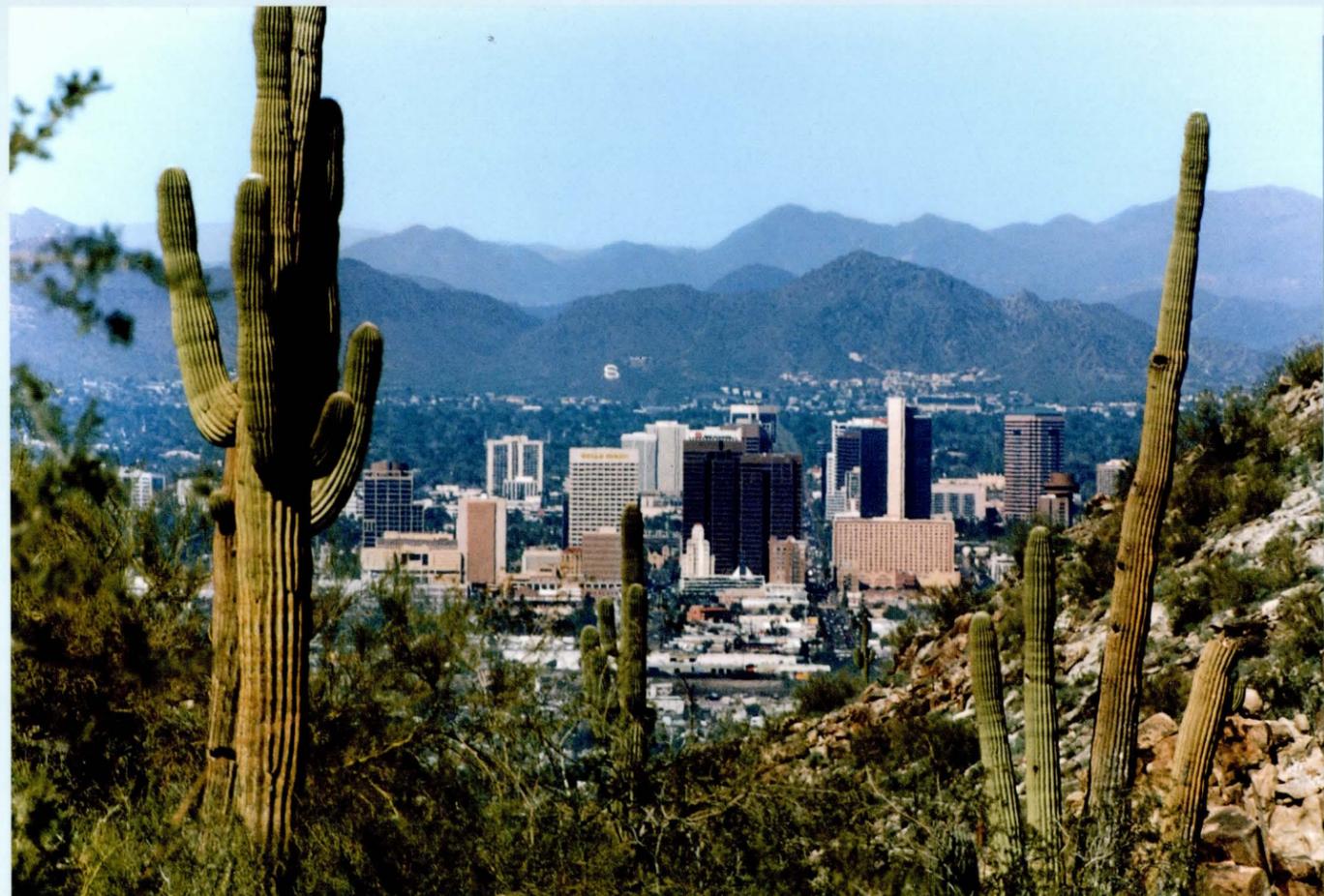


# URBAN ATLAS

PHOENIX METROPOLITAN AREA



MARICOPA  
ASSOCIATION of  
GOVERNMENTS

Urban Atlas Phoenix Metropolitan Area - 1998

000.525

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# Urban Atlas

## Phoenix Metropolitan Area

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for

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James M. Bourey  
Executive Director

July, 1998



# Urban Atlas

## Phoenix Metropolitan Area

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# Urban Atlas

## Phoenix Metropolitan Area

### Introduction

This atlas brings together a wide range of information used in regional planning and of potential interest to the general public. It provides information for those who would like to know more about the region from physical features to characteristics of jobs and people throughout the area.

This atlas is comprised of two different map areas: (1) Maricopa County, — the official regional planning area, and (2) the urban area where most of the people live. Physical features are shown for the entire region while socioeconomic characteristics are better shown on enlargements of the urban area.

Maricopa County has experienced the largest net increase of population between 1990 and 1997 of any other county in the United States. It is geographically larger than the State of New Jersey. Most of the county is undeveloped desert, mountains or range lands. About eighty percent of the land is owned by the federal government including tribal lands, national forest, and military areas.

The urban area maps cover the dynamic core of the region where development has already occurred or is anticipated to occur in the next twenty years. While the core area encompasses only 17 percent of the geographic area of the county, it accounts for 94 percent of the county's 1997 population of 2.7 million.

The atlas highlights the dynamics of the region with maps of evolving patterns and trends over half a century.

The atlas is divided into six sections: physical features, the built environment, demographics, employment, government and urban services.

The first section highlights the dominant physical features of the region from Camelback Mountain in the central part of the region to Four Peaks to the dry river washes such as the Salt River and the Agua Fria. The climate of the region is hot in the summer and mild in the winter. The land mark of the region is the Saguaro cactus. Maps of vegetation, water resources and open space are part of this physical features section.

The Built Environment section reflects man's impact on the natural environment. Homes are being constructed at a rate of an acre an hour. Between 1990 and 1997 more than 176,000 housing units were constructed. In 1995 total monthly housing costs, including owned and rented units, was \$945 a month.

The demographics section of the atlas displays the characteristics of the growing population base. In 1990 16.3 percent of the population was of Hispanic origin, while in 1995 20.5 percent is of Hispanic origin. The median age of the population has increased from 32.0 to 33.2 in the same time period. Single parent households are on the rise, while the average number of persons per occupied unit declined from 3.38 in 1960 to 2.61 in 1995.

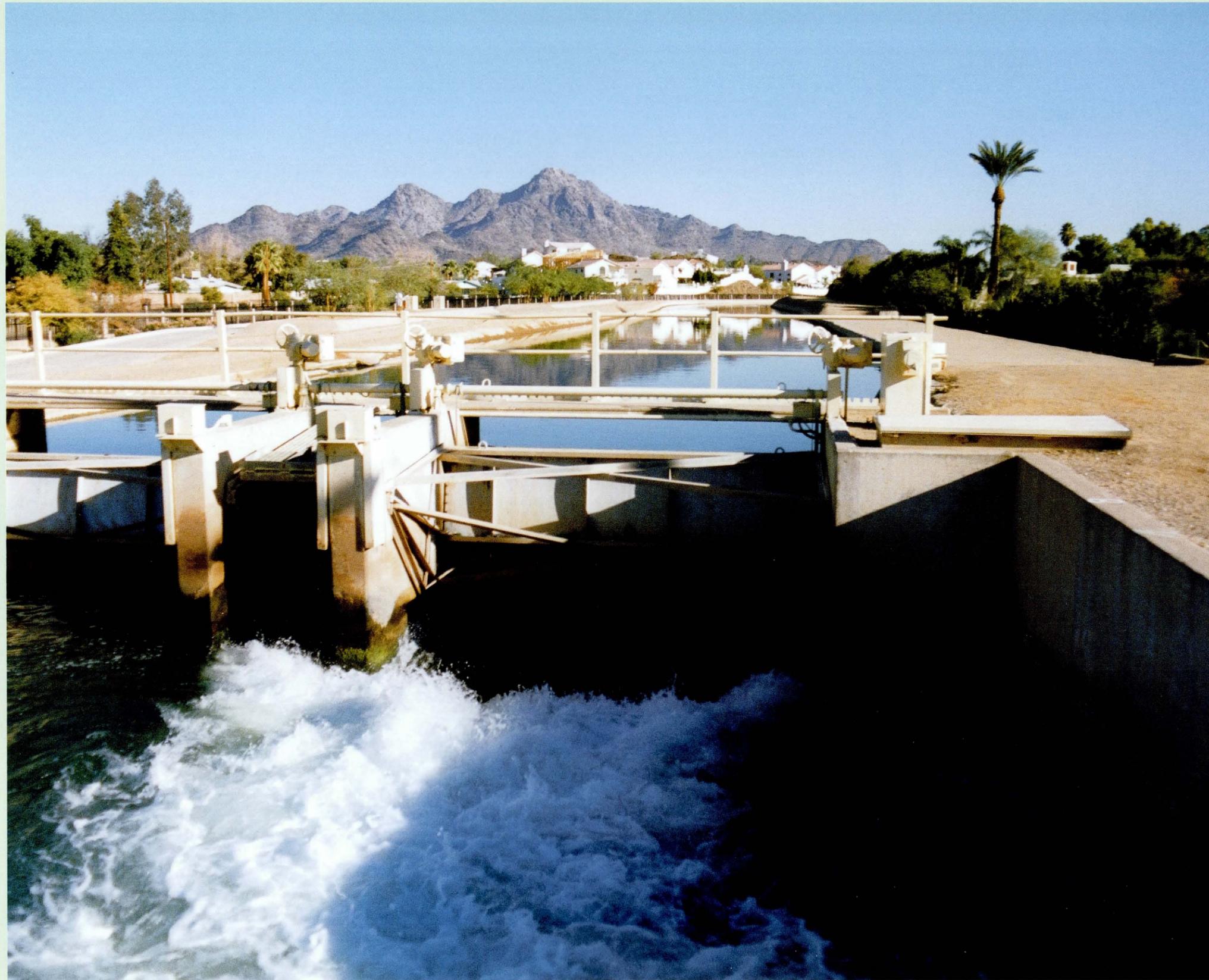
The region has experienced one of the most rapidly growing employment bases in the United States. Approximately 40,000 new jobs are being created each year, and new businesses are moving to the Valley. About 45 percent of the work force is female, compared to only 27 percent in 1950.

The section on government services shows how citizens are represented. It also presents information on publicly owned land and variations in tax rates.

The final section of the urban atlas addresses urban services. Maps show transportation facilities, and the speed and safety of these facilities. Neighborhood services, including the availability of public services and school test scores, are presented. Maps of recreational opportunities from golf courses to museums are shown, as well as characteristics of shopping centers.

The Maricopa Association of Governments represents local governments in the region and is responsible for regional planning. Much of the information in this atlas represents data used in the regional planning process. It is hoped that this atlas will be of value to our member agencies, the private sector and members of the public.





A view of the Arizona Canal looking east toward Squaw Peak.

## I NTRODUCTION

The Phoenix metropolitan area has unique topography, climate and vegetation. The region is part of a basin and range area of the southwest which includes flat basins and numerous mountainous areas. The conspicuous physical features of the region are the subject of the maps in this section: topography, the natural availability of water, the vegetation and air quality. Unique open spaces are depicted on the final map.

The dry climate supports a variety of desert vegetation. In some places vegetation is limited in height and widely spaced. In other areas, the desert is more lush and includes the Palo Verde and Mesquite trees. The landmark of the Sonoran Desert is the Saguaro cactus. The dry climate also means that there are no natural water bodies or free flowing streams in the region. Washes are dry most of the year, but can be rushing torrents during rains.

# The Region

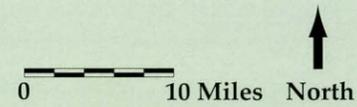
Arizona is in the heart of the American Southwest, bordered by New Mexico, Utah, Colorado, Nevada, California, and the Mexican state of Sonora. The region is coterminous with Maricopa County in Arizona and is the largest metropolitan area in the Southwest between Los Angeles and Dallas.

Maricopa County, in south-central Arizona, shares borders with six of Arizona's fifteen counties: Pinal and Pima Counties to the south, Gila County to the east, Yavapai County to the north, and La Paz and Yuma Counties to the west. It is 9,226 square miles in area.

Fifty-nine percent of the population of Arizona lives in Maricopa County, while Pima County, defined as Tucson's metropolitan area, contains 18% of the state population total. Together, the two counties are the home of over three-quarters of the residents of the state. There are thirty cities and towns in Arizona whose population exceeds 10,000. Thirteen of those larger communities are in Maricopa County and seventeen are in the remainder of the state. Phoenix, the state capital, is the largest city in the state with approximately 1.2 million people.

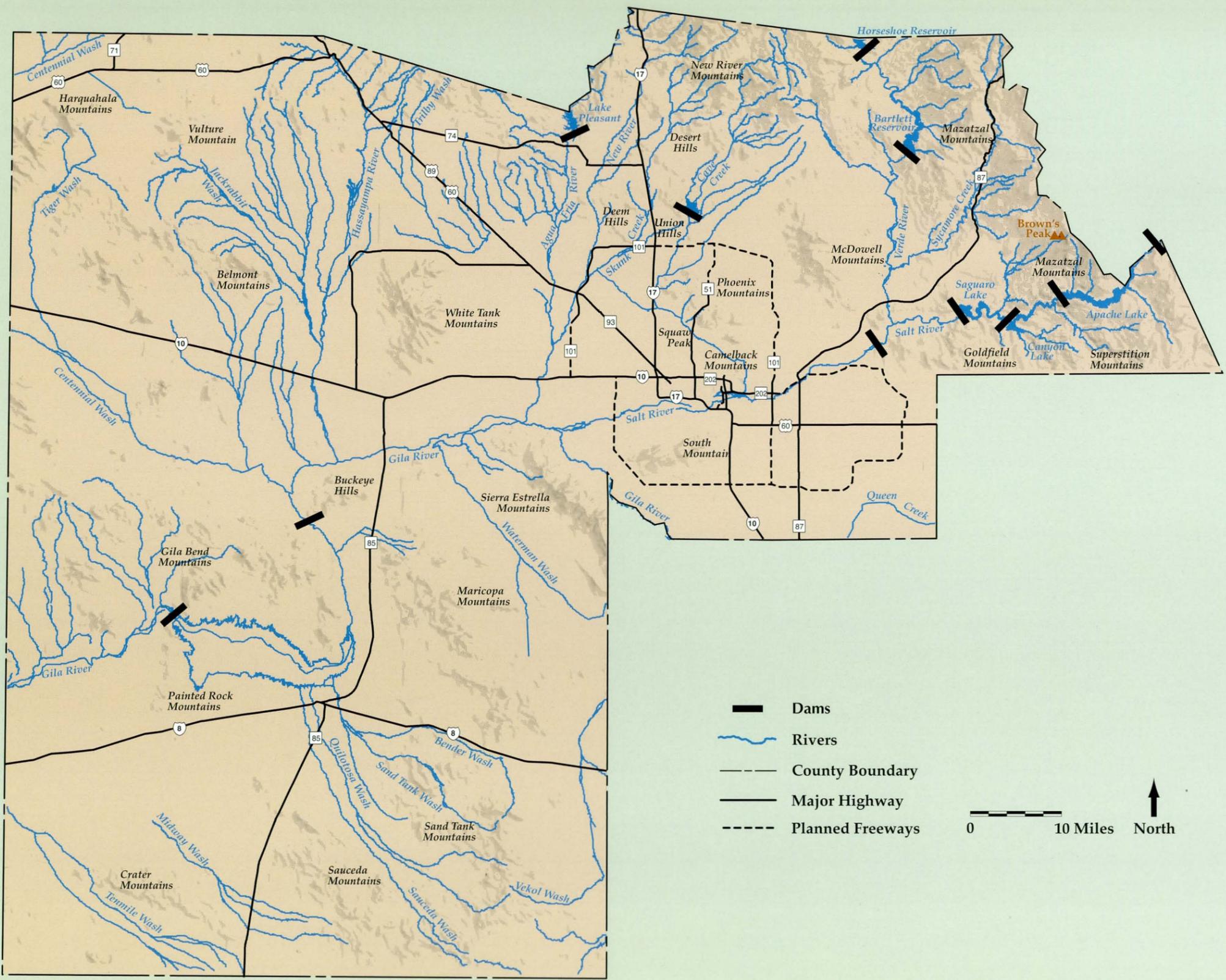
The county is a transportation and distribution hub for the state. Interstate 10 spans the region from east to west and Interstate 17 extends from Phoenix to Flagstaff. Nearly all of the state's larger communities are close to an Interstate Highway. Phoenix Sky Harbor, at the center of the region, is one of the world's busiest airports.

The light colored shading within Maricopa County is the urban area. The urban area corresponds to the core of the region where development has already occurred or is anticipated to occur within the next 20 years.



Data Source: ALRIS - Arizona Land Resource Information System

# Mountains and Rivers



Mountains punctuate the generally flat surface of the Phoenix urban area and provide a stark visual contrast to the valley floor. The elevation of the urbanized flat surface is at 1,500 feet in the northeast and declines to 1,000 feet in the southwest. Some mountainous areas are in view continually throughout the urban area, including such landmarks as Camelback Mountain, South Mountain, the Sierra Estrellas, the White Tanks, the McDowells and the Superstitions. The highest elevation in Maricopa County is 7,657 feet at Four Peaks (Brown's Peak), along the northeast county boundary with Gila County. The entire northeastern rural area is mountainous. The topography of the western rural area is similar to the topography of the urban area. It is mostly flat with occasional mountains.

Geologists place most of Maricopa County in the Basin and Range Province whose landform was defined by tectonic processes such as earthquakes and other shifts in the earth's crust. The higher county elevations are in the Central Highlands Zone. The highlands are a transition zone between the Basin and Range and the Colorado Plateau, a geologically stable area with landforms defined by wind and water erosion.

All of Maricopa County is within the Salt-Gila River system, draining from northeast to southwest. The Salt-Gila system is a tributary of the Colorado River, joining the Colorado to the southwest near Yuma, Arizona. The largest tributaries of the Salt-Gila system are the Hassayampa, Agua Fria, and Verde. Most major rivers and washes are dry for most of the year, flowing during summer monsoon and winter rains. Dams within the county provide much of the water supply for urban use and agricultural irrigation. Dams also control floods, generate hydroelectric power, and form all of the county's lakes. Additional surface water supply flows through the Central Arizona Project aqueduct from the Colorado River.

**Data Sources:** Maricopa Association of Governments, Maricopa County Flood Control District, Maricopa County Department of Transportation, Arizona Department of Water Resources, 1997

# Water Resources

Water is a scarce and highly managed resource in the county. A number of structures and facilities in this region are devoted to the process of delivering water for municipal, agricultural irrigation and industrial needs.

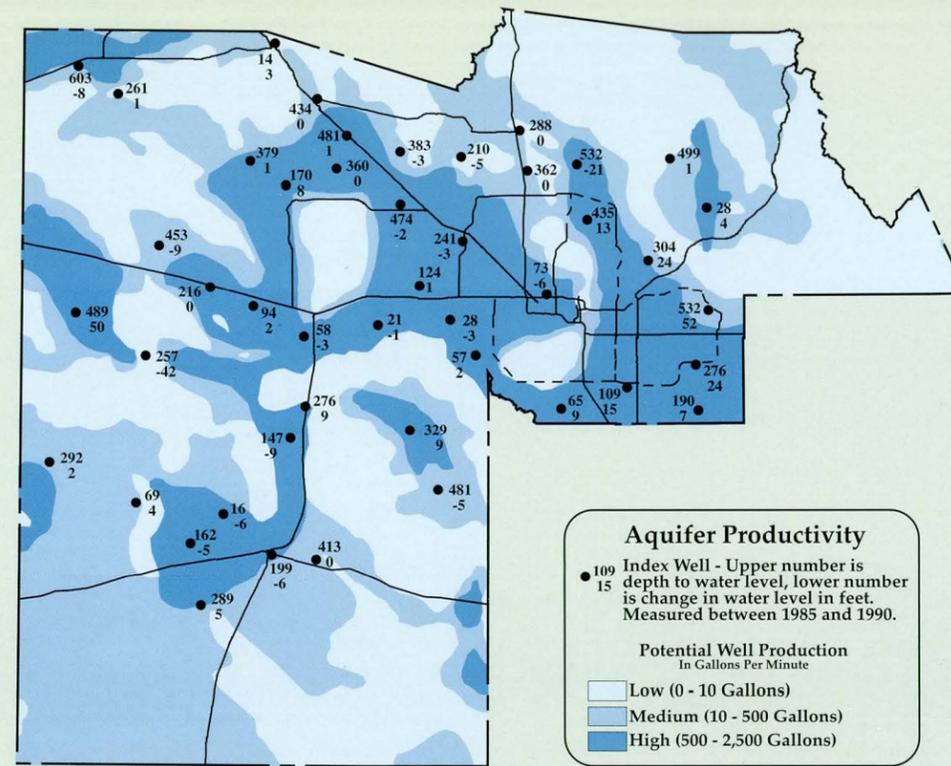
Wells provide much of the municipal, domestic and commercial water supply as well as the entire water supply for isolated residences in the county. The groundwater naturally available to the wells that tap a regional aquifer may be measured as the yield of water, in gallons per minute (gpm). Aquifer productivity varies widely in the county; most of the wells in the "high" category can produce 1,000 gpm or more.

The Phoenix Active Management Area (AMA) was one of four established in the state in 1980 as a provision of the Arizona Groundwater Code, the goal of which is to control severe groundwater depletion and to provide for allocating Arizona's limited groundwater resources to meet the state's changing water needs. The Code requires a series of management plans for the AMAs. The goal of the Phoenix plan is to achieve "safe-yield" of groundwater by 2025. Simply stated, safe-yield means that long-term groundwater withdrawals do not exceed recharge of the aquifer.

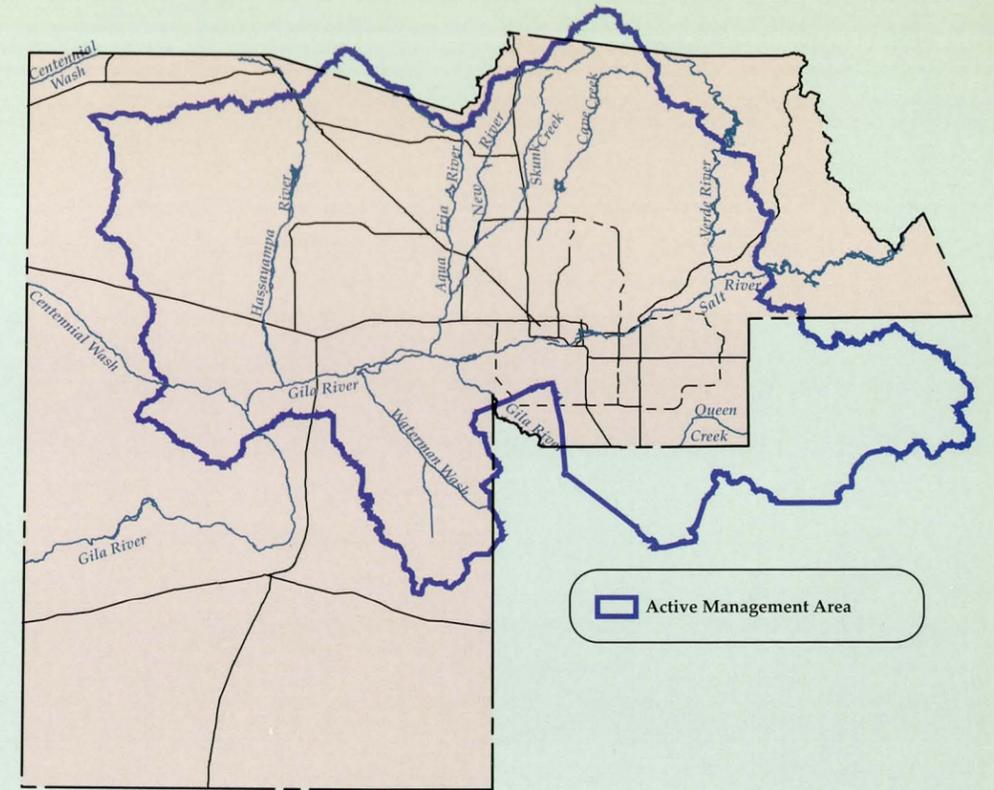
Irrigation districts originally supplied non-potable water for agricultural use. Consequently, these districts represent the historic locations of cropland in the county. Much of the land in irrigation districts has been converted to urban use. The largest district, now substantially urbanized, is the Salt River Valley Water Users Association district.

Surface water in the county comes from the Salt-Gila River system and water supplied by the Colorado River through the Central Arizona Project (CAP) Canal. Other canals are generally the distribution system for surface water in the irrigation districts.

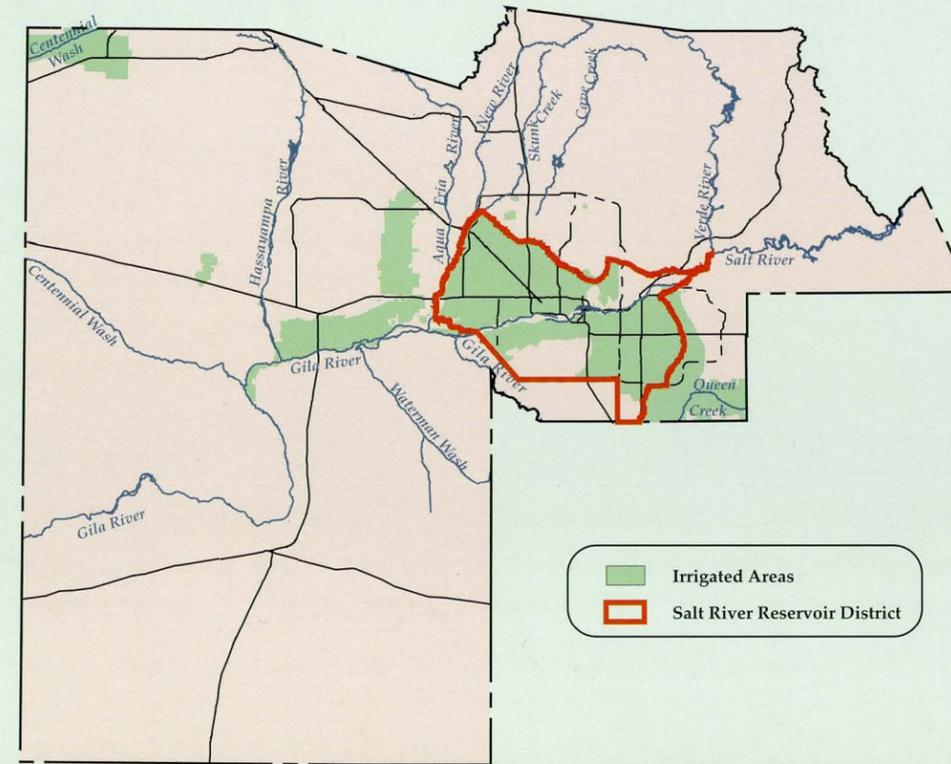
The Salt-Gila system also includes many other rivers, creeks, and washes. Most of the streams are ephemeral—they last for a markedly brief time. Even when the streams are flowing they are intermittent—they have wet and dry stretches over their length. The Verde River is the only perennial major river within the Phoenix AMA. Over most of the length of the Salt and Gila, water flows only in response to flooding and reservoir releases. One stretch of the Gila is perennial due to effluent from a wastewater treatment plant.



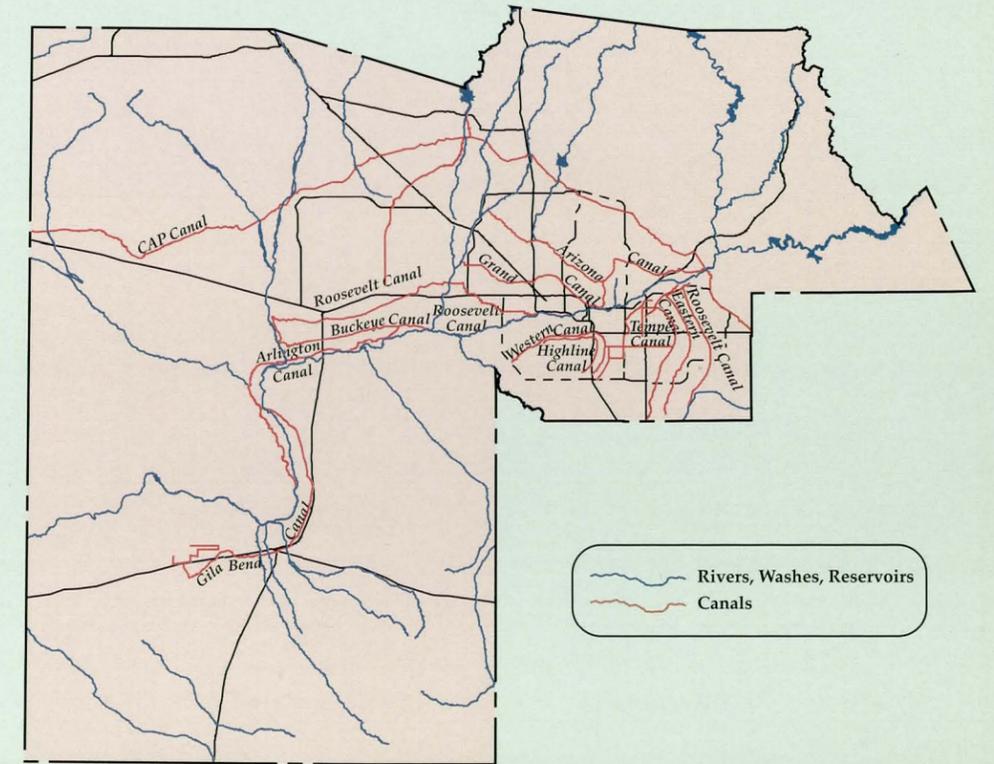
Ground Water Availability



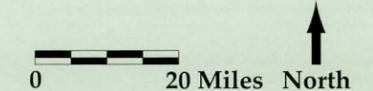
Phoenix Active Management Area



Irrigated Areas

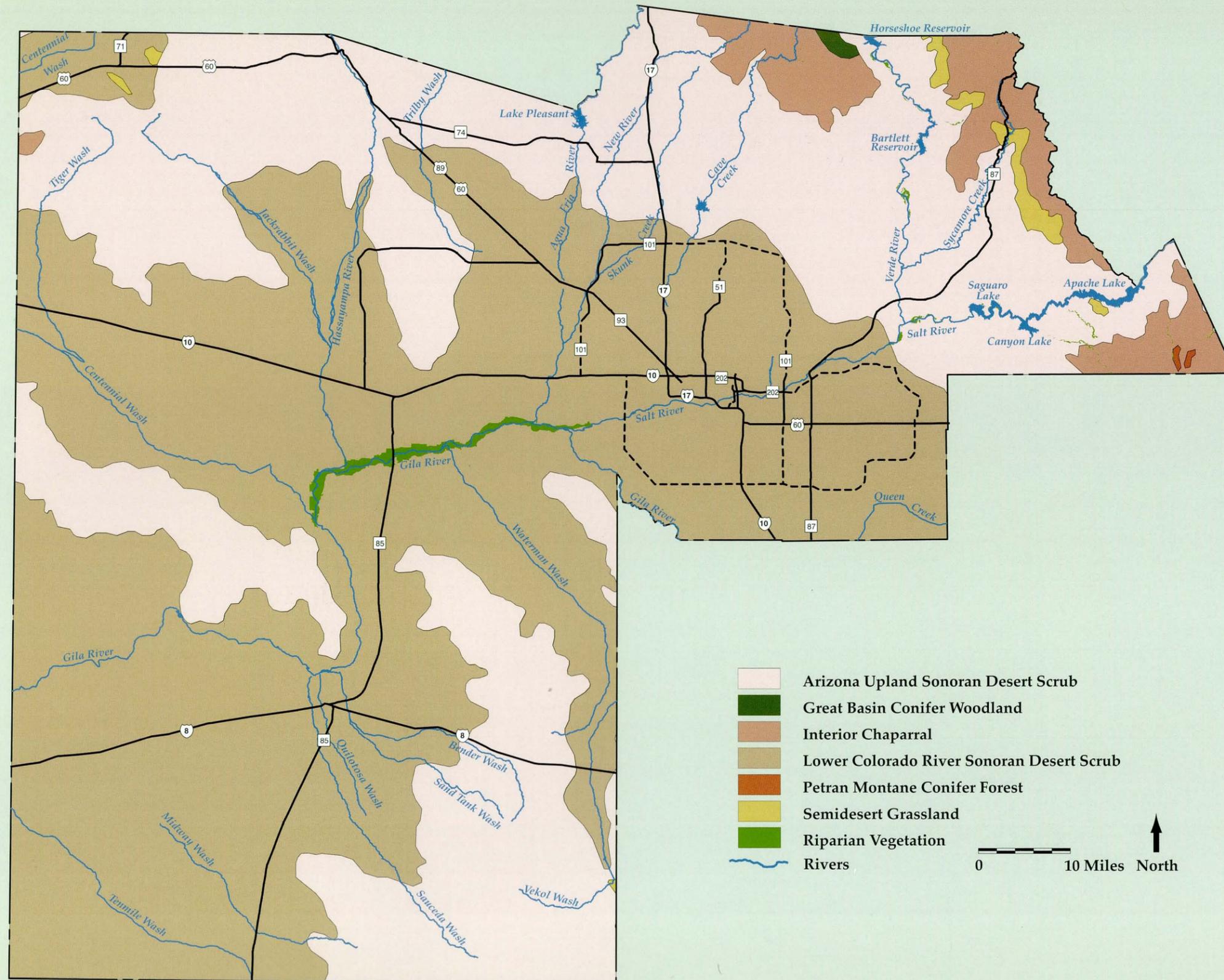


Rivers and Canals



Data Source: Arizona Department of Water Resources, 1997

Natural Vegetation



The Sonoran, one of North America's four deserts, is the world's most botanically diverse desert because of its winter and summer rains. Admirers of natural landscapes watch for the blooming of the desert in the spring and the ephemeral blooms that appear after summer rain. Overall, the Sonoran contains 300 types of cactus and 2,500 species of plants.

The mix of plant types in the region varies substantially with changing elevation, slope, soil, and water conditions. Two native plant communities of the Sonoran Desert, the lower-elevation Lower Colorado River Sonoran Desert Scrub and the Arizona Upland Sonoran Desert Scrub, dominate the landscape at lower elevations. These plant communities include creosote, mesquite, scrub, ocotillo and palo verde. At higher elevations in the northeast are small pockets of woodland, forest, and grassland vegetation. In addition, the Interior Chaparral vegetative region is more widespread in the northeast county and is the dominant plant community in much of Arizona's Central Highlands.

Riparian vegetation may be found within any major vegetative region and is a result of special conditions on a streambank. Cottonwood and willow trees are signs of some of the riparian areas. The riparian areas on the map were identified in a major riparian area inventory conducted by the Arizona State Land Department that was limited to those areas associated with perennial water. An inventory of riparian areas associated with intermittent water is underway. Riparian areas are of particular concern to Arizona, since about 90 percent of such water-based habitats have disappeared in the state.

The Saguaro cactus is unique to the Sonoran desert and is its trademark. The Saguaro only grows on south facing slopes at the edges of the habitat. The Saguaro grow slowly and can live to be hundreds of years old.

Introduced vegetation has altered the look of both agricultural and urban portions of the county. Non-native palms, citrus, and olive trees are prevalent in many city neighborhoods. Much landscaping is a mix of native and non-native plants. Gradually, over the past fifteen years, "desert landscaping", or xeriscaping, has become favored for aesthetic and environmental reasons and has returned some public and private spaces to native Sonoran vegetation.

Data Sources: Maricopa Association of Governments, Arizona Land Resource Information System, 1997

# Air Quality

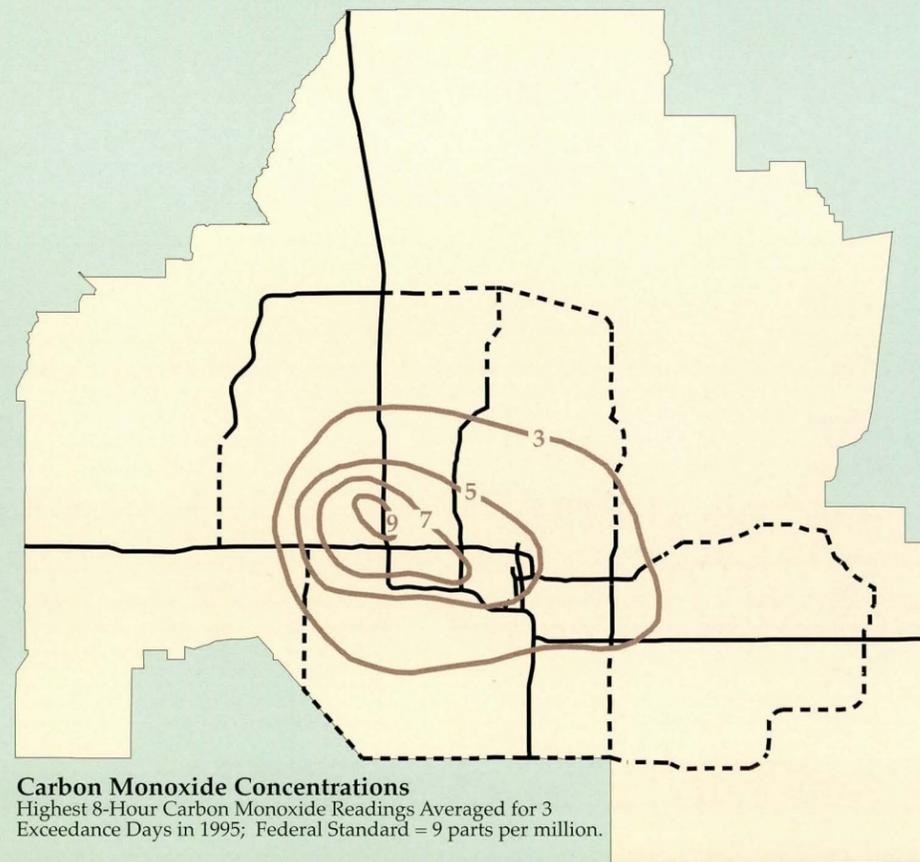
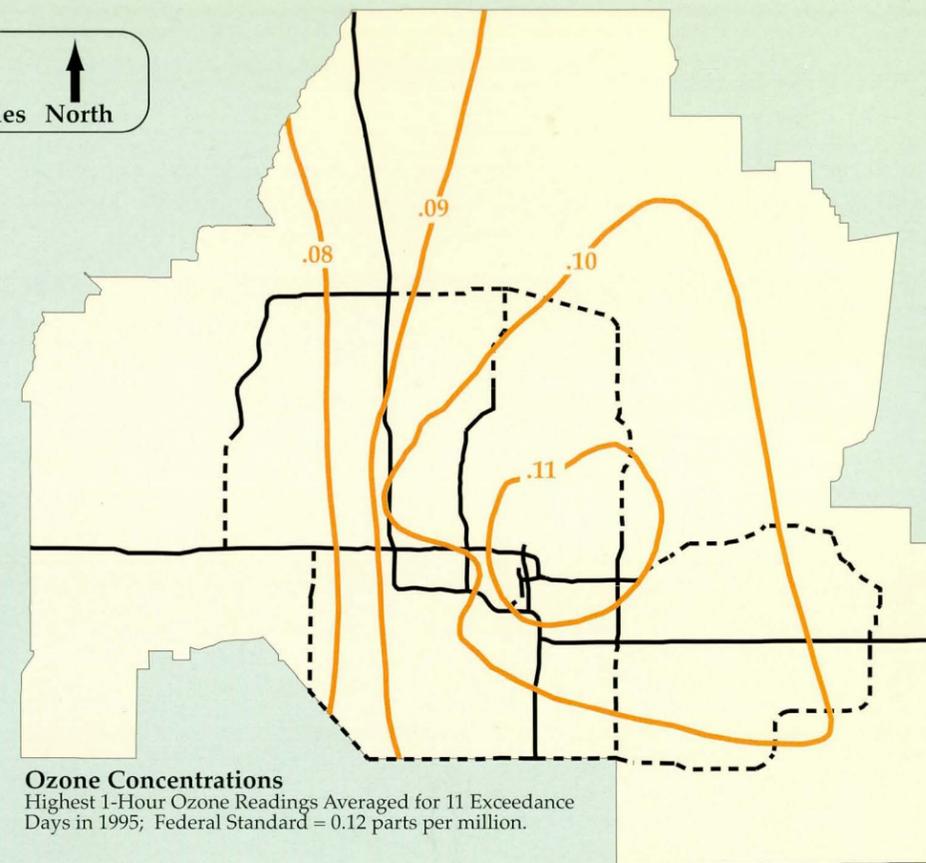
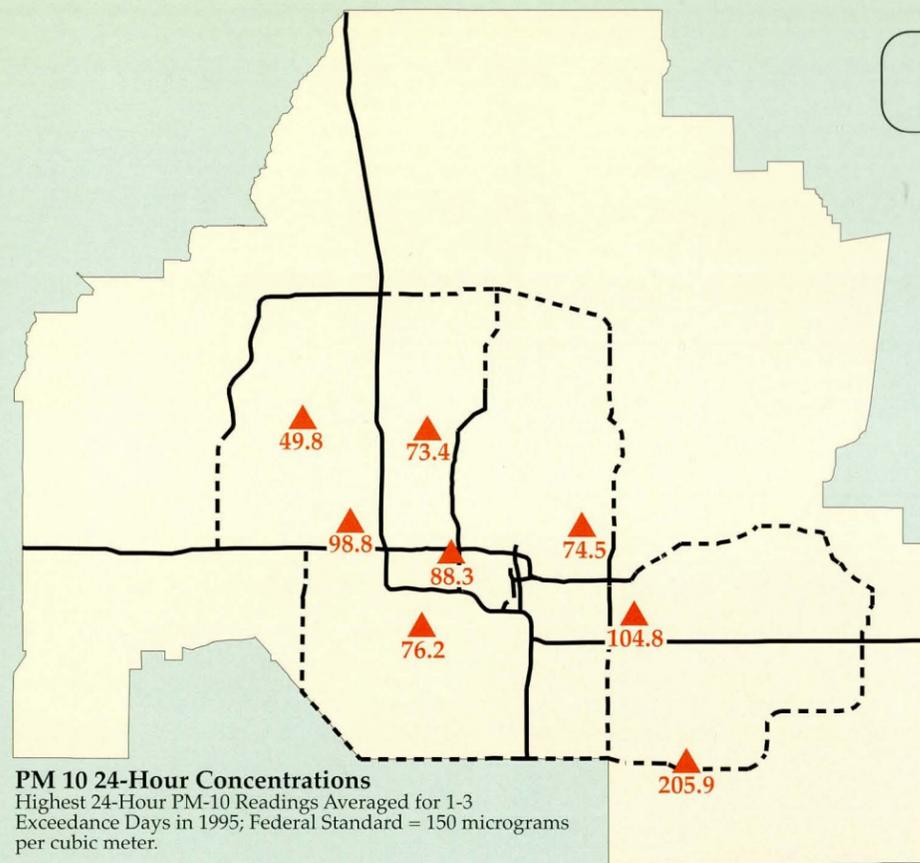
Air of good quality is important for reasons of health and aesthetics. Healthy, clear air attracts tourists, residents and businesses to an area. Over the years the air quality in the region became an issue after the passage of the Clean Air Act which established air quality standards. Improvements in regional air quality since the early 1980's, displayed on the air quality chart, are largely due to cleaner-burning vehicles and aggressive control measure programs.

The U. S. Environmental Protection Agency (EPA) sets the standards for maximum allowable concentrations of several pollutants in the air. There are six pollutants with established criteria: ozone, carbon monoxide, particulates, sulfur dioxide, nitrogen oxide, and lead. Particulates, ozone, and carbon monoxide are of continuing concern to the region.

Particulates are solid particles or liquid droplets that are small enough to remain suspended in the air (including dust, soot, and smoke, as well as toxic particles). In 1987 the EPA set a standard for particulates that are ten microns and smaller in diameter, because of the potential damage to lungs. The small particles are referred to as PM-10. The chief cause of PM-10 pollution is vehicular traffic on paved roads. Agriculture and construction activities also contribute to PM-10. In 1997, EPA established an additional standard for PM-2.5 which will limit concentrations of smaller (less than 2.5 microns) particles.

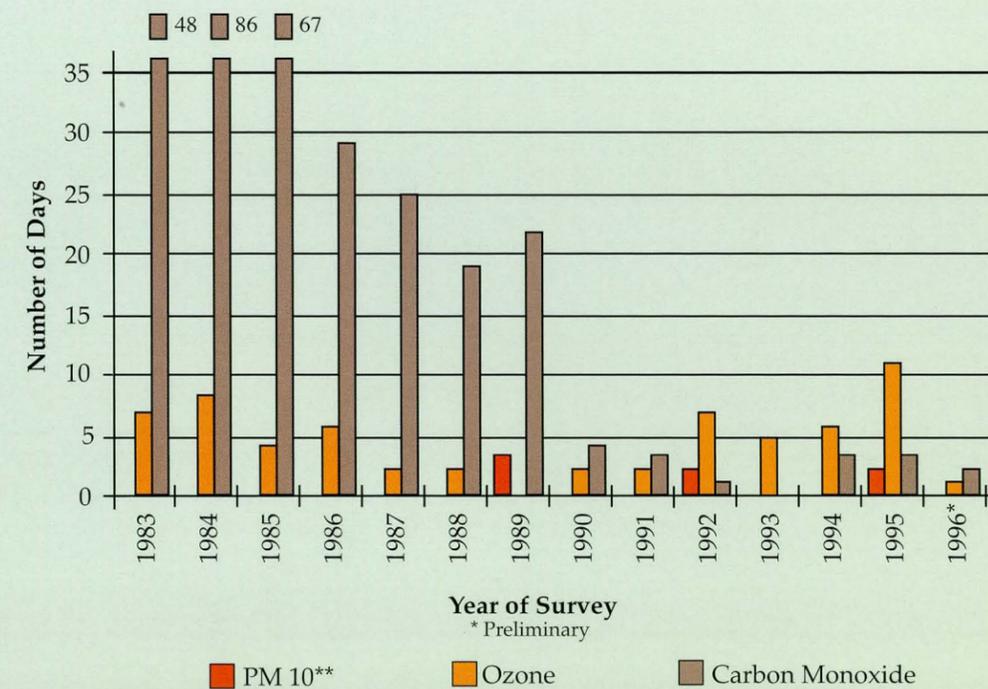
Ozone is a poisonous gas formed in the atmosphere by chemical reactions between volatile organic compounds and oxides of nitrogen. Ground level ozone has adverse health impacts while ozone high above the earth blocks out dangerous solar radiation. The principal causes of ozone pollution are motor vehicle exhaust, lawn and garden equipment, construction equipment, dry cleaners, architectural coatings, and consumer products. It occurs in the summer because sunlight and heat are required for ozone formation.

Carbon monoxide is a poisonous gas resulting from incomplete fuel combustion. The main cause, accounting for over 70 percent of carbon monoxide pollution, is motor vehicle exhaust. Carbon monoxide pollution occurs in the winter because the earth cools faster than the air above it after sunset, known as the inversion effect, which traps pollutants close to the ground.



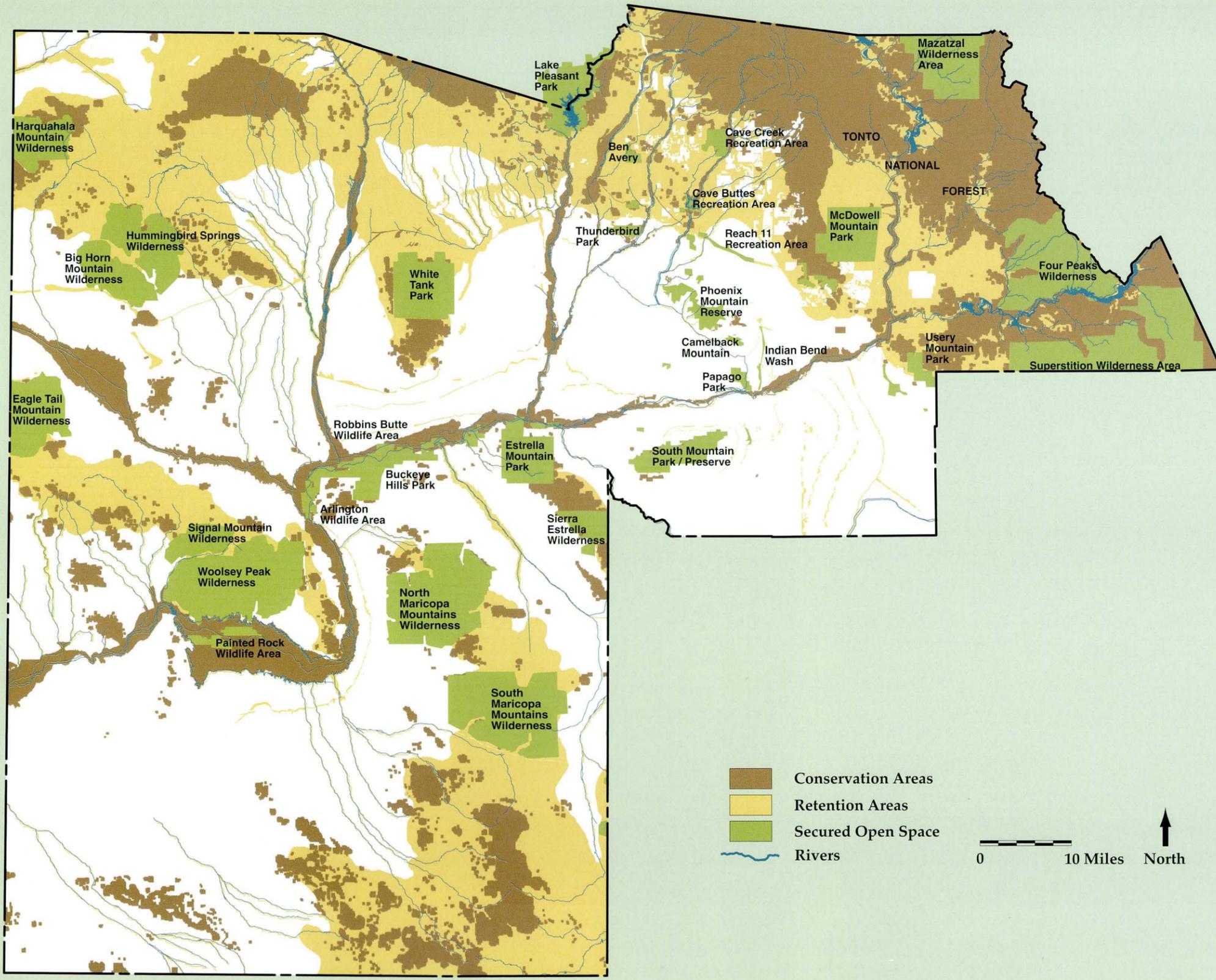
### Air Quality Violations

Number of Days Each Year that Pollutants in the Air Exceeded Federal Standards



Data Source: Maricopa Association of Governments, 1997

# Open Spaces



*Desert Spaces* is a regional open space plan designed to guide the members of the Maricopa Association of Governments in protecting open space while allowing for future community growth and development. The Plan is intended to be used by federal, state, county and municipal agencies as a framework for decision making and coordinating local and regional efforts directed toward establishing a viable open space system. This map shows areas identified for conservation and retention in the plan. They include mountains, foothills, rivers, washes, canals, cultural sites, upland desert vegetation, wildlife habitat, and existing parks and preserves.

Areas identified for conservation in the plan have outstanding open space value for recreational, aesthetic and biological purposes. They are given the highest priority for protection from development and its effects. The plan recommends that public access to these lands should be protected. The means of protection could be amendments to land use policies, easements, restrictions, and /or acquisition.

The Retention Area category includes areas with natural resources that have significant open space value that can co-exist with sensitive development. Sensitive development is defined as any land use change that takes place while maintaining the character of the desert landscape and the natural and cultural resources that define that character.

The areas designated as Secured Open Space resources include existing federally managed multiple-use and wilderness areas, Arizona Game and Fish lands, Maricopa County regional parks and municipal mountain preserves. Some of these lands provide recreational opportunities near the urbanized area. Little human impact is allowed in federal wilderness areas, which are protected in nearly pristine condition.

Data Source: Maricopa Association of Governments, *Desert Spaces Plan*, 1997

# I NTRODUCTION

The maps in this section depict the impact of development on the natural environment. The first map identifies eight categories of land use in 1995, while the second depicts facilities with environmental issues.

The predominance of residential land use in the urban area is explored by a series of maps that display the tenure, value, structure and other characteristics of housing. Since 1990 more than 176,000 housing units have been constructed in the region, making it one of the fastest growing areas in the United States.

Maps related to housing are followed by a group of maps which depict man's influence on the environment. This influence is demonstrated through future freeways and arterial streets, land uses that are planned for currently undeveloped areas and the enlargement of the urban area in terms of population and employment growth. The section concludes with a map that identifies active and proposed large scale residential developments.

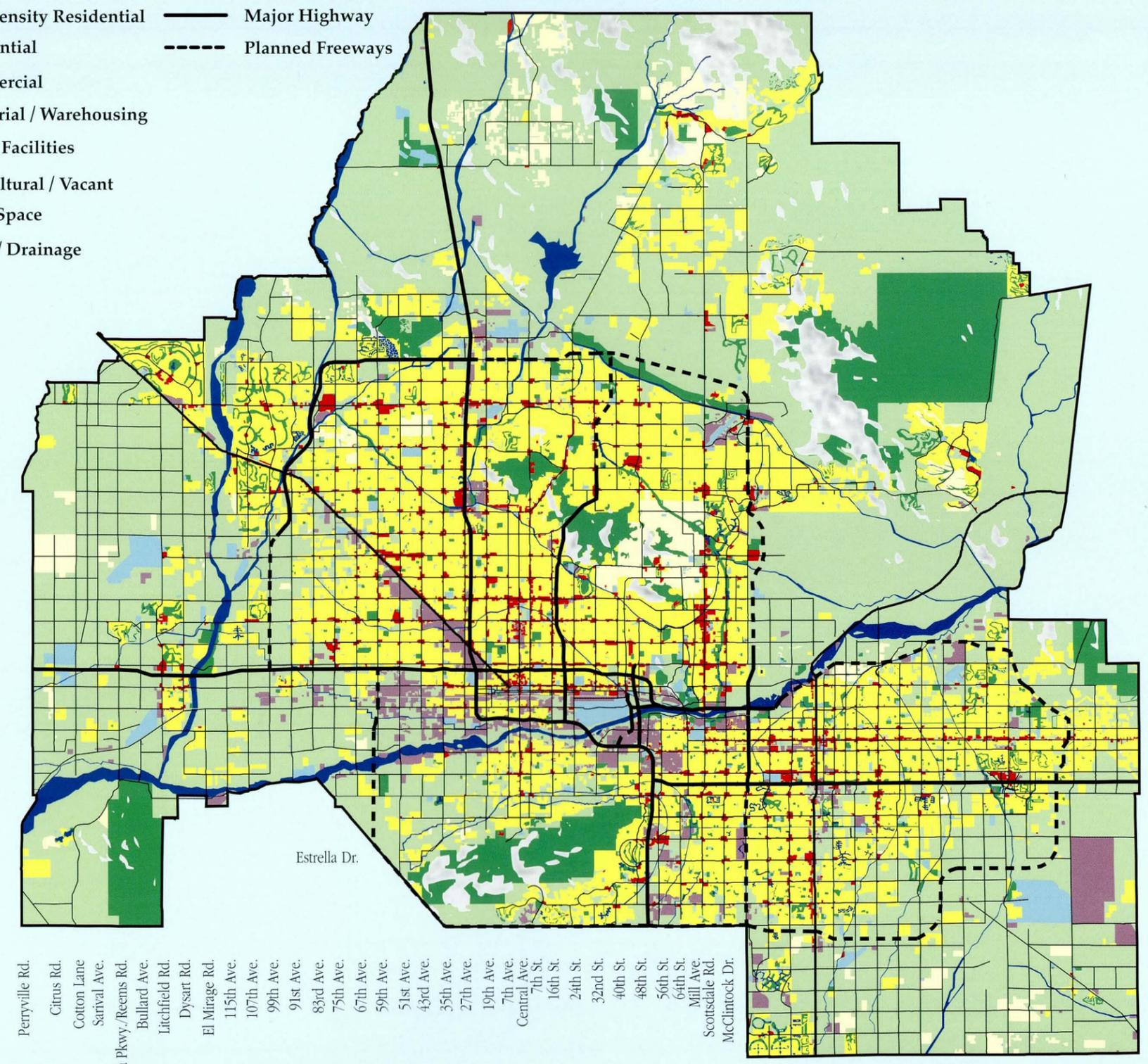


A new subdivision in North Glendale looking south to the Estrella Mountains.

# C urrent Land Use

## Land Use (1995)

- Low Density Residential
- Residential
- Commercial
- Industrial / Warehousing
- Public Facilities
- Agricultural / Vacant
- Open Space
- Water / Drainage
- Major Highway
- Planned Freeways



- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
- Bethany Home Rd.
- Camelback Rd.
- Indian School Rd.
- Thomas Rd.
- McDowell Rd.
- Van Buren St.
- Buckeye Rd.
- Lower Buckeye Rd.
- Broadway Rd.
- Southern Ave.
- Baseline Rd.

- Perryville Rd.
- Citrus Rd.
- Cotton Lane
- Sarival Ave.
- Estrella Pkwy./Reems Rd.
- Bullard Ave.
- Litchfield Rd.
- Dysart Rd.
- El Mirage Rd.
- 115th Ave.
- 107th Ave.
- 99th Ave.
- 91st Ave.
- 83rd Ave.
- 75th Ave.
- 67th Ave.
- 59th Ave.
- 51st Ave.
- 43rd Ave.
- 35th Ave.
- 27th Ave.
- 19th Ave.
- 7th Ave.
- Central Ave.
- 7th St.
- 16th St.
- 24th St.
- 32nd St.
- 40th St.
- 48th St.
- 56th St.
- 64th St.
- Mill Ave.
- Scottsdale Rd.
- McClintock Dr.

- Price Rd.
- Dobson Rd.
- Alma School Rd.
- Arizona Ave.
- McQueen Rd./Mesa Dr.
- Cooper Rd./Stapley Dr.
- Gilbert Rd.
- Lindsay Rd.
- Val Vista Dr.
- Greenfield Rd.
- Higley Rd.
- Recker Rd.
- Power Rd.
- Sossaman Rd.
- Hawes Rd.
- Ellsworth Rd.
- Crismon Rd.
- Signal Butte Rd.
- Meridian Rd.

- Desert Hills Dr.
- Joy Ranch Rd.
- Cloud Rd.
- Carefree Hwy.
- Dove Valley Rd.
- Lone Mountain Rd.
- Dixileta Dr.
- Dynamite Blvd.
- Jomax Rd.
- Happy Valley Rd.
- Pinnacle Peak Rd.
- Deer Valley Rd.
- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Thunderbird Rd.
- Cactus Rd.
- Shea Blvd.
- Via Linda
- Via De Ventura
- Indian Bend Rd.
- McDonald Dr.
- Chaparral Rd.
- Indian School Rd.
- Thomas Rd.
- McDowell Rd.
- McKellips Rd.
- Brown Rd.
- University Rd.
- Apache Trail
- Broadway Rd.
- Southern Ave.
- Baseline Rd.
- Guadalupe Rd.
- Elliot Rd.
- Warner Rd.
- Ray Rd.
- Chandler Blvd.
- Pecos Rd.
- Germann Rd.
- Queen Creek Rd.
- Ocotillo Rd.
- Chandler Heights Rd.
- Riggs Rd.

Rittenhouse Rd.



The urban area as shown on the adjacent map is 1,768 square miles. The land use categories displayed on the map are based upon 1995 land use.

Agriculture remains important and encircles the southern portion of the urban area. Non agricultural development is gradually replacing this land use. The movement of urban and suburban land uses into agricultural areas is most noticeable in the west and southeast areas of the valley.

Undeveloped desert, National Forest, Bureau of Land Management and State Trust lands are located on the northern edge of the urban area. As shown on the Planned Land Use Map, some of these lands are planned for development. In addition to these areas, approximately 173 square miles of land are owned by the public for open space and recreation uses.

Industry is dispersed and tends to locate close to major transportation facilities, such as along I-10 from Goodyear on the west through Avondale, Tolleson and Phoenix to Tempe and Chandler in the southeast; along Grand Avenue from Phoenix, through Glendale and Peoria; along I-17, especially north of Dunlap to Beardsley Road; and near local airports.

Residential land uses predominate. Low density residential reflects no more than one unit per acre. While such land is located on the north and west periphery of the urban area, there are also areas, such as Paradise Valley, that have exclusive residential development.

Commercial land use which includes office development and retail establishments, is widely dispersed and tends to locate along major arterial streets. Major commercial development corridors are located along: Camelback Road in Phoenix and Scottsdale, Bell Road from Scottsdale on the east through Phoenix, Glendale, Peoria, Surprise, Sun City to Sun City West on the west. Specific commercial centers are depicted on the major shopping centers map which is included in Section Six.

| CURRENT LAND USE         | AREA (Square Miles) |
|--------------------------|---------------------|
| Low Density Residential  | 53                  |
| Residential              | 398                 |
| Commercial               | 40                  |
| Industrial / Warehousing | 60                  |
| Public Facilities        | 46                  |
| Agricultural / Vacant    | 936                 |
| Open Spaces              | 173                 |
| Water / Drainage         | 44                  |

Data Sources: Maricopa Association of Governments, Existing Land Use, 1995; Arizona Land Resource Information System, 1997

# Facilities with Environmental Issues

Environmental issues are associated with the siting of many types of facilities. The private sector and the public sector have worked together through business practices and regulations to prevent or mitigate potential environmental impacts at many sites.

Noise levels have been calculated at all of the urban area's airports. According to federal regulations, no new or expanded residential uses are recommended to be developed within the 65 Yearly Day Night Average Sound Level or DNL areas. Measures such as soundproofing are often implemented.

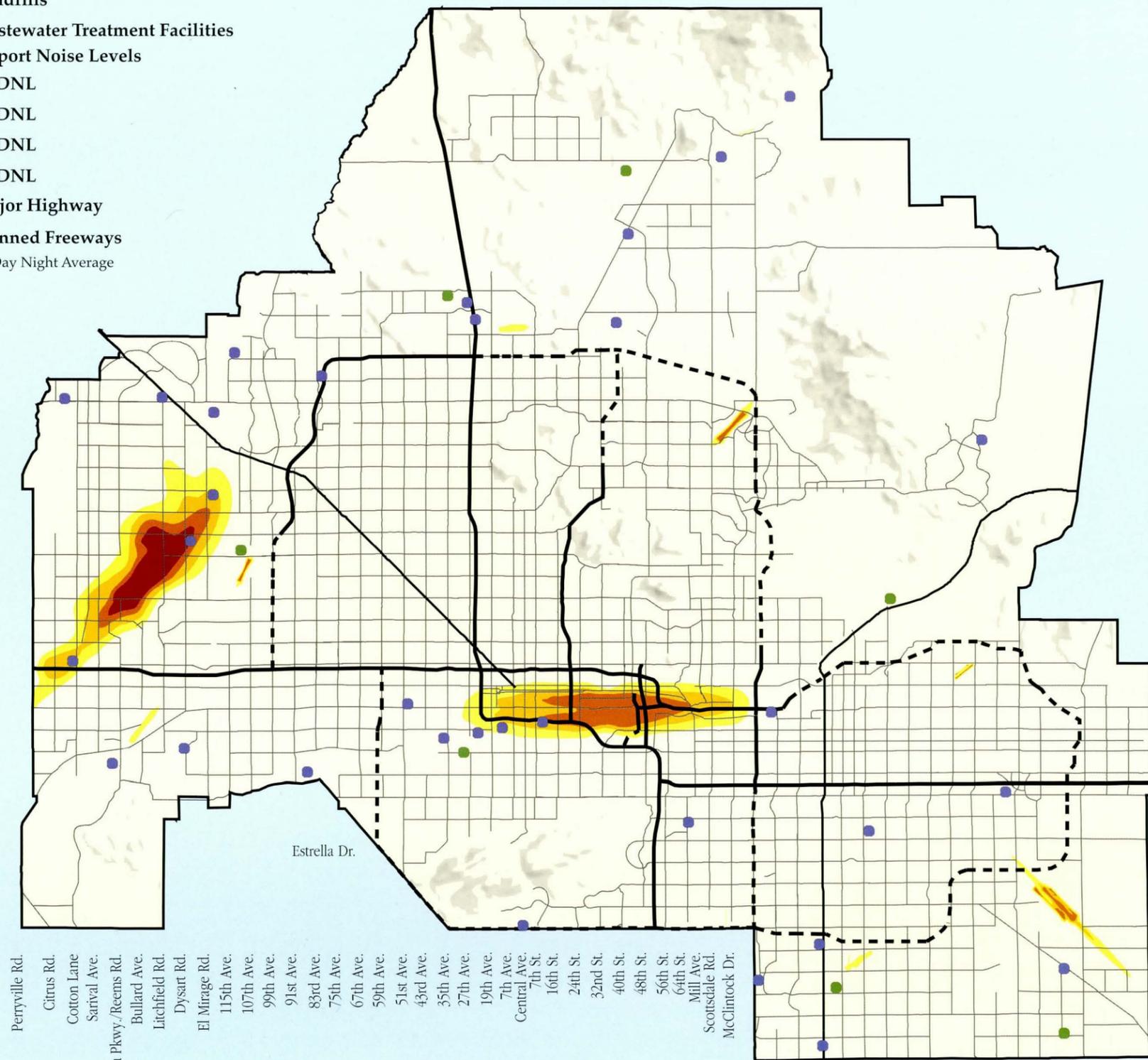
Federal solid waste management regulation dates from the 1970's; federal and state regulation increased in the 1990's. Many of the landfills that serve the urban area are older municipal and private landfills that predate the earlier regulations. The landfills are in the process of meeting the new federal standards. The landfills shown on the map are municipal landfills.

Wastewater treatment facilities are typically managed by individual municipalities or master-planned private communities. Several of the wastewater treatment plants in the region are designed to maximize water resources through effluent reuse.

## Facilities with Environmental Issues

- Landfills
  - Wastewater Treatment Facilities
  - Existing Airport Noise Levels**
  - 80 DNL
  - 75 DNL
  - 70 DNL
  - 65 DNL
  - Major Highway
  - - - Planned Freeways
- DNL = Yearly Day Night Average Sound Level

- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
- Bethany Home Rd.
- Camelback Rd.
- Indian School Rd.
- Thomas Rd.
- McDowell Rd.
- Van Buren St.
- Buckeye Rd.
- Lower Buckeye Rd.
- Broadway Rd.
- Southern Ave.
- Baseline Rd.



- Perryville Rd.
- Citrus Rd.
- Cotton Lane
- Sarival Ave.
- Estrella Pkwy./Reems Rd.
- Bullard Ave.
- Litchfield Rd.
- Dysart Rd.
- El Mirage Rd.
- 115th Ave.
- 107th Ave.
- 99th Ave.
- 91st Ave.
- 83rd Ave.
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- 7th St.
- 16th St.
- 24th St.
- 32nd St.
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- 48th St.
- 56th St.
- 64th St.
- Mill Ave.
- Scottsdale Rd.
- McClintock Dr.

- Price Rd.
- Dobson Rd.
- Alma School Rd.
- Arizona Ave.
- McQueen Rd./Mesa Dr.
- Cooper Rd./StapleyDr.
- Gilbert Rd.
- Lindsay Rd.
- Val Vista Dr.
- Greenfield Rd.
- Higley Rd.
- Recker Rd.
- Power Rd.
- Sossaman Rd.
- Hawes Rd.
- Ellsworth Rd.
- Crismon Rd.
- Signal Butte Rd.
- Meridian Rd.

- Desert Hills Dr.
- Joy Ranch Rd.
- Cloud Rd.
- Carefree Hwy.
- Dove Valley Rd.
- Lone Mountain Rd.
- Dixileta Dr.
- Dynamite Blvd.
- Jomax Rd.
- Happy Valley Rd.
- Pinnacle Peak Rd.
- Deer Valley Rd.
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- Greenway Rd.
- Thunderbird Rd.
- Cactus Rd.
- Shea Blvd.
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- Via De Ventura
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- Chaparral Rd.
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- McKellips Rd.
- Brown Rd.
- University Rd.
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- Southern Ave.
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- Guadalupe Rd.
- Elliot Rd.
- Warner Rd.
- Ray Rd.
- Chandler Blvd.
- Pecos Rd.
- Germann Rd.
- Queen Creek Rd.
- Ocotillo Rd.
- Chandler Heights Rd.
- Riggs Rd.

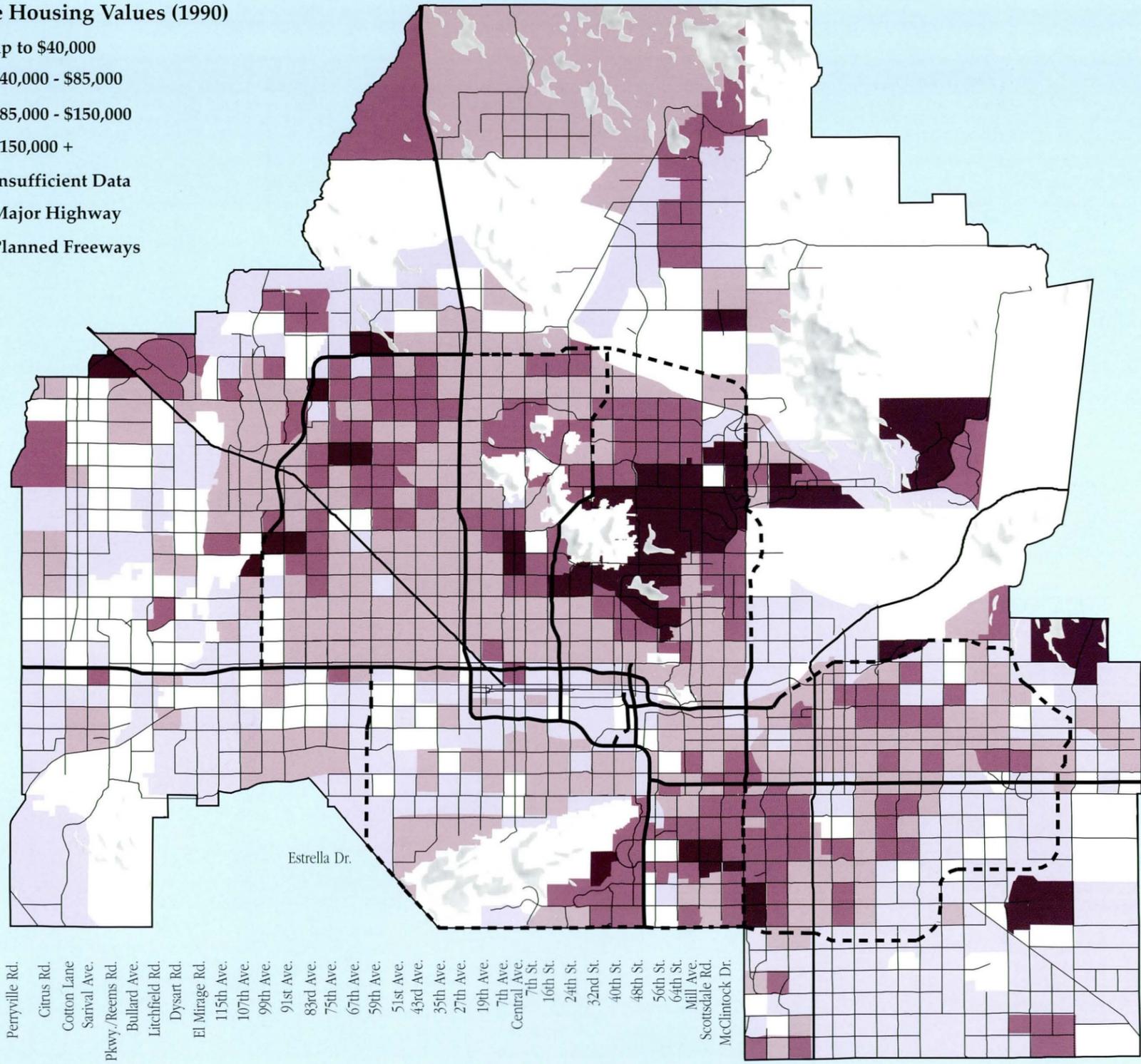
Rittenhouse Rd.

Data Sources: Maricopa Association of Governments, Maricopa County Department of Transportation, Maricopa County Flood Control District, Arizona Department of Water Resources, 1997

Average Housing Values (1990)

- up to \$40,000
- \$40,000 - \$85,000
- \$85,000 - \$150,000
- \$150,000 +
- Insufficient Data
- Major Highway
- Planned Freeways

- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
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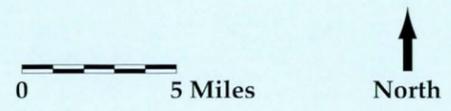


- Perryville Rd.
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- Cotton Lane
- Sarival Ave.
- Estrella Pkwy./Reems Rd.
- Bullard Ave.
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- Riggs Rd.

Rittenhouse Rd.



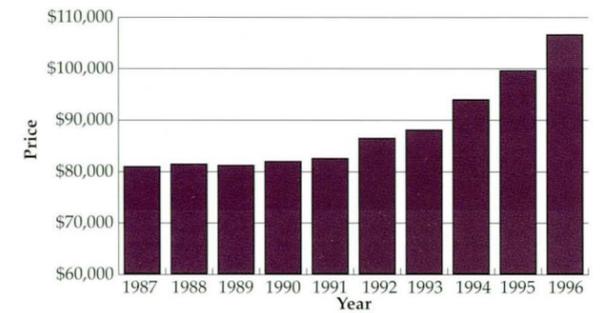
Owner Housing Value

The map indicates the distribution and value by category of owner-occupied housing in the region. The highest value housing is in north Central Phoenix, Paradise Valley, Scottsdale and Carefree. Additional high value housing is located in jurisdictions such as Mesa, Tempe, and Chandler. Adjacent to the highest value housing is housing in the \$85,000-150,000 categories and as you move further outward, housing values tend to decline. There appears to be a predominance of low value housing on the periphery of the urban area, probably associated with areas that were relatively undeveloped in 1990 or used for agricultural purposes. These areas have experienced rapid residential development in recent years and a corresponding increase in the value of housing. The lowest-valued housing is shown to be in the area south of downtown Phoenix, the area neighboring the Grand Avenue corridor (northwest), and in the Salt River Pima-Maricopa Indian Community (east).

According to the 1990 Census, the median value of owner-occupied housing in Maricopa County was \$79,000. Owner-occupied housing comprised 511,242 units, or 63% of the total occupied housing stock in the urban area in 1990. Of the year-round owner-occupied housing stock, about 80% were single-family detached homes, 11% was in multi-family structures, and 9% were mobile homes.

Since 1990, urban area housing has appreciated in value. According to a survey of home sales conducted in 1995 by the Arizona Real Estate Center, the median sale price for housing in the region was \$90,500. The median sale price for a new single family home was \$127,600. Additionally, total monthly housing costs for the entire housing stock, including owned and rented units, was \$945/month.

Average Median Sales Prices of Homes



Data Source: U.S. Bureau of the Census, 1990 Census of Population; Arizona Real Estate Center L. William Seidman Research Institute, College of Business, Arizona State University, 1997

# Rental Unit Cost

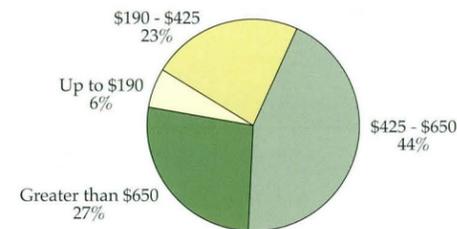
The map identifies the distribution and the average monthly cost of rental housing by four cost categories in the region. A pattern of moderate to higher cost rental housing can be observed throughout the urban area and to the southwest. However, there are several pockets of higher cost rental housing in the northwest and the northeast.

While Scottsdale, North Phoenix and Paradise Valley are known for higher housing costs, cities such as Tempe, Chandler, Gilbert, and Peoria also have areas that display rental costs of \$650 and above. One factor in determining rental unit cost is the age of the housing stock in that area. Perhaps this is the reason why many growth areas on the periphery of the urban area have a higher rental cost than units in older and existing developments.

The least expensive housing is defined by the map as monthly rental costs of less than \$190, and is prevalent in the outlying portions of the region as well as South Phoenix and portions of Tolleson Avondale and Goodyear south of I-10. Rental costs tend to be lower in the less developed areas. Areas outside the urban periphery in the region, where large-scale development has not gained a foothold, show extensive amounts of inexpensive rental housing.

The median rental cost in the region has experienced an increase of 10.9% between 1989 and 1994. Buffering this median rental cost increase is the rise in the amount of rental housing throughout the area. The rental occupied housing stock in the region increased from 31% in 1990 to 34% in 1995 of the total occupied housing.

Percent of all Average Rental Costs (1990)

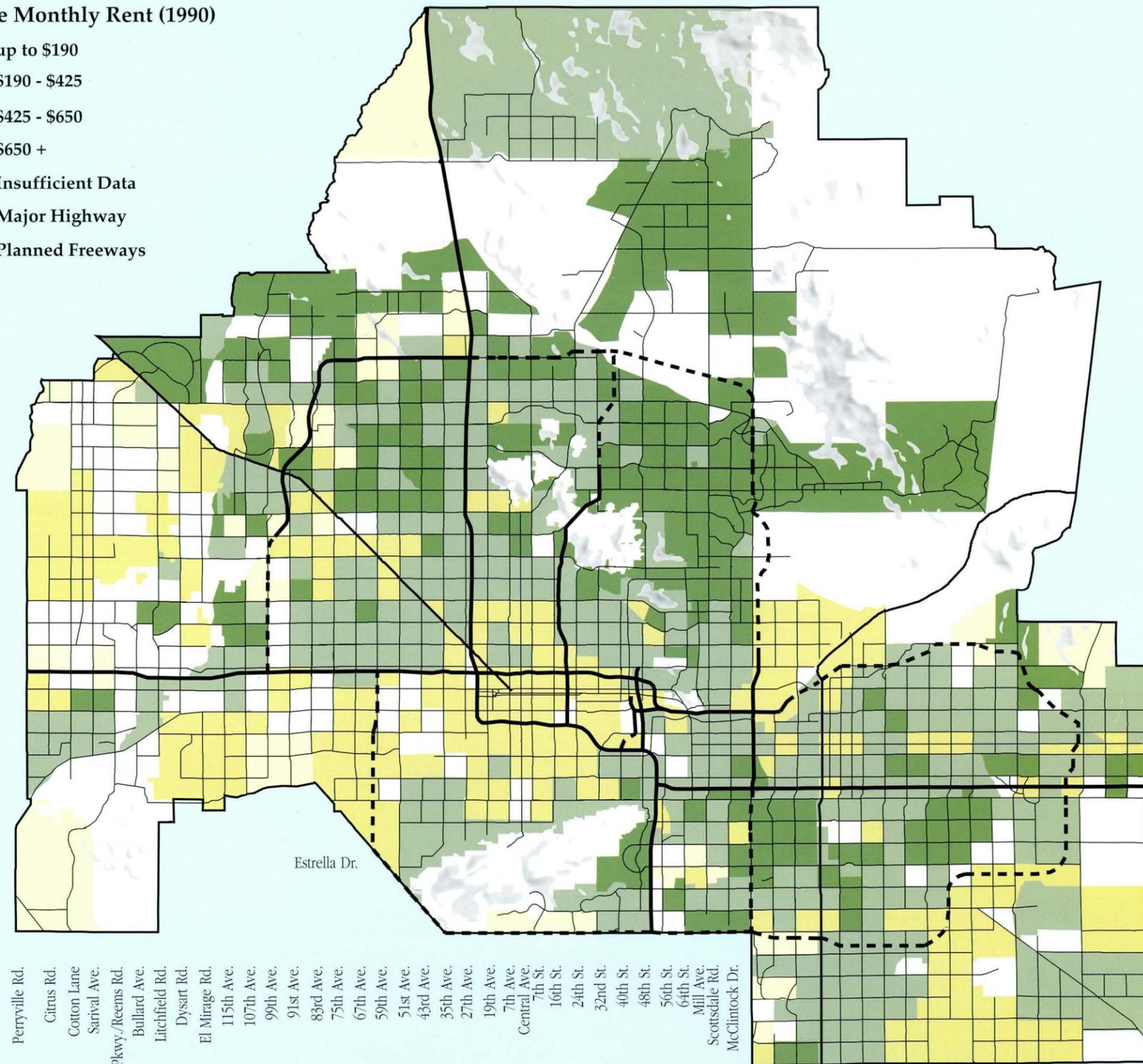


Data Source: U.S. Bureau of the Census, 1990 Census of Population

## Average Monthly Rent (1990)

- up to \$190
- \$190 - \$425
- \$425 - \$650
- \$650 +
- Insufficient Data
- Major Highway
- Planned Freeways

- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
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- McDowell Rd.
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- Southern Ave.
- Baseline Rd.

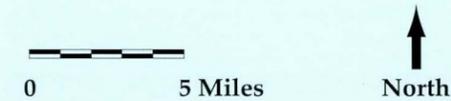


- Perryville Rd.
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- Cotton Lane
- Survival Ave.
- Estrella Pkwy./Reems Rd.
- Bullard Ave.
- Litchfield Rd.
- Dysart Rd.
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- Riggs Rd.

Rittenhouse Rd.



# Housing by Structural Type

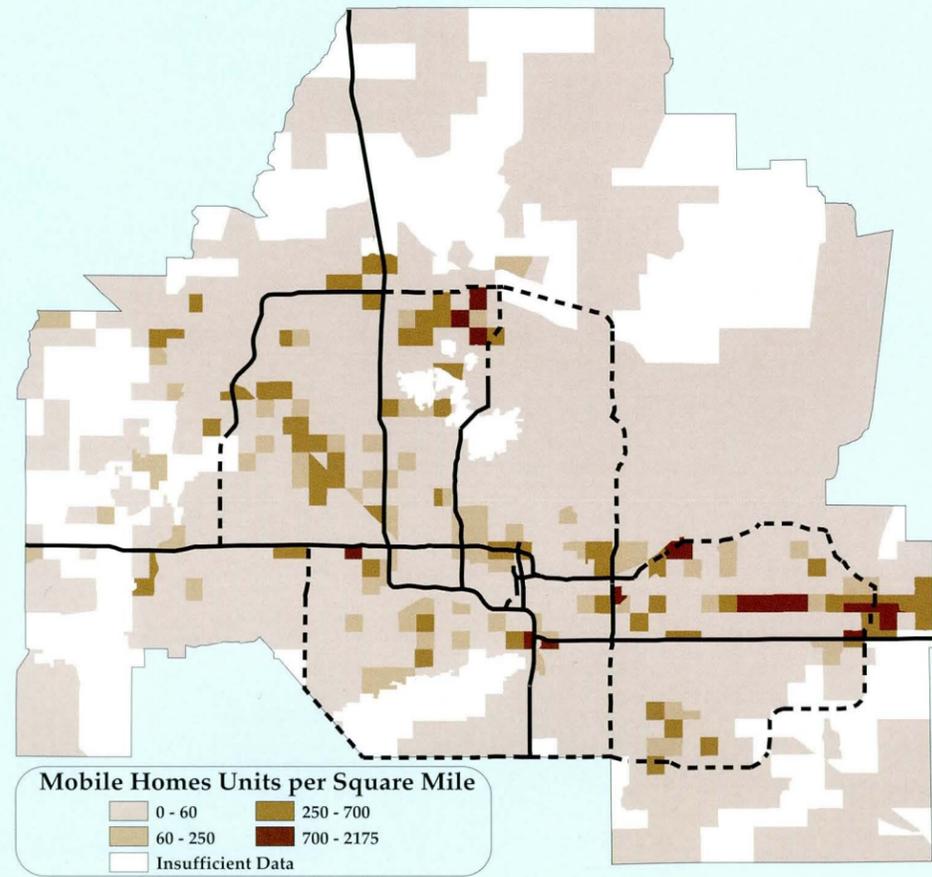
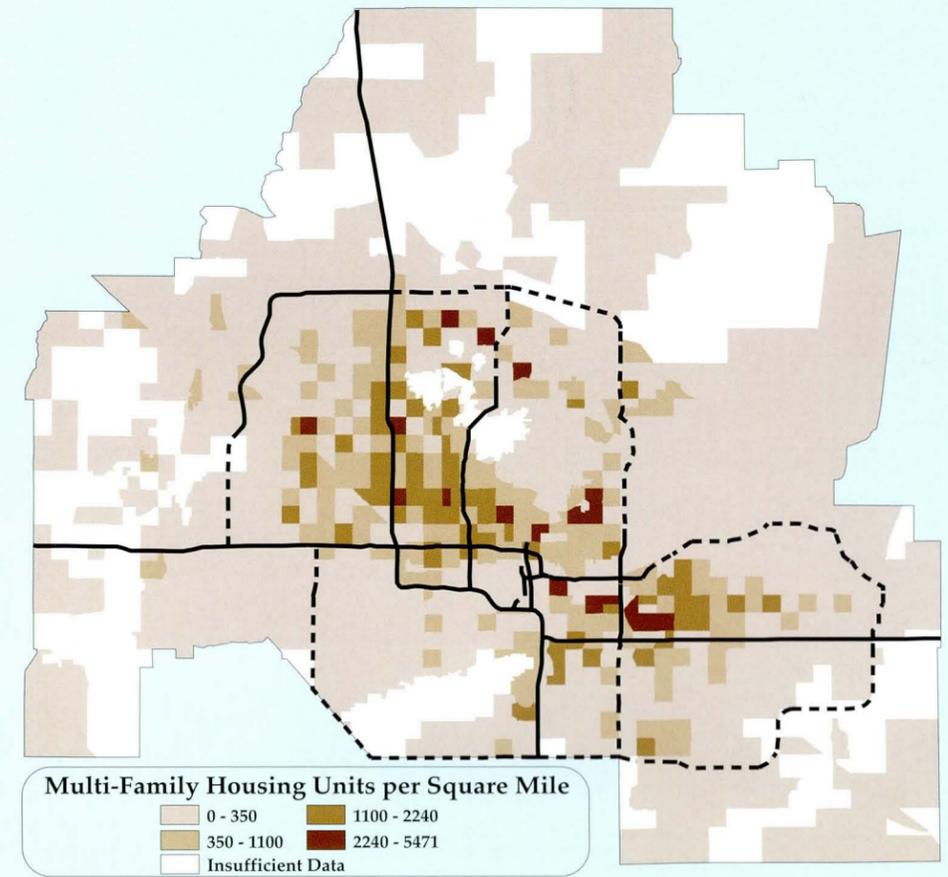
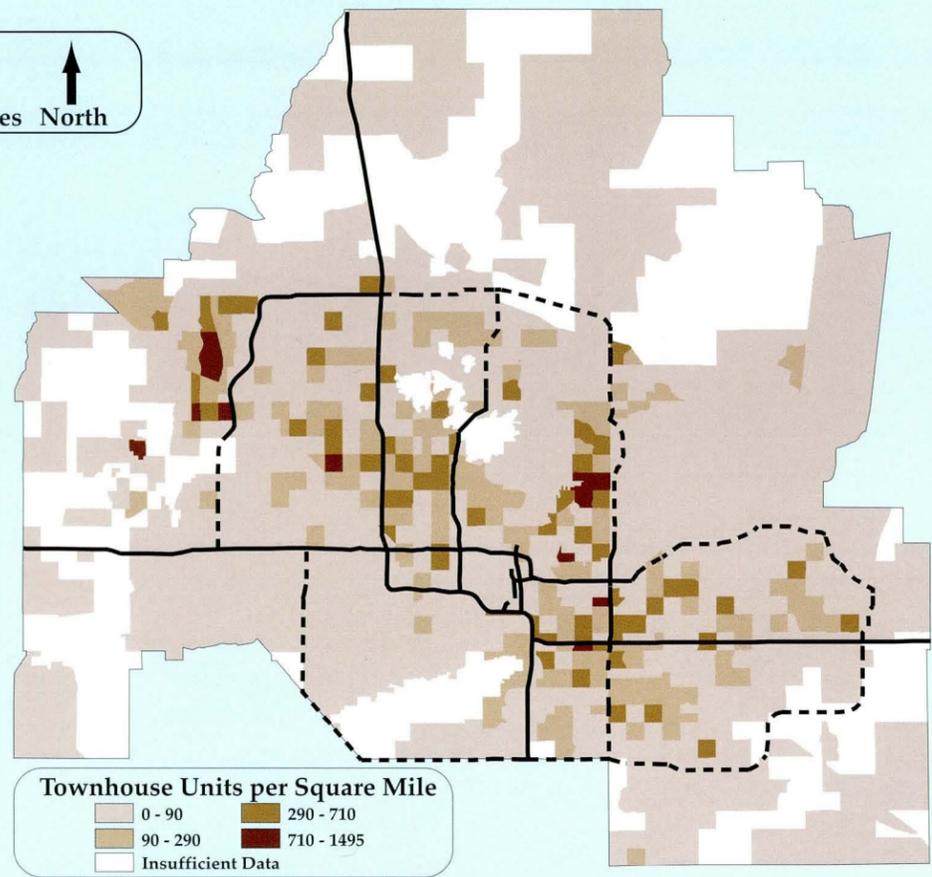
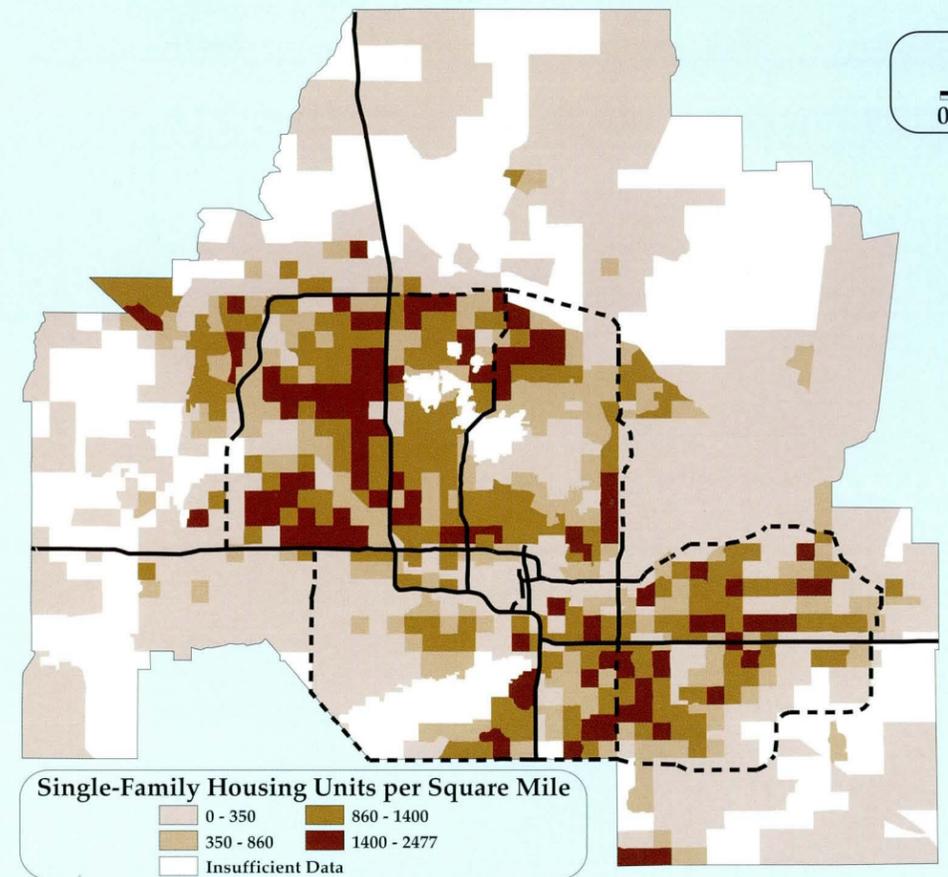
The 1995 housing stock is dominated by single-family detached homes. This pattern of development is likely to continue into the future. The maps examine the housing stock by structure type and density. It is important to note that densities differ from figure to figure when making direct comparisons.

The 1995 Census reported a single-family housing stock of 619,270 units in Maricopa County, which accounted for approximately 58% of total housing structures.

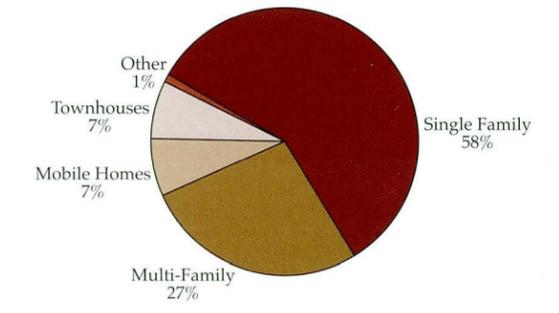
Townhouses are a predominantly urban housing feature. The highest townhouse density is concentrated in Scottsdale and Sun City, but townhouses are also present to a lesser extent throughout the region. The number of townhouses according to the 1995 Census was 74,791, accounting for 7% of all housing structures.

In 1995, there were 292,249 multi-family units in Maricopa County constituting 27% of the total housing structures. Multi-family units include apartments, but do not include townhomes or condominiums.

Mobile homes constitute 79,710 units or 7% of the housing stock. This housing type is associated with low density rural environments, but urban designated mobile home parks are also found throughout the region. There is an identifiable corridor of mobile homes in Mesa extending to the east and along Grand Avenue to the west.



Percentage of Each Housing Structure Type



Data Source: U.S. Bureau of the Census, 1995 Special Census

# Housing Characteristics

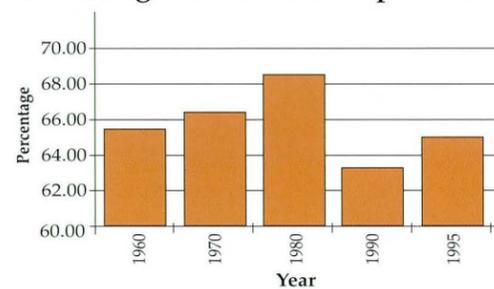
Seasonal housing units are occupied by persons who report to the U.S. Bureau of the Census that they are "usually housed elsewhere". Seasonal units are heavily concentrated along Main Street in Mesa, in the Sun City, Sun City West, and Sun Lakes active adult communities, and in central Scottsdale. In many other seasonal areas, units are a mix of single family homes, townhouses, and apartments.

Higher levels of housing unit completions are concentrated on the periphery of the urban area, with highest concentrations to the north and south. Some of these areas coincide with newer planned communities comprised of a mix of single and multi-family structures. To the north, concentrations of housing completions follow along the planned outer loop. In the southeast, housing development is just inside the planned outer loop. Scattered housing completions are still evident across a wide area of the region, likely reflecting the availability of lots open for construction.

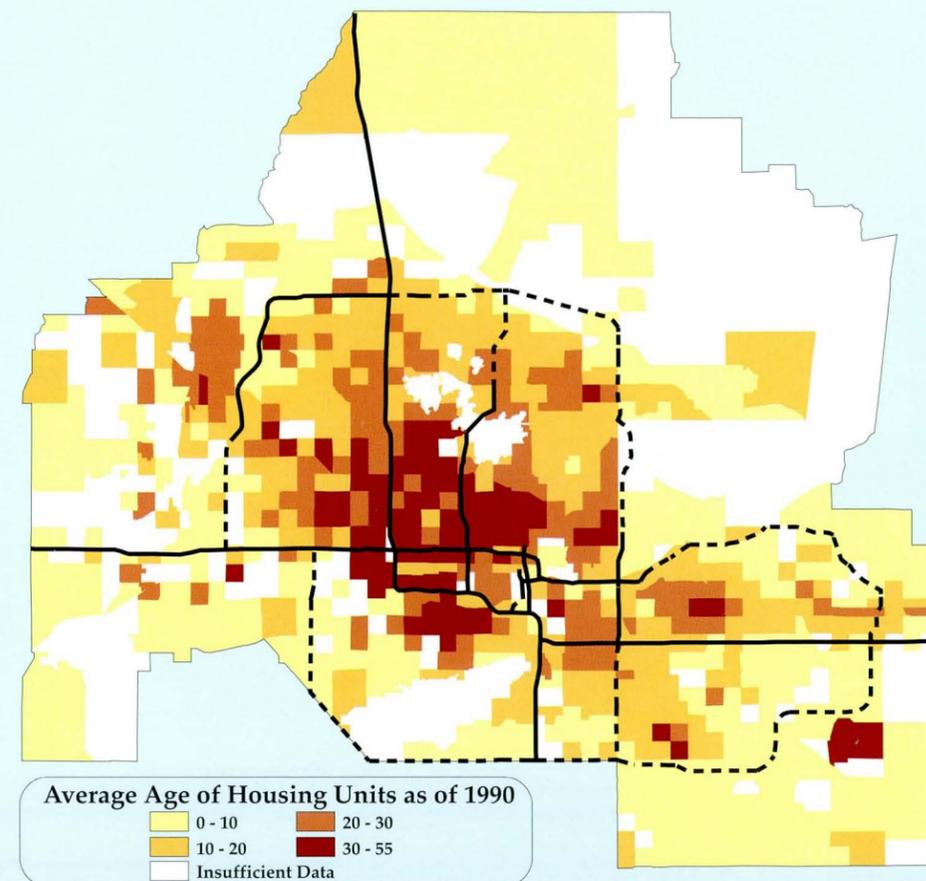
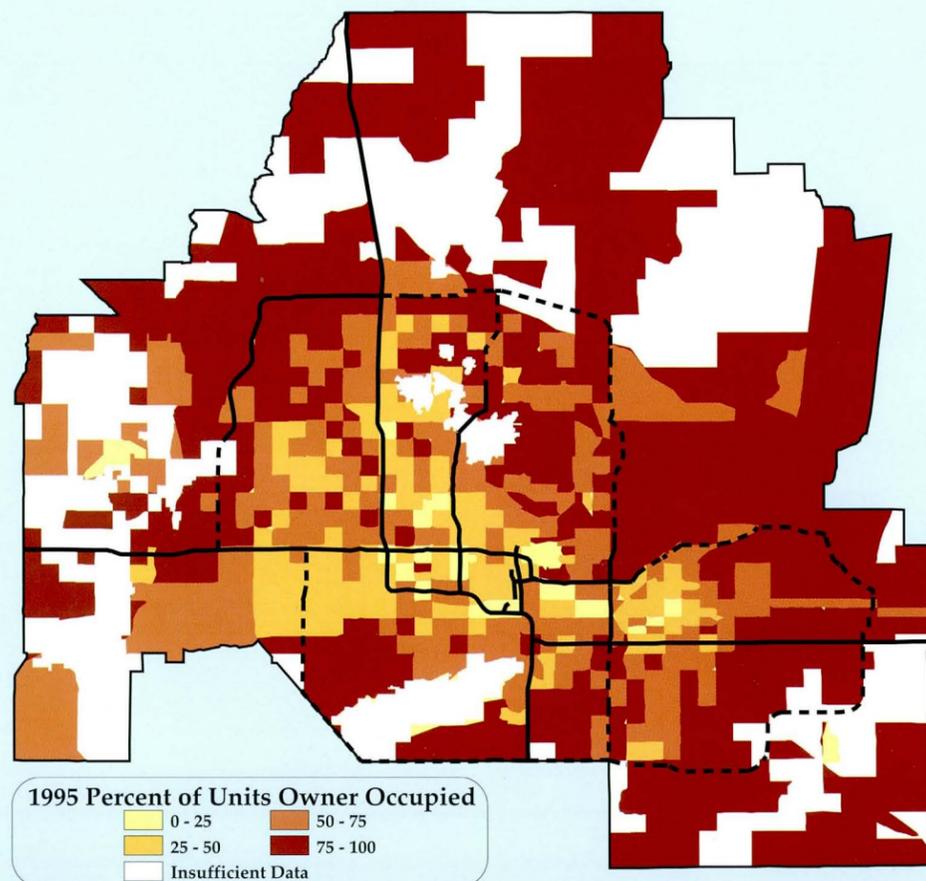
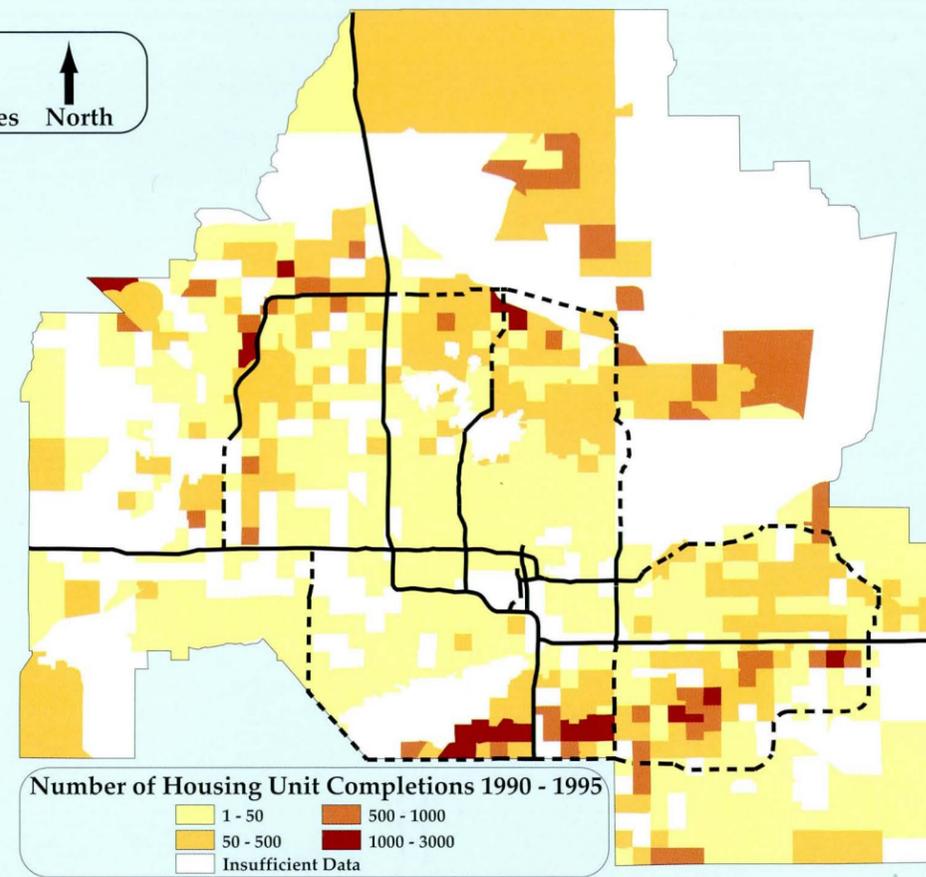
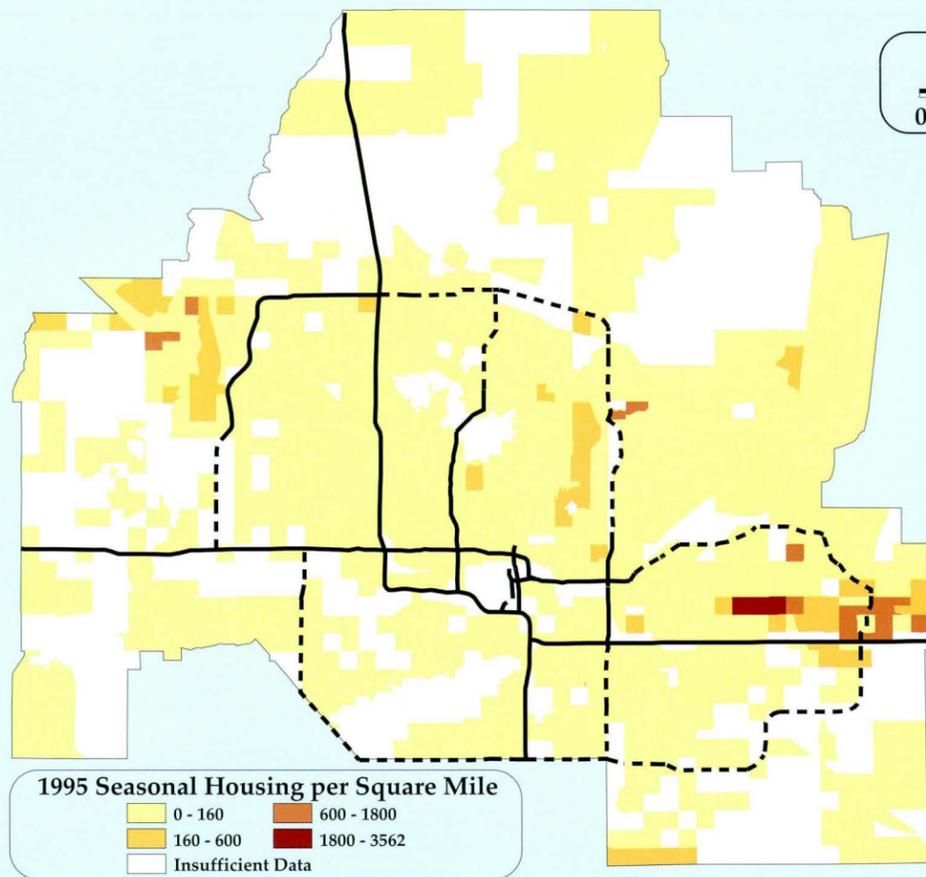
Owner-occupied housing comprised 623,649 units, or 65% of the total occupied housing stock in the urban area in 1995. Of the year-round owner-occupied housing stock, about 82% was single-family detached, 10% was in multi-family structures, and 8% was mobile homes.

Older housing units are found in the central part of the region. The age of housing decreases as you move from the central part of the region toward the periphery. Additionally, isolated pockets of older housing can be found in the original city centers of Mesa, Chandler, and Tempe.

Percentage of Owner-Occupied Housing



Data Sources: U.S. Bureau of the Census, 1960, 1970, 1980, and 1990 Census of Population; U.S. Bureau of the Census, 1995 Special Census; Maricopa Association of Governments, 1997



P

lanned Freeways and Arterial Street Improvements

Major highways in the urban area comprise 70 miles of regional freeways, 75 miles of Interstate freeways and 2,000 miles (8,000 lane miles) of regional streets. By 2017, the roadway system will have 85 miles of additional regional freeways and an additional 1,000 miles (4,000 lane miles) of arterial streets. The planned system for 2017 will include 230 miles of freeways and 3,000 miles of streets.

From 1960 to the early 1980s the freeway system grew slowly. By 1983, the Black Canyon and Maricopa Freeways were completed, and the Superstition and Papago freeways were nearly complete. In 1985, the Maricopa Association of Governments completed a major update of the Regional Freeway Plan that greatly expanded the miles of planned freeways. In October 1985, the voters of Maricopa County approved a half-cent sales tax for 20 years to complete this plan.

Between 1985 and 1994 major progress was made on completing planned freeways. Urban sections of the Interstate freeways and locally funded regional freeway sections were completed. However, lower revenues than projected because of the downturn in the economy, and increased costs of construction contributed to funding shortages. A 1994 proposition to provide additional funding failed, and the planned freeway system was scaled back.

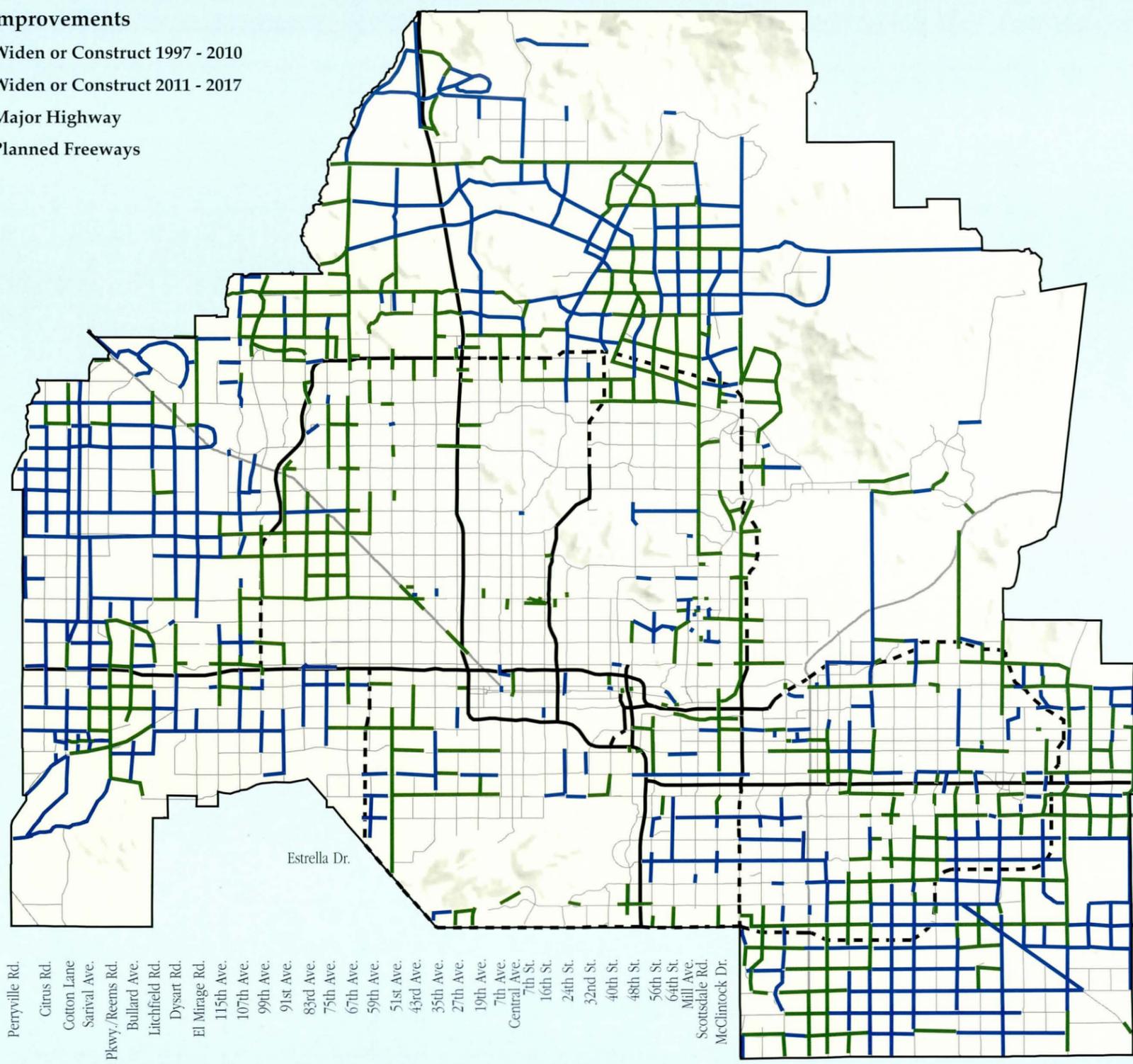
In 1996, the sustained economic recovery of the region resulted in a significant upward revision of sales tax forecasts. As a result of these changes, the entire Maricopa Association of Governments Long Range Transportation Plan for new freeways can now be completed. Under new priorities established by the Maricopa Association of Governments in November 1996, the entire 115 remaining planned miles can be completed by 2014, including those corridors that previously had no funding.

The regional street plan illustrated on the map is limited to the major streets and highways. For the most part, it reflects existing and planned paved streets on the mile grid street system plus at-grade intercity State highways. Many of the improvements slated for 1997-2017 are associated with new development on the edge of the metropolitan area, with the new streets planned for 2011-2017 further out than the new streets planned for 1997-2010.

Data Source: Maricopa Association of Governments Long Range Transportation Plan Summary and 1997 Update

- Street Improvements**
- Widen or Construct 1997 - 2010
  - Widen or Construct 2011 - 2017
  - Major Highway
  - - - Planned Freeways

- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
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- Signal Butte Rd.
- Meridian Rd.

Rittenhouse Rd.

0 5 Miles



# Planned Land Use

Planned land use in Maricopa County is a composite of the General Plan land use maps of each jurisdiction. The planned land uses continue the existing urban pattern to the edges of the urban area.

Low density residential development (0-1 unit per acre) is located on the fringes of the region reflecting its rural character. It is also in more centralized high-value residential developments found in Paradise Valley, Phoenix and Scottsdale.

The residential development category reflects greater than 1 unit per acre and is dispersed throughout the area. Such development ranges from large lot residential at 1 to 2 units per acre, to high density residential at more than 15 units per acre.

Substantial growth in industrial land use is anticipated in the vicinity of airports within the region. Industrial land use is also expected to increase significantly along transportation corridors: to the northwest along Grande Avenue, in the west valley south of I-10, in Chandler along both the I-10 alignment, and planned freeway alignments and in North Phoenix at Beardsley Road and I-17.

The development of commercial land use is widely dispersed throughout the region. Major growth in offices and/or retail centers is anticipated in the vicinity of existing commercial land use along major arterials and at the intersection of arterials.

A large portion of the Valley is planned for open space and recreational uses. These uses are included in the Maricopa Association of Governments Desert Spaces Plan and in several local jurisdiction general and recreational plans. While the public already owns some of these planned areas, other areas are not under public ownership. Unsecured areas planned for open space and recreational uses include portions of the McDowell Mountains in the eastern portions of the Valley, land north and south of S.R. 74 near Lake Pleasant, and land adjacent to the rivers and washes throughout the Valley.

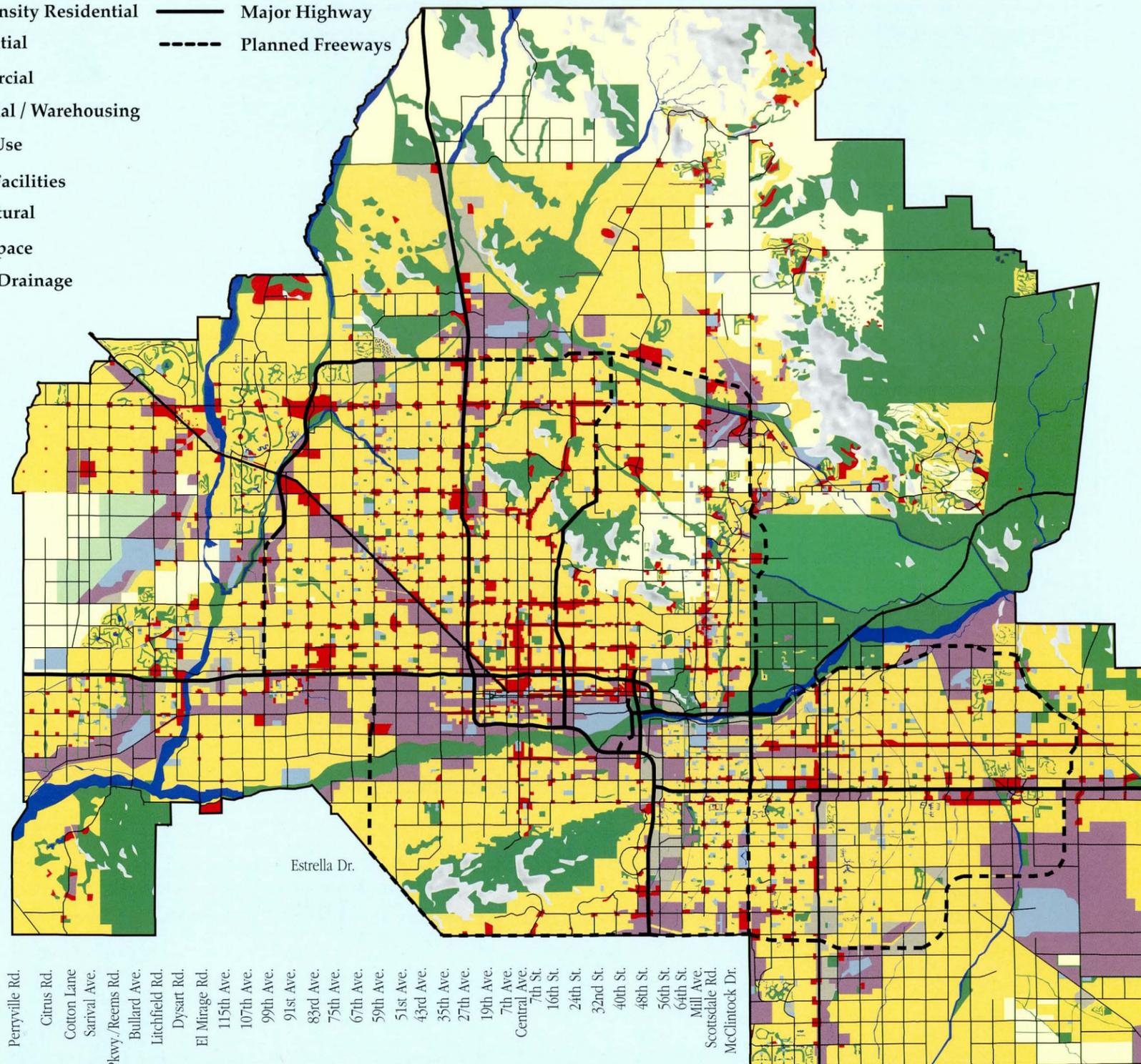
| PLANNED LAND USE         | AREA (Square Miles) |
|--------------------------|---------------------|
| Low Density Residential  | 203                 |
| Residential              | 780                 |
| Commercial               | 79                  |
| Industrial / Warehousing | 163                 |
| Mixed Use                | 32                  |
| Public Facilities        | 45                  |
| Agricultural             | 10                  |
| Open Spaces              | 408                 |
| Water / Drainage         | 37                  |

Data Source: Maricopa Association of Governments, General Plan Land Use, 1995

## Land Use

- Low Density Residential
- Residential
- Commercial
- Industrial / Warehousing
- Mixed Use
- Public Facilities
- Agricultural
- Open Space
- Water / Drainage
- Major Highway
- Planned Freeways

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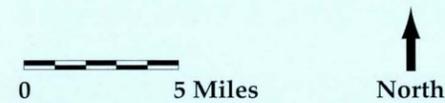


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- Alma School Rd.
- Arizona Ave.
- McQueen Rd./Mesa Dr.
- Cooper Rd./Stapley Dr.
- Gilbert Rd.
- Lindsay Rd.
- Val Vista Dr.
- Greenfield Rd.
- Higley Rd.
- Recker Rd.
- Power Rd.
- Sossaman Rd.
- Hawes Rd.
- Ellsworth Rd.
- Crismon Rd.
- Signal Butte Rd.
- Meridian Rd.

- Desert Hills Dr.
- Joy Ranch Rd.
- Cloud Rd.
- Carefree Hwy.
- Dove Valley Rd.
- Lone Mountain Rd.
- Dixileta Dr.
- Dynamite Blvd.
- Jomax Rd.
- Happy Valley Rd.
- Pinnacle Peak Rd.
- Deer Valley Rd.
- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Thunderbird Rd.
- Cactus Rd.
- Shea Blvd.
- Via Linda
- Via De Ventura
- Indian Bend Rd.
- McDonald Dr.
- Chaparral Rd.
- Indian School Rd.
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- McKellips Rd.
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- University Rd.
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- Guadalupe Rd.
- Elliot Rd.
- Warner Rd.
- Ray Rd.
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- Queen Creek Rd.
- Ocotillo Rd.
- Chandler Heights Rd.
- Riggs Rd.

Rittenhouse Rd.



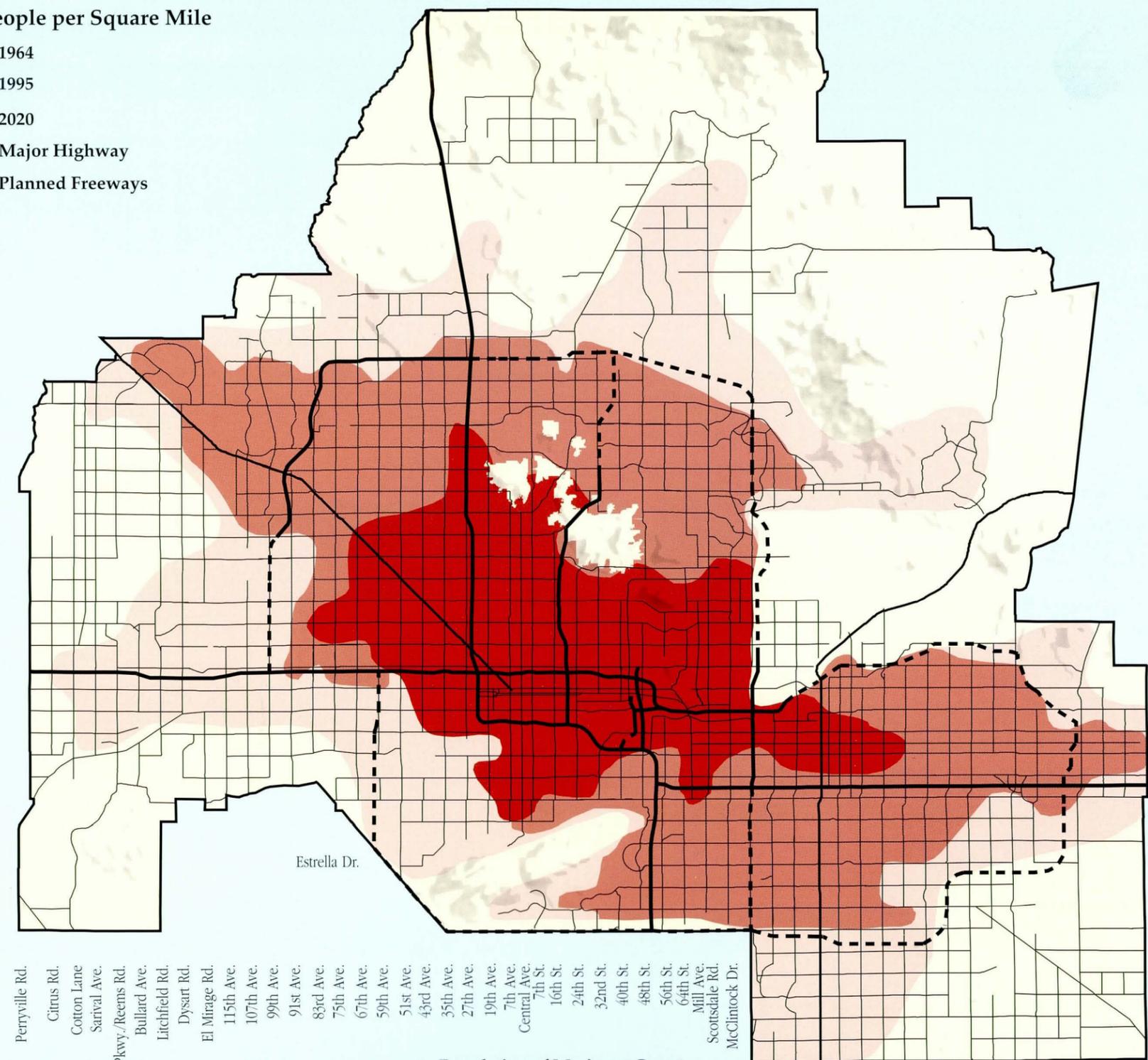
P

Population Growth

1500 People per Square Mile

- 1964
- 1995
- 2020
- Major Highway
- Planned Freeways

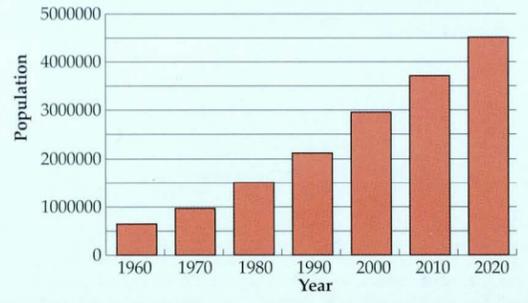
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- Perryville Rd.
- Citrus Rd.
- Cotton Lane
- Sarival Ave.
- Estrella Pkwy./Reems Rd.
- Bullard Ave.
- Litchfield Rd.
- Dysart Rd.
- El Mirage Rd.
- 115th Ave.
- 107th Ave.
- 99th Ave.
- 91st Ave.
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- 67th Ave.
- 59th Ave.
- 51st Ave.
- 43rd Ave.
- 35th Ave.
- 27th Ave.
- 19th Ave.
- 7th Ave.
- Central Ave.
- 7th St.
- 16th St.
- 24th St.
- 32nd St.
- 40th St.
- 48th St.
- 56th St.
- 64th St.
- Mill Ave.
- Scottsdale Rd.
- McClintock Dr.

Population of Maricopa County



- Price Rd.
- Dobson Rd.
- Alma School Rd.
- Arizona Ave.
- McQueen Rd./Mesa Dr.
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- Gilbert Rd.
- Lindsay Rd.
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- Hawes Rd.
- Ellsworth Rd.
- Crismon Rd.
- Signal Butte Rd.
- Meridian Rd.



Population growth for 1964, 1995, and the year 2020 are shown on the map. The shaded areas represent an average population density greater than 1,500 persons per square mile.

The most significant growth in the region occurred in the past 40 years, from a county population of 331,770 in 1950 to more than 2.5 million in 1995. Much of this growth was due to the large influx of people relocating to the area from the Midwest and western United States. Between 1950 and 1960 Maricopa County more than doubled its population from 331,510 to 663,510 for an annual growth rate of 7.2 percent. In 1964 the population was concentrated in Phoenix, but also extended to the surrounding jurisdictions of Mesa, Tempe, Scottsdale, and Glendale. Between 1970 and 1980 the population of Maricopa County exceeded one million, while in 1990 it reached more than two million residents.

By 1995, the population of the County had quadrupled to 2,551,765. The urbanized area had expanded outward in all directions with its center shifting to the northeast. Population growth areas surrounded the employment growth corridors and nodes. Many of the cities surrounding Phoenix had witnessed large population growth and much of their incorporated lands were developed with densities exceeding 1,500 persons per square mile.

Population projections for 2020 place the population growth at the fringes of the urban area. Development is likely to accelerate to the west on both sides of I-10, particularly in Goodyear and Avondale. Housing construction should flourish in Glendale, Surprise, Peoria, and the unincorporated county, and growth in Chandler and Gilbert will shift to the south. High growth rates will continue in East Mesa, North Phoenix, Scottsdale, and Cave Creek. The limiting factors of growth in the region are imposed primarily by geographic boundaries (e.g. South Mountain) and political boundaries (e.g. Salt River Pima-Maricopa Indian Community, State lands). Given the extent of the growth periphery for the year 2020, there is an anticipated population projection of approximately 4.5 million people for Maricopa County.

**Data Sources:** Maricopa Association of Governments; *Socioeconomic Projections, 1997*; U.S. Bureau of the Census, 1995 Special Census; U. S. Bureau of the Census, 1960, 1970, 1980, and 1990 Census of Population; Arizona Department of Economic Security, 1997

# E

## mployment Growth

Employment in the region has grown significantly in the past thirty years. The shaded portions of the map illustrate areas with more than 2500 workers per square mile.

In 1964 most of the employment was concentrated in Phoenix's central core with additional employment nodes in Mesa, Tempe, Scottsdale and Glendale. By 1995 the five separate employment nodes had combined to form a relatively continuous employment pattern. A few new independent employment nodes emerged around Scottsdale Airport, Mesa-Falcon Field and the Pavilions retail center on the Salt River Pima-Maricopa Indian Community.

In 1995 the three largest employers in the region were the State of Arizona, Motorola and Arizona State University. Sky Harbor International Airport has also attracted new employment to the region including America West, Southwest Airlines and Allied Signal. The top employers by number of employees in 1995 in Maricopa County are shown in the table below.

In the future, employment growth is anticipated to follow major transportation corridors including I-17 on the North, the Superstition Freeway on the East, and I-10 on the south. New employment nodes are projected in the vicinity of Williams Gateway Airport, Phoenix-Goodyear Airport, and in the northwest between 50th and 75th Avenue south of Bell Road.

The development of the freeway system in the region will also contribute to the growth of employment. Significant amounts of employment are projected along Loop 101 in Scottsdale and Phoenix and along the Santan Freeway in Chandler.

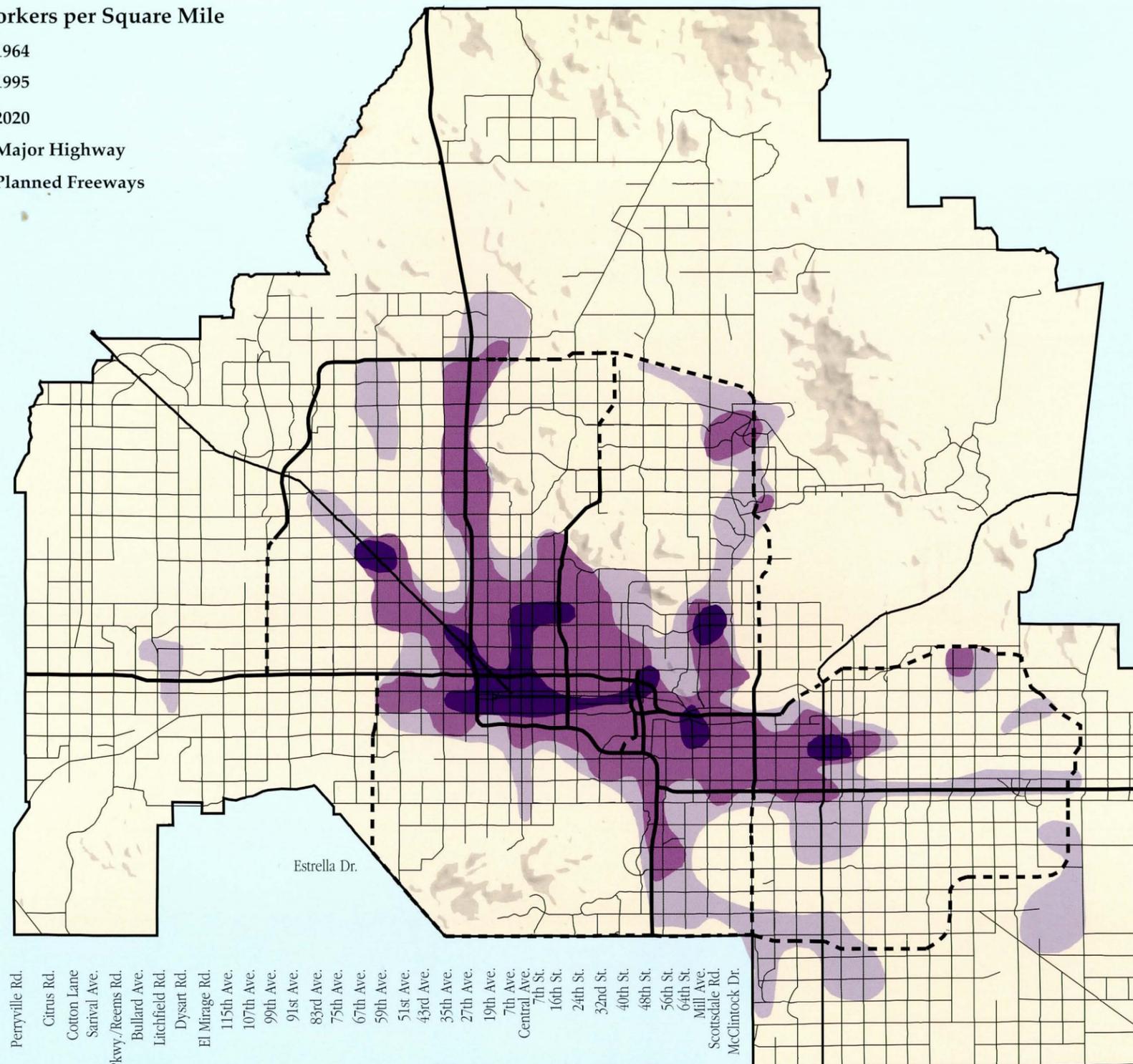
| EMPLOYER                       | NUMBER OF EMPLOYEES |
|--------------------------------|---------------------|
| State of Arizona               | 24,683              |
| Motorola Inc.                  | 21,323              |
| Arizona State University       | 16,026              |
| City of Phoenix                | 13,779              |
| County of Maricopa             | 11,706              |
| Samaritan Health System        | 11,656              |
| Allied Signal Inc.             | 11,035              |
| United States Air Force        | 8,742               |
| United States Postal Service   | 7,189               |
| Frys Food Stores Arizona Inc.  | 6,816               |
| Honeywell Inc.                 | 6,664               |
| Intel Corporation              | 6,021               |
| Americare Employers Group Inc. | 5,493               |
| American Express               | 5,411               |
| Arizona Public Service Co      | 5,259               |
| America West Airlines Inc.     | 5,184               |
| U S West Inc.                  | 5,053               |

Data Source: Maricopa Association of Governments, 1995 Employer Database, 1997; U. S. Bureau of the Census, 1960, 1970, 1980 and 1990 Census of Population; Maricopa Association of Governments, *Socioeconomic Projections Interim Report*, 1997;

### 2500 Workers per Square Mile

- 1964
- 1995
- 2020
- Major Highway
- Planned Freeways

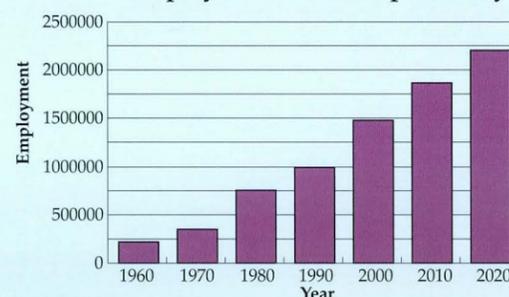
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- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
- Bethany Home Rd.
- Camelback Rd.
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- Thomas Rd.
- McDowell Rd.
- Van Buren St.
- Buckeye Rd.
- Lower Buckeye Rd.
- Broadway Rd.
- Southern Ave.
- Baseline Rd.



- Perryville Rd.
- Citrus Rd.
- Cotton Lane
- Sarival Ave.
- Estrella Pkwy./Reems Rd.
- Bullard Ave.
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- Scottsdale Rd.
- McClintock Dr.

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- Greenway Rd.
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- Shea Blvd.
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- Elliot Rd.
- Warner Rd.
- Ray Rd.
- Chandler Blvd.
- Pecos Rd.
- Germann Rd.
- Queen Creek Rd.
- Ocotillo Rd.
- Chandler Heights Rd.
- Riggs Rd.

Employment of Maricopa County



- Price Rd.
- Dobson Rd.
- Alma School Rd.
- Arizona Ave.
- McQueen Rd./Mesa Dr.
- Cooper Rd./Stapley Dr.
- Gilbert Rd.
- Lindsay Rd.
- Val Vista Dr.
- Greenfield Rd.
- Higley Rd.
- Recker Rd.
- Power Rd.
- Sossaman Rd.
- Hawes Rd.
- Ellsworth Rd.
- Crismon Rd.
- Signal Butte Rd.
- Meridian Rd.
- Rittenhouse Rd.

0 5 Miles North



## I NTRODUCTION

The characteristics of the people of Maricopa County are the subject of the maps in this section.

There are some traits of the region's population that set it apart from that of the United States as a whole. The nation was 10.4% Hispanic in 1995, while this region was 20.5% Hispanic. The Native American proportion of the area's population was double the proportion of the nation's. There are relatively fewer Phoenix area residents who identify themselves as African American or Asian than in the nation as a whole.

Generalized socioeconomic characteristics reflect the distribution of low income and high income households in the urban area as well as education attainment.

The age distribution of the region is quite comparable to the United States. Persons over the age of 60 comprise 16 percent of the population and, contrary to popular belief, are below the national average of 16.8 percent. The increase of the median age from 32 in 1990 to 33.2 in 1995 is reflective of the aging of the baby boomer population.

Household occupancy characteristics explore the types of living arrangements typical of households. This includes single parent households, single individual households and households with two adults and children. The households with two adults and children has declined from 52 percent in 1960 to approximately 25 percent in 1990.

Many of the residents in the region have relocated from other areas. The percent of foreign born has increased by 83 percent between 1970 and 1990.

Within the United States the greatest amount of new residents are supplied by California in the West, as well as a number of states in the Midwest. Migratory patterns in the east and northeast tend to focus upon Florida.



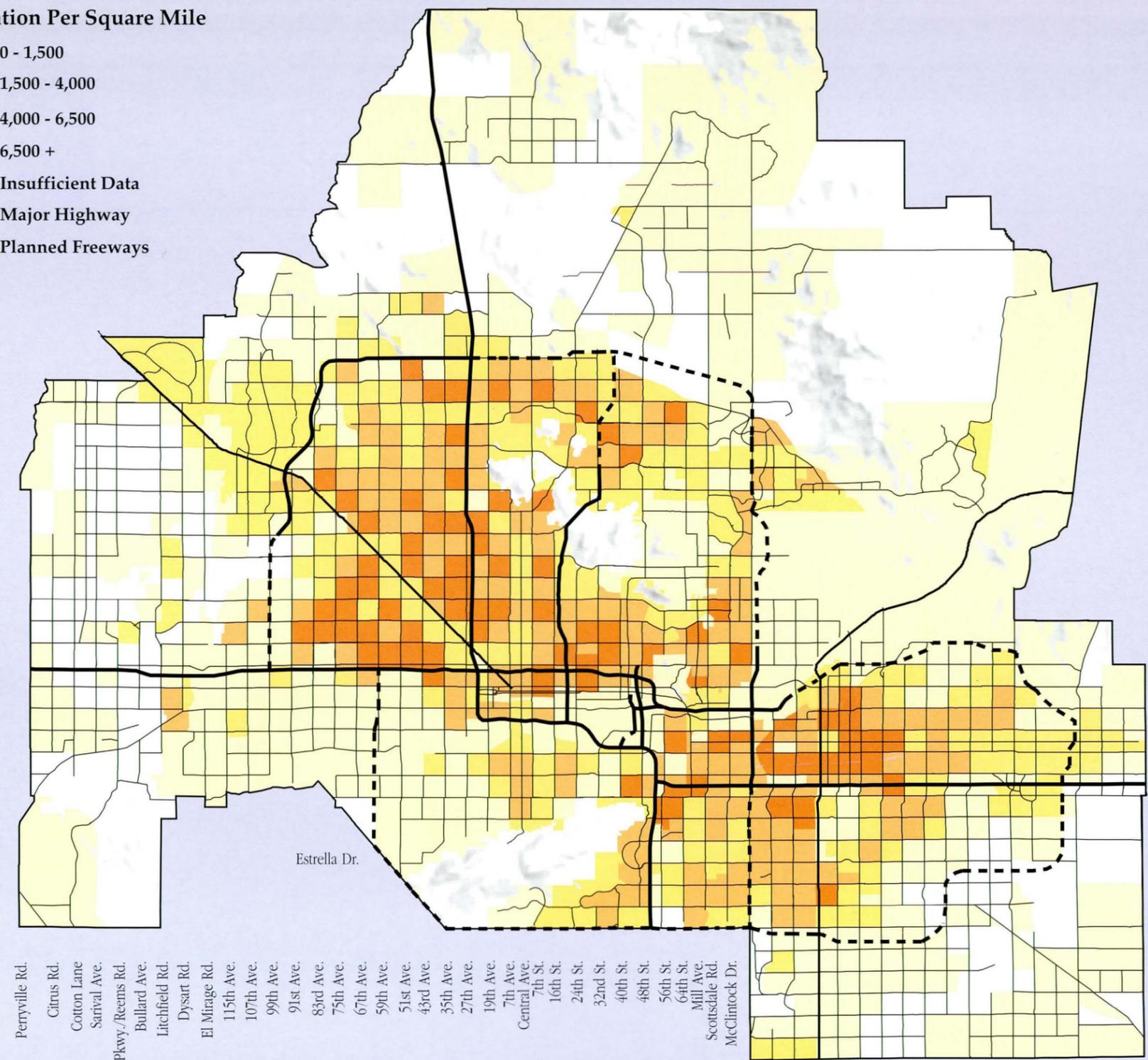
Sunday morning in Phoenix.

P

opulation Density

Population Per Square Mile

- 0 - 1,500
- 1,500 - 4,000
- 4,000 - 6,500
- 6,500 +
- Insufficient Data
- Major Highway
- Planned Freeways

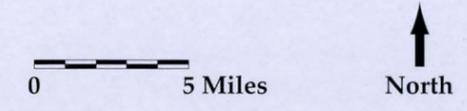


- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
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- Baseline Rd.

- Perryville Rd.
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- Cotton Lane
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- Estrella Pkwy./Reems Rd.
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- 56th St.
- 64th St.
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- Scottsdale Rd.
- McClintock Dr.

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- Signal Butte Rd.
- Meridian Rd.

- Desert Hills Dr.
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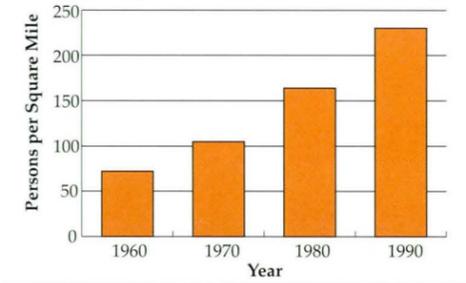


The population of the region has increased dramatically over the last decade, rising from 1,837,956 in 1985 to 2,551,765 in 1995. Because much of the County remains undeveloped, the region has tremendous potential to continue its outward growth. However, any increase in the population will increase density on a County-wide scale, not necessarily the density of specific areas such as the urban core.

The map shows higher population densities (6,500-13,270 persons per square mile) concentrated in the central and southeast portions of the region. The highest population density is presently contained within the existing or planned freeway system that encircles nearly all of the urban area. Densities are highest in the cities immediately adjacent to the urban core area of central Phoenix (i.e. Glendale, Mesa, Tempe). Many of the outlying communities just now are beginning to be impacted by outward development and increasing densities. The area south of downtown Phoenix is perhaps the only exception: it continues to maintain its low density character due to older existing low-income neighborhoods.

Pockets of low population densities within the urban area exist for varying reasons. Much of the land use immediately to the southeast of Downtown Phoenix is dedicated to industrial or commercial use, thereby reducing the housing densities. Sky Harbor International Airport and its immediate perimeter is a zone of low density due to the intensive land use and safety requirements relative to the site. Paradise Valley, known for its high real estate values, is characterized by its attractive low-density home-sites.

Population Density (Persons per Square Mile, Entire Maricopa County)



Data Source: U.S. Bureau of the Census, 1960, 1970, 1980, and 1990 Census of Population; U.S. Bureau of the Census, 1995 Special Census

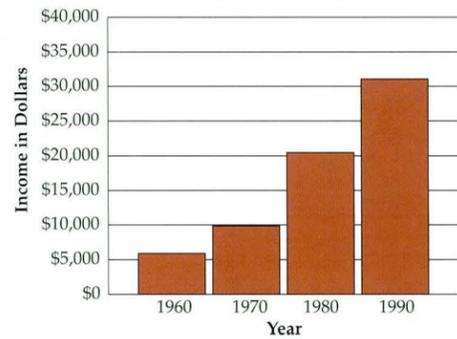
# M edian Household Income

The graph below depicts the significant growth of median family income levels over a 30-year period. The growth of income parallels many socioeconomic trends including the growth of the region's economy and the increasing percentage of women in the workforce. Median household income is one indicator of the economic health of an area. The region had a median household income in 1995 of \$35,623.

The highest proportions of low income households tend to be concentrated within older portions of the region. Annual median incomes less than \$35,000 per household are typical of the Phoenix central core and parts of Glendale, Mesa and the area south of downtown Phoenix.

Households with moderate to high incomes of \$35,000 - \$85,000 tend to follow the pattern of outward concentric development in the region. The highest income classification cohort (\$85,000 - \$200,000) is distributed throughout the extent of Paradise Valley, Carefree, and outlying portions of North Scottsdale. Also, several small 'islands' of high income communities exist throughout the region in the cities of Tempe, Phoenix, Mesa, and Fountain Hills. While areas retain moderate income households in parts of the city, households in the newly developed areas often fall into the high income category.

Median Family Income (in dollars)

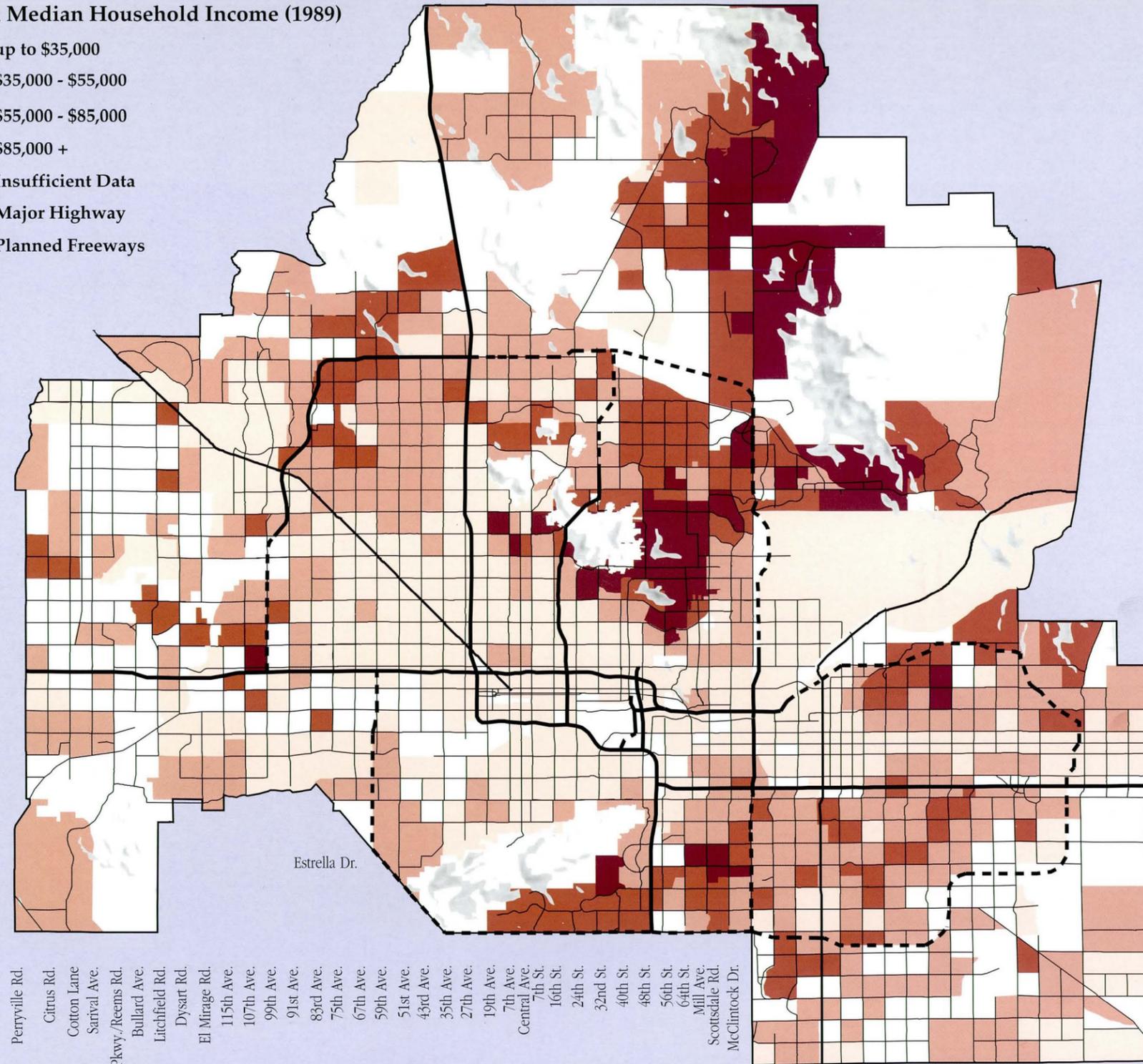


Data Source: U.S. Bureau of the Census, 1995 Special Census; U.S. Bureau of the Census, 1960, 1970, 1980 and 1990 Census of Population

Annual Median Household Income (1989)

- up to \$35,000
- \$35,000 - \$55,000
- \$55,000 - \$85,000
- \$85,000 +
- Insufficient Data
- Major Highway
- Planned Freeways

Beardsley Rd.  
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 Bell Rd.  
 Greenway Rd.  
 Waddell Rd.  
 Cactus Rd.  
 Peoria Ave.  
 Dunlap Ave.  
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Perryville Rd.  
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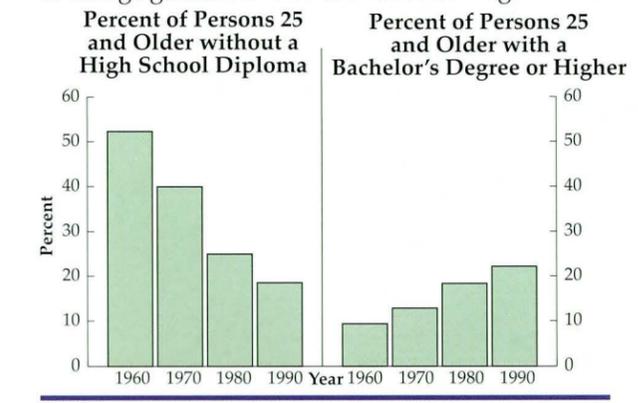
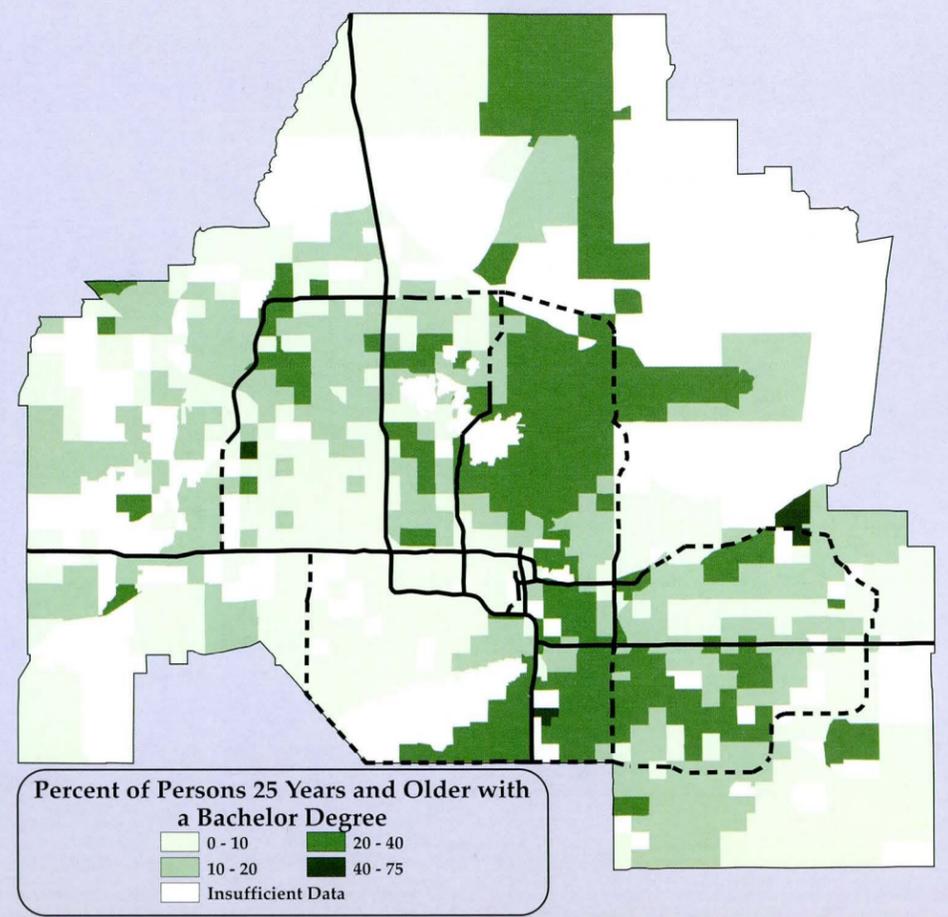
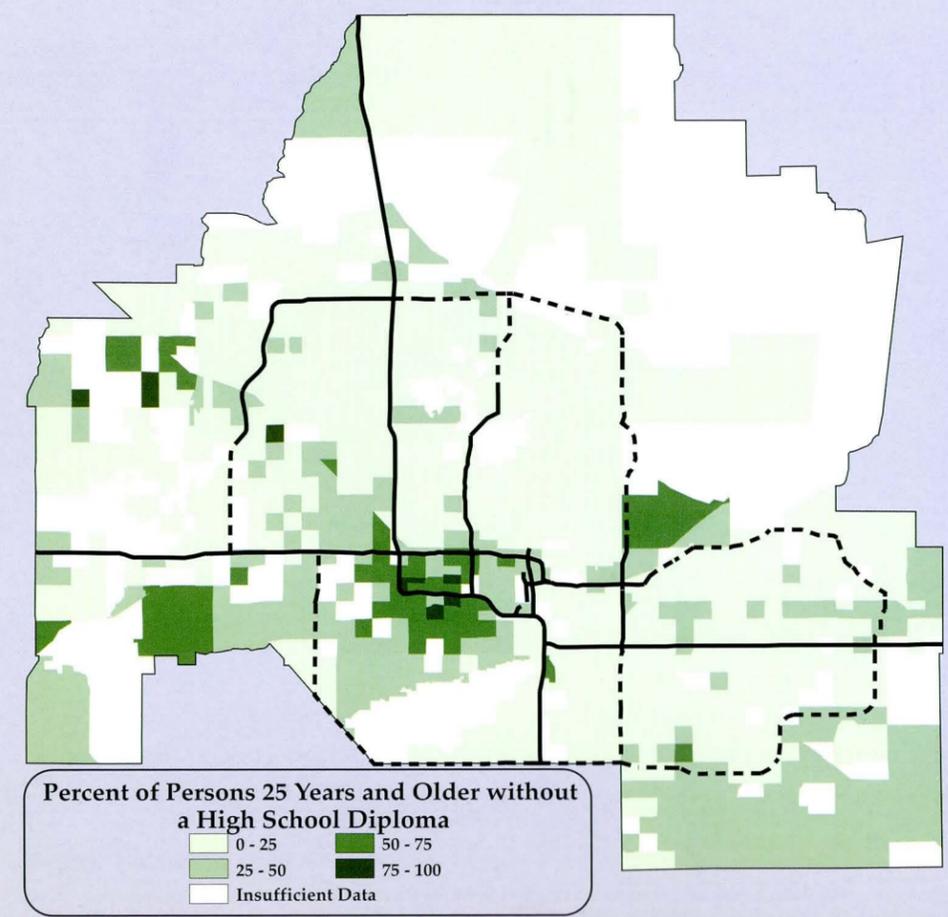
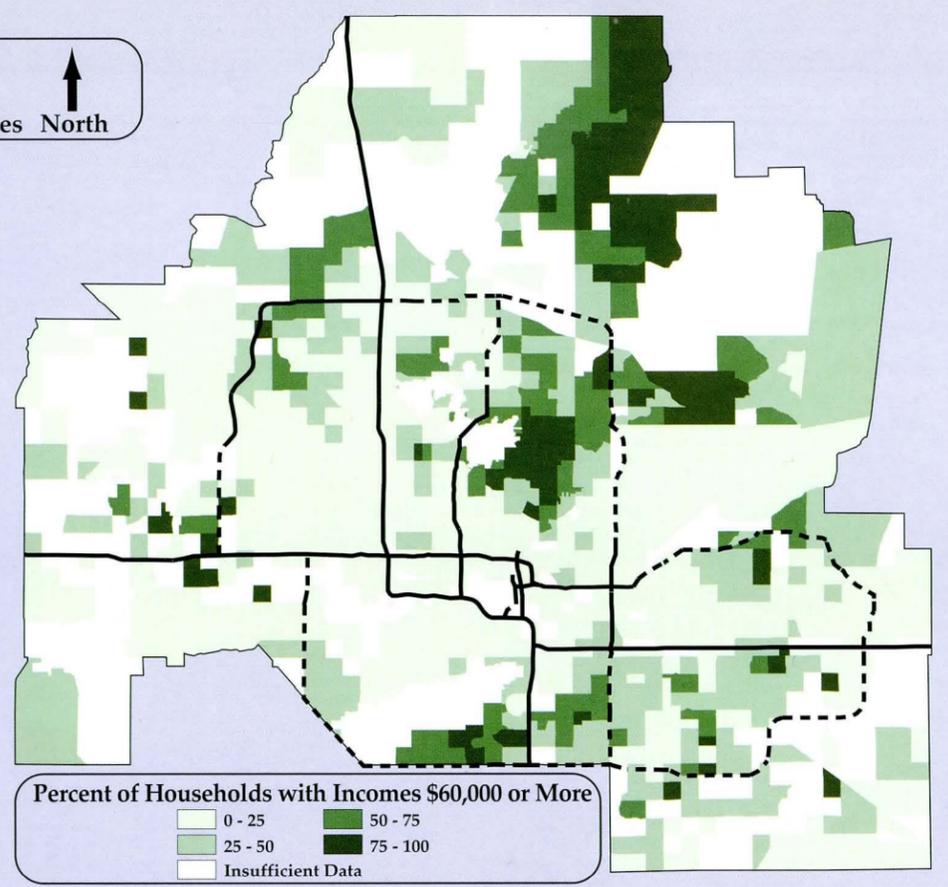
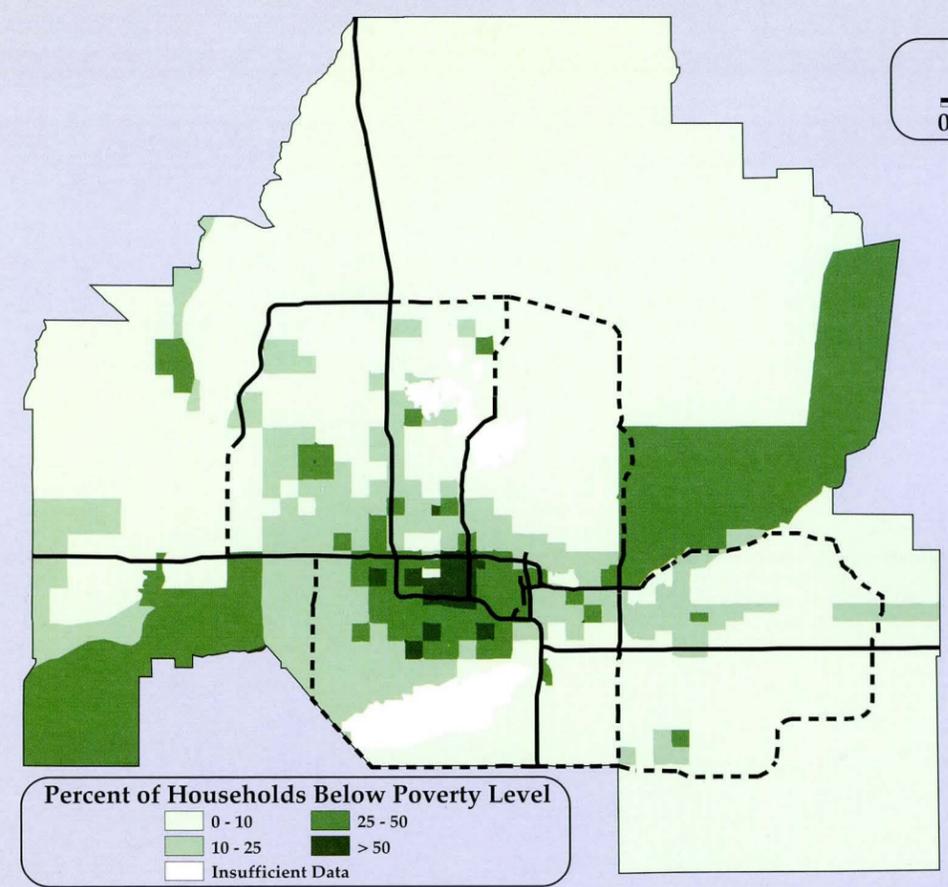
# Socioeconomic Indicators

The map shows the percentage of households below the poverty level in 1995. Poverty households are located within, or to the south of downtown Phoenix, in Native American communities of the Northeast Region, portions of Surprise, El Mirage, and Guadalupe. The federal government relates poverty to income level and household size. Poverty thresholds in 1995 by household size for a 1-person household is \$7,470, 2-person household \$10,030, 3-person household \$12,590, and 4-person household \$15,150.

The median household income in Maricopa County in 1995 was \$35,623. Approximately 13.4% of the region's households have incomes above \$60,000 and are dispersed throughout the region. Areas with 75-100% of the homes earning more than \$60,000 per year are primarily concentrated in Scottsdale, Paradise Valley, Fountain Hills, Cave Creek, Carefree and Litchfield Park.

A majority of the persons 25 years and older without a high school diploma are concentrated in the area south of Downtown Phoenix, based on the 1990 census. Additional 'islands' of persons without high school diplomas can be found in the west and Southwest Regions and a portion of the Salt River Pima-Maricopa Indian Community.

Much of the population of the north, east central, and south areas of the region exhibit high levels of bachelor degree attainment, based on the 1990 Census. These areas represent existing or recently developed communities with moderate to higher incomes. Areas with a large elderly population cohort and lower income areas tend to have lower percentages of bachelor degree acquisition with respect to the general population. This is due to an increase in the number of college graduates with each successive generation.



Data Sources: U.S. Bureau of the Census, 1960, 1970, 1980, and 1990 Census of Population; U.S. Bureau of the Census, 1995 Special Census

# Ethnicity

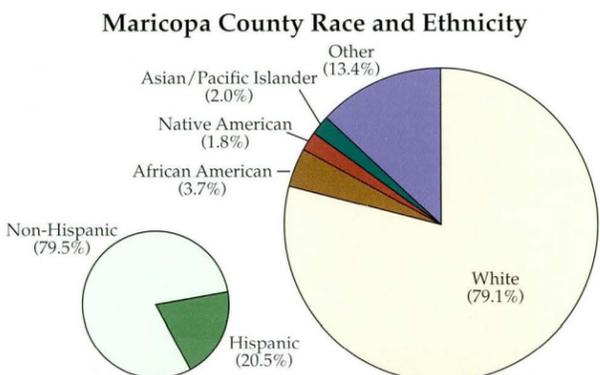
The population of Hispanic origin of the region increased by 25 percent, from 16.3 percent of all people and races in 1990 to 20.5 percent in 1995. In comparison, the national representation of people of Hispanic origin grew only 15 percent, from 9 percent in 1990 to 10.4 percent in 1995. There were also slight increases in the proportions of minority racial groups in the region. The net result was that the white population declined seven percent from 84.9 percent to 79.1 percent of the region in the five year period.

There are a number of neighborhoods within Phoenix, Glendale, Chandler, Surprise, El Mirage and the unincorporated portion of the county where people of Hispanic origin are in the majority.

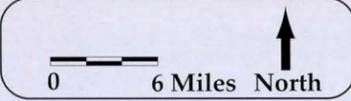
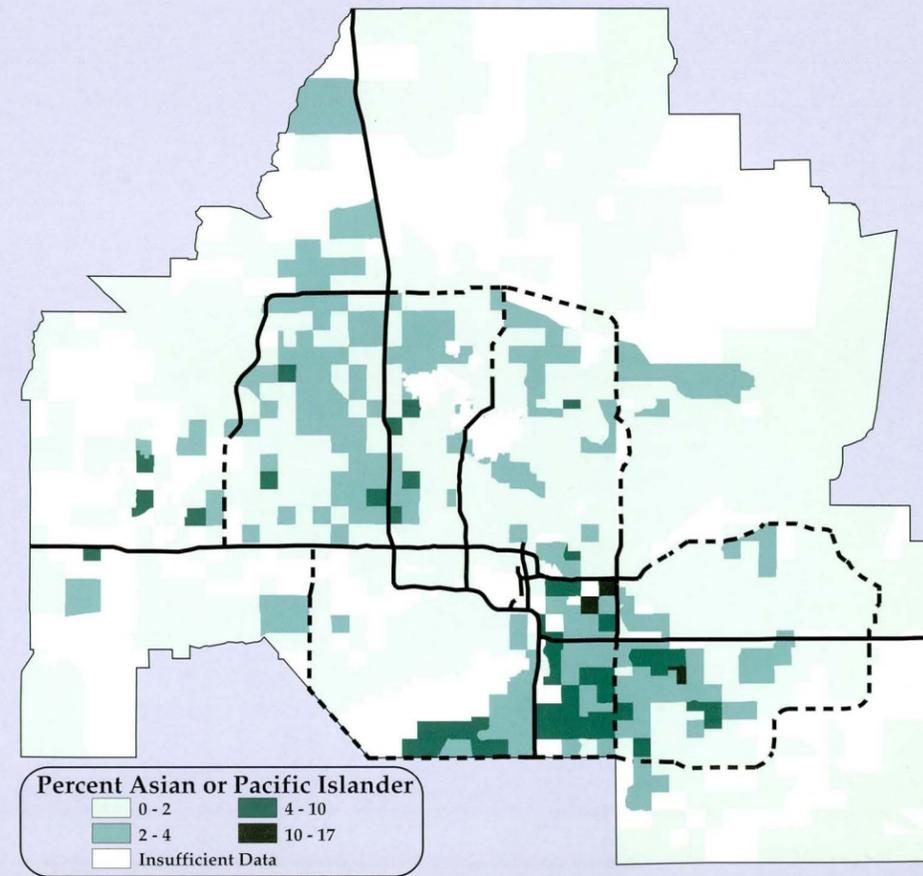
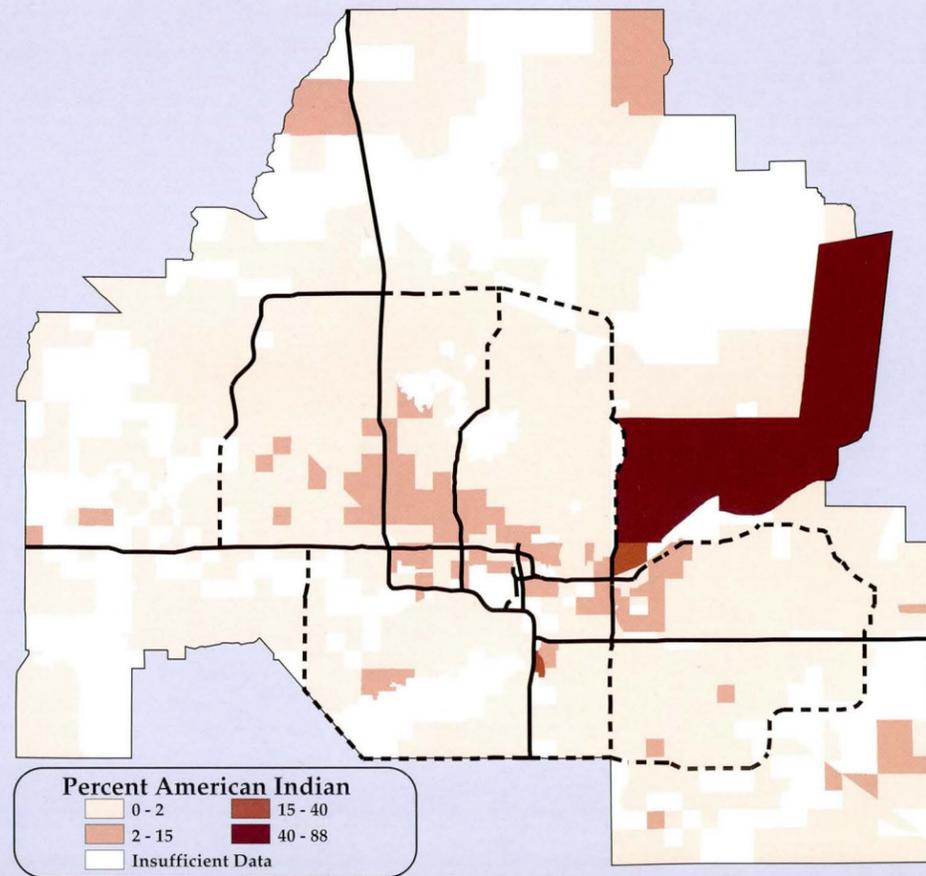
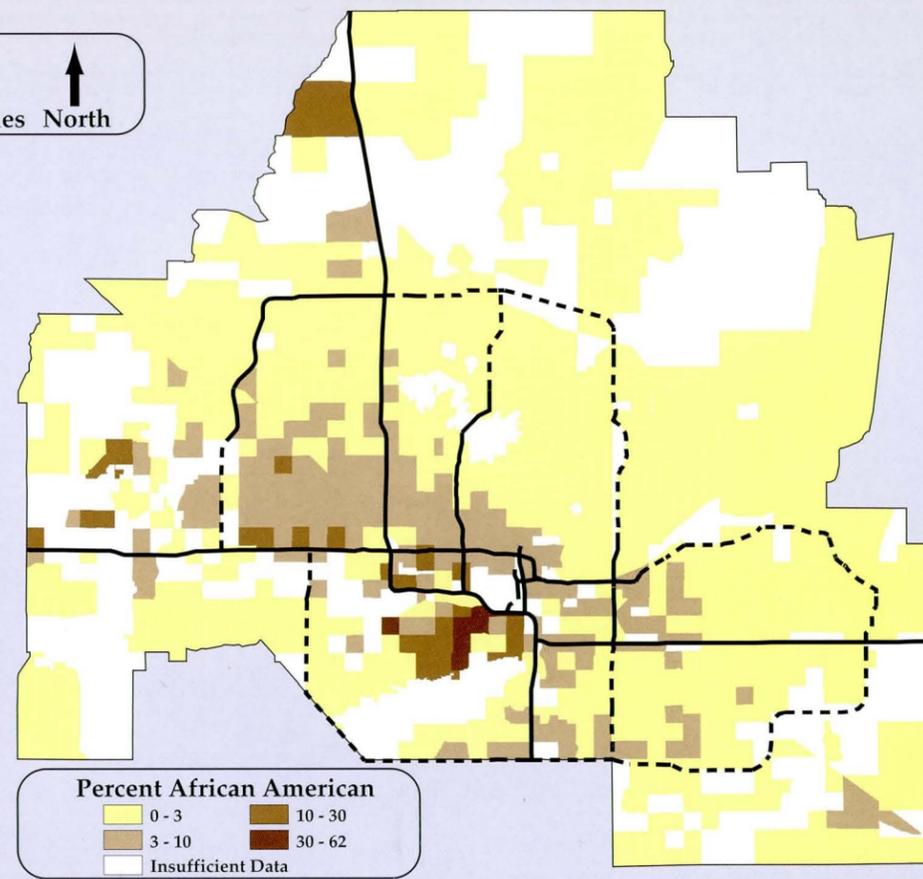
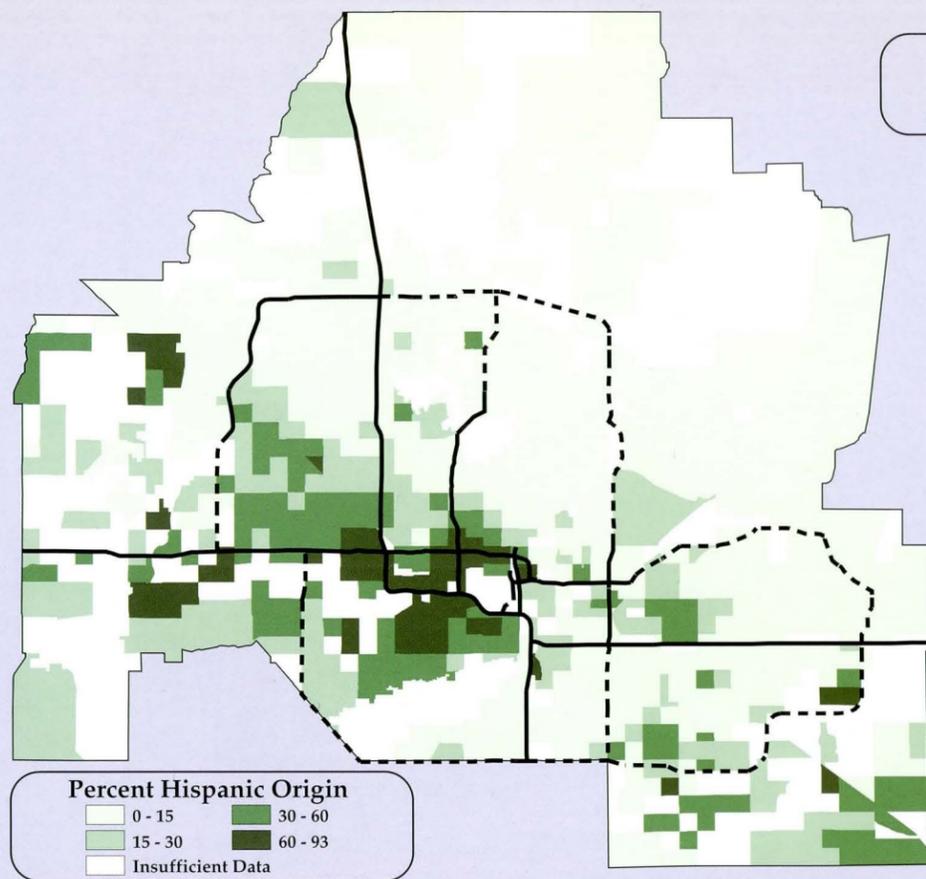
The African American population increased by six percent from 3.5 percent in 1990 to 3.7 percent in 1995. African American households are clustered in most of the same areas in the region as are Hispanic households.

The American Indian population in the county is 45,850 or 1.8 percent of the total, a share unchanged from 1990. The county's percentage share of American Indian population is sixth among all counties in the United States. In addition to residing within Indian Communities, American Indians are dispersed throughout the region.

The Asian population of the region increased by 18 percent from 1.7 percent in 1990 to 2.0 percent in 1995. Asian households are somewhat clustered in Tempe, Chandler, and Phoenix south of South Mountain.



Data Source: U.S. Bureau of the Census, 1995 Special Census



# Age Distribution

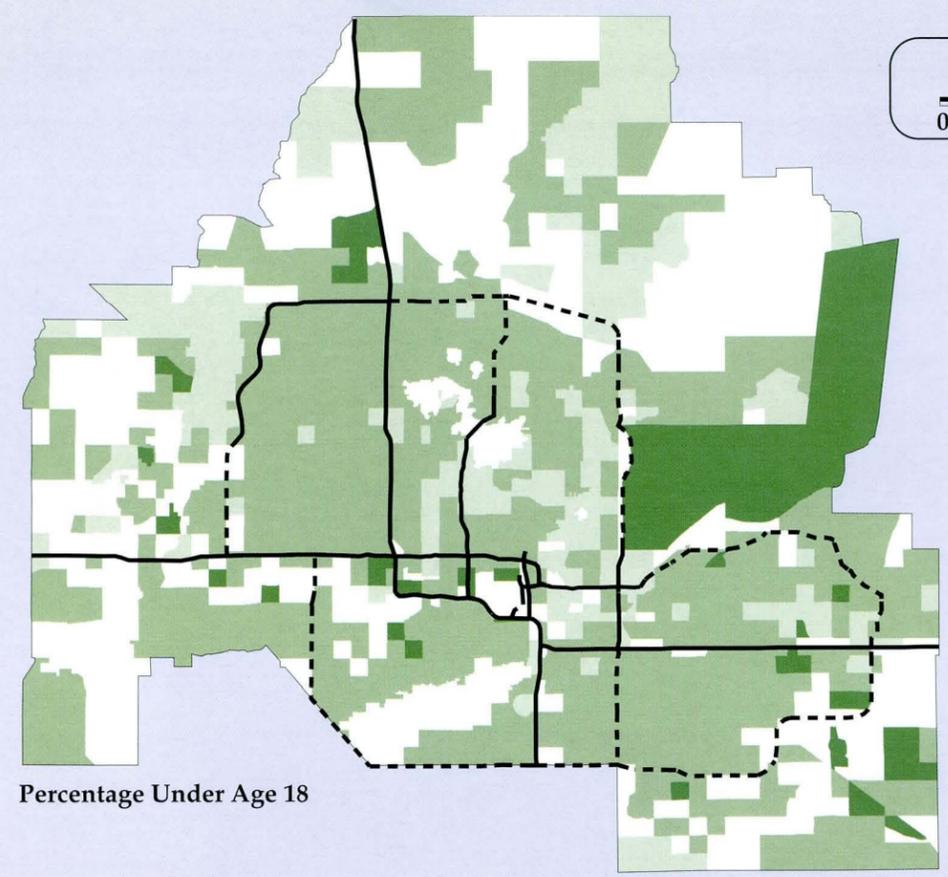
This series of maps divides the region into the following age cohorts; people under 18 years old, 18-59 years old and over 60 years old. There is a striking similarity in the pattern of these age groups with the nation as a whole.

Persons under age 18 make up approximately 27% of the region's population, and is slightly higher but very close to the nation as a whole with 25.7%. High densities of younger populations are found in South Phoenix, Mesa, and Indian Communities.

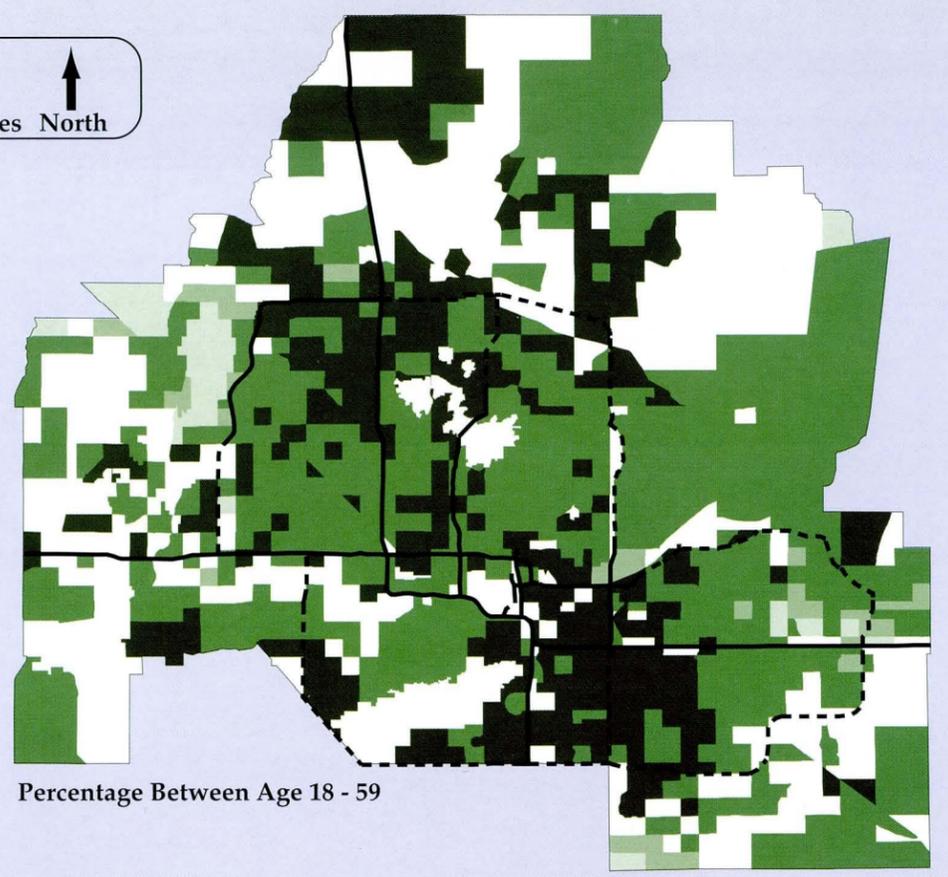
The dominant age group, 18-59 years old, constitutes 57% of the total population, and is similar to the nation with 57.5%. The highest densities of this population group are dispersed throughout the region.

Persons over the age of 60 are a relatively small portion of the total population (16%) and, contrary to popular belief, are below the national average (16.8%). This age group is concentrated in retirement communities in Sun City, Sun City West, Sun Lakes, and east Mesa. The region represents an attractive environment for an aging population because of the mild climate, affordable housing, and adequate support facilities. The median age of Maricopa County's population increased from 32.0 in 1990 to 33.2 in 1995. This reflects the aging of the "Baby Boomer" generation.

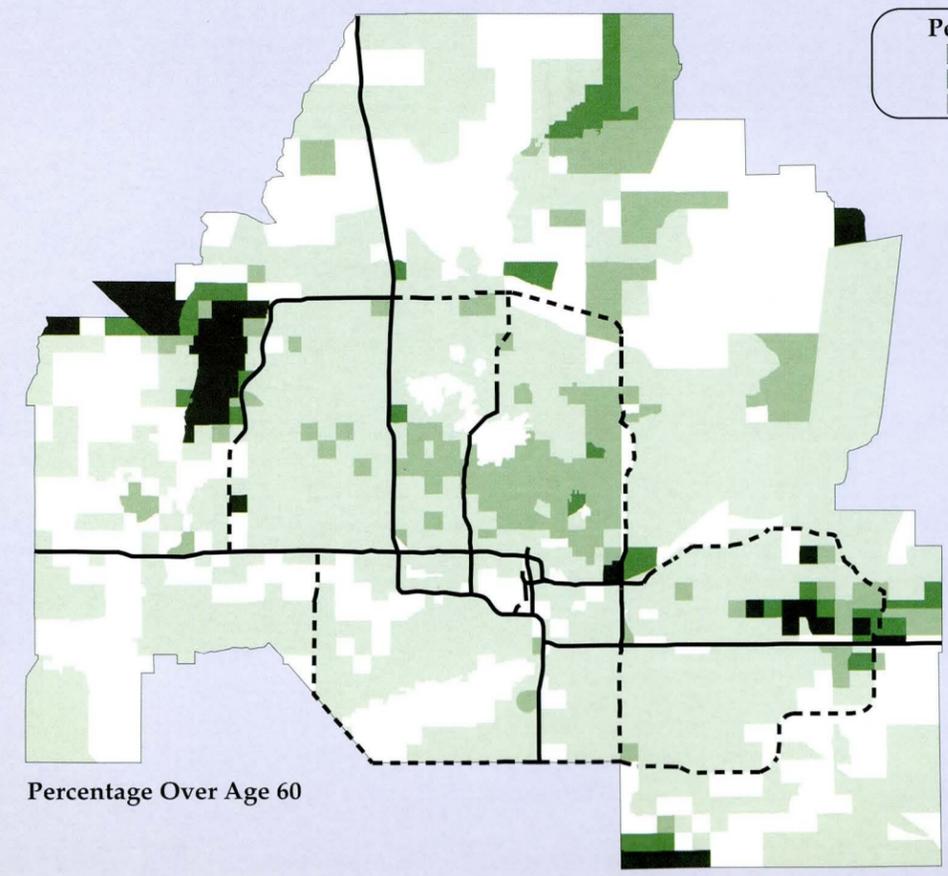
The median age map shows the highest median age populations concentrating in Sun City, Sun City West, Sun Lakes, and parts of Mesa. The lower median ages are found in Tempe in the vicinity of Arizona State University, southwest Phoenix extending north into Glendale, and the Indian communities.



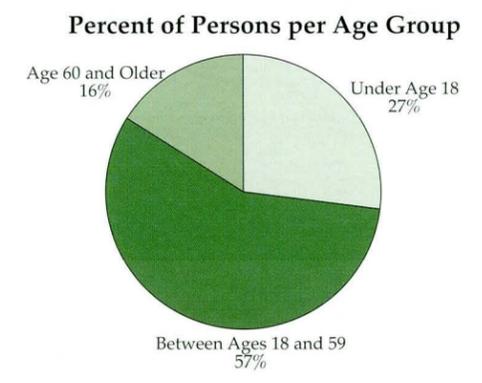
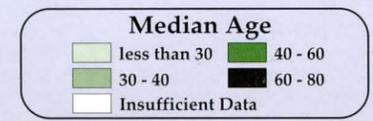
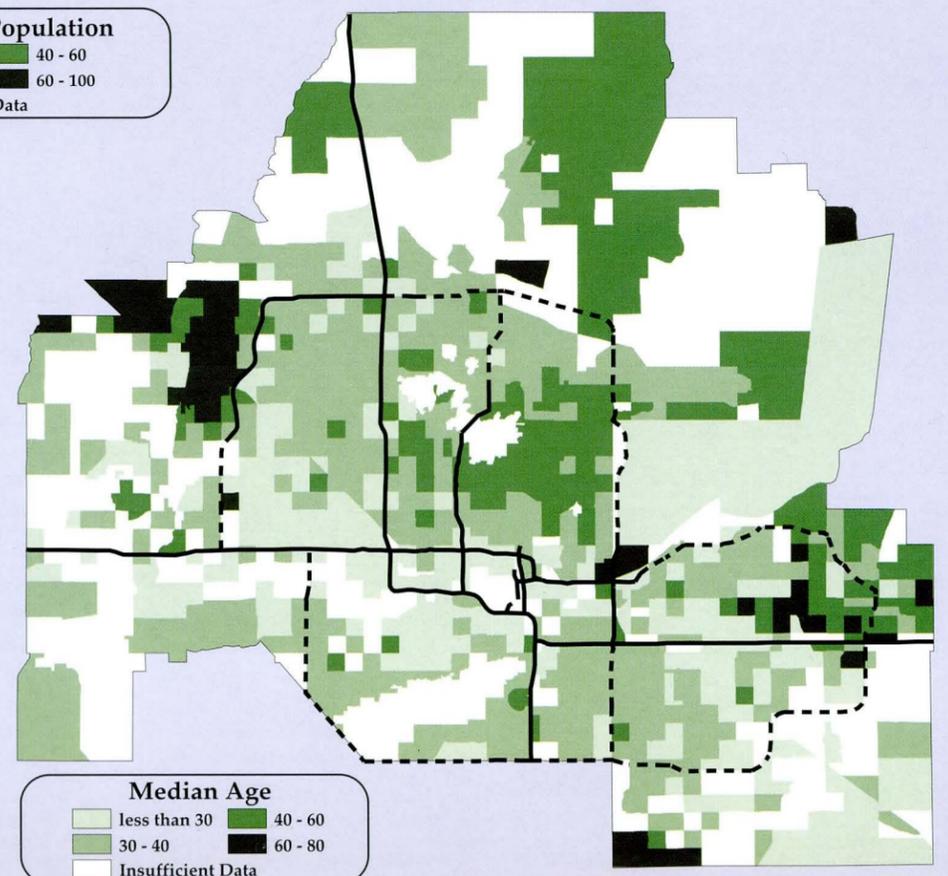
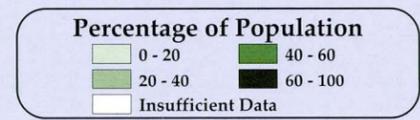
Percentage Under Age 18



Percentage Between Age 18 - 59



Percentage Over Age 60



Data Source: U.S. Bureau of the Census, 1995 Special Census

# H

## ousehold Occupancy Characteristics

The following maps present household occupancy characteristics in terms of the 1995 average number of persons per household, 1995 households with two adults and children, 1990 single parent households, and 1995 households with single persons.

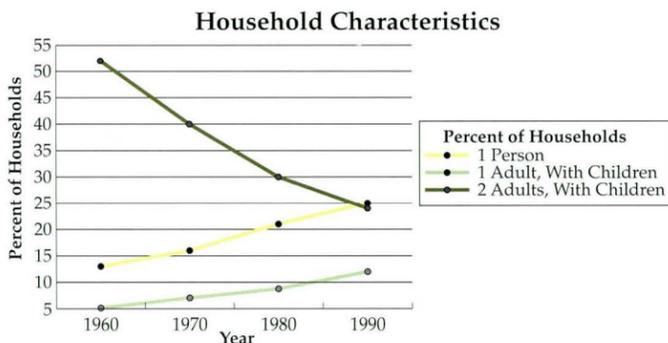
As the graph in the middle of the map page illustrates, the average number of persons per household has declined from 3.38 in 1960 to 2.59 in 1990. The graph at the bottom of the page reveals that the number of households with two adults and children has declined from 52 percent in 1960 to slightly under 25 percent in 1990, while the number of one parent households has increased.

The areas with the largest household size are concentrated on the Salt River Pima-Maricopa Indian Community, the Fort McDowell Indian Community, El Mirage, Guadalupe, south Phoenix, Queen Creek, Tolleson and portions of Mesa. At the other extreme, single person households are concentrated in the retirement communities of Sun City, Sun City West, Sun Lakes and the central part of the region.

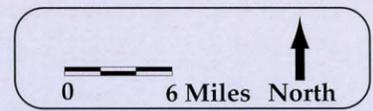
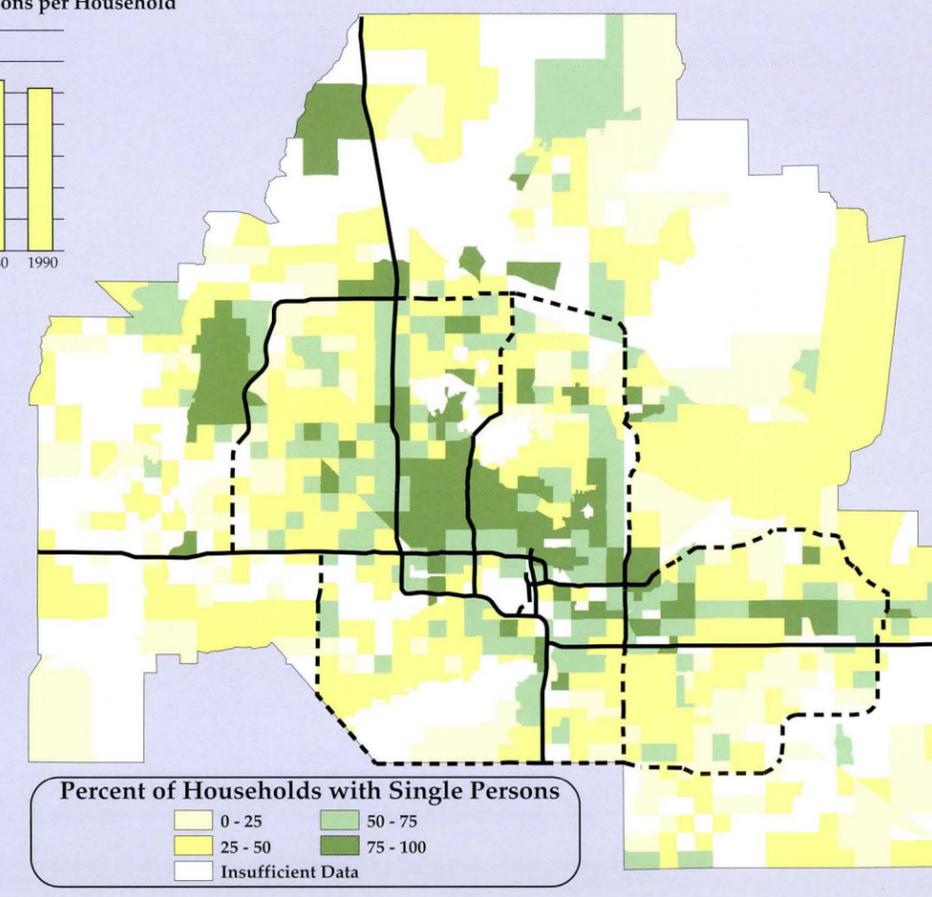
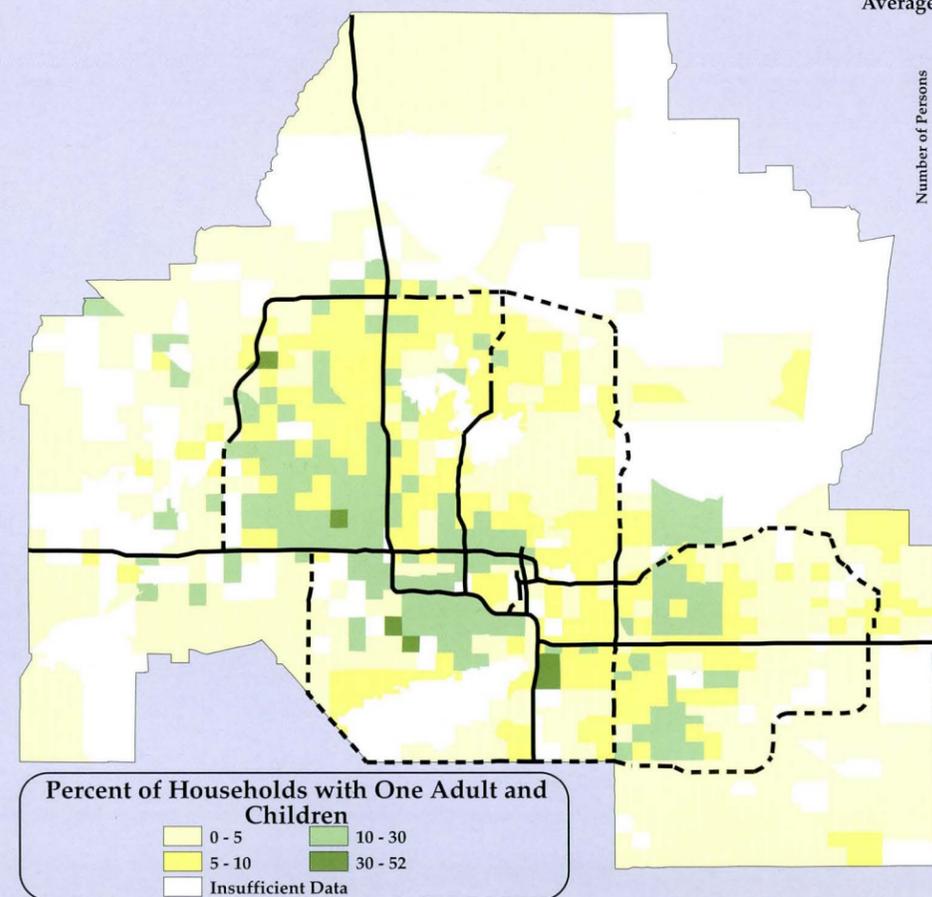
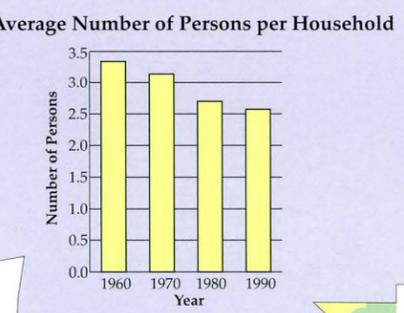
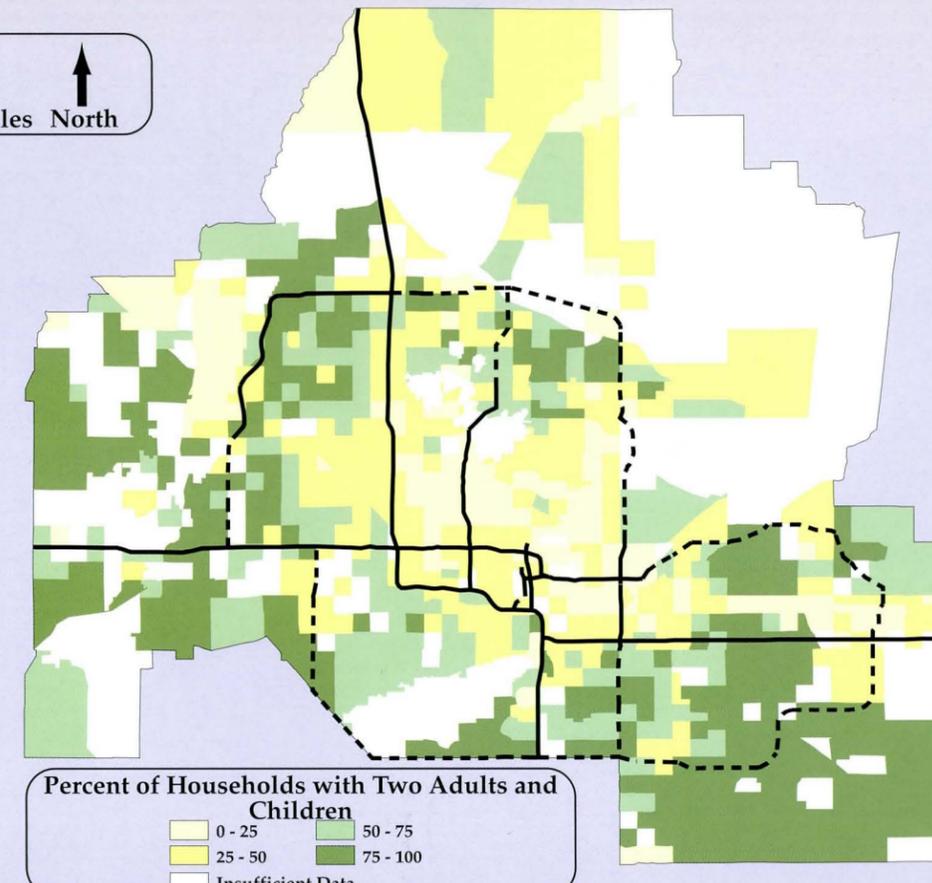
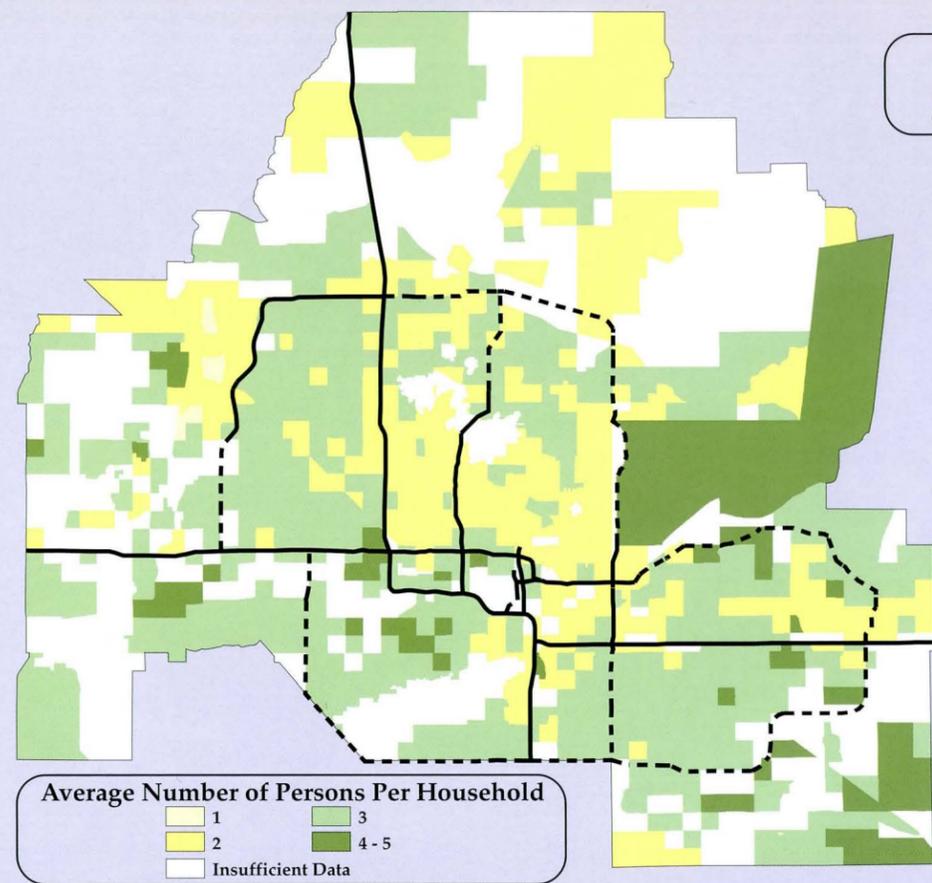
The more traditional households with two parents and children are concentrated on the east side of the region along the Red Mountain Freeway and south of the Superstition Freeway; and on the West Side along the Loop 101 freeway and south of I-10.

Households with one adult and children are concentrated in Phoenix, Glendale and portions of Mesa and Chandler.

The highest percentage of single person households are located in those areas that have the smallest average household size. These include, but are not limited to Sun City and Peoria on the west, Tempe on the near east side and the central portion of the region.



Data Source: U.S. Bureau of the Census, 1960, 1970, 1980, and 1990 Census of Population; U.S. Bureau of the Census, 1995 Special Census



# M

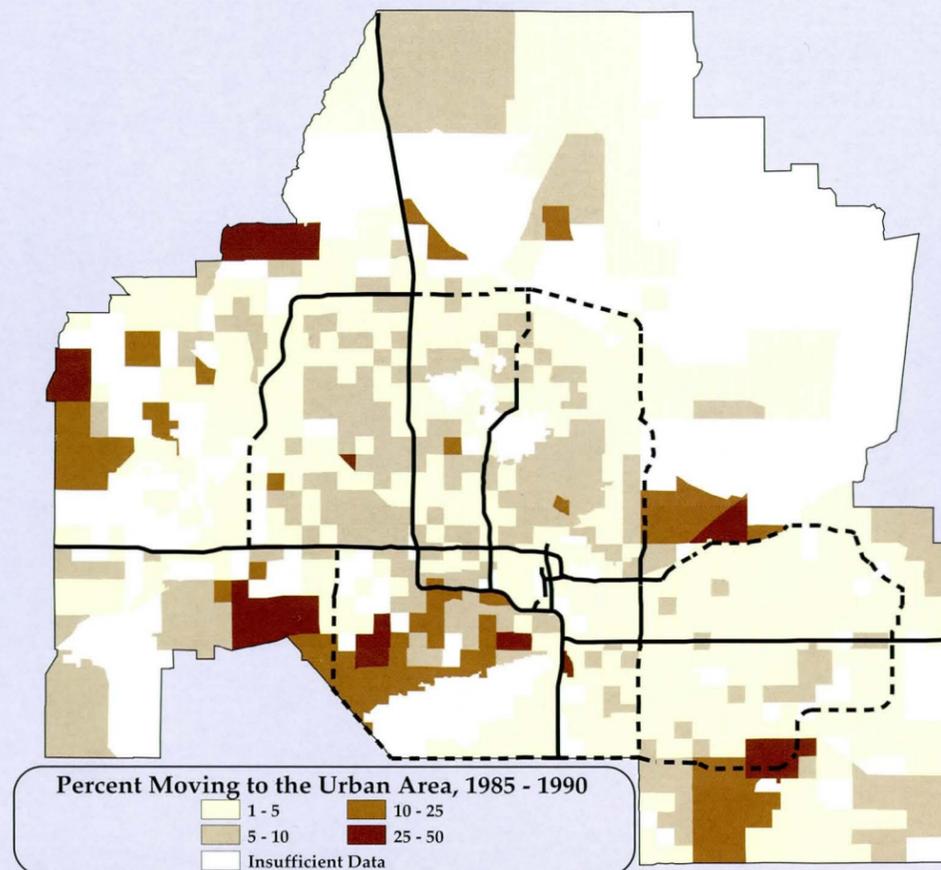
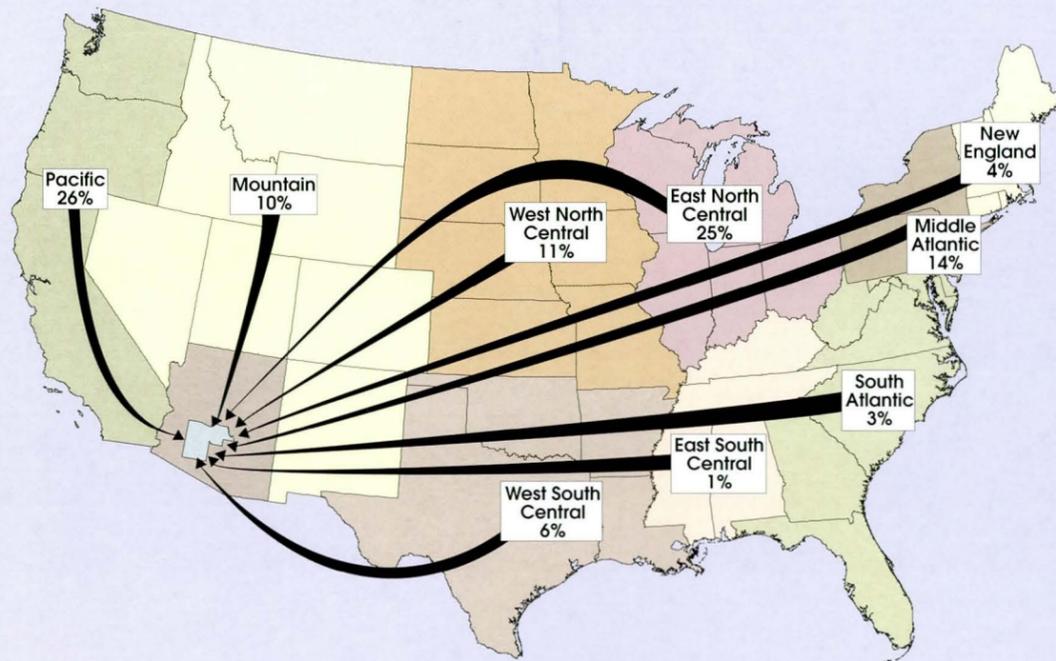
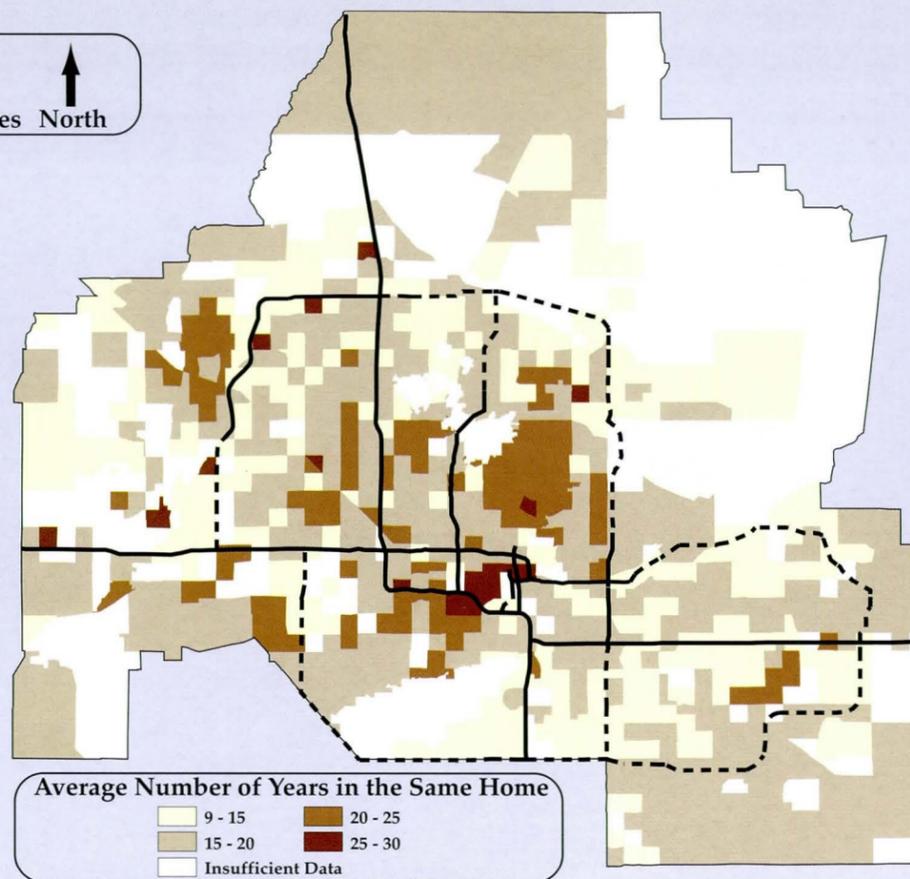
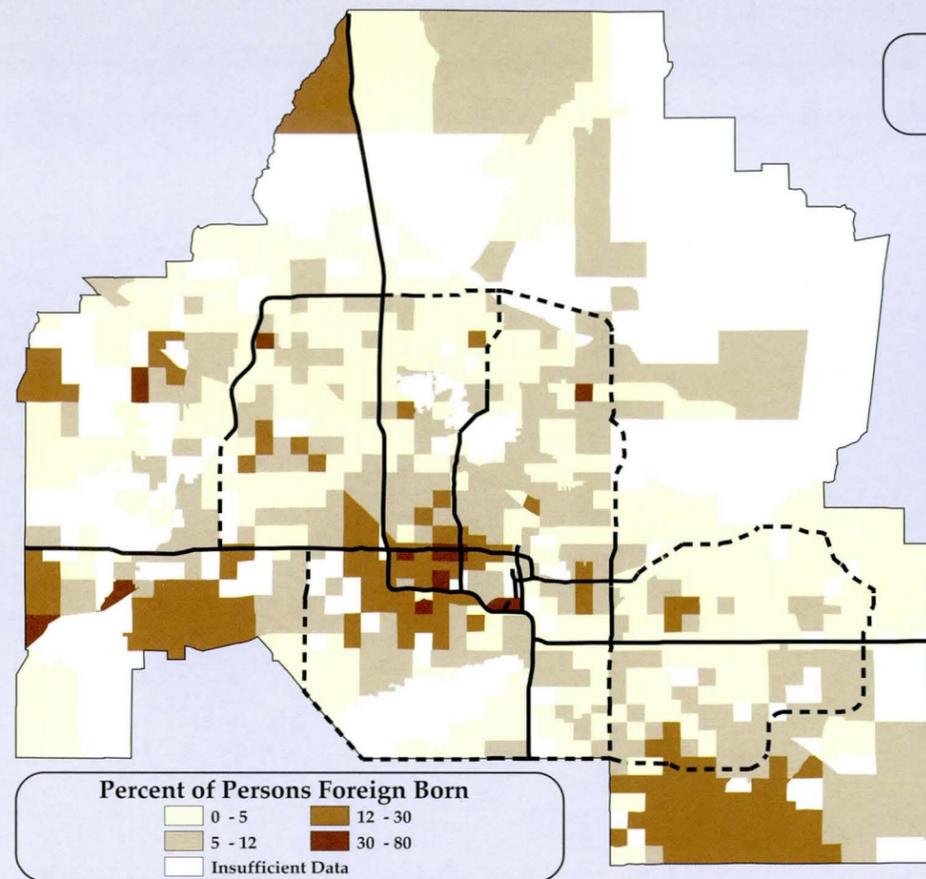
## igration and Mobility

The foreign born population of Maricopa County increased from less than 4.0% of the total population in 1970 to 7.3% in 1990. Much of this population is concentrated in central Phoenix, the Chandler-Gilbert area, and in the unincorporated area of the county. Based on the 1990 census, this population cohort represents a large Hispanic population.

While the map that identifies the average number of years in the same home shows several areas of high tenure (25 years or more), there is no consistent pattern throughout the region. The high rate of construction of new homes has resulted in a lower average tenure. The tenure rate of 9 to 20 years is most common, with a few areas having a 20 to 30 year tenure rate.

The United States map displays in-migration to Maricopa County between 1982 and 1995. There is a strong migratory flow from the Pacific, East North Central, and Middle Atlantic regions of the country. Currently, California contributes the largest percentage of new residents to Arizona followed by Illinois, Texas and New York.

The percent moving to the urban area identifies where new residents are locating. The pattern of growth continues to expand outward to meet the housing and commercial needs of new residents.



Data Sources: U.S. Bureau of the Census, 1990 Census of Population; Statistics Income Division of the Internal Revenue Service, 1997

# I NTRODUCTION

Employment has increased substantially in Maricopa County in the past several years. Employment may be categorized by occupation, industry, or private/public sector. Maps may identify the distribution of employment by place of residence or by place of work.

The unemployment rate is a key indicator of economic health. Maricopa County's unemployment rate in November 1997 was 2.8 percent compared to Arizona's 4.4 percent and the United States 4.6 percent.

Employment levels vary according to the age and sex of workers. Retirees make up an increasing percentage of the area population. Women's share of the labor force (45%) is one and one-half times its share a generation ago.

There are many possible ways to categorize workers. The occupation of a worker most closely describes what workers do on the job, regardless of the type of employer. Other common ways to group workers are according to the industry in which they work, such as insurance or communications, or the class of the organization, such as private or government. Maps of workers may show where workers are employed ("place of work") and where workers live ("place of residence").

The first three pages of this section display maps of workers by place of residence, the overall distribution of the employed population, other persons' status as retirees, students, or otherwise not employed, and the proportion of workers who are women. The other two pages display maps by place of work: the employment density and the number of workers by workplace land use.

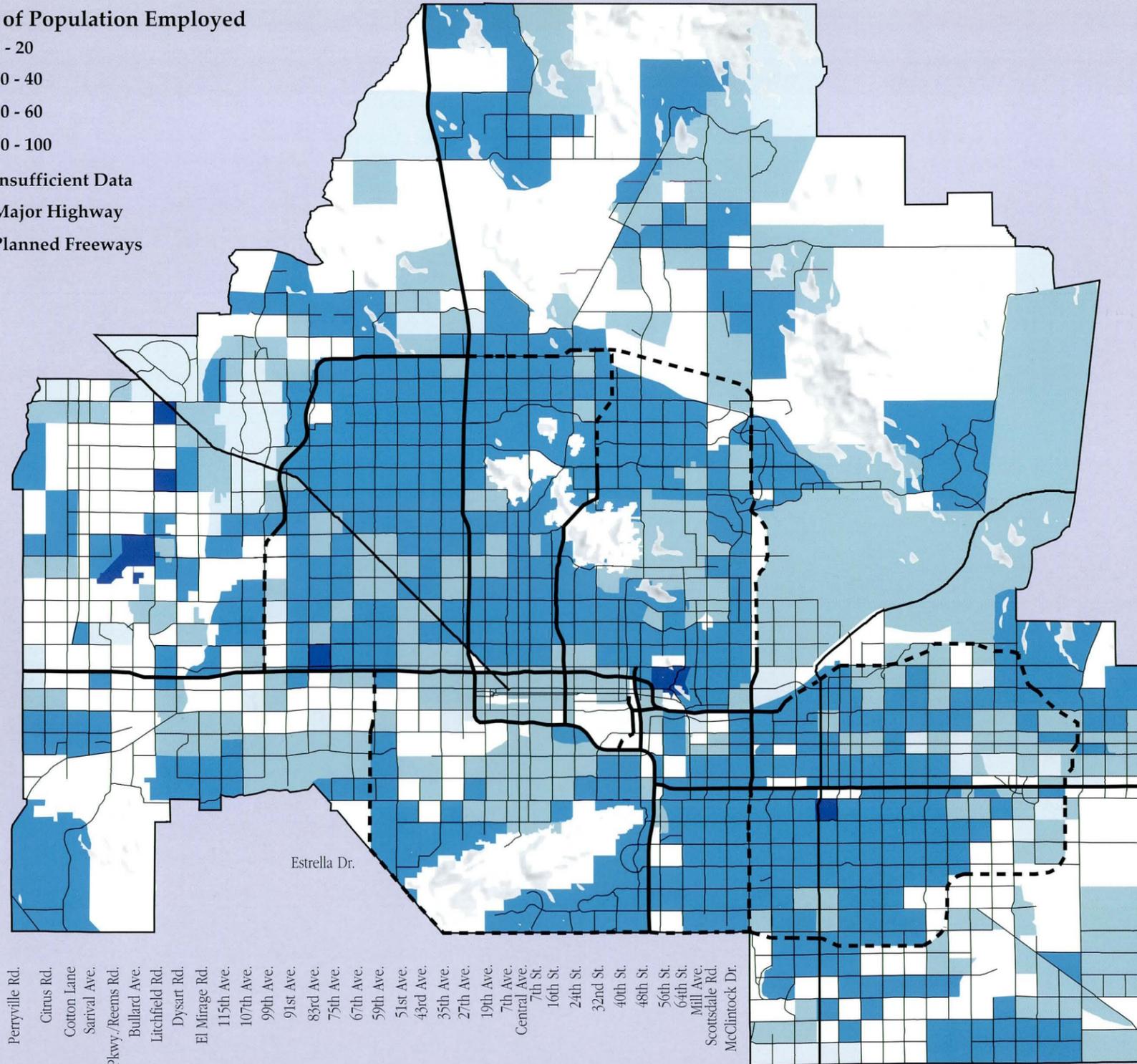


Downtown Phoenix viewed from Civic Plaza.

**Percent of Population Employed**

- 0 - 20
- 20 - 40
- 40 - 60
- 60 - 100
- Insufficient Data
- Major Highway
- Planned Freeways

- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
- Bethany Home Rd.
- Camelback Rd.
- Indian School Rd.
- Thomas Rd.
- McDowell Rd.
- Van Buren St.
- Buckeye Rd.
- Lower Buckeye Rd.
- Broadway Rd.
- Southern Ave.
- Baseline Rd.

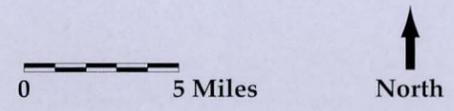


- Perryville Rd.
- Citrus Rd.
- Cotton Lane
- Survival Ave.
- Estrella Pkwy./Reems Rd.
- Bullard Ave.
- Litchfield Rd.
- Dysart Rd.
- El Mirage Rd.
- 115th Ave.
- 107th Ave.
- 99th Ave.
- 91st Ave.
- 83rd Ave.
- 75th Ave.
- 67th Ave.
- 59th Ave.
- 51st Ave.
- 43rd Ave.
- 35th Ave.
- 27th Ave.
- 19th Ave.
- 7th Ave.
- Central Ave.
- 7th St.
- 16th St.
- 24th St.
- 32nd St.
- 40th St.
- 48th St.
- 56th St.
- 64th St.
- Mill Ave.
- Scottsdale Rd.
- McClintock Dr.

- Price Rd.
- Dobson Rd.
- Alma School Rd.
- Arizona Ave.
- McQueen Rd./Mesa Dr.
- Cooper Rd./Stapley Dr.
- Gilbert Rd.
- Lindsay Rd.
- Val Vista Dr.
- Greenfield Rd.
- Higley Rd.
- Recker Rd.
- Power Rd.
- Sossaman Rd.
- Hawes Rd.
- Ellsworth Rd.
- Crismon Rd.
- Signal Butte Rd.
- Meridian Rd.

- Desert Hills Dr.
- Joy Ranch Rd.
- Cloud Rd.
- Carefree Hwy.
- Dove Valley Rd.
- Lone Mountain Rd.
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- McKellips Rd.
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- University Rd.
- Apache Trail
- Broadway Rd.
- Southern Ave.
- Baseline Rd.
- Guadalupe Rd.
- Elliot Rd.
- Warner Rd.
- Ray Rd.
- Chandler Blvd.
- Pecos Rd.
- Germann Rd.
- Queen Creek Rd.
- Ocotillo Rd.
- Chandler Heights Rd.
- Riggs Rd.

- Rittenhouse Rd.

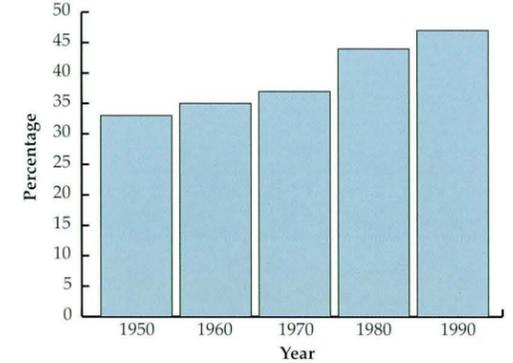


**P**ercent Employed

The majority of the region falls into the category with 40-60 percent of the population employed. The map shows a relatively evenly dispersed pattern of 40-60 percent of the population employed throughout the region. As you move to the periphery of the area, the percent of population employed declines. This lower percentage of the population employed is associated with a higher number of persons per household, retirement population and affluence.

As noted in the chart below, the percentage of the population employed has been increasing over time from 33 percent in 1950 to 47 percent in 1990. This increase can be attributed to more women entering the workplace and a decline in average household size in the region overall.

**Percent of Total Population Employed**



**Data Source:** U.S. Bureau of the Census, 1995 Special Census; U.S. Bureau of the Census, 1950, 1960, 1970, 1980, and 1990 Census of Population

## Occupational Characteristics

Occupational characteristics of the region are grouped into four categories and are listed as a percentage of the total population employed by place of residence. The source of the data is the 1990 Census.

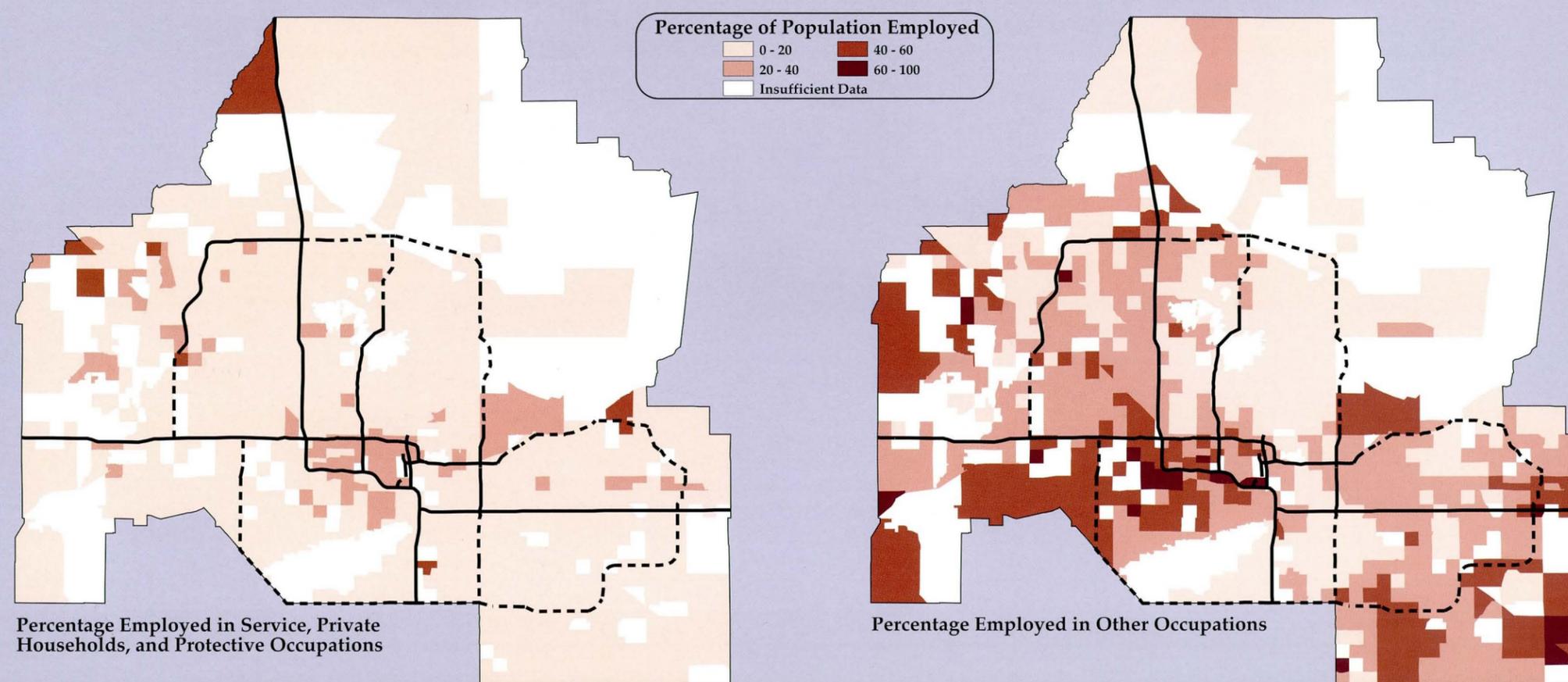
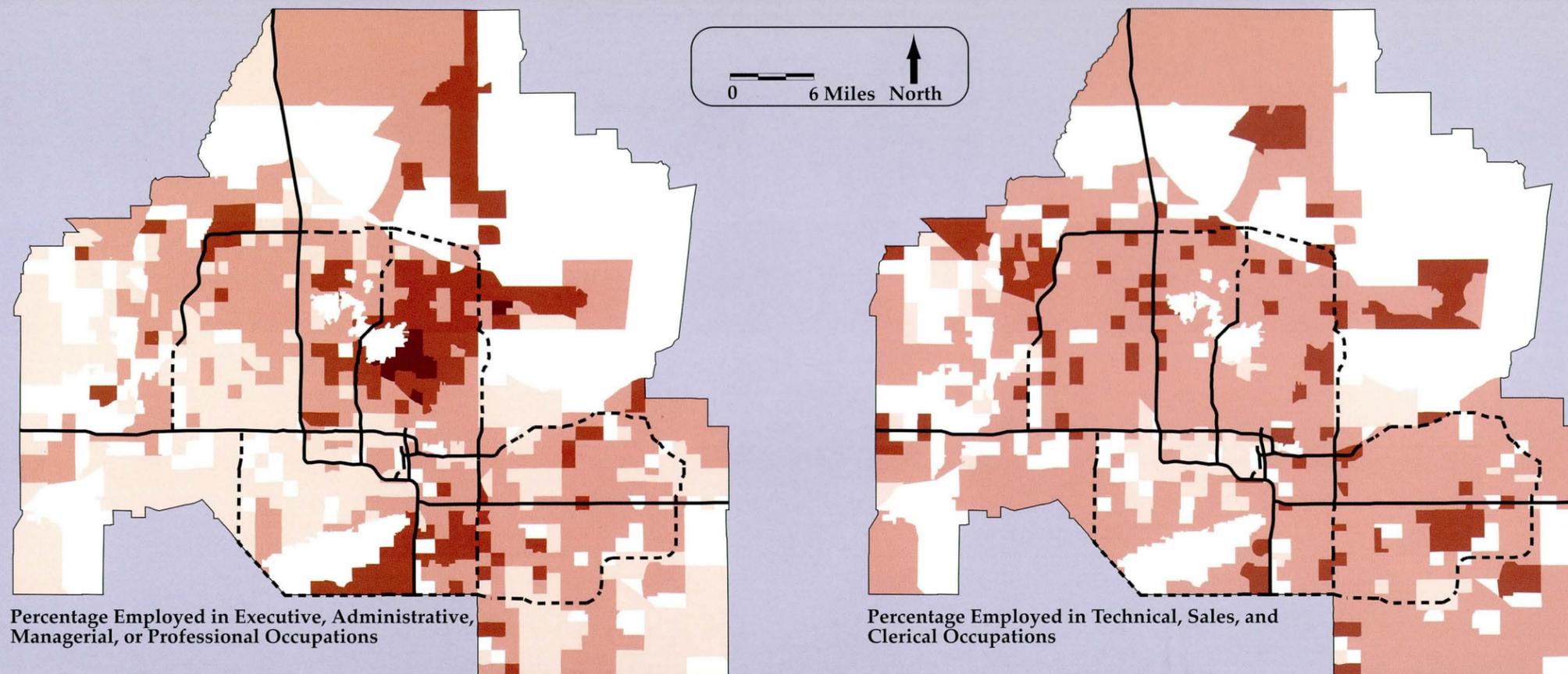
A high percentage of residents with executive, administrative, managerial, and professional occupations live in the more affluent areas of the region than any other occupational type. These areas include but are not limited to Paradise Valley, Scottsdale, southern Tempe, northern Glendale, Peoria, Carefree, Cave Creek and affluent neighborhoods in Phoenix.

Technical, sales and clerical occupations represent the largest employment sector in the region in 1990, consisting of nearly 350,000 persons. This employment type has shown more growth in the region than any other since 1960. This group has the greatest amount of residential dispersion of all occupational types, being distributed fairly evenly throughout the region.

Percentages of persons employed in service, private households and protective occupations are low throughout the region. This occupational type includes employment in trades such as police or security industries, tourism-related industries (such as food service and hotel service employees), private household workers, beauticians and barbers, and personal trainers. The residences of many of these employees are clustered in the core area of the region.

The percentage of persons employed in other occupations represents a broad range of employment types including skilled equipment operators, manufacturing and agriculture.

Data Source: U.S. Bureau of the Census, 1990 Census of Population



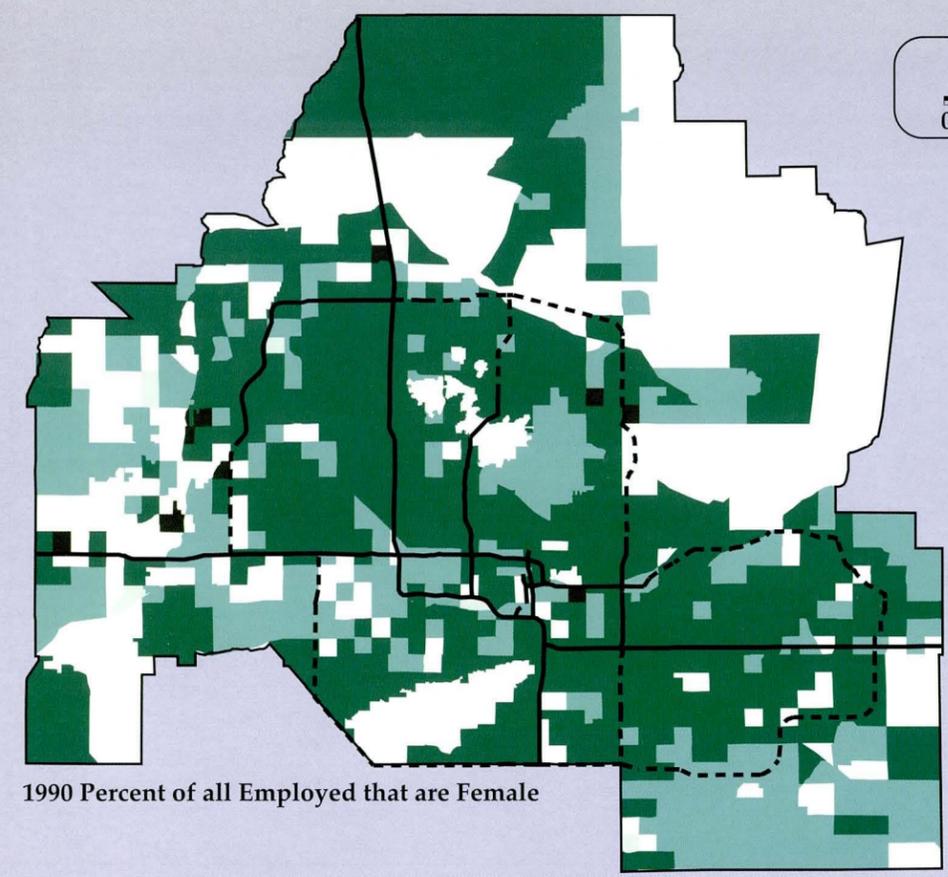
# S

## hare of Employment and Population Not Employed

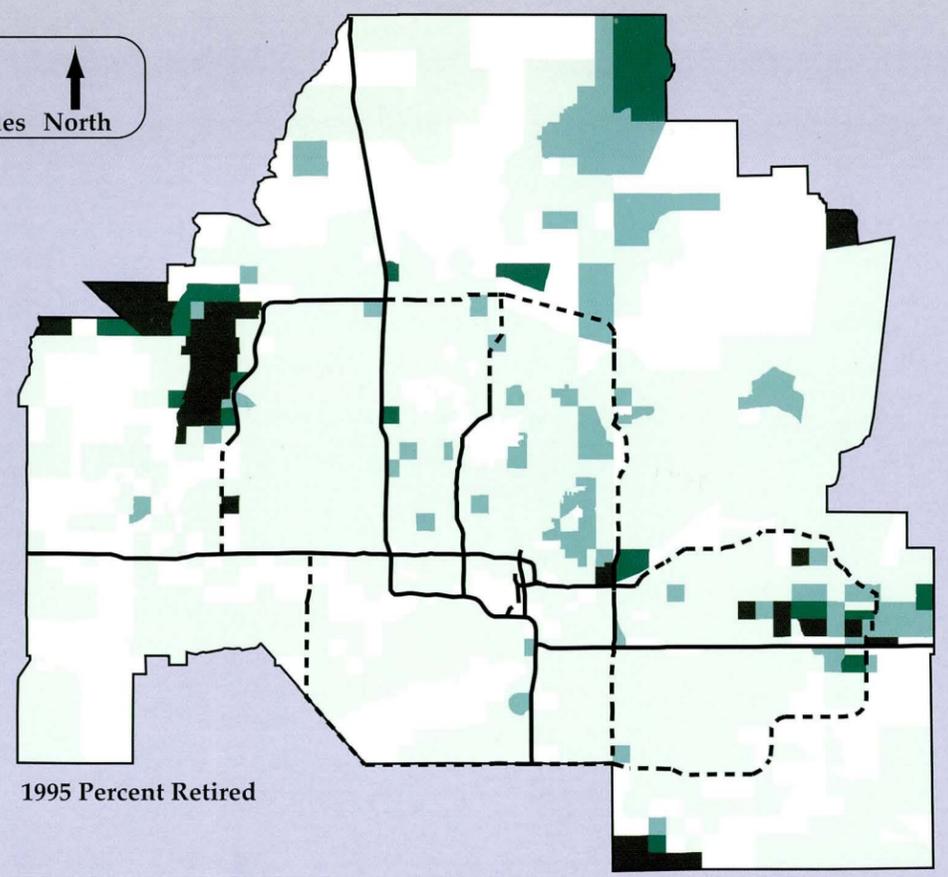
Over the past forty years females have been increasingly entering the work force. As seen in the chart below, the number of females as a percentage of the total employed population in Maricopa County has risen from approximately 27 percent in 1950 to nearly 45 percent in 1990. Throughout the majority of the region the female's share of employment falls within the 40-60 percent range.

Student rates of 0-40 percent are dispersed evenly throughout the region. The area with the highest student density is found adjacent to the Arizona State University Campus and a small area in the northwest portion of the region.

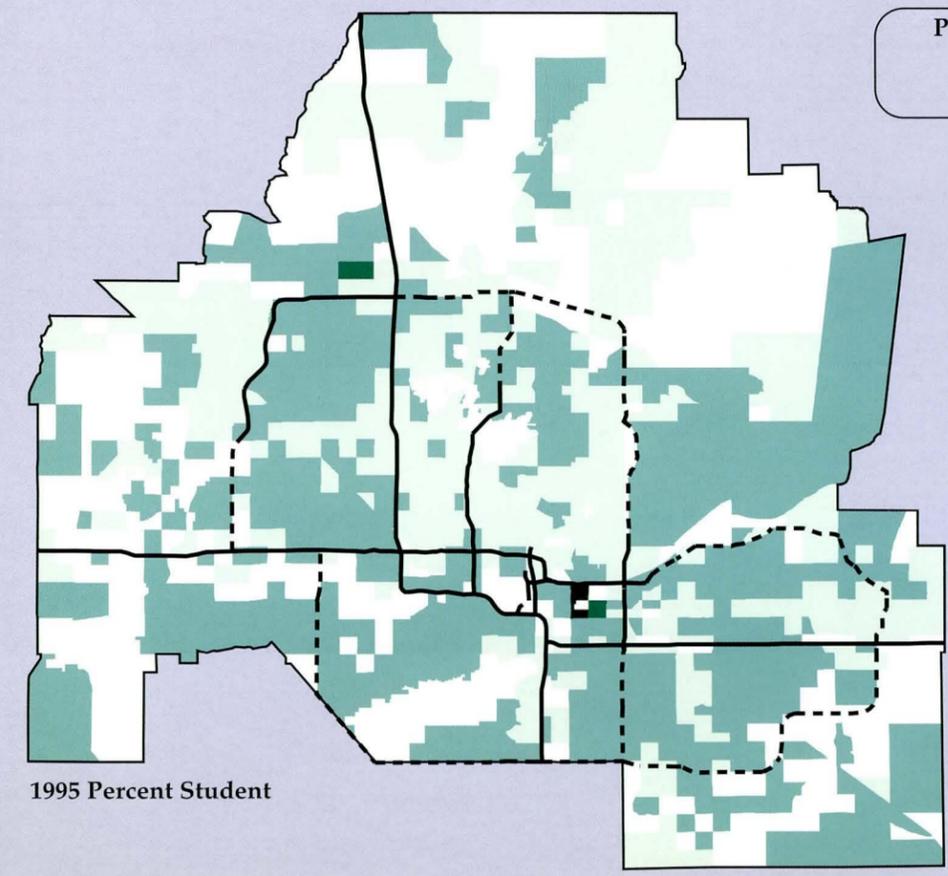
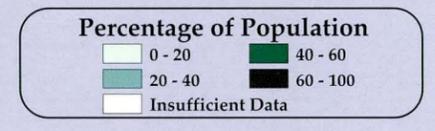
The region is a popular site for retired persons with its mild winter climate and its outdoor life-style. The highest percentages of retired persons (40-100 percent) are concentrated in Sun City, Sun City West, Sun Lakes, Rio Verde, East Mesa, and portions of the unincorporated area of the County.



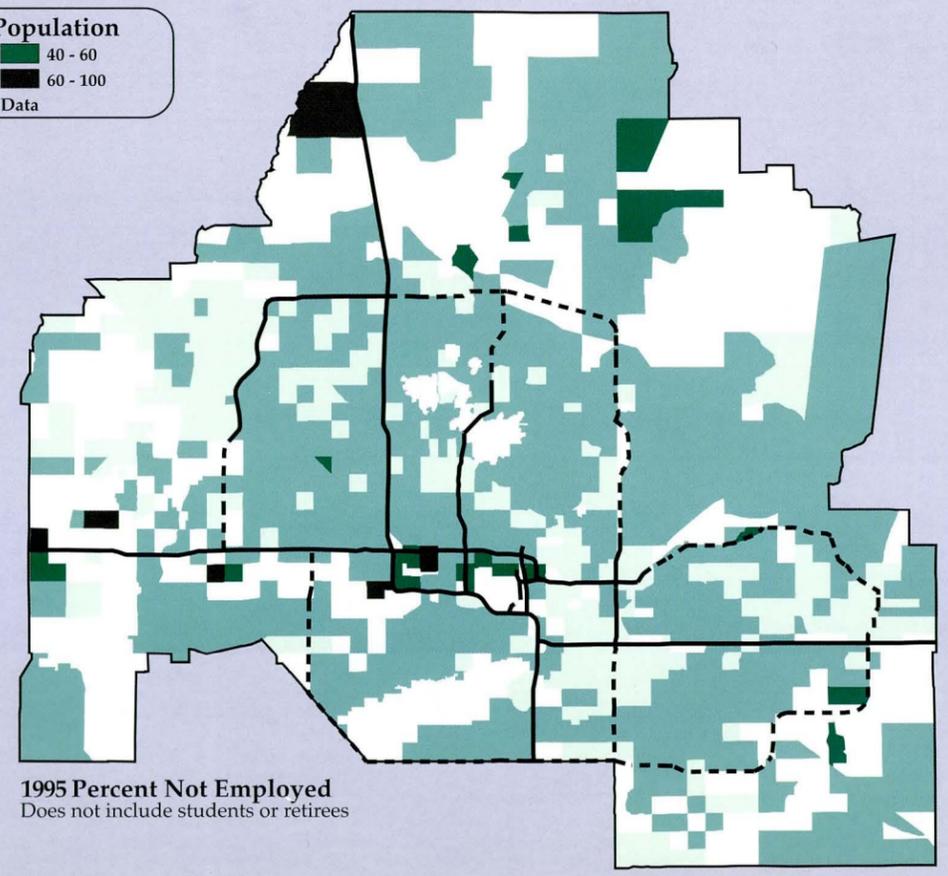
1990 Percent of all Employed that are Female



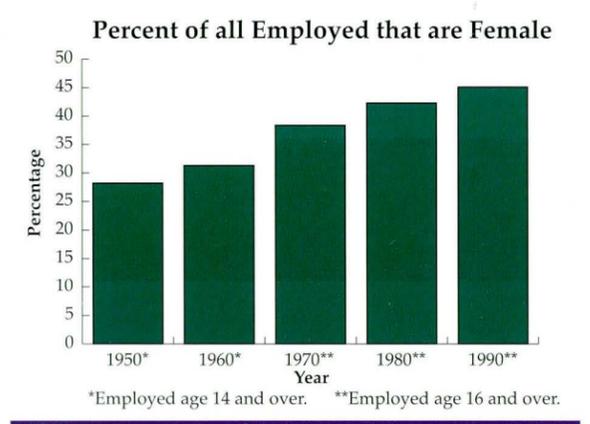
1995 Percent Retired



1995 Percent Student



1995 Percent Not Employed  
Does not include students or retirees



\*Employed age 14 and over. \*\*Employed age 16 and over.

Data Sources: U.S. Bureau of the Census, 1950, 1960, 1970, 1980, and 1990 Census of Population; U.S. Bureau of the Census, 1995 Special Census

## E mployment Density

Between 1990 and 1997, Maricopa County experienced the largest increase in population of any county in the United States. People have been attracted to the region in part, by increasing employment opportunities. Between 1990 and 1997, employment in Maricopa County increased by 27 percent to 1.4 million jobs.

The region is characterized by multiple employment cores as well as a dispersed pattern of employment. The major employment core corresponds to the Phoenix Central Business District, running from Camelback on the north to Harrison on the south between 7th Street and 7th Avenue. Other major employment cores with 500 -1600 jobs per square mile are found in the city centers of Scottsdale, Tempe, Mesa, and Glendale.

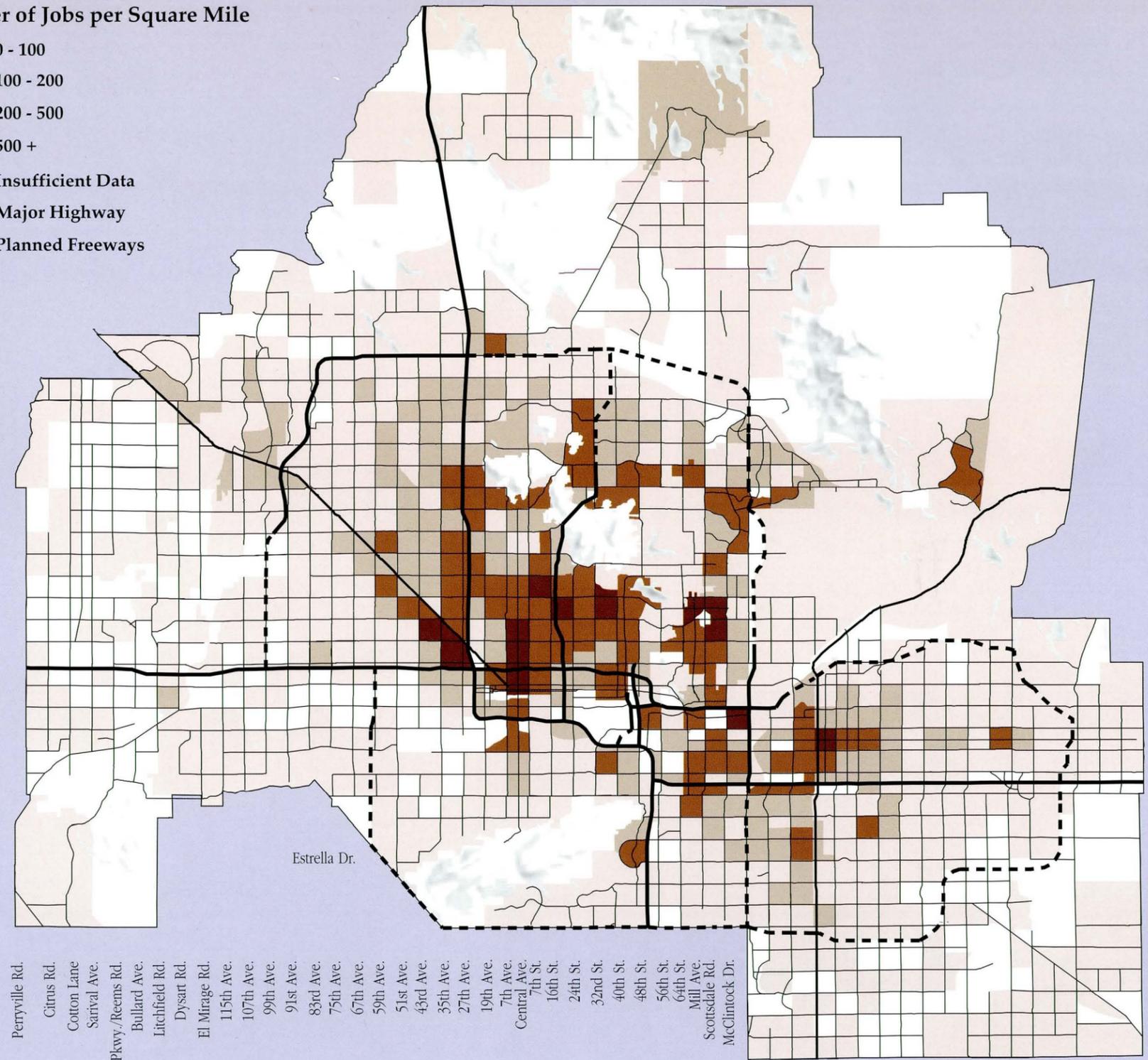
The major employment cores are surrounded by areas with densities of 200-500 jobs per square mile. These areas tend to follow highway corridors and the location of infrastructure, particularly in the central portions of the region.

Many areas within the region have low employment densities with less than 100 jobs per square mile. These locations are generally found on the periphery of the region, but may also be found within the region where residential development predominates.

Number of Jobs per Square Mile

- 0 - 100
- 100 - 200
- 200 - 500
- 500 +
- Insufficient Data
- Major Highway
- Planned Freeways

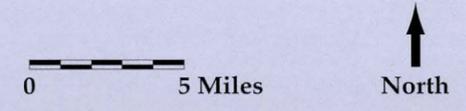
- Beardsley Rd.
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- Pecos Rd.
- Germann Rd.
- Queen Creek Rd.
- Ocotillo Rd.
- Chandler Heights Rd.
- Riggs Rd.



Data Source: Maricopa Association of Governments, 1995 Employer Database, 1997

# E

## mployment Type

Jobs by employment type are distributed evenly among retail, office and industrial categories at 24, 25 and 23 percent respectively. Public employment, which includes teachers as well as employees of federal state and local governments accounts for 14 percent of the employment. Employment not associated with any of the previous four categories is referred to as "other" employment and accounts for 14 percent of employment.

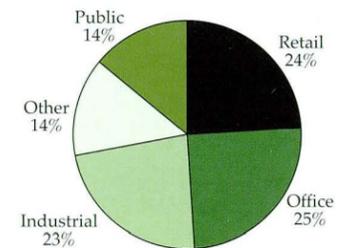
Retail jobs are concentrated in downtown Phoenix, Glendale, Scottsdale, Tempe, and Mesa. The largest contiguous area of retail employment density is found along the Central Avenue, and Camelback Road corridors in Phoenix, with average densities in the 121-300 jobs per square mile range.

Office jobs are heavily concentrated in the downtown area of Phoenix averaging 551-1140 jobs per square mile. Moderate densities (201-550 jobs per square mile) continue northward from downtown along the Central Avenue and Camelback Road corridors, and are also found in high concentrations in Scottsdale and Tempe.

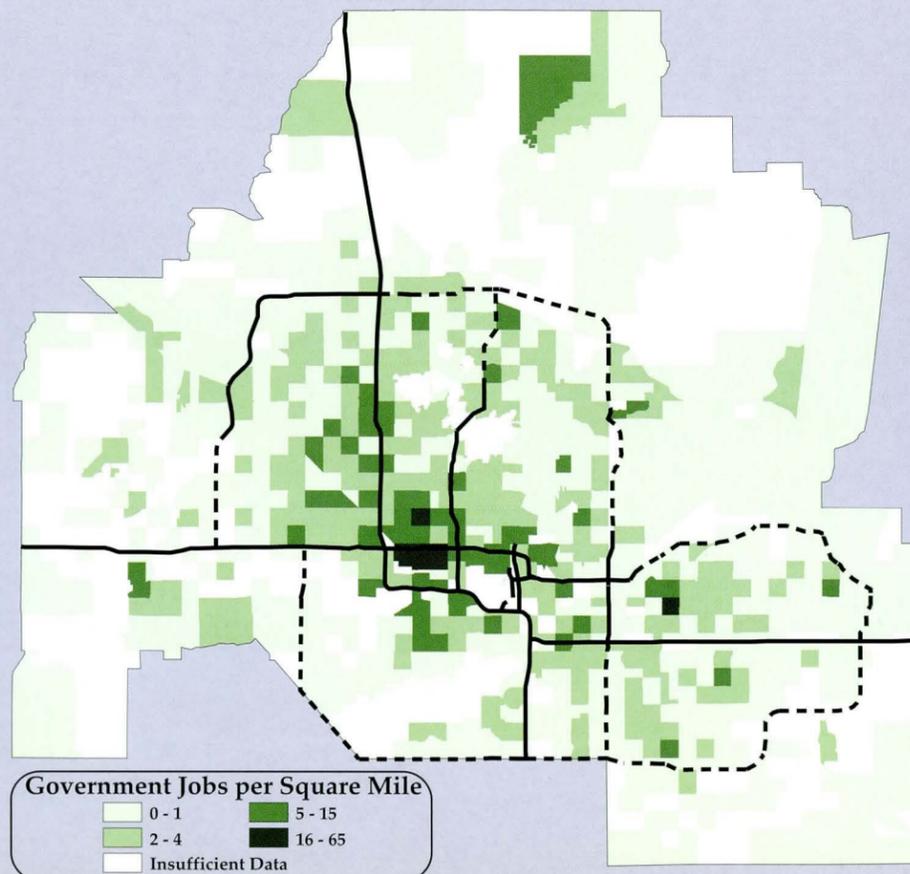
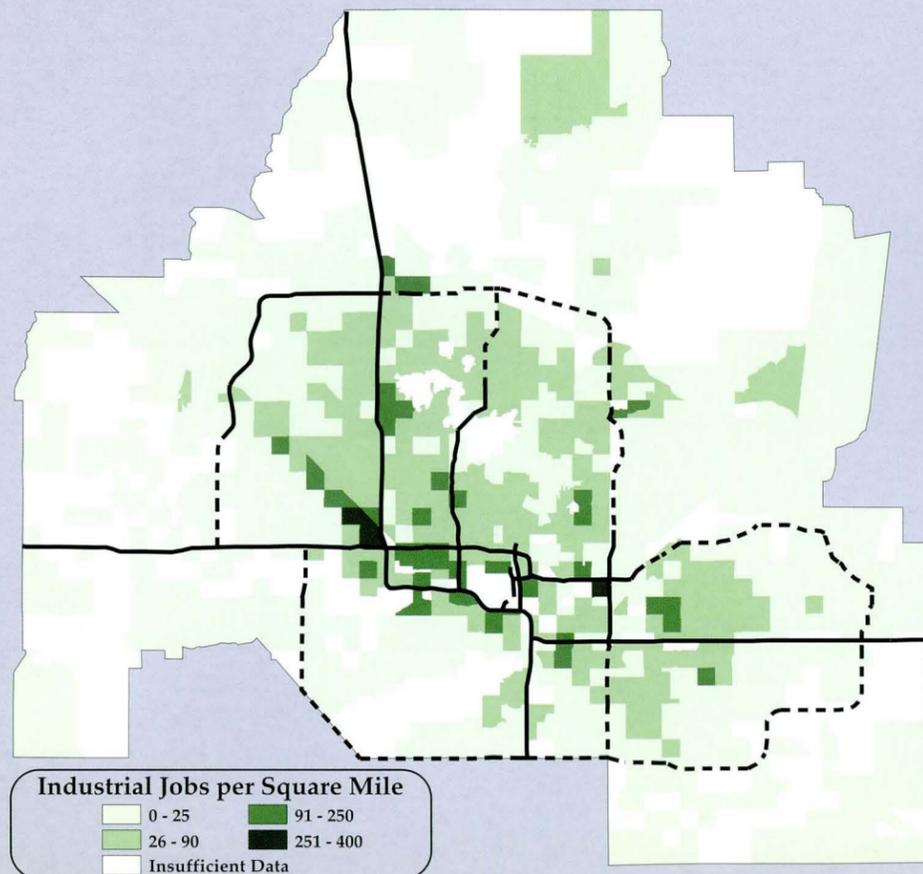
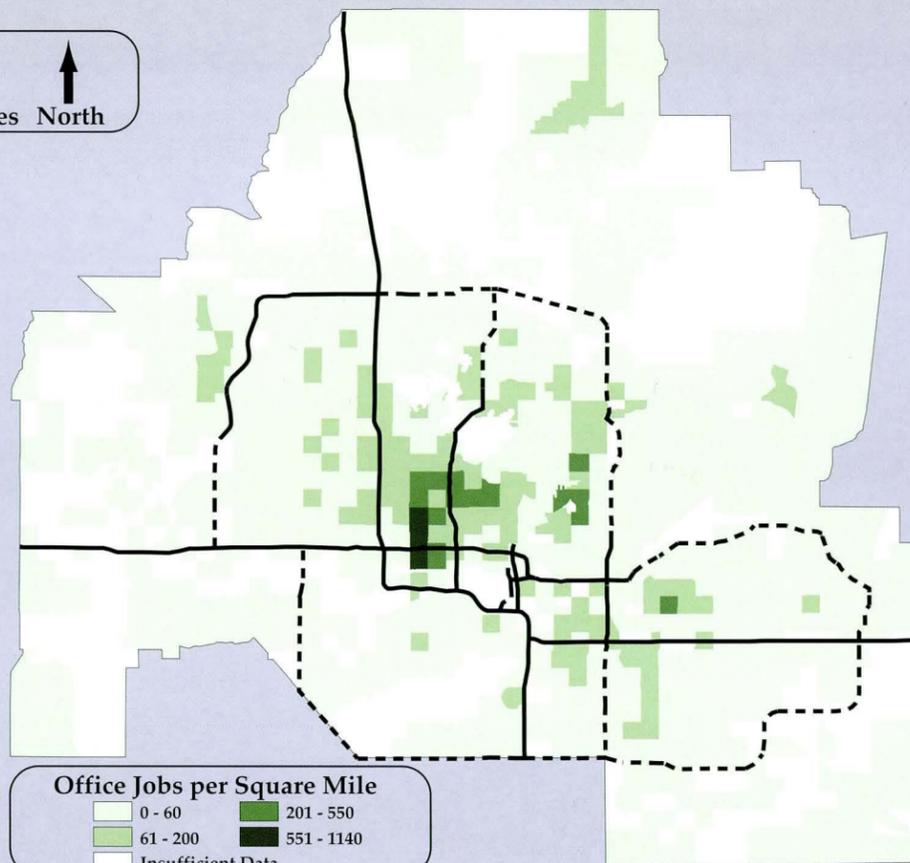
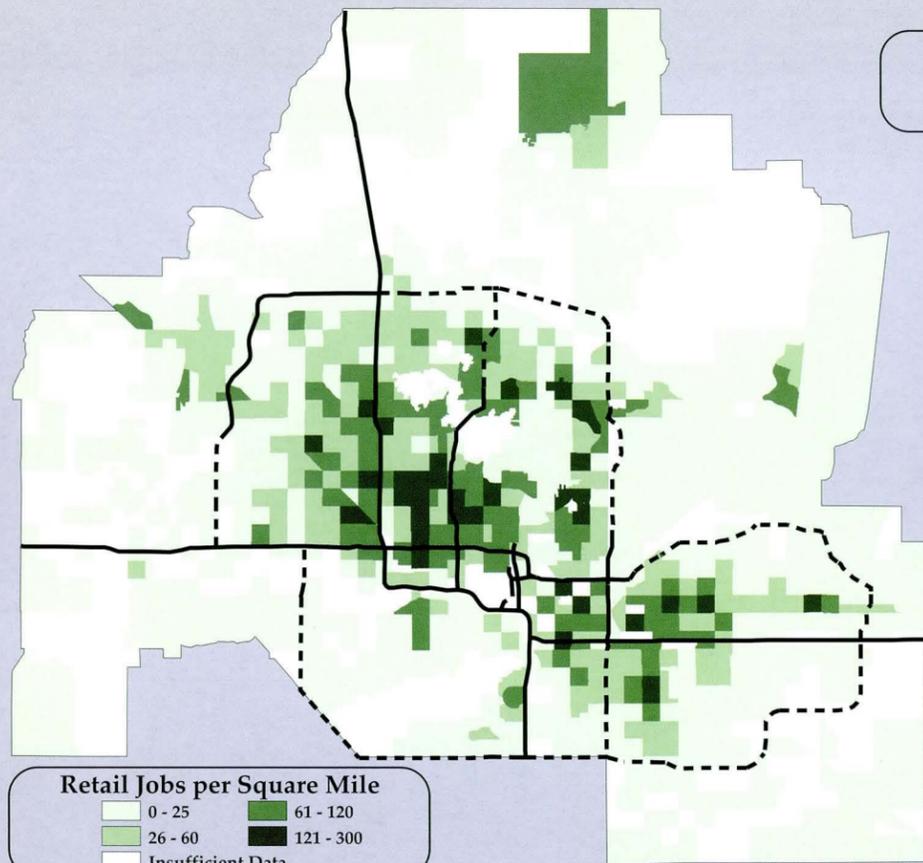
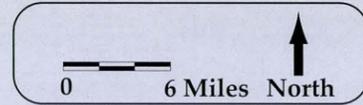
A majority of industrial jobs are located in the areas immediately west, south and southeast of downtown Phoenix, extending into Tempe and the vicinity of Sky Harbor Airport. Industrial employment is also located along Grand Avenue and around the Scottsdale Airpark. Some of the emerging industrial areas are located primarily adjacent to railroads, highways, and airports.

Public jobs are concentrated in city centers. This category includes teachers as well as people traditionally recognized as government employees. Central Phoenix is the location of the highest concentration of public jobs. This area is host to the City of Phoenix, Maricopa County, State of Arizona and the federal government.

Percent Employed by Type



Data Source: Maricopa Association of Governments, 1995 Employer Database, 1997



# I NTRODUCTION

This section discusses government activities. It shows how people are represented. Services provided by government and taxes paid are also shown by community.

The first map identifies the municipal boundaries, within Maricopa County, of 24 cities and towns. The boundaries of school districts, and legislative districts are depicted on the second and third maps, while tax rates for school districts as well as sales taxes are presented on the fourth map. The last map in the section addresses land ownership.

The general-purpose local government for over ninety percent of the residents in the county is one of the twenty-four cities and towns. The county government serves as the general-purpose local government for about 173,000 residents in unincorporated areas other than Indian communities. Indian communities provide local government functions for their residents.

County government serves all residents of the county with the following functions: recordation, property assessment, courts, and the sheriff's office. There are also several independent units of government with a county-wide service area, including the flood control district and the stadium district.

There are twenty-one cities and towns in the urban area, and another three towns (Buckeye, Gila Bend, and Wickenburg) in the remainder of Maricopa County. The communities are young compared to those in most other parts of the nation - Phoenix is the oldest, incorporated in 1881.

School districts are special purpose units of government, created for the purpose of both financing and operating schools. They are autonomous from local government agencies.

Both municipalities and school districts levy taxes. Every school district is supported by property taxes. All property owners in the county pay a number of county-wide property taxes. Municipal property taxes are at the discretion of each locality, and twelve of the places in the urban area levy such taxes. All of the localities levy discretionary sales tax in addition to the state and county sales tax.

The two houses of the state legislature are the House of Representatives and the State Senate. District boundaries are the same for the two houses. There is one senator and two representatives for each of the thirty legislative districts in the state.



State Capital area with Old State Capital Building under the copper dome and Executive Tower in the background.

# Municipal Boundaries

Twenty-four municipalities are within the area depicted on the map. The places range in size from the City of Phoenix, with almost 470 square miles of land, to the Town of Guadalupe, with 3/4 of a square mile. The oldest cities in the Valley of the Sun are Phoenix, Mesa, and Tempe. Five of the newer communities are less than fifteen years old.

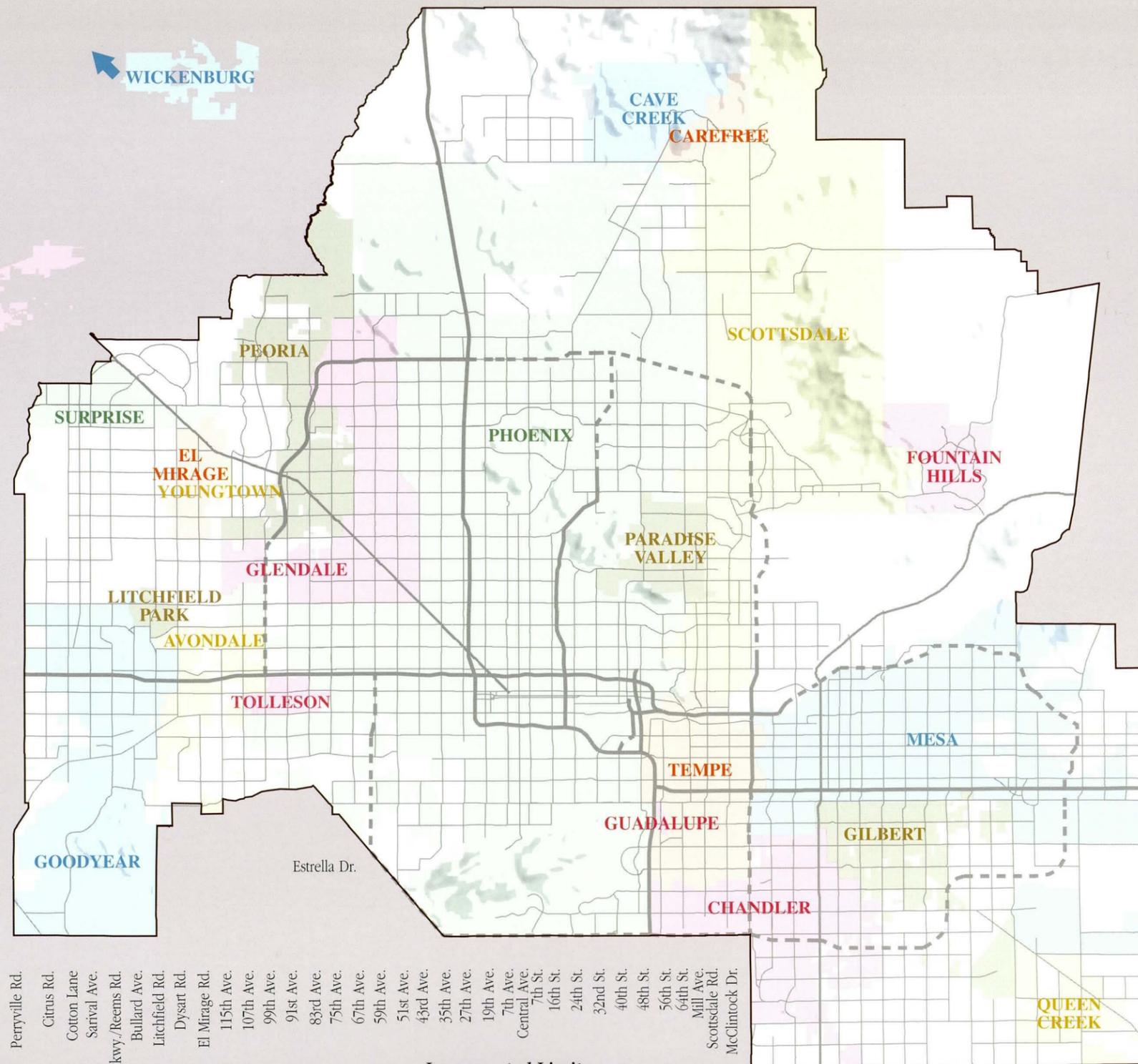
Most of the localities have grown through a continual series of annexations. In the past five years, fourteen municipalities have annexed 185 square miles, equivalent to the entire extent of Scottsdale. Four of the municipalities, Goodyear, Surprise, Peoria and Buckeye have annexed large, mainly undeveloped, land areas beyond the urban boundary since 1990.

Arizona communities may cross county borders. Queen Creek recently annexed a small area in Pinal County. Apache Junction east of Mesa has a small amount of land in Maricopa County even though it is almost entirely within Pinal County.

In 1995 the populations of urban area communities ranged from over 1.1 million in Phoenix to 1,724 in Gila Bend.

| Municipality    | 1995 Square Miles | 1995 Population | Date of Incorporation |
|-----------------|-------------------|-----------------|-----------------------|
| Avondale        | 26                | 22,771          | 1946                  |
| Buckeye         | 104               | 4,857           | 1929                  |
| Carefree        | 9                 | 2,286           | 1984                  |
| Cave Creek      | 27                | 3,076           | 1986                  |
| Chandler        | 51                | 132,360         | 1920                  |
| El Mirage       | 10                | 5,741           | 1951                  |
| Fountain Hills  | 18                | 14,146          | 1989                  |
| Gila Bend       | 18                | 1,724           | 1962                  |
| Gilbert         | 33                | 59,338          | 1920                  |
| Glendale        | 54                | 182,615         | 1910                  |
| Goodyear        | 114               | 9,250           | 1946                  |
| Guadalupe       | 1                 | 5,369           | 1975                  |
| Litchfield Park | 3                 | 3,739           | 1987                  |
| Mesa            | 122               | 338,117         | 1883                  |
| Paradise Valley | 15                | 12,448          | 1961                  |
| Peoria          | 114               | 74,565          | 1954                  |
| Phoenix         | 470               | 1,149,417       | 1881                  |
| Queen Creek     | 21                | 3,072           | 1989                  |
| Scottsdale      | 184               | 168,176         | 1951                  |
| Surprise        | 62                | 10,737          | 1960                  |
| Tempe           | 40                | 153,821         | 1894                  |
| Tolleson        | 5                 | 4,261           | 1929                  |
| Wickenburg      | 11                | 4,765           | 1909                  |
| Youngtown       | 1                 | 2,694           | 1960                  |

Data Sources: Maricopa County Department of Transportation; U.S. Bureau of the Census, 1995 Special Census; "Local Government Directory, July 1997", League of Arizona Cities and Towns; Maricopa County Planning and Development, 1997

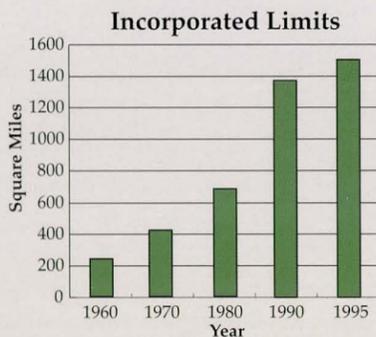


BUCKEYE (not to scale)

- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
- Bethany Home Rd.
- Camelback Rd.
- Indian School Rd.
- Thomas Rd.
- McDowell Rd.
- Van Buren St.
- Buckeye Rd.
- Lower Buckeye Rd.
- Broadway Rd.
- Southern Ave.
- Baseline Rd.

- Perryville Rd.
- Citrus Rd.
- Cotton Lane
- Sarival Ave.
- Estrella Pkwy./Reems Rd.
- Bullard Ave.
- Litchfield Rd.
- Dysart Rd.
- El Mirage Rd.
- 115th Ave.
- 107th Ave.
- 99th Ave.
- 91st Ave.
- 83rd Ave.
- 75th Ave.
- 67th Ave.
- 59th Ave.
- 51st Ave.
- 43rd Ave.
- 35th Ave.
- 27th Ave.
- 19th Ave.
- 7th Ave.
- Central Ave.
- 7th St.
- 16th St.
- 24th St.
- 32nd St.
- 40th St.
- 48th St.
- 56th St.
- 64th St.
- Mill Ave.
- Scottsdale Rd.
- McClintock Dr.

- Price Rd.
- Dobson Rd.
- Alma School Rd.
- Arizona Ave.
- McQueen Rd./Mesa Dr.
- Cooper Rd./Stapley Dr.
- Gilbert Rd.
- Lindsay Rd.
- Val Vista Dr.
- Greenfield Rd.
- Higley Rd.
- Recker Rd.
- Power Rd.
- Sossaman Rd.
- Hawes Rd.
- Ellsworth Rd.
- Crismon Rd.
- Signal Butte Rd.
- Meridian Rd.
- Rittenhouse Rd.



0 5 Miles North

GILA BEND

# School Districts and Colleges

The map displays all public elementary school districts, high school districts, and public college and university sites throughout the region. The region is currently comprised of 11 unified school districts and six high school districts. Within the high school districts are located 21 elementary school districts. In addition to the school districts, there are 20 colleges and universities dispersed throughout the area.

The region's largest unified school district enrollment population is Mesa with 70,200 total students. The Queen Creek Unified School District is the region's smallest with 1,200 students enrolled. The Phoenix Union High School District with 22,284 high school students is the largest in Maricopa County. The largest elementary school district enrollment population is the Washington School District with 25,300 students.

The ratio of students to teachers in the 1994-95 school year in Maricopa County was higher than the national average, with approximately 19 students for every teacher. In that same year, Maricopa County's teachers received an annual average salary of approximately \$31,000 compared with a national average of \$36,454. Maricopa County's expenditure per student was \$5,400 in 1994, lagging the National average expenditure of \$6,200 per student.

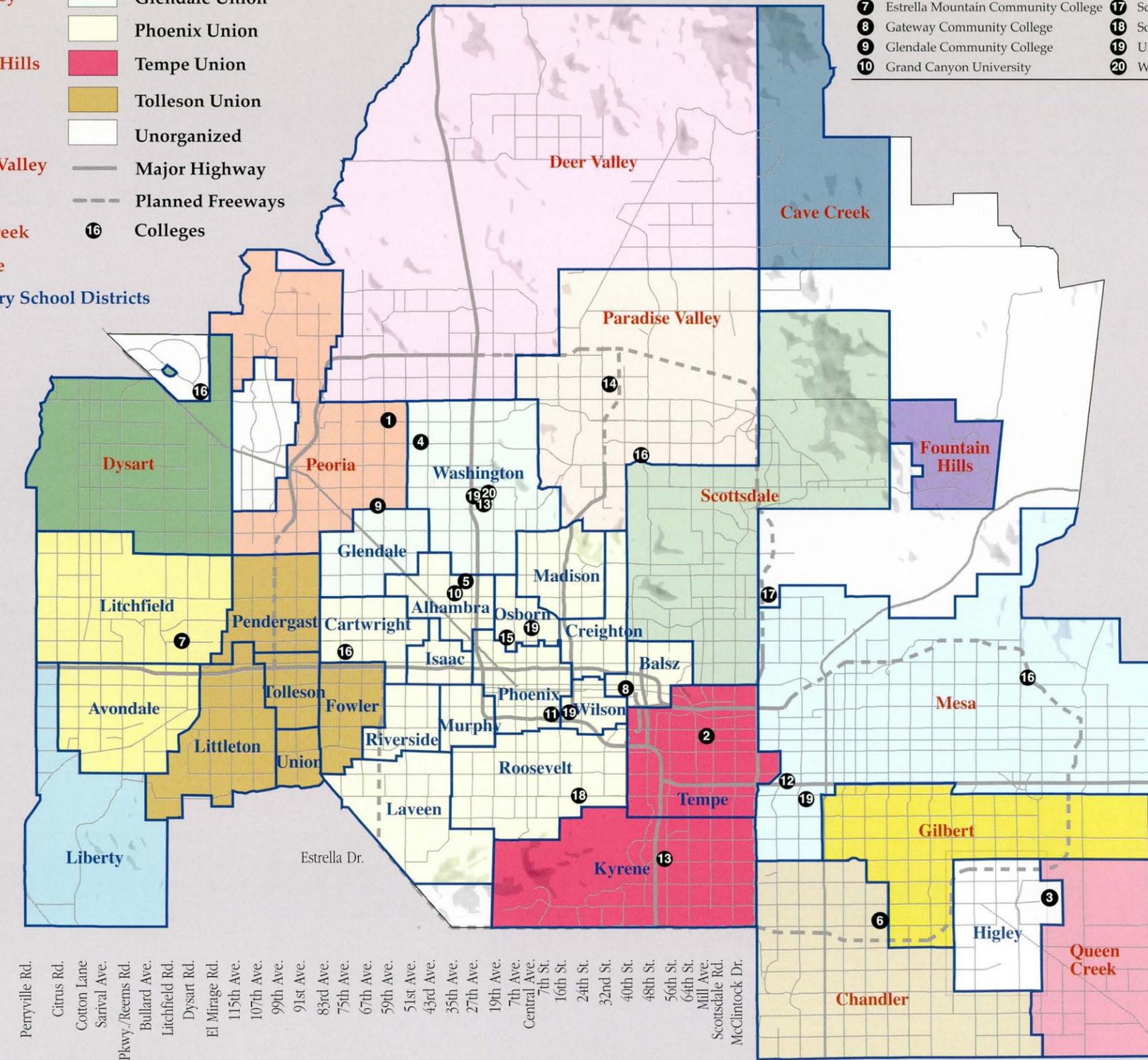
Continuing Education institutions are abundant throughout the region, with 27 sites and campuses. A majority of these are accredited institutions that offer educational programs at variable levels ranging from trade school courses to advanced degree programs. The Maricopa Community College District is one of the nation's largest educational systems with more than 90,000 persons attending over twenty colleges and universities throughout the area. Arizona State University's main campus is located in the City of Tempe and is ranked as the fifth largest secondary education complex in the nation, with approximately 46,000 enrolled students, including its satellite campuses.

**School Districts**

|                                 |                              |
|---------------------------------|------------------------------|
| <b>Unified School Districts</b> | <b>High School Districts</b> |
| Cave Creek                      | Agua Fria Union              |
| Chandler                        | Buckeye Union                |
| Deer Valley                     | Glendale Union               |
| Dysart                          | Phoenix Union                |
| Fountain Hills                  | Tempe Union                  |
| Gilbert                         | Tolleson Union               |
| Mesa                            | Unorganized                  |
| Paradise Valley                 | Major Highway                |
| Peoria                          | Planned Freeways             |
| Queen Creek                     | 16 Colleges                  |
| Scottsdale                      |                              |
| Elementary School Districts     |                              |

- Colleges**
- |   |  |
|---|--|
| 1 American Graduate School of Int'l Mgt | 11 Maricopa Skill Center               |
| 2 Arizona State University              | 12 Mesa Community College              |
| 3 Arizona State University East         | 13 Ottawa University (2 locations)     |
| 4 Arizona State University West         | 14 Paradise Valley Community College   |
| 5 Arizona State Montebella Campus       | 15 Phoenix College                     |
| 6 Chandler Gilbert Community College    | 16 Rio Salado CC (4 locations)         |
| 7 Estrella Mountain Community College   | 17 Scottsdale Community College        |
| 8 Gateway Community College             | 18 South Mountain Community College    |
| 9 Glendale Community College            | 19 University of Phoenix (4 locations) |
| 10 Grand Canyon University              | 20 Western National University         |

- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
- Bethany Home Rd.
- Camelback Rd.
- Indian School Rd.
- Thomas Rd.
- McDowell Rd.
- Van Buren St.
- Buckeye Rd.
- Lower Buckeye Rd.
- Broadway Rd.
- Southern Ave.
- Baseline Rd.



- Perryville Rd.
- Cirrus Rd.
- Cotton Lane
- Sarival Ave.
- Estrella Pkwy./Reems Rd.
- Bullard Ave.
- Litchfield Rd.
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- Power Rd.
- Sossaman Rd.
- Hawes Rd.
- Ellsworth Rd.
- Crismon Rd.
- Signal Butte Rd.
- Meridian Rd.

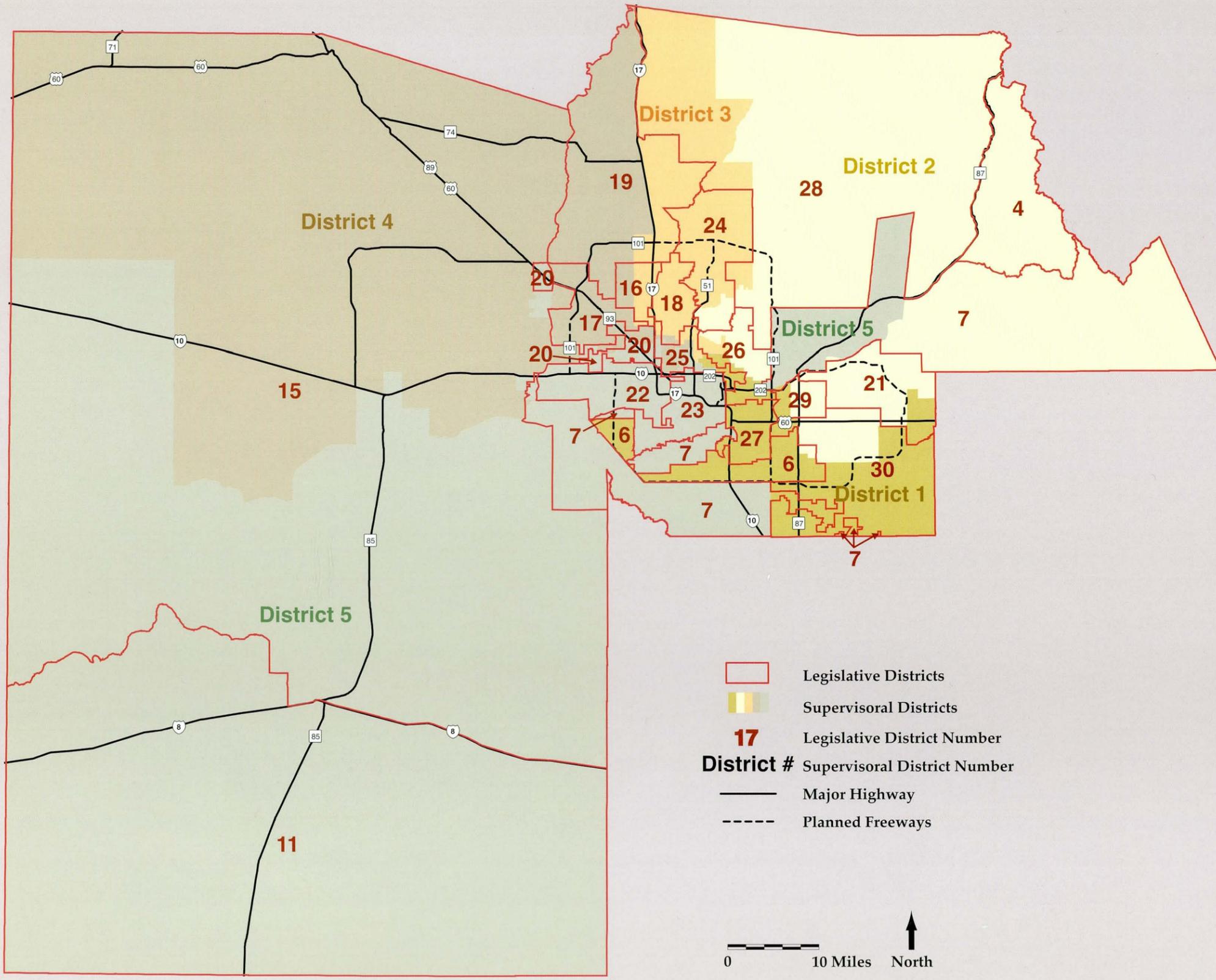
- Desert Hills Dr.
- Joy Ranch Rd.
- Cloud Rd.
- Carefree Hwy.
- Dove Valley Rd.
- Lone Mountain Rd.
- Dixileta Dr.
- Dynamite Blvd.
- Jomax Rd.
- Happy Valley Rd.
- Pinnacle Peak Rd.
- Deer Valley Rd.
- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Thunderbird Rd.
- Cactus Rd.
- Shea Blvd.
- Via Linda
- Via De Ventura
- Indian Bend Rd.
- McDonald Dr.
- Chaparral Rd.
- Indian School Rd.
- Thomas Rd.
- McDowell Rd.
- McKellips Rd.
- Brown Rd.
- University Rd.
- Apache Trail
- Broadway Rd.
- Southern Ave.
- Baseline Rd.
- Guadalupe Rd.
- Elliot Rd.
- Warner Rd.
- Ray Rd.
- Chandler Blvd.
- Pecos Rd.
- Germann Rd.
- Queen Creek Rd.
- Ocotillo Rd.
- Chandler Heights Rd.
- Riggs Rd.

0 5 Miles

North

Data Sources: Maricopa County Department of Transportation; Phoenix Union High School District, 1997; The Greater Phoenix Economic Council, 1997

# District Boundaries



Arizona's Legislature consists of 30 legislative districts, each of which elects one member to the Arizona State Senate and two members to the Arizona House of Representatives. Fifteen of the districts are located within Maricopa County.

The legislative district lines are drawn by the Legislature and are designed to create districts that are approximately equivalent in population. The Legislature redraws its district lines every ten years in order to "reapportion" the state's population into districts, after receiving the results of the decennial census taken by the United States Bureau of the Census. The current legislative district lines will remain in place until sometime after the results of the next census are delivered in 2001.

Maricopa County is divided into five supervisorial districts, drawn by the Maricopa County Board of Supervisors, and are designed to be equivalent in population. These district lines are also used as district lines for the members of the Maricopa Community College District Board. State law requires the Board of Supervisors to redraw the supervisorial district lines every four years to reflect the change in population in Maricopa County. The next revision to the county supervisorial district lines will be in 2000.

**Population by Supervisorial District**

| DISTRICT   | 1990    | 1995    |
|------------|---------|---------|
| District 1 | 405,681 | 508,890 |
| District 2 | 443,455 | 562,161 |
| District 3 | 444,348 | 511,175 |
| District 4 | 415,097 | 508,416 |
| District 5 | 413,520 | 461,017 |

**Data Sources:** Arizona Capital Times, Arizona Political Maps; Arizona Legislative Council; League of Arizona Cities and Towns; Arizona Land Resource Information System, 1997

Taxes

Jurisdictions in the region levy taxes to support the cost of infrastructure and services. The following series of maps present elementary school district property taxes, high school district property taxes, city and town property taxes and sales taxes in 1996.

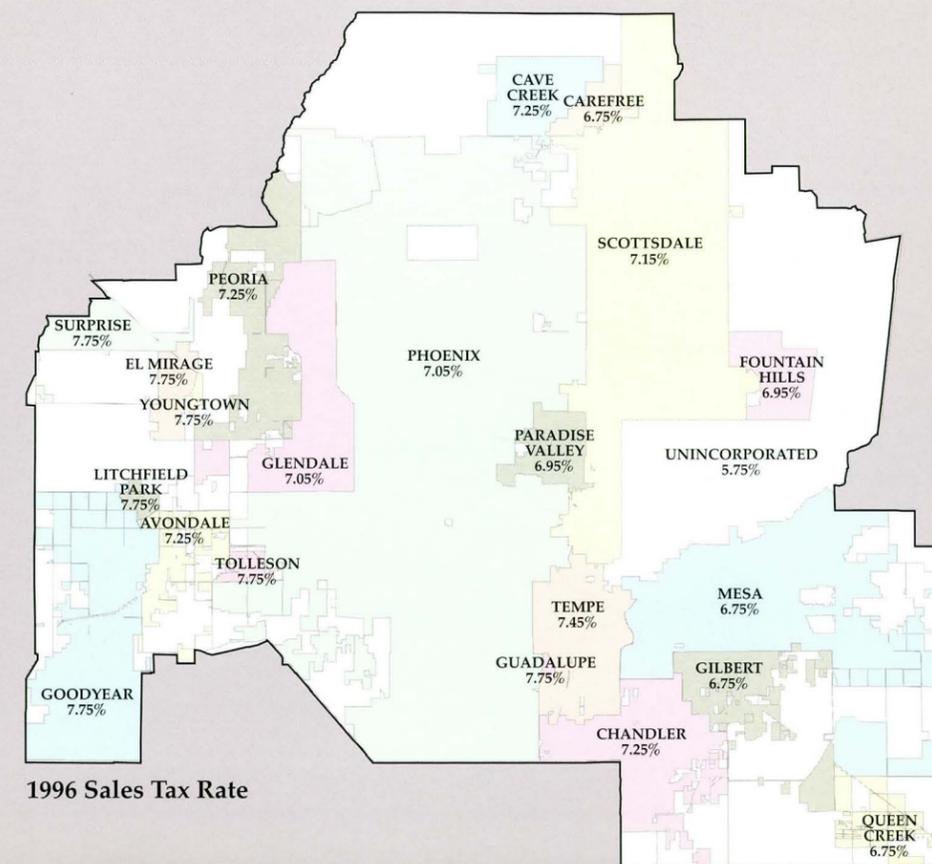
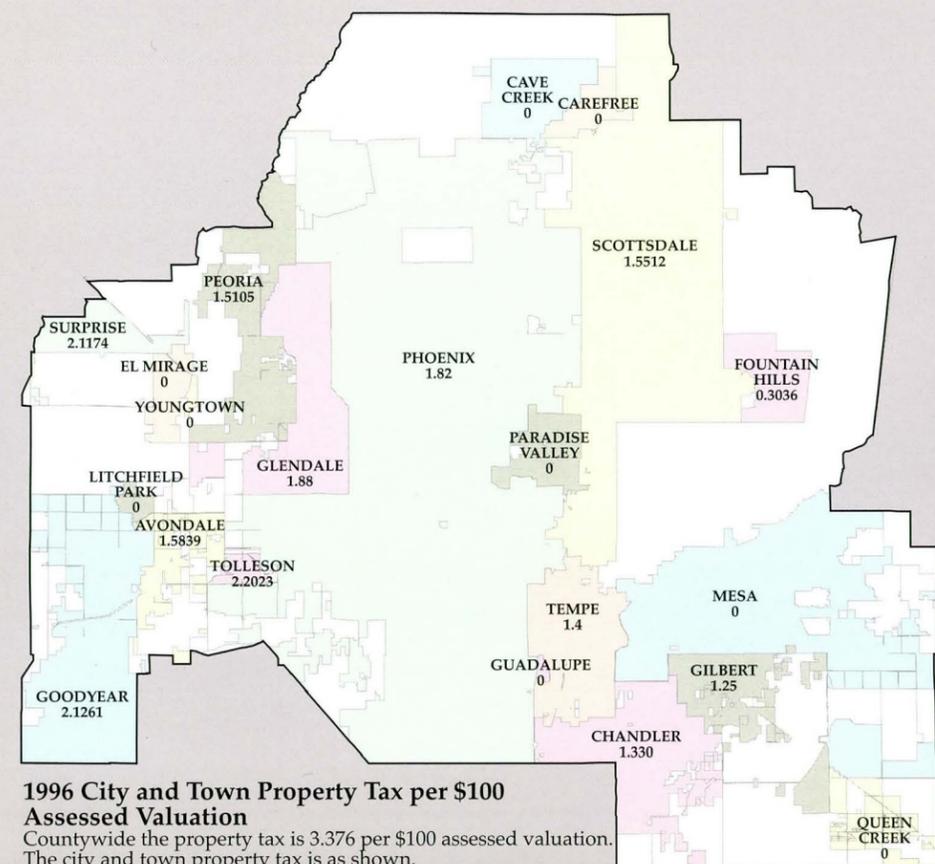
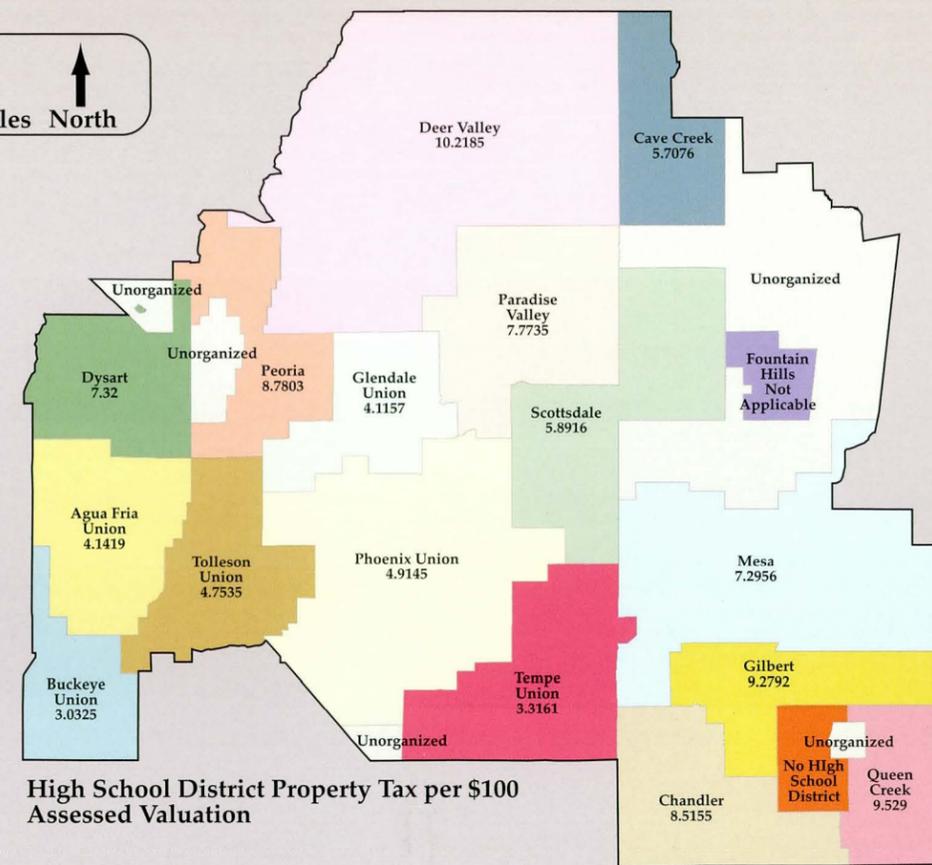
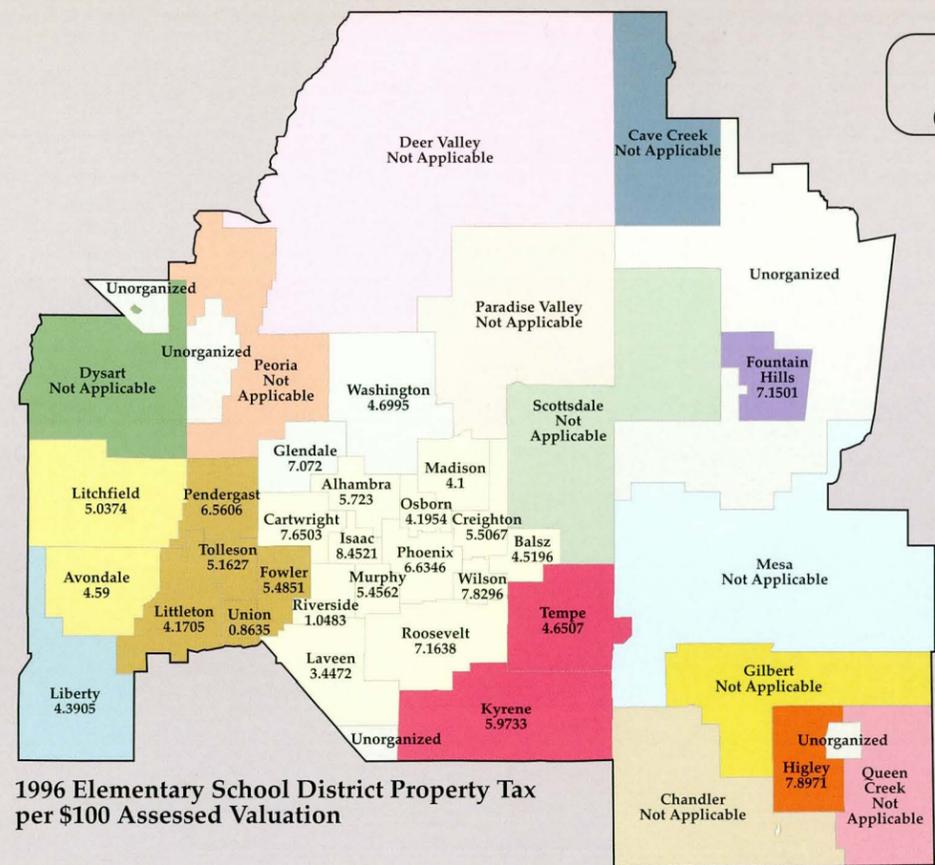
Property taxes are computed per \$100 assessed valuation. The assessed valuation of property varies depending upon the type of land use. Residential property has an assessed valuation of 10 percent of full cash value, while commercial and industrial property is assessed at 25 percent of full cash value.

Elementary school district taxes range from 0.8635 to 8.4521 per \$100 assessed valuation while high school district property taxes range from 3.0325 to 10.2185 per \$100 assessed valuation. It is important to note that those areas on the elementary school district property tax maps that are labelled "Not Applicable", have a unified school district that combines elementary and high schools into a single district. Therefore the total tax rates in those districts are reflected on the high school district property tax map.

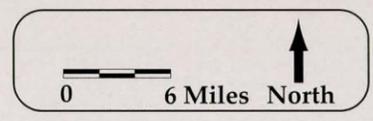
County wide there is a property tax of 3.376 per \$100 assessed valuation, but not all cities and towns charge an additional property tax. For those cities and towns that levy an additional property tax, the rate varies from 0.3036 to 2.2023 per \$100 assessed valuation.

1996 sales taxes range from 6.75 to 7.75 percent in the region. Sales taxes are imposed on all retail and wholesale purchases within municipalities. The sales tax is the total of a 5 percent state rate, a .75 percent county rate, and a city or town sales tax rate. In 1997 the county sales tax was lowered to .5 percent because the .25 percent tax levy for the Bank One Ballpark was eliminated. Each municipality in the region levies sales taxes with the total percentage ranging from one to three percent.

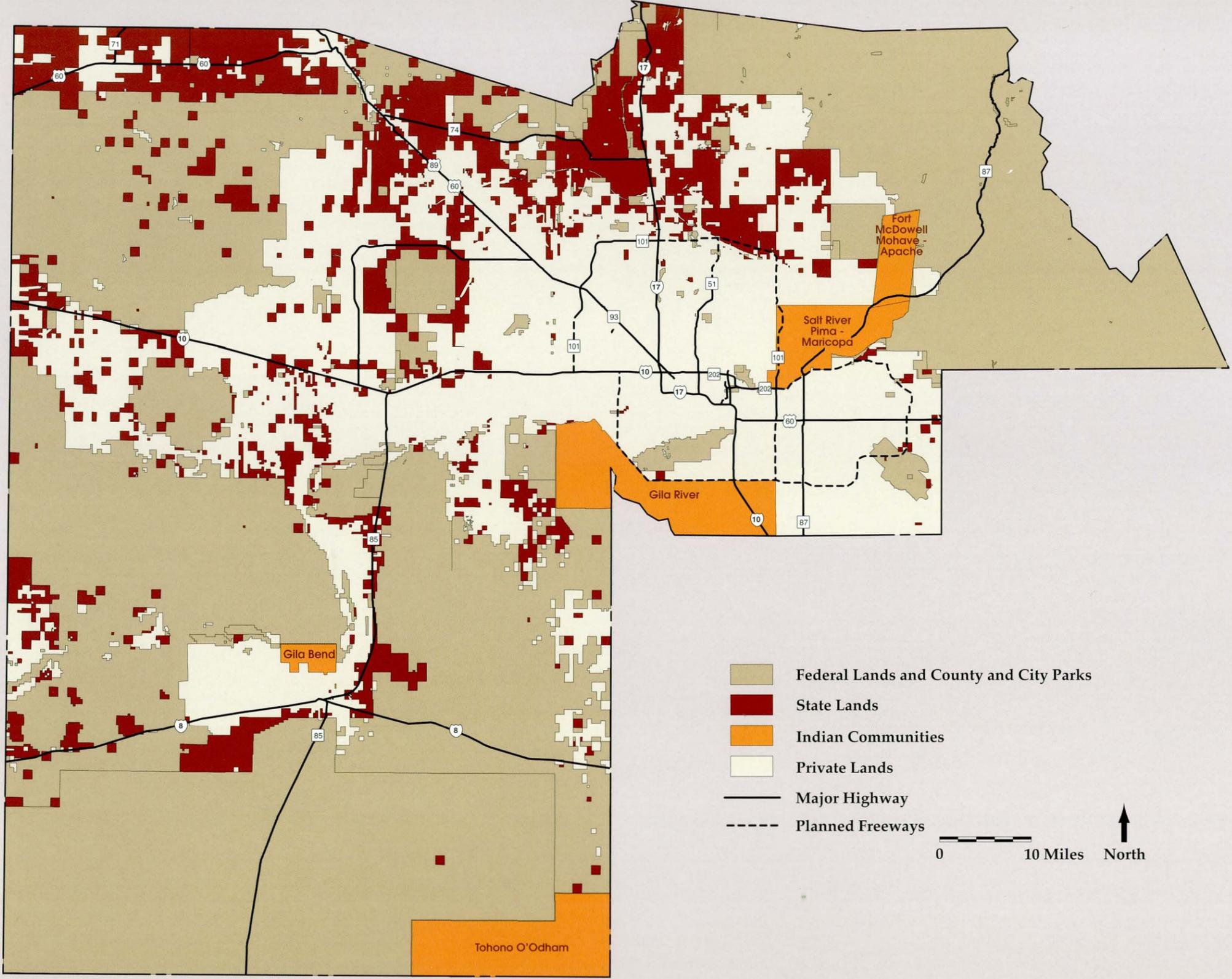
Data Sources: Maricopa County Assessors Office; Arizona Tax Research Association; Arizona League of Cities and Towns, 1996-1997



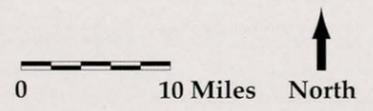
Countywide the property tax is 3.376 per \$100 assessed valuation. The city and town property tax is as shown.



**P**ublic Land Ownership



- Federal Lands and County and City Parks
- State Lands
- Indian Communities
- Private Lands
- Major Highway
- Planned Freeways



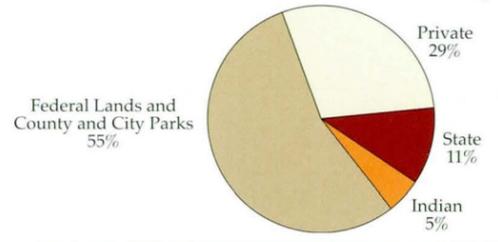
Just under sixty-seven percent of Maricopa County's land is publicly owned. Publicly owned land includes land owned by the federal, state, county and city governments. The largest expanses of public land are: various Bureau of Land Management tracts; the Barry M. Goldwater Gunnery Range of the Department of Defense; and the Tonto National Forest.

The Bureau of Land Management (BLM) controls a small share of the urban area and vast expanses of western Maricopa County. The land is managed under the "multiple use" doctrine, and it is primarily leased for cattle grazing. BLM lands are not sold outright but they can come into private ownership via a land trade mechanism, which has been used several times in Maricopa County.

The Arizona State Trust lands are lands granted by the Federal Government when it became a territory and later as it prepared for statehood. Public schools and other state institutions are the beneficiaries of the trust. Fair market value must be obtained from the lease, sale, or exchange of State Trust land, which is determined by an appraisal. The Urban Lands Act was enacted in 1981 to increase the value of Trust lands in urban areas through quality planning and local zoning. All of the State Trust lands in the urban area are defined as urban lands. Many of the large master-planned communities in the region are on former State Trust lands.

The Salt River Pima-Maricopa Indian Community occupies over eighty square miles and the Fort McDowell Mohave-Apache Indian Community almost forty square miles on the eastern side of the urban area. The portion of the Gila River Indian Community within Maricopa County spans 150 square miles and a portion of the Tohono O'odham Indian Community is almost as extensive occupying 148 square miles in the southeastern corner of the county. The smallest Indian community, 16 square miles, is the Gila Bend Indian Community.

Percent of Land Ownership



Data Source: Arizona Land Resource Information System, 1997

## I NTRODUCTION

Local jurisdictions together with the private sector provide a wide-range of urban services.

In terms of transportation the region has a strategically located freeway system which is complemented by an extensive street system. A majority of the freeways offer average speeds of 50 miles per hour or greater, while most surface streets maintain average speeds of 35 miles per hour.

The nature of the transportation system is explored through maps that examine traffic characteristics such as travel time from downtown, intersection accidents, congested intersections, and average daily traffic. Additionally, the regions' transit system covers more than 416 square miles and supported more than 35 million trips during 1997.

There are many recreational and entertainment opportunities throughout the region. Outdoor recreational opportunities are provided through an extensive number of golf courses, parks, and recreational areas that offer multiple team sporting facilities such as bicycling, tennis, softball and horseback riding.

Cultural and sporting attractions include 38 museums, two zoos, an extensive number of public libraries as well as sporting facilities for watching professional baseball, football, basketball and hockey teams. Bicycle trails which include on and off street facilities cater to cycling enthusiasts year-round. Thirty-four large scale shopping centers provide a variety of goods and services.

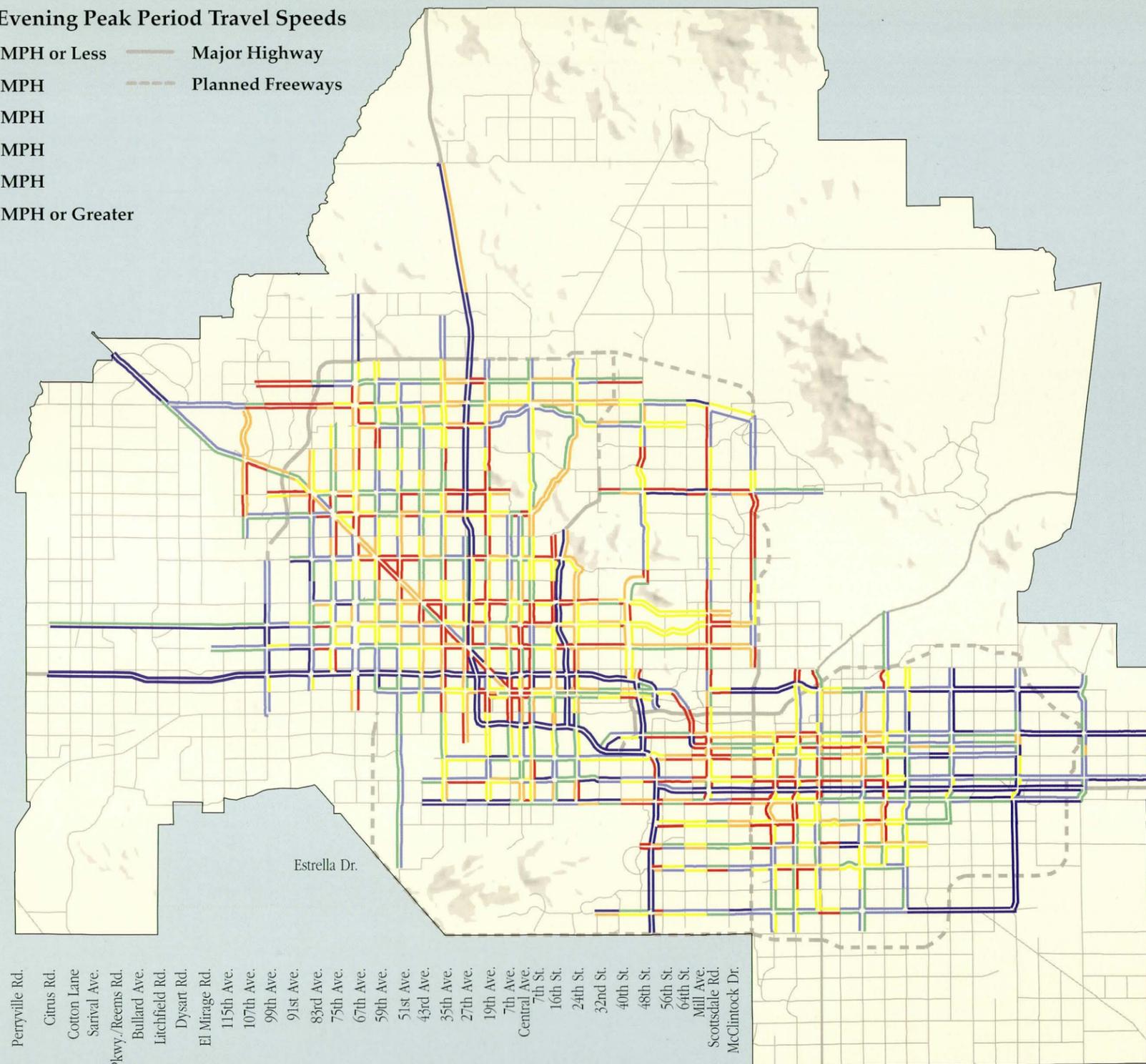


Superstition Freeway looking west toward Interstate 10 interchange.

Average Evening Peak Period Travel Speeds

- 25 MPH or Less
- 30 MPH
- 35 MPH
- 40 MPH
- 45 MPH
- 50 MPH or Greater
- Major Highway
- Planned Freeways

- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
- Bethany Home Rd.
- Camelback Rd.
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- Thomas Rd.
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- Van Buren St.
- Buckeye Rd.
- Lower Buckeye Rd.
- Broadway Rd.
- Southern Ave.
- Baseline Rd.



- Perryville Rd.

- Citrus Rd.
- Cotton Lane
- Sarival Ave.

- Estrella Pkwy./Reems Rd.

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- 7th Ave.

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- 7th St.

- 16th St.

- 24th St.

- 32nd St.

- 40th St.

- 48th St.

- 56th St.

- 64th St.

- Mill Ave.

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- Price Rd.

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- Alma School Rd.

- Arizona Ave.

- McQueen Rd./Mesa Dr.

- Cooper Rd./Stapley Dr.

- Gilbert Rd.

- Lindsay Rd.

- Val Vista Dr.

- Greenfield Rd.

- Higley Rd.

- Recker Rd.

- Power Rd.

- Sossaman Rd.

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- Lone Mountain Rd.
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- Jomax Rd.
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- Warner Rd.
- Ray Rd.
- Chandler Blvd.
- Pecos Rd.
- Germann Rd.
- Queen Creek Rd.
- Ocotillo Rd.
- Chandler Heights Rd.
- Riggs Rd.

0 5 Miles



Average Evening Peak Period Travel Speeds

The region has developed strategically located freeway corridors to facilitate the flow of traffic. As the population grows so does congestion, thereby decreasing the effective circulation.

The map depicts average evening peak period travel speeds on regional arterials and freeways according to a 1995 Maricopa Association of Governments circulation analysis. The analysis only includes sections of freeways and arterials with significant traffic movements. The map identifies areas of significantly reduced speeds resulting from congestion and low design speeds.

Regional freeways provide the most effective method of high speed travel with a majority maintaining average travel speeds of 50 miles per hour (MPH) or greater. Most surface streets maintain average speeds of 35 MPH. Travel speeds increase as population densities decrease. The greatest concentration of low speed (25 MPH or less) arterial roadways are located along Grand Avenue and in central Phoenix.

By effectively anticipating the location of growth, arterial roadway networks can be designed or improved to compensate for congestion. Many of the regional freeways such as US 60 and Interstate 17 are currently being widened while SR 101 and 202 are being extended to relieve existing and anticipated congestion.

Data Source: Maricopa Association of Governments, 1993 Study of Travel Speed and Delay in the MAG Region, MAG Region PM Average Running Speed, March 1995

# Traffic

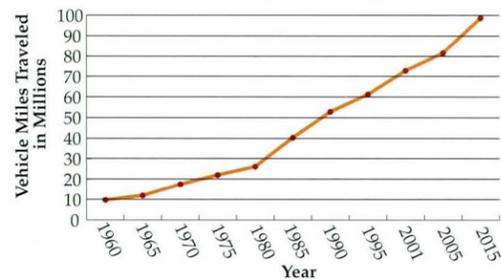
As indicated in the graph below, Vehicle Miles Traveled in the region have been rapidly increasing. For instance the growth between 1980 and 1995 increased by more than 100 percent. This growth in traffic has been accompanied by increases in highway capacity. However, more traffic means more congestion and more accidents.

Overall the transportation system provides a high level of service and most of the region is within 30 minutes of the Phoenix Central Business District. Traffic flows on the freeway system are uncongested during off-peak periods. Freeways throughout the region operate at a high level of service in most time periods. However, freeways in the center area become congested during the peak period. These freeways include the central portions of the Superstition, I-17/I-10 corridor, Squaw Peak, Black Canyon, and Papago Freeways.

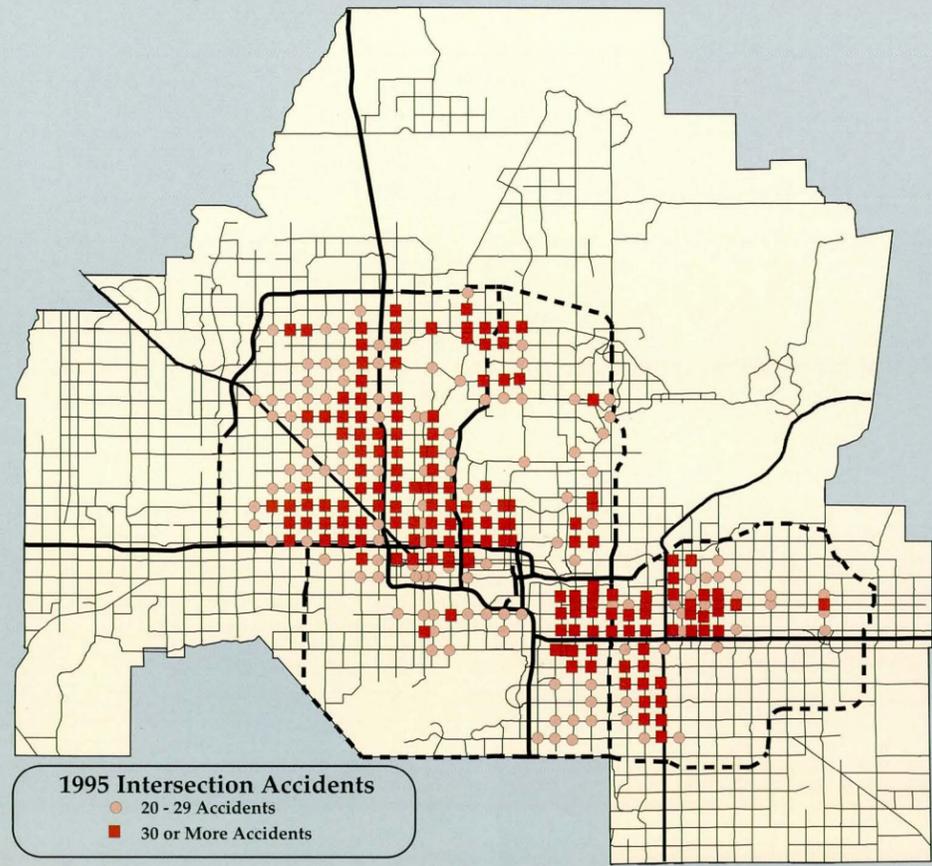
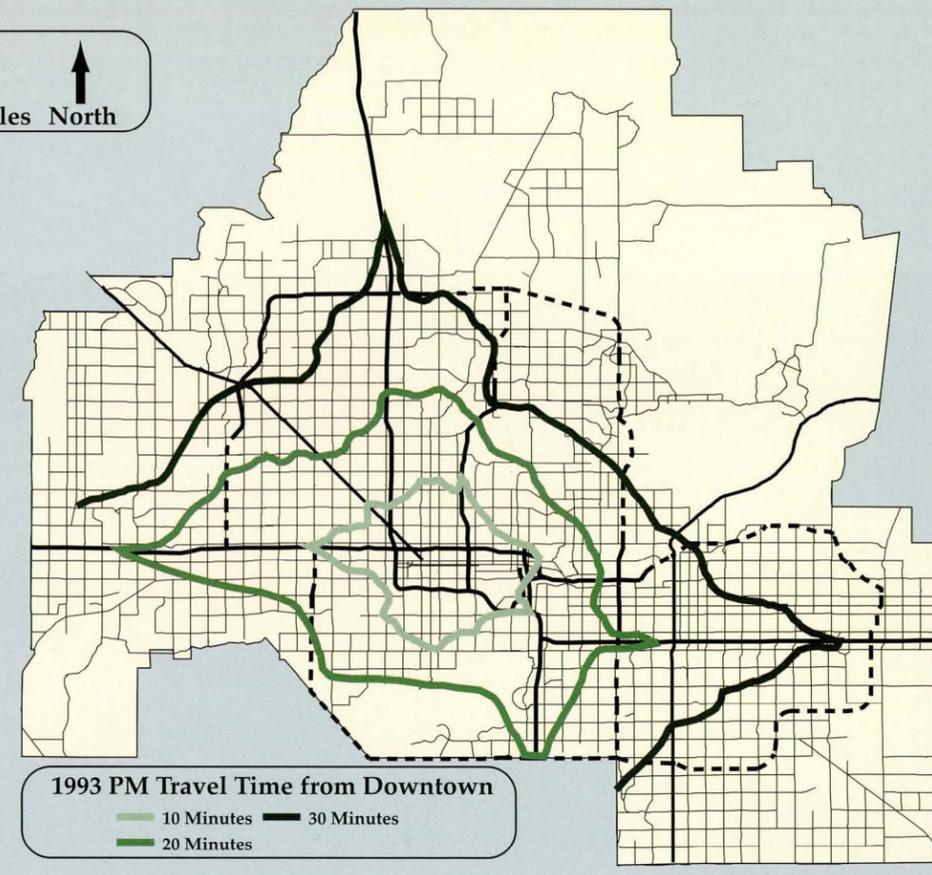
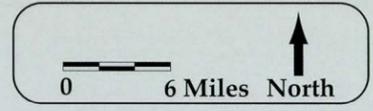
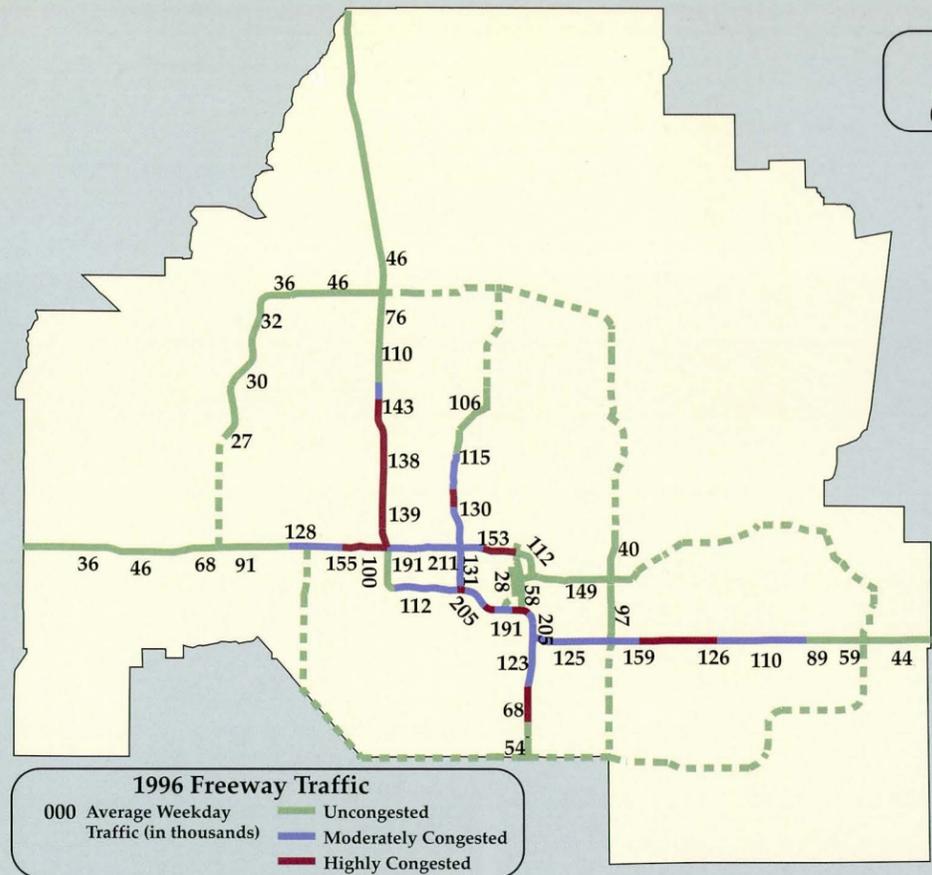
Most of the traffic in the region is carried on the arterial grid system. These usually operate at a free flow condition except for intersections in the central portion of the region during peak periods. Also interchanges along the Black Canyon, Superstition, Squaw Peak and Grand Avenue become congested during peak periods.

Accidents are a particular problem at major intersections. Accidents are associated with high traffic volumes. Intersections with high accident levels are concentrated in the central portion of the region and near east side.

Average Weekday Vehicle Miles Traveled Estimates for Maricopa County (in millions)



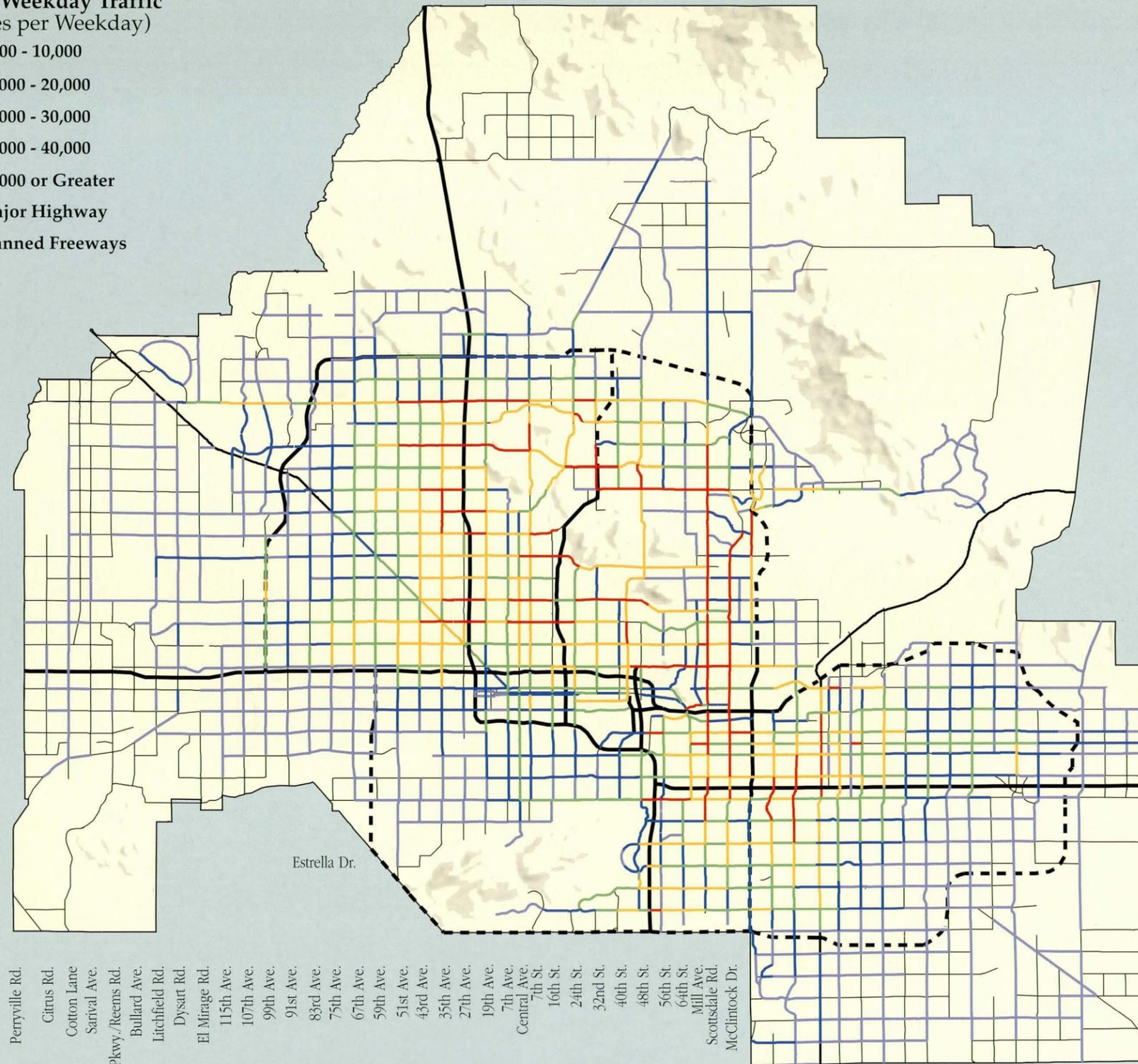
Data Sources: MAG Transportation Management Systems Report FY 1997 Update, MAG Long Range Transportation Plan Summary and 1996 Update, 1993 Study of Travel Speed and Delay in the MAG Region



**Average Weekday Traffic**  
(Vehicles per Weekday)

- 1,000 - 10,000
- 10,000 - 20,000
- 20,000 - 30,000
- 30,000 - 40,000
- 40,000 or Greater
- Major Highway
- Planned Freeways

Beardsley Rd.  
Union Hills Dr.  
Bell Rd.  
Greenway Rd.  
Waddell Rd.  
Cactus Rd.  
Peoria Ave.  
Dunlap Ave.  
Northern Ave.  
Glendale Ave.  
Bethany Home Rd.  
Camelback Rd.  
Indian School Rd.  
Thomas Rd.  
McDowell Rd.  
Van Buren St.  
Buckeye Rd.  
Lower Buckeye Rd.  
Broadway Rd.  
Southern Ave.  
Baseline Rd.

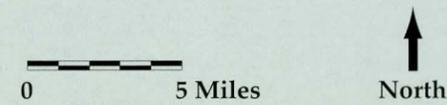


Perryville Rd.  
Citrus Rd.  
Cotton Lane  
Sarival Ave.  
Estrella Pkwy./Reems Rd.  
Bullard Ave.  
Litchfield Rd.  
Dysart Rd.  
El Mirage Rd.  
115th Ave.  
107th Ave.  
99th Ave.  
91st Ave.  
83rd Ave.  
75th Ave.  
67th Ave.  
59th Ave.  
51st Ave.  
43rd Ave.  
35th Ave.  
27th Ave.  
19th Ave.  
7th Ave.  
Central Ave.  
7th St.  
16th St.  
24th St.  
32nd St.  
40th St.  
48th St.  
56th St.  
64th St.  
Mill Ave.  
Scottsdale Rd.  
McClintock Dr.

Price Rd.  
Dobson Rd.  
Alma School Rd.  
Arizona Ave.  
McQueen Rd./Mesa Dr.  
Cooper Rd./Stapley Dr.  
Gilbert Rd.  
Lindsay Rd.  
Val Vista Dr.  
Greenfield Rd.  
Higley Rd.  
Recker Rd.  
Power Rd.  
Sossaman Rd.  
Hawes Rd.  
Ellsworth Rd.  
Crismon Rd.  
Signal Butte Rd.  
Meridian Rd.

Desert Hills Dr.  
Joy Ranch Rd.  
Cloud Rd.  
Carefree Hwy.  
Dove Valley Rd.  
Lone Mountain Rd.  
Dixileta Dr.  
Dynamite Blvd.  
Jomax Rd.  
Happy Valley Rd.  
Pinnacle Peak Rd.  
Deer Valley Rd.  
Beardsley Rd.  
Union Hills Dr.  
Bell Rd.  
Greenway Rd.  
Thunderbird Rd.  
Cactus Rd.  
Shea Blvd.  
Via Linda  
Via De Ventura  
Indian Bend Rd.  
McDonald Dr.  
Chaparral Rd.  
Indian School Rd.  
Thomas Rd.  
McDowell Rd.  
McKellips Rd.  
Brown Rd.  
University Rd.  
Apache Trail  
Broadway Rd.  
Southern Ave.  
Baseline Rd.  
Guadalupe Rd.  
Elliot Rd.  
Warner Rd.  
Ray Rd.  
Chandler Blvd.  
Pecos Rd.  
Germann Rd.  
Queen Creek Rd.  
Ocotillo Rd.  
Chandler Heights Rd.  
Riggs Rd.

Rittenhouse Rd.



**A**verage Weekday Traffic

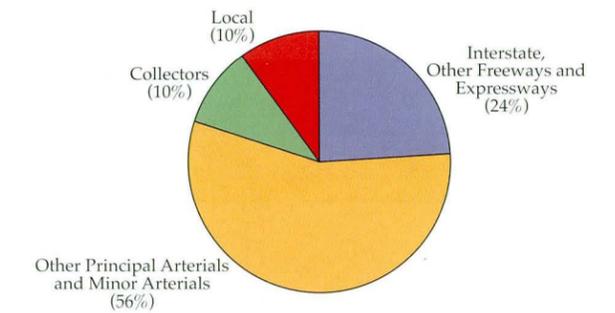
The region has successfully developed an extensive urban arterial network of streets and freeways that integrate traffic flow patterns with urban development. The network is based on a 1 mile grid throughout much of the region.

The map indicates that a majority of the arterial roadways with high volumes of weekday traffic are located in the central built-up area. Such areas include north Tempe, west Mesa, central Phoenix and south Scottsdale. This traffic concentration will be eased by the completion of the planned Loop 101 freeway.

A majority of the roadways outside of the central area of the region exhibit low traffic volumes. Within the urban core, development of an extensive freeway network has assisted in relieving much of the surface street congestion.

The graph below depicts the daily vehicle miles of travel on various roadway types. According to a 1996 survey completed by the Maricopa Association of Governments, a majority of all vehicle miles occur on minor or major arterial roadways. About fifty-six percent of all vehicle miles occur on arterial streets compared with only twenty-four percent on freeways, interstates, and expressways. This roadway usage resulted in an estimated average daily speed of approximately thirty-four miles per hour in 1996.

**Daily Vehicle Miles of Travel on each Roadway Type**



**Data Source:** Maricopa Association of Governments, 1995 Average Weekday Traffic in Thousands of Vehicles per Weekday, 1996

# T

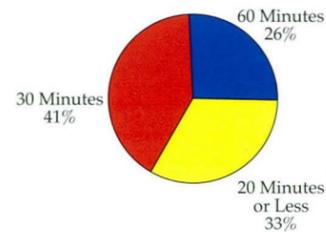
## ransit Service

The region has a bus system consisting of 54 local and 21 express bus routes. In addition, 10 paratransit (dial-a-ride) services are provided by cities in the region. In 1997, there were 35,141,668 trips taken on buses and 954,400 trips using paratransit services. The bus service area covers 475 square miles, approximately one-half of the regional urbanized area. There are 2,032,668 persons that live within 3/4 of a mile of transit service.

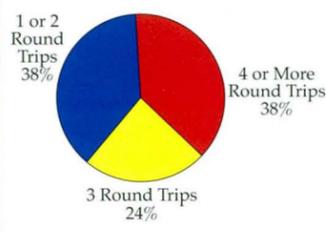
The Regional Public Transportation Authority (Valley Metro) oversees transit service provision with varying degrees of participation by each jurisdiction. The distribution of bus service by local and express appears on the map. Overall, ridership has doubled between 1986 and 1996. This increase in ridership is partly in response to greater convenience provided by expanded bus service, and partly due to high regional population growth. Along with local governments, Valley Metro has created a regional fare structure to allow passengers to use the same fare payment to travel across the metropolitan area. All local and regional routes are listed along with their schedules in the regional Bus Book.

In addition, demand response paratransit service is provided by several local dial-a-rides. Demand response services do not operate on a specific schedule; rather, the service is pre-arranged to meet user needs. While some cities allow the general public to use these services, most are limited to seniors and persons with disabilities. Maricopa County allows those who are required to work as a condition of receiving welfare benefits to use these services as well. Each dial-a-ride system offers connections with neighboring systems and with regional bus routes. Transfer policies and fares vary according to the system.

**Local Route Peak Hour Frequency**



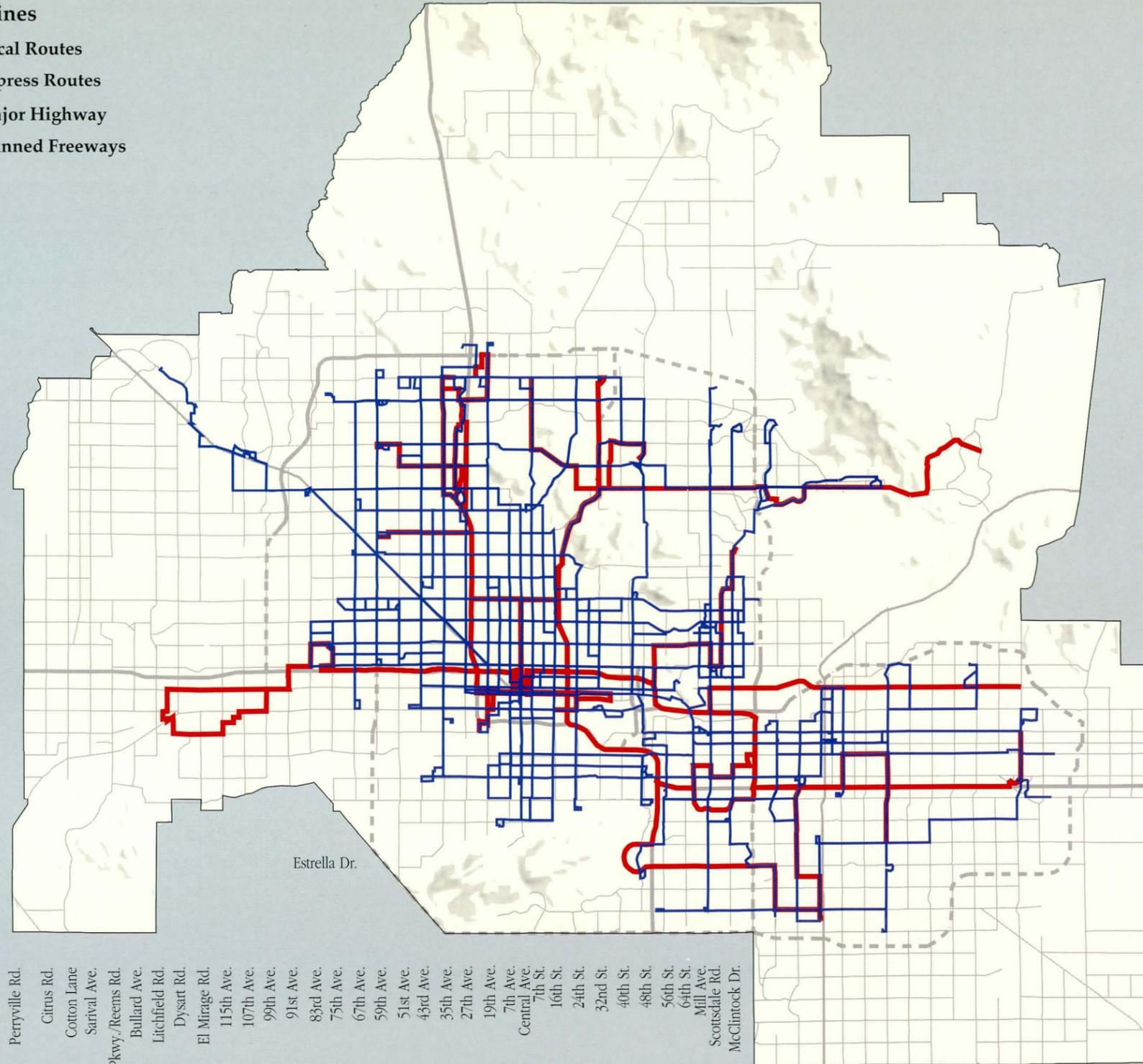
**Express Route Daily Frequency**



Data Source: Regional Public Transportation Authority, 1997

- Transit Lines**
- Local Routes
  - Express Routes
  - Major Highway
  - - - Planned Freeways

- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
- Bethany Home Rd.
- Camelback Rd.
- Indian School Rd.
- Thomas Rd.
- McDowell Rd.
- Van Buren St.
- Buckeye Rd.
- Lower Buckeye Rd.
- Broadway Rd.
- Southern Ave.
- Baseline Rd.



- Perryville Rd.
- Citrus Rd.
- Cotton Lane
- Sarival Ave.
- Estrella Pkwy./Reems Rd.
- Bullard Ave.
- Litchfield Rd.
- Dysart Rd.
- El Mirage Rd.
- 115th Ave.
- 107th Ave.
- 99th Ave.
- 91st Ave.
- 83rd Ave.
- 75th Ave.
- 67th Ave.
- 59th Ave.
- 51st Ave.
- 43rd Ave.
- 35th Ave.
- 27th Ave.
- 19th Ave.
- 7th Ave.
- Central Ave.
- 7th St.
- 16th St.
- 24th St.
- 32nd St.
- 40th St.
- 48th St.
- 56th St.
- 64th St.
- Mill Ave.
- Scottsdale Rd.
- McClintock Dr.

- Price Rd.
- Dobson Rd.
- Alma School Rd.
- Arizona Ave.
- McQueen Rd./Mesa Dr.
- Cooper Rd./Stapley Dr.
- Gilbert Rd.
- Lindsay Rd.
- Val Vista Dr.
- Greenfield Rd.
- Higley Rd.
- Recker Rd.
- Power Rd.
- Sossaman Rd.
- Hawes Rd.
- Ellsworth Rd.
- Crismon Rd.
- Signal Butte Rd.
- Meridian Rd.

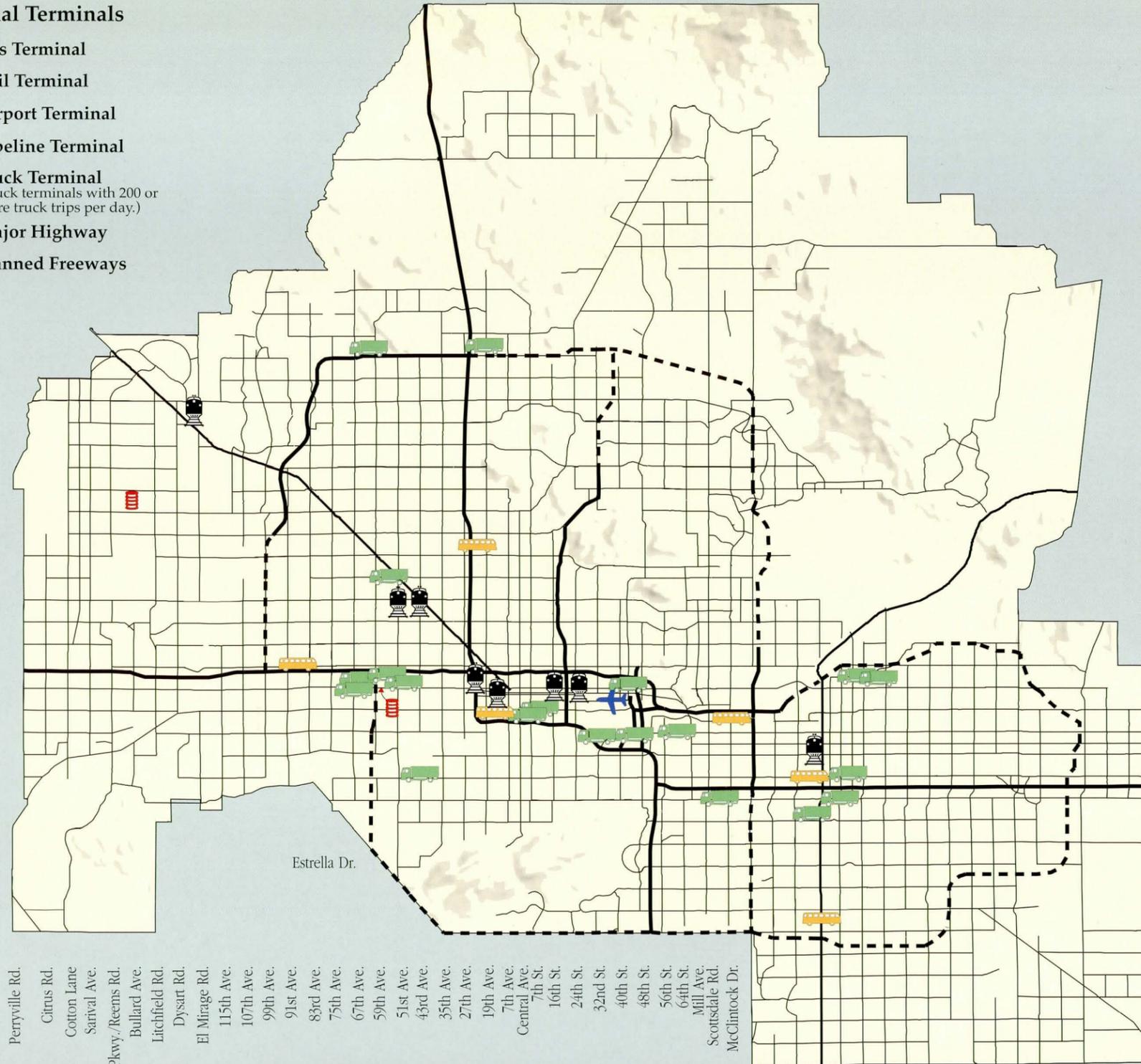
- Desert Hills Dr.
- Joy Ranch Rd.
- Cloud Rd.
- Carefree Hwy.
- Dove Valley Rd.
- Lone Mountain Rd.
- Dixileta Dr.
- Dynamite Blvd.
- Jomax Rd.
- Happy Valley Rd.
- Pinnacle Peak Rd.
- Deer Valley Rd.
- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Thunderbird Rd.
- Cactus Rd.
- Shea Blvd.
- Via Linda
- Via De Ventura
- Indian Bend Rd.
- McDonald Dr.
- Chaparral Rd.
- Indian School Rd.
- Thomas Rd.
- McDowell Rd.
- McKellips Rd.
- Brown Rd.
- University Rd.
- Apache Trail
- Broadway Rd.
- Southern Ave.
- Baseline Rd.
- Guadalupe Rd.
- Elliot Rd.
- Warner Rd.
- Ray Rd.
- Chandler Blvd.
- Pecos Rd.
- Germann Rd.
- Queen Creek Rd.
- Ocotillo Rd.
- Chandler Heights Rd.
- Riggs Rd.

Rittenhouse Rd.

**Intermodal Terminals**

-  **Bus Terminal**
-  **Rail Terminal**
-  **Airport Terminal**
-  **Pipeline Terminal**
-  **Truck Terminal**  
(Truck terminals with 200 or more truck trips per day.)
-  **Major Highway**
-  **Planned Freeways**

- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
- Bethany Home Rd.
- Camelback Rd.
- Indian School Rd.
- Thomas Rd.
- McDowell Rd.
- Van Buren St.
- Buckeye Rd.
- Lower Buckeye Rd.
- Broadway Rd.
- Southern Ave.
- Baseline Rd.



- Perryville Rd.
- Citrus Rd.
- Cotton Lane
- Sarival Ave.
- Estrella Pkwy./Reems Rd.
- Bullard Ave.
- Litchfield Rd.
- Dysart Rd.
- El Mirage Rd.
- 115th Ave.
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- 32nd St.
- 40th St.
- 48th St.
- 56th St.
- 64th St.
- Mill Ave.
- Scottsdale Rd.
- McClintock Dr.

- Price Rd.
- Dobson Rd.
- Alma School Rd.
- Arizona Ave.
- McQueen Rd./Mesa Dr.
- Cooper Rd./Stapley Dr.
- Gilbert Rd.
- Lindsay Rd.
- Val Vista Dr.
- Greenfield Rd.
- Higley Rd.
- Recker Rd.
- Power Rd.
- Sossaman Rd.
- Hawes Rd.
- Ellsworth Rd.
- Grismon Rd.
- Signal Butte Rd.
- Meridian Rd.

- Desert Hills Dr.
- Joy Ranch Rd.
- Cloud Rd.
- Carefree Hwy.
- Dove Valley Rd.
- Lone Mountain Rd.
- Dixileta Dr.
- Dynamite Blvd.
- Jomax Rd.
- Happy Valley Rd.
- Pinnacle Peak Rd.
- Deer Valley Rd.
- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Thunderbird Rd.
- Cactus Rd.
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- Elliot Rd.
- Warner Rd.
- Ray Rd.
- Chandler Blvd.
- Pecos Rd.
- Germann Rd.
- Queen Creek Rd.
- Ocotillo Rd.
- Chandler Heights Rd.
- Riggs Rd.

Rittenhouse Rd.

**Intermodal Facilities**

Intermodal facilities are those sites or structures where persons or goods are transferred from one mode of transportation to another. The definition not only includes transfers between different modes of transportation, but in the case of goods movement, transfers from one truck terminal to another.

Passenger intermodal terminals in the Phoenix region include airports and bus terminals, with air transportation providing the dominant form of commercial intercity public transportation. In 1996 Phoenix Sky Harbor International Airport served more than 30 million air passengers and approximately 300,000 tons of freight. Passenger access to the terminals is achieved through private automobile, rental cars, courtesy vehicles, local public transit and airport buses. Access to and from the air and freight terminals is provided by truck.

Greyhound Bus Terminals are located in Phoenix, Tolleson, Chandler, Mesa and Tempe. Access to the Greyhound bus terminals is provided by private automobile, public transit and taxis.

The Burlington-Northern Santa Fe Railway Company has five intermodal facilities including: a team track at 9th Avenue and Buchanan in Phoenix, the Mobest Freight Yard in Phoenix, the Glendale Auto Yard, the Glendale Intermodal Yard and the El Mirage Auto Distribution Center.

The Union-Pacific Railroad has three active facilities including the Phoenix Intermodal Yard located east of 7th street in Phoenix; the Phoenix Auto Yard and the Mesa Team Track.

Union Pacific Pipeline Partners operates a pipeline terminal at 53rd Avenue and Van Buren. The pipeline provides refined oil and gasoline that is transferred to trucks. There is also a Liquefied Natural Gas (LNG) terminal in El Mirage.

Truck terminals are considered intermodal, especially when small shipments are consolidated and transferred to larger trucks. Of 167 truck terminals in the urban area, twenty generated 200 or more truck trips a day. Most of the truck terminals are located near existing or proposed freeways.

**Data Source:** Maricopa Association of Governments, *Intermodal Management System*, April 1995

# School Standardized Tests

Arizona law requires that nationally standardized tests in reading, grammar and mathematics be administered in all schools in the state. To fulfill this requirement, the Arizona State Board of Education mandates testing at grades 4, 7 and 10. The Iowa Tests of Basic Skills are administered at grades 4 and 7 and the Tests of Achievement and Proficiency at grade 10.

The three maps presented here use an open book symbol to convey the results of these tests by school district for school year 1995-1996. As shown in the legend in the center of the page, the left side of the open book reflects the reading comprehension percentile ranking, while the right side reflects the mathematics percentile ranking. The elementary, middle school and high school maps correspond to the test results for grade 4, 7, and 10 respectively.

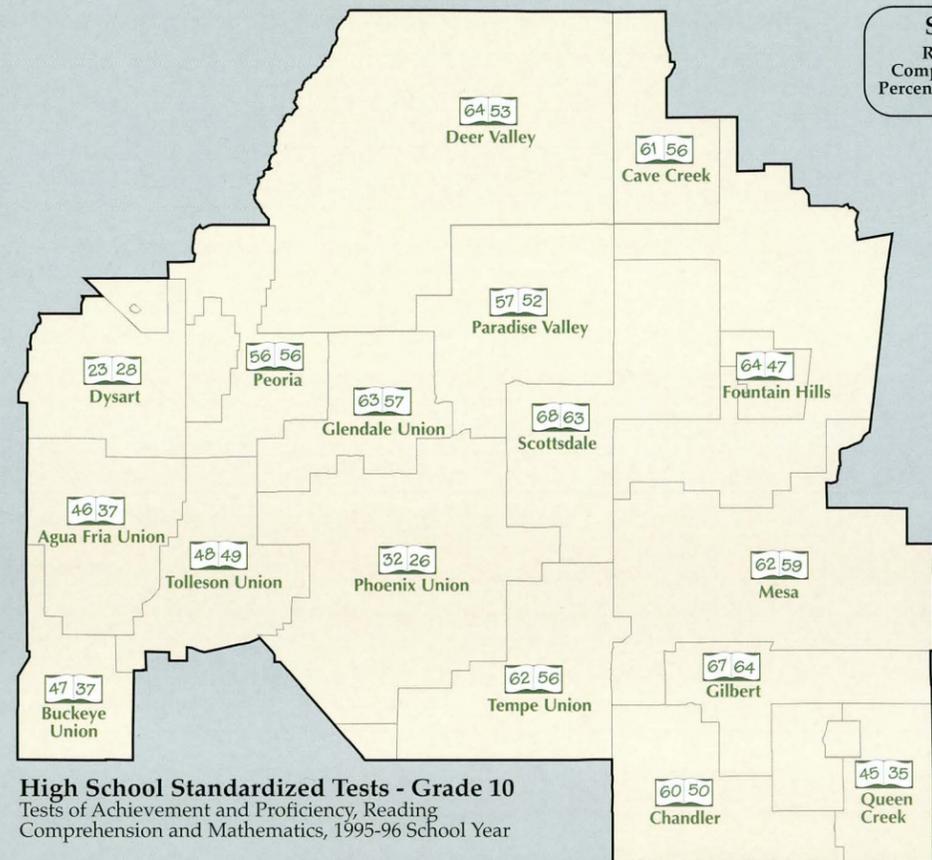
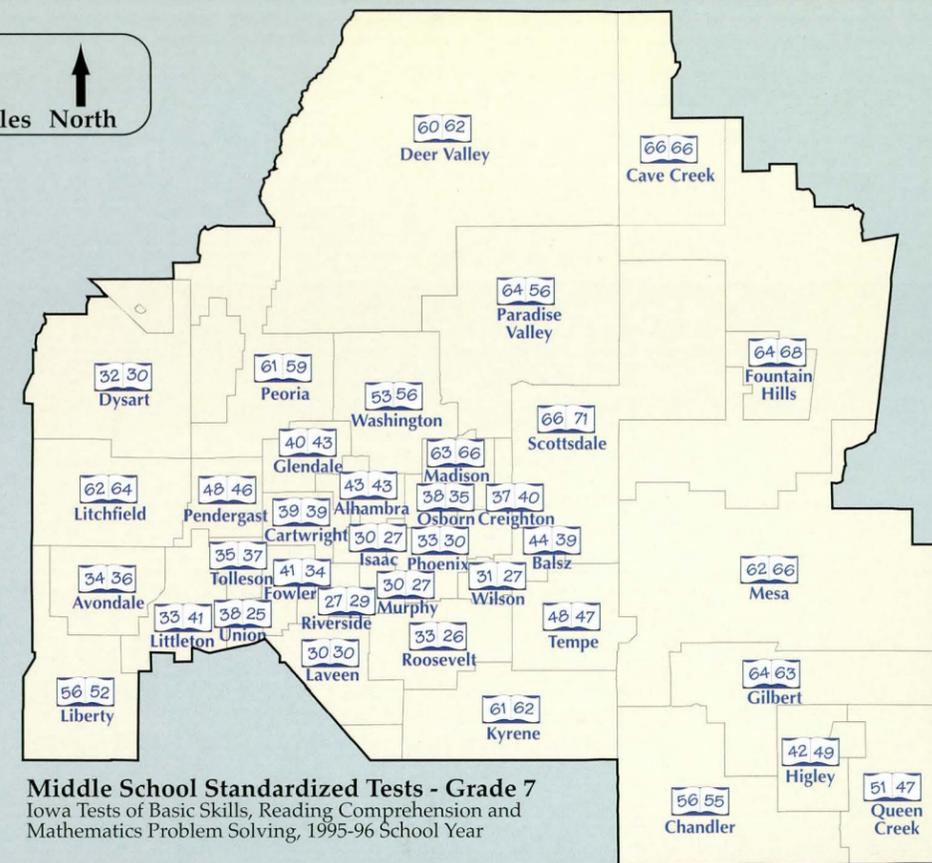
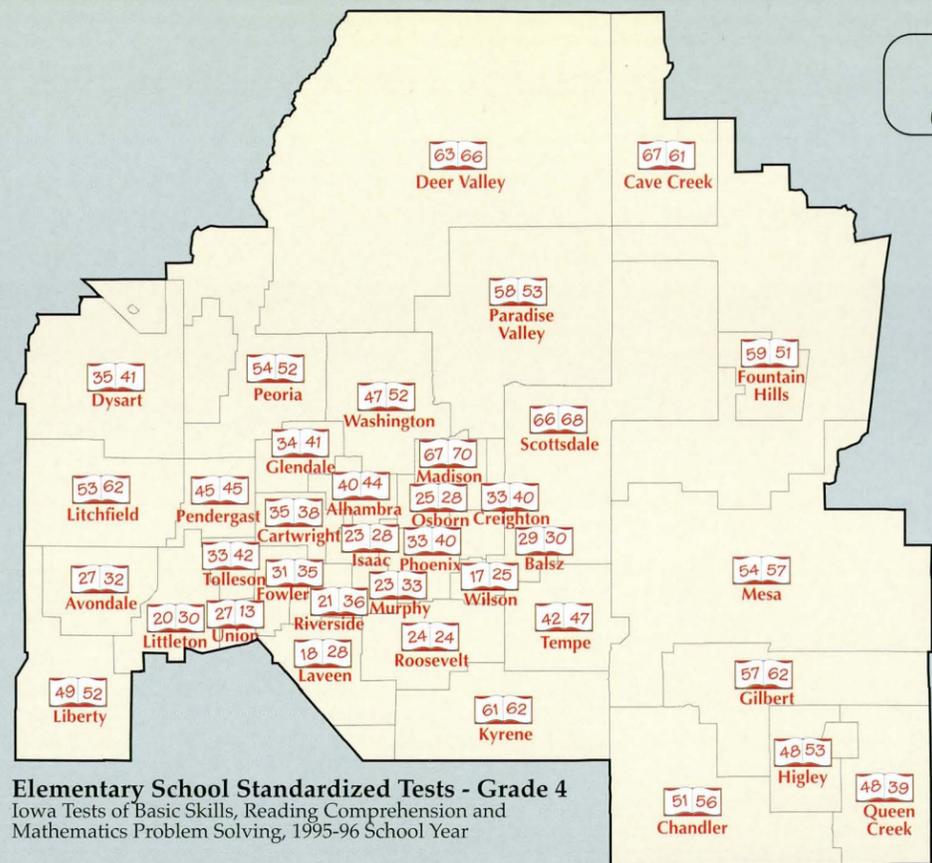
The percentile rankings (PR) range from 1 to 99 and reflect the distribution of averages of schools in the particular school district compared to all those taking the test nationally. For example, a school district with a PR of 66 in reading for grade 7, would mean that 66 percent of the grade 7 students taking the tests nationally scored lower than the average of all scores from 7th grade students within its district.

Caution should be exercised in interpreting the test results. PRs alone have no interpretive meaning. The PRs reflect how a group of student's performance on the tests compares with all other students in their peer group for a given time period.

Furthermore the PRs shown here are group PRs. They are derived by taking the average of all the students scores in a particular school district. Individual students within the district, however, may score higher or lower than the average.

The table identifies the number of students enrolled in various public universities in the region. The public colleges and universities include Arizona State University (ASU) and associated satellite campuses and the Maricopa County Community College System. There are about 46,000 students enrolled at ASU campuses and an additional 45,000 students enrolled at community colleges.

**Data Sources:** Iowa Test of Basic Skills; Arizona State Board of Regents; Maricopa Community Colleges; Arizona Department of Education; Arizona State University, Office of Institutional Analysis; Maricopa County Department of Transportation, 1997



1995 - 1996  
Public Colleges and Universities in Maricopa County

| Institution of Higher Education | Total Enrollment | Highest Degree Level |
|---------------------------------|------------------|----------------------|
| STATE UNIVERSITIES              |                  |                      |
| Arizona State University        | 42,040           | Ph. D.               |
| Arizona State University East   | 625              | Master's             |
| Arizona State University West   | 3,191            | Master's             |
| COMMUNITY COLLEGES              |                  |                      |
| Chandler / Gilbert              | 1,650            | Associate            |
| Estrella Mountain               | 801              | Associate            |
| GateWay                         | 3,444            | Associate            |
| Glendale                        | 8,731            | Associate            |
| Mesa                            | 11,186           | Associate            |
| Paradise Valley                 | 2,399            | Associate            |
| Phoenix College                 | 5,914            | Associate            |
| Rio Salado                      | 4,809            | Associate            |
| Scottsdale                      | 4,725            | Associate            |
| South Mountain                  | 1,252            | Associate            |

Recreational Opportunities

-  Golf Courses
-  Parks
-  Mountain Preserves
-  Major Highway
-  Planned Freeways

- Beadsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
- Bethany Home Rd.
- Camelback Rd.
- Indian School Rd.
- Thomas Rd.
- McDowell Rd.
- Van Buren St.
- Buckeye Rd.
- Lower Buckeye Rd.
- Broadway Rd.
- Southern Ave.
- Baseline Rd.



- Perryville Rd.
- Cirrus Rd.
- Cotton Lane
- Sarval Ave.
- Estrella Pkwy./Reems Rd.
- Bullard Ave.
- Litchfield Rd.
- Dysart Rd.
- El Mirage Rd.
- 115th Ave.
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- 27th Ave.
- 19th Ave.
- 7th Ave.
- Central Ave.
- 7th St.
- 16th St.
- 24th St.
- 32nd St.
- 40th St.
- 48th St.
- 56th St.
- 64th St.
- Mill Ave.
- Scottsdale Rd.
- McClintock Dr.

- Price Rd.
- Dobson Rd.
- Alma School Rd.
- Arizona Ave.
- McQueen Rd./Mesa Dr.
- Cooper Rd./Stapley Dr.
- Gilbert Rd.
- Lindsay Rd.
- Val Vista Dr.
- Greenfield Rd.
- Higley Rd.
- Recker Rd.
- Power Rd.
- Sossaman Rd.
- Hawes Rd.
- Ellsworth Rd.
- Crismon Rd.
- Signal Butte Rd.
- Meridian Rd.

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- Joy Ranch Rd.
- Cloud Rd.
- Carefree Hwy.
- Dove Valley Rd.
- Lone Mountain Rd.
- Dixileta Dr.
- Dynamite Blvd.
- Jomax Rd.
- Happy Valley Rd.
- Pinnacle Peak Rd.
- Deer Valley Rd.
- Beadsley Rd.
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- Guadalupe Rd.
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- Warner Rd.
- Ray Rd.
- Chandler Blvd.
- Pecos Rd.
- Germann Rd.
- Queen Creek Rd.
- Ocotillo Rd.
- Chandler Heights Rd.
- Riggs Rd.

0 5 Miles North

Outdoor Recreational Opportunities

Arizona is known for its year-round outdoor recreational opportunities with its temperate climate and its wide-open spaces. During winter months in the Phoenix area, residents and visitors enjoy parks, golf courses, playing fields, tennis courts, equestrian trails, and mountain bike and pedestrian trails. As summer arrives outdoor enthusiasts can still enjoy an early-morning round of golf, or take a hike in one of the many parks within the region. They can also participate in many water sports.

The map shows golf courses, parks and recreational areas. There are currently 132 golf courses in the region with more being planned. Golf has become so popular that some areas have specifically planned golf communities. The courses are dispersed throughout the region with recognizable concentrations in Phoenix, Mesa, Scottsdale, Sun City and Sun City West. Much of the area's reputation as a golf oasis is due to the large portion of retired persons with leisure time and disposable income and a climate which allows for year-round golfing.

There are 15 recreational areas and/or parks identified on the map. Adobe Dam Recreational Area, Cave Creek, Estrella Mountain Regional Park, McDowell Mountain Regional Park, Usery Mountain Park and the Ben Avery Trail and Recreation Area are managed by Maricopa County Parks and Recreation Department. South Mountain Park, North Mountain Preserve, Lookout Mountain Preserve, Squaw Peak, Reach 11 Recreational Area and Camelback Mountain are managed by the City of Phoenix. Most of Papago Park is managed by the City of Phoenix, but a small portion falls within the City of Tempe and is managed by that city. Thunderbird Park is managed by the City of Glendale and the McDowell Sonoran Preserve is managed by the City of Scottsdale. In addition to the major parks and recreational areas there are also many smaller parks and multiple team sporting facilities such as bicycling, tennis, and softball clubs throughout the region.

Data Sources: Maricopa Association of Governments; Maricopa Department of Transportation; Arizona Department of Water Resources, 1997

# Utility Locations

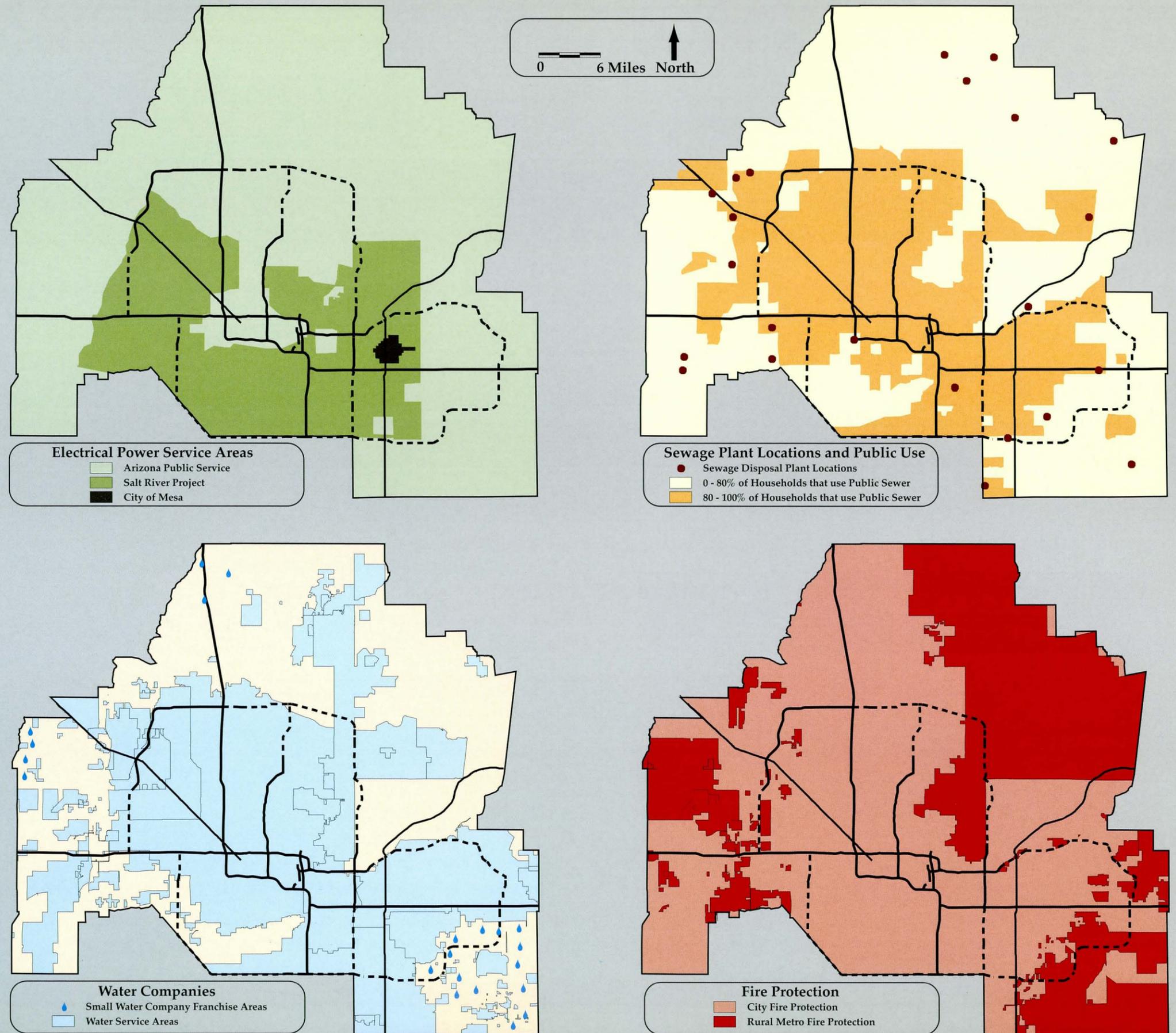
This map describes the service boundaries for electrical, water, wastewater, and fire services in the urban area. Electric service in the region is offered by three centralized service providers. The Salt River Project (SRP), is a regional provider of electrical power and serviced 648,700 customers in the Region during 1997. Arizona Public Service (APS) is another regional service provider servicing customers throughout the Region and State. The City of Mesa has developed its own infrastructure and has become a local provider of electrical service for its citizens.

Water service is currently provided to the region by fourteen municipal water districts and almost thirty private water providers. Symbolic "drops" indicate approximate locations of small water company franchises within the Region. There are a number of existing sites throughout the Region that continue to draw groundwater from personal wells. These sites are not documented on the map due to the minimal impact they impose on the overall groundwater supply.

Due to the limited processing volume of wastewater treatment sites, growth of the region is sometimes limited by the pace at which new treatment facilities can be developed to service developing urban areas. Low density housing outside of the urban areas is predominantly serviced by on-site septic systems. As the urban area continues to expand, there will be a continued need for development of infrastructure to service generated wastewater either by on-site treatment facilities or tie-ins to existing infrastructure.

The urban area is subdivided into two fire service protection areas. City fire departments provide fire protection for the following jurisdictions within the urban area: Avondale, Chandler, El Mirage, Gilbert, Glendale, Goodyear, Guadalupe, Mesa, Peoria, Phoenix, Surprise, Tempe and Tolleson. Rural Metro Corporation services the unincorporated portions of the urban area as well as the cities of Litchfield Park in the west, Paradise Valley in the center of the region, Scottsdale, Carefree, Cave Creek, Fountain Hills to the northeast, and Queen Creek to the southeast.

**Data Sources:** Maricopa Association of Governments; Arizona Department of Water Resources; Maricopa Department of Transportation - Transportation Planning Department Rural Metro, 1997



# S hopping Centers

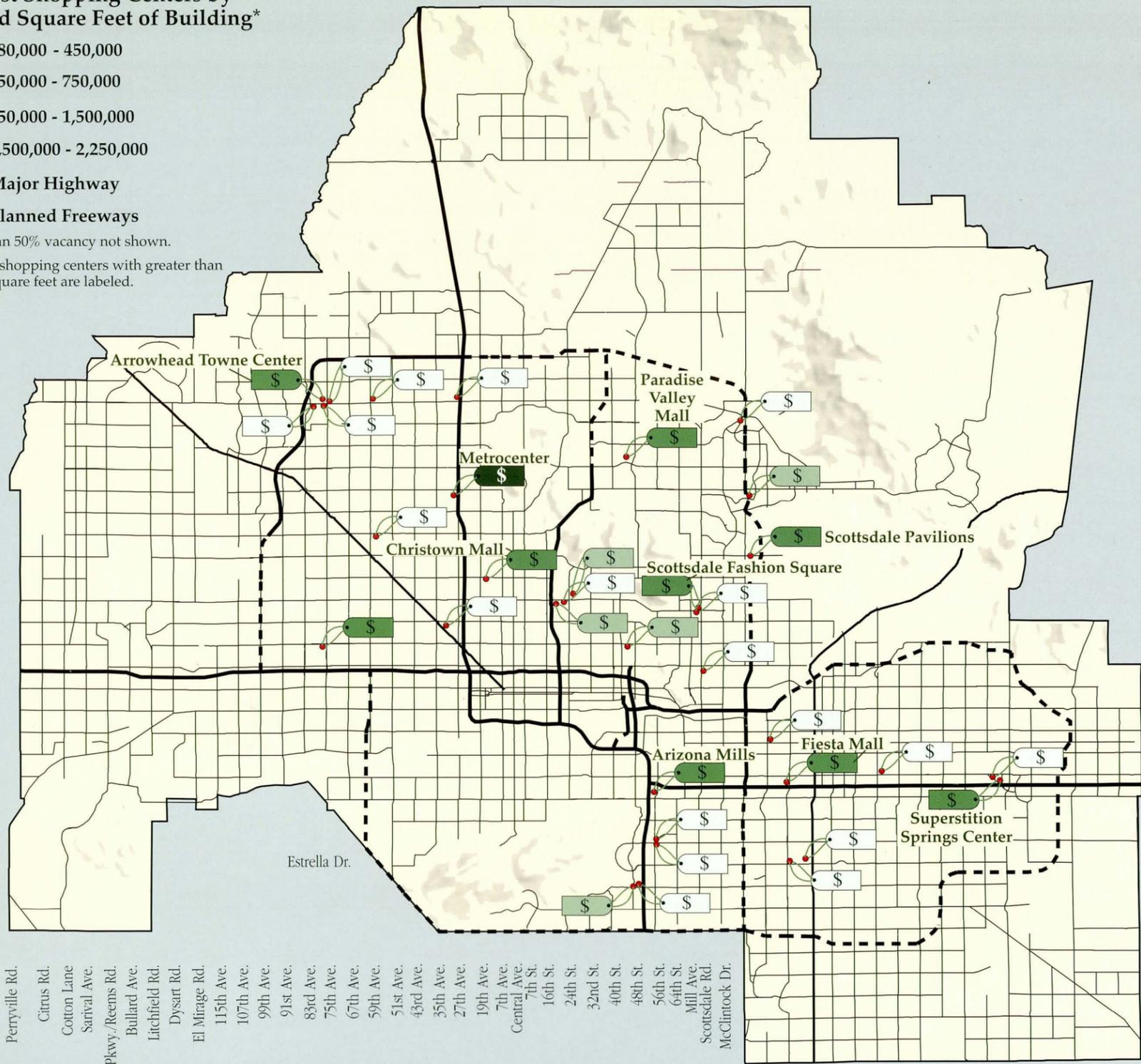
## Largest Shopping Centers by Occupied Square Feet of Building\*

- 180,000 - 450,000
- 450,000 - 750,000
- 750,000 - 1,500,000
- 1,500,000 - 2,250,000

- Major Highway
- Planned Freeways

\*Greater than 50% vacancy not shown.  
Only those shopping centers with greater than 1,000,000 square feet are labeled.

- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
- Bethany Home Rd.
- Camelback Rd.
- Indian School Rd.
- Thomas Rd.
- McDowell Rd.
- Van Buren St.
- Buckeye Rd.
- Lower Buckeye Rd.
- Broadway Rd.
- Southern Ave.
- Baseline Rd.

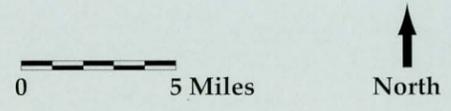


- Perryville Rd.
- Citrus Rd.
- Cotton Lane
- Sarival Ave.
- Estrella Pkwy./Reems Rd.
- Bullard Ave.
- Litchfield Rd.
- Dysart Rd.
- El Mirage Rd.
- 115th Ave.
- 107th Ave.
- 99th Ave.
- 91st Ave.
- 83rd Ave.
- 75th Ave.
- 67th Ave.
- 59th Ave.
- 51st Ave.
- 43rd Ave.
- 35th Ave.
- 27th Ave.
- 19th Ave.
- 7th Ave.
- Central Ave.
- 7th St.
- 16th St.
- 24th St.
- 32nd St.
- 40th St.
- 48th St.
- 56th St.
- 64th St.
- Mill Ave.
- Scottsdale Rd.
- McClintock Dr.

- Price Rd.
- Dobson Rd.
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- Desert Hills Dr.
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- Carefree Hwy.
- Dove Valley Rd.
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- Dixileta Dr.
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- Jomax Rd.
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- Warner Rd.
- Ray Rd.
- Chandler Blvd.
- Pecos Rd.
- Germann Rd.
- Queen Creek Rd.
- Ocotillo Rd.
- Chandler Heights Rd.
- Riggs Rd.

Rittenhouse Rd.



A combination of growing population and urban expansion in the region in recent years has led to the development of an increasing number of large (greater than 180,000 square feet) retail shopping centers. Many of the area's more recently constructed retail centers are attempting to capture new market shares by offering an increased scope of services such as theme restaurants, interactive game centers, and factory outlet type stores.

The map identifies 34 large scale shopping center sites in the region. The greatest concentration of large shopping centers is found in Phoenix and Scottsdale. Within these areas there are seven identified centers including Scottsdale Fashion Square, which is currently undergoing a major expansion. Additional multi-center clusters include developments in Peoria, Glendale, Paradise Valley, Tempe and the Salt River Pima-Maricopa Indian Community.

Metrocenter, the region's largest shopping center, occupies approximately 2 million square feet of building space. The center is located in northwest Phoenix, adjacent to Interstate 17 between Dunlap and Peoria Avenues. The region's latest addition to the list of large-scale shopping centers is Arizona Mills. Strategically located at the intersections of Interstate 10 and the US 60 freeways, the center is approximately 1.2 million square feet and houses 175 stores and restaurants.

A majority of the larger shopping centers in the region are located next to freeways or other significant traffic corridors. The US 60 freeway corridor is bordered by several large centers including the Arizona Mills, Fiesta Mall, and Superstition Springs Mall. A majority of the remaining shopping centers are located within one-half to two miles of the region's freeways. This proximity allows for easy access to centers as well as improved circulation during busy periods.

Data Source: Kammrath & Associates, June 1997

# Cultural and Sport Attractions

The region hosts a wide variety of cultural and sporting attractions. These include zoos, sports facilities, public libraries, major museums, and theaters.

There are two zoos in the urban area. One is located in Phoenix near the Tempe border, while the other is located just west of Luke Air Force Base. Adjacent to the Phoenix Zoo is the Desert Botanical Gardens in Papago Park.

A number of professional facilities are located in the region. These are used for horse racing, automobile racing, football, basketball, baseball, and hockey. College facilities also host football, basketball and baseball.

The public libraries identified on the map include both municipally owned and county owned libraries. Major museums shown on the map have been derived from a list of the top 60 museums in Arizona, while performing arts locales have been derived from US West.

### Museums

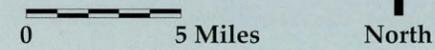
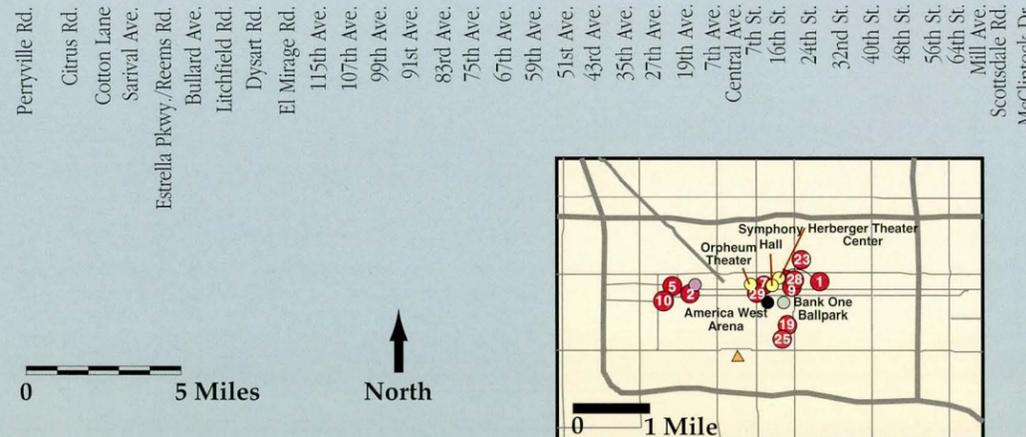
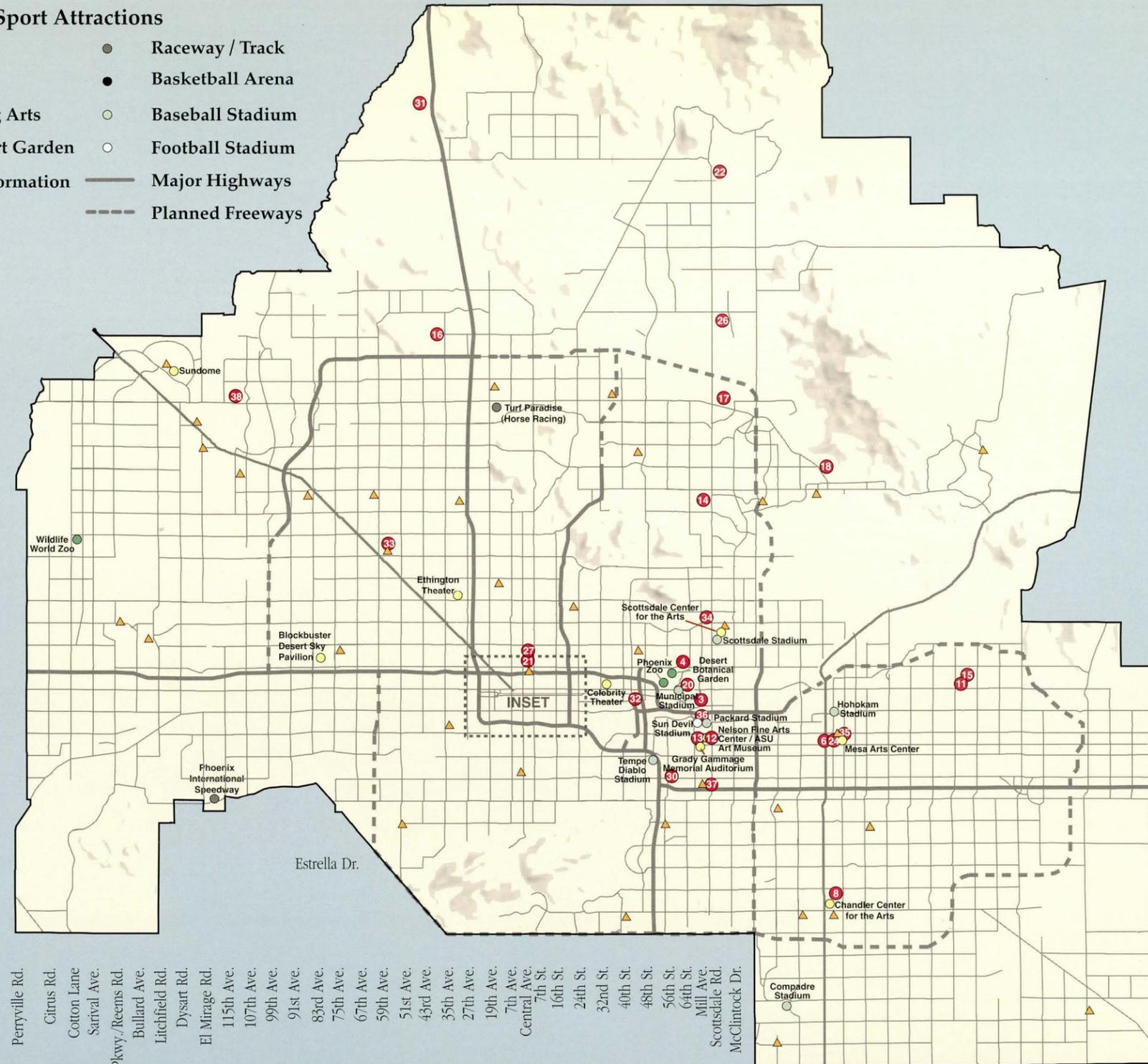
- 1 Arizona Doll and Toy Museum
- 2 Arizona Hall of Fame Museum
- 3 Arizona Historical Society Museum
- 4 Arizona Military Museum
- 5 Arizona Mining and Mineral Museum
- 6 Arizona Museum for Youth
- 7 Arizona Museum of Science and Technology
- 8 Arizona Railway Museum
- 9 Arizona Science Center
- 10 Arizona State Capital Museum
- 11 Arizona Wing of Confederate Air Force Museum
- 12 ASU Art Museum
- 13 ASU Museum of Anthropology
- 14 Buffalo Museum of America
- 15 Champlin Fighter Aircraft Museum
- 16 Deer Valley Rock Center
- 17 Fleischer Museum
- 18 Frank Lloyd Wright's Taliesin West
- 19 G.W. Carver Museum
- 20 Hall of Flame Museum of Firefighting
- 21 The Heard Museum
- 22 The Heard Museum North
- 23 Heritage Science Park
- 24 Mesa Southwest Museum
- 25 Museo Chicano
- 26 Old West Museum at Rawhide
- 27 Phoenix Art Museum
- 28 Phoenix Museum of History
- 29 Phoenix Police Museum
- 30 Peterson House Museum
- 31 Pioneer Arizona Living History Museum
- 32 Pueblo Grande Museum
- 33 Rosato Museum of Nursing
- 34 Scottsdale Historical Museum
- 35 Sirrine House
- 36 Tempe Arts Center
- 37 Tempe Historical Museum
- 38 West Valley Art Museum

**Data Sources:** US West Dex March 1998, *Community Pages - Performing Arts*; Arizona Business Magazine, *Ranking Arizona*, 1998; Maricopa County Department of Transportation, 1997

### Cultural and Sport Attractions

- 17 Museum
- ▲ Library
- Performing Arts
- Zoo / Desert Garden
- Tourist Information
- Raceway / Track
- Basketball Arena
- Baseball Stadium
- Football Stadium
- Major Highways
- - - Planned Freeways

- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
- Bethany Home Rd.
- Camelback Rd.
- Indian School Rd.
- Thomas Rd.
- McDowell Rd.
- Van Buren St.
- Buckeye Rd.
- Lower Buckeye Rd.
- Broadway Rd.
- Southern Ave.
- Baseline Rd.



- Desert Hills Dr.
- Joy Ranch Rd.
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- Carefree Hwy.
- Dove Valley Rd.
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Rittenhouse Rd.

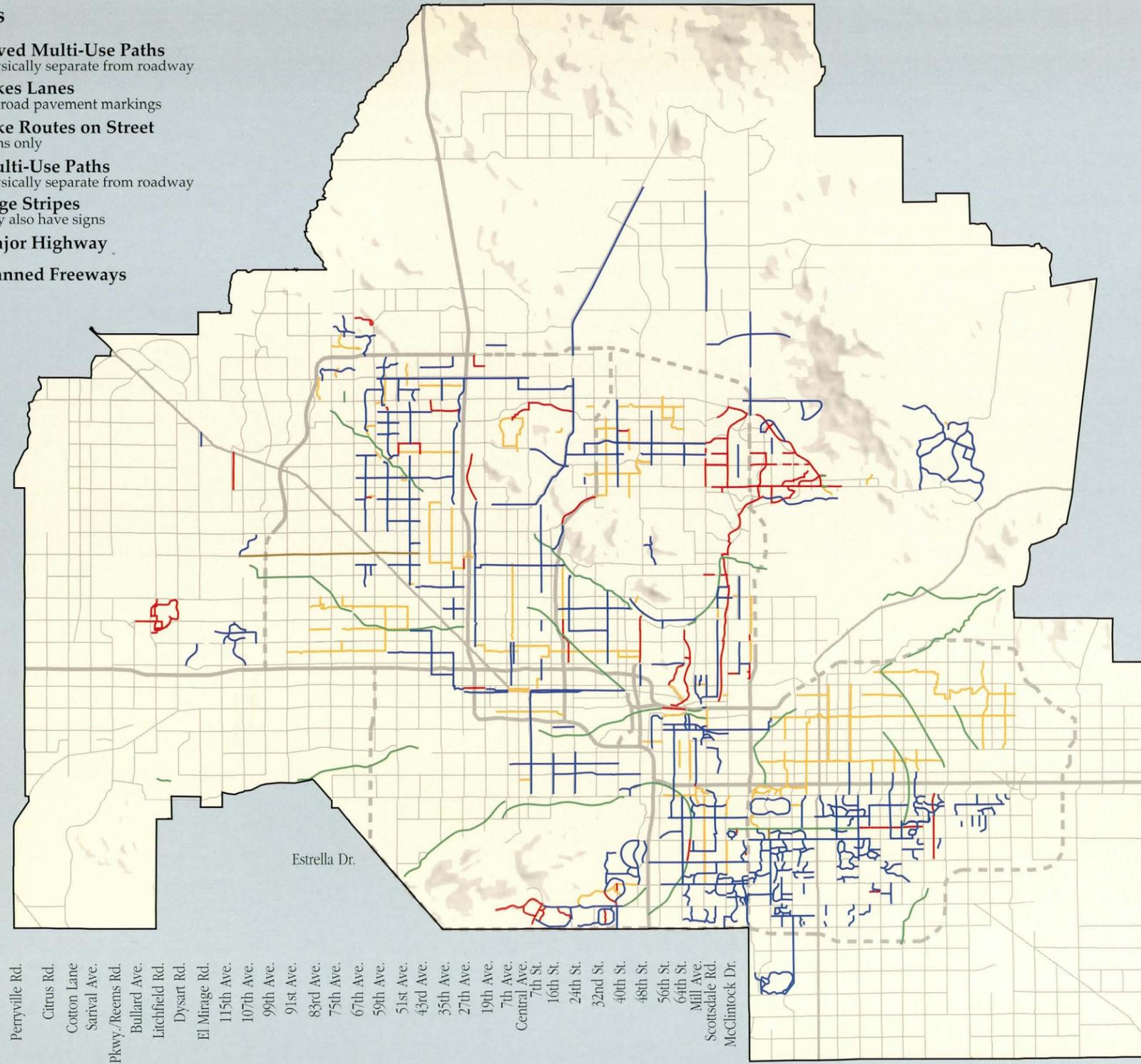


# Bikeways

## Bikeways

- **Paved Multi-Use Paths**  
Physically separate from roadway
- **Bikes Lanes**  
On-road pavement markings
- **Bike Routes on Street**  
Signs only
- **Multi-Use Paths**  
Physically separate from roadway
- **Edge Stripes**  
May also have signs
- **Major Highway**
- - - **Planned Freeways**

- Beardsley Rd.
- Union Hills Dr.
- Bell Rd.
- Greenway Rd.
- Waddell Rd.
- Cactus Rd.
- Peoria Ave.
- Dunlap Ave.
- Northern Ave.
- Glendale Ave.
- Bethany Home Rd.
- Camelback Rd.
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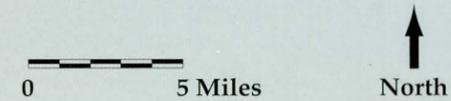


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- Chandler Heights Rd.
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Rittenhouse Rd.



Bikeways are located both on and off streets. In 1996 there were about 200 miles of on-street bikeways. The off-street bikeways generally lie along canal, riverbanks, and the Central Arizona Project.

Bikeways are used for a wide variety of trip purposes. These trips might include going to work or school, visiting friends or relatives, and running errands to the grocery or video store. In addition, combining bicycling with other modes, such as riding to the bus stop or park-and-ride facility, are short trips where bicycling can substitute for an automobile.

This map represents a composite of existing, locally-designated bicycle facilities. A multi-use path is suitable for bicycles, pedestrians or equestrians and is separate from the roadway. This map shows both paved and unpaved multiuse paths. A bike lane is a one-way, on-street bikeway with pavement markings that carries bicycle traffic the same direction as motor vehicles. A bike route indicates a street that is suitable for bicycling, but has no pavement markings. Some bike routes have signs showing the direction and location of the route. Edge stripes are lines along the edge of the pavement of the roadway which separate the shoulder from the motor vehicle lane.

Data Source: Maricopa Association of Governments, *Bikeways* map, 1997

## TECHNICAL APPENDIX

The purpose of this technical appendix is to describe the assumptions, data sources and processes used to create the maps contained in the Urban Atlas. First a set of technical notes that apply generally to the entire urban atlas is provided and then map specific technical notes are provided.

### GENERAL TECHNICAL NOTES

#### Software and Hardware:

Data was created using ARC/INFO v. 7.03 on UNIX workstations running Solaris 2.3. Arcview software v. 3.0 was used for data aggregation and classification. Maps were imported into Aldus Freehand 7.0 for final print processes.

#### Geographic Coordinates:

Projection: State Plane  
 Zone: 3176  
 Datum: Nad27  
 Units: Feet

#### Map Extents:

There are two map extents used throughout the atlas.  
 (1) The County of Maricopa and (2) The urban area within the county.

#### Map Scales:

Four map scales are used throughout the atlas. (1) Pages with four urban area maps on a page are at a scale of 1:650,000. (2) Pages with one urban area map on a page are at a scale of 1:375,000. (3) Pages with more than one county map are at a scale of 1:1,625,000. (4) Pages with one county map are at the scale of 1:775,000.

#### Data Classifications:

The following two data classification schemes were used to display data with gradient colors into four categories:

(1) Natural Breaks

This method identifies breakpoints between classes using a statistical formula (Jenks optimization). Natural Breaks finds groupings and patterns inherent in the data.

(2) Quartile

In the quartile classification method, each class contains the same number of features. Quartile classes are perhaps the easiest to understand, but they can be misleading. Population counts (as opposed to density or percentage), for example, are usually not suitable for quartile classification because only a few places are highly populated. This distortion can be overcome by increasing the number of classes.

Since gradient colors were used for the demographics and employment sections the categories were limited to four. In order to differentiate among the categories, the Natural Breaks classification scheme was used for the majority of the maps.

#### Geography

Data was mapped to Traffic Analysis Zone (TAZ) geography. TAZs are normally defined by streets and/or visible physical features and are the basic unit from

which the Maricopa Association of Governments (MAG) prepares socioeconomic and traffic projections. As population expands and/or new areas are planned for development there is a need for MAG to update its TAZ system. The projections prepared in 1993 using the 1990 Census as the base used a TAZ system comprised of 1272 zones. The projections prepared using the 1995 Special Census as the base used a 1516 TAZ system developed in 1996. Demographic data was derived from both the 1990 census and the 1995 special census. 1990 Census data was mapped to the 1993 TAZ geography (1272 zones) and the 1995 Census data to 1996 TAZ geography (1516 zones).

#### 1995 Special Census

The Maricopa Association of Governments contracted with the Bureau of the Census to undertake a Special Census of the residents of Maricopa County on October 27, 1995. The 1995 Special Census was conducted entirely through household interviews. Enumerators asked 17 questions of each household in Maricopa County.

Data were collected and aggregated by County, 24 places, two Indian Communities, three Census Designated Places, 466 census tracts and 4,899 enumeration districts. The census tracts used in the 1995 Special Census were the same as those used in the 1990 Census. The lowest level of geography for which Special Census data were collected was the Enumeration District (ED). EDs are created expressly for the purpose of assigning an enumerator to an area to count housing units. Data from the 1995 Special Census were not available by block group or by block.

### SPECIFIC TECHNICAL NOTES

#### PHYSICAL FEATURES

**The Region.** Populations over 10,000 were derived from the Arizona Department of Economic Security July 1, 1997 Resident Population Estimates. The shaded area on the map reflects the urban area, the dynamic core of the region in which most of the population resides or is projected to reside within 20 years. It also corresponds to the area for which MAG runs its transportation model.

**Mountains and Rivers.** Mountains and Rivers were derived from coverages provided by the Maricopa County Department of Transportation.

**Water Resources.** Maps of ground water availability, the Phoenix Active Management Area, irrigated areas and rivers and canals were obtained from the Arizona Department of Water Resources. Salt River Project supplied the boundaries of the Salt River Reservoir District.

**Natural Vegetation.** Information on vegetation was acquired from two sources: Arizona, A Geography, Malcolm L. Comeaux, Westview Press, Boulder, CO, 1981; and Desert Plants, Appendix I, D. E. Brown, 1982

**Air Quality.** PM-10 24-hour concentrations, Ozone Concentrations and Carbon Monoxide concentrations were derived from Maricopa County Department of

Environmental Services and Arizona Department of Environmental Quality Monitoring stations.

**Open Spaces.** The features shown on the Open Space Map were derived from a variety of coverages. These coverages were provided by the Maricopa County Flood Control District, the Maricopa Association of Governments (MAG 1995 Land Use Coverage), the Arizona Department of Game and Fish, the Bureau of Land Management, and the State Land Department.

### BUILT ENVIRONMENT

**Current Land Use.** Maricopa Association of Governments Existing Land use Coverage is based upon 1995 conditions. 1990 existing land use maps previously developed by MAG were distributed to cities and towns, updated to 1995 and verified by the jurisdictions.

The original land use coverages from the Maricopa Association of Governments contained the land use classifications on the left. These classifications were combined to create the final map land use classifications show below:

| <u>Original Land Use Classifications</u> | <u>Combined Land Use Classifications</u>                               |
|--|--|
| Agricultural                             | Agricultural / Vacant  |
| Vacant                                   | Agricultural / Vacant  |
| Dedicated or Non-developable             | Open Space   |
| Recreational Open Space                  | Open Space   |
| Business Park                            | Industrial / Warehousing   |
| Warehouse / Distribution Center          | Industrial / Warehousing   |
| Large Assembly Area                      | Industrial / Warehousing   |
| Industrial                               | Industrial / Warehousing   |
| Office                                   | Industrial / Office  |
| Airport                                  | Public Facilities  |
| Public Facility                          | Public Facilities  |
| Institutional                            | Public Facilities  |
| Educational                              | Public Facilities  |
| Small Lot Residential                    | Residential  |
| Medium Density Residential               | Residential  |
| High Density Residential                 | Residential  |
| Large Lot Residential                    | Residential  |
| Community Retail Center                  | Commercial   |
| Neighborhood Retail Center               | Commercial   |
| Regional Retail Center                   | Commercial   |
| Hotel, Motel, or Resort                  | Commercial   |
| Rural                                    | Low Density Residential  |
| Water                                    | Water / Drainage   |
| Transportation                           | This category was excluded and the existing roadway network was added. |

**Facilities with Environmental Issues.** Noise contours for the airports shown were obtained in electronic format from the MAG Regional Aviation System Plan Implementation Study adopted by the Regional Council in December 1996. The noise levels shown reflect average 24-hour noise on an average day. Landfills and Wastewater Treatment facilities were obtained from MAG. Only municipal landfills are shown.

**Owner Housing Value.** Owner housing value was derived from the 1990 census. The information was collected for all households. The Census questionnaire asked respondents to report the value of the housing unit, including the land it is on and any other structures on the same property. The results were then summarized by range. Although housing unit values have changed considerably since 1990, the map does provide an indicator of the relative value of housing throughout the region.

**Rental Unit Cost.** Rental Unit costs were obtained from the 1990 census. The information was collected for all households. Respondents were asked to report the rent that they paid, and the results were summarized in 26 ranges. Although rental unit costs have changed considerably since 1990, the map does provide an indicator of the relative rental costs of housing by geographic area.

**Housing by Structural Type.** Information on housing by structural type was obtained from the 1995 Special Census. Each map reports a category of housing including single-family, townhouse, multi-family and mobile homes. Townhouses include condominiums, while multi-family units reflects apartments. The census data were reported by Enumeration District and then distributed to TAZ, and divided by the area of each TAZ to calculate a density.

**Housing Characteristics.** The data for the map showing 1995 seasonal housing units per square mile were derived from the 1995 Special Census. A seasonal unit is one that is occupied by non year-round residents. The data on seasonal housing units was allocated from enumeration district to TAZ and divided by the area of each TAZ to determine the number of seasonal housing units per square mile.

The data for the map showing 1995 percent of units owner occupied were also obtained from the 1995 Special Census. Owner occupied units and total units by Enumeration District were allocated to TAZ. By dividing the owner occupied units by the total units in each TAZ a percent of units owner occupied was derived.

The data for the map on the number of housing unit completions between 1990 and 1995 were obtained from the MAG residential completion database. It reflects units constructed between April 1, 1990 to June 30, 1995. Each quarter MAG collects residential completion information from its 27 member agencies. The data are then summarized and forwarded to each jurisdiction for verification and modification as necessary. After verification the housing units were geocoded. For this map they were summed by TAZ.

The map of the average age of housing units as of 1990 was obtained from the 1990 Census of Population. The census questionnaire asked a sample of households what year the structure was constructed. By subtracting the year in which the structure was built from 1990, the age of the housing unit was derived. These ages were then distributed to and averaged by TAZ.

**Planned Freeways and Arterial Street Improvements.** Planned freeways and arterial street improvements were derived from the MAG Long Range Transportation Plan and 1997 Update.

**Planned Land Use.** Planned land use was obtained from the Maricopa Association of Governments General Land Use Coverage, 1995. This coverage was assembled from 1995/1996 adopted General Plans of member agencies.

The original land use coverages from the Maricopa Association of Governments contained the land use classifications on the left. These classifications were combined to create the final map land use classifications shown below:

| <u>Original Land Use Classifications</u> | <u>Combined Land Use Classifications</u>                               |
|--|--|
| Agricultural                             | Agricultural / Vacant  |
| Dedicated or Non-developable             | Open Space   |
| Recreational Open Space                  | Open Space   |
| Business Park                            | Industrial / Warehousing   |
| Warehouse / Distribution Center          | Industrial / Warehousing   |
| Industrial                               | Industrial / Warehousing   |
| Office                                   | Industrial / Warehousing   |
| Airport                                  | Public Facilities  |
| Public Facility                          | Public Facilities  |
| Institutional                            | Public Facilities  |
| Educational                              | Public Facilities  |
| Small Lot Residential                    | Residential  |
| Medium Density Residential               | Residential  |
| High Density Residential                 | Residential  |
| Large Lot Residential                    | Residential  |
| Community Retail Center                  | Commercial   |
| Neighborhood Retail Center               | Commercial   |
| Regional Retail Center                   | Commercial   |
| Hotel, Motel, or Resort                  | Commercial   |
| Rural                                    | Low Density Residential  |
| Mixed Use                                | Mixed Use  |
| Unknown                                  | Mixed Use  |
| Water                                    | Water / Drainage   |
| Transportation                           | This category was excluded and the existing roadway network was added. |

**Population Growth.** Resident population for 1964 was obtained from 1964 datasets by TAZ. Resident population for 1995 was obtained from the 1995 Special Census and resident population for 2020 was obtained from the MAG Socioeconomic Projections Interim Report. The extent of growth for each of the three years (1964, 1995, and 2020) was outlined by contiguous TAZ's with more than 1,500 people per square mile.

**Employment Growth.** Employment for 1964 was obtained from a previous MAG dataset. 1995 employment was obtained from the MAG 1995 Employer Database and 2020 employment was obtained from the MAG Socioeconomic Projections Interim Report. The extent of growth for each of the three years (1964, 1995, and 2020) is outlined by areas with employment densities over approximately 2,500 workers per square mile.

**Large Scale Developments.** Large Scale Developments were derived from the MAG Development Database. The developments illustrated on the map were residential developments of greater than 1,000 acres that were proposed or under development. Residential developments that had been largely built-out were excluded.

**DEMOGRAPHICS**

**Population Density.** Population was obtained from the 1995 Special Census by enumeration district. The population data were distributed to TAZ and then divided by the area of the TAZ to derive a population density.

**Median Household Income.** Median Household Income was derived from the 1995 Special Census. Sixty-four percent of the individuals surveyed in the Special Census responded to the income question. Special Census enumeration district data were distributed to TAZ.

**Socioeconomic Indicators.** In order to estimate the number of poverty households by census tract, MAG staff used 1995 Special Census household size and income range data. Because the first four income ranges approximate the poverty guidelines for one, two, three and four person and above households, it was possible to develop an estimate of the number of poverty households based on those households that reported income. Approximately 64 percent of the households in Maricopa County responded to the income question. The number of poverty households by census tract was then divided by the total number of households to derive a percent of households below the poverty level.

The data used to create the map Percent of Households with Incomes of \$60,000 or more was derived by Enumeration District from the 1995 Special Census. The Special Census provided information on households by income range, including households with more than \$60,000 in income. Households with more than \$60,000 in income were then distributed to Traffic Analysis Zones and divided by the total number of households in those zones to derive a percent of households with more than \$60,000 income.

**Ethnicity.** The data used to produce the ethnicity maps were derived from the 1995 Special Census and allocated from Enumeration District to Traffic Analysis Zone. The American Indian category includes American Indians, Eskimos, and Aleuts. Persons of Hispanic origin may be of any race. These data do not include persons of Puerto Rican descent. Percent of population in each racial or ethnic group was derived by dividing the number of persons in that ethnic group by Traffic Analysis Zone by the total number of persons in that Traffic Analysis Zone.

**Age Distribution.** The distribution of population by age group was derived from the 1995 Special Census at the Enumeration District level and then distributed to Traffic Analysis Zones. Census confidentiality requirements limited the age ranges that could be produced at the Enumeration District level. These age ranges included: 0-4, 5-17, 18-21, 22-54, 55-59, 60-74, 75-84, 85 years and older. For mapping purposes the first two age groups were aggregated to under 18, the next three age groups were aggregated to 18-59, and the last three age groupings were aggregated to obtain the population over 60. The number of people in these age ranges were then divided by the total number of persons to obtain a percentage by the age grouping. The median age was obtained directly from the Special Census by Enumeration District as distributed to TAZ.

**Household Occupancy Characteristics.** The average number of persons per household was derived from the 1995 Special Census. This was derived by allocating total households and total population in households from Enumeration District to TAZ. The average number of persons per household was then obtained by dividing the population in households by number of households. A household is an occupied housing unit. The household occupancy characteristics reflected on the other three maps were also based upon the 1995 Special Census. Number of households with two adults and children, with one adult and children, and with single persons were distributed from enumeration district to TAZ and then divided

by total households to obtain a percentage of the particular household occupancy type.

**Migration and Mobility.** The data used to prepare the maps that address foreign born, average number of years in the same house and percent moving to the Urban Area were derived from the 1990 Census of Population. Migration to Maricopa County was derived from the Income Division of the Internal Revenue Service.

**EMPLOYMENT**

**Percent Employed.** Percent of population employed was derived from the 1995 Special Census. The number of individuals employed by place of residence, was distributed from Enumeration District to TAZ and then divided by the total population to obtain the percent of total population employed.

**Occupational Characteristics.** Data on employment by occupational category were derived from the 1990 Census of Population. The number employed in each of the four occupational categories were distributed to TAZ and then divided by total employed in the TAZ to derive the percentages by each category.

**Share of Employment and Population Not Employed.** The data used to produce these maps were obtained from the 1995 Special Census of Population. Numbers of employed individuals who are female, were distributed from Enumeration District to TAZ and then divided by the total employed to derive percent of all employed that are female. Percent of retirees, students and persons not employed were derived by distributing those individuals from Enumeration District to TAZ and then dividing by the total population.

**Employment Density.** The data used to create this map were derived from the 1995 MAG employer database. MAG collected information on all employers in Maricopa County from which employment estimates by TAZ for 1995 were derived. These employment estimates are by place of work. By dividing the employment by place of work by the area of TAZ, employment densities were derived.

**Employment Type.** The data used to create employment density by employment type were derived from the 1995 MAG employer database. The employment by place of work in this database was assigned to one of four employment type categories and then divided by the area of the TAZ to obtain jobs per square mile.

**GOVERNMENT**

**Municipal Boundaries.** Municipal Boundaries were obtained from a coverage assembled by the Maricopa County Department of Transportation as of 1995. Because the map used to display the boundaries is confined to the urban area, jurisdictions whose municipal boundaries go beyond the urban area, only have that portion of their limits within the urban area reflected. These include Queen Creek, Surprise and Peoria. Three other jurisdictions, Wickenburg, Buckeye and Gila Bend, are also displayed; however, their boundaries do not fall within the identified urban area. Therefore, they are shown off to the side with an arrow pointing in the general direction of their location.

**School Districts and Colleges.** The boundaries of school districts were obtained from a coverage provided by the Maricopa County Department of Transportation. Colleges were identified from the MAG Bikeways map and from information provided by MAG staff.

**District Boundaries.** Legislative district boundaries were derived from a Arizona Land Resource Information System coverage. District numbers were obtained from an Arizona Capital Times publication, Arizona Political Maps.

**Taxes.** Boundaries of tax districts were obtained from the Maricopa County Assessors Office. Property tax rates were obtained from the Arizona Tax Research Association while sales tax rates were obtained from the Arizona League of Cities and Towns.

**Public Land Ownership.** The data for this map were derived from a coverage provided by the Arizona Land Resource Information System. The coverage includes Private, State Land Trust, Indian Community, Wildlife, Bureau of Land Management, Parks and Open Space, National Forest, and Military Land Ownership.

The database coded each of the above types of land ownership with a single value. The values were then aggregated to produce a map that shows private, state, federal, and Indian community lands. The Private class is composed solely of Private lands. The State lands are solely State Land Trust lands. The federal lands are an aggregation of Wildlife, Bureau of Land Management, Parks and Open Space, National Forest and Military Lands. The Indian Communities are solely based upon the Indian Community classification.

**URBAN SERVICES**

**Average Evening Peak Period Travel Speeds.** Average evening peak period speeds were derived from a 1993 Travel Speed and Delay Study prepared by the Maricopa Association of Governments. It is based upon survey data.

**Traffic.** 1996 freeway traffic and congested intersections were projected using the MAG transportation model and reported in the 1996 MAG Long-Range Transportation Plan. A congested intersection is one defined as having a volume of traffic that is greater than 91 percent of its capacity. 1993 PM travel time from downtown was derived from the 1993 Study of Travel Speed and Delay in the MAG Region. 1995 Accidents were obtained from Arizona Department of Transportation (ADOT) ALISS. No information was received from ADOT for intersections with fewer than 20 accidents. Information was provided by ranges for 20-29 and 30 or greater accidents per intersection. The accidents occur either at the intersection or nearby.

**Average Weekday Traffic.** The data portrayed on this map were derived from 1995 traffic counts supplied to MAG by member agencies. Counters were set out for a representative period according to standard traffic engineering procedures.

**Transit Service.** Transit service by local and express bus routes was obtained from a coverage supplied by the Regional Public Transportation Authority. The service is based upon 1997 data.

**Intermodal Facilities.** The location of intermodal facilities, which include bus, rail, airport, pipeline, and truck terminals, was provided by the Maricopa Association of Governments' Intermodal Management System report dated April 1995.

**School Standardized Tests.** Elementary and Middle School test scores were based upon the Iowa Test of Basic Skills. The High School test scores were based upon the Tests of Achievement and Proficiency. All tests scores were reported by the Arizona Department of Education. The enrollment figures for public colleges and universities were obtained from the Arizona State Board of Regents and the Maricopa Community Colleges.

**Outdoor Recreational Opportunities.** The location of golf courses was derived from a coverage provided by the Arizona Water Resource Division. The parks and recreation areas were provided from the MAG Desert Spaces Plan.

**Utility Locations.** The electrical power service areas were derived from coverages provided by the Maricopa County Department of Transportation. Sewage plant locations and water company information were obtained from the Arizona Department of Water Resources. A coverage of fire protection service areas was provided by Rural Metro.

**Shopping Centers.** Shopping center data were derived from Kammrath and Associates. The largest shopping centers in terms of occupied square feet in active use are displayed. Shopping centers with a vacancy rate greater than 50% are not shown.

**Cultural and Sport Attractions.** Cultural and sport attractions were derived from the U.S. West Dex Community Pages. Arizona Business Magazine, 1998, Ranking Arizona was used to determine which museums should be identified on the map. The museums selected were drawn from the Maricopa County portion of the sixty most visited museums.

**Bikeways.** Bikeways were derived from a coverage developed by the Maricopa Association of Governments used to prepare the Bikeway map.

*Thomas Buick*  
*MCDOT*

*Compliments of Maricopa Association of Governments*

