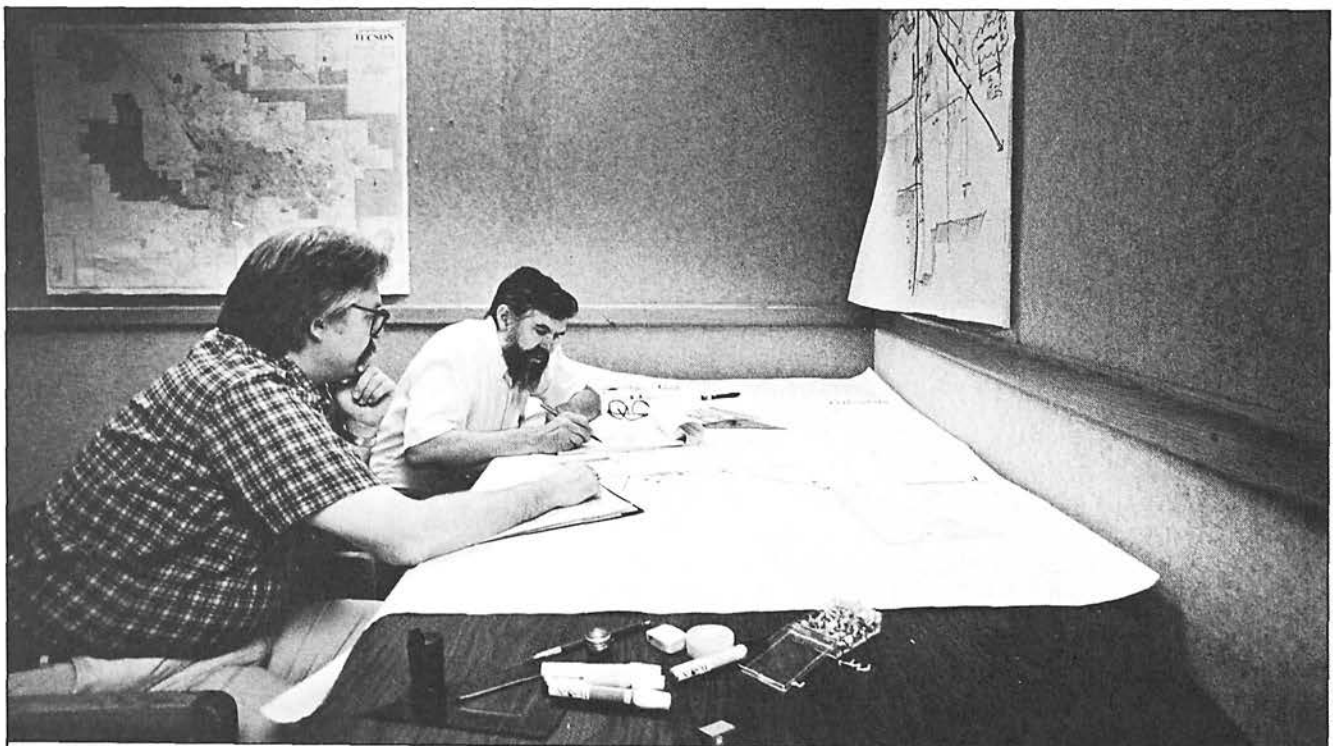
influence in Spanish planning and design was readily adaptable to the desert environment. Main avenues radiated from the midpoints of each side of the central plaza, and two streets radiated from each corner, forming an urban grid of streets and blocks. The plan's orientation was to take advantage of the angles of the sun and the prevailing breeze. Streets were to be narrow so they would cast a shadow for cooler walking during the heat of the day.

The Spanish urban house made unique use of barred windows to the street, solid wood gates and doors, and an internal patio shielded by high walls. The dwelling spaces focused on the patio fountain and gardens. Zero lot line development is a feature of this type of architecture, and the land was used intensively without being oppressive.

These principles of Pueblo and Spanish town planning and design should be incorporated into contemporary planning and design as proven, regionally appropriate solutions that can enhance Tucson's design character without being gimmicky. The city of Tucson in cooperation with the University of Arizona should undertake research and applied experimentation to explore contemporary uses of these time-honored principles and materials:

- **Urban spaces** could be enhanced by the use of metropolitan plazas for large gatherings and smaller plazas for neighborhoods.
- **The concept of thermal mass** should be explored to reduce the need for energy.

- **An energy-conscious design** should be the underlying principle of contemporary architecture and site planning.
- **The use of patios** should be explored to enhance the environment and ensure privacy.
- **Neighborhood identity** could be addressed from the standpoint of identifiable urban districts.
- **Historic districts** can serve as anchors of time and as an important three-dimensional record of the city's heritage. Their cultural value is of unique and irreplaceable quality.
- **Barrio districts** have historic and social dimensions that maintain a glimpse of past life styles and urban settings trying to exist in a contemporary setting. They also should be viewed as anchors of culture and history.
- **Neighborhood districts** should be viewed as distinct social units whose occupants sense a common historical, environmental, and/or cultural bond.
- **Natural or man-made buffers** can serve to enhance the environment. Natural buffers can be native vegetation. Tucson's dry washes offer a special type of buffer; they must remain open to accommodate the flash floods they channel. Because of their unpredictable meanderings, additional distance from their banks increases buffering. Man-made buffers include formalized landscaping, transitional land uses, walls, berming, and arterial street systems.



Bruce Kriviskey, Director of the R/UDAT Program at AIA, together with panel member Jesus Hinojosa during a working session regarding neighborhood identity and historic preservation issues.

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NEIGHBORHOOD IMPROVEMENT

The sense of attachment to a neighborhood or city depends in large measure on a resident's sense of control over his or her everyday environment. Protests over zoning, traffic, crime, flooding, and neighborhood changes induced by others have spawned more than 100 neighborhood groups in Tucson and Pima County. The panel believes the voluntary energy of these groups should be harnessed to improve the quality of the city environment.

CITIZEN INVOLVEMENT

Our country's democratic tradition rests on the principle that the will of the people can be expressed through representative government. This ideal is difficult to achieve in the heterogeneous communities of the United States, and the problem is further aggravated by the scale and complexity of our urban centers. Thus citizens need to become involved.

Citizen groups in Tucson have complained that they are avoided or listened to politely and that their views seldom carry the day in competition with developers' interests. City or county staff have ignored prepared plans or proposals for improvements to their neighborhood, or the proposals have died a quiet death behind closed doors. Public officials and developers who must deal with such groups, on the other hand, complain that they frequently change their minds after agreements have been reached, that vocal spokesmen often misrepresent the weight of silent neighborhood opinion, and that larger, citywide interests are regularly neglected in favor of special interests.

These debating points are familiar, but the real issue is the need to find dependable patterns of cooperation that allow all to get on with the job of improving local areas.

Information and communication are essential to reduce, and avoid, unnecessary confusion and quarreling and to enhance the equitable sharing of costs and benefits. Experience has shown that after quarreling groups meet and talk, 90 to 95 percent of the disagreement is removed. Concentrating on the 5 percent significantly reduces acrimony, focuses the discussion, and leads toward effective reasonable compromise.

Participatory democratic forms of decision making recognize that there is wisdom in the people; their input and recommendations are crucial in the formulation of policy, and in planning, design, and metropolitan management. Cultural diversity should be seen as an asset and contribution to the richness of Tucson's life.

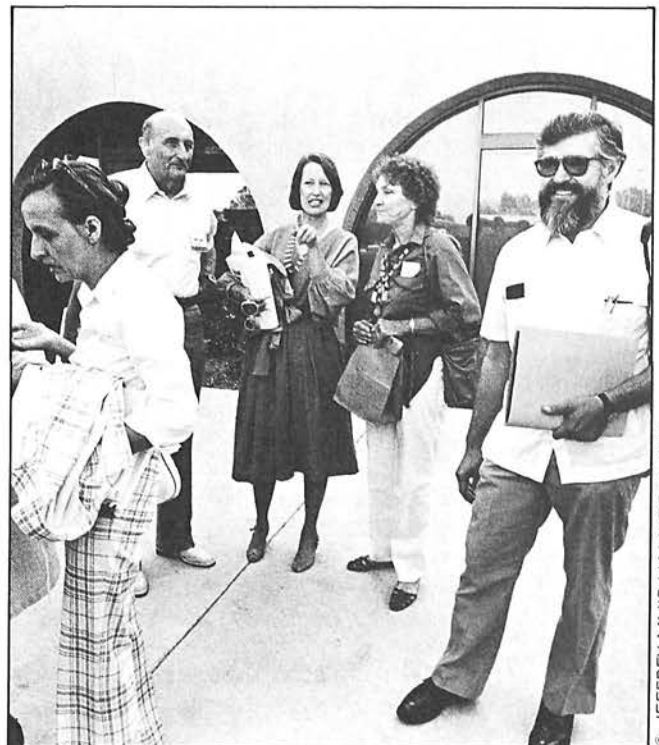
The citizens of Tucson must see themselves as a unified community capable of responding to the environment with the sensitivity the physical setting demands of its occupants—must like the Pueblo learned to do centuries ago.

NEIGHBORHOOD IDENTITY AND HISTORIC PRESERVATION

Among the areas that have been most active in neighborhood planning and citizen involvement are the historic areas of the central city. Tucson has a rich architectural heritage, much of which is evidenced in a remarkable series of relatively intact areas within the older, more central parts of the city. The "architectural growth rings" that developed as the city moved outward from its center remain to illustrate the city's architectural timeline.

The historic areas are now experiencing many disruptions, however. Near the central business district and the university, many historic buildings and entire older neighborhoods have been cleared wholesale to provide sites for development and locations for needed public facilities. We observed out-of-scale new development on vacant sites in older areas and the modification of existing structures to meet new needs, often by dressing them in new and inappropriate architectural styles.

The basic problem is this: Tucson's older central neighborhoods—within which are located many fine examples of historic architectural styles—represent less intensive development in city areas where great pressure exists for more intensive development. This situation has created many recurring cankers as residents rally to retain the historic character of their neighborhoods while the city's development community and governmental agencies attempt to meet public needs and satisfy market demands.



Panel members and neighborhood representatives meet prior to tours of neighborhood areas.

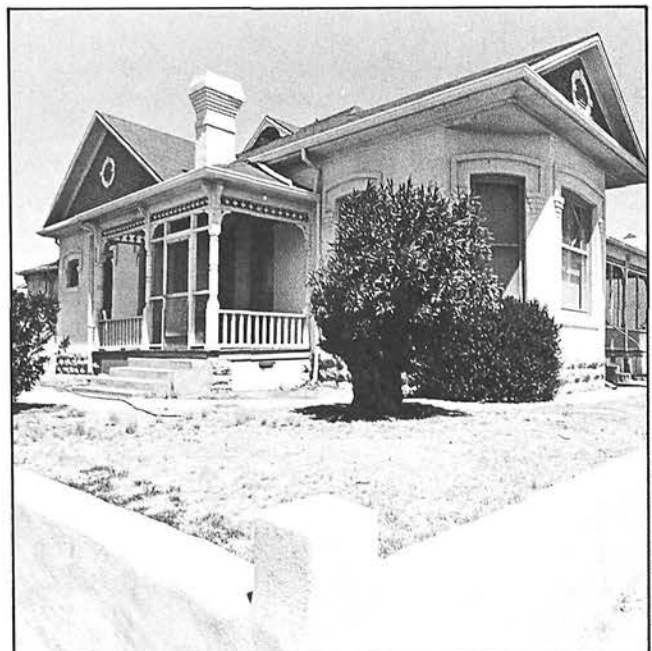
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BARRIO ACTIVITY.

Efforts to prevent or at least to mitigate these conflicts have long been an issue in Tucson—as they are in many older but still growing cities in the United States. The situation was exacerbated in Tucson during the 1960s, when many buildings and neighborhoods—particularly the close-in barrios—were acquired and cleared during urban renewal. By the late 1960s and early 1970s, much interest had been generated and energy expended in recording what remained of the city’s architectural history and in thinking about how this legacy could be preserved and put back to use. In 1971, the city of Tucson prepared and published criteria for preservation and development within Tucson’s identified historic districts. In that same year, the Tucson Historical Committee was formed by ordinance; in the following year, the mayor and council adopted the Tucson Historic Zoning Ordinance. This ordinance has since been substantially modified and now incorporates several progressive features.

This locally administered historic preservation tool and the National Register of Historic Places program are the mechanisms whereby a systematic survey of buildings and districts of architectural significance could begin. The National Register program provides for the mandatory review of the impact of federally funded or licensed projects on a community’s identified historic and cultural re-



The opportunity to preserve and use the historic character of the older parts of Tucson is real and should be pursued.

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sources. Certainly this mechanism will alleviate much of the thoughtless demolition of architecturally significant properties that occurred as a result of federally funded urban renewal or highway development in the past. The necessity of complying with this review process in the early stages of development and planning is imperative. Tucson's local historic preservation ordinance appears to be one of the more innovative such ordinances at work in the country. It has a built-in responsiveness to neighborhood issues by having official review bodies, comprised primarily of neighborhood residents or property owners appointed for each historic district—which has certainly resulted in the strengthening of neighborhood associations, particularly within these designated historic districts.

The opportunity to preserve and use the historic character of the older parts of Tucson is real; it has shown itself in two ways. First, historic preservation has been effectively used in Tucson as a catalyst for revitalizing neighborhoods by generating pride in an area and by assuring neighborhood residents that their investments of time and money to improve their own buildings will not be destroyed by insensitive work nearby. Preservation has thus served as an insurance policy encouraging stability and continued investment in older neighborhoods designated as local historic districts. Second, the design review and planning process afforded to neighborhood organizations serving historic districts appears to be the only successful mechanism available that allows residents a voice in regulating—not merely planning for—the appearance and traditional quality of their neighborhoods.

Several issues have emerged in the application of historic districts in Tucson. While the architectural integrity of officially designated districts can be preserved, individual structures located outside of districts—even if they are designated as local landmarks under the ordinance—do not seem to enjoy the same level of protection. This factor, however, seems to be more the result of market forces than of preservation efforts. Another issue that is sometimes raised by residents of Tucson's designated historic districts is displacement. It does not appear to be a phenomenon that should cause a backlash against the designation of historic districts, however. Rather, it is the introduction of incompatible new uses that changes the sense of neighborhood that makes many of Tucson's designated historic districts special places in which to live.

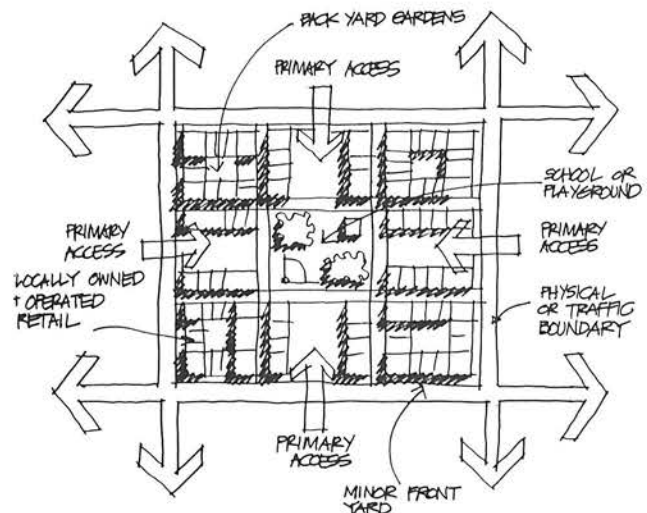
Tucson's historic architectural resources are extensive, and the tools for their protection and continued use are in place. In fact, Tucson appears to have one of the more effective and responsive historic preservation programs in the country. The city's efforts at historic preservation do not always work as well as they should, however. Two mechanisms are needed to make Tucson's historic preservation program more effective and have an even greater positive impact on resolving development issues. First, a countywide, not-for-profit historic preservation organization should be formed. While each locally designated historic district is represented by its own neighborhood

organization, an umbrella group is needed that would be able to marshal the efforts of the Tucson preservation constituency on areawide issues and strengthen the neighborhood organizations. This organization could provide three key services: a greater public awareness of the architectural quality of the Tucson area, advocacy for preservation issues affecting not only individual neighborhoods but also isolated landmark structures, and assistance to individuals and groups interested in rehabilitating or restoring older buildings or in establishing additional historic districts throughout the region.

The second missing ingredient is an areawide, intensive survey of historic and architectural (as well as archaeological) resources. This comprehensive data base is necessary to identify significant elements of the cultural or man-made environment that should be considered in any planning recommendations. While extensive surveys have been conducted within designated local districts and within other districts throughout the community, including Tucson's central business district, a definitive survey of the entire Tucson-Pima County area remains to be done.

NEIGHBORHOOD AND LOCAL AREA PLANNING

Whether historic barrio or outlying subdivision, the Tucson region exhibits a strong sense of neighborhood identity and participation that needs to be strengthened through local area and neighborhood planning. We propose elsewhere the creation of a new general plan for the region, beginning incrementally with local area plans. Public staff need to be allocated to this effort and



* PLUS HOUSING OWNERSHIP, SENIOR CITIZENS IN RESIDENCE, NO WEIRDOS OR CRIMINALS.

CHARACTERISTICS OF A NEIGHBORHOOD

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The panel noted several fine examples of self-help efforts in low-income areas that could be emulated; projects carried out by local improvement associations should be encouraged whenever possible.

active attempts made to elicit opinions from all residents, land owners, and agencies with a stake in such plans. Once plans are adopted, public bodies need to stick with them until events require reconsideration of the entire plan—for at least three or four years in most areas. Piecemeal amendments should be avoided because they undermine any confidence in the seriousness of the plan.

Many areas of the city and county already have such plans, and the residents and owners in those areas need to be provided with better vehicles for followthrough. Currently, virtually all of Tucson's community development block grant funds are allocated to projects initiated by or run by public agencies. We suggest that at least 20 percent of the annual budget be reserved for projects proposed by neighborhood groups in areas where neighborhood plans have been prepared and adopted. Further, we suggest a demonstration neighborhood program where a block of funds—say \$500,000 per year—is awarded competitively to one neighborhood for improvements that could serve as an example for other neighborhoods. Thus, one neighborhood might be awarded funds to improve its park in ways that respond to local needs, and the next year another area might receive funds to install and test a system of cul de sacs and throated intersections to discourage through traffic. Over time the many examples would spur other neighborhood groups to devise better proposals for their own neighborhoods.

Projects carried out by local improvement associations should be encouraged whenever possible. We saw several fine examples of self-help efforts in low-income areas that could be emulated. Local development corporations may be the most effective vehicle for infill development. The energy, time, and dedication of volunteers currently being channeled into protest can be the underpinnings for a greatly expanded local improvement program.

The Tucson area is blessed with distinctive land forms and landscape, which include the broad vistas of the mountains that border the urban region in almost every direction. In too many cases, unfortunately, uncontrolled signage and uncoordinated architecture obscure these views by drawing attention away from them. In only a few cases has the desert landscape been extended into urban development to remind one of the environment where the development is located.

We have noted other specific problems:

- the unnecessary removal of desert flora and fauna
- heavy density and building mass covering building sites and restricting neighbors' views
- drainage and erosion from poor site planning
- dense apartments built on steep terrain
- the building of multifamily and single-family residences within flood plains.

We believe a great opportunity exists to better emphasize the dramatic vistas, provide more of a desert feeling within built-up areas, and generally increase the real and perceived quality of development within the Tucson region. We encourage developers and planning and zoning officials to pursue actions to address this concern. Examples of how they might do so for each type of development follow.

RESIDENTIAL

Residential development is by far the largest consumer of urban land, particularly in an area like Tucson, where the density of residential development tends to be relatively low. We encourage developers to pursue projects to allow a greater diversity of residential types within each project area when parcel sizes are adequate and where market demand is sufficient. City and county planning officials can encourage this practice by providing a variety of zoning designations. The panel recommends that residential areas of 300 to 500 acres be planned as a unit when ownership is consistent with this approach. Focusing on parcels of this size means that an area is large enough to be planned as a unit to accommodate several residential types but small enough so that development can be absorbed over a relatively few years. It may be possible to provide organization and focus for these residential areas by organizing them around local shopping centers, parks, schools, and other community facilities.

The panel recommends that design review procedures be fully implemented using the system provided in existing zoning ordinances. In that review process, design professionals employed by the city and county can review the various impacts of development. That review, however, *must* be performed promptly as applications for development proposals are submitted to the municipi-

palties. The panel believes that delays in staff review are as much responsible for the unpopularity of the process with both developers and neighborhood groups as the conditions or development standards applied.

Quality is not determined by size of lot or house, price range, or the availability of expensive recreational amenities. It is more often determined by the degree to which the community meets the residents' needs for safety, privacy, convenience, and social interaction. The manner in which housing is placed on a site is as important as the materials with which it is constructed. The way its spaces are organized within the residential neighborhood are as important as the amount of land devoted to each resident. The safety factor inherent in the street design is as important as the provision of recreation facilities. And the aesthetics of exposed boundaries and entries are as important as the finishes within the home.

We have found many attractive residential neighborhoods within the Tucson region, including many that serve the residents effectively even though they were developed in an era of relatively unsophisticated planning concepts. In each instance, those neighborhoods serve their occupants well by providing for the needs described above. In many cases, however, we have observed residential patterns consisting primarily of unrelated, adjacent subdivisions that extend over broad sections of the community. Such a haphazard sequence of neighborhoods results in several problems: (1) inconsistent and contradictory means of handling drainage, (2) the lack of a clear hierarchy in residential streets, (3) inconsistent treatment of the boundaries, resulting in a disorderly streetscape along major arterials, and (4) widely disparate grading and siting patterns that result in abrupt slopes and conflicting view corridors between adjacent neighborhoods.

Wherever possible, access to arterial streets should be limited to the minimum amount adequate to provide the necessary emergency access. The design of the landscape, including monuments and signage, can suitably identify primary entries to residential neighborhoods, and traffic can be dispersed on a hierarchy of local streets rather than only on the major arterials.

Boundaries of residential areas can be treated to bring the desert into the urban fabric of the metropolitan region as well as to provide a buffer from adjacent arterial highways. Because cost factors tend to limit the variety and distinctiveness of architectural treatment in mass-produced housing, a boundary of desert landscaping would reduce the focus on the housing units themselves. It would also provide an aesthetically pleasing view for passing motorists. This recommendation is consistent with others for improving capacity of the arterials noted earlier.

INDUSTRIAL

Industrial areas are often located adjacent to and visible from major roadways. As a result, the architectural and landscaping treatment of such areas can significantly



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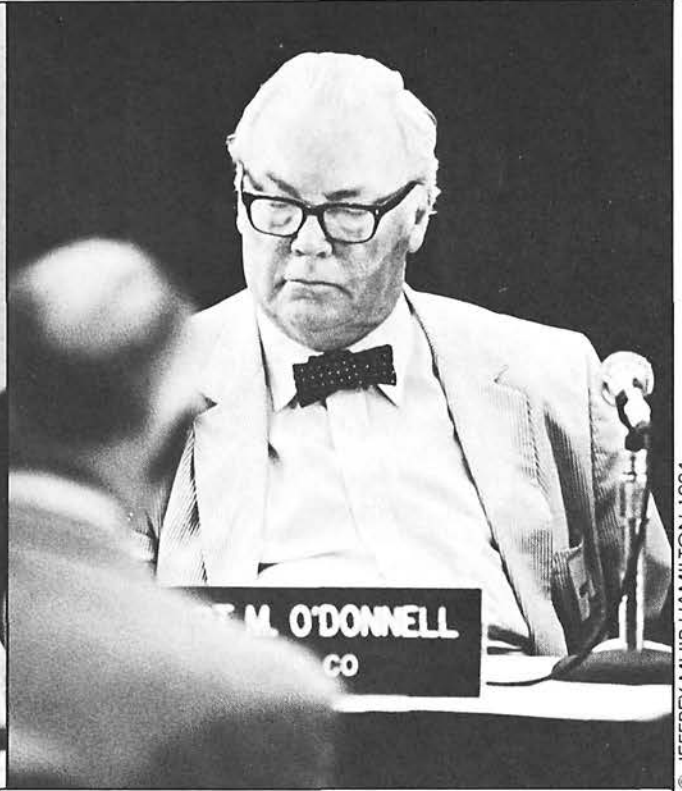
The panel encourages developers to pursue residential projects that allow a greater diversity of residential types within each project area when parcel sizes are adequate and where market demand is sufficient.

affect the perceived quality of development. The panel encourages Tucson's developers and regulators to actively pursue the development of consistent, high-quality standards for architecture and landscaping in industrial areas. Such landscaping does not have to be inconsistent with the desert environment, nor does it have to be inconsistent with efforts to conserve water. Drought-tolerant, desert vegetation would satisfy both requirements. The key is an overall and consistent application of landscaping and a consistent use of good architectural design.

Whether the initiative for consistent application of landscaping and architectural standards comes from the development community or from zoning and development administrators is inconsequential over the long run, although in the short run implementation is more likely if the development sector takes the initiative. In either case, consistent application is the key. We cannot over-emphasize how important these standards and their application can be in achieving a quality urban environment.

COMMERCIAL

One dominant impression all the members of the panel received is the prevalence of strip commercial development in the Tucson area. This type of development is a part of every metropolitan area in the United States and particularly those in the Southwest. Even more than industrial development, it is viewed by everyone traveling major arterial highways. Probably no single action can be taken to improve the perceived quality of the physical environment than a program to regulate strip commercial development.



Panel members Gary Hack (left) and Robert O'Donnell (right) who focused on issues related to urban design and quality in new development, during final report presentation.

The panel strongly recommends that a program of regulating signs, including an abatement program for existing signs, be undertaken. In addition, strip commercial development should be discouraged in newly developing areas by discouraging access to arterial highways (providing buffers adjacent to the highways through which access would not be allowed) and by providing clustered commercial sites at major intersections.

ALL DEVELOPMENT

Overall, we recommend that the subdivision review process in the city and county be restudied and that regulations be included for:

- clearing and grading

- hydrology and drainage for onsite or area retention
- performance standards for residential, commercial, and industrial development
- a design review system for both Tucson and Pima County
- a planned unit development for residential, commercial, and industrial uses in Pima County
- new community and large-scale development for projects over 1,000 acres
- updated standards for street widths, pavement widths, access points, and parking for commercial, residential, and industrial uses in Tucson and Pima County
- recommendations for landscaping within the subdivision regulations.

GOVERNMENTAL PROCESS AND STRUCTURE

Few places in the world have the positive options open to Tucson. While the character of the job base is just beginning to broaden, it shows substantial promise for the future. The amount of available land has few parallels. The image of the region—and much of the reality—gives it truly great potential for growth. But this growth must be accomplished sensibly without unduly infringing upon the freedom from governmental interference.

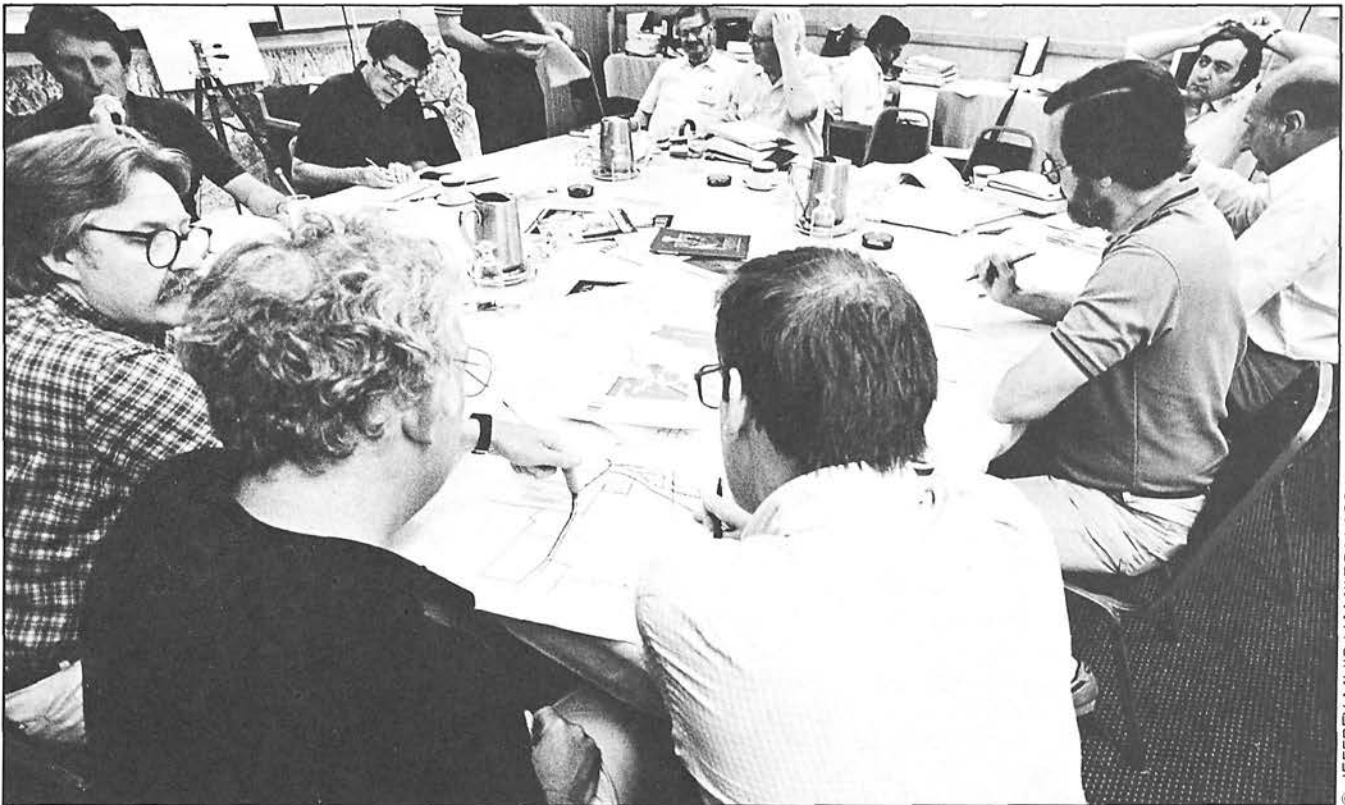
IMPERATIVES AND CHOICES

Tucson is a logician's nightmare—but it has worked. We have noted many positive characteristics:

- Transportation development, by most standards, is still limited, but typical commuter times would be the envy of most urban areas. The matrix of reasonably wide streets and avenues is a tribute to the foresight of a previous generation. They may appear to be stretched close to the bursting point at times, but they provide, even at peak times, a level of service that is better than that found in most metropolitan regions.

- The division of responsibilities between the county and city is much more a function of past conflicts and expedient resolutions to political impasses than a carefully conceived division along logical lines. The responsibilities for water, sewerage, and effluent reflect this division. While some duplication of costs and occasional conflicts in service are apparent, however, the water and sewer division for the most part works—at least for today's Tucson.
- Tucson provides excellent, relatively inexpensive housing. While the location and planning of housing may be based on haphazard tactics and land use patterns increasingly costly in terms of delivering services, the industry has been able to produce a range of options and costs that can rarely be matched elsewhere.
- Tucsonians are proud of their environment—and with good reason. Few locations in the world can match the grandeur of its surrounding mountains and the pleasure of being able to see them without the smog of a Denver or Los Angeles. True, scar tissue is beginning to show in the foothills, and the endless strip commercial development of arterial streets is an offense to the eye and an impediment to travel. But the environment generally remains a primary plus for the area.

The measure of Tucson's competence is the breathtaking growth and vigorous economy it has enjoyed. Endowed by nature with a matchless setting, the sheer



Panel members during a full panel working session.

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verve of its people has yielded a splendid place in which to live. And this accomplishment has occurred with relatively little government structure. Without detracting in any way from the accomplishments of the past, the issue that must be addressed is whether the area has an adequate foundation of governance and direction for tomorrow.

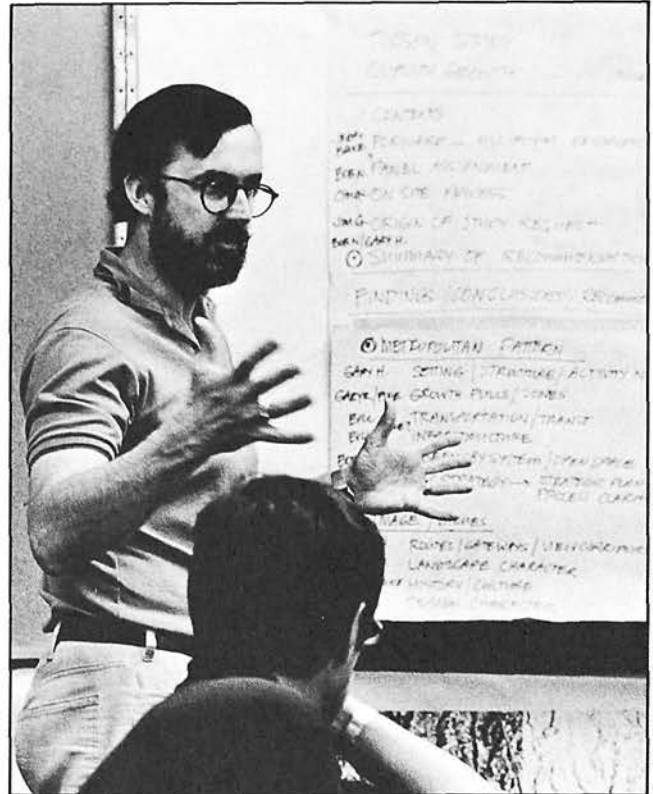
The Imperatives

Tucson's future will partially be a function of present trends. Thus it is necessary to view the present with a cold eye.

The job base. Employment in Tucson has doubled in the last decade, roughly four times as fast as the nation as a whole. Subject to the ups and downs of the national economy, there is good reason to believe that this pace will continue into the future. Much of this growth has been in relatively low-paying occupations, but securing a more remunerative industrial base is a distinct possibility. Future industrial growth in the United States will be far different from the past, much less dependent upon natural resources and the requirements that engendered yesterday's old smokestack areas. Future growth will depend rather upon the ability to secure technical and professional staff—individuals who are notoriously footloose. The pressures of competition mean that salaries are relatively even. The major differential attracting such employees is the quality of the environment. If Tucson is going to provide not only more jobs for its people but also more and better jobs, maintaining the quality of its life and its setting is enormously important. But the very growth in the job base engenders equivalent pressures of expansion, particularly in the delivery of services, which cannot be met with the present governmental structure.

Population projections. Pima County's population will soon be well over 600,000, an increase of 13.3 percent since the 1980 census. And this level of growth occurred during four years in which individual mobility was inhibited by one of the sharpest recessions since 1929. Tucson is physically endowed to accommodate this growth. But to do it well will require thoughtful planning and the cooperation of all the elements of the community, particularly as the revolution in financing results in more modest housing.

Water and sewage. The costs of water epitomize the changes that are taking place. The creative political leadership of the state and the development of the Central Arizona Water Project have yielded a substantial, dependable source for the future. But the source cannot be wasted; it will be much more expensive in its delivered form than present resources, and it brings additional pressure to bear on ensuring the most efficient land use possible. The provision of sewage facilities and their use to recycle waste waters are going to require significant investment. To do so in a fashion that minimizes financial and aesthetic costs to Tucsonians is well within the state of the art. As presently structured, however, it may well be outside present governmental procedures.



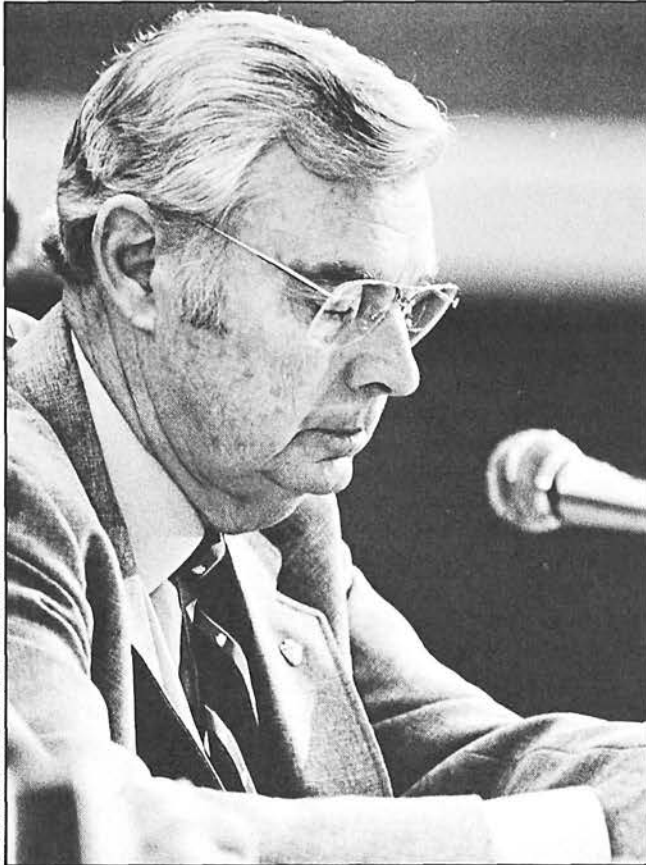
Panel cochairman Chuck Redmon discussing the outline for the final study report and presentation.

The dynamism of Tucson and its environs should be a matter of pride rather than concern. It can enhance rather than detract from the quality of life, enriching the variety of options for vocation and avocation for the city and its inhabitants. But it can do so only if given consistent, predictable guidelines for growth and a responsible and responsive capacity for governance.

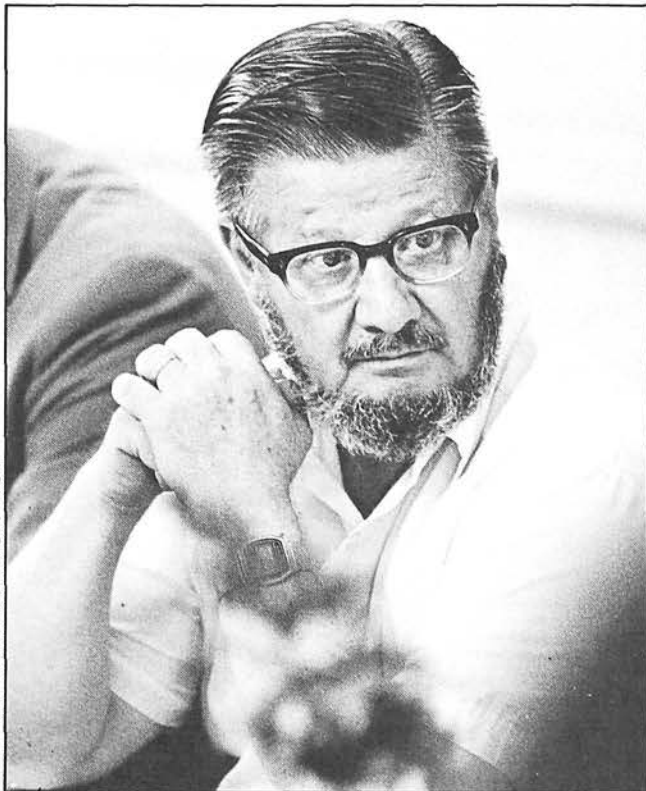
The Choice

The government's structure and tax policies and their possible reform have been studied extensively. Such studies by the League of Women Voters of Tucson, the Office of State and Community Resources at the University of Arizona, and the County Government Study Commission have left a residue of insight but all too infrequently any follow-up action. Guidelines and structures to avoid the problems of Phoenix and Los Angeles remain to be put in place. Tucson is in the fortunate position of having the experience of others to serve as a guideline and to have enough vital growth to overcome some of the sins of omission and commission of the past. Doing so, however, will require the continuous involvement and commitment of all parties.

At best, however, organization can provide only structure. The functioning of that structure for good or ill depends upon people, both in and out of government. Statements of purpose and of goals are very important—but only when they serve as true focuses of direction.



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Panel members Robert Townsend and Norman Christeller (below), who focused on governmental process and structure issues.

What is involved is enlisting the skills and vitality of Tucson's residents in the furtherance of its enhancement, securing additional opportunities for *all* of its citizenry, and ensuring that the city and its people lead better lives in a secure environment.

The measures discussed below are, in our judgment, efforts that can yield a better framework for action. Not least of their targets is a clarification of responsibility. Clearing organizational lines is essential, not only to ensure appropriate and speedy action but also to provide citizens and neighborhood groups a much clearer sense of responsibility. Confused lines of authority like the present ones permit too-frequent buckpassing.

Responsibility is a double-edged instrument. It permits clear-cut action and implementation, but it also requires attribution. Authority must not be abused. Tucson needs not more government for its own sake but structures that can yield positive results, take responsibility, and accept the applause and criticism. Much of the frustration of the local groups we interviewed results from the present failure of organizational structures to clearly define responsibility, despite the best of intentions. The measures sketched below can be the beginning of a new cycle of continuously matching organizations—public and private—to needs—present and future.

OPTIMIZING THE REGION

Tucson is a natural metropolitan region. The term "metropolitan area" is a phrase designed barely a generation ago to describe a central city and its commuter shed. In many high-growth areas of the United States, metropolitan areas have been substantially redefined as development expanded beyond the original boundaries. The Bureau of the Census in 1980 thus coined a whole new set of terminology for "superregions."

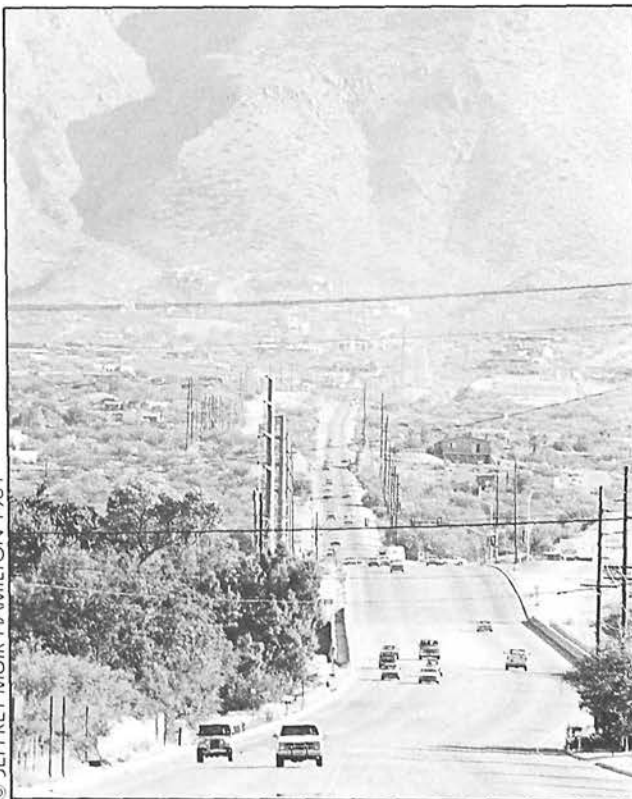
In Tucson's case, clear-cut physical boundaries define a region of approximately 1,300 square miles; the metropolitan entity cannot change over the long term. The inclusionary characteristic of the geographic area calls for an integrated format for planning and a long-term strategy of development. *Our major recommendation, therefore, is that the physical development of the entire basin be planned and administered on a unified basis.* A comprehensive regional plan must provide a guide to development that enhances the quality of life in the uniquely beautiful environs of Tucson. It must be practical and doable, and it must provide some consistency and predictability for residents and developers.

In our estimation, crucial to a positive future for the city and all of its citizens is a process of careful land use planning and consistent development control based on policies that are sensitive to environmental issues, compatible elements, and economic factors. Such a regionwide plan would guide development and policy for transportation, housing, environmental protection, and other issues affecting development. It is essential that this plan

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The Tucson area is a natural metropolitan region with a central downtown area and clear-cut physical boundaries that call for an integrated format for planning and a long-term strategy of development.

receive the approval and commitment of the governing bodies of both jurisdictions.

It is clear that such a comprehensive plan for a region of this magnitude cannot be brought to fruition in a short time. A rich store of material can contribute to this effort, however, and certain steps can be taken to provide an orderly transition.

- The previous comprehensive planning effort should not be discarded; rather, it should serve as a starting point for the regional plan.
- Existing area and neighborhood plans have been approved (with varying degrees of acceptance) and can serve as components of the regional plan—if the relevant governing bodies avoid frequent, piecemeal amendments while the larger planning is underway.
- Existing zoning codes, subdivision regulations, and development processes are reliable if they are vigorously enforced, pending their modification to incorporate innovations proposed by the regional plan.
- The regional plan itself can be developed incrementally by choosing strategically important locations for the development of new area plans. In the development of such area plans, the relationship to established or planned development outside the edges of the planning area must be carefully considered.

It is extremely important that such a planning process be open to public observation and that representatives of residential communities and area civic and business organizations participate actively. In some cases, such participation may involve development of the neighborhood plan by present residents and landowners with professional assistance; in others, the plan may be developed by professional staff with strong input from residents, landowners, and developers. Appendix B describes experiences elsewhere with citizens' broad participation in the planning process.

The comprehensive plan will provide an opportunity for a much more detailed overview of problems related to storm water—in the major stream beds and the dry washes. Clear guidelines must be provided to preclude inappropriately located development and to optimize the use of such watercourses for passive recreation. Tucson's desert environment requires considerations commensurate with the fragility of the ecology, especially for gaps in regulations like appropriate grading ordinances, given the very slow recovery rate of desert land. While these problems are not unique to Tucson, their resolution is important to the preservation of the area's special heritage.

Environmental sensitivity is possible without incurring inordinate costs. What is required is a comprehensive understanding by developers and environmental agencies of the basic rules of the game—in advance. The plan and the zoning codes should provide for the planned unit development of fragile lands, with adequate protection for rivers, dry washes, and natural vegetation. Clustering development on suitable portions of a site would

be advantageous to the builder and to the natural terrain. It is especially important to understand, however, that planned unit development zones will be effective only if public design review is a strong process.

Tucson is fortunate in the splendid areas available to those seeking open space and the opportunity to get away from it all. At present, hikers and equestrians must often gain access to the trail systems in the national forests and other public lands through undeveloped private property. As the private property adjacent to the public lands is developed, it is important to preserve such access while protecting the rights of private property owners. This feat can best be accomplished by providing for trail easements during the subdivision process. (Again, it must be noted that such easements would require a change in state enabling legislation.) Purchasers of homes in the new community will then be on notice of the nearby public right-of-way. Equally important is the need to provide for such a trail system in the required area plans. In particular, the need to control development near streams and washes prompts a strong recommendation that these environmentally sensitive areas be enhanced for the public by the provision of trails and parks along their routes.

The comprehensive plan must provide for fiscal impact analysis. Alternative approaches toward future financing must be addressed so that the physical parameters of the plan are matched by realistic fiscal analysis.

It is especially important that the plan determine appropriate land uses for state trust land well ahead of any state plan for disposition of the land.

If the plan is to be useful, if it is to be believed, and if it is to be implemented, it must be comprehensive, addressing the fears, desires, and needs of all the citizens. It must therefore incorporate realistic projections of future need, environmental issues, transportation, and other infrastructure—particularly water and sewerage—but it must also include all of the manifold structures and services that must be put in place within the community. Supported by fair, professional market studies and economic analyses, the plan must provide for housing of various types, industrial needs, education, recreational facilities, and all of the human and job-related services required to fulfill Tucson's destiny.

Essential to the success of such a plan is a strong commitment by city and county governing bodies and their planning and zoning agencies to be guided by the plan in their decisions. If desirable zoning would be contrary to the general plan and/or an area plan, action on it should be deferred until the plan has been amended through a careful participatory process. Consideration might be given to a system used in some jurisdictions, where amendments are restricted to a stated frequency.

The planning outlined above, in our judgment, will take two to three years, during which planning area increments can be adopted. Life must go on during that



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period; at the same time, however, Tucson must not experience a stampede of rezonings in anticipation of new plans. This type of end run can be enormously costly to the community, to developers, and to other residents. Wherever possible, therefore, we suggest a very critical view—but not necessarily a completely negative one—toward applications for rezoning.

GOVERNANCE

A number of alternative approaches to the governance of this plan are possible. These approaches seek to provide an entity to formulate this growth. They are posed in the hope that they may serve as a broad base for discussion within the community.

Metropolitan Government

While initial efforts at creating a form of metropolitan government for the Tucson region have met with difficulties, this format has been successful elsewhere. In recent years, for example, Indianapolis and Minneapolis–St. Paul have been joined by cities as diverse as Sacramento and San Francisco in capturing what former Secretary of Housing and Urban Development George Romney once referred to as the “real city,” that is, the forms of urban settlement that have long burst past traditional municipal boundaries. This format should certainly be kept in mind for the future. It may not, however, be feasible in the short term.

County Assumption of Responsibilities for Land Use Planning

The county has responsibility for land use planning everywhere but in the city. Admittedly, land use planning for the area outside the Tucson basin has a distinctly different set of imperatives from that within the basin, but the Tucson metropolitan region must be considered a unified planning area. The county’s assumption of this responsibility has certain distinct limitations, not least of which is the division in taxing authority and therefore in implementation. Further, it may be difficult for the city to accept responsibility for infrastructure based on plans developed elsewhere. Moreover, the limitations imposed upon county governmental authority through the lack of home rule clearly dictates against this approach.

Annexation by the City

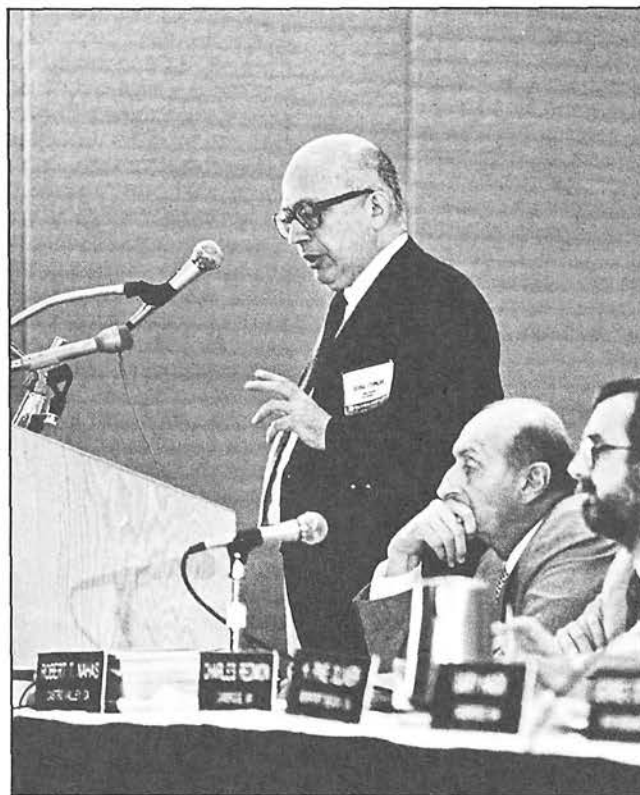
A policy of aggressive annexation by the city may ultimately absorb much of the metropolitan area. While this policy is more or less presently being undertaken, it has severe shortcomings. The required concurrence of the owners of more than 50 percent of the land (by assessed value) in the area to be annexed makes for a piecemeal approach at best. This approach tends to be pursued only when there is a strong fiscal advantage to the city.

Other jurisdictions suffer from a situation in which a fiscal crisis leads to “fiscal zoning.” A potential parallel situation exists in Tucson. While we do not believe that the annexation policy should be reversed, the true realization of Tucson’s future requires a more comprehensive approach.

Unified Planning

Perhaps the most quickly achievable method of providing for coherent unified planning for the region is a unified planning effort. Such an effort could be undertaken by intergovernmental agreement, and both jurisdictions could provide resources. Outside professional resources should be hired to augment local staff. The most important element in the success of such an effort will be the commitment to conform zoning decisions to the plan and to fully use present provisions for design review and development control. Equally important is a meaningful dialogue between residential groups, business groups, and government officials and staff.

Whatever mechanisms for governance are chosen, significant efforts need to be undertaken to resolve the atmosphere of conflict that currently exists in the community. One of the more difficult problems in physics is the so-called three-body problem, that is, establishing rival gravitational pulls and their ultimate effects when one is dealing with three distinct entities. At the risk of overex-



George Sternlieb (standing) delivers the final recommendations regarding governmental process and structure.

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tending an analogy, the panel suggests that the situation in the community is a three-body problem. The developers, the government (elected and appointed), and neighborhood groups act as distinct entities. Too often they do not hear each other; sometimes they do not even talk to each other. Bringing the full potential of the city and its environs to realization must involve the three groups working together.

This approach does not mean subservience by any one of the groups to the wishes of the others, but all parties must fully comprehend the forces and compulsions at work. Give and take must be much more constructive, and the groups must exhibit a capacity for something more than grudging resignation. The atmosphere of fear of the unknown, of a sense of decision making behind the scenes that neighborhood groups expressed to us simply is unworthy of a great community.

Good planning and its long-range successful implementation require the cooperation of all levels of the polity. Not only the city and county government but also the people of the community must have confidence in the process, even if they may disagree from time to time with its results. This approach therefore requires a strong commitment to the principles of open meetings, participation by citizens, and open decision making, even when it sometimes hurts. The development of the regional plan, as we have already suggested, must involve meaningful dialogue and a consensus with neighborhood groups.

Far more detailed analysis of the realities of taxation and assessment, in terms of their nominal and real impact, is required before any detailed judgments can be made. Clearly, Tucson is to be commended for its relatively low level of real property taxation, which has made possible relatively modest housing costs and more disposable income for residents. Unfortunately, this feat has not been achieved without some cost. It has permitted relatively painless land speculation and is in part responsible for the leapfrogging of development that characterizes the area. Thus, in our opinion, current taxation and assessment practices are clearly unsatisfactory. The sum of their effects has made it possible for land owners to secure relatively dense levels of zoning for land, to hold that land undeveloped for speculation, and to do so for long periods of time. We suggest that assessment practices as they relate to this process be studied and the possibility of reassessment when land is zoned higher strongly considered.

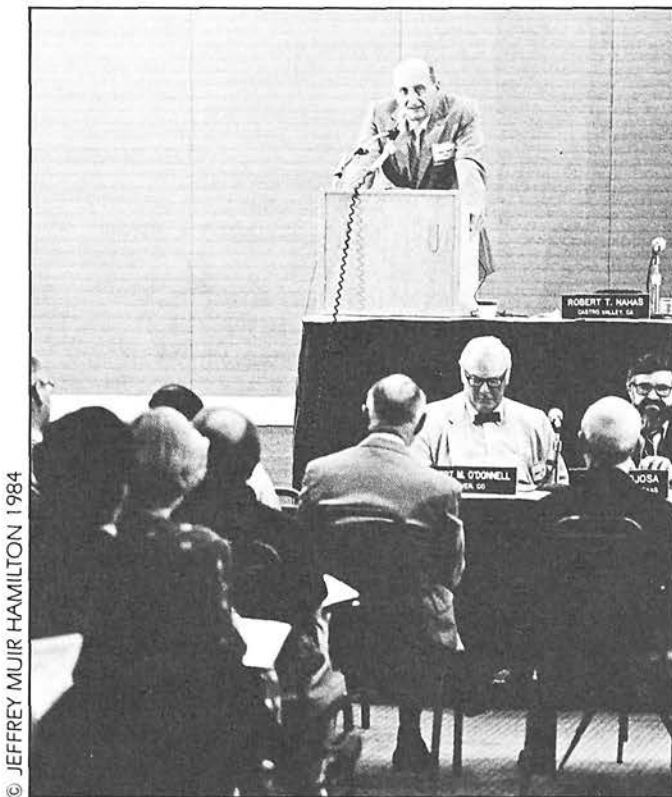
Equity

Several people we interviewed raised the issue of the equity involved in requiring the whole community to pay for infrastructure that is needed to serve newcomers to the community. The answer is far from simple. It is evident, however, that the present generation has benefited from the investments made by their predecessors and, perhaps more significant, that most major infrastructure improvements are financed through bond issues. In turn, all the residents of the community pay the debt service on the bonds *in the future*. Thus, the burden of paying for infrastructure is practically continuous; present occupants are supported by past contributions and in turn help create a system for the future.

When unique forms of infrastructure or similar advanced investments are required, other communities have occasionally used special assessment districts or other forms of contributions from developers. We suggest that the basic infrastructure should be a general fiscal burden and that exceptional requirements be financed by a special assessment district. Appendix C is a description of inventive approaches for financing selected amenities.

Special Fees and Assessments for Project Review

Within reason, it is appropriate to charge fees and/or special assessments to developers upon application for zoning, site review, subdivisions, and the like. It is important, however, that these fees be earmarked specifically for the financing of such activities—and that a professional staff be provided to ensure their appropriate resolution and to expedite approval. Every effort should be made to ensure that it does not become an open-ended source of funds but an appropriate recognition of public costs. It must always be kept in mind that these fees are passed on to the ultimate consumer.



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Panel co-chairman Robert Nahas presents summary recommendations during the final report presentation to the Tucson area citizenry.

INSTITUTIONS OF HIGHER EDUCATION AND QUALITY GROWTH

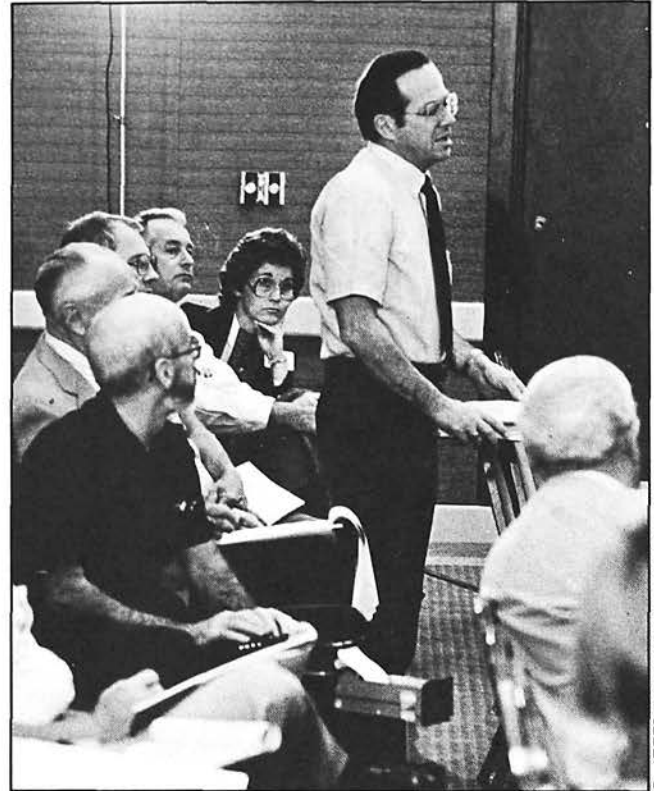
The fascination with high technology in the United States and some of its notable success stories—the Silicon Valley in California and Route 128 around Boston, for example—have obscured the relatively modest opportunity for employment that will be available in high-tech industry. Current estimates by the Department of Labor's Bureau of Labor Statistics suggest that in all probability no more than 1.5 million jobs will be available in high-tech industry in the year 2000.

This prediction should not derogate the importance of this sector to the national economy, but it permits some measure of perspective on the local situation. With few exceptions, just about every state in the country is now seeking the same target. The Research Triangle area of North Carolina, the recent efforts by the University of Texas, and an \$85 million high-tech bond issue in New Jersey are merely a very few of the efforts to capture this industry.

We suggest that Tucson's industrial base has to be substantially increased before significant growth in high-tech industries in the area can be anticipated. In this context, therefore, Tucson is fortunate in having the University of Arizona, which increasingly is becoming known nationally and internationally as a first-rate research establishment, at its doorstep. The university's achievements in optics and in biomedics are substantial. They provide a base for the community to attract industrial ventures.

As best we can tell from historic data, however, the new industrial employment of the community lies largely in less glamorous manufacturing assembly operations. The firms may be high tech to the casual observer, but the bulk of the jobs are much more of the meat and potatoes variety. We note this fact not to disparage these jobs but to point out that exactly what kind of "high-tech" employment is feasible and desirable for Tucson must be clarified.

The panel supports seeking out "clean" industry of all kinds, while certainly not minimizing the appeal of high-tech industries and their high-paying occupations as well. But, at least for the moment, high-tech industries cannot be viewed as prospective large-scale users of land. The efforts of the community college to train and



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Panelists responded to many questions from the audience during the final presentation.

retrain workers at a more basic level certainly are to be encouraged. This process is increasingly important as the range of industrial occupation shifts. Pima College, in our estimation, has done a remarkable job, and its success certainly enhances the desirability of Tucson as a labor market.

Both educational institutions provide significant resources; they enhance not only the overall area but also the concern with the planning process. Their involvement is noteworthy, and it should be even more closely integrated into the community's future efforts. The planning professionals on the university's staff can be a valuable resource in community planning if they are used under the direction of the public planning agency.

APPENDIX A

ACKNOWLEDGMENTS

A panel report such as this one could not have been completed without the cooperation and assistance of many individuals and groups in the Tucson area. The following persons and organizations deserve special mention.

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Chronology
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Neighborhood Associations
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Development Action
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Craig Johnson
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Mike Lehmborg
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APPENDIX B

CITIZEN PARTICIPATION IN THE PLANNING PROCESS

Montgomery County, Maryland, lies northwest of Washington, D.C. During the nineteenth century and the early decades of the twentieth century, Montgomery County was an agricultural community that provided sites for summer homes for well-to-do Washingtonians. Some small commuter communities also sprang up along the railroad line out of Washington. In the 1920s and 1930s, auto-centered suburban communities grew up near the District of Columbia, but dramatic growth did not really occur until the years following World War II.

During the 1940s and 1950s, Montgomery County became a burgeoning bedroom suburb of Washington. Early during this period of rapid growth, a broad-based and successful drive arose for a home rule charter for the county, and this drive laid the foundation for a strong thrust of civic activism throughout community life. Because many of the new residents were federal employees and could not engage in local partisan political activity, their strong interests in local government took the form, instead, of participation in PTAs, neighborhood civic associations, and regional or countywide civic organizations. Such avid participation continues today.

This widespread civic activism by a highly educated, articulate citizenry has been especially notable in the land use planning, zoning, and development fields. Citizen participation has taken a number of forms, and the land use planning process itself now reflects the continuing desire for full and substantive participation. A short description of several modes of citizen participation in the land use planning process follows.

ZONING ORDINANCE REVIEW

The county has appointed, for example, two specialized advisory committees to review and revise some aspects of the zoning ordinance. Anticipating the development pressures and opportunities that would accompany construction of rapid rail transit lines, the county formed a committee to generate new zoning tools for central business districts and transit station areas. This committee included persons drawn from the leadership of the residential civic associations, of the business community, and of the development industry, as well as academics and professional experts. These leaders intensively reviewed community experiences elsewhere and drafted zoning ordinance amendments that introduced performance zoning to the county.

A second committee, with similar composition, studied the entire structure of permitted and special exception uses and identified explicit standards for each special exception use.

DEVELOPMENT OF GROWTH POLICY

In the early 1970s, growth was a major issue in the county. A short early period of free-wheeling spot zoning contrary to master plans had produced unacceptable intrusions into single-family residential areas. Partly as a result, advocates of a "no-growth" policy grew in number. An increasing awareness of environmental problems introduced another element into the debate. Recognizing the need to address these issues directly, the planning board appointed a growth policy committee and established a broad agenda for its consideration.

This committee was drawn from a wide spectrum of interests and was provided with its own staff to augment the assistance of the professional planning staff. Three subcommittees addressed the issues of environmental protection, transportation, and community planning. After an extended study period, the committee brought a preliminary report before a forum of elected officials and of community and business leaders. The final growth policy report that resulted from more than a year of intensive effort provided a policy guide and an agenda for future action toward systematic growth management.

The county disbanded the growth policy committee after officials had accepted the final report, but work on the committee's proposals proceeded with the aid of the professional staff and of unstructured citizen input. Annual public meetings examined various aspects of growth management. Some of these meetings followed a chautauqua format; others employed panels of experts to moderate general discussions.

DEVELOPMENT STAGING

Importantly, out of the growth policy report came new tools to coordinate private development activity with provision of the public facilities it needed. After the details of a staging system were established, a new advisory committee was appointed. This committee included an equal number of representatives of the residential civic organizations and of the development industry, and also comprised a panel of technical experts from local governments. A series of more than 20 meetings over a six-month period provided careful analysis of the staging system and identified some aspects requiring further study or modification.

COMPREHENSIVE MASTER PLANS

A number of modes of citizen participation have come into play in creating comprehensive master plans to guide land use, zoning, transportation, environmental protection, and provision of community facilities. The master plan process itself offers chances for wide participation. First, a staff draft is presented at a public forum held to invite public suggestions and comments. Next, the planning staff and the planning board prepare a preliminary plan that will ultimately be taken to a formal public hearing. The planning board revises this plan and forwards a final draft to the county council. After the public hearing, the county council meets in public work sessions with the planning board to make any further revisions that the council may deem appropriate. These public work sessions supplement the citizens' formal opportunities to comment at public hearings and forums.

Significantly, every amendment to a master plan must also go through the three stages named above (staff draft, preliminary draft, and final draft), with public hearings at each stage.

This basic process has been modified in a variety of ways to provide for citizen participation at earlier stages. In many cases, for instance, an advisory committee for a given area is appointed at the outset of the master plan process. Usually, the 12 to 15 members come from residential civic groups, PTAs, business interests, and community groups. This advisory committee meets often with the staff to identify issues and to examine alter-

natives. Committee members also carry out liaison with other members of the affected community, attend planning board work sessions, and present a final report to the county council. Sometimes, a member of the planning board will chair such a committee, while on other occasions the staff member in charge of the plan will serve as a convener of informal meetings.

The time span of the planning process, however, poses a problem for master plan advisory committees. Citizens may find it difficult to sustain interest and continuity over a two- to three-year period. Consequently, the county is now trying a new process. This procedure requires the planning board or its staff to hold a preliminary forum to elicit comments on community problems and concerns. After performing further analysis, the staff then convenes workshops on different parts of the master plan area or on specific master plan issues, thus furnishing chances for exchanges of ideas before the staff draft is written. This way, better-informed comment usually results at the planning board's public hearings on the staff draft and on the preliminary draft.

In summary, Montgomery County has used a variety of techniques for inviting citizen contributions to the land use planning and regulation process. The citizens have demanded and received a high degree of participation, and the results have proved invaluable to public officials. Ultimately, even those citizens who have disagreed with specific decisions have become more inclined to support the master plans because the county sought and considered their opinions and suggestions.

APPENDIX C

INNOVATIVE METHODS FOR DEVELOPING RECREATIONAL AMENITIES

The use of public/private partnerships to develop recreational amenities on public park lands has proven a highly effective strategy in San Bernardino County, California. The process involves land lease arrangements that allow both the private and public sectors to benefit.

The process began in San Bernardino County, when park officials sought to follow through on a Parks Department plan that called for two 18-hole golf courses on government park property. The Parks Department went to private golf course management firms and asked for their help in preparing a request for proposal (RFP) for the construction and management of the proposed golf courses. Several proposals were submitted in response to the RFP. Officials carefully examined the responses, selected a firm, and proceeded with the proposal to develop. The management firm invested \$4.5 million to build the golf courses. When they were completed, in a mutual agreement with the builder-manager and the county, the builders deeded the improvement of the golf course to the county, and the county in turn leased back the facility to the builders to maintain and operate it. The

county's revenue, as a result of this arrangement, is generated by a minimum ground lease plus a percentage of the management firm's intake. In essence, the more money the management firm makes, the greater the revenue to the county. Since the golf course opened in 1976, every month and every year have generated increased revenue for the county. The investors, managers, builders, and county officials like the arrangement. Moreover, the county did not have to create additional bureaucracy to manage and maintain the golf course, but it still receives income from it.

Other amenities that have been or currently are being developed under a similar process include marinas, recreational vehicle parks, bowling alley/roller skating/gymnasium facilities, tennis/racquetball/handball/volleyball facilities, and equestrian facilities. Most of them are constructed within parks or on the fringe of parks, so they do not conflict with daily park activities. They do, however, produce additional revenue for the governments to maintain and operate the parks, thus reducing or eliminating the fees for other activities in the parks. This concept is entirely different from the old way of using concessionaires, and it has yielded much better results. A concessionaire does not have a vested interest in the project and frequently does not pursue the activity to his greatest ability to generate revenue for himself and the government.

PANEL MEMBERS

ROBERT T. NAHAS, COCHAIRMAN

Mr. Nahas is president of R. T. Nahas Company, currently involved in a number of projects, including a 700-acre planned unit development on the shores of Lake Tahoe, Nevada; a 60-acre planned unit development in California on Lake Tahoe in partnership with the Weyerhaeuser Company; and a small, eight-acre industrial park in Newark, California. The company also owns a number of shopping centers and other commercial property in California and Nevada and is actively engaged in the cattle and farming business in Idaho. Mr. Nahas is past president of the Oakland Chamber of Commerce, president emeritus of the Oakland-Alameda County Coliseum, Inc., president of the Urban Land Research Foundation, Washington, D.C., trustee of Wells Fargo Mortgage and Equity Investors, director of the Wells Fargo Bank and Wells Fargo Company, trustee and past chairman of the California State Parks Foundation, and president of the Oakland-Alameda County Coliseum Foundation. He is also a trustee and past president of ULI and an executive group member of the Commercial and Retail Development Council.

CHARLES REDMON, COCHAIRMAN

Mr. Redmon, an architect and urban designer, is a principal of Cambridge Seven Associates, Inc., an architectural and design firm located in Cambridge, Massachusetts. He has been with the firm since 1965. Before joining Cambridge Seven, he spent a year in Santiago, Chile, on a Ford Foundation grant to work on the development of a community facilities program. At Cambridge Seven, he has been partner in charge of numerous projects for both the public and private sectors, including station modernization guidelines for the Boston Transit System, buildings at the University of Massachusetts-Boston campus, the Baltimore Aquarium, the Houston Design Center, and renovations to the Atlantic City Convention Center. Mr. Redmon is a member of the national AIA Urban Planning and Design Committee (since 1977), chairman of AIA's R/UDAT program (since 1979), and on the board of directors of the Boston Society of Architects. He has served on five previous R/UDAT studies as team member or chairman and has assisted in the organization of over 30 R/UDAT studies since 1979. He is a graduate of the Architectural School of Rice University and has lectured at Harvard's Graduate School of Design and the Boston Architectural Center.

NORMAN L. CHRISTELLER

Dr. Christeller serves as chairman of the Planning Board for Montgomery County, Maryland, and as chairman of the Maryland-National Capital Park and Planning Commission. The planning board is charged with developing comprehensive master plans for Montgomery County and recommending land use and zoning to the Montgomery County Council. It also administers subdivision regulations and is responsible for the development and operation of a 26,000-acre park system. Christeller is a former member and president of the Montgomery County Council. He is also an executive group member of ULI's Development Regulations Council.

WILLIAM R. EAGER

Cofounder and president of Transportation Development Associates, Inc. (TDA), Dr. Eager has over 20 years of experience in the transportation field. With offices in Seattle and Denver, his firm has done transportation research, planning, and design for urban areas and recreational developments throughout the western United States. He has managed comprehensive regional transportation programs in Seattle and Denver, the latter project one of the country's first major efforts to plan regional transportation from social, economic, and environmental perspectives. He also serves as assistant chairman of ULI's Development Services Council.

GARY A. HACK

Mr. Hack is head of the Department of Urban Studies and Planning at Massachusetts Institute of Technology and a consulting principal in Carr Lynch Associates, Cambridge, Massachusetts. Educated as an architect and planner, he has served as an urban design consultant for many cities in the United States and Canada. From 1967-69, he was head of planning for Gruen Associates, New York, and from 1975-78, he headed the Canadian government's research and demonstration program in housing and urban development. Professor Hack has lectured widely and is the coauthor of *Site Planning: Lessons from Local Experience* and a number of articles on urban design. He was responsible for the revitalization plans for central Louisville, Kentucky, the Detroit East Riverfront, and four waterfront development areas in Canadian cities.

PETER M. HASSELMAN

Mr. Hasselman is a design principal in Whisler-Patri, San Francisco-based architects, planners, and interior designers. His professional career includes significant roles in a wide spectrum of urban projects, including a new town, ceremonial avenues, interstate highways, regional rail and rapid transit facilities, high-density offices, and retail, residential, and mixed-use structures.

Mr. Hasselman has been identified with AIA's R/UDAT program as a team member or organizer of over 20 such studies and through his service as a member and former cochairman of AIA's R/UDAT Committee. He has lectured before students, professionals, and community groups on timely urban topics. He is a member of AIA's Urban Planning and Design Committee and currently serves as chairman of the national AIA convention to be held in San Francisco in 1985.

JESUS H. HINOJOSA

Mr. Hinojosa, AICP, is on the graduate faculty in the Department of Urban and Regional Planning of the College of Architecture and Environmental Design at Texas A&M University. He is on the board of directors of the American Planning Association and a member of the Sociedad Interamericana de Planificacion. His professional experience ranges from working for planning and architectural firms on large-scale projects to working in South and Central America on comprehensive planning studies through programs sponsored by the State Department. He was principal international advisor of the interdisciplinary team working on the Managua reconstruction planning program. At the university, he has participated in numerous public service studies, giving technical assistance to cities throughout the state of Texas, including Cattleman Square 2000, a redevelopment strategy for the city of San Antonio development agency. He has also conducted continuing education programs for Texas and Costa Rican public officials.

ROBERT M. O'DONNELL

Mr. O'Donnell, AICP/FASLA, is chairman and chief executive officer of HOH Associates, Inc., an internationally known planning and consulting firm. As president, he has been responsible for planning Exxon's new synfuels town of Battlement Mesa in Colorado and ARCO's new coal town of Wright, Wyoming. Some of HOH Associates's outstanding developments include the Southdale Shopping Center in Minnesota, the Vail Ski Area, Denver Technological Center, and Santa Fe, New Mexico. In addition, the firm was a member of an association of consultants planning Costa Smeralda, Sardinia, Italy. HOH has had offices at St. Charles, Maryland, for over 12 years,

designing and guiding growth of one of the few successful HUD Title IV and VIII new communities. He is an executive group member of ULI's Community Development Council and chairman of the ULI Panel Advisory Service Committee.

H. PIKE OLIVER

Mr. Oliver is senior director of advance development planning for The Irvine Company, developer of master planned communities on over 60,000 acres of land in Orange County, California. Before joining the company in 1978, he worked for several public agencies, including the city of New York and the Governor's Office of Planning and Research in California. Oliver is an executive group member of ULI's Development Regulations Council.

GARY M. RYAN

Mr. Ryan is president of Grupe Development Company-Colorado, a residential development and construction firm located in Englewood, Colorado. The firm's 1984 activities include construction of three rental condominium projects (690 units), construction and sales of a townhouse project (120 units), and development of a 76-acre mixed-density residential subdivision (344 sites). Ryan's previous experience includes single-family and attached houses, large-scale community development, and development consulting services to homebuilders and lenders in 15 states.

Mr. Ryan has been active in ULI for 19 years. He has been an executive group member of the Residential Development Council for 11 of the past 13 years and has served multiple terms as vice chairman of that council.

GEORGE STERNLIEB

Mr. Sternlieb is director of The Center for Urban Policy Research at Rutgers University in New Brunswick, New Jersey, and professor of Urban and Regional Planning. He is a member of the U.S. Census Bureau Review Committee and an editor of *American Demographics*, *Urban Affairs Quarterly*, *Cities Magazine*, and *New York Affairs*. His more than 25 books include *The Tenement Landlord*, *America's Housing*, *The Urban Housing Dilemma*, *The Future of Rental Housing*, *Shopping Centers: USA*, and *Demographic Trends and Economic Reality*. He has served as consultant to numerous government and private agencies and as a member of President Reagan's Urban Affairs Task Force. Mr. Sternlieb is a ULI trustee and fellow and an executive group member of the Commercial and Retail Development Council.

ROBERT O. TOWNSEND

Mr. Townsend has been a member of the San Bernardino County Board of Supervisors since January 1974; he served as chairman of the board for two years. Previously, he served six years on the County Planning Commission, including a term as vice-chairman and three years as chairman.

Townsend has served as president of the San Bernardino Associated Governments, first president and cocreator of the San Bernardino County Transportation Committee, a member of the Planning Committee on Water and Air Quality for the Southern California Associa-

tion of Governments, and a member of the Transportation Committee for the County Supervisors Association of California. He is currently San Bernardino County's delegate and past president of the Southern California Association of Governments, responsible for regional planning, etc., in Ventura, Los Angeles, Orange, Imperial, Riverside, and San Bernardino Counties.

In addition, he currently serves as chairman of the Redevelopment Agency of the County of San Bernardino and chairs the County Industrial Development Authority. Mr. Townsend initiated the concept for the Chino Hills Specific Plan, an 18,000-acre property in San Bernardino County.



**A Panel Advisory Report
by a combined panel of
ULI—the Urban Land Institute
and
the AIA—American Institute of Architects's R/UDAT Program**