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Town Hall

MARICOPA ASSOCIATION of GOVERNMENTS

Regional Town Hall
Transportation Issue Paper

March 28, 2003

PREFACE

This report has been prepared for participants in the First Annual Regional Town Hall, hosted by Maricopa Association of Governments. The purpose of the Town Hall is to obtain business and community leader input in the development of the Regional Transportation Plan. While there are many transportation related issues affecting Maricopa County, this report focuses primarily on those affecting the elements of the Regional Transportation Plan.

This report has been compiled* from a variety of sources and represents, to the best of our knowledge, the most accurate and up-to-date information available.

*Information compiled by S.R. Beard and Associates, Transportation Consultants

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EXECUTIVE SUMMARY

Introduction.

We live in one of the fastest-growing regions in the United States. Growth brings with it many economic opportunities, but it also brings challenges. One such challenge is how to plan and develop a transportation system that will continue to serve a population that is expected to double in the next 30 years. How will six million people get to where they live, work, shop and play? What will our transportation priorities be decades from now? What alternative transportation options will be available?

This issue paper was prepared for participants of the First Annual MAG Regional Town Hall on Transportation. The various data contained in the following document are designed to provide a statistical portrait of the region and to examine many of the influences that impact our transportation system. Please note that it is not necessary for you to know this information in detail; it is provided solely as a framework to assist you in understanding the forces at work in this region and as background for conceptual discussions. Higher-resolution, color versions of the maps contained within this document will be displayed at the Town Hall.

Section 1.0 – Population and Employment Growth.

In this section, we look at some of the population trends that are shaping Maricopa County, which is currently the nation's fourth largest county in terms of population size, and the 14th largest in land area. With a current population of about three million, the Valley's population is expected to swell to approximately six million by the year 2030.

In spite of this rapid growth, it might be surprising to note that the Valley's density has increased. While the population between 1990 and 2000 increased by 45 percent, density in the Phoenix-Mesa Urbanized Area increased by 34 percent.

As the Valley's population has swelled, so have employment opportunities. Nineteen percent of all vehicle miles traveled in the region are job commutes. Total employment in Maricopa County is expected to double from 1.5 million today to more than three million in 2030.

Section 2.0 – Summary of Current Transportation Plans and Programs.

As a federally designated Metropolitan Planning Organization, (MPO) the Maricopa Association of Governments (MAG) is charged with developing the region's short-term and long-term transportation programs. The five-year program is called the Transportation Improvement Program (TIP), and contains projects to be built during the next five years. The Long Range Transportation Plan is updated every year and provides the transportation blueprint for the next 20 years. The long range plan is currently being revised and will soon be replaced through a new planning effort known as the Regional Transportation Plan. The Regional Transportation Plan will serve as the foundation for an anticipated ballot measure that will seek to extend the current half-cent sales tax for transportation another 20 years.

As the MPO, MAG is also charged with ensuring that the transportation projects, programs, and plans do not cause or contribute to violations of the federal air quality standards. All transportation improvement programs and transportation plans must undergo a "conformity

analysis," a regional emissions analysis performed to determine whether the plans conform to air quality implementation plans.

As part of its regional transportation planning responsibilities, MAG programs additionally include the development of Intelligent Transportation Systems (using technology to help manage transportation); bicycle and pedestrian planning; safety planning; aviation planning; and developing plans to address the transportation challenges facing an aging population.

Section 3.0 – Past Accomplishments in Transportation.

The transportation system of the future will build on the foundation of the past 20 years. Improvements to the Valley's freeway system have been a major transportation success story. In 1985, voters approved a one-half cent sales tax for transportation in the region. Since 1985, the miles of new freeways in the region have more than doubled to 95 miles, and a total of 147 miles will be completed by the year 2007.

Additional improvements have been made in the areas of regional access, safety, and transit. Bus ridership increased about 130 percent over a 15-year period, from 17.5 million passenger boardings in fiscal year 1986 to about 40.2 million passenger boardings by fiscal year 2001. Increases were also seen in the number of bicycle commutes – the estimated total distance ridden by bicycle commuters is nearly 450,000 miles per day.

Section 4.0 – Role and Performance of Freeway, Street and Transit Systems.

While nearly 150 miles of freeway will be complete by 2007, the increased travel projected in the region will take its toll. Even with the expansion of the transportation facilities shown in the currently approved Long Range Transportation Plan, levels of service or congestion on the region's freeways and at the major intersections are expected to worsen by 2030.

The major means that people use to get to work have not substantially changed since 1990. However, the average travel time to work has risen by more than three minutes from 1990 to 2000. The number of arterial Vehicle Miles Traveled (VMT) is anticipated to nearly triple, and freeway VMT is projected to increase by almost two-thirds over existing levels. However, by 2030 the region will have only 30 percent more freeway general-purpose lanes, 87 percent more HOV lanes, and only twice the arterial street lanes. The areas affected by congestion in the future may extend throughout the region, instead of being concentrated in the central portion of the metropolitan area as they are today.

Section 5.0 – Existing Transportation Revenue Sources.

Current funding for surface transportation projects is derived mainly from various federal, state, regional, and local sources.

MAG receives approximately $70 million each year directly from the federal government in the form of federal suballocated funds: $35 million each year go to Surface Transportation Program (STP) funds, which can be used for highways, local streets and transit. The other $35 million are dedicated to Congestion Mitigation and Air Quality (CMAQ) projects, which include programs such as trip reduction, rideshare, buses, bike and pedestrian projects.

State funding includes revenue available to ADOT through the Highway User Revenue Fund and federal funding allocations. These sources include gasoline and fuel use taxes, motor

carrier taxes, vehicle license tax, motor vehicle registration fees, and other miscellaneous fees. On average, MAG receives about $200 million of state highway funding for the MAG regional freeway system.

Regional funding comes primarily from the Regional Area Road Fund, a result of the half-cent sales tax for transportation levied in 1985. That fund is set to expire in 2005.

Local sources also provide funding, with individual cities dedicating revenue to a variety of road and transit projects.

Finally, financing options such as bonds, Highway Expansion and Extension Loan Program funds, and Grant Anticipation Notes provide loans and financial assistance for transportation project. A complete listing of revenue sources can be found in Table 5-1.

Section 6.0 – Issues Affecting the Future of Transportation.

Population and employment growth, as well as levels of congestion on our transportation system, are often recognized as predominant factors in understanding the needs for future transportation improvements. However, many other issues affect our transportation needs. Land use, the environment, economic growth and an aging population all affect the types of transportation improvements necessary, as well as our ability to plan and implement them.

Section 7.0 – Maricopa County Regional Transportation Survey.

Maricopa County voters could be allowed to decide as early as 2004 whether to extend the half-cent sales tax another 20 years. Continuation of the tax could raise about $8.3 billion to make the transportation improvements necessary to continue the progress made over the past 20 years. Many voters seem willing to make that investment: in a recent poll of 1,009 voters conducted by the Behavior Research Center, eight out of ten people said they would support the tax extension. A majority offered positive ratings in terms of their satisfaction with freeways and streets, and many recognized there is not enough funding available to cover future transportation improvements.

Surprisingly, many voters did not realize the transportation sales tax is set to expire in 2005. The majority of those who were aware indicated a belief that the current tax has had a major impact on improving the Valley's transportation system.

Voters also seemed to recognize the need for a variety of transportation improvements. When asked how they would distribute $100 between four primary transportation improvements, the distribution was nearly equal between freeway, bus service, light rail transit, and street and road improvements.

Section 8.0 – Classification of Transportation Projects.

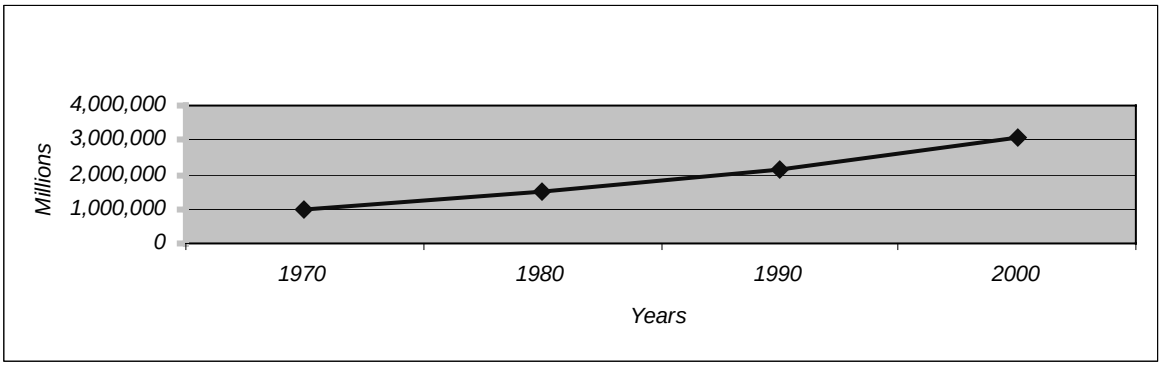
The Regional Transportation Plan (RTP) will consist of a combination of transportation projects. Thirteen different classifications were used to group projects that are under consideration for inclusion into the RTP. The 13 classifications, with a brief description of the types of projects included in each, are summarized in Section 8.0.

1.0 EXISTING AND PROJECTED POPULATION AND EMPLOYMENT GROWTH: FUTURE TRANSPORTATION NEEDS

1.1 POPULATION GROWTH

One of the greatest transportation challenges facing the Valley is how the system will accommodate our continued population growth. Maricopa County is the nation's fourth largest county in terms of population size, and the 14th largest in land area, covering 9,223 square miles. About 60 percent of the 5.1 million residents in Arizona live in Maricopa County. Over the past 30 years (1970-2000), Maricopa County has grown from 971,228 to 3,072,149 residents, a 216 percent increase (Figure 1-1).

FIGURE 1-1: MARICOPA COUNTY POPULATION GROWTH 1970-2000



U.S. Bureau of the Census
http://www.census.gov/population/cencounts/az

Between 1990 and 2000, the county's population grew by 45 percent from 2,122,101 to 3,072,149. During that same time, the density of the Phoenix-Mesa Urbanized Area[1] increased by 34 percent. A large number of freeway miles were also completed during that time period, allowing people to move farther out in the county. Despite that movement, the density within the urbanized area has increased substantially.

Fueling the County's growth are two cities in the East Valley and four cities in the West Valley, which have all seen substantial growth in the last decade. In the East Valley, Gilbert grew 277 percent between 1990 and 2000, from a population of 29,188 to 109,697, and Chandler's population nearly doubled, growing by 96 percent from 90,533 to 179,581.

In the West Valley, Surprise grew by 333 percent, from 7,122 to 30,848. Goodyear grew from 6,258 to 18,911, an increase of 202 percent; Avondale grew from 16,169 to 31,814 an increase of 122 percent; and Peoria grew from 50,618 to 108,364, an increase of 114 percent.

[1] As defined by the US Bureau of the Census

Population growth is expected to continue in Maricopa County. Total population for Maricopa County from the MAG Draft 2 Socioeconomic Projections for 2030[2] is projected to be 6,297,500, an increase of approximately 3,199,400 people, or an increase of 103 percent. The number of cities with a population greater than 250,000 is expected to rise from two cities in 2000 to 10 cities in 2030. Figure 1-2 shows population concentration for Maricopa County for 2000, while Figure 1-3 shows population concentrations for 2030.

[2] Because the Arizona Department of Economic Security has not yet developed or approved new county population controls, MAG has developed these draft projections using interim Maricopa County population and employment control totals. These control totals are based on work done by Arizona State University and the University of Arizona to support a study by the Arizona Department of Commerce to develop a long-range economic strategy for the state. Official MAG population projections will be developed subsequent to DES approval of official population control totals.

FIGURE 1-2: 2000 POPULATION CONCENTRATION

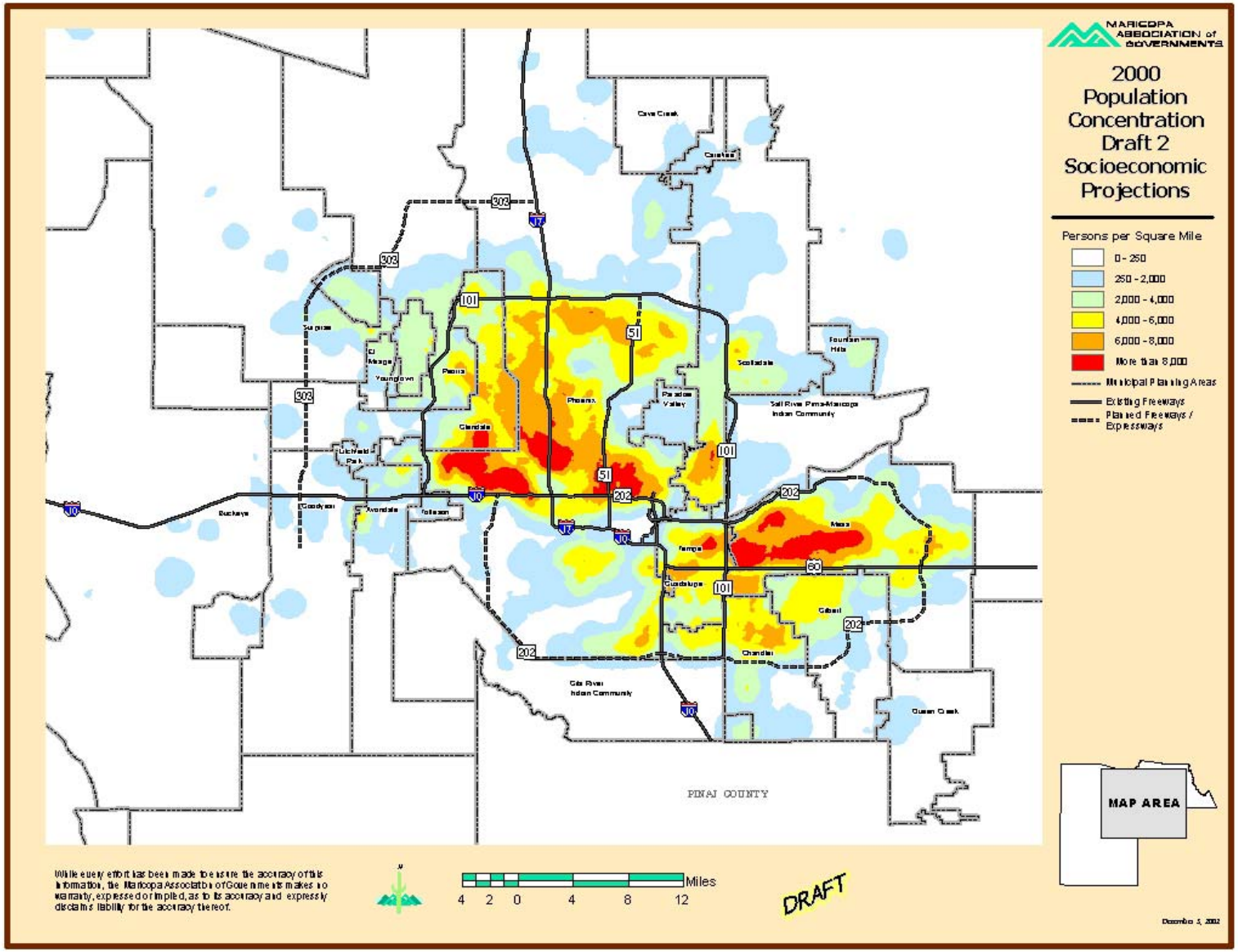
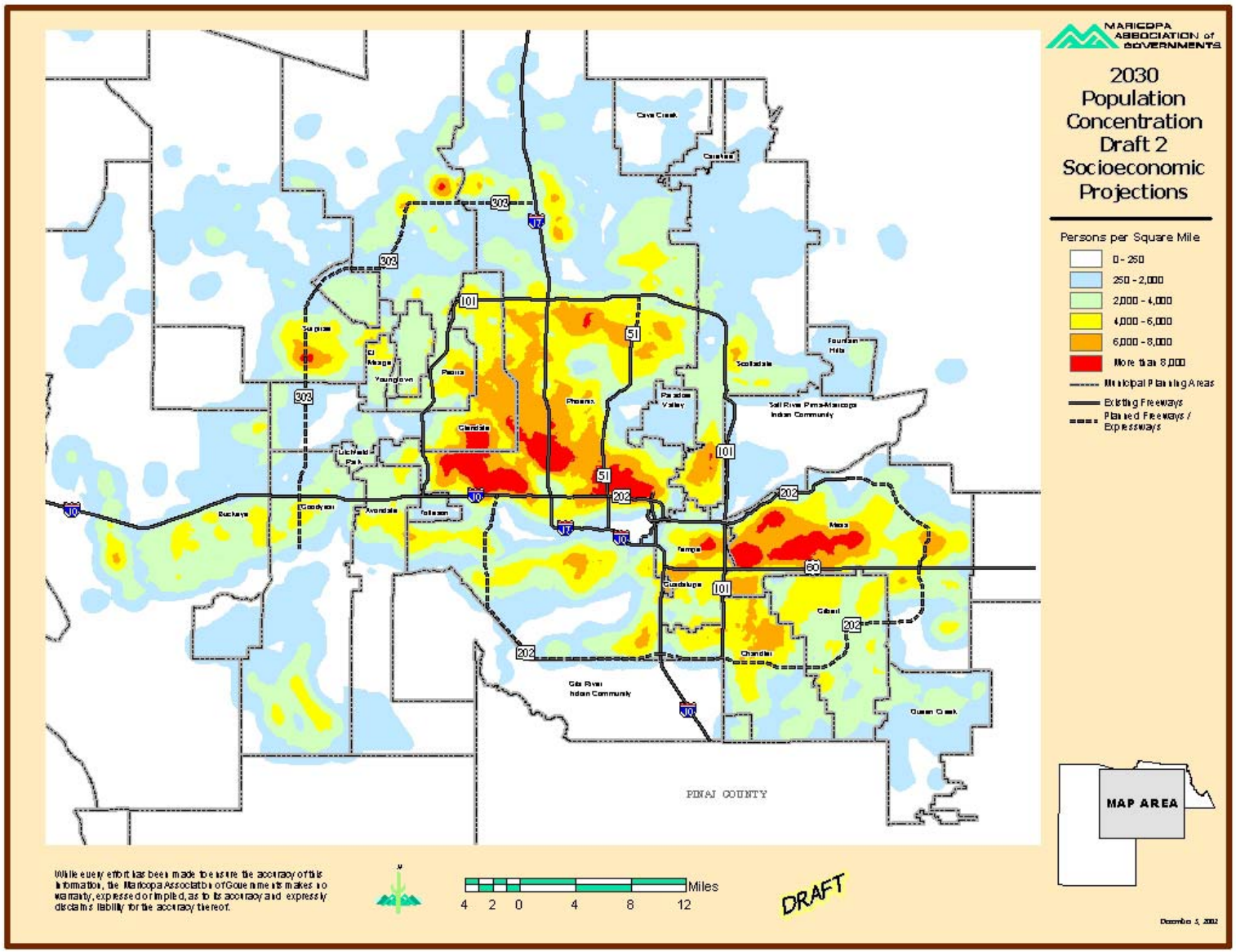


FIGURE 1-3: 2030 POPULATION CONCENTRATION

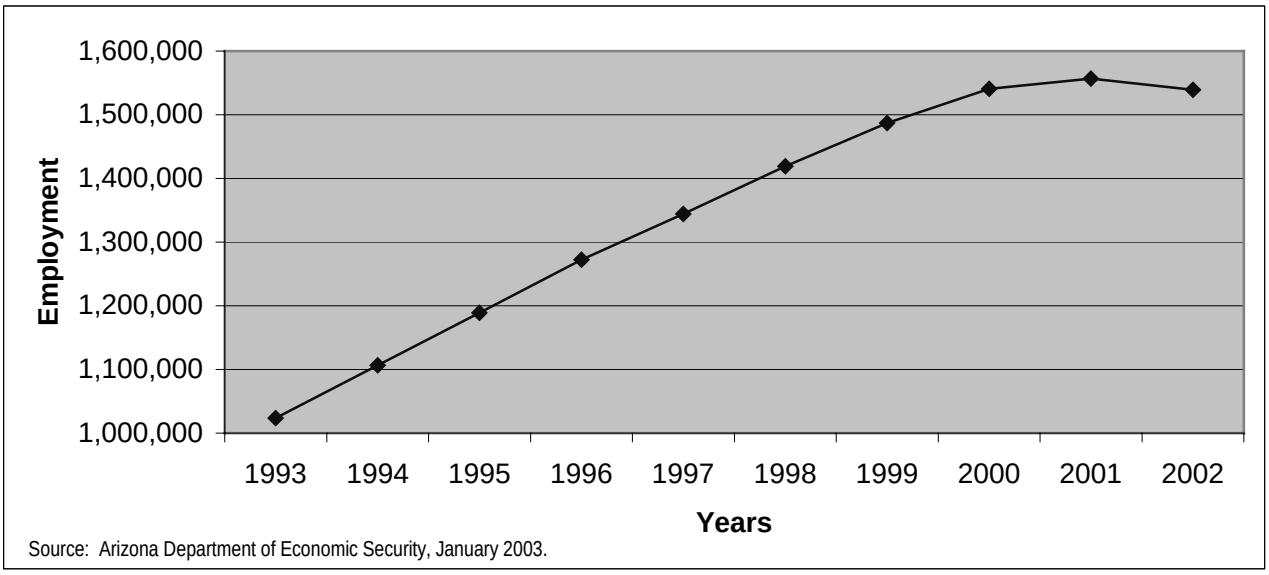


1.2 EMPLOYMENT GROWTH

According to the 2001 MAG Regional Household Travel Survey, 19 percent of all vehicle miles traveled in this region represent job commutes. Getting people to and from work is a primary function of our transportation system.

Employment growth in Maricopa County grew from 613,300 in 1979 to 1,539,100 in 2002, an increase of 152 percent in non-farm employment. An average of 54,800 new jobs per year have been added since 1993.[3] Figure 1-4 shows the continued growth in employment with a slight decline in 2002.

FIGURE 1-4: MARICOPA COUNTY EMPLOYMENT GROWTH 1993-2002



Source: Arizona Department of Economic Security, January 2003.

The primary employment corridors in 2000 are located in downtown Phoenix; in the central corridor from approximately McDowell north to Camelback; and in Tempe. The secondary corridors of employment are located in Mesa, Scottsdale, and along the I-17 corridor in Phoenix. In 2000, the Municipal Planning Areas with total employment of more than 100,000 jobs each were Phoenix, Mesa, Tempe, and Scottsdale, followed by Chandler and Glendale with more than 70,000 jobs each. Municipal Planning Areas are defined to include areas that are anticipated to become a part of a jurisdiction's corporate limits at some time in the future, along with the current corporate limits.

Figure 1-5 shows employment concentration for 2000, while Figure 1-6 shows projected employment concentration for 2030. Employment projections continue to remain strong throughout the region through 2030 and 2040. Total employment for Maricopa County, based on the MAG Draft 2 Socioeconomic Projections for 2030, is estimated to more than three million, or double our current employment. The southwest region of the Valley is projected to have substantial growth in employment. Figure 1-7 illustrates work trip patterns in the MAG region.

[3] Greater Phoenix Economic Council, http://www.gpec.org/

FIGURE 1-5: 2000 EMPLOYMENT CONCENTRATION

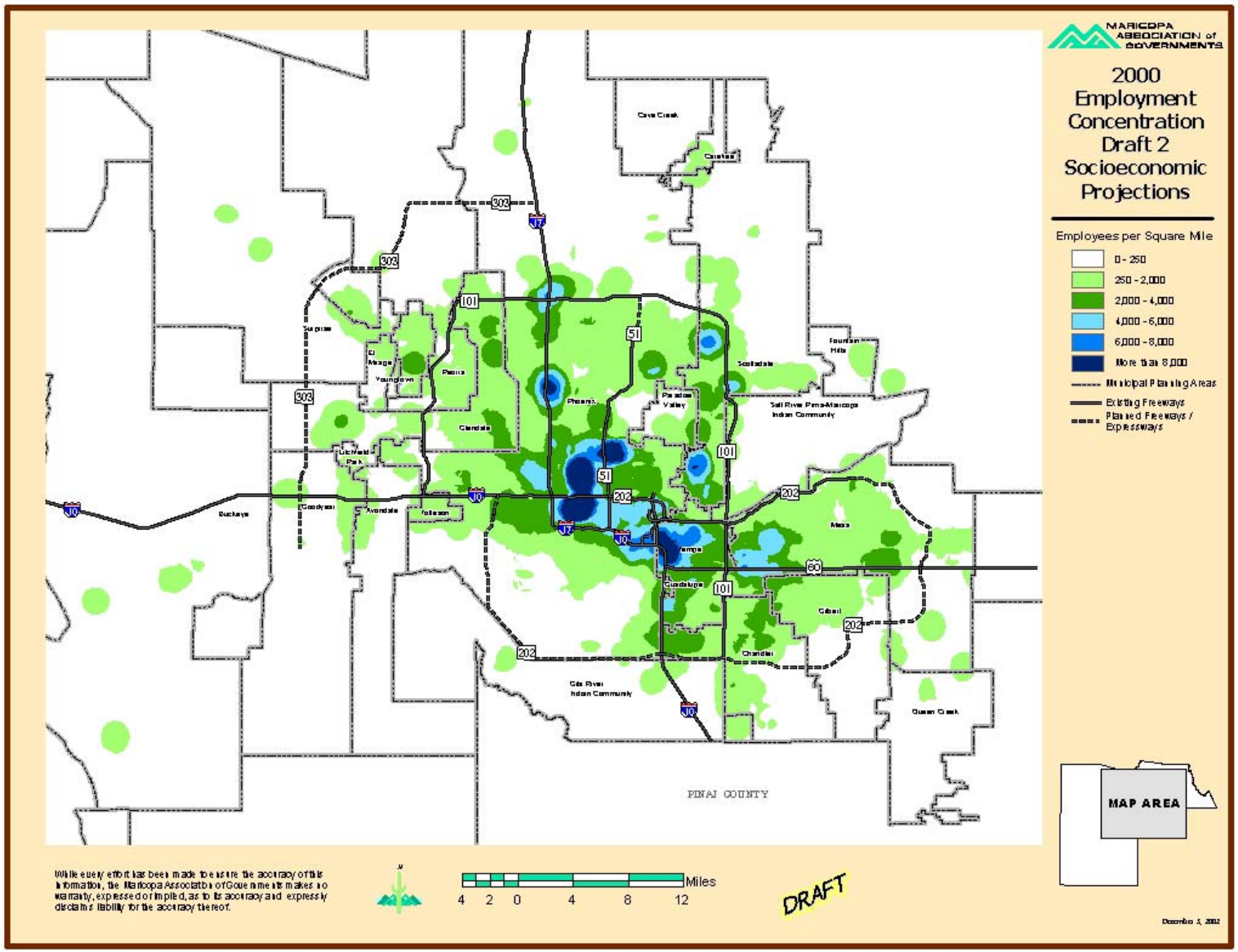


FIGURE 1-6: 2030 EMPLOYMENT CENTERS

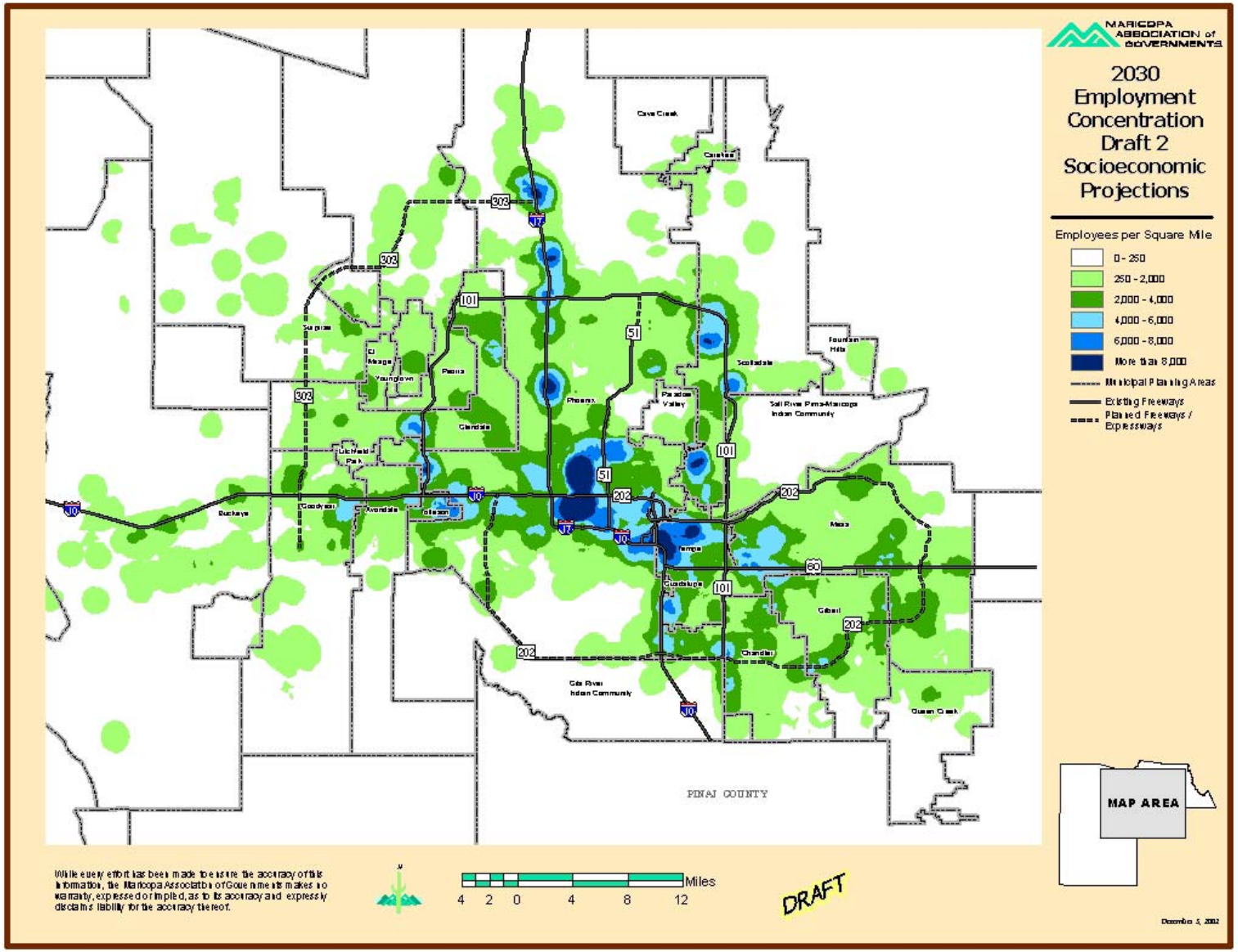
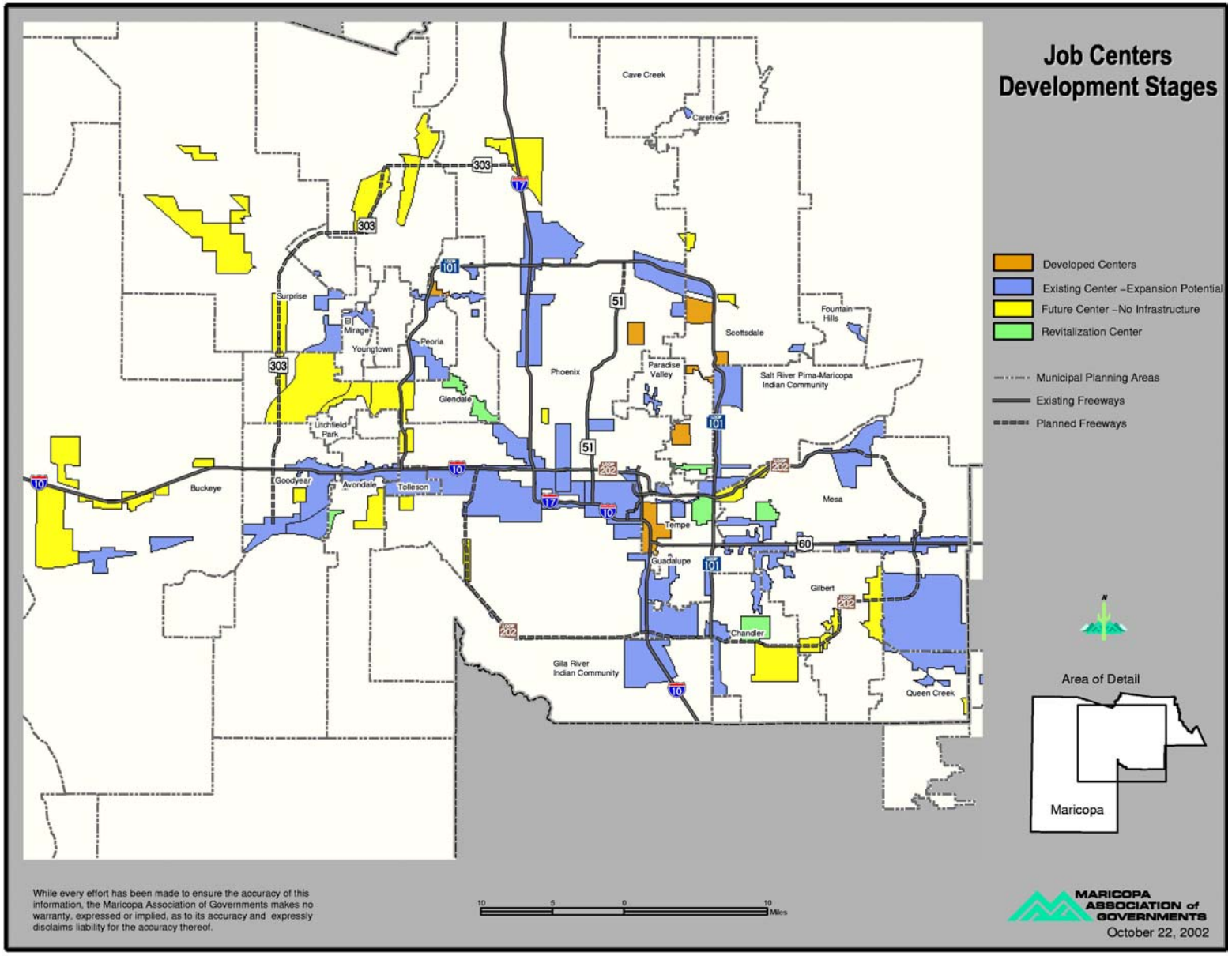


FIGURE 1-7: JOB CENTERS DEVELOPMENT STAGES



1.3 TRANSPORTATION NEED

The rapid growth in Maricopa County is challenging the region's ability to adequately provide infrastructure, especially in outlying developing areas, and still provide the level of mobility that residents experience today. The MAG Long Range Transportation (LRTP) 2002 Update calls for substantial expansion of the regional transportation network in response to the expected growth in the region.

The 2002 LRTP includes:

- A 37 percent increase in freeway/expressway lane-miles.
- A 45 percent increase in street miles.
- Tripling of local bus service.
- Quadrupling of express and commuter bus service.
- A 39-mile light rail transit system.

Even with the expansion of the transportation facilities shown in the currently approved Long Range Transportation Plan, levels of service (LOS) or congestion on the region's freeways and at the major intersections are expected to worsen by 2030 (Figures 4-2 through 4-5 in Section 4.0).

Facility speeds during peak periods are also expected to decrease by more than one-third by 2030 from the current speeds of 36 miles per hour (mph) for freeways and 25 mph for arterials, while the need to travel will continue to grow across the region. Figure 1-7 illustrates the number and patterns of home-based work and university trips within the region in 2030 (MAG Draft 2 Socioeconomic Projections for 2030).

Two transit studies, currently in their final phase of analysis, are the Regional Transit System Study and the MAG High Capacity Transit Plan Study. Both studies examined what the region's transit network should look like in 2030 based on local and high capacity transit networks.

The Regional Transit System (RTS) Study assesses future transit needs within Maricopa County by evaluating the growth in population, employment and low-income households based on desired level of service. This service would be comparable to what is available in Phoenix and Tempe today following those cities' recently approved sales tax increases for transit. The study also includes an assessment of transit needs with the Indian communities and non-urban areas of the region that will experience significant growth, potentially affecting future commuting patterns. The study developed a local and rural network (Figure 1-8) and a regional transit network (Figure 1-9) that address need. The local network includes fixed route, neighborhood circulators, shuttles and paratransit services. The proposed regional network includes freeway based express bus, as well as arterial based limited or skip-stop service tying together major activity centers and park-and-ride lots. The RTS Study, expected to be completed by spring 2003, also identifies rural transit service corridors that provide connections to the metropolitan area and links from the rural areas of the county to the urban transit networks.

The High Capacity Transit Plan, expected to be completed in April 2003, will identify high capacity corridors and assess the feasibility of commuter rail along existing rail corridors for 2040, including new high capacity transit systems with commuter rail, light rail transit, and dedicated bus rapid components. The Plan will recommend next steps that should be taken toward implementation of the high capacity network (Figure 1-10). Information from these two studies will be used in the development of the Regional Transportation Plan.

FIGURE 1-8: 2030 WORK TRIP PATTERNS

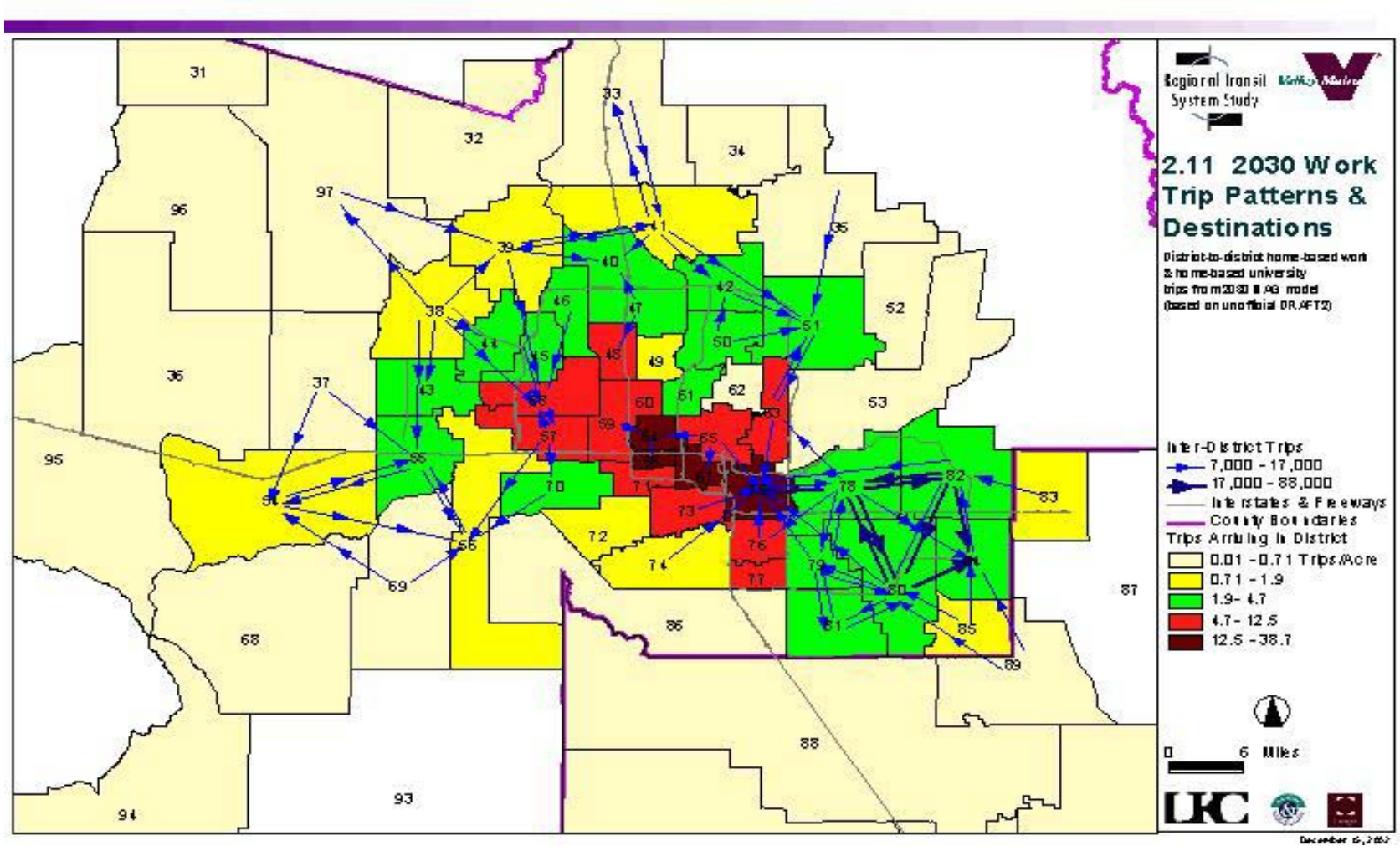


FIGURE 1-9: 2030 LOCAL AND RURAL TRANSIT NETWORK

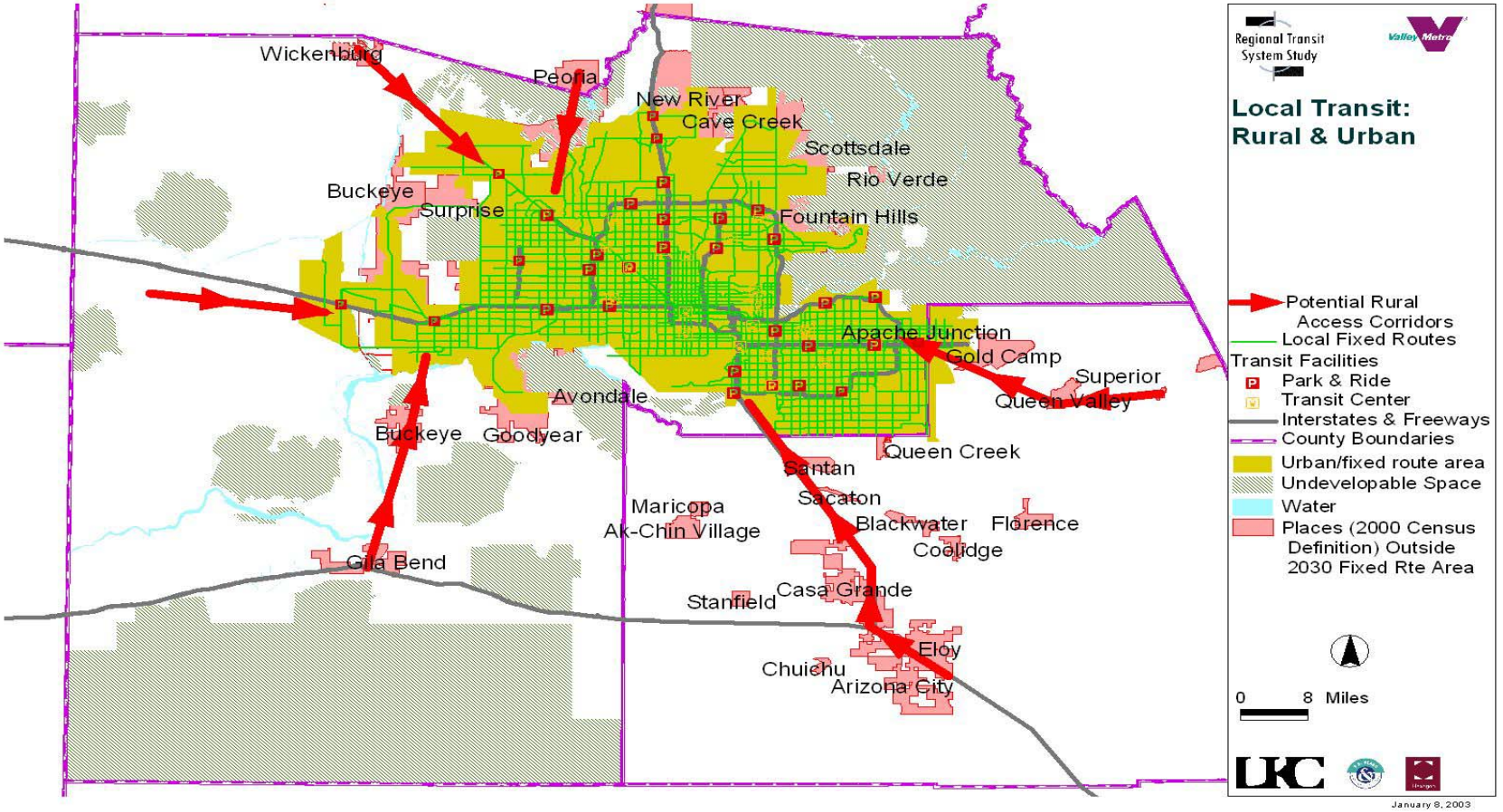


FIGURE 1-10: REGIONAL TRANSIT MAP

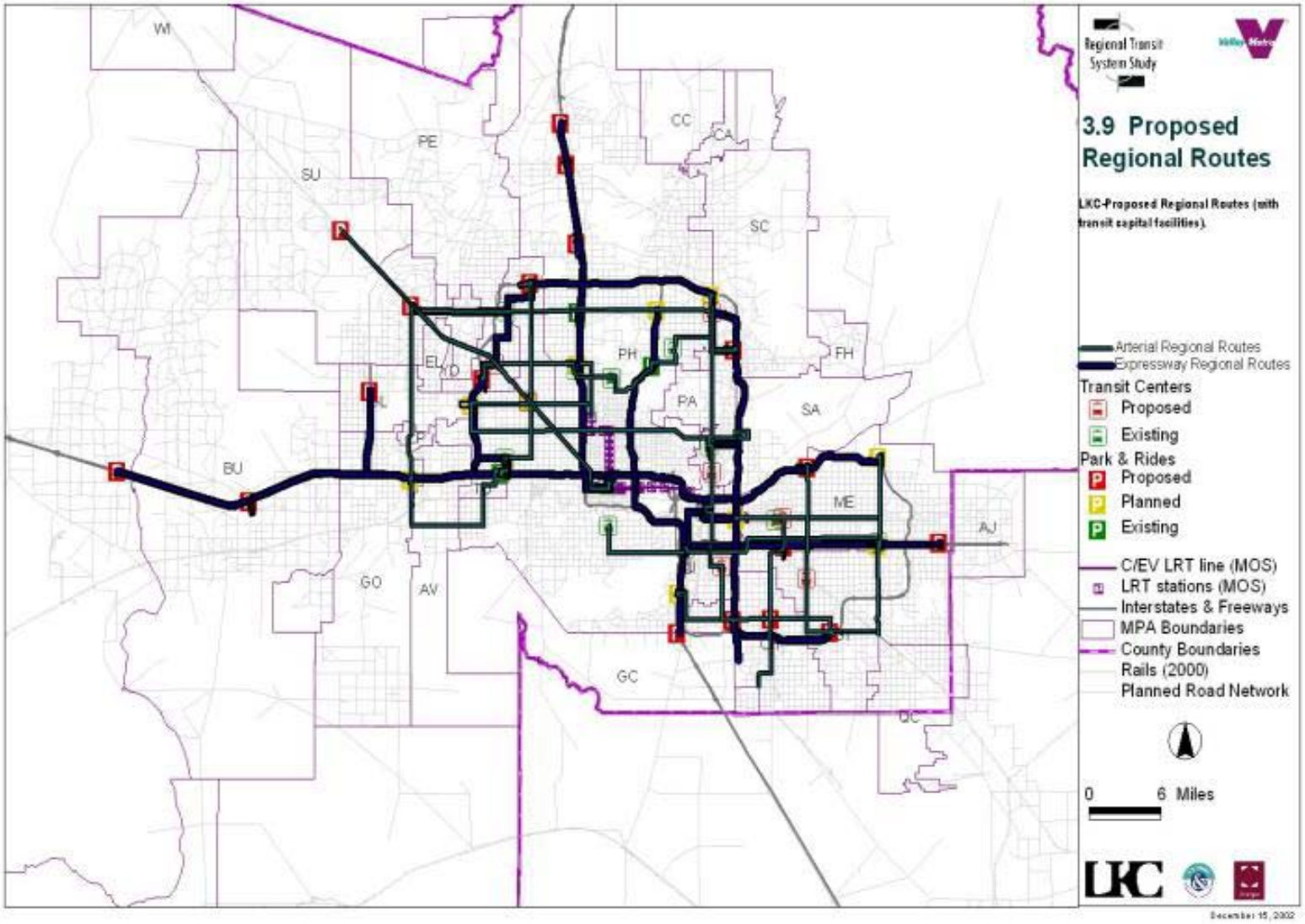
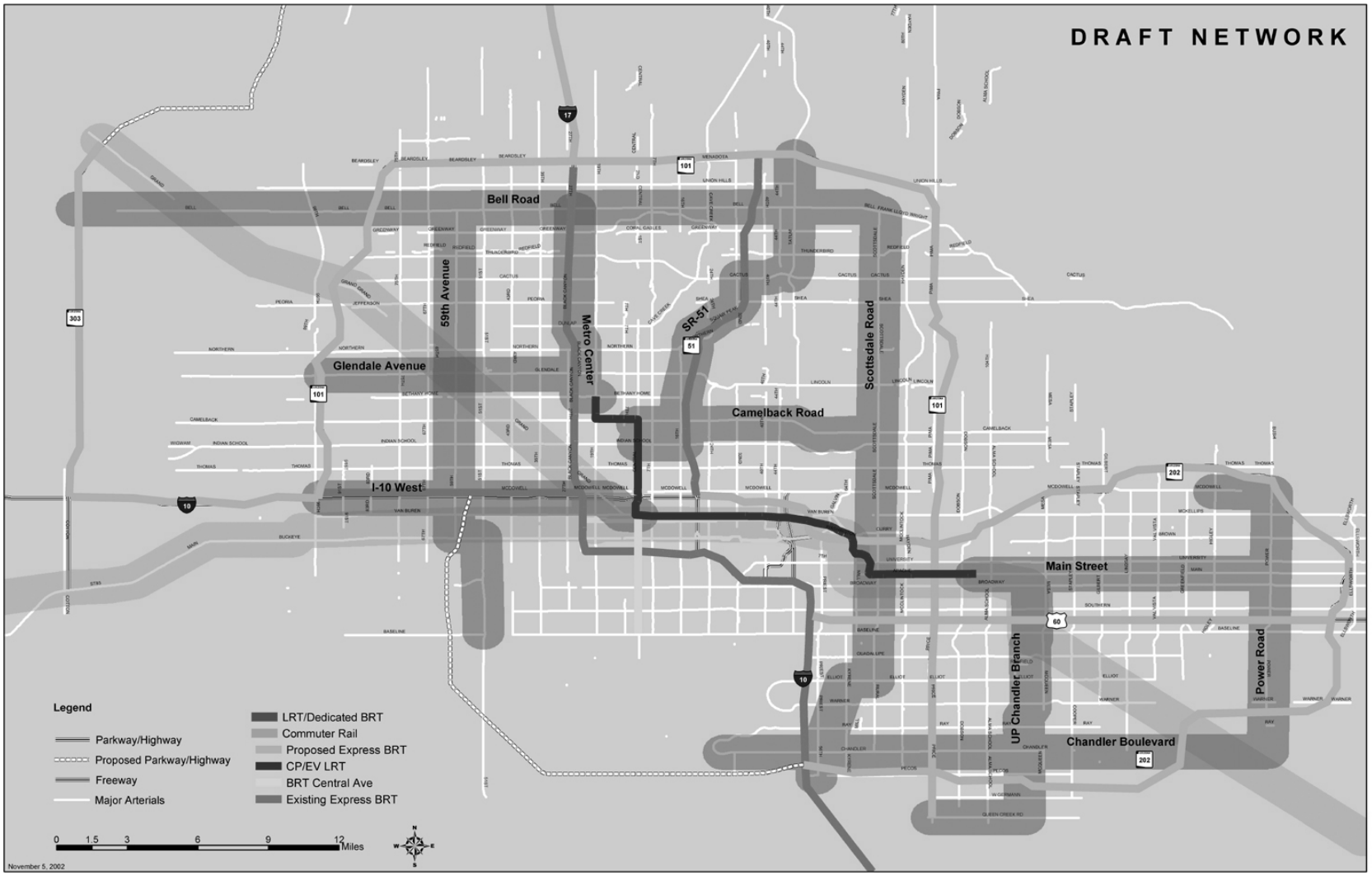


FIGURE 1-11: HIGH CAPACITY TRANSIT STUDY



2.0 SUMMARY OF CURRENT TRANSPORTATION PLANS AND PROGRAMS

The Federal Transportation Act of 1973 required that a Metropolitan Planning Organization (MPO) be established in each urbanized area with a population of 50,000 or more. The Maricopa Association of Governments (MAG) was designated as the MPO for this region that same year. As an MPO, MAG is required to conduct regional transportation planning in cooperation with the Arizona Department of Transportation and the Regional Public Transportation Authority.

2.1 BACKGROUND

In 1991, the Intermodal Surface Transportation Efficiency Act (ISTEA) recognized the challenge of addressing congestion and air quality issues in urbanized areas and determined that MPOs could best address these issues. ISTEA regulations gave MPOs enhanced planning roles that state: "Metropolitan Planning Organizations, in cooperation with the State, shall develop transportation plans and programs for urbanized areas of the State. Such plans and programs shall provide for the development of transportation facilities, which will function as an intermodal transportation system for the State, the metropolitan areas, and the Nation. The process for developing such plans and programs shall provide for consideration of all modes of transportation and shall be continuing, cooperative, and comprehensive to the degree appropriate, based on the complexity of the transportation problems." The Transportation Equity Act of the 21st Century (TEA-21) continued the planning provisions established under ISTEA.

The following are brief summaries defining MAG's plans and programs in meeting ISTEA and TEA-21 planning requirements. All of these various planning activities will be integrated into the MAG Regional Transportation Plan. The ultimate goal is to provide a transportation system that efficiently moves people and goods, and maintains a quality of life and economic vitality for the region.

2.2 REGIONAL TRANSPORTATION PLAN

The Regional Transportation Plan (Plan) that is being developed by the MAG Transportation Policy Committee is a major planning initiative that will result in a broad vision for the regional transportation system. The Plan will include a variety of transportation modes to accommodate the growth expected over the next several decades. It will provide a new policy framework to guide regional transportation investment and will identify and prioritize specific transportation facilities needed to keep up with the increasing travel demands in the region. The Plan will be guided by performance goals such as safety, mobility and air quality.

The Regional Transportation Plan was initiated in November 2000 and is scheduled for completion by 2004. It represents the most comprehensive review of transportation investment needs for the region since the early 1960s. The Plan will have a 20-year horizon and will replace the current planning document, currently known as the MAG Long Range Transportation Plan.

2.3 MAG LONG RANGE TRANSPORTATION PLAN 2002 UPDATE

The Long Range Transportation Plan (LRTP) identifies specific transportation facilities and services to be constructed or provided over a time horizon of 20 years, with the 2002 Update guiding transportation investments through 2022. The Plan is fiscally constrained, so it only includes projects for which funding is currently available or reasonably expected. Figures 2-1 through 2-3 represent highway and transit projects that are currently in the plan. The LRTP relies on the continuation of significant funding for all transportation modes. Potential funding sources could include the extension of the half-cent sales tax for transportation and/or additional gas tax or users fees.

FIGURE 2-1: REGIONAL HIGHWAY SYSTEM

Long Range Transportation Plan 2002
Update

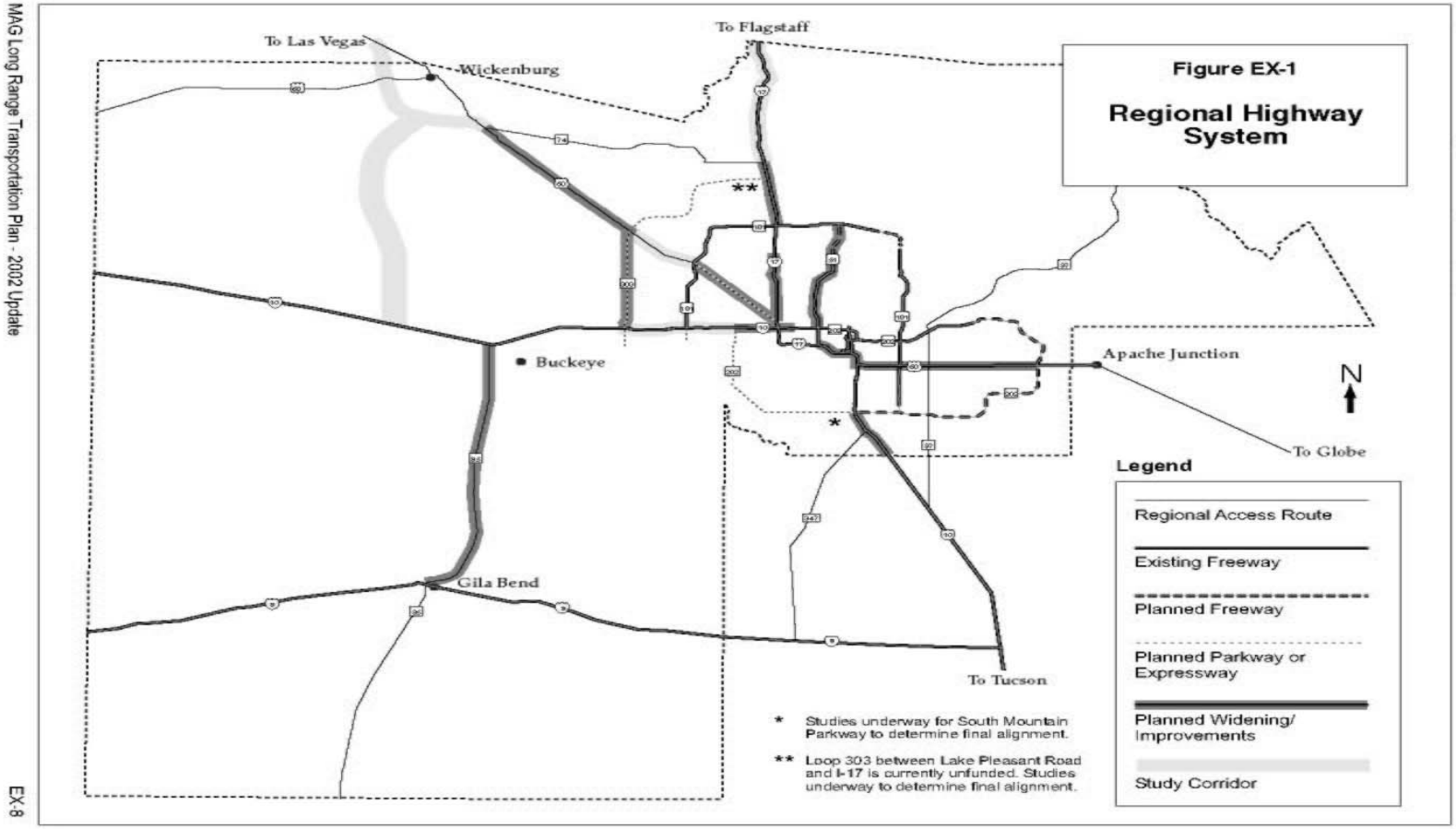
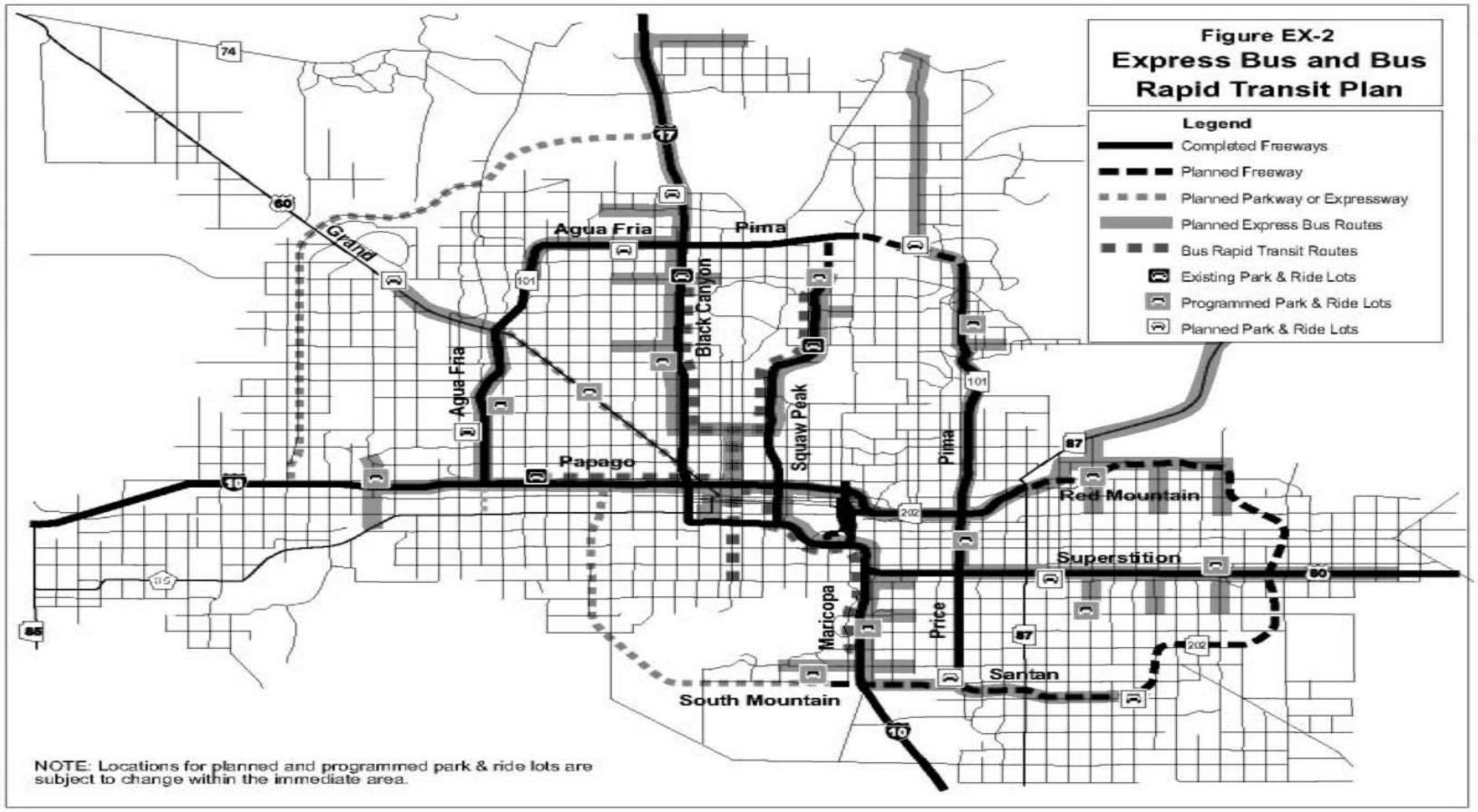


Figure EX-1: Regional Highway System

FIGURE 2-2: EXPRESS BUS AND BUS RAPID TRANSIT
Long Range Transportation Plan 2002 Update



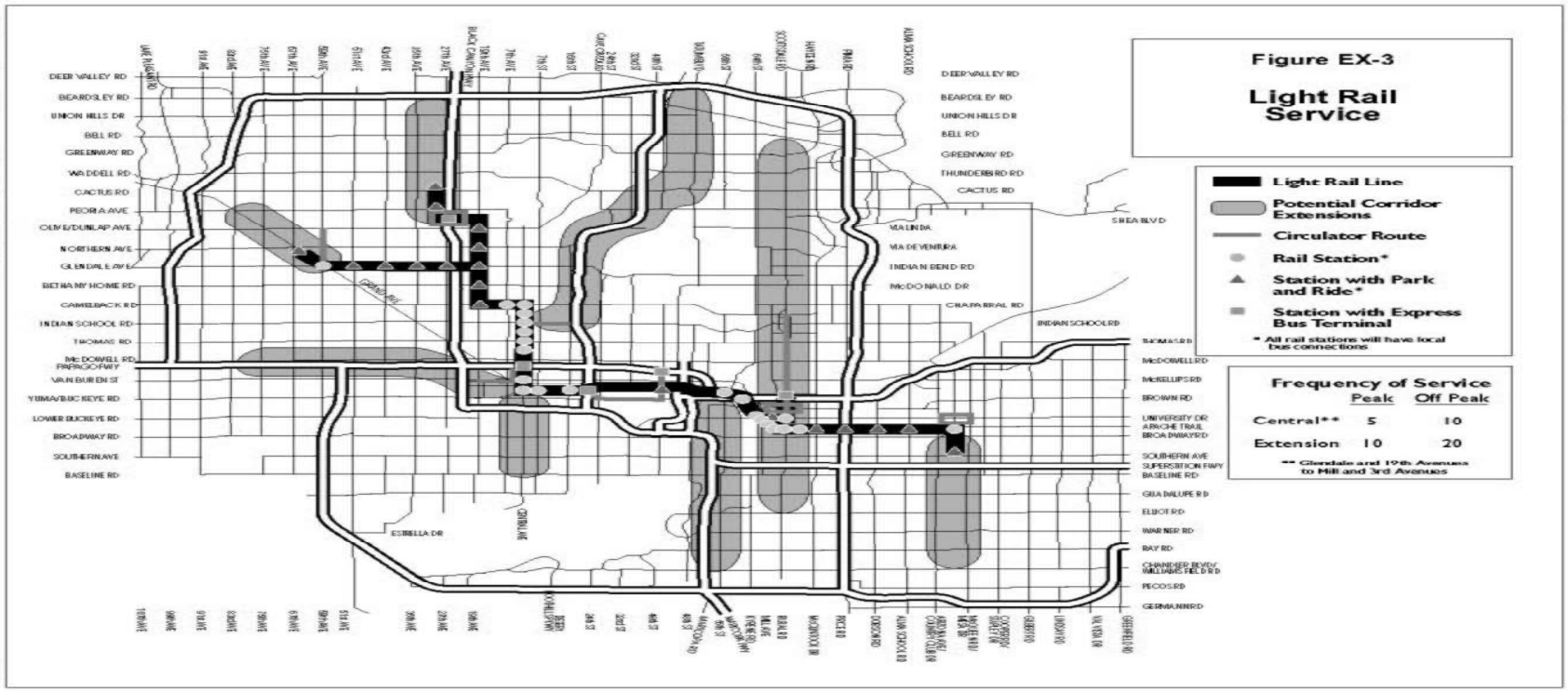
MAG Long Range Transportation Plan - 2002 Update

EX-9

Figure EX-2: Express Bus and Bus Rapid Transit Plan

FIGURE 2-3: LIGHT RAIL SERVICE

Long Range Transportation Plan 2002 Update



MAG Long Range Transportation Plan - 2002 Update

EX-10

Figure EX-3: Light Rail Service

2.4 TRANSPORTATION IMPROVEMENT PROGRAM

One of MAG's primary planning responsibilities is development of the Transportation Improvement Program (TIP). The TIP represents a five-year schedule of specific highway and transit projects to be implemented across the region. It is based on regional transportation needs and developed in coordination with members of the public, local agencies, state agencies, and federal authorities. Projects in the TIP are based on the Long Range Transportation Plan.

2.5 CONFORMITY ANALYSIS

MAG, as the MPO for the Maricopa region, is responsible for ensuring that transportation projects, programs, and plans do not cause or contribute to violations of the federal air quality standards. A regional emissions analysis is performed on transportation improvement programs and transportation plans to determine conformance with air quality implementation plans. The current Conformity Analysis was completed in July 2002 for the FY 2003-2007 MAG Transportation Improvement Program and the MAG Long Range Transportation Plan 2002 Update.

2.6 INTELLIGENT TRANSPORTATION SYSTEMS PROGRAM

Intelligent Transportation Systems (ITS) involve the application of technology toward managing transportation systems, incorporating elements such as advanced sensors, computers, electronics and communication technologies to improve overall safety and efficiency. The program helps coordinate regional activities, meet federal requirements and recommend ITS infrastructure investments in the region. ITS is already being used in the MAG region on area freeways, arterials, and the transit system. MAG has taken a leadership role to develop the region's Intelligent Transportation Systems Strategic Plan. This project has resulted in a "regional roadmap" for deploying ITS projects and programs in the MAG region over the next 20 years.

The plan provides for:

- Regional ITS Architecture for both existing infrastructure and a long-range ITS vision for the region.
- A Telecommunications Plan for the region to support the architecture vision as well as to foster a desired level of agency connectivity.
- Operational and implementation strategies that outline agency roles, responsibilities, and resources needed to support ITS operations in the region.
- An Implementation Plan for the short-, medium-, and long-term, identifying ITS solutions to be implemented over the next 20 years.
- An Evaluation Plan that provides a framework for evaluating new ITS applications.
- A Training and Capacity Building Plan for ongoing training and staff development, which is critical to the long-term success of regional ITS solutions.

One project launched through the ITS program is the development of a Regional Concept of Transportation Operations (RCTO) for the Phoenix Metropolitan region. The US Department of Transportation (USDOT) is currently developing guidelines that will soon recommend that all urban regions develop such a concept. MAG recently shared lessons from its effort with federal officials, as this is the first project of its kind in the nation for a metropolitan region. The basic

framework for developing a RCTO was established in the MAG ITS Strategic Plan. It is anticipated that the RCTO will lead to the establishment of a framework that will foster a higher level of integration and coordination among agencies responsible for transportation operations in the region.

Objectives of the RCTO are to:

- Enhance regional mobility through improved regional transportation operations.
- Establish criteria to measure transportation system performance.
- Document existing and possible improvements to institutional arrangements.
- Identify goals for transportation system operations.

2.7 REGIONAL OFF STREET SYSTEM PLAN

The MAG Regional Council approved the Regional Off-Street System Plan (ROSS) in 2001; it identifies a region-wide system of off-street paths/trails for non-motorized transportation. The goal of the ROSS plan is to help make bicycling and walking viable options for daily travel trips using off-street opportunities. The Ross Plan identifies issues associated with paths/trails and non–motorized transportation, identifies corridors that could be used for paths/trails in the MAG region, and provides design guidelines for paths/trails.

2.8 REGIONAL BICYCLE PLAN

The MAG Regional Bicycle Plan was approved in 1992 and updated in 1999. This plan identifies a planned regional bikeway system that emphasizes on–street facilities. The plan includes a bicycle policy statement consisting of four overall goals and numerous objectives. The goals and objectives are designed to provide guidance in planning, designing and implementing a system of internal and regionally connected bikeways that serve the daily travel needs of bicyclists.

2.9 PEDESTRIAN PLAN 2000

The MAG Pedestrian Plan was approved in 1993 and updated in 2000. It outlines programs and actions to promote better pedestrian accommodations throughout the region's transportation system. It provides flexible design tools – specifically roadside performance guidelines – to assist MAG member agencies in creating better walking environments on existing or new roadway networks.

2.10 SAFETY PLANNING PROGRAM

The Safety Planning Program, launched in 2001, identifies regional transportation safety issues and concerns and addresses them through the planning process. A Regional Transportation Safety Stakeholders Group was formed in November 2001. The group consists of MAG member agencies and others representing a broad cross-section of road safety advocacy groups. The group has developed a Draft Transportation Safety Action Plan, which identifies specific tasks and projects aimed at addressing safety needs in the region. The areas addressed include freeways, streets, intersections, pedestrians, bicycle and transit users, school zones, safety education and enforcement measures.

2.11 MAG REGIONAL AVIATION SYSTEM PLAN

The Regional Aviation System Plan (RASP), adopted in 1993, is a long-range, strategic plan that focuses on the major airport improvements and aviation policies that are needed to meet future demand. The plan is used to guide investment decisions and policy action for the development of the airport system. In 1996, an implementation study designed to facilitate RASP recommendations was completed and approved by the MAG Regional Council. The MAG RASP encompasses 17 airports. Sky Harbor is the commercial airport with Luke Air Force Base as the major military base. Reliever airports include Chandler, Glendale, Mesa-Falcon Field, Phoenix Deer Valley, Phoenix Goodyear and Williams Gateway airport. MAG is currently in the process of updating its Regional Aviation System Plan and exploring expansions of existing airports and the construction of new ones to accommodate future demand.

2.12 MAG REGIONAL ACTION PLAN ON AGING AND MOBILITY

Someone turns 50 every seven seconds in the U.S. Aging baby boomers are the fastest-growing demographic in the United States, and responding to the transportation challenges of an aging population will become increasingly important. MAG has implemented an Elderly Mobility Initiative to develop and design a transportation system that addresses the needs and issues of senior travelers in the Maricopa region. The MAG Regional Action Plan on Aging and Mobility has developed recommendations for creating safe and enhanced transportation options that address senior mobility issues.

The plan outlines 25 recommendations in four key areas:

- Infrastructure and land use.
- Alternative transportation modes.
- Older driver competency.
- Education and training that address senior mobility issues.

3.0 PAST ACCOMPLISHMENTS IN TRANSPORTATION

Over the past 20 years, substantial progress has been made in providing transportation improvements within the region. However, to keep up with projected growth and the ever-increasing travel demand, more needs to be done. This section highlights major achievements to date and describes additional improvements planned for initiation and completion in the near future.

3.1 FREEWAYS

Improvements to the Valley's freeway system have been a major transportation success story. In 1985, voters approved a one-half cent sales tax for transportation in the region. Since 1985, the miles of new freeways in the region have more than doubled to 95 miles, and a total of 147 miles will be completed by the year 2007 (Figure 3-1), which is seven years earlier than previously anticipated. In 1998, MAG spearheaded an effort for the region to receive additional federal transportation dollars coming to Arizona, leading MAG to initiate a plan to accelerate construction of the regional freeway system. To accomplish this acceleration, MAG, working with the state legislature, the governor's office and the business community, developed additional financing mechanisms. As part of the new construction, the following projects either have recently been, or will soon be, completed:

- High Occupancy Vehicle (HOV) lanes on the Black Canyon Freeway (completed).
- HOV and general purpose lanes on the Superstition Freeway (completed).
- HOV lanes on the Squaw Peak Freeway (SR 51) from I-10 to Shea Boulevard along with installation of higher sound walls and a rubberized asphalt surface to minimize traffic noise in the surrounding neighborhoods (expected to begin spring 2003).
- The last 2.5 miles of SR 51 that will connect that freeway with the Loop 101 (Pima Freeway) (expected to be completed by summer 2003).
- The first five miles of the Santan Freeway, (Loop 202) between I-10 and the Price Freeway (Loop 101) (expected to be completed fall 2003).

3.2 STREETS

Regional access roads have also been improved in recent years. Examples include:

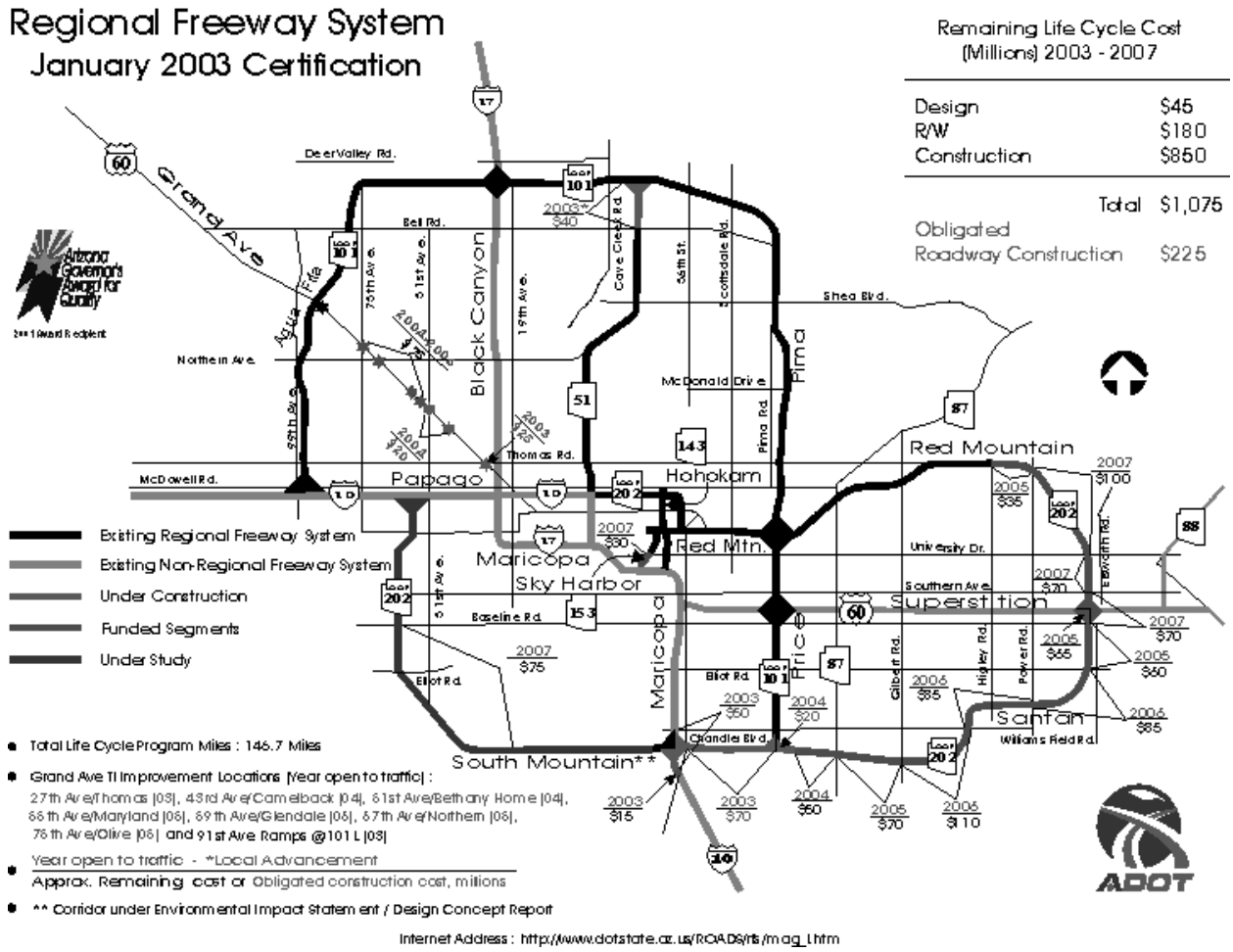
- State Route 87, to the northeast, has been widened to four lanes.
- Construction is underway to complete US 60, to the northwest, as a four-lane facility between Loop 303 and SR 74.
- Various improvements to eliminate six-way intersections on Grand Avenue (US 60) have begun or will be initiated in 2003.

The major arterial streets are generally located on the mile grid and carry most of the traffic in the region. The various cities and towns in the region, as well as the Maricopa County Department of Transportation (McDOT), have been busily improving existing streets and building new streets in an attempt to keep up with the ever-increasing travel and development demands in the area. The MAG Long Range Transportation Plan (2002 Update-Final Draft) calls for an approximate 45 percent increase in major street lane mileage over the next 20 years. This includes new lanes located on the edge of the metropolitan area, as well as streets in built-up areas that need to be widened.

3.3 SAFETY

Significant contributions toward safety have also been made through initiation of the Regional Freeway Service Patrol Program. The Freeway Service Patrol was launched as a regional ITS project to work alongside the Freeway Management System to reduce the impact of freeway breakdowns, incidents and crashes on traffic flow. The program is a coordinated effort by the Maricopa Association of Governments, the Arizona Department of Public Safety, the Arizona Department of Transportation, and Federal Highway Administration. The program provides assistance to motorists in the event of minor accidents or disabled vehicles, and helps prevent further loss of life and property by clearing roadways quickly. In 2002, the program assisted nearly 7,000 motorists. Although it is difficult to estimate the number of crashes prevented by prompt removal of road debris and abandoned vehicles from the freeway, it is clear that the Freeway Service Patrol has made a significant contribution to improving safety on the region's urban freeway system. Also assisting in freeway safety was the installation of freeway median barriers to prevent median crossover crashes.

FIGURE 3-1: REGIONAL FREEWAY SYSTEM, JULY 2002 CERTIFICATION



3.4 TRANSIT

By fiscal year 2002, the Valley Metro Transit System, under the umbrella of the Regional Public Transportation Authority (RPTA), consisted of the major elements displayed in Table 3-1.

TABLE 3-1: VALLEY METRO TRANSIT SYSTEM SERVICE CHARACTERISTICS

Characteristic	Remarks
Annual passenger boardings: Bus Dial-a-ride Vanpool Bikes-on-bus	 40,194,801 1,023,700 876,246 541,646
Number of bus routes	63 local 21 express
Percent of County population within ¼-mile of a bus route	55%
Number of dial-a-ride systems	10
Number of vehicles	610 buses (all are wheelchair-accessible) 321 dial-a-ride (95% are wheelchair-accessible) 201 vanpool
Capital facilities	7 transit centers 6 regional park-and-ride 51 joint use park-and-ride 6,451 bus stops 10 maintenance facilities

Source: *Valley Metro Fact Sheet, Regional Transit System Service Status, Spring 2002.*
Valley Metro transit services include bus service provided by the cities of Mesa, Phoenix, Glendale, Scottsdale, Tempe, and the RPTA; dial-a-ride service operated by El Mirage, Glendale, Maricopa County Special Transportation Services, Peoria, Phoenix, Sun Cities, Surprise, RPTA-operated service for the cities of Chandler, Gilbert, Mesa, Phoenix, Scottsdale, and Tempe; and the RPTA's regional vanpool program and travel demand management services.

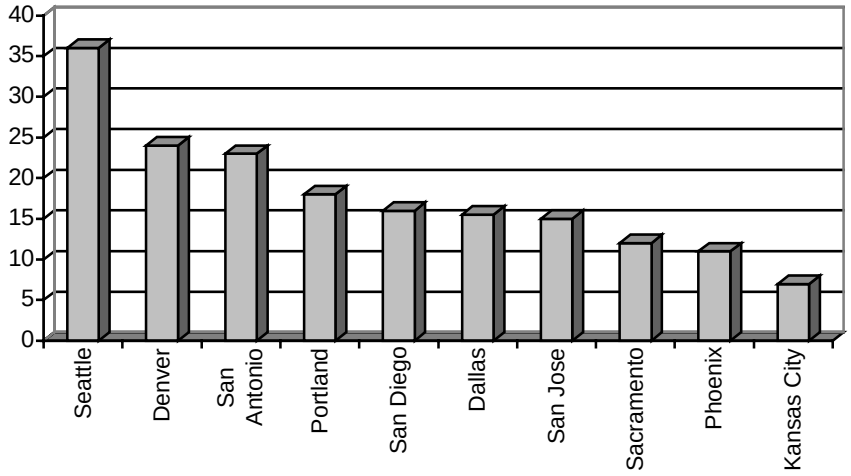
According to RPTA, (Valley Metro Fact Sheet, Regional Transit System Service Status), bus ridership increased about 130 percent over a 15-year period, from 17.5 million passenger boardings in fiscal year 1986 to about 40.2 million passenger boardings by fiscal year 2001. The report concludes that the increase in ridership is partially in response to the greater convenience provided by more bus service. Valley Metro also contributes the ridership increase to the population boom that the region experienced in the ten-year period between 1985 and 1995, when the region's population increased nearly 39 percent.

Every city or agency that provides public transit services within the region utilizes a variety of funding sources. Total funding for transit service increased by 130 percent from 1986 to 1999, primarily the result of increased investment in public transit by local municipalities (170%) and from passenger fares (119%). However, federal assistance for transit operations has significantly dropped, while Local Transportation Assistance Funds (state lottery) have remained capped. The RPTA funds have increased at the rate of inflation only.

When compared to peer areas, the Valley's regional transit system is near the bottom of the scale when it comes to annual miles of transit service (including fixed route, dial-a-ride, vanpool, and all rail modes). This is primarily due to the lack of funds available to put additional miles of services on the streets. A majority of our peer cities have a dedicated funding source for the exclusive purpose of operating a transit system. Figure 3-2 illustrates annual transit miles per

capita for nine peer cities. Additionally, eight peer cities either currently have a rail transit component or are planning rail service.

FIGURE 3-2: PEER REGIONS - ANNUAL TRANSIT MILES PER CAPITA



Source: *Valley Metro Regional Transit Service Status Fact Sheet*, 1999. Based on 1997 peer city data.

Additional local bus (both enhanced frequencies and service to new areas), express bus (to meet peak-period demand), and dial-a-ride services are planned for implementation in the future, as funding allows. The first Bus Rapid Transit (BRT) routes are programmed for implementation in 2003 within the city of Phoenix. Where available, BRT service will utilize existing and planned HOV lanes and will stop on a limited basis to provide rapid connections for commuters from outlying Phoenix areas to the business district in Central Phoenix.[4]

The four cities currently participating in the light rail system – Phoenix, Tempe, Mesa, and Glendale – recently formed a governance board called Valley Metro Rail, Inc., a non-profit, public corporation to oversee light rail design, construction, and operation. The initial project within the cities of Phoenix, Tempe and Mesa, will provide a 20-mile light rail transit (LRT) segment from 19th Avenue and Bethany Home Road in Phoenix, through north central Phoenix, downtown Phoenix and east through Tempe to Main Street and Longmore in Mesa. Elements of the LRT include provisions for park-and-ride lots and signal prioritization to improve speeds. Shuttle buses and an improved fixed route network also play an important role. The Preliminary Engineering/Final Environmental Impact Statement phase of the Central Phoenix/East Valley Light Rail Transit Project is nearly completed, and final design is expected to commence in 2003. Construction completion is anticipated by 2007. Potential extensions to this LRT starter system are in the preliminary planning stages. The planned light rail alignment and potential corridor extensions, as identified in the Long Range Transportation Plan 2002 Update, are displayed in Figure 3-3.

[4] *MAG Long Range Transportation Plan 2002 Update, page EX-3, Executive Summary, www.mag.maricopa.gov* .

FIGURE 3-3: LIGHT RAIL SERVICE

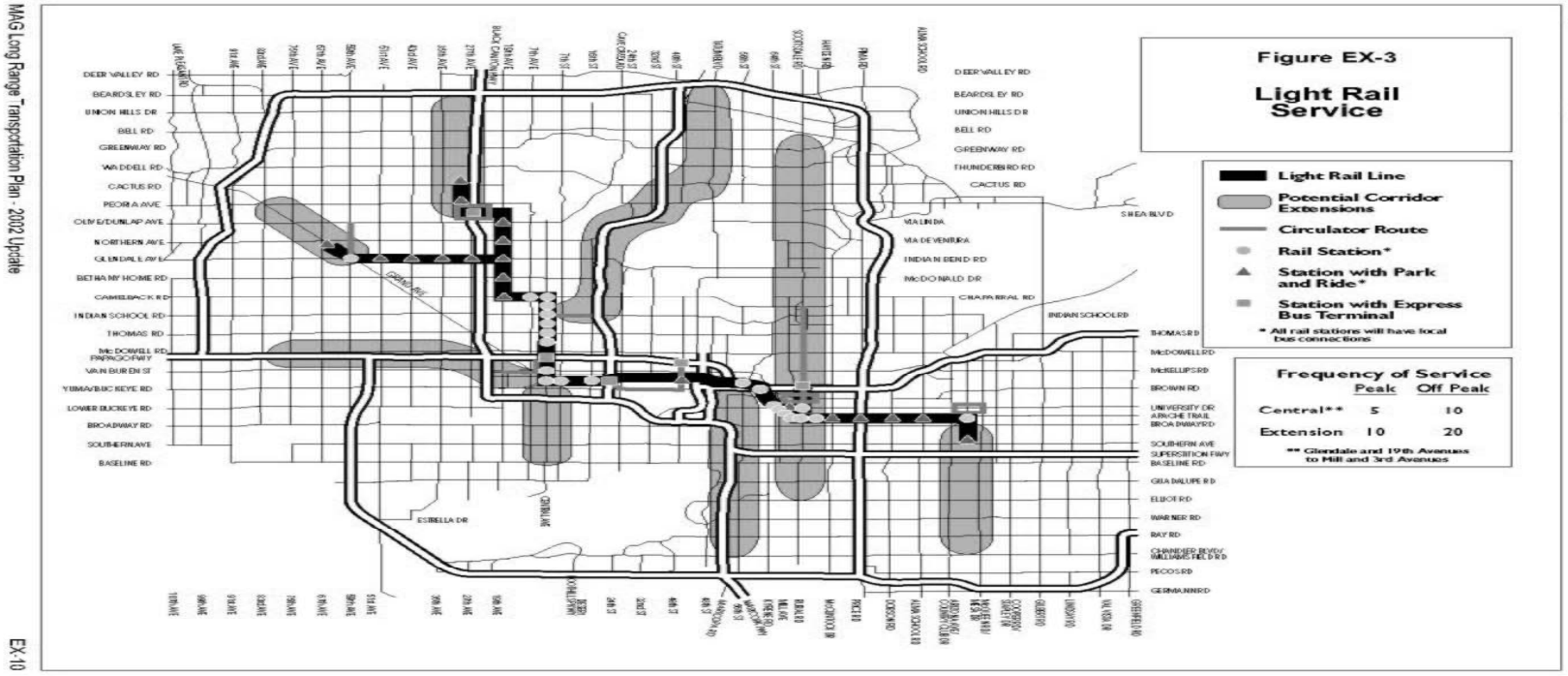


Figure EX-3: Light Rail Service

MAG Long Range Transportation Plan - 2002 Update

EX-10

3.5 BICYCLES AND PEDESTRIANS

In Maricopa County, about 40,000 adults travel to work by bicycle each day. The estimated total distance ridden by bicycle commuters is nearly 450,000 miles per day.[5] The region's climate makes bicycles a viable form of transportation for much of the year, and all transit buses in the region are equipped with bike racks. The city of Tempe has a bicycle mode split of 4.5 percent for work trips, mostly due to their bicycling infrastructure, the location of Arizona State University, and other large employers within Tempe, and relatively compact and mixed land uses. In recent years, the City of Tempe has begun to invest extensively in its bicycle and pedestrian infrastructure. Other major cities in the MAG region also made substantial progress in expanding their bikeway systems during the 1990s.

MAG is a leader in promoting improvement in the region's streetside environments to better accommodate and encourage pedestrian travel. Past pedestrian planning efforts conducted by MAG and its member agencies have led to a variety of pedestrian-oriented policies, programs and roadway improvements. Prominent among these pedestrian efforts are the *1993 Pedestrian Plan*, the creation of the MAG Pedestrian Working Group, a region-wide household travel survey, the publication of the 1995 *Pedestrian Area Policies and Design Guidelines*, the Walking and Bicycling into the 21st Century Conference Series, and the Pedestrian Design Assistance Program. In addition, the *Pedestrian Plan 2000* outlines programs and actions to promote better pedestrian accommodation in the regional transportation system.

MAG has been active in promoting the establishment of improved travel opportunities for bicyclists. The MAG Regional Bicycle Task Force comprises representatives from the MAG member agencies and a bicycling organization representative. In 1992, the MAG Regional Bicycle Plan was adopted that outlines a regional on-street bicycling network. In March 1999, the MAG Regional Council approved a Regional Bicycle Plan Update, in which the creation of a regional off-street multi-use path/trail plan was identified as an important future planning activity. The Regional Off-Street System (ROSS) Plan, adopted by the Regional Council in 2001, reveals a region-wide system of off-street paths/trails for non-motorized transportation. The Regional Bicycle Task Force oversees the development of the Regional Bikeways Map, which is updated in alternating years and shows existing, locally-designated bicycling facilities. The map is provided free of charge to interested citizens and MAG member agencies. The task force also reviews and recommends bicycle and shared-use path/trail projects for funding from federal and other sources.

[5] *By-Cycle Newsletter, March 2000, and MAG Regional Transportation Plan Update Transportation Modes and Technologies Issue Paper, BRW, Inc., June 2001.*

4.0 ROLE AND PERFORMANCE OF FREEWAY, STREET, AND TRANSIT SYSTEMS

Sufficient roadways and transit services that will accommodate the needs of the communities they serve are critical to an effective transportation system. This section summarizes current and projected travel times and modes and performance characteristics of the freeways, streets and transit systems that make up the region.

4.1 TRAVEL MODES AND TIMES

The major means that people use to get to work have not substantially changed since 1990 with regard to the proportion (not total numbers) of workers using a particular mode of transportation. (Table 4-1.) However, all categories showed an increase in numbers of people using a particular mode in 2000 over those using that same mode in 1990. The highest jump was for those who worked at home (76.5%), while those who bicycled or walked showed the least change (5.4%). Note also that carpooling rose almost 50 percent during that same period.

TABLE 4-1: MEANS OF TRANSPORTATION TO WORK

	1990 Census		2000 Census		Change 1990 to 2000	
	Number	**%**	**Number**	**%**	**Number**	**%**
Workers 16 years and over	996, 495	100.0	1,406,442	100.0	409,947	41.1
Drove alone	747,818	75.0	1,050,341	74.7	302,523	40.5
Carpooled	143,170	14.4	214,231	15.2	71,061	49.6
Public transportation (including taxi)	21,184	2.1	29,461	2.1	8,277	39.1
Bicycle/walk	40,333	4.0	42,528	3.0	2,195	5.4
Motorcycle or other means	14,681	1.5	18,162	1.3	3,481	23.7
Worked at home	29,309	2.9	51,719	3.7	22,410	76.5

Source: USDOT Census Transportation Planning Package 2000 Profiles, Maricopa County, AASHTO.

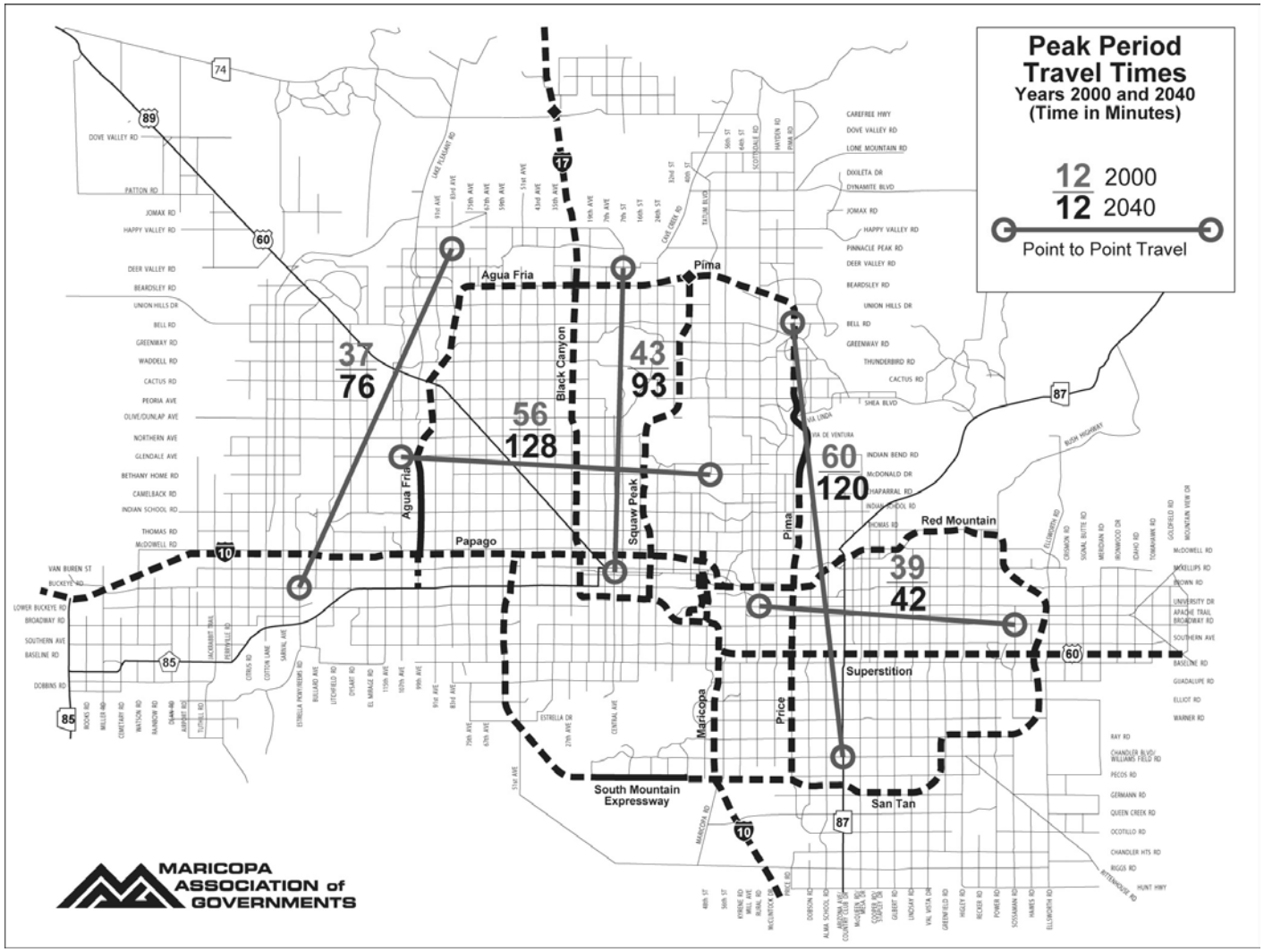
The average travel time to work has risen by more than three minutes from 1990 to 2000 (Table 4-2). The highest gains were for those workers whose commute time was ½ hour or more. As displayed in Figure 4-1, travel times during peak periods are only expected to worsen in the future.

TABLE 4-2: TRAVEL TIME TO WORK

	1990 Census		2000 Census		Change 1990 to 2000	
	Number	**%**	**Number**	**%**	**Number**	**%**
Workers who did not work at home	967,186	100.0	1,354,723	100.0	387,537	40.1
Less than 5 minutes	24,214	2.5	27,839	2.1	3,625	15.0
5 to 9 minutes	96,171	9.9	114,499	8.5	18,328	19.1
10 to 14 minutes	139,587	14.4	174,244	12.9	34,657	24.8
15 to 19 minutes	160,516	16.6	203,354	15.0	42,838	26.7
20 to 29 minutes	224,679	23.2	305,278	22.5	80,599	35.9
30 to 44 minutes	216,276	22.4	329,241	24.3	112,965	52.2
45 or more minutes	105,743	10.9	200,268	14.8	94,525	89.4
Mean travel time to work	**23.0**	N/A	**26.1**	N/A	**3.1**	N/A

Source: USDOT Census Transportation Planning Package 2000 Profiles, Maricopa County, AASHTO.

FIGURE 4-1: PEAK PERIOD TRAVEL TIMES YEARS 2000 AND 2040 (TIME IN MINUTES)



4.2 ROADWAYS

The 1998 MAG Congestion Study, which covered the major part of the developed area in the MAG region, provides a good review of travel and facilities changes between 1989 and 1998 (Table 4-3). Looking beyond 1998 to 2030,[6] the number of arterial Vehicle Miles Traveled (VMT) is anticipated to nearly triple, and freeway VMT is projected to increase by almost two-thirds over existing levels. However, by 2030, the region will have only 30 percent more freeway general-purpose lanes, 87 percent more HOV lanes, and only twice the arterial street lanes.

TABLE 4-3: CHANGES IN VMT AND LANE MILES (1989 – 1998)

	1989	1998	Percent of change 1989-1998
Vehicle miles traveled (millions)			
Arterial	22.9	27.9	22%
Freeway	6.6	14.0	112%
Total	29.5	41.9	42%
Number of lane miles			
Freeways (general purpose)	403	765	90%
HOV lanes	33	84	155%
Freeways (All lanes)	436	849	95%
Arterials	4,210	4,660	11%

Source: MAG Regional Congestion Study, 1998.

The Texas Transportation Institute[7] recently made the following observations:

- The percentage of congested freeway and street system lane miles in the Maricopa County increased from 37 percent in 1982 to 56 percent in 2000. For 2000, the Phoenix metropolitan area ranked 27th for most congestion among the nation's 50 largest metropolitan areas.
- Annual person hours of delay during peak times per driver in the Phoenix metropolitan area increased from 15 hours in 1982, to 59 in 2000, a nearly four-fold increase. For 2000, Phoenix ranked 18th worst in this category.

Even with the development shown in the currently approved Long Range Transportation Plan, levels of service (LOS) on the region's freeways and at the major intersections are expected to worsen by 2030, as shown in Figures 4-2 through 4-5. LOS is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overload conditions at LOS F. LOS D is typically recognized as the minimum LOS that is acceptable in an urban area. The areas affected by congestion in the future may extend throughout the region, instead of being concentrated in the central portion of the metropolitan area as they are today. Facility speeds during peak periods are also expected to decrease by more than one-third by

[6] *All 2030 forecasts are based on MAG preliminary estimates for the 2030 base network, which essentially includes projects in the current approved Long Range Transportation Plan. It also reflects some internal improvements made through sources such as local government and/or private developer funds.*

[7] *Texas Transportation Institute, Urban Mobility Study, 2002.*

2030, from the current average peak hour speeds of 36-mph for freeways and 25-mph for arterials.

The following factors are important considerations in providing an effective roadway system for the future:[8]

- Substantial new roadway construction will be needed in outlying portions of the MAG urbanized area to provide both mobility within these areas and connections to the rest of the region.
- As development in outlying areas increasingly encroaches on natural transportation barriers (for example, watercourses or mountainous terrain), building and maintaining a strong arterial street grid system will be more difficult.
- Higher design standards may be needed where the grid system cannot be maintained.
- In central portions of the region, increasing population density will result in increasing traffic densities and a traffic mix with more buses, light rail vehicles, bicycles, and pedestrians.[9]
- Higher traffic densities will result in added maintenance requirements.
- As opportunities for new road construction become more limited, especially in the central area, attention will increasingly focus on maximizing the capacity of existing streets through:

    - Intelligent Transportation System (ITS) technologies.
    - Transportation system management techniques.
    - Design plans that provide for a variety of modes, including walking and bicycling.

MAG and its member agencies are national leaders in the design and implementation of ITS, especially with regard to the management of freeway systems. In 1996, the US Department of Transportation selected Phoenix as one of four U.S. cities for a large scale ITS demonstration (AzTech™ Model Deployment Initiative), which involved multiple jurisdictions with the Maricopa County Department of Transportation as the lead agency. MAG's ITS Strategic Plan Update (November 30, 2000) calls for the following projects for deployment or expansion:

- Traveler Information Systems.
- Freeway Management System.
- Arterial Management Systems (including SMART corridors).
- Transit Management System (e.g., signal priority programs, transit stop arrival times).
- Incident, Emergency and Event Management System.
- Telecommunications Infrastructure.
- Planning and Outreach Support.
- Commercial Vehicle Operations (e.g., ADOT ITS/Commercial Vehicle Operations Program).
- Information Management.

[8] *June 2001, BRW report "Maricopa Associations of Government , Regional Transportation Plan Update For Transportation Modes and Technologies.*

[9] *Maricopa Association of Governments, February 2000. Transportation Subcommittee Report, Valley Vision 2025.*

4.3 TRANSIT

Between 1986 and 1996, Valley Metro fixed route passenger boardings doubled from 17.5 million to more than 35.1 million, and boardings continued to grow to nearly 40.2 million by 2000. Selected performance statistics for fiscal years 1997-1998 and 2000-2001 are compared in Table 4-4.

Selected transit performance statistics for Phoenix and nine cities with similar characteristics are compared in Table 4-5. Phoenix had fewer total revenue miles and revenue vehicle hours than the average of the other cities. However, revenue miles were higher than Kansas City, Sacramento, and San Jose, and revenue vehicle hours were higher than Kansas City and Sacramento. Phoenix had the lowest revenue miles per service area population of any of the peer cities. According to the RPTA, this is mainly due to the lack of funds to provide more miles of service. System operating expenses per revenue mile and per revenue hour for Phoenix are lower than average. Kansas City, San Antonio, and San Diego were the only cities with lower operating expenses per revenue mile, and Kansas City, Portland, San Antonio, and San Diego were the only cities with lower operating expenses per revenue hour.

TABLE 4-4: VALLEY METRO SELECTED TRANSIT PERFORMANCE STATISTICS

Statistic	FY 97-98	FY 00-01
Fixed Route:		
Number of routes	56 local, 21 express	64 local, 21 express
Total boardings	36,377,705	40,194,801
Vehicle revenue miles	14,740,186	21,221,858
Passengers per revenue mile	2.47	1.89
Dial-a-Ride:		
Number of service areas	10	10
Total boardings	938,659	1,023,700
Vehicle revenue hours	414,773	456,383
Passengers per revenue hour	2.25	2.24
Vanpool:		
Number of vans	130	201
Total boardings	601,062	876,246
Vehicle revenue miles	2,406,138	3,150,061
Passengers per revenue mile	0.250	0.278

Source: FY 1997-1998 data=Executive Summary: Short Range Transit Plan, FY 2000 through 2004, Valley Metro, not dated. FY 2000-2001 data=Valley Metro Operational Statistics Fact Sheet, not dated.

According to MAG projections, transit trips in the region could triple between 2000 and 2040, while the percentage of total trips using transit would increase slightly. Since most of the growth between 2020 and 2040 is expected to occur in areas not now served by transit, the challenge will be to extend service to these areas. Without transit service expansions, the share of travel using transit may decrease by 2040.

To accommodate projected growth, the regional transit element for the adopted LRTP calls for:

- Tripling local bus service by 2022, with enhanced frequencies in areas having existing service and new service in areas that currently have no service.
- Extending evening hours and adding more Sunday service.
- Quadrupling the number of miles of express bus service to meet peak period demand and to extend service to outlying communities.
- Tripling dial-a-ride service.
- More than quadrupling the vanpool fleet by the year 2030.

- Completing a 39-mile light rail transit system.

In addition, studies are ongoing to assess options for possible future commuter rail service in the region. The Regional Public Transportation Authority also has a study underway looking at future transit need in the region. Funding to support the needed development is being actively pursued at the local, regional, state, and federal levels.

TABLE 4-5: PEER CITY SELECTED TRANSIT PERFORMANCE STATISTICS

	2000 Revenue Miles	Revenue Miles/ Service Area Population	Annual Operating Exp/ Revenue Mile	2000 Revenue Vehicle Hours	Annual Operating Exp/ Revenue Hour
Dallas:					
Fixed Route Bus	19,180,297	7.49	$10.31	1,795,600	$110.14
Demand Responsive	6,115,848	2.39	$4.46	344,700	$79.22
Light Rail	2,419,280	0.94	$13.58	152,9090	$214.88
Commuter Rail	324,525	0.13	$29.32	17,200	$553.22
System Total	28,039,950	10.95	$9.54	2,310,400	$115.76
Denver:					
Fixed Route Bus	34,543,571	14.39	$5.62	2,272,100	$85.38
Demand Responsive	134,896	0.06	$106.18	12,700	$1,127.82
Light Rail	1,458,759	0.61	$7.66	108,200	$103.33
System Total	36,137,226	15.06	$6.07	2,393,000	$91.72
Kansas City:					
Fixed Route Bus	9,418,364	12.86	$5.20	607,600	$80.55
Demand Responsive	2,848,290	3.89	$1.17	155,800	$21.30
System Total	12,266,654	16.74	$4.26	763,400	$68.46
Phoenix:					
Fixed Route Bus	17,931,972	7.47	$5.60	994,000	$100.94
Demand Responsive	5,269,808	2.19	$4.20	419,000	$52.77
System Total	23,201,780	9.66	$5.28	1,413,000	$86.65
Portland:					
Fixed Route Bus	26,910,709	17.66	$6.13	2,105,500	$78.41
Demand Responsive	5,809,730	3.81	$3.40	383,300	$51.53
Light Rail	5,052,156	3.31	$8.18	292,000	$141.58
System Total	37,772,595	24.78	$5.99	2,780,800	$81.34
Sacramento:					
Fixed Route Bus	7,566,045	7.53	$6.76	580,000	$88.12
Demand Responsive	3,135,428	3.12	$3.16	199,600	$49.57
Light Rail	2,222,044	2.21	$8.70	109,100	$177.17
System Total	12,923,517	12.85	$6.22	888,700	$90.39
San Antonio:					
Fixed Route Bus	20,428,546	14.62	$3.66	1,434,100	$52.08
Demand Responsive	9,105,792	6.51	$2.07	433,400	$43.57
System Total	29,534.338	21.13	$3.17	1,867,500	$50.10
San Diego:					
Fixed Route Bus	28,244,229	14.12	$4.22	2,094,000	$56.94
Demand Responsive	5,038,529	2.52.	$2.19	308,600	$35.75
Light Rail	7,090,499	3.55	$8.91	329,400	$191.73
Commuter Rail	1,058,768	.53	$10.64	24,500	$459.80
System Total	41,432,025	20.72	$4.94	2,756,500	$74.26
San Jose:					
Fixed Route Bus	19,621,805	11.61	$9.36	1,518,100	$120.94
Light Rail	2,421,868	1.43	$15.76	163,400	$233.54
System Total	22,043,673	13.04	$10.06	1,681,500	$131.88
Seattle:					
Fixed Route Bus	48,665,756	18.72	$7.30	3,392,900	$104.73
Demand Responsive	11,657,396	4.48	$4.63	804,900	$67.05
Light Rail	42,300	0.02	$31.83	11,800	$114.09
Commuter Rail	73,500	0.03	$52.32	1,900	$2,024.11
Trolley Bus	3,378,544	1.30	$12.78	509,200	$84.79
System Total	63,817,496	24.55	$7.17	4,720,700	$96.95
Average with Phoenix	**30,716,925**	**17**	**$6.27**	**2,157,550**	**$88.75**
Average without Phoenix	**31,551,942**	**18**	**$6.38**	**2,240,278**	**$88.99**

Source: *Working Paper #3, Review of Prior and Ongoing Studies, Peer Cities Comparison Data (All Modes), Regional Transit System Study*, April 2002.

FIGURE 4-2: YEAR 2000 PM PEAK HOUR LEVEL OF SERVICE ON FREEWAYS

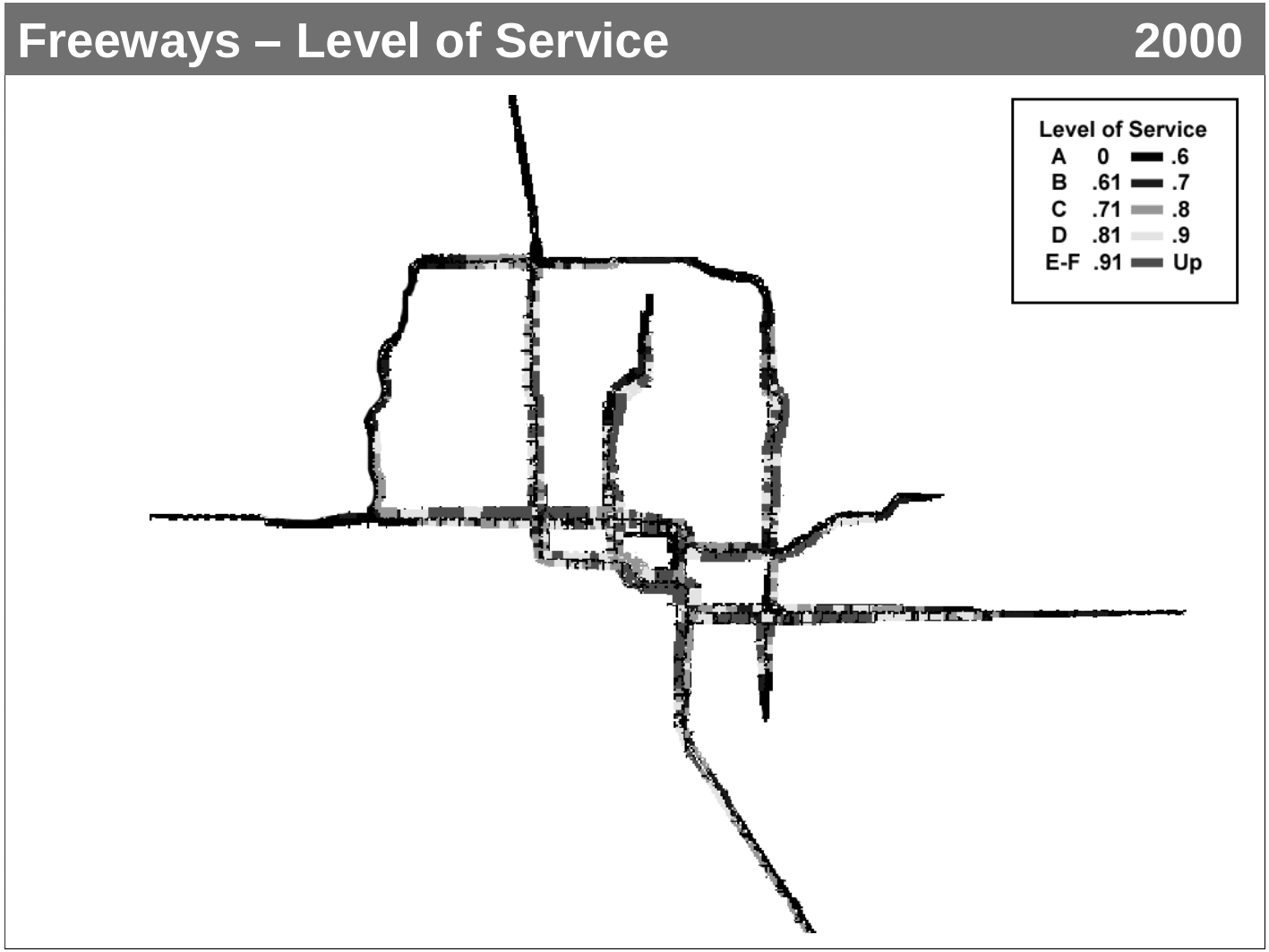


FIGURE 4-3: YEAR 2030 PM PEAK HOUR LEVEL OF SERVICE ON FREEWAYS

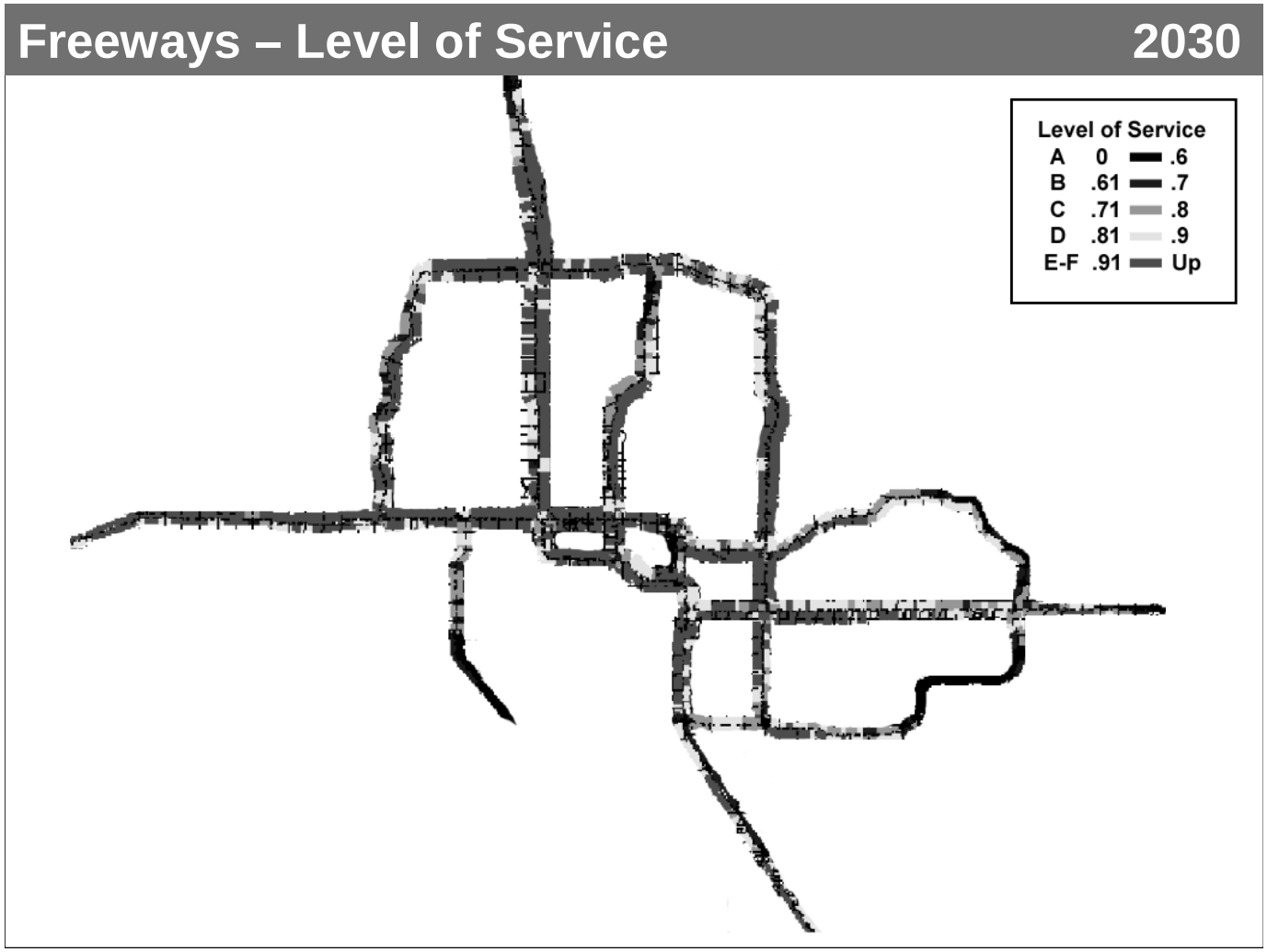


FIGURE 4-4: YEAR 2000 PM PEAK HOUR ARTERIALS LEVEL OF SERVICE

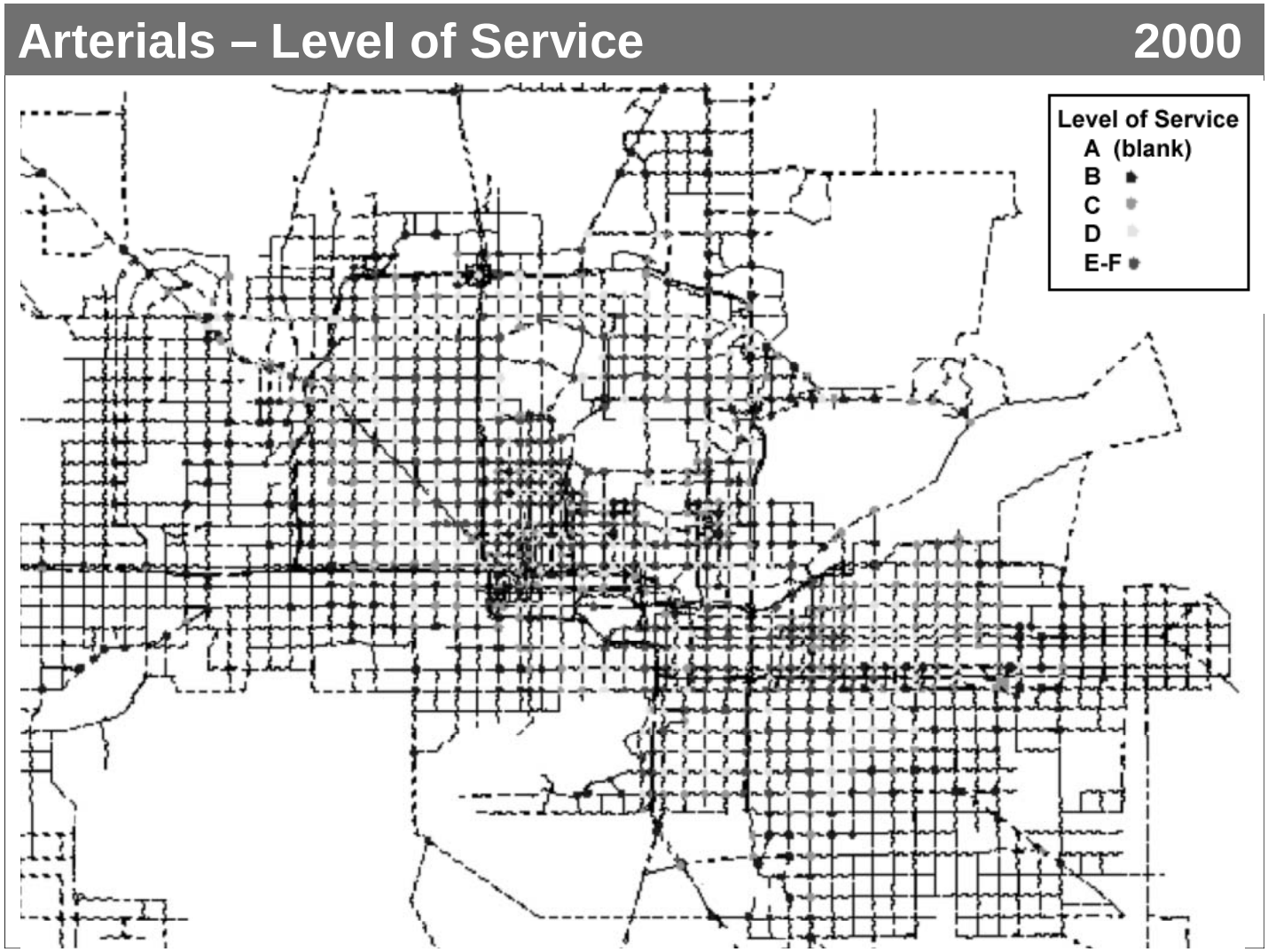
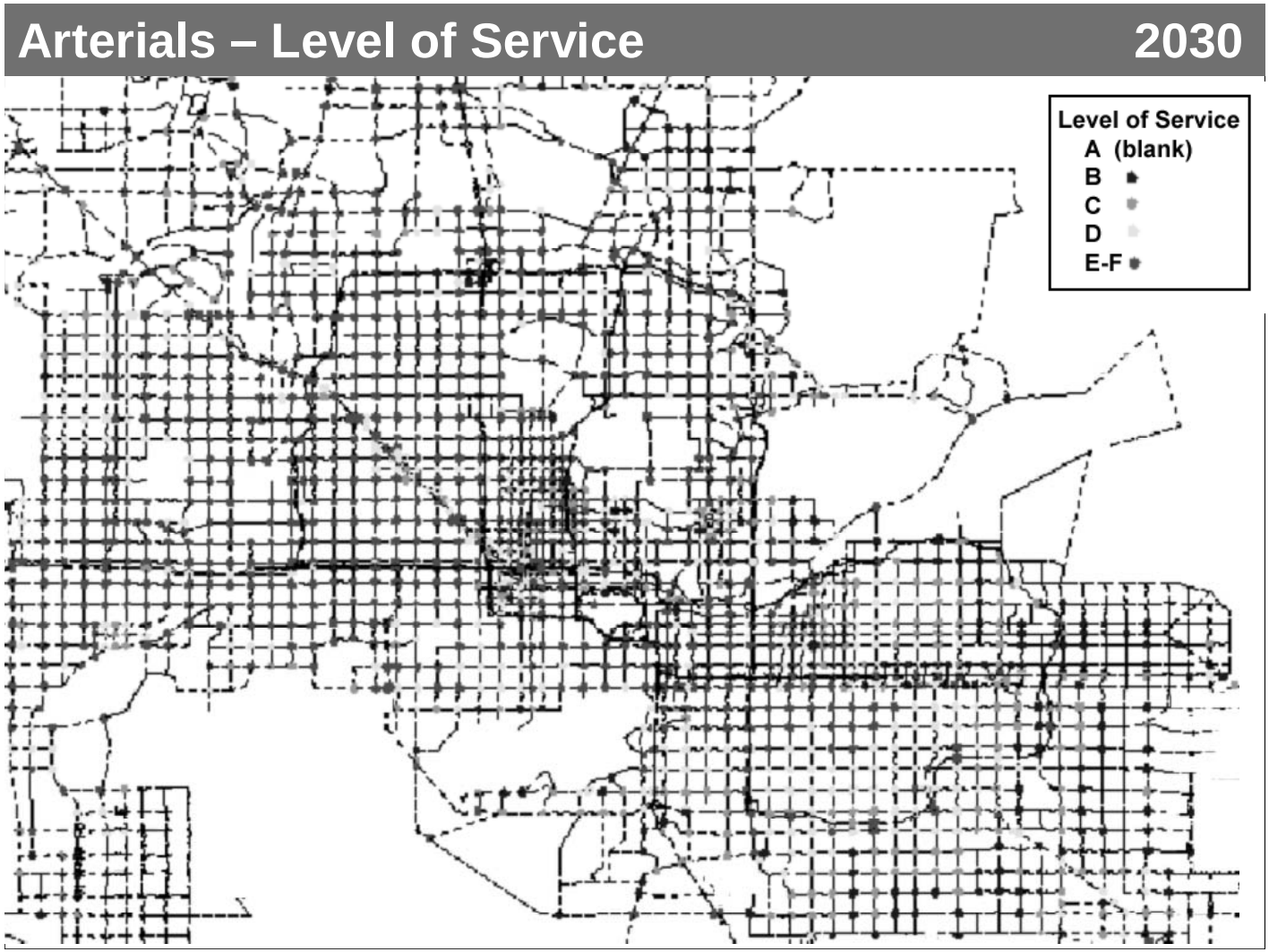


FIGURE 4-5: YEAR 2030 PM PEAK HOUR ARTERIALS LEVEL OF SERVICE



5.0 EXISTING TRANSPORTATION REVENUE SOURCES

Current funding for surface transportation projects is derived mainly from various federal, state, regional, and local sources.

Federal funding for transportation comes through the U.S. Department of Transportation (USDOT). The programs and funding for public transportation from the USDOT are established in the Transportation Equity Act for the 21st Century of 1998 (TEA-21). TEA-21 establishes authorized funding levels and programs for transit and highway projects and further institutionalizes the ability to shift funds from one program to another depending on local priorities. TEA-21 maintains the previously established programs authorized in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and generally raises the overall funding levels. TEA-21 is effective for a six-year period, from 1998 to 2003, with specific funding levels established each year as part of the federal budgeting process. TEA-21 provides funding for the USDOT and its subsidiary agencies, including the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

MAG receives approximately $70 million each year from the federal government in the form of federal funds: $35 million each year go to Surface Transportation Program (STP) funds, which can be used for highways, local streets and transit. The other $35 million are dedicated to Congestion Mitigation and Air Quality (CMAQ) projects, which include programs such as trip reduction, rideshare, buses, bike and pedestrian projects.

State funding includes revenue available to ADOT through the Highway User Revenue Fund and federal funding allocations. These sources include gasoline and fuel use taxes, motor carrier taxes, vehicle license tax, motor vehicle registration fees, and other miscellaneous fees. On average, MAG receives about $200 million of state highway funding for the MAG regional freeway system.

Regional funding comes primarily from the Regional Area Road Fund, a result of the half-cent sales tax for transportation levied in 1985. That fund is set to expire in 2005.

Local sources also provide funding, with individual cities dedicating revenue to a variety of road and transit projects.

Finally, financing options such as bonds, Highway Expansion and Extension Loan Program funds, and Grant Anticipation Notes provide loans and financial assistance for transportation project.

A complete listing of revenue sources can be found in Table 5-1.

TABLE 5-1: TRANSPORTATION REVENUE SOURCES

Source	Roads	Transit	Other	Uses	Remarks
Federal Sources					
Interstate Maintenance	✓			Interstate highway projects such as resurfacing, restoration, and rehabilitation. Also, reconstruction of bridges, interchanges, and overcrossings along existing routes, design, acquisition of right-of-way and preventive maintenance.	FY 2002 Arizona Obligation Authority totaled $111.1 million.
National Highway System	✓			Construction, reconstruction, resurfacing, restoration, and rehabilitation and safety improvements on segments of the National Highway System.	FY 2002 Arizona Obligation Authority totaled $118.6 million.
Bridge Program	✓			Replacement of structurally deficient or functionally obsolete highway bridges or to rehabilitate the structural integrity of a bridge.	FY 2002 Arizona Obligation Authority totaled $14.4 million.
Minimum Guarantee	✓			Highway improvements.	Provides additional funds to ensure that each state receives apportionments of not less than 90.5% of its share of contributions to the Highway Trust Fund.
High Priority Projects	✓			Designated funding for specific demonstration projects.	FY 2002 Arizona Obligation Authority totaled $10.4 million.
Public Lands Highways (Discretionary funds)	✓			For transportation facilities on public roads serving federal and Indian lands.	FY 2002 Arizona Obligation Authority totaled $11 million ($8 million for Hoover Dam Bypass Bridge and $3 million for Diamond Bar Road).
Forest Highways	✓			Transportation facilities on forest highway roads.	FY 2002 Arizona Obligation Authority totaled $9 million.
Urbanized Area Formula Program (Section 5307)		✓		Transit capital expenses and associated maintenance. Only small, urbanized areas (population 50,000-200,000) can use funds for operating costs. One percent of the revenue must be used for nine specific types of transit enhancement programs: 1) preservation, rehabilitation, and operation of historic mass transportation building, structures, and facilities; 2) bus shelters; 3) landscaping and other scenic beautification; 4) public art; 5) pedestrian access and walkways; 6) bicycle access; 7) transit connections to parks; 8) signage; and 9) enhanced transit access for	Major federal transit funding source. Funding based on size of urbanized area and statutory formula. Urbanized areas are classified as small, medium, and large. About 63% of funds are used for bus capital, with remaining funds used for preventive maintenance. In FY 2002, $25.7 million was apportioned to the Phoenix metropolitan area.

TABLE 5-1: TRANSPORTATION REVENUE SOURCES

Source	Roads	Transit	Other	Uses	Remarks
				disabled persons.	
Discretionary Capital Program Fund (Section 5309)		✓		Transit funding for new rail projects, improving and maintaining existing rail transit and other fixed guideway systems, and purchasing buses and other bus-related capital projects.	Awarded on a discretionary basis for a particular project. Eligible federal share is 80%, but FTA encourages applicants to develop a greater non-federal match. In FY 2002, the Phoenix metropolitan area received $10 million from the 5309 New Starts Program, $6.7 million from the 5309 Bus and Bus Facilities Program, and $1.6 million from the 5309 Fixed Guideway Modernization Program for existing HOV facilities.
Clean Fuels Formula Program (Section 5308)		✓		Support purchase or lease of clean fuel buses and facilities and improvement of existing facilities to accommodate clean fuel buses.	Authorized by TEA-21 through 2003. Eligible recipients are public transit operators in urban and non-urbanized nonattainment or maintenance areas. Allocated based on bus fleet size and bus passenger miles as weighted by severity of nonattainment for either ozone or carbon monoxide. Program was not funded in FY 2000—funds were transferred to Section 5309.
Livable Communities		✓		Transit planning and capital grants to strengthen the link between transit and communities.	Eligible recipients are transit operators, MPOs, city and county governments, states, planning agencies, and other public bodies with authority to plan or construct transit projects. Non-profit, community, and civic organizations are encouraged to participate in project planning and development as a partner with eligible recipients.
Job Access and Reverse Commute Grants		✓		Transportation services to connect welfare recipients and low-income persons with employment and support service. Can be used for development of job access programs that must be approved by transit agencies, and a reverse commute program to provide services to suburban locations.	Local government and designated non-profit organizations are eligible recipients. Reverse commute program includes a 50% federal match with no more than $10 million/year to be used for this program. In FY 2002, Maricopa County received a $1.2 million grant.
Metropolitan Planning Program (Section 5303)	✓	✓		Transit or highway planning activities.	Provided to local MPOs through ADOT. In FY 2002, Arizona received about $833,000.
State Planning and Research Program (Section 5313)	✓	✓		Statewide transportation planning and research activities.	Awarded to ADOT. In FY 2002, ADOT received approximately $173,000.
Transportation	✓	✓		Transportation planning and implementation grants to improve transportation efficiency; reduce	Priority for planning grants is given to applicants demonstrating a non-federal commitment of resources, including involvement of

TABLE 5-1: TRANSPORTATION REVENUE SOURCES

Source	Roads	Transit	Other	Uses	Remarks
Community and System Preservation (TCSP)				improve transportation efficiency; reduce transportation's environmental impacts; reduce the need for future investments in infrastructure; provide access to jobs; and encourage private sector development that supports these initiatives.	non-federal commitment of resources, including involvement of nontraditional partners. Implementation grants are designed to carry out projects that meet the purposes of the TCSP, and priority is given to applicants that promote cost-effective and strategic investments in transportation infrastructure that minimize adverse environmental impacts and promote innovative private sector strategies. In previous years, individual cities in the region have received a total of $500,000 in funding.
Flexible Funds	✓	✓		For highway or transit purposes based on local planning priorities. Consists of 2 fund types: 1) Surface Transportation Program (STP); and 2) Congestion Mitigation and Air Quality (CMAQ). STP can be used for highway and bridge projects; transit capital projects; and intracity and intercity bus terminals and facilities. CMAQ can be used in air quality nonattainment or maintenance areas for projects that reduce emissions (e.g., transit improvements, travel demand management strategies, traffic flow improvements, and public fleet conversions to cleaner fuels).	STP fund allocations to the state include separate distributions to MPOs and to ADOT. State DOTs, MPOs, and transit agencies are eligible recipients of CMAQ funds, which require a state or local match, usually with an 80 percent federal participation. While CMAQ cannot be a permanent funding source, the goal is to encourage experimentation to determine whether new types of services are viable.
Safety Incentives	✓	✓		States may use funds for any project under Title 23.	Provides funding to states that have enacted 0.08% blood alcohol concentration as the legal limit for drunk driving offenses. FY 2002 Arizona Obligation Authority totaled $2.4 million.
Recreation Trails			✓	To develop and maintain recreational trails for motorized and non-motorized recreational trail users.	FY 2002 Arizona Obligation Authority totaled $1 million.
State Sources					
Highway User Revenue Fund (HURF)	✓			Highway construction and improvements and other related expenses.	Primary revenue source available to ADOT highway construction and improvements and other related expenses. Distributed to the cities, towns, counties, and the State Highway Fund. FY 2002 funds to the state totaled $1,076,400,000. Fund sources include gasoline and use fuel taxes, motor carrier taxes, vehicle license tax, motor vehicle registration fees, and other miscellaneous fees.
Local Transportation	✓	✓		Cities may use funds for either street and road or transit purposes, with the exception that cities with a	Under present law, LTAF is funded from net state lottery proceeds at a flat $23 million per year, with no provision for escalation. Funds

TABLE 5-1: TRANSPORTATION REVENUE SOURCES

Source	Roads	Transit	Other	Uses	Remarks
Assistance Fund (LTAF)				transit purposes, with the exception that cities with a population exceeding 300,000 in Maricopa County must use the funds for transit purposes only.	at a flat $23 million per year, with no provision for escalation. Funds are apportioned to cities and towns on the basis of population, though each city is guaranteed a minimum of $10,000.
Local Transportation Assistance Fund II (LTAF II)	✓	✓		For street and road or transit purposes, except that cities, towns, and counties apportioned more than $2,500 must use the funds for public transportation.	Authorized through September 2003. Funding source is from vehicle license tax as well as Powerball lottery funds. In 2001, the legislature amended LTAF II to allow annual appropriations from the state general fund to LTAF II in an amount equal to ADOT's STP monies in excess of $42 million. ADOT administers LTAF II and distributes the fund through RPTA in Maricopa County to cities, towns, and County based on population. FY 2002 funds to the state totaled $6.5 million.
Regional Sources					
Regional Area Road Fund (RARF)	✓	✓		To complete the region's planned freeway system and for transit purposes.	County half-cent excise tax that expires in 2005. FY 2002 revenues collected totaled $267.6 million.
Local Sources					
Phoenix, Tempe, Glendale, Mesa	✓	✓	✓	Phoenix – Transit projects Tempe – Transit projects Glendale – Bus, streets, bike, pedestrian, light rail and traffic education projects. Mesa – Transportation activities (including transit) and highway advancement.	Generated from a 0.4% (Phoenix), 0.5% (Tempe and Glendale) and a portion of a 0.5% (Mesa) sales tax. In addition, general fund revenues provide the majority of local transit resources for operating budgets for most communities in the Valley.
Various Financing Options					
HURF Bonds	✓			To accelerate construction of highway projects throughout Arizona.	Pledged revenues for bond issues are HURF funds deposited in the State Highway Fund. State Transportation Board has the authority to issue bonds and the bonds are an obligation of the State Transportation Board. They do not constitute a legal debt of the State, and payment is not enforceable from any revenue other than HURF.
RARF Bonds	✓	✓		To accelerate construction of controlled access facilities on the Maricopa Regional Freeway System.	Pledged revenues for bond issues are the County transportation tax revenues deposited in the RARF. State Transportation Board has the authority to issue bonds and the bonds are an obligation of the State Transportation Board. They do not constitute a legal debt of the State, and payment is not enforceable from any revenue other

TABLE 5-1: TRANSPORTATION REVENUE SOURCES

Source	Roads	Transit	Other	Uses	Remarks
					than RARF.
Highway Expansion and Extension Loan Program (HELP)	✓			Provides loans and financial assistance for eligible highway projects in the state.	As borrowers repay principal and interest on loans, the HELP fund is replenished and monies can be re-loaned. The fund is a self-sustaining mechanism to accelerate critical transportation projects.
Grant Anticipation Notes (GANS)	✓			To accelerate highway projects throughout Arizona.	Enables the State to issue notes to pay the federal share of projects in advance of the actual receipt of federal highway funding. Local communities participate in paying the cost of interest on the notes.
Transportation Infrastructure Finance and Innovation Act (TIFIA)	✓			Financial assistance for transportation projects.	New federal program with three types of financial assistance to address various project requirements throughout its life cycle. Secure loans to project sponsor offer flexible repayment terms and provide combined construction and permanent financing of capital costs. Loan guarantees provide full faith-and-credit guarantees by the federal government. Federal government Stand-by Lines of Credit represent secondary sources of funding in the form of contingent federal loans.

6.0 ISSUES AFFECTING THE FUTURE OF TRANSPORTATION

Population and employment growth, as well as levels of congestion on our transportation system, are often recognized as predominant factors in understanding the needs for future transportation improvements. However, many other issues affect our transportation needs. Land use, the environment, economic growth and an aging population all affect the types of transportation improvements necessary, as well as our ability to plan and implement them.

6.1 LAND USE

The Phoenix metropolitan area has often been perceived as experiencing widespread sprawl. The rate of growth and the patterns of development have often been generally considered as detrimental to the region's ability to maintain its urban core. While this perception still exists with many today, research completed by the Morrison Institute for Public Policy in September 2000 demonstrated that, while the region has indeed grown farther out, it has in fact grown more dense. While census figures show that population grew 220 percent between 1960 and 1990, the Morrison Institute found that the urbanized area grew only 199 percent.

The Morrison Institute's report, *Hits and Misses: Fast Growth in Phoenix,* further identifies the Phoenix metropolitan area as one of only eight metropolitan areas whose population increased at a faster rate than its land area, resulting in increased density.

As the completion of a comprehensive freeway system in the metropolitan area has advanced in recent years, it has supported the growth of both employment and population to the region's fringe. It would appear that growth in employment outside the core would be detracting from achieving sustainable employment in the core. However, just as the region has increased in density, the Morrison Institute's report also states that the core of the Phoenix metropolitan area is one of a few in the nation to sustain its employment base. This sustained employment is essential to efficiently using our transportation systems. According to the Morrison Institute, "Central Phoenix' strength bodes well for providing alternative transportation options and more close-in, middle-class residential areas."[10]

While maintaining a vibrant core is essential to the entire metropolitan area, the effects of dispersed residential development and new employment centers outside the core require new approaches to meeting the travel needs of those who commute between suburbs. The maturing of the regional freeway system will provide some benefit to those traveling between destinations outside the core; other improvements will be necessary to connect outlying areas with the core of the region.

Residential development has risen tremendously in the past 30 years, from about 320,000 housing units in 1970 to more than 1,250,00 units in 2000, a 291 percent increase.

Although housing inventory has increased, single-family housing has remained the predominant type of housing development. Even with average lot sizes remaining fairly constant, there is an increasing number of subdivisions with lots in the 5,500 square feet or lower range with cluster style housing.
As population and employment growth occur farther from the core of the region, there will be an increasing need to provide a greater of mix of land uses within these emerging areas. Coordinating the land uses and the type of population and employment opportunities is

[10] Hits and Misses: Fast Growth in Metropolitan Phoenix, Morrison Institute on Public Policy, September 2000.

imperative to ensure that there is a proper balance between jobs and housing. An imbalance in jobs and housing exists when employment opportunities are not commensurate with the housing stock, resulting in a work force that has to travel farther for appropriate employment opportunities.

6.2 ENVIRONMENTAL FACTORS

A variety of environmental and resource issues will affect the future of transportation in the MAG region. Among these factors are issues related to the natural and built environment as well as cultural resources. Of particular importance to this region is the impact of air quality issues on transportation.

AIR QUALITY

Maricopa County is currently a federally-designated nonattainment area for three pollutants: carbon monoxide, particulates (PM-10) and ozone. Major contributors to our violation of the National Ambient Air Quality Standards are both motor vehicles and our desert climate. As shown in Table 6-2 below, an estimated 64.4 percent of carbon monoxide is the result of automobile and truck emissions. The Revised MAG 1999 Serious Area Carbon Monoxide Plan includes many measures intended to improve carbon monoxide levels. The measures cover a broad range, such as vehicle inspection and maintenance programs, employer trip reduction programs, transit improvements, intelligent transportation systems, and signal coordination.

TABLE 6-1: PRIMARY SOURCES OF CARBON MONOXIDE

Source	% of Total
Onroad mobile (autos and trucks)	64.4
Nonroad mobile (utility lawn and garden, construction, farm, and recreational equipment; aircraft; and locomotives)	30.5
Area sources (residential wood and industrial fuel combustion, on-site incineration, and open burning)	4.6
Point sources (industrial, manufacturing, and electrical power generation facilities)	0.6

Source: Revised MAG 1999 Serious Area Carbon Monoxide Plan.

Unlike carbon monoxide, particulate matter less than ten microns in diameter (PM-10) is the pollutant that receives the most attention by Valley residents, due to its visible haze (commonly referred to as “the brown cloud”). Similar to carbon monoxide, MAG has also identified various measures to address particulates. Some of the measures for addressing particulate matter include implementing better enforcement of fugitive dust controls; paving unpaved roads, alleys and parking lots; using PM-10 efficient street sweepers; using cleaner-burning fuels; and coordinating traffic signal systems. It is imperative that the measures are implemented in a timely manner in order to attain the air quality standards by the federal deadlines.[11]

[11] Maricopa Association of Governments, Regional Transportation Plan Update, Environmental and Resource Issue Paper, BRW, Inc., June 2001.

6.3 ECONOMIC GROWTH

The MAG region continues to flourish in a strong economy fueled by significant population and employment growth. Real estate, tourism, construction, and retirement continue to be leaders in the region's economic growth. However, increases in high-tech employment are occurring outside the core of the region, while aerospace, information and biomedical continue to remain in the core area.

The central portions of Phoenix have the highest number of technology, transportation, and health/biomedical sectors. Arizona State University, Sky Harbor International Airport and the International Geonomics Consortium will continue to be magnets for high-tech job growth in the future. Downtown and midtown Phoenix remain as the primary areas for knowledge-based industries in Maricopa County, with smaller concentrations in the area around Sky Harbor International Airport, Tempe, Scottsdale, and Metrocenter. Recent growth in high-tech manufacturing has occurred in the southeast and northwest areas of the Valley. As a result of land availability, future growth in manufacturing will undoubtedly occur on the urban fringe.[12]

In the New Economy, the trend is toward smaller, specialized companies that employ fewer people than the hundreds employed by their predecessors. Workers in the New Economy are less dependent on work place and more dependent on services and communications. They have a greater interest in small or in-home offices that are accessible to services, and at the same time, they seek opportunities for social interaction that they once received in a large work place.

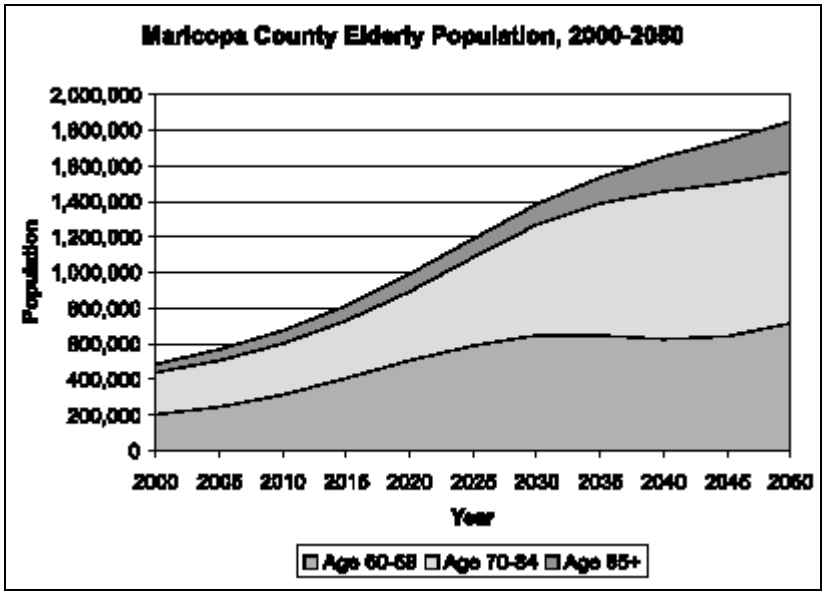
Supporting the New Economy will require transportation facilities and services that serve global markets, such as Sky Harbor International Airport and the regional freeway system. Attracting workers in the New Economy will, according to the Morrison Institute, require the MAG region to focus on "quality of place." The Morrison Institute notes the need for mobility options including fixed guideway (light rail, bus rapid transit and commuter rail), non-fixed guideway (bus and demand response) transit, bicycle, and pedestrian.

6.4 AGING POPULATION

As mentioned earlier, Maricopa County, like the rest of the nation, will soon experience a significant aging of the general population. As this aging occurs, it will affect our need for differing choices in transportation. By the year 2025, the Census Bureau projects that one in five individuals will be aged 60 and older. As the population in Maricopa County ages, the fastest-growing segment of the population will be those persons aged 85 and older, who are considered to be transportation dependent.

[12] Hits and Misses: Fast Growth in Metropolitan Phoenix, Morrison Institute on Public Policy, September 2000.

FIGURE 6-1: MARICOPA COUNTY ELDERLY POPULATION, 2000-2050



Source: Regional Action Plan on Aging and Mobility, Maricopa Association of Governments, March 2002.

For these generations who have lived a lifetime dependent on the automobile, the change in lifestyle resulting from the inability to drive can be significant. Furthermore, in addition to aging, many seniors find themselves living alone. The year 2000 Census reflects the growing number of persons over 65 in the MAG region, as shown in Figure 6-4.

As referenced in the MAG Regional Action Plan on Aging and Mobility," many seniors adapt their driving habits to meet individual circumstances. For example, they might reduce nighttime driving, drive only on off-peak hours, and avoid bad weather. Reluctantly, many will reach the point where they will have to rely on other modes of travel. For seniors who live alone, far from family, and/or who have limited income, the ability to access basic services such as food and health care, as well as the ability to participate in social, cultural, and religious activities, can be compromised without the use of an automobile.[13]

Providing for the needs of an aging population will require the region to consider a wide range of alternatives. MAG has identified some of the key forms of transportation for improving mobility for seniors that include:

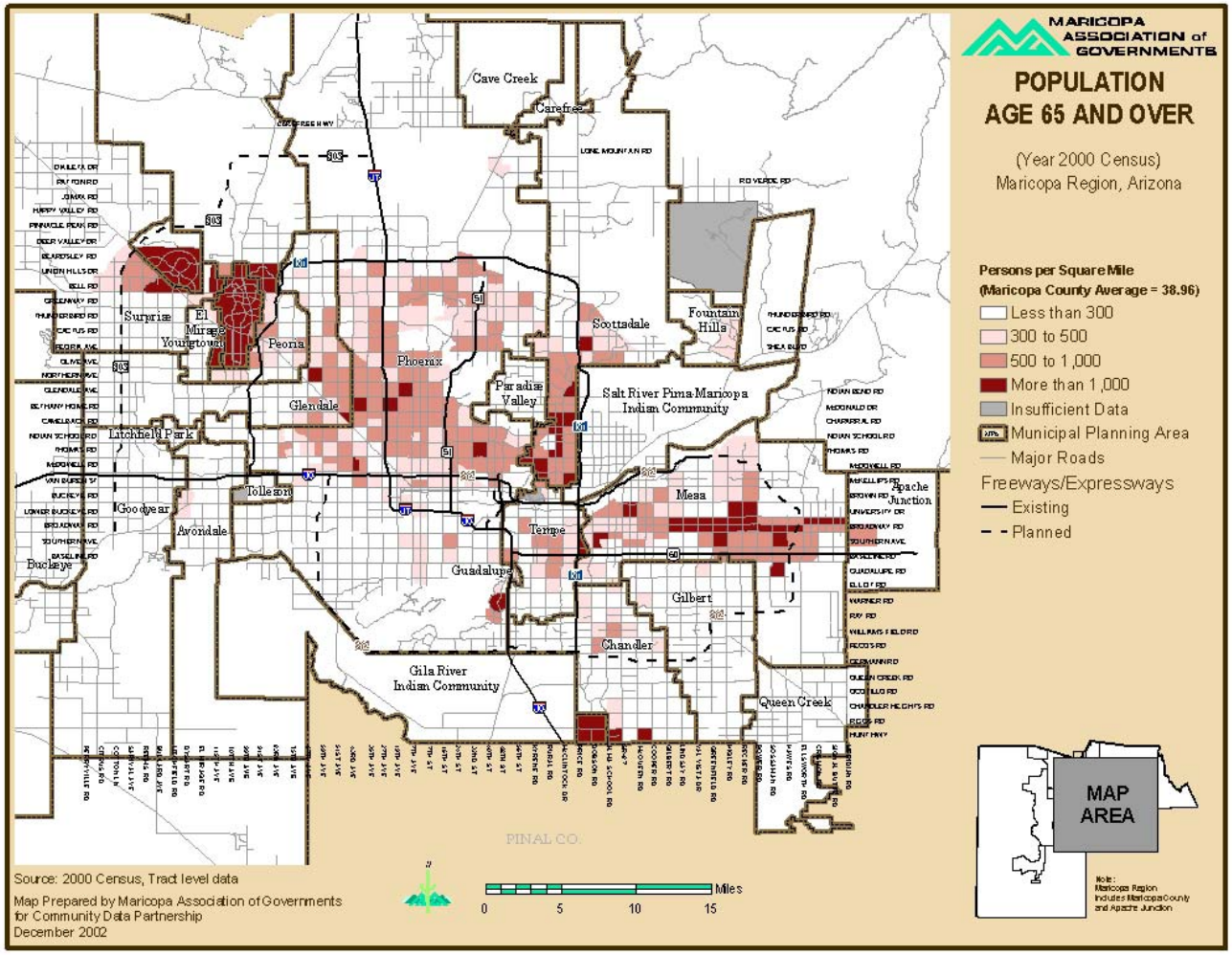
- Walking and bicycling.
- Public transit.
- Vanpools.
- Demand response paratransit services. The Americans with Disabilities Act (ADA) requires that operators of fixed route public transit offer both accessible services and specialized paratransit for individuals with disabilities living within ¾ mile of any transit route, including qualified elderly persons with disabilities.

[13] Regional Action Plan on Aging and Mobility, Maricopa Association of Governments, March 2002.

- Taxi Vouchers.
- Mileage reimbursement.
- Agency transportation services. Some public and private agencies provide transportation services for the elderly (examples include private nursing homes and assisted living facilities).

It is important that growth in an aging population be given consideration equal to that of growth in overall population and employment when determining the future of our transportation system. Mobility for seniors is key to their ability to maintain a quality lifestyle that offers them opportunities for social interaction, culture, recreation, medical services and overall self-reliance.

FIGURE 6-2: PERSONS OVER 65 IN MARICOPA COUNTY



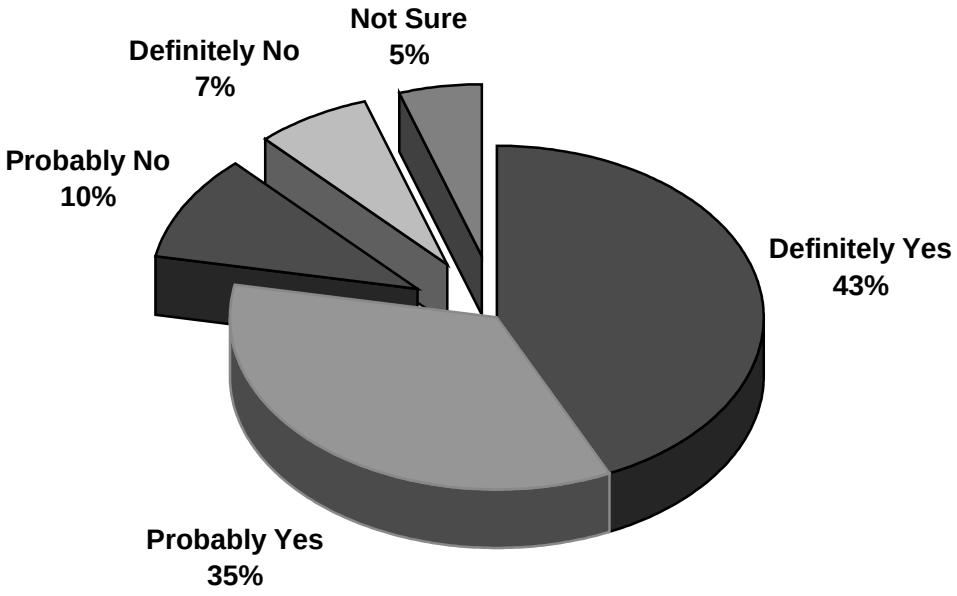
7.0 MARICOPA COUNTY REGIONAL TRANSPORTATION SURVEY

In December 2002, Behavior Research Center, on behalf of the Maricopa Association of Governments Transportation Policy Committee, conducted 1,009 telephone interviews with Maricopa County voters.[14] The purpose of the survey was to determine the attitudes and opinions of residents regarding the extension of Maricopa County's one-half cent sales tax for transportation, which expires in 2005. Continuation of the tax could raise about $8.3 billion to make the transportation improvements necessary to continue the progress made over the past 20 years. Below are some of the key findings of the survey.

7.1 SALES TAX EXTENSION

Voters were asked if they would support or oppose extending the current one-half cent sales tax for transportation for 20 years. Seventy-eight percent of the voters said they would likely vote yes to extend the half cent sales tax for transportation for 20 years, while only 17 percent would probably vote no.

FIGURE 7-1: VOTER SUPPORT FOR SALES TAX EXTENSION

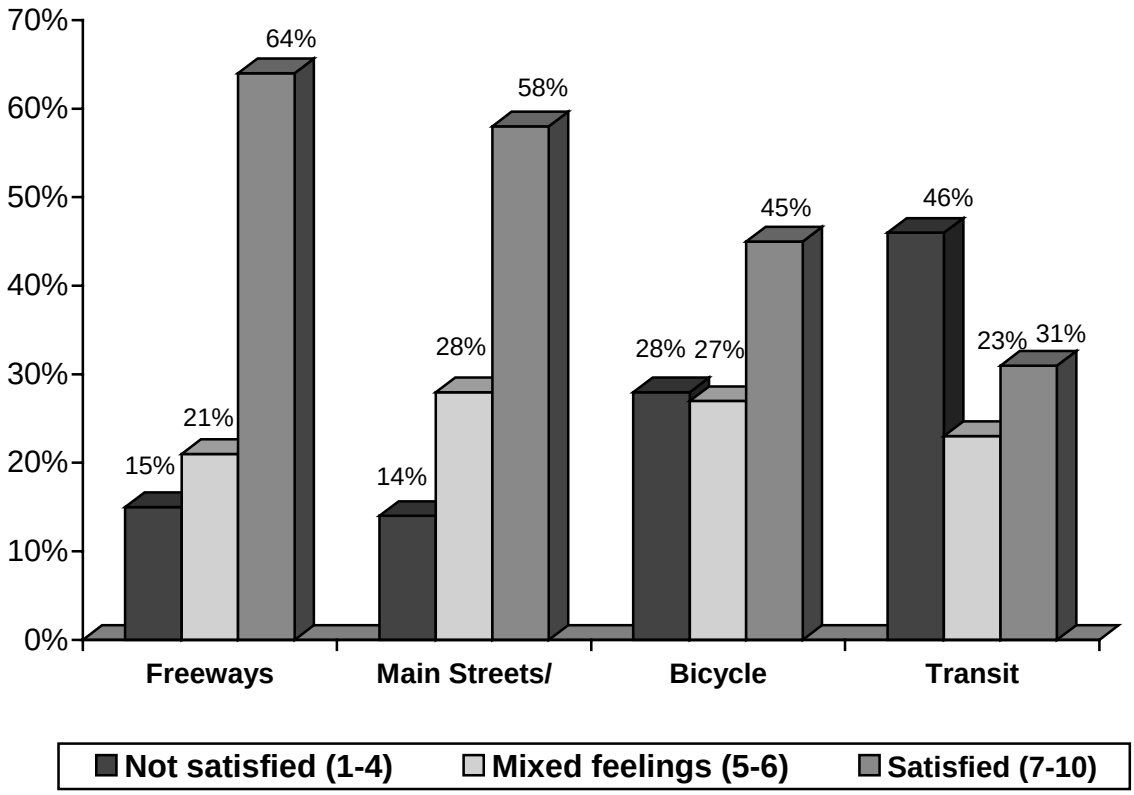


[14] Regional Transportation Survey of Maricopa County Registered Voters, Behavior Research Center, December 2002.

7.2 SATISFACTION WITH TRANSPORTATION SYSTEM COMPONENTS

A majority of voters offered positive ratings on two of four transportation system components evaluated: freeways (64%) and main streets and roads (58%). In contrast, less than a majority of voters were satisfied with bicycle/pedestrian facilities (45%) or with transit services (31%), with transit services generating a negative rating from nearly one-half of voters (46%).

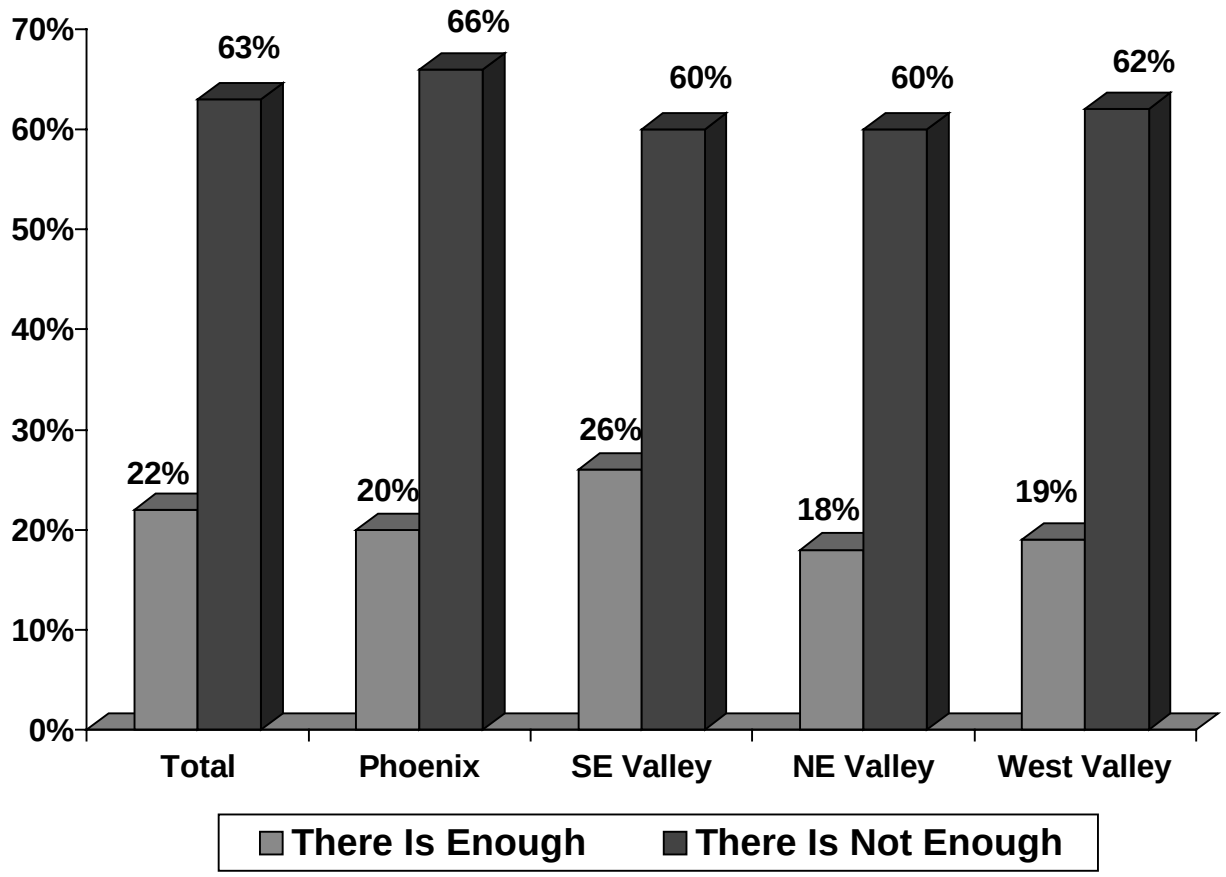
FIGURE 7-2: VOTER SATISFACTION WITH CURRENT TRANSPORTATION SYSTEM



7.3 AVAILABILITY OF TRANSPORTATION FUNDS FOR THE FUTURE

The poll demonstrated that, by nearly a three-to-one margin (63% to 22%), voters recognize that there is not enough funding available to cover future transportation improvements over the next 20 years.

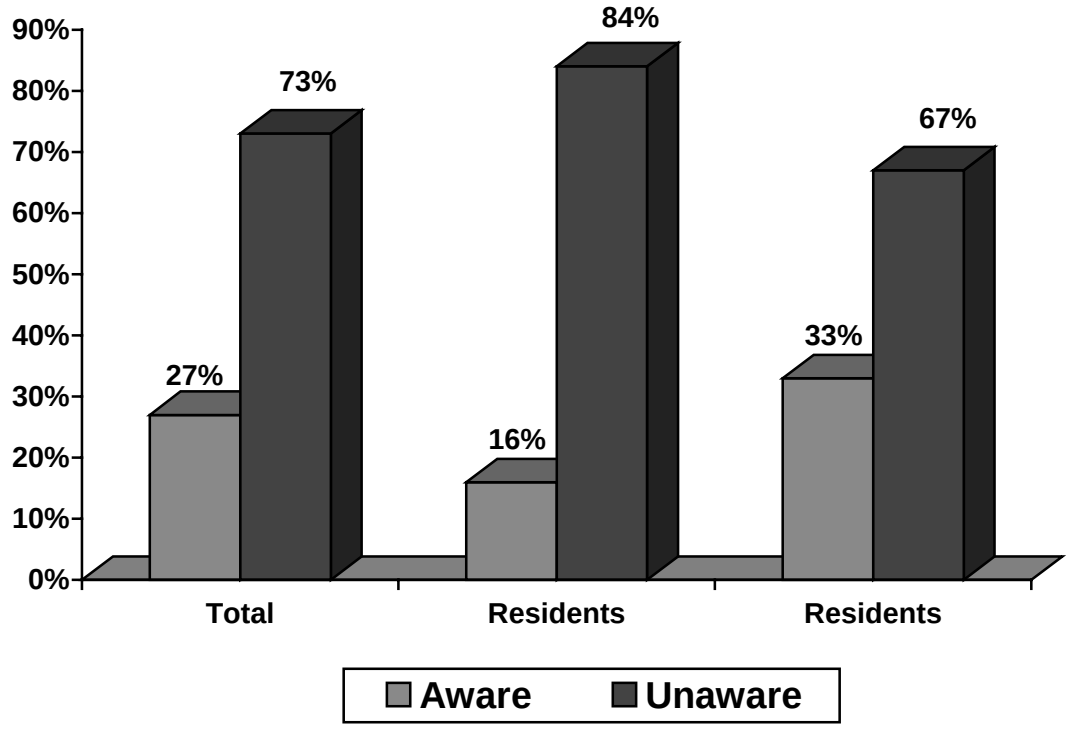
FIGURE 7-3: VOTER OPINION OF FUNDING AVAILABILITY



7.4 AWARENESS OF EXPIRATION OF PROPOSITION 300

Many voters continue to be unaware of the pending loss of transportation revenue. The poll found that three out of four Maricopa County voters (73%) were unaware that the 20-year, one-half cent sales tax passed under Proposition 300 in 1985 was set to expire in 2005.

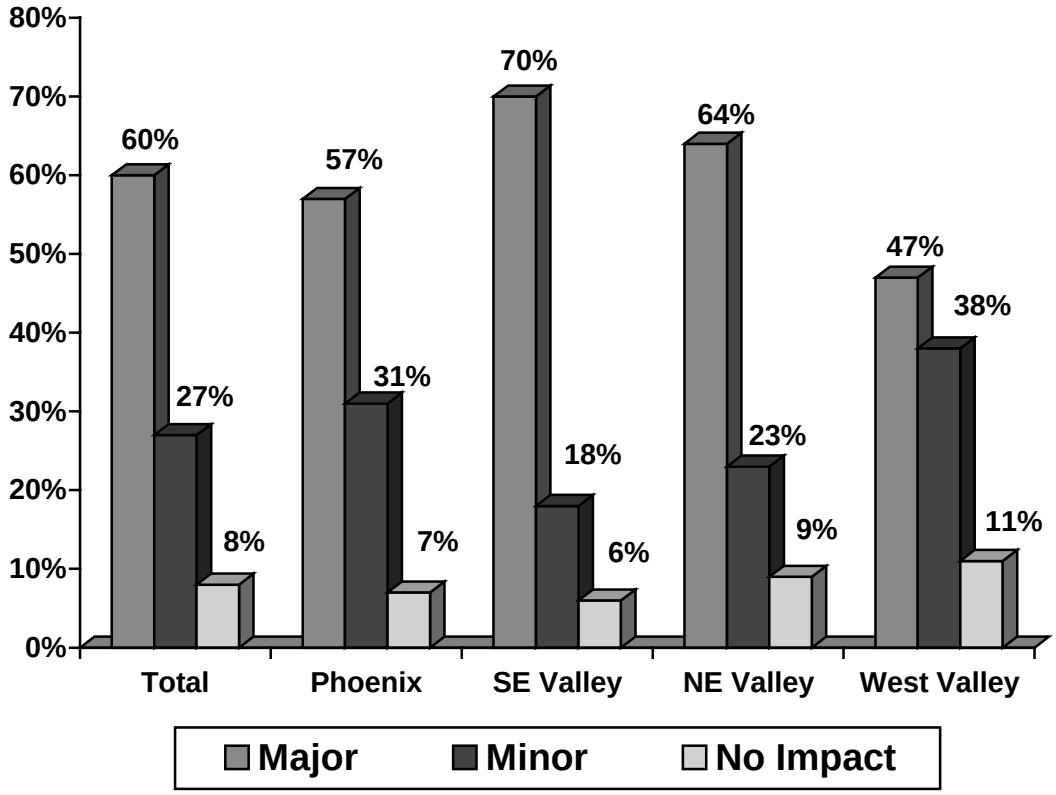
FIGURE 7-4: VOTER AWARENESS OF SALES TAX EXPIRATION



7.5 IMPACT OF EXISTING TAX ON IMPROVING THE TRANSPORTATION SYSTEM

Of those who were aware of the fact that the transportation sales tax is set to expire in 2005, 60 percent believe the tax has had a major impact on improving the Valley's transportation system, while 27 percent believe it had a minor impact. Only eight percent believed the funds had no impact on improving the region's transportation system.

FIGURE 7-5: IMPACT OF EXISTING TAX

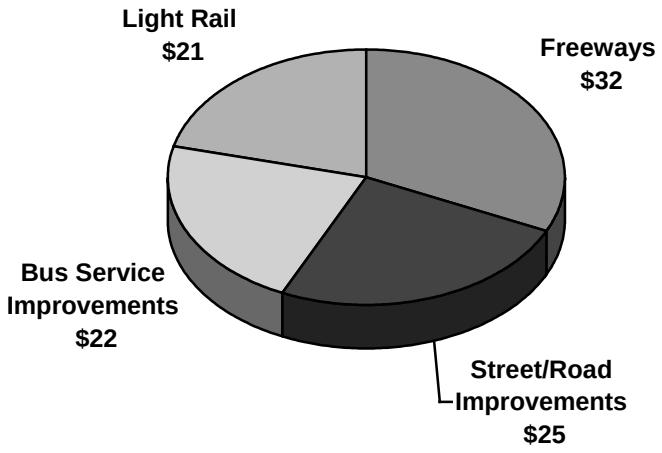


7.6 PRIORITY FOR TRANSPORTATION SPENDING

When voters were asked how much spending priority each of the county's transportation system components should receive, voters indicated that they would spend 57% on freeways, 45% on main streets and roads, 43% on transit, and 25% on bicycle and pedestrian facilities.

Voters were then asked how they would distribute $100 in tax dollars between four primary transportation improvements - freeway, bus service, light rail transit, and street and road improvements. As shown below, voters support a balance in distribution of sales tax funding for transportation improvements.

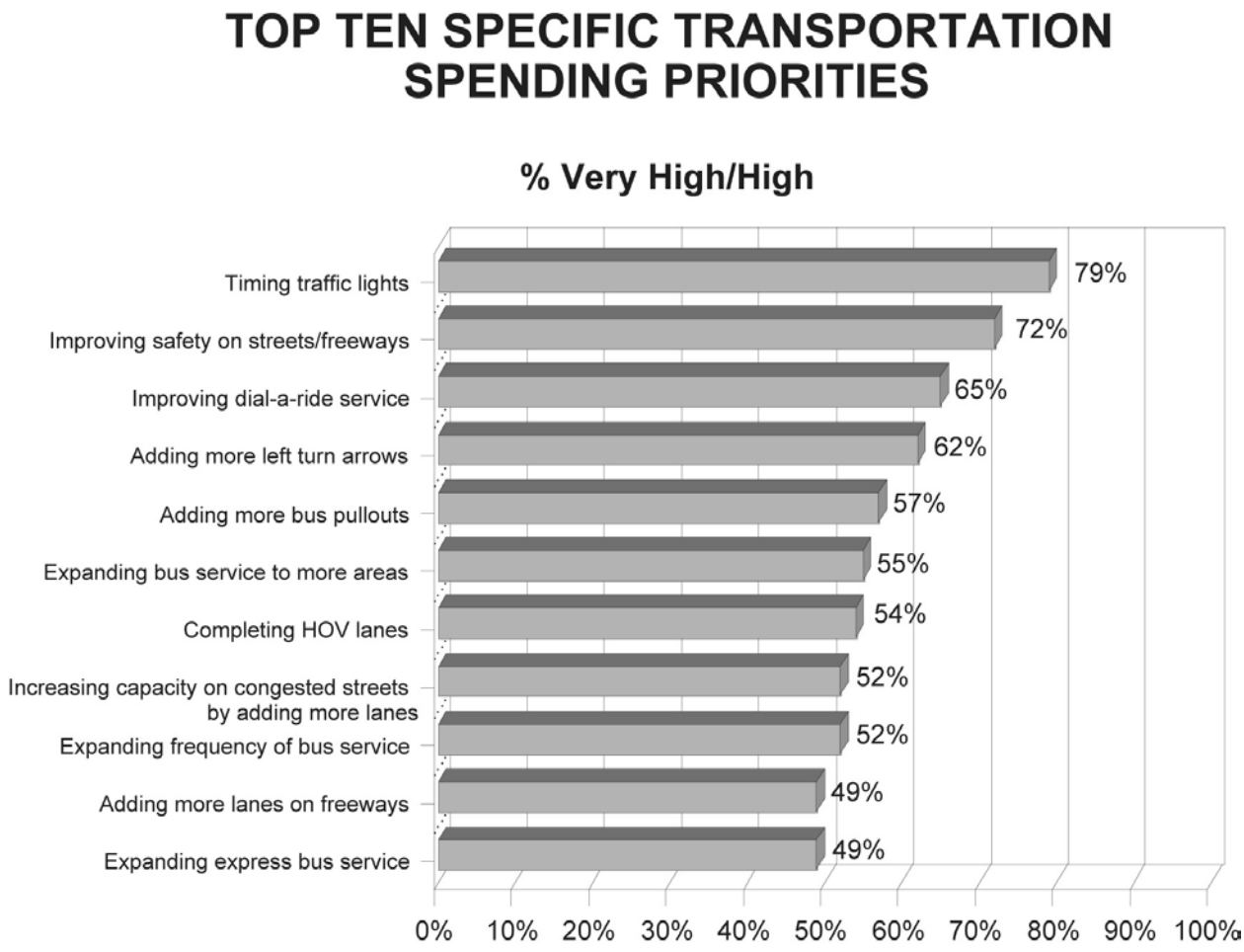
FIGURE 7-6: VOTERS SPENDING PRIORITY



7.7 SPECIFIC TRANSPORTATION SPENDING PRIORITIES

Voters were asked to indicate how much spending priority they felt 24 specific transportation improvements should receive.

FIGURE 7-7: TOP TEN SPECIFIC TRANSPORTATION SPENDING PRIORITIES



8.0 CLASSIFICATION OF TRANSPORTATION PROJECTS

The Regional Transportation Plan (RTP) will consist of a combination of transportation projects. Thirteen different classifications were used to group projects that are under consideration for inclusion into the RTP. The 13 classifications, with a brief description of the types of projects included in each, are summarized below:

IMPROVE EXISTING FREEWAY SYSTEM

Includes widening existing freeways to provide for additional traffic and promote carpooling. These projects include adding regular lanes, high-occupancy vehicle (HOV) lanes, auxiliary lanes, and collector-distributor roads.

TRAFFIC INTERCHANGES

Includes widening of existing interchanges, and new interchanges with HOV ramps only.

NEW FREEWAY CONSTRUCTION

Includes constructing new freeways.

IMPROVE EXISTING STATE HIGHWAY SYSTEM

Includes constructing new highways, increasing the number of highway/arterial interchanges, and widening the existing highways.

IMPROVE EXISTING ARTERIAL SYSTEM

Includes widening the intersections and the roadway segments between them by adding through lanes and/or turn lanes to increase the number of vehicles they can carry.

NEW ARTERIAL CONSTRUCTION

Includes adding new roads or extending existing roads, and reconstructing existing intersections to be grade separated.

BRIDGES

Includes building new bridges over rivers, canals, or floodways.

OPERATIONS

Includes projects that will improve movement in the roadway system without adding lanes, and projects that will provide drivers with the tools they need to make the best route decisions, such as electronic message signs that notify drivers of construction activity or crashes.

RAIL TRANSIT

Includes constructing and operating light rail transit and operating commuter trains on existing rail lines.

BUS TRANSIT

Includes adding and improving the existing express bus and local bus service, and adding bus rapid transit (BRT). BRT is a “rapid” or limited-stop bus service with signal priority and special vehicles and stations.

TRANSIT SUPPORT

Includes all facilities needed to support rail and bus transit. These projects include improving dial-a-ride services and adding park and ride lots, transfer stations, and maintenance facilities.

BICYCLE/PEDESTRIAN/MULTI-USE TRAIL SYSTEM

Includes adding facilities to help improve the movement of pedestrians and bicyclists. These projects include adding bike lanes, sidewalks, multi-use trails, and pedestrian bridges over freeways.

AESTHETICS/MITIGATION

Includes adding or extending landscaping on roadways and freeways, implementing roadside assistance patrols, controlling litter, improving lighting, and reducing freeway noise by installing noise walls and rubberized asphalt surfacing.

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