

**Let's Keep  
Moving!**



# Executive Summary **Regional Transportation Plan**



**November 25, 2003**



*Executive Summary*

**REGIONAL  
TRANSPORTATION PLAN**

**PREPARED UNDER THE GUIDANCE OF  
THE TRANSPORTATION POLICY COMMITTEE**

**AND**

**ADOPTED BY THE MAG REGIONAL COUNCIL**

**NOVEMBER 25, 2003**

Maricopa Association of Governments  
302 North First Avenue, Suite 300  
Phoenix, Arizona 85003  
Phone: (602) 254-6300  
Fax: (602) 254-6490  
[www.mag.maricopa.gov](http://www.mag.maricopa.gov)

## **Maricopa Association of Governments Regional Council Members**

Mayor Wendy Feldman-Kerr, Chair, Queen Creek

Mayor Douglas Coleman, Apache Junction

Mayor Ron Drake, Avondale

Mayor Dusty Hull, Buckeye

Mayor Edward Morgan, Carefree

Vice Mayor Ralph Mozilo, Cave Creek

Mayor Boyd Dunn, Chandler

Mayor Robert Robles, El Mirage

Mayor Wally Nichols, Fountain Hills

Mayor Chris Riggs, Gila Bend

Governor Richard Narcia, Gila River Indian Community

Mayor Steve Berman, Gilbert

Mayor Elaine Scruggs, Glendale

Mayor James Cavanaugh, Goodyear

Mayor Vinicio Alvarez, Guadalupe

Mayor J. Woodfin Thomas, Litchfield Park

Supervisor Max W. Wilson, Maricopa County

Mayor Keno Hawker, Mesa

Mayor Edward Lowry, Paradise Valley

Mayor John Keegan, Peoria

Mayor Skip Rimsza, Phoenix

President Joni Ramos, Salt River Pima-Maricopa Indian Community

Mayor Mary Manross, Scottsdale

Mayor Joan Shafer, Surprise

Mayor Neil Giuliano, Tempe

Mayor Adolfo Gamez, Tolleson

Mayor Lon McDermott, Wickenburg

Mayor Bryan Hackbarth, Youngtown

Mr. F. Rockne Arnett, Citizens Transportation Oversight Committee

Mr. Rusty Gant, State Transportation Board

Mr. Joe Lane, State Transportation Board

## **Transportation Policy Committee Members**

Mayor Neil Giuliano, Chair, Tempe  
Mayor Elaine Scruggs, Vice Chair, Glendale  
Mr. Benito Almanza, Bank of America Arizona  
Mr. F. Rockne Arnett, Citizens Transportation Oversight Committee  
Mayor Steven Berman, Gilbert  
Mr. Dave Berry, Swift Transportation  
Mr. Jed S. Billings, FNF Construction  
Councilmember Peggy Bilsten, Phoenix  
Mayor James Cavanaugh, Goodyear  
Councilmember Pat Dennis, Peoria  
Mayor Ron Drake, Avondale  
Mayor Boyd Dunn, Chandler  
Mr. Rusty Gant, State Transportation Board  
Mayor Keno Hawker, Mesa  
Mr. Eneas Kane, DMB Associates  
Mayor Mary Manross, Scottsdale  
Mayor Lon McDermott, Wickenburg  
Ms. Diane Scherer, Phoenix Association of Realtors  
Vice Mayor Daniel Schweiker, Paradise Valley  
Mr. Martin Shultz, Pinnacle West Capital Corp.  
Supervisor Don Stapley, Maricopa County  
Mayor J. Woodfin Thomas, Litchfield Park

## **Acknowledgments**

We wish to thank Governor Janet Napolitano and the Arizona Legislature for the passage of House Bill 2292, which guided the development of the Regional Transportation Plan, in anticipation of an election to extend the transportation sales tax for this region. Although many members of the Legislature were instrumental in the passage of this bill, the leadership of the Chair of the House Transportation Committee, Representative Gary Pierce, is especially noteworthy in this endeavor. In addition, we wish to thank the Business Coalition and Maricopa 2020 for joining with the Transportation Policy Committee and the MAG Regional Council in developing and supporting the Regional Transportation Plan.

## TABLE OF CONTENTS

<b>INTRODUCTION</b>	<b>1</b>
Transportation Policy Committee	1
One-Half Cent Transportation Excise Tax	1
<b>REGIONAL OVERVIEW</b>	<b>3</b>
Population Projections	3
Employment Growth	3
<b>PUBLIC INVOLVEMENT</b>	<b>5</b>
The Public Involvement Process	5
Title VI and Environmental Justice	5
<b>PLAN DEVELOPMENT</b>	<b>6</b>
Performance-Based Planning	6
Costs and Revenue Estimates	7
State and Federal Mandates	7
<b>FINANCIAL PLAN</b>	<b>8</b>
Regional Transportation Revenues	8
Funding Assumptions	8
Modal Funding Summary	8
<b>FREEWAYS AND HIGHWAYS</b>	<b>10</b>
Planned New Facilities and Improvements	10
Phasing Priorities - Regionally Funded Projects	10
Life Cycle Freeway Program	10
<b>STREETS</b>	<b>18</b>
Planned New Facilities and Improvements	18
Phasing Priorities - Regionally Funded Projects	18
<b>TRANSIT</b>	<b>22</b>
Planned New Facilities and Service Improvements	22
Costs and Phasing - Regionally Funded Facilities and Services	22
<b>OTHER TRANSPORTATION MODES AND PROGRAMS</b>	<b>29</b>
Airports	29
Bicycles	29
Pedestrians	29
Freight	29
Demand Management	30
System Management	30

Special Needs Transportation . . . . .	30
Safety . . . . .	30
<b>AIR QUALITY CONFORMITY . . . . .</b>	<b>31</b>
Conformity Requirements . . . . .	31
Results of the Conformity Analysis . . . . .	31
<b>PLAN IMPLEMENTATION POLICIES . . . . .</b>	<b>32</b>

**LIST OF TABLES**

TABLE 1:	Total Resident Population by Municipal Planning Area - Maricopa County (2000-2030) . . . . .	4
TABLE 2:	Summary of Funding by Mode . . . . .	9
TABLE 3:	Freeway and Highway Projects . . . . .	12
TABLE 4:	Costs and Phasing for New Interchanges and HOV Ramps . . . . .	14
TABLE 5:	Other Freeway and Highway Costs . . . . .	14
TABLE 6:	Arterial Projects, Costs and Phasing . . . . .	19
TABLE 7:	Regional Bus Services Phasing and Costs . . . . .	23
TABLE 8:	Light Rail Transit Phasing and Costs . . . . .	24
TABLE 9:	Schedule of Bus-Related Capital Investments and Operating Costs . . . . .	25

**LIST OF FIGURES**

FIGURE 1:	MAG Region . . . . .	2
FIGURE 2:	Plan Development Process . . . . .	6
FIGURE 3:	Roadway System Improvements Freeways/Highways . . . . .	11
FIGURE 4:	Plan Phasing Freeways/Highways . . . . .	15
FIGURE 5:	Plan Phasing New Interchanges and HOV Ramp Connections . . . . .	16
FIGURE 6:	Regional Freeway System: July 2003 Certification . . . . .	17
FIGURE 7:	Plan Phasing New/Improved Arterials . . . . .	21
FIGURE 8:	Super Grid and Rural Service Plan Phasing . . . . .	26
FIGURE 9:	Freeway and Arterial BRT Routes Plan Phasing . . . . .	27
FIGURE 10:	Identified High Capacity Corridors Plan Phasing . . . . .	28

# **INTRODUCTION**

The Maricopa Association of Governments' (MAG) Regional Transportation Plan (RTP) is a comprehensive, performance based, multi-modal and coordinated regional plan, covering the period through Fiscal Year (FY) 2026. The RTP will provide a blueprint for future transportation investments in the region for the next several decades. This Executive Summary presents a concise overview of the RTP.

The MAG Planning Area includes all of Maricopa County, Arizona (See Figure 1). At present, MAG membership consists of the cities of Apache Junction, Avondale, Chandler, El Mirage, Glendale, Goodyear, Litchfield Park, Mesa, Peoria, Phoenix, Scottsdale, Surprise, Tempe, and Tolleson; the towns of Buckeye, Carefree, Cave Creek, Fountain Hills, Gila Bend, Gilbert, Guadalupe, Paradise Valley, Queen Creek, Wickenburg and Youngtown; Maricopa County; and the Gila River, and Salt River Pima-Maricopa Indian Communities. The Arizona Department of Transportation (ADOT) and the Citizen's Transportation Oversight Committee also serve as ex-officio members for transportation-related issues. MAG is the designated Metropolitan Planning Organization (MPO) for transportation planning in the Maricopa County Region. MAG has also been designated by the Governor to serve as the principal planning agency for the region in a number of other areas, including air quality, water quality and solid waste management. In addition, through an Executive Order from the Governor, MAG develops population estimates and projections for the region.

## **Transportation Policy Committee**

The RTP was developed under the direction of the Transportation Policy Committee (TPC). The TPC is a public/private partnership established by MAG and charged with finding solutions to the region's transportation challenges. The Committee consists of 23 members, including a cross-section of MAG member agencies, community business representatives, and representatives from transit, freight, the Citizens Transportation Oversight Committee, and ADOT. The TPC is dedicated to developing a plan that addresses diverse transportation needs throughout the region. The Committee makes its recommendations to the MAG Regional Council,

which adopts the final RTP.

Work to prepare the RTP began in December of 2000, representing the most extensive transportation plan update by MAG since the mid-1980s. The planning process established goals, objectives and performance measures; extensively evaluated the long-range population trends of the region; analyzed economic and land use development patterns; analyzed the current condition of the regional transportation system; assessed transportation needs over the next 20 years; and identified transportation investments that will best meet the present and future needs of the region. An extensive public involvement and outreach program was pursued throughout the planning effort.

Arizona House Bill 2292, which was passed in the Spring 2003 session of the Arizona Legislature, recognizes MAG's establishment of a TPC that is tasked with developing an RTP, and sets forth the process for an election to extend the current one-half cent county transportation excise tax. It required the TPC to develop the RTP in cooperation with the Regional Public Transportation Authority (RPTA) and ADOT.

## **One-Half Cent Transportation Excise Tax**

On October 8, 1985, the voters of Maricopa County approved Proposition 300 to establish a one-half cent sales tax for construction of controlled-access highways. These funds are called Regional Area Road Funds (RARF). To be eligible for these funds, facilities must be identified within the MAG RTP and the State Highway System.

The one-half cent tax was approved for a period of 20 years and ends on December 31, 2005. The tax has been instrumental in the development of the regional freeway network, but many transportation needs remain. In view of the continuing demand for transportation improvements in the region, there is a need to extend this funding source into the future. Improvements covering a full range of transportation modes need to be addressed, including streets and arterial networks, rail transit and bus service expansion, and new and improved freeways.



# Regional Transportation Plan

## Executive Summary

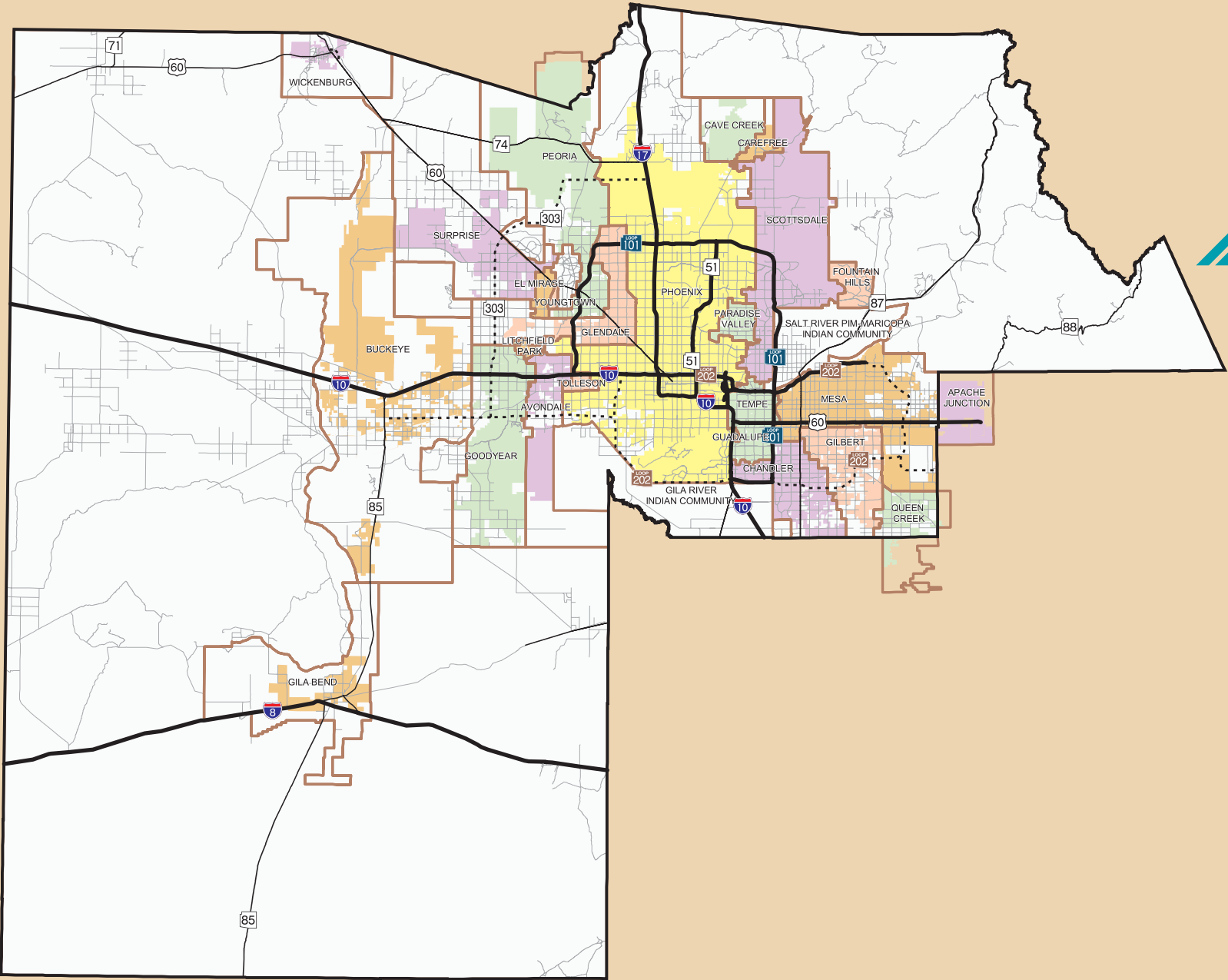
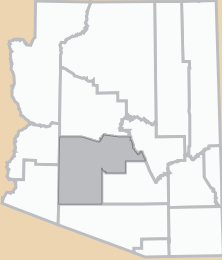
Figure 1



### MAG Region

- Municipal Planning Area
- Existing Freeway
- Planned Freeway/Highway
- Highways
- Other Roads

### MAP AREA



While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.



## **REGIONAL OVERVIEW**

The MAG Region is geographically situated in the south-central interior region of the State of Arizona, and encompasses an area of 9,223 square miles. The MAG Region contains 25 incorporated cities and towns, five Native American Communities and a large area of unincorporated land. The region is located in the Sonoran Desert with elevations generally ranging from 500 to 2,500 feet above sea level. In 2002, Maricopa County contained approximately 60 percent of the population in Arizona, as well as eight of the nine cities in Arizona with populations greater than 100,000 people.

According to data compiled by MAG in 2000, approximately 29 percent of all county lands were under private ownership; 28 percent of lands were under the direct ownership of the Bureau of Land Management; 14 percent of lands were under the jurisdiction of the U.S. Military; 11 percent of lands were held within State trust; 11 percent of lands were under the direct ownership of the U.S Forest Service; 5 percent of land was comprised of Indian Communities; and the remaining 2 percent of lands in the county were classified as “other” public lands.

### **Population Projections**

For the past several decades, the MAG Region has been one of the fastest-growing metropolitan areas in the United States, among those with populations of more than one million people. In April of 2000, Maricopa County had a resident population of 3,072,149. This was a population growth of approximately 44 percent, or 950,000 people in the decade from 1990 to 2000.

MAG Interim Socioeconomic Projections indicate that this high growth rate is expected to continue. By 2030, Maricopa County is projected to double in population over the 2000 base population, with an anticipated total of 6.24 million people. This means that the region will experience a growth of approximately one million people during each decade.

Table 1 shows the total resident population for Municipal Planning Areas (MPAs) from July 1, 2000, to July 1, 2030. Total resident population

includes the resident population in households, and the resident population in group quarters (dorms, nursing homes, prisons and military establishments). Over the 30-year period (2000-2030), nine MPAs are projected to grow by more than 100,000 persons. These areas include Phoenix, Buckeye, Surprise, Goodyear, Mesa, Gilbert, Peoria, Avondale and Chandler. Another three MPAs are projected to experience population growth greater than 50,000 persons: Scottsdale, Glendale, and the Maricopa County portion of Queen Creek.

Currently, there are four MPAs within the MAG Region with populations of more than 200,000 persons: Phoenix, Mesa, Glendale and Scottsdale. By 2010, Chandler and Gilbert will surpass 200,000 in population, and will be followed by Peoria prior to the beginning of 2020. By 2025, the largest Municipal Planning Area – Phoenix, will contain 2.1 million persons, followed by Mesa at 630,000 and Surprise at 312,000.

### **Employment Growth**

By 2025, Maricopa County is projected to nearly double its reported 2000 employment total. This means that employment within the region will grow by approximately 575,000 jobs each decade. Compared to 2000, it is projected that there will be a more even distribution of jobs by place of work among MPAs throughout the MAG Region.

Although the Phoenix MPA is expected to contain the most jobs in the region, its share declines from 47 percent of all jobs in 2000, to approximately 37 percent in 2030. In 2000, the top four MPAs of Phoenix, Mesa, Tempe and Scottsdale contained 78 percent of all jobs by place of work. By 2030, their collective share is projected to decline to 60 percent.

Between 2000 and 2025, total job growth in Maricopa County is projected to be 1.4 million jobs, which includes the following stages of growth: 547,000 jobs between 2000 and 2010; 593,000 jobs between 2010 and 2020; and 297,000 jobs between 2020 and 2025.

**TABLE 1**

<b>TOTAL RESIDENT POPULATION BY MUNICIPAL PLANNING AREA (MPA)                      MARICOPA COUNTY                      (July 1, 2000 and Interim Projections July 1, 2010 to July 1, 2030)</b>					
<b>Municipal Planning Area (MPA)</b>	<b>Total Resident Population 2000</b>	<b>Total Resident Population 2010</b>	<b>Total Resident Population 2020</b>	<b>Total Resident Population 2025</b>	<b>Total Resident Population 2030</b>
Avondale	37,800	82,100	122,500	141,600	161,400
Buckeye	16,700	58,600	153,400	275,500	380,600
Carefree	3,000	4,000	4,800	4,800	4,900
Cave Creek	3,900	5,100	5,800	9,800	12,900
Chandler	185,300	260,000	286,600	287,000	288,600
County Areas	85,300	92,900	109,900	124,600	138,000
El Mirage	8,700	29,700	31,400	32,200	33,100
Fountain Hills	20,500	24,700	30,400	30,400	30,700
Gila Bend	2,300	2,800	6,000	12,500	17,800
Gila River *	2,700	3,200	4,200	4,700	5,200
Gilbert	119,200	202,800	280,300	281,900	290,500
Glendale	230,300	290,400	308,100	309,800	312,200
Goodyear	21,200	61,300	161,100	247,400	330,400
Guadalupe	5,200	5,200	5,500	5,500	5,600
Litchfield Park	3,800	7,000	13,700	13,700	14,200
Mesa	441,800	537,900	617,800	630,300	647,800
Paradise Valley	14,100	15,200	15,700	15,800	15,900
Peoria*	114,100	160,800	206,600	232,200	253,400
Phoenix	1,350,500	1,700,300	2,022,500	2,101,600	2,187,500
Queen Creek*	7,400	18,900	58,300	73,100	88,100
Salt River	6,500	7,400	7,500	7,500	7,500
Scottsdale	204,300	253,100	287,300	289,600	292,700
Surprise	37,700	115,200	213,300	312,300	395,500
Tempe	158,900	176,400	189,200	192,700	196,700
Tolleson	5,000	6,100	6,200	6,200	6,300
Wickenburg	7,400	7,700	10,000	14,800	16,000
Youngtown	3,000	5,400	6,200	6,300	6,600
<b>TOTAL</b>	<b>3,096,600</b>	<b>4,134,400</b>	<b>5,164,100</b>	<b>5,664,000</b>	<b>6,140,000</b>

Source: Maricopa Association of Governments, Interim Projections, June 25, 2003

**Notes:**

Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments). MPA numbers are rounded to the nearest 100. County numbers may not add due to rounding.  
 \*These projections include the Maricopa County portion of the community only.

The City of Apache Junction, which became a member of MAG in 2002, had a resident population of approximately 40,000 in the Year 2000. MAG has assembled databases and compiled placeholder projections based on their input for portions of Pinal County. Based on their input, Apache Junction's population is projected to be 78,000 in 2010; 122,000 in 2020; 142,000 in 2025; and 157,000 in 2030.

## ***PUBLIC INVOLVEMENT***

The transportation planning process has benefitted greatly by incorporating broad-based public input, which was received as the result of an extensive public involvement process that included an aggressive public outreach effort.

During the development of the RTP, MAG has talked to thousands of people in an effort to identify public issues and concerns regarding future transportation needs. As part of this process, MAG held 150 public input opportunities, 173 stakeholder opportunities, and 117 agency meetings to solicit input from the public, community groups, business associations, transportation stakeholders, elected and appointed leaders, city planners, municipal technical staffs, transportation councils, and the region's Native American Communities.

### **The Public Involvement Process**

The RTP public involvement meetings and events were held to accommodate citizens throughout the MAG Region. Meeting and event times were varied in an attempt to accommodate as many citizens as possible, and complied with the provisions of the Americans with Disabilities Act. In addition, Spanish language materials, sign language interpretation, alternate materials, and FM/Infrared Listening Devices were available upon request.

Public input opportunities throughout the RTP planning process included expert panel forums, focus groups, special events, public meetings, hearings, workshops, small group presentations, and a MAG Town Hall, which was attended by individuals representing leadership groups from communities throughout the region. Additional input was also received through the MAG Web Site, and through [www.LetsKeepMoving.com](http://www.LetsKeepMoving.com), which is a special Web Site developed for the RTP process. Also, MAG conducted three scientific telephone polls to collect information about citizen priorities and their level of support for the one-half cent sales tax extension.

As part of the public involvement process, six public meetings/hearings were held to further

review and receive comment on the specifics of the Final Draft of the RTP, which was adopted by the Transportation Policy Committee (TPC) on July 22, 2003. In conjunction with public meetings, six business meetings were also held to provide the opportunity for review and comment on the RTP by members of the business community.

These meetings were held at locations across the region in August and September of 2003. The areas where the meetings were held included the Central, Southwest, Northwest, Southeast and Northeast areas, as well as a Surprise/Sun City meeting. More than 500 individuals participated in the meetings.

### **Title VI and Environmental Justice**

MAG has been committed to ensuring that communities of concern as defined and included in the Title VI Act of 1964, Executive Order 12898 addressing environmental justice, and other federal directives have been specifically considered during the transportation planning and programming process. These laws ensure that such populations benefit equally from the transportation system without shouldering a disproportionate share of its burdens. Communities of concern include minority populations, low-income populations, aged populations, mobility disability populations, and female head of household populations.

Each of the three major components of the RTP (freeways/highways, transit and arterial roads) were analyzed separately in the environmental justice analysis to assess the distribution of benefits of projects included within the RTP. The analysis of Plan improvements showed that communities of concern benefitted from the RTP at about the same level, or in some cases at a higher level, than the census tracts not identified as communities of concern.

# PLAN DEVELOPMENT

The RTP was developed through a performance-based process that followed a specific methodology and evaluated the Plan relative to a range of performance measures. The process that was applied in the preparation of the RTP utilized both performance-based planning and the application of performance measures in the evaluation of modeling scenarios.

## Performance-Based Planning

The methodology for developing the RTP included the following components: 1) Goals and Objectives, 2) Needs Assessment, 3) Evaluation Methodologies, 4) Scenario Evaluation, 5) Scenario Refinement, and 6) Phasing and

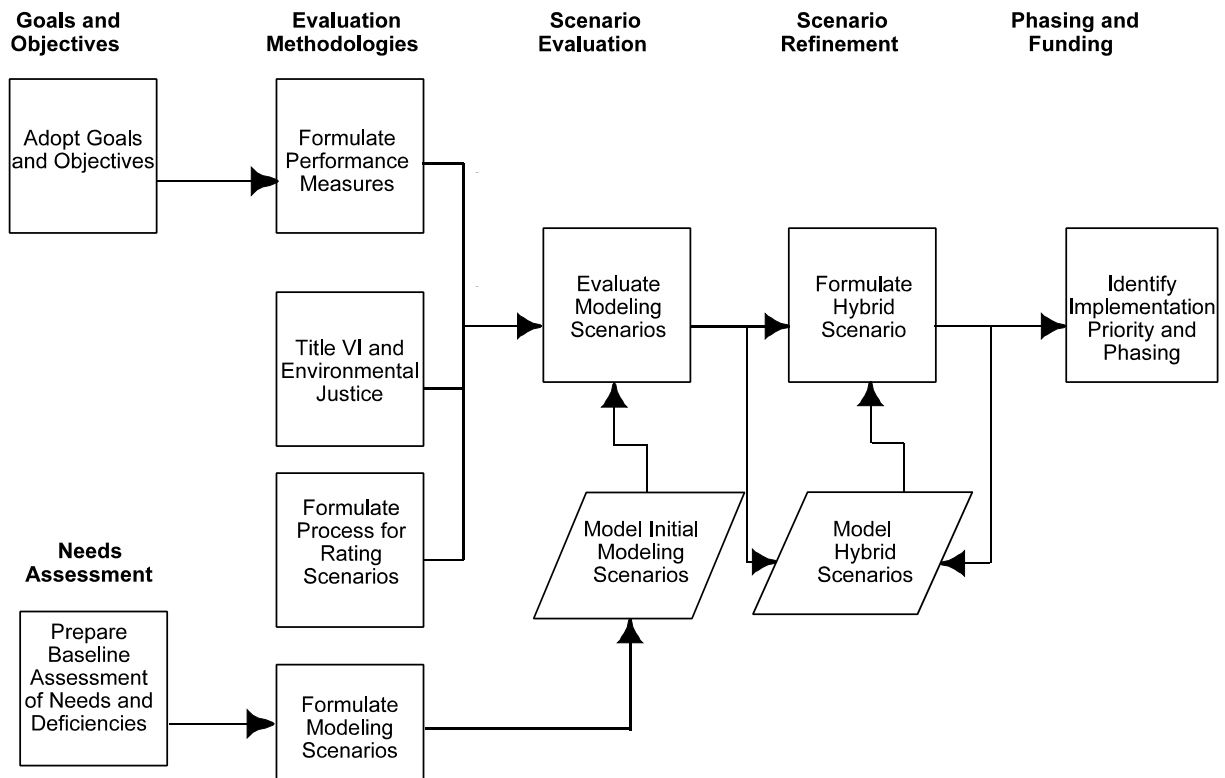
Funding. These components are discussed below and displayed in Figure 2.

## Goals and Objectives

A number of goals and objectives were developed as part of the RTP planning process. These goals and objectives provided the structure for developing options and evaluating scenarios. Performance measures were also identified and linked with specific goals and objectives, so that the evaluation process reflected key regional issues and concerns. The four primary goals developed for the RTP included the following: 1) System Preservation and Safety, 2) Access and Mobility, 3) Sustaining the Environment, and 4) Accountability and Planning.

Figure 2

Plan Development Process



### Needs Assessment

A series of background studies were conducted for the RTP, including area transportation studies, corridor assessments, specific modal analyses, and a number of other regional planning studies. Transportation needs and deficiencies identified in these studies have been assessed as part of the RTP process. In addition, projects identified by MAG member agencies have been tabulated and considered in the assessment of transportation needs in the region.

### Evaluation Methodologies

The methodology for assessing system performance and evaluating scenarios utilized a set of performance measures. During the “Alternatives Stage” of the RTP process, the performance measures were used to provide information on the advantages and disadvantages of different approaches for meeting future travel needs, and to assess the relative strengths and weaknesses of the modeling scenarios. This was done within the overall context of regional transportation goals and objectives. The results of this assessment provided input into the RTP “Final Draft Stage.”

### Scenario Evaluation

The RTP process included the development of transportation system modeling scenarios, which were evaluated by using performance measures. Three scenarios were used each one placing an emphasis on a different transportation mode, including freeways, streets and transit. The scenarios were structured to reflect consistent levels of future funding and project eligibility. The primary goal was to provide a basis for analyzing the performance of potential plan components, rather than providing a detailed allocation of funding resources.

### Scenario Refinement

The overall analysis of the scenarios provided insights into the tradeoffs associated with different transportation investment strategies, as well as the performance of system components. Using the

results of the evaluations, a hybrid scenario was defined. After further modeling and evaluation, the hybrid resulted in the “Final Draft Stage” scenario, providing the basis for the RTP.

### Phasing and Funding

The “Final Draft Stage” not only looked at how the Plan would be funded, but also identified the phasing of projects included in the Plan. Project phasing priorities were based on revenue streams and other factors such as traffic volumes, congestion, system continuity, and project readiness.

### Costs and Revenue Estimates

As part of the planning process, overall revenue and cost estimates were prepared and are considered to be reasonable for planning purposes. In addition, bonding strategies, which can have a major effect on the phasing of plan development, were assumed. To recognize the uncertainties associated with projecting costs and revenues over a 20-year period, contingency factors were applied.

However, it is important to note that cost and revenue uncertainties can only be resolved once detailed engineering studies are completed and economic conditions are revealed over time. Periodic adjustments and updating of the RTP will be needed to respond to changing conditions and new information.

### State and Federal Mandates

State (House Bill 2292) and federal statutes and regulations address regional transportation planning, and establish a framework for approaching the process and determining the contents of the plan. The RTP, as well as the planning process through which it was developed, was structured to meet these requirements. State and federal planning requirements were thoroughly detailed in the RTP, along with a discussion describing the way in which the Plan responds to these mandates.

## **FINANCIAL PLAN**

The RTP process focused on regional transportation revenues, since they represent those resources that can be planned and programmed at the regional level. In addition to regional sources, it is worth noting that there are other revenues that play an important role in meeting transportation needs. Examples of these include local revenue contributions, city and county shares of the Arizona Highway User Revenue Fund (HURF), local sales taxes and general funds, and developer-financed street construction.

### **Regional Transportation Revenues**

A total of \$15.8 billion (in 2002 dollars) has been projected to be available from regional revenue sources over the duration of the RTP planning horizon. The regional funding sources that are specifically addressed in the RTP include the following: 1) ADOT 15 percent funds, 2) ADOT discretionary funds, 3) federal transit 5307 funds, 4) federal transit 5309 funds, 5) federal Surface Transportation Program (STP) funds, 6) federal Congestion Mitigation and Air Quality (CMAQ) funds, and 7) extension of the countywide one-half cent sales tax for transportation. The RTP was developed to reflect specific levels of future funding from these sources for the period covering 2006-2026.

It is estimated that revenues from an extension of the one-half cent sales tax for transportation, excluding \$500 million set aside for interest expense, would generate approximately \$8.5 billion or about 54 percent of the regional revenues expected to be available over the period. Other major sources include ADOT funds (federal and state), \$4.1 billion or 26 percent, and federal transit funds, \$1.9 billion or 12 percent. The remaining 8 percent is provided to the region through federal STP and CMAQ funds.

### **Funding Assumptions**

As identified throughout the RTP process, the amount of funding to be allocated toward project development by mode is as follows: 57.3 percent for freeways/highways; 9.3 percent for streets; 31.7 percent for transit; and 1.7 percent for other

programs, such as bicycle and pedestrian projects. However, when considering the sales tax component of the RTP, and for purposes of developing financial cash flows, it was assumed that sales tax funds would be distributed to the designated funding categories as follows: 56.2 percent for freeways/highways; 10.2 percent for streets; 33.3 percent for transit; and 0.4 percent for other planning programs.

Additional assumptions regarding the funding from the one-half cent sales tax extension include the following principles:

- “Firewalls” are established so funding cannot be transferred from one category to another.
- Bond proceeds will only be used for capital costs and not for maintenance or operations expenses.
- Consistent with the “firewall” principle, bonding for each funding category will be done independently.

In developing funding allocations among the various Plan components and project types, the following local matching requirements were generally assumed: 30 percent for major street projects, including ITS elements; 30 percent for bicycle and pedestrian projects, and minimum federal match requirements for air quality and transit projects involving federal funds.

### **Modal Funding Summary**

Table 2 provides a summary of funding by mode and funding source. This allocation reflects a fiscally balanced Plan, in that both estimated project costs and revenues total \$15.8 billion. Although this discussion of funding precedes the description of the Plan facilities, it is important to note that transportation needs were identified first. The modal funding allocations described in Table 2 were established after the modal planning process was completed and reflect project needs determined through the technical planning process.

**TABLE 2**

<b>SUMMARY OF FUNDING BY MODE</b> (Expressed in Millions of '02 Dollars)								
<b>Mode</b>	<b>Program Area</b>	<b>½ Cent</b>	<b>ADOT Funds</b>	<b>FTA (5307)</b>	<b>FTA (5309)</b>	<b>CMAQ</b>	<b>MAG-STP</b>	<b>Total Regional Funding</b>
<b>Freeways</b>	Capital	4,420	4,121	0	0	149	0	8,689
	Operations	354	0	0	0	0	0	354
	<b>Total</b>	<b>4,774</b>	<b>4,121</b>	<b>0</b>	<b>0</b>	<b>149</b>	<b>0</b>	<b>9,043</b>
<b>Streets</b>	Capital	863	0	0	0	105	497	1,464
<b>Buses</b>	Capital	355	0	857	120	0	0	1,332
	Operations	1,009	0	0	0	0	0	1,009
	<b>Total</b>	<b>1,364</b>	<b>0</b>	<b>857</b>	<b>120</b>	<b>0</b>	<b>0</b>	<b>2,340</b>
<b>LRT</b>	Capital	1,224	0	0	825	279	0	2,328
<b>Other Transit</b>	Capital	32	0	89	0	0	0	122
	Operations	211	0	0	0	0	0	211
	<b>Total</b>	<b>243</b>	<b>0</b>	<b>89</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>333</b>
<b>Planning</b>	Programs	31	0	0	0	0	0	31
<b>Bicycle/ Pedestrian</b>	Capital	0	0	0	0	132	0	132
<b>Air Quality</b>	Programs	0	0	0	0	113	0	113
<b>Total Funding</b>	Capital	6,894	4,121	946	945	665	497	14,067
	Operations	1,604	0	0	0	113	0	1,718
	<b>Total</b>	<b>8,498</b>	<b>4,121</b>	<b>946</b>	<b>945</b>	<b>778</b>	<b>497</b>	<b>15,785</b>
<b>Total Expenditure Type and Funding Source</b>								
Capital		6,894	4,121	945	945	665	497	14,067
O & M / Operations		1,604	0	0	0	113	0	1,718
<b>Total</b>		<b>8,498</b>	<b>4,121</b>	<b>945</b>	<b>945</b>	<b>778</b>	<b>497</b>	<b>15,785</b>

Source: Maricopa Association of Governments



# **FREEWAYS AND HIGHWAYS**

The RTP includes a component for freeways and highways in the MAG Region through Fiscal Year (FY) 2026. In total, \$9.0 billion, or 57.3 percent, of the regional funding identified in the RTP is specifically allocated to projects in this element.

## **Planned New Facilities and Improvements**

The RTP calls for both new freeway corridors to serve growth in the region and improvements to the existing system to address current and future congestion. In addition, effective operation and maintenance of the system are addressed. Figure 3 highlights the improvements planned for the system, showing both new freeway corridors and improvements to existing (or soon to be completed) freeway and highway facilities. Table 3 lists the individual freeway and highway projects in the RTP, and also displays costs and phasing information.

### **New Freeway Corridors:**

Funding for new freeway and highway corridors in the Plan totals \$3.7 billion. These new corridors will provide approximately 490 additional new lane miles to the network.

### **Freeway/Highway Improvements:**

Funding for widenings and other improvements to the existing regional freeway/highway network totals an additional \$4.4 billion. These improvements include an additional 530 lane-miles of general purpose lanes and 300 lane-miles of HOV lanes, covering essentially the entire existing system, including the loop elements now under construction. A number of bottleneck segments on the freeway system are also addressed in the RTP. Improvements to Grand Avenue and other highways are also funded. In addition to new travel lanes, a series of new interchanges with arterial streets on existing freeways is included within the RTP. Also, improvements at freeway-to-freeway interchanges to provide direct connections between HOV lanes have been included. Together, these improvements total \$396 million, and are displayed in Table 4.

### **Maintenance and Operations:**

The RTP also provides funding for maintenance on the freeway system, directed at litter pickup, landscaping, freeway management functions and noise mitigation. As displayed in Table 5, together these components total \$515 million.

## **Phasing Priorities - Regionally Funded Projects**

Figures 4 and 5 display the phasing of freeway, highway and interchange projects. Costs and phasing for these projects are listed in Tables 3 through 5. The projects are grouped into four phases, or time periods based on fiscal years. Fiscal years end June 30<sup>th</sup> of the year indicated. The four phases are as follows: 1) Phase I: FY 2005 through 2010; 2) Phase II: FY 2011 through 2015; 3) Phase III: FY 2016 through 2020; and 4) Phase IV: FY 2021 through 2026.

Phase I emphasizes improvements to the currently congested parts of the system. In Phase II, major accomplishments include the construction of Loop 303 (I-17 to I-10) and completion of the South Mountain Freeway. Phase III is marked by capacity improvements on I-17 and construction of the Williams Gateway Freeway. In Phase IV, a key accomplishment is construction of the I-10 Reliever between the South Mountain and Loop 303, as well as an interim connection between Loop 303 and SR 85. New interchanges, HOV lanes and HOV ramp connections at freeway-to-freeway interchanges are generally constructed throughout the planning period.

## **Life Cycle Freeway Program**

The RTP includes projects that were already funded, but remain to be completed from the existing Life Cycle Freeway Program. This program funds controlled-access projects scheduled for completion in previous plans by the end of FY 2007 (see Figure 6). Funding for the Program includes proceeds from the 1985 one-half cent transportation excise tax (RARF), which expires at the end of 2005.

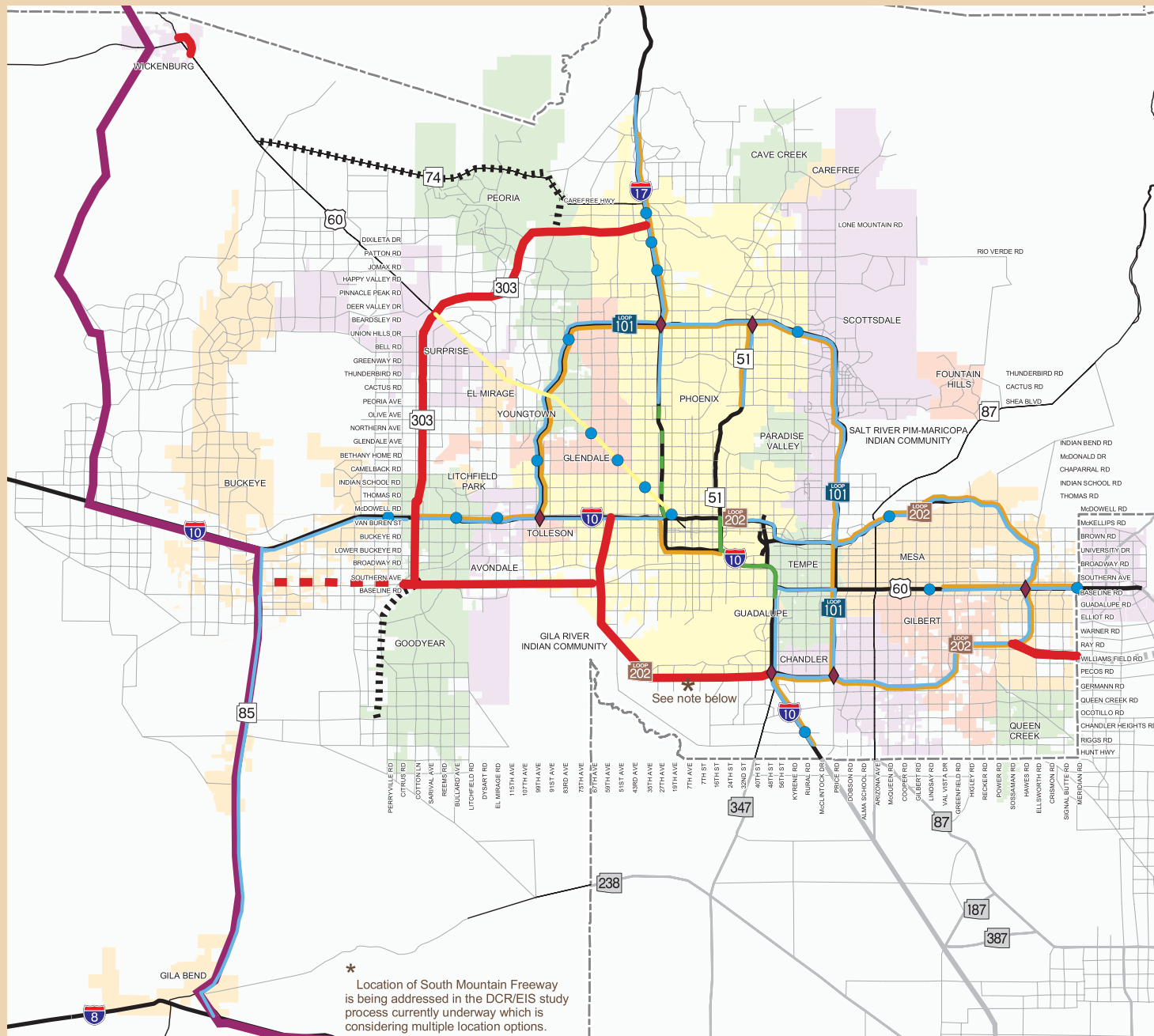
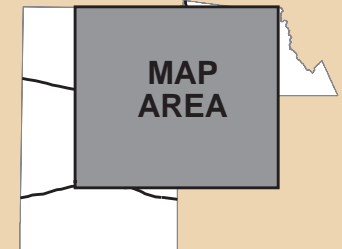
# Regional Transportation Plan Executive Summary Figure 3



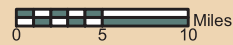
## Roadway System Improvements Freeways/Highways

- New Traffic Interchange
- New System TI HOV Ramps
- Corridor Improvements
- New HOV Lanes
- New General Purpose Lanes
- New C-D Road/Widening
- Long Term Capacity Improvements
- New Freeway/Highway Construction
- Interim Corridor Development and ROW
- Proposed CANAMEX Corridor
- Right of Way Preservation
- Future Corridor
- County Boundary
- Other Roads

Alignments for new freeway and highway facilities will be determined following the completion of appropriate design and environmental studies.



\* Location of South Mountain Freeway is being addressed in the DCR/EIS study process currently underway which is considering multiple location options.



While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.

Regional transportation facilities in Pinal County are planned by the Central Arizona Association of Governments (CAAG). Potential new facilities shown in Pinal County are from the Southeast Maricopa/Northern Pinal County Area Transportation Study jointly sponsored by MAG, CAAG, and ADOT.

**Table 3: Freeway and Highway Projects**

Facility	Segment	Length (miles)	Project (Lanes added in each direction)	Through Lanes (Each Direction)		Total Regional Costs* (2002 Dollars, Millions)			Phase (Final Construction)	
				GP	HOV	GP	HOV	Total	GP	HOV
I-8	Yuma County to SR 85	37	-	2	0	-	-	-	-	-
	SR 85 to Pinal County	31	-	2	0	-	-	-	-	-
	<b>Sub-total I-8</b>	<b>68</b>				-	-	-	-	-
I-10	Yuma County to Sun Valley Parkway	39	-	2	0	-	-	-	-	-
	Sun Valley Parkway to SR 85	3	-	2	0	-	-	-	-	-
	SR 85 to Loop 303	12	Add one GP lane.	3	0	106	-	106	IV	-
	Loop 303 to Dysart Rd	5	Add two GP lanes and one HOV lane.	4	1	66	28	94	II	II
	Dysart Rd to Loop 101	6	Add one GP lane and one HOV lane.	4-5	1	35	22	57	II	II
	Loop 101 to I-17	7	Add one GP lane.	5	1	79	-	79	I	-
	I-17 to SR 51	5	-	3-5	1	-	-	-	-	-
	SR 51 to 40th St (CD Roads)	3	Add Collector-Distributor (CD) road system.	3-6	1	120	-	120	II	-
	40th St to Baseline Rd (CD Roads)	6	Add Collector-Distributor (CD) road system.	3-6	1	380	-	380	I	-
	Baseline Rd to Loop 202/Santan	6	Add one GP lane.	4-5	1	53	-	53	II	-
Loop 202/Santan to Riggs Rd	6	Add one GP and one HOV lane.	3	1	23	23	46	II	II	
Riggs Rd to Pinal County	1	-	2	0	-	-	-	-	-	
<b>Sub-total I-10</b>	<b>99</b>					<b>862</b>	<b>73</b>	<b>935</b>		
I-10R	SR 85 to Loop 303	11	Add one GP lane.	1	0	83	-	83	IV	-
	Loop 303 to Loop 202/South Mtn	13	New freeway (3 lanes each direction)	3	0	722	-	722	IV	-
	<b>Sub-total I-10R</b>	<b>24</b>				<b>805</b>	-	<b>805</b>	-	-
I-17	Yavapai County to New River Rd	10	-	2	0	-	-	-	-	-
	New River Rd to Anthem Way	3	Add one GP lane.	3	0	26	-	26	IV	-
	Anthem Way to Carefree Hwy	5	Add one GP lane and one HOV lane.	3	1	44	28	72	IV	IV
	Carefree Hwy to Loop 101	9	Add two GP lanes and one HOV lane.	4-5	1	119	50	169	I	I
	Loop 101 to Arizona Canal (between Peoria & Dunlap Ave)	6	Add one GP lane.	4	1	53	-	53	II	-
	Arizona Canal to McDowell Rd	7	Long term capacity improvements (target addition of two GP lanes)	5-6	1	1,000	-	1,000	III	-
	McDowell Rd to I-10 (West)	1	-	3	0	-	-	-	-	-
I-10 (West) to I-10 (East)	7	Add one HOV lane.	3	1	-	77	77	-	III	
<b>Sub-total I-17</b>	<b>48</b>					<b>1,242</b>	<b>155</b>	<b>1,397</b>		
Loop 101	Agua Fria: US 60/Grand Ave to I-17	12	Add one GP and one HOV lane. Also construct auxiliary lanes from Bell Road to Grand Avenue.	4	1	102	64	166	IV	IV
	Agua Fria: I-10 to US 60/Grand Ave	10	Add one GP and one HOV lane. Also construct auxiliary lanes from Grand Avenue to Northern Avenue.	4	1	85	53	138	IV	III
	Sub-total Agua Fria	22				187	117	304		
	Pima: I-17 to SR 51	7	Add one GP and one HOV lane.	4	1	59	37	96	IV	II
	Pima: SR 51 to Princess Dr	6	Add one GP and one HOV lane.	4	1	51	29	80	IV	II
	Pima: Princess Dr to Shea Blvd	4	Add one GP and one HOV lane.	4	1	34	22	56	IV	I
	Pima: Shea Blvd to Loop 202/Red Mtn	11	Add one GP and one HOV lane.	4	1	94	61	155	II	I
	Sub-total Pima	28				238	149	387		
	Price: Loop 202/Red Mtn to Baseline Rd	4	Add one HOV lane.	4	1	-	22	22	-	I
	Price: Baseline Rd to Loop 202/Santan	6	Add one GP and one HOV lane.	4	1	51	31	82	IV	I
Price: Loop 202/Santan to I-10	6	Lanes / design TBD following ADOT study.	TBD	TBD	-	-	-	-	-	
Sub-total Price	16				51	53	104			
<b>Sub-total Loop 101</b>	<b>66</b>				<b>476</b>	<b>319</b>	<b>795</b>			
Loop 202	Red Mountain: I-10/SR 51 to Rural Rd	7	Add one GP lane (eastbound only).	4-5EB, 3-4WB	1	67	-	67	I	-
	Red Mountain: Rural Rd to Loop 101	2	Add one GP lane.	5	1	39	-	39	II	-
	Red Mountain: Loop 101 to Gilbert Rd	6	Add one GP and one HOV lane.	4	1	51	32	83	II	I
	Red Mountain: Gilbert Rd to Higley Rd	5	Add one GP and one HOV lane.	4	1	42	27	69	IV	III
	Red Mountain: Higley Rd to US 60/Superstition	10	Add one GP and one HOV lane.	4	1	85	52	137	IV	IV
	Sub-total Red Mountain	30				284	111	395		
	Santan: I-10 to Dobson Rd	5	Add one GP and one HOV lane.	4	1	43	27	70	IV	II
	Santan: Dobson Rd to Val Vista Rd	7	Add one GP and one HOV lane.	4	1	59	40	99	IV	II
	Santan: Val Vista Rd to US 60/Superstition	11	Add one GP and one HOV lane.	4	1	93	55	148	IV	IV
	Sub-total Santan	23				195	122	317		
	South Mountain: I-10 (West) to 51st Ave	10	New freeway (3 lanes each direction)	3	0	490	-	490	I to II	-
	South Mountain: 51st Ave to Loop 202/I-10	12	New freeway (3 lanes each direction)	3	0	577	-	577	II	-
	Sub-total South Mountain	22				1,067	-	1,067		
<b>Sub-total Loop 202</b>	<b>75</b>				<b>1,546</b>	<b>233</b>	<b>1,779</b>			

**Table 3: Freeway and Highway Projects (continued)**

Facility	Segment	Length (miles)	Project (Lanes added in each direction)	Through Lanes (Each Direction)		Total Regional Costs <sup>1</sup> (2002 Dollars, Millions)			Phase (Final Construction)	
				GP	HOV	GP	HOV	Total	GP	HOV
<b>Loop 303</b>	I-17 to US 60/Grand Ave	18	New freeway (3 lanes each direction)	3	0	645	-	645	I to II	-
	US 60/Grand Ave to I-10	15	New freeway (3 lanes each direction)	3	0	545	-	545	II	-
	I-10 to I-10R/MC 85	5	New freeway (3 lanes each direction)	3	0	230	-	230	III	-
	<b>Sub-total Loop 303</b>	<b>38</b>				<b>1,420</b>	<b>-</b>	<b>1,420</b>		
<b>SR 51</b>	Loop 101/Pima to Shea Blvd	6	Add one GP and one HOV lane.	4	1	51	32	83	IV	I
	Shea Blvd to Loop 202/Red Mtn	10	-	3-5	1	-	-	-	-	-
<b>Sub-total SR 51</b>	<b>16</b>				<b>51</b>	<b>32</b>	<b>83</b>			
<b>SR 71</b>	Yavapai County to US 60	5	-	1	0	-	-	-	-	-
<b>SR 74</b>	US 60/Grand Ave to Loop 303	25	-	1	0	-	-	-	-	-
	Loop 303 to I-17	5	-	1	0	-	-	-	-	-
	<b>Sub-total SR 74</b>	<b>31</b>				<b>-</b>	<b>-</b>	<b>-</b>		
<b>SR 85</b>	I-10 to Hazen Rd	5	Divided highway (2 lanes each direction)	3	0	50	-	50	I	-
	Hazen Rd to I-8	32	Divided highway (2 lanes each direction)	2	0	40	-	40	I	-
	I-8 to Pima County	32	-	1	0	-	-	-	-	-
	<b>Sub-total SR 85</b>	<b>69</b>				<b>90</b>	<b>-</b>	<b>90</b>		
<b>SR 87</b>	Gila County to Shea Blvd	34	-	2	0	-	-	-	-	-
	Shea Blvd to Loop 202/Red Mtn	12	-	2	0	-	-	-	-	-
	Loop 202/Red Mtn to Pinal County	18	-	2	0	-	-	-	-	-
	<b>Sub-total SR 87</b>	<b>63</b>				<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>SR 88</b>	Pinal County to Gila County	33	-	1	0	-	-	-	-	-
<b>SR 143</b>	Hohokam: McDowell to I-10	4	-	2-3	0	-	-	-	-	-
<b>SR 153</b>	Sky Harbor Expressway	2	-	3	0	-	-	-	-	-
<b>SR 238</b>	Buchan to Pinal County	11	-	1	0	-	-	-	-	-
<b>SR 347</b>	Maricopa Rd: I-10 to Pinal County	6	-	2	0	-	-	-	-	-
<b>US 60</b>	La Paz County to Wickenburg	31	-	1-2	0	-	-	-	-	-
	Grand Avenue: Wickenburg to Loop 303	28	-	2	0	-	-	-	-	-
	Grand Avenue: Loop 303 to Loop 101	10	Widen to 3 lanes each direction, including widening/reconstructing the New River Bridge, & other improvements as funding permits.	3	0	103	-	103	II	-
	Grand Avenue: Loop 101 to Van Buren St (includes grade separations at 51st, 35th & 19th Ave)	11	Grade separations; other improvements to be determined in future study.	3	0	147	-	147	I to IV	-
	<b>Sub-total Grand Avenue</b>	<b>49</b>				<b>250</b>	<b>-</b>	<b>250</b>		
	Superstition: I-10 to Loop 101	5	Add one GP lane.	4	1	9	-	9	I	-
	Superstition: Loop 101 to Val Vista Dr	8	-	5	1	-	-	-	-	-
	Superstition: Val Vista Dr to Power Rd	4	Add two GP lanes and one HOV lane.	5	1	50	35	85	I	I
	Superstition: Power Rd to Crismon Rd	4	Add one HOV lane.	3	1	-	-	-	-	-
	Superstition: Crismon Rd to Meridian Rd	2	Add one GP lane and one HOV lane.	3-4	1	18	13	31	III	III
<b>Sub-total Superstition</b>	<b>23</b>				<b>77</b>	<b>48</b>	<b>125</b>			
<b>Sub-total US 60</b>	<b>103</b>				<b>327</b>	<b>48</b>	<b>375</b>			
<b>US 93</b>	Yavapai County to Wickenburg	3	-	1-2	0	-	-	-	-	-
<b>WGF</b>	Loop 202 to Ellsworth Rd	2	New freeway (3 lanes each direction)	3	0	155	-	155	III	-
	Ellsworth Rd to Meridian Rd	3	New freeway (3 lanes each direction)	3	0	170	-	170	III	-
	<b>Sub-total Williams Gateway Freeway</b>	<b>5</b>				<b>325</b>	<b>-</b>	<b>325</b>		
<b>TBD</b>	Wickenburg Bypass	TBD	Interim Bypass.	2	0	27	-	27	I	-
	<b>R/W protection for 303L (extension south of MC 85) and SR 74 (US 60 to 303L)</b>	TBD	Right-of-way for future freeways (construction for which is not funded in this Plan).	-	-	-	-	100	-	-
<b>Total</b>						<b>\$7,171</b>	<b>\$860</b>	<b>\$8,131</b>		

Source: Maricopa Association of Governments, 2003

Definitions: CD: Collector Distributor Roads HOV: High Occupancy Vehicle Lanes GP: General Purpose Lanes TBD: To be determined in future studies

\* Cost estimates listed above are preliminary and subject to change in the design process. Cost estimates for new or improved interchanges on existing freeways or highways are listed separately.

**Table 4: Costs and Phasing for New Interchanges and HOV Ramps (2002 Dollars, Millions)\***

Facility	Arterial	Regional Costs**	Phase
<b>New Interchanges on Existing Freeways &amp; State Highways</b>			
I-10	Bullard Rd	\$ 9.2	I
	Chandler Heights	13.8	IV
	El Mirage	17.3	IV
	Perryville Rd	9.2	II
I-17	Dixileta Dr (half interchange)	9.2	II
	Dove Valley Rd	18.4	IV
	Jomax Rd	18.4	I
L101	64th St	18.4	I
	Beardsley Rd (half interchange, & reconstruct Union Hills interchange)	27.6	II
	Bethany Home Rd	20.7	I
L202	Mesa Dr (ramps only)	4.6	IV
US 60	Superstition: Lindsay Rd (half interchange)	4.6	II
	Superstition: Meridian Rd (half interchange)	4.6	II
	Other Projects in ADOT FY 03-07 Program	<u>6.7</u>	
<b>Subtotal</b>			<b>\$182.7</b>
<b>New High Occupancy Vehicle Ramps at System Freeway Interchanges</b>			
L101	I-10	\$ 60.0	IV
	I-17	72.0	IV
L202	Red Mtn & US 60/Superstition	20.4	IV
	Santan & I-10	20.4	II
	Santan & L101/Price	20.4	III
SR 51	L101/Pima	<u>20.4</u>	I
<b>Sub-total</b>			<b><u>213.6</u></b>
<b>Total</b>			<b>\$396.3</b>

Source: Maricopa Association of Governments, 2003

ADT: Average Daily Traffic

\* Not including interchanges constructed as part of new freeway construction

\*\* Includes contingency allowance. Assumes 100% regional funding (no local match) for new interchanges. Cost estimates listed above are preliminary and subject to change in the design process.

**Table 5: Other Freeway and Highway Costs (2002 Dollars, Millions)**

Category	Regional Costs*
Freeway Management System	\$ 143.0
Maintenance (landscaping, including restoration, and litter pick-up)	279.0
Noise Mitigation	75.0
Minor Projects	<u>18.0</u>
<b>Total</b>	<b>\$515.0</b>

Source: Maricopa Association of Governments, 2003

\* Includes contingency allowance.

Cost estimates listed above are preliminary and subject to change in the design process.

# Regional Transportation Plan Executive Summary

Figure 4

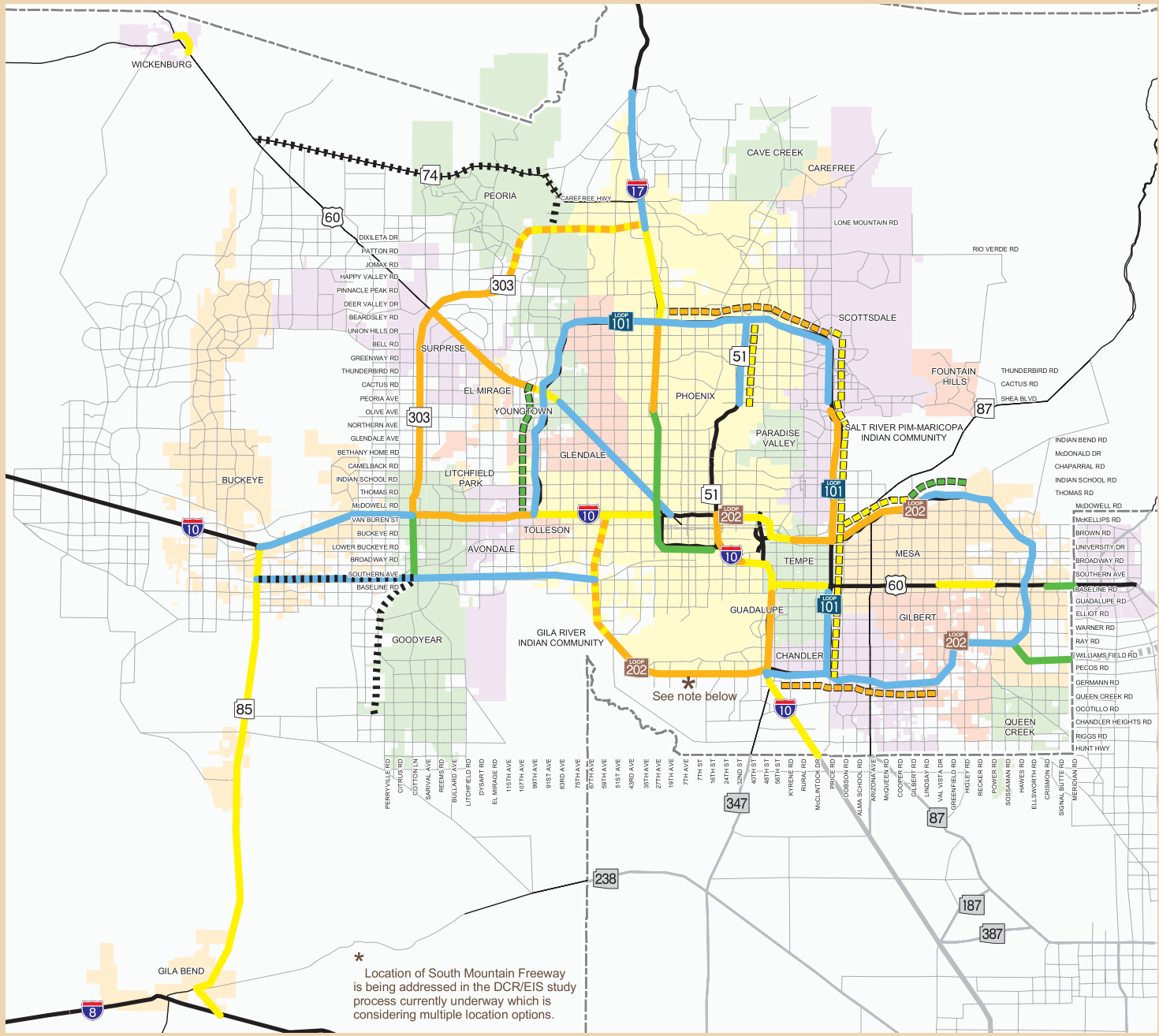
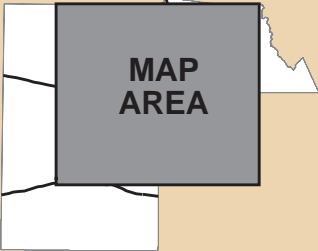


## Plan Phasing Freeways/Highways

- Phase 1 (FY 2005 - FY 2010)
- Phase 2 (FY 2011 - FY 2015)
- Phase 3 (FY 2016 - FY 2020)
- Phase 4 (FY 2021 - FY 2026)
- Right of Way Preservation Phase 1 - 4
- Future Corridor
- County Boundary
- Freeways
- Highways
- Other Roads

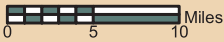
Dashed lines represent HOV lane phasing where different from General Purpose lane phasing

Alignments for new freeway and highway facilities will be determined following the completion of appropriate design and environmental studies.



\* Location of South Mountain Freeway is being addressed in the DCR/EIS study process currently underway which is considering multiple location options.

While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.



Regional transportation facilities in Pinal County are planned by the Central Arizona Association of Governments (CAAG). Potential new facilities shown in Pinal County are from the Southeast Maricopa/Northern Pinal County Area Transportation Study jointly sponsored by MAG, CAAG, and ADOT.

# Regional Transportation Plan Executive Summary

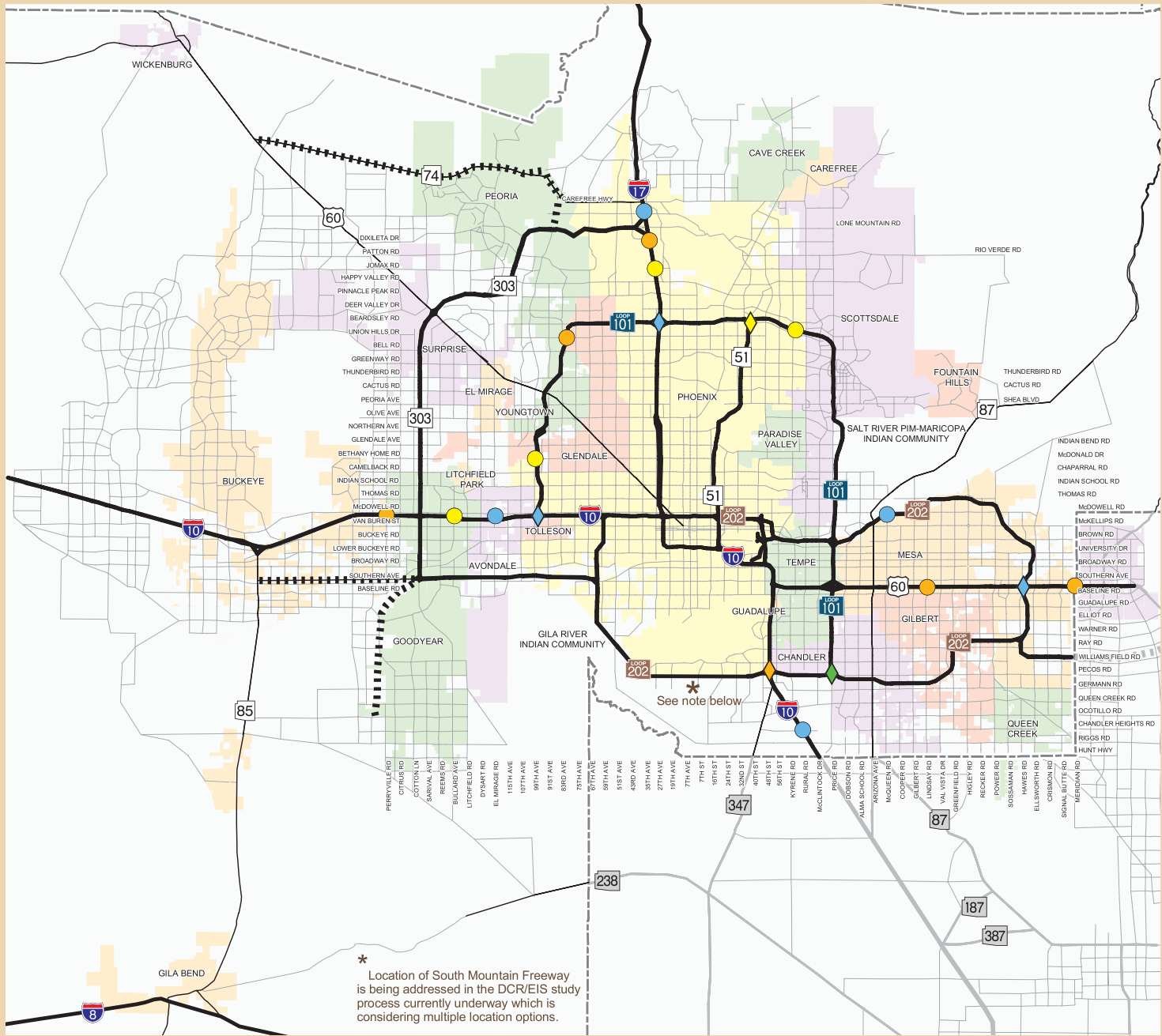
## Figure 5



### Plan Phasing New Interchanges and HOV Ramp Connections

- New Traffic Interchange
- ◆ New System HOV Ramp Connections
- Phase 1 (FY 2005 - FY 2010)
- Phase 2 (FY 2011 - FY 2015)
- Phase 3 (FY 2016 - FY 2020)
- Phase 4 (FY 2021 - FY 2026)
- ▬ Right of Way Preservation
- ▬ Future Corridor
- ▬ County Boundary
- ▬ Freeways
- ▬ Highways
- ▬ Other Roads

Alignments for new freeway and highway facilities will be determined following the completion of appropriate design and environmental studies.



\* Location of South Mountain Freeway is being addressed in the DCR/EIS study process currently underway which is considering multiple location options.

See note below \*

While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.



Regional transportation facilities in Pinal County are planned by the Central Arizona Association of Governments (CAAG). Potential new facilities shown in Pinal County are from the Southeast Maricopa/Northern Pinal County Area Transportation Study jointly sponsored by MAG, CAAG, and ADOT.

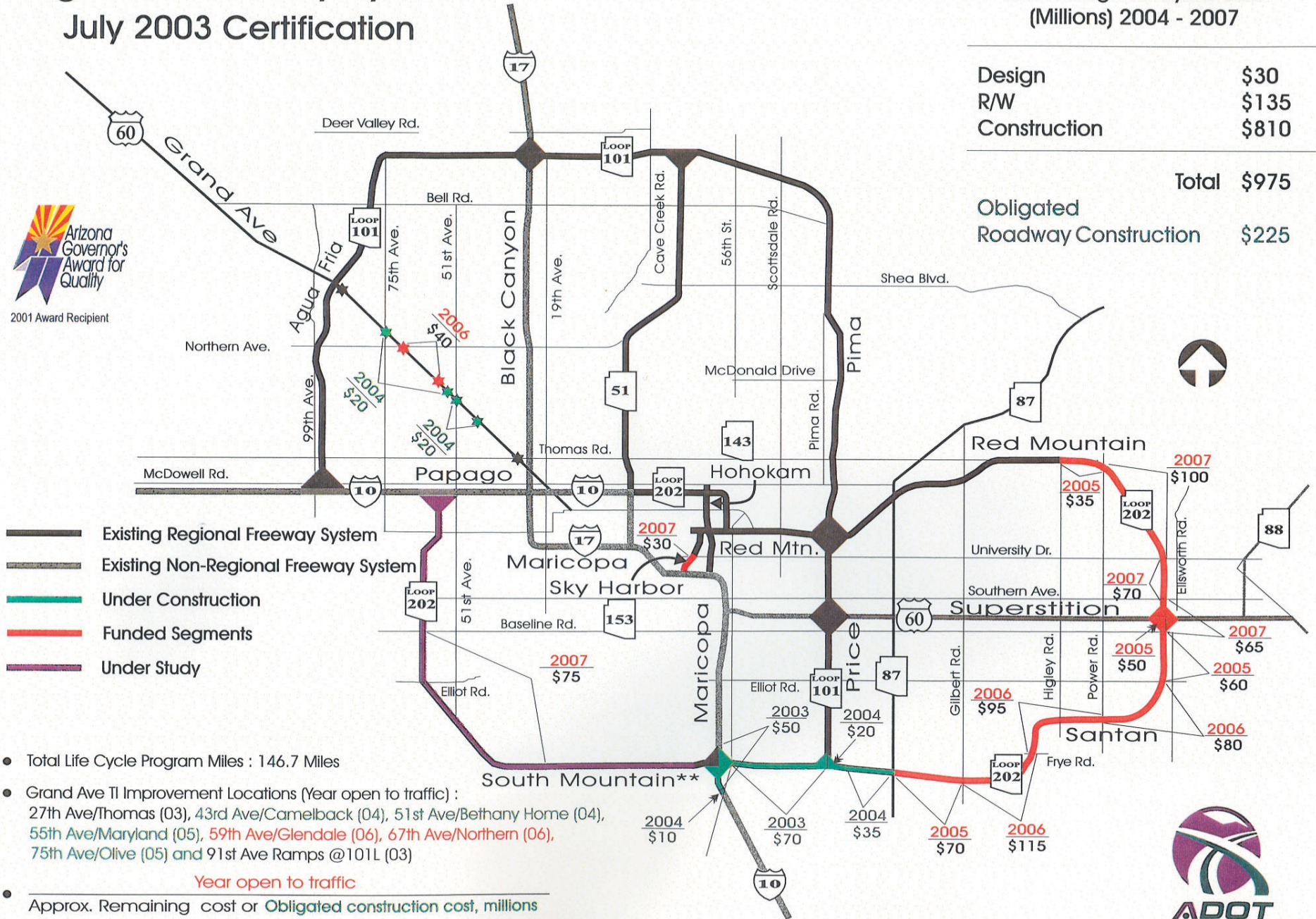
Figure 8-6

# Regional Freeway System July 2003 Certification



Remaining Life Cycle Cost  
(Millions) 2004 - 2007

Design	\$30
R/W	\$135
Construction	\$810
<b>Total</b>	<b>\$975</b>
<b>Obligated Roadway Construction</b>	<b>\$225</b>



- Total Life Cycle Program Miles : 146.7 Miles
- Grand Ave TI Improvement Locations (Year open to traffic) :  
27th Ave/Thomas (03), 43rd Ave/Camelback (04), 51st Ave/Bethany Home (04),  
55th Ave/Maryland (05), 59th Ave/Glendale (06), 67th Ave/Northern (06),  
75th Ave/Olive (05) and 91st Ave Ramps @101L (03)

Year open to traffic

- Approx. Remaining cost or Obligated construction cost, millions
- \*\* Corridor under Environmental Impact Statement / Design Concept Report





# STREETS

The RTP includes a component for major arterial streets in the MAG Region through Fiscal Year (FY) 2026. In total, \$1.5 billion, or 9.3 percent, of the regional funding identified in the RTP is allocated to projects in this element. While MAG is responsible for developing the RTP, local jurisdictions are primarily responsible for design, right-of-way acquisition, and construction and maintenance of arterial facilities as identified in the RTP.

## **Planned New Facilities and Improvements**

The RTP provides regional funding for widening existing streets, improving intersections, and constructing new arterial segments. The continued implementation of Intelligent Transportation Systems (ITS) and dust control measures (for air quality purposes) are also included and funded. Operations and maintenance, which are funded locally, are also part of the RTP.

As displayed in Table 6, a total of \$1.5 billion from regional revenue sources is allocated to the arterial network in the Plan for major capacity improvements and new connections, new/widened arterials, intersection improvements, and ITS.

### **Major Capacity Improvements and New Connections:**

The continuity of the regional arterial street network is vital to efficient travel patterns. Major capacity enhancements in certain areas also make connectivity options more viable.

### **New/Widened Arterials:**

As growth extends into new areas, widening and extension of the basic mile arterial street network will be needed in order to keep up with growing traffic volumes.

### **Intersection Improvements:**

Congestion on the arterial street network is often caused by inadequate intersection capacity. The Plan calls for an number of intersection

improvements, which enhance traffic flow and reduce congestion.

### **Intelligent Transportation System (ITS):**

The Plan allocates funding for improvements as identified in the regional ITS Plan.

### **Dust Control Measures:**

The Plan incorporates funding for measures to reduce PM-10 emissions generated by vehicle travel, including street sweepers and paving.

## **Phasing Priorities-Regionally Funded Projects**

Table 6 summarizes costs and phasing for the regionally funded arterial street projects specified in the RTP. Figure 7 also shows the phasing of arterial projects. The period covered by the Plan was divided into four phases. This process helps to indicate the sequenced development of the projects over time. Each fiscal year ends on June 30<sup>th</sup> of the year indicated. The four phases are as follows: 1) Phase I: FY 2005 through 2010; 2) Phase II: 3) FY 2011 through 2015; Phase III: 4) FY 2016 through 2020; and Phase IV: FY 2021 through 2026.

In Phase I, key accomplishments include construction on the western end of the Northern Avenue Parkway, widening of Scottsdale Road north of Loop 101 and a series of arterial and intersection projects in the East Valley. Phase II completes several major links, including the Rio Salado Parkway and the Lake Pleasant/Beardsley link between Loop 101 and Loop 303.

In Phase III, key accomplishments include improvements on El Mirage Road, construction of the Sonoran Desert Parkway and completion of the Scottsdale Airport Tunnel. Phase IV completes the arterial street program, with major improvements to Pima Road in the northeast part of the region, completion of the last segment of the Northern Avenue Parkway, and final intersection and street projects in the East Valley.

**Table 6: Arterial Projects, Costs and Phasing**

Facility	Segment	Project	Length (miles)	Regional Costs (2002 Dollars, Millions)	Phase
<b>Arterial Capacity Improvements</b>					
101L	Princess Dr to Scottsdale Rd	Add frontage roads	2	\$ 19.1	I
101L south frontage roads	Hayden to Princess	Add frontage roads	1	11.4	I
Arizona Avenue	Ocotillo to Hunt Hwy	Widen and improve roadway	3	5.1	II
Baseline Road	Power Road to Meridian Road	Widen and improve roadway	6	14.7	IV
Beardsley Rd	Loop 101 to Lake Pleasant Pkwy	Construct roadway	3	19.1	I-II
Black Mtn Pkwy	SR 51 to Blk Mtn Pkwy	Construct roadway	1	18.5	I
Broadway Rd	Dobson Rd to Country Club Dr	Widen to 6 lanes	2	6.1	I
Carefree Highway	Cave Creek Rd to Scottsdale Rd	4 lanes +median	2	7.7	III
Crismon Rd	Broadway Rd to Germann Rd	Widen to 6 lanes	9	30.2	IV
Dobson Rd	Salt River	Construct new bridge	1	15.3	I
El Mirage Rd	Bell Rd to Jomax Rd	Construct roadway	6	16.1	III
	Paradise Ln over Grand Ave to Thunderbird Rd	Construct roadway w/ grade separation	2	17.6	I-II
	Thunderbird to Northern Ave	Widen and improve roadway	4	13.8	III
Elliot Rd	Power Rd to Meridian Rd	Widen to 6 lanes	6	14.9	IV
Germann Rd	Ellsworth Rd to Signal Butte Rd	Widen to 6 lanes	2	10.3	IV
	Gilbert Road to Power Road	Widen and improve roadway	6	18.2	I
Gilbert Rd	Loop 202 (Santan) to Hunt Hwy	Widen Roadway	5	17.2	IV
	Salt River	Construct new bridge	1	11.5	II
Greenfield Road	Elliot Road to Warner Road	Widen and improve roadway	1	3.4	IV
	University Road to Baseline Road	Widen and Improve roadway	3	8.9	I
Guadalupe Road	Power Road to Meridian Road	Widen and improve roadway	6	19.0	II
Happy Valley Rd	Loop 303 to 67th Ave	6 Lane controlled access	5	17.0	IV
	67th Ave to I-17	6 Lane controlled access	4	13.6	IV
Hawes Road	Broadway Road to Ray Road	Widen and improve roadway	6	17.1	IV
Higley Rd Pkwy	US 60 to 202L (Red Mountain)	6 Lane controlled access	6	13.8	III
Jomax Rd	Loop 303 to Sun Valley Parkway	Right-of-way protection	17	17.0	III
Lake Pleasant Parkway	Beardsley to 303L	Corridor improvements	6	46.0	II
McKellips Rd	E of Sossaman to Meridian Rd	Widen to 6 lanes	5	16.4	IV
	Gilbert Rd to Power Rd	Widen to 6 lanes	6	17.9	I
	Salt River	Construct new bridge	1	11.5	II
	Loop 101 Pima - SRPM Indian Community	6 lanes inc. median	2	32.4	II
Meridian Rd	Baseline Rd to Germann Rd	Construct 6 lane Roadway	7	24.1	III
Mesa Dr	Broadway Rd to US 60	Widen to 6 lanes	2	7.7	I
Miller Rd/L101 Underpass	Princess to Center	Construct underpass	0.5	11.5	III
Northern Ave	Grand Ave to Loop 101	Grand connection and ultimate const	4	70.0	III
	Loop 101 to Loop 303	L101 connection and ultimate const	8	71.3	IV
	Dysart Rd to Loop 303	ROW protection and interim roadway	4	50.0	I
Pecos Road	Ellsworth Road to Meridian Road	Widen and improve roadway	3	10.4	I
Pima Rd	Deer Valley to Happy Valley & Dynamite to Cave Creek Road	4 lanes inc. drainage and ITS	7	68.4	II
	Happy Valley to Dynamite	4 lanes inc. drainage and ITS	2	19.5	III
	S. City Limits to 90th St	4 lanes, ITS	8	25.2	I
Power Rd	Baseline Rd to Williams Field Rd	Widen to 6 lanes	5	14.9	II
	Williams Field to Chandler Heights	Widen and improve roadway	5	17.0	IV
Price Rd Extension	Loop 202 to I-10	Construct roadway	6	46.0	III
Queen Creek Rd	Arizona Ave to Power Rd	Widen roadway	9	31.1	II
Ray Road	Val Vista Road to Power Road	Widen and improve roadway	4	13.7	IV
	Sossaman Rd to Meridian Rd	Construct 4/6 lane roadway	5	20.7	IV
Rio Salado Pkwy	7th St to Loop 202 (SM)	Construct roadway	7	36.7	II
Scottsdale Airport	Runway Tunnel	Additional funds (original \$40 m total)	1	57.7	III
Scottsdale Rd	Thompson Peak to Happy Valley	6 lanes inc. drainage and ITS	3	11.0	II
	Happy Valley to Carefree Hwy	6 lanes inc. drainage and ITS	6	23.4	III
Shea Blvd	Palisades Blvd to Saguaro Blvd	6 lanes +median	3	5.0	I
	Loop 101 to SR 87	Corridor improvements	12	19.1	IV
Signal Butte Road	Broadway Road to Pecos Road	6 lanes inc. drainage and ITS	8	27.2	IV
Sonoran Pkwy	Central to 32nd Ave	Construct roadway	4	26.8	II
Southern Ave	Country Club Dr to Recker Rd	Widen to 6 lanes	8	25.3	I
	Sossaman Rd to Meridian Rd	Widen to 6 lanes	5	14.9	IV
Thomas Rd	Gilbert Rd to Val Vista Dr	Construct 4 lane roadway	2	4.6	I
Union Hills Dr	Hayden to Pima	Widen and improve roadway	1	11.2	IV
University Dr	Val Vista Dr to Hawes Rd	Widen to 6 lanes	6	17.9	IV
Val Vista Dr	University Dr to Baseline Rd	Widen to 6 lanes	3	9.1	III
	Warner Road to Pecos Road	Widen and improve roadway	3	9.1	II
<b>Subtotal Arterial Capacity Improvements</b>				<b>91.1</b>	<b>\$1,301.0</b>

Source: Maricopa Association of Governments, 2003

**Table 6: Arterial Projects, Costs and Phasing (continued)**

Facility	Segment	Comments	Regional Costs (2002 Dollars, Millions)	Phase
<b>Intersection Improvements</b>				
Arizona Ave	Elliot Rd	Improve intersection	\$ 3.1	IV
	Ray Rd	Improve intersection	3.1	I
	Chandler Blvd	Improve intersection	3.1	II
Chandler Blvd	Alma School Rd	Improve intersection	3.1	I
	Dobson Rd	Improve intersection	3.1	I
	Kyrene Rd	Improve intersection	3.1	II
Country Club Dr	University Dr	Improve intersection	2.3	III
	Brown Rd	Improve intersection	2.3	IV
Dobson Rd	Guadalupe Rd	Improve intersection	2.3	I
	University Dr	Improve intersection	2.3	III
Elliot Rd	Greenfield Rd	Improve intersection	3.1	IV
	Higley Rd	Improve intersection	3.1	IV
	Cooper Rd	Improve intersection	3.1	I
	Gilbert Rd	Improve intersection	3.1	III
	Val Vista Dr	Improve intersection	3.1	IV
Gilbert Rd	University Dr	Improve intersection	2.3	IV
Guadalupe Rd	Greenfield Rd	Improve intersection	3.1	IV
	Power Rd	Improve intersection	3.1	IV
	Cooper Rd	Improve intersection	3.1	I
	Gilbert Rd	Improve intersection	3.1	I
	Val Vista Dr	Improve intersection	3.1	III
Higley Rd Pkwy Kyrene Rd Lindsay Rd	US 60 to 202L (Red Mt.)	Construct 3 grade separations	22.9	III
	Ray Rd	Improve intersection	3.1	IV
	Brown Rd	Improve intersection	2.3	IV
Ray Rd	Alma School Rd	Improve intersection	3.1	I
	Dobson Rd	Improve intersection	3.1	II
	Gilbert Rd	Improve intersection	3.1	III
	McClintock Dr	Improve intersection	3.1	II
	Rural Rd	Improve intersection	3.1	II
Stapley Dr	University Dr	Improve intersection	2.3	IV
Warner Rd	Cooper Rd	Improve intersection	3.1	I
	Greenfield Rd	Improve intersection	3.1	II
<b>Subtotal Intersection Improvements</b>			<b>\$ 113.4</b>	
<b>Systemwide</b>	Intelligent Transportation Systems		<b>50.0</b>	
<b>Total</b>			<b>\$1,464.5</b>	

Source: Maricopa Association of Governments, 2003

Note: Cost estimates listed above are preliminary and subject to change in the design process.

# Regional Transportation Plan Executive Summary

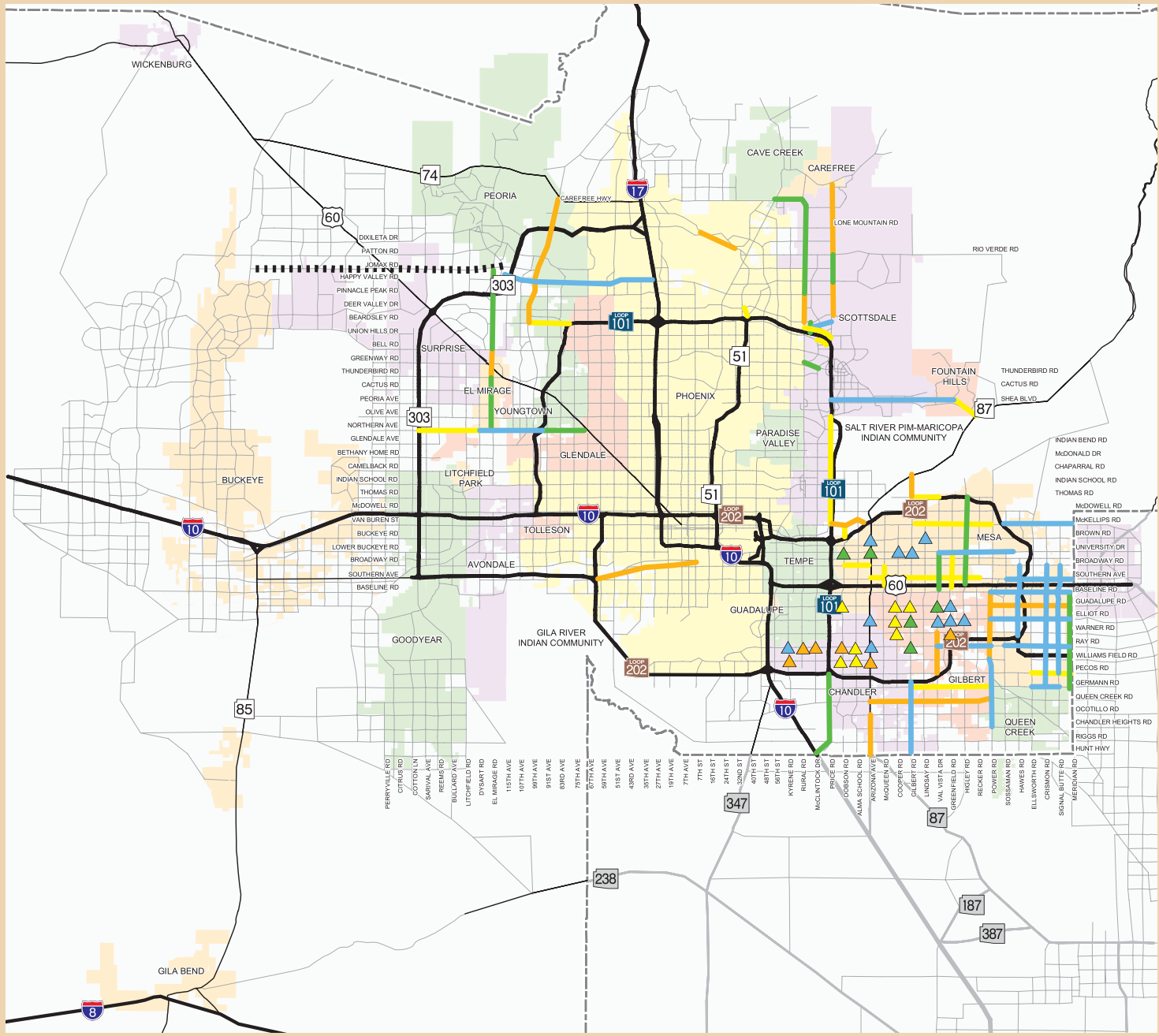
Figure 7



## Plan Phasing New/Improved Arterials

- ▲ Improved Intersections
- New/Improved Arterials
- Phase 1 (FY 2005 - FY 2010)
- Phase 2 (FY 2011 - FY 2015)
- Phase 3 (FY 2016 - FY 2020)
- Phase 4 (FY 2021 - FY 2026)
- ▬ Right of Way Preservation
- - - County Boundary
- Freeways
- Highways
- Other Roads

Regional transportation facilities in Pinal County are planned by the Central Arizona Association of Governments (CAAG). Potential new facilities shown in Pinal County are from the Southeast Maricopa/Northern Pinal County Area Transportation Study jointly sponsored by MAG, CAAG, and ADOT.



While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.



# TRANSIT

The RTP provides for a range of transit facilities and services throughout the region. In total, \$5.0 billion, or 31.7 percent of the regional funding identified in the RTP is allocated to projects in this element. The transit sub-modes include: 1) regional bus, 2) high capacity transit, and 3) other transit.

## **Planned New Facilities and Service Improvements**

The RTP calls for a full range of transit services in the region. A regional bus grid is funded, including operating costs, to ensure that reliable service is available on a continuing basis. In addition, light rail corridors are constructed to provide a high-capacity backbone for the transit network. Other transit services are included to provide a full range of options, such as paratransit and rural transit service. Tables 7 through 9 list the costs and phasing for these projects.

### *Regional Bus:*

Regional transit services include both arterial grid and express type services that are designed to provide regional connections. Routes are designed to connect activity centers, transportation nodes, or residential areas across jurisdictional boundaries. Regional bus service consists of three categories of service: Supergrid routes, which are arterial grid routes that provide a regional connection function; Arterial Bus Rapid Transit (BRT) Routes, which operate as overlays on corridors served by local fixed route service, but provide higher speed services by operating with limited stops; and Freeway BRT Routes, which use existing and proposed high occupancy vehicle (HOV) facilities to connect remote park-and-ride lots with major activity centers, including core downtown areas.

### *High Capacity Transit:*

The RTP includes a 57.5-mile Light Rail Transit (LRT) system, which incorporates the 20-mile minimum-operating segment (MOS) as designated in the Central Phoenix/East Valley Major Investment Study (MIS); a five-mile extension to Metrocenter; a five-mile extension to downtown Glendale; an 11-mile extension along I-10 west to 79<sup>th</sup> Avenue; a 12-mile extension to

Paradise Valley Mall; a two-mile extension south of the MOS on Rural Road to Southern Avenue; and a 2.7-mile extension from the east terminus of the MOS to Mesa Drive. The technology on the latter segment has not been determined. The RTP also provides for the continued investigation of commuter rail options for the region.

### *Other Transit Services:*

Other transit services provided in the RTP include rural/non-fixed route transit, commuter vanpools, and paratransit transportation.

## **Cost and Phasing-Regionally Funded Facilities and Services**

Figures 8 through 10 display the phasing of the proposed supergrid and rural service, the proposed freeway and arterial BRT routes, and the high capacity corridors over the duration of the planning period. The projects are grouped into four phases or time periods based on fiscal years. Fiscal years end June 30<sup>th</sup> of the year indicated. The four phases are as follows: 1) Phase I: FY 2005 through 2010; 2) Phase II: FY 2011 through 2015; 3) Phase III: FY 2016 through 2020; and 4) Phase IV: FY 2021 through 2026.

In Phase I, the emphasis is on providing consistent levels of service across several key regional bus routes in the East, Central and West Valleys. Phase I will also see the completion of the MOS of the LRT system, as well as construction of an extension to the Metrocenter Mall Transit Center. In Phase II, the regional bus system will continue to grow and LRT extensions will be added from the MOS south on Rural Road in Tempe to Southern Avenue, and east on Main Street in Mesa.

Phase III continues building on the regional bus connections defined in the previous two phases and includes investment in the I-10 LRT extension. In Phase IV, the regional bus system reaches maturity, and with the construction of the SR 51 extension, the planned program of LRT extensions will be completed. Other transit services would expand in relationship to the Plan's fixed route bus and light rail transit systems.

**Table 7: Regional Bus Services Phasing and Costs\* (2002 Dollars, Millions)**

Segment	Phase (Begin Service)	Operating Cost	Operating Cost by Phase			
			Phase I	Phase II	Phase III	Phase IV
<b>Freeway Express/BRT</b>						
North Loop 101 Connector (Surprise to Scottsdale P&R)	I	\$ 4.5	\$ 1.0	\$ 1.1	\$ 1.1	\$ 1.2
North Glendale Express	I	9.4	1.7	2.5	2.5	2.7
Papago Fwy Connector (to West Buckeye P&R)	I	3.3	0.6	0.9	0.9	1.0
West Loop 101 Connector (to North Glendale P&R)	I	5.0	0.9	1.3	1.3	1.5
East Loop 101 Connector	I	3.2	0.4	0.9	0.9	1.0
Red Mountain Express	I	14.2	2.0	4.0	4.0	4.4
Main Street Arterial BRT	I	10.1	1.4	2.8	2.8	3.1
Desert Sky Express	I	8.8	0.8	2.6	2.6	2.8
Apache Junction Express	I	3.5	0.3	1.0	1.0	1.1
Arizona Avenue Arterial BRT	I	8.6	0.8	2.5	2.5	2.8
Buckeye Express (to West Buckeye P&R)	I	1.7	0.1	0.5	0.5	0.6
Superstition Fwy Connector	II	0.8	-	0.2	0.3	0.3
Pima Express (To Airpark P&R)	II	3.2	-	0.8	1.1	1.2
Grand Avenue Limited	II	5.4	-	1.3	1.9	2.1
Scottsdale/Rural Arterial BRT	II	9.0	-	0.8	4.2	4.2
Peoria Express (to Peoria P&R)	II	7.6	-	0.9	3.1	3.5
S. Central Avenue	II	21.3	-	2.7	8.9	9.8
South Central Avenue Arterial BRT	II	3.8	-	0.5	1.6	1.7
Black Canyon Freeway Corridor	II	4.8	-	0.2	2.2	2.4
Ahwatukee Connector	III	1.1	-	-	0.5	0.6
Santan Express	III	9.1	-	-	2.8	6.2
Anthem Express	III	2.4	-	-	0.5	1.9
Red Mountain Fwy Connector	III	2.3	-	-	0.5	1.8
Superstition Springs Express	III	15.5	-	-	3.3	12.2
Deer Valley Express	III	9.4	-	-	0.8	8.6
Avondale Express	III	6.6	-	-	0.5	6.0
North I-17 Express	IV	0.7	-	-	-	0.7
Loop 303 Express	IV	3.7	-	-	-	3.7
SR. 51 Express	IV	5.4	-	-	-	5.4
Chandler Boulevard Arterial BRT	IV	14.1	-	-	-	14.1
Ahwatukee Express	IV	12.0	-	-	-	12.0
Regional Passenger Support Services		21.9	1.1	2.9	5.2	12.7
<b>Subtotal</b>		<b>\$ 232.1</b>	<b>\$ 11.1</b>	<b>\$ 30.5</b>	<b>\$ 57.6</b>	<b>\$ 133.1</b>
<b>Supergrid Route</b>						
Scottsdale/Rural	I	\$ 83.2	\$ 20.7	\$ 20.8	\$ 20.8	\$ 20.9
Glendale Avenue	I	11.6	2.1	3.0	3.0	3.4
Main Street	I	17.0	2.4	4.7	4.7	5.2
Baseline/Southern/Dobson ext	I	87.3	7.7	25.7	25.7	28.2
Arizona Avenue/Country Club	I	25.3	2.2	7.4	7.4	8.2
Gilbert Road	I	26.6	2.3	7.8	7.8	8.6
Chandler Blvd.	I	22.2	0.7	7.0	7.0	7.6
University Drive (to Ellsworth Road)	II	42.3	-	12.7	14.1	15.5
Camelback Road	II	6.1	-	1.8	2.0	2.2
Broadway	II	41.1	-	10.3	14.7	16.1
Elliot Road	II	40.6	-	10.2	14.5	16.0
Alma School Rd.	II	26.8	-	6.7	9.6	10.5
Hayden/McClintock	II	41.7	-	8.0	16.0	17.6
Peoria Ave./Shea (3)	II	12.6	-	2.4	4.9	5.3
Dysart Road	II	8.2	-	1.6	3.2	3.5
59th Avenue	II	11.4	-	1.4	4.7	5.2
McDowell/McKellips	II	35.3	-	4.4	14.7	16.2
Power Road	II	15.2	-	1.9	6.3	7.0
Tatum/44th Street	II	3.9	-	0.5	1.6	1.8
Ray Road	II	41.9	-	5.2	17.5	19.2
Van Buren	II	8.6	-	0.4	3.9	4.3
Queen Creek Road (Pecos P&R to Power Road)	III	25.8	-	-	10.0	15.8
Bell Road (via 303)	III	14.8	-	-	4.6	10.1
Waddell/Thunderbird	III	5.3	-	-	1.7	3.6
Thomas Road (2)	III	11.7	-	-	3.7	8.1
Buckeye Road (Litchfield Road to Central Ave.)	III	2.0	-	-	0.4	1.6
Indian School Road	III	9.5	-	-	2.0	7.5
Dunlap/Olive Avenue	III	5.5	-	-	1.2	4.3
99th Avenue	III	1.8	-	-	0.4	1.4
83rd Avenue/75th Avenue	IV	4.8	-	-	-	4.8
Litchfield Road	IV	3.0	-	-	-	3.0
Greenfield Road	IV	5.3	-	-	-	5.3
Regional Passenger Support Services		78.5	4.2	16.2	25.6	32.4
<b>Subtotal</b>		<b>\$ 776.8</b>	<b>\$ 42.4</b>	<b>\$ 160.2</b>	<b>\$ 253.7</b>	<b>\$ 320.5</b>
<b>Total</b>		<b>\$1,009.0</b>	<b>\$ 53.5</b>	<b>\$ 190.6</b>	<b>\$ 311.3</b>	<b>\$ 453.6</b>

Source: Valley Metro / Regional Public Transportation Authority; Maricopa Association of Governments, 2003

\* Runs through calendar year 2025. Cost estimates listed above are preliminary and subject to change.

**Table 8: Light Rail Transit Phasing and Costs\* (2002 Dollars, Millions)**

Facility	Segment	Length (miles)	Regional Costs		Phase
			Route Construction	Support Infrastructure	
Minimum Operating Segment	19th Ave/Bethany Home to Apache/Longmore	20	\$ 0.0	\$ 164.0	I
Metro Center Link	19th Ave/Bethany Home to Metrocenter	5	150.0	30.0	I
Glendale Link	19th Ave/Bethany Home to Downtown Glendale	5	150.0	30.0	III
I-10 West Link	Washington/Central to I-10/79th Ave	11	660.0	0.0	III
Northeast Phoenix Link	Indian School/Central to Paradise Valley Mall	12	720.0	0.0	IV
Tempe South Link	Main/Rural to Rural/Southern	2	120.0	0.0	II
East Mesa Link**	Main/Longmore to Main/Mesa Drive	2.7	150.0	0.0	II
Systemwide		na	0.0	154.0	
<b>Totals</b>		<b>57.7</b>	<b>\$1,950.0</b>	<b>\$ 378.0</b>	

Source: Valley Metro/Regional Public Transportation Authority; Maricopa Association of Governments, 2003

\* Cost estimates listed above are preliminary and subject to change in the design process.

\*\* Technology to be determined.

**Table 9**  
**Schedule of Bus-Related Capital Investments and Operating Costs\* (2002 Dollars)**

Cost Item	Unit Type	Units	Spares	Cost/Unit	Total Cost	
<b>Capital Investments</b>						
<b>Fleet</b>						
Fixed Route Networks	Bus	1,773	365	\$ 400,000	\$ 855,000,000	
Rural Routes	Rural Bus	30	6	60,000	2,160,000	
Paratransit	DAR Van	830	170	72,000	72,000,000	
Van Pool	Vanpool Van	1,350	54	30,000	42,120,000	
<b>Sub-total Fleet</b>		<b>3,983</b>	<b>595</b>		<b>\$ 971,280,000</b>	
<b>Capital Facilities</b>						
13 Park & Ride Lots	Per Parking Space	3,500		\$ 14,000	\$ 49,000,000	
6 Transit Centers, 4 Bay	Facilities	6		1,600,000	9,600,000	
4 Transit Centers, 6 Bay	Facilities	4		2,300,000	9,200,000	
3 Transit Centers, Major Activity Centers	Facilities	3		5,500,000	16,500,000	
5 Bus Maintenance Facilities	Vehicle	1,425		118,000	168,150,000	
2 DAR & Rural Bus Maintenance	Vehicle	518		32,000	16,576,000	
1 Vanpool Maintenance	Vehicle	778		6,000	4,668,000	
Dedicated BRT ROW & Maint	Per Mile	10		7,600,000	76,000,000	
Arterial BRT ROW Improvements	Per Mile	50		330,000	16,500,000	
Bus Stop Pullouts/Improvements	Avg per Location	1,200		22,000	26,400,000	
ITS/VMS	Per Vehicle	2,154		11,000	23,688,500	
<b>Sub-total Capital Facilities</b>		<b>6,135</b>			<b>\$ 416,282,500</b>	
<b>Contingency</b>					<b>\$ 66,137,500</b>	
<b>Total Fleet and Capital Facilities</b>					<b>\$1,453,700,000</b>	
			26.6%	RARF:	387,400,000	
			73.4%	FEDERAL:	1,066,300,000	
<b>Allocation by Type of Service</b>						
<b>Component</b>		<b>Sales Tax</b>		<b>Federal</b>	<b>Total</b>	<b>Percent</b>
Bus Capital		\$ 238,711,410		\$ 657,041,755	\$ 895,753,164	61.6%
Facilities		116,223,839		319,900,566	436,124,405	30.0%
Paratransit		20,102,013		55,329,832	75,431,845	5.2%
Vanpool		11,759,678		32,367,952	44,127,630	3.0%
Rural		603,060		1,659,895	2,262,955	0.2%
<b>Total Capital</b>		<b>\$ 387,400,000</b>		<b>\$1,066,300,000</b>	<b>\$1,453,700,000</b>	<b>100.0%</b>
<b>Other Operating Funds</b>						
				<b>Sales Tax</b>	<b>Total</b>	
Paratransit				\$ 199,000,000	\$ 199,000,000	
Rural/Non-Fixed Routes				12,000,000	12,000,000	
<b>Total Other Operating Funds</b>				<b>\$ 211,000,000</b>	<b>\$ 211,000,000</b>	

Source: Valley Metro / Regional Public Transportation Authority; Maricopa Association of Governments, 2003

\* Cost estimates listed above are preliminary and subject to change in the design process.



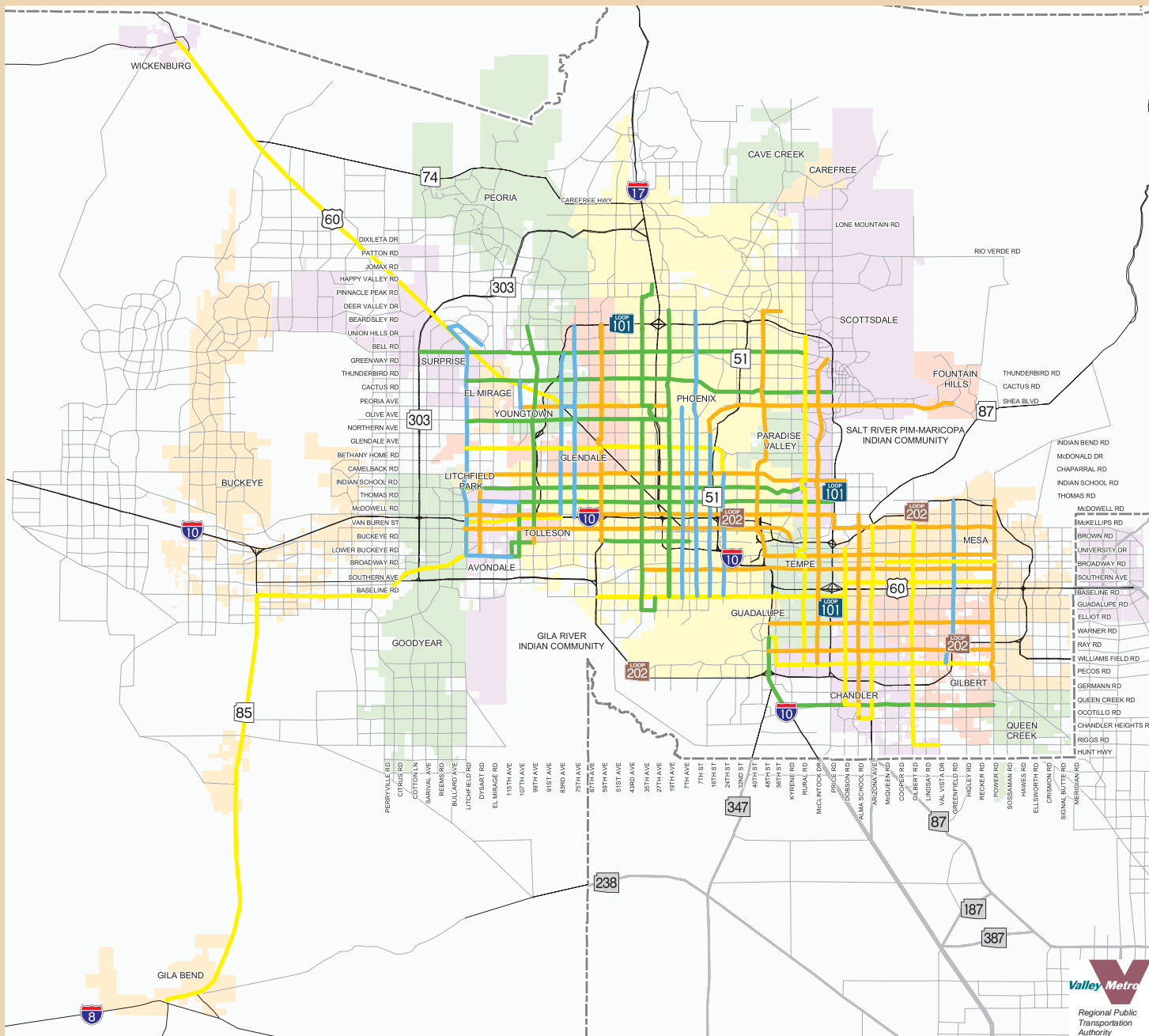
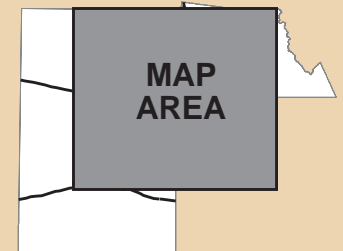
# Regional Transportation Plan Executive Summary Figure 8



## Super Grid and Rural Service Plan Phasing

- Phase 1 (FY 2005 - FY 2010)
- Phase 2 (FY 2011 - FY 2015)
- Phase 3 (FY 2016 - FY 2020)
- Phase 4 (FY 2021 - FY 2026)
- County Boundary
- Freeways/Highways
- Other Roads

*Regional transportation facilities in Pinal County are planned by the Central Arizona Association of Governments (CAAG). Potential new facilities shown in Pinal County are from the Southeast Maricopa/Northern Pinal County Area Transportation Study jointly sponsored by MAG, CAAG, and ADOT.*



While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.



# Regional Transportation Plan Executive Summary

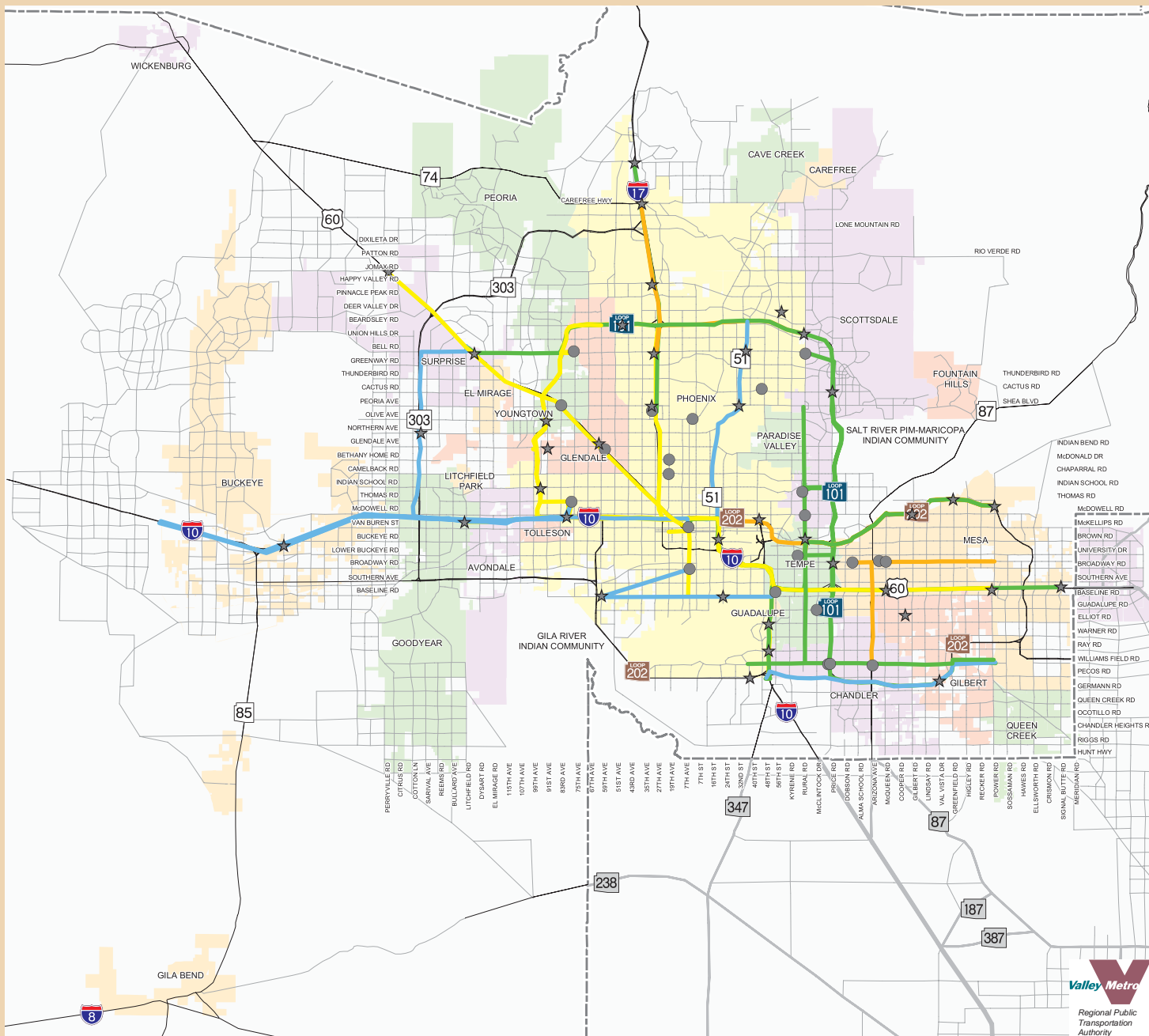
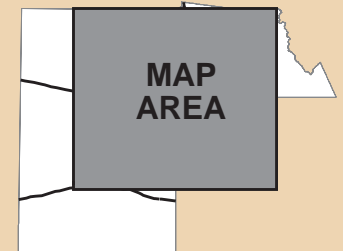
Figure 9



## Freeway and Arterial BRT Routes Plan Phasing

- Phase 1 (FY 2005 - FY 2010)
- Phase 2 (FY 2011 - FY 2015)
- Phase 3 (FY 2016 - FY 2020)
- Phase 4 (FY 2021 - FY 2026)
- ★ Planned or Existing Park-and-Rides
- Planned or Existing Transit Centers
- - - County Boundary
- Freeways/Highways
- Other Roads

*Regional transportation facilities in Pinal County are planned by the Central Arizona Association of Governments (CAAG). Potential new facilities shown in Pinal County are from the Southeast Maricopa/Northern Pinal County Area Transportation Study jointly sponsored by MAG, CAAG, and ADOT.*



While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.

# Regional Transportation Plan Executive Summary

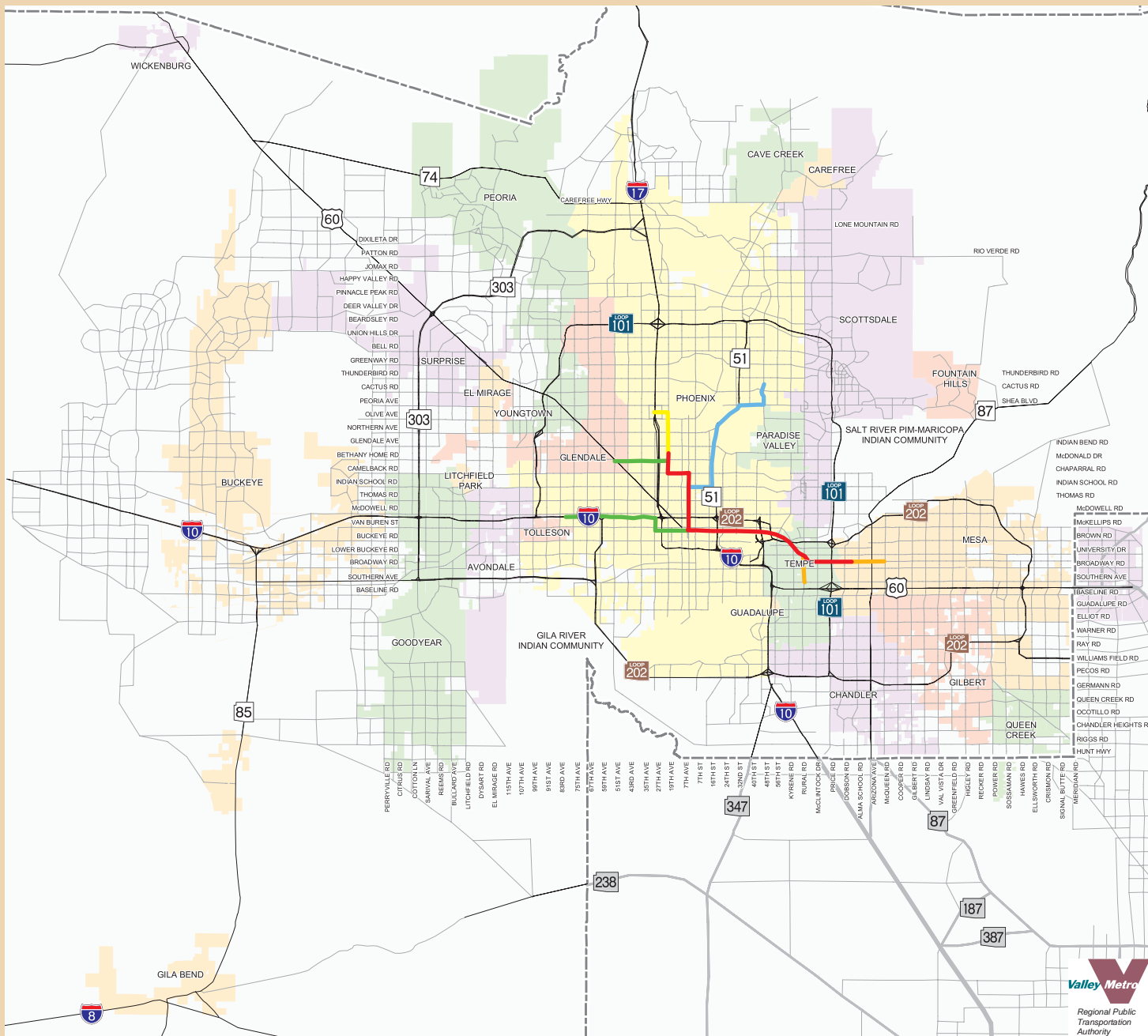
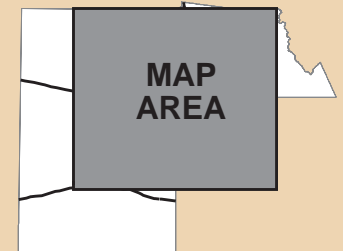
Figure 10



## Identified High Capacity Corridors Plan Phasing

- Phase 1 (FY 2005 - FY 2010)
- Phase 2 (FY 2011 - FY 2015)
- Phase 3 (FY 2016 - FY 2020)
- Phase 4 (FY 2021 - FY 2026)
- Phoenix Minimum Operating Segment
- County Boundary
- Freeways/Highways
- Other Roads

*Regional transportation facilities in Pinal County are planned by the Central Arizona Association of Governments (CAAG). Potential new facilities shown in Pinal County are from the Southeast Maricopa/Northern Pinal County Area Transportation Study jointly sponsored by MAG, CAAG, and ADOT.*



While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.

## **OTHER TRANSPORTATION MODES AND PROGRAMS**

The RTP includes a full range of transportation modes and transportation functions. In addition to roadways and transit, the Plan covers needs that address airport facilities, freight, bicycle and pedestrian travel, and special transportation functions. Operational aspects of the transportation system are also addressed in the areas of demand management, system management and safety.

### **Airports**

At present, MAG is the officially designated agency for regional aviation system planning. The first MAG Regional Aviation System Plan (RASP) was developed in 1979, with subsequent updates to the plan occurring in 1986 and 1993. In December of 1996, the MAG Regional Council approved a MAG RASP Implementation Study to facilitate with the long-term implementation of the RASP. In 2000, MAG initiated an update of its Regional Aviation System Plan, which is expected to be completed by the end of 2003.

### **Bicycles**

For many years, MAG has maintained an active role in promoting the establishment of improved travel opportunities for bicyclists. In 1991, MAG developed a plan to address the needs and concerns of bicyclists in the region, and to encourage bicycling as a way to alleviate congestion and air pollution. The MAG Regional Bicycle Plan was adopted by the Regional Council in February of 1992, and was incorporated into the region's ongoing long range transportation planning process, which is updated on an annual basis.

The MAG Regional Bicycle Task Force, which was responsible for assisting in the development of the original MAG Bicycle Plan in 1992, has maintained an active role in promoting improved travel opportunities for bicyclists. The MAG Regional Bicycle Task Force continues to provide key input into bicycle planning and decision-making activities, and is comprised of representatives from MAG member agencies, ADOT and RPTA.

All current regional bicycle planning within the MAG Region adheres to, and is implemented

through, the policies and recommendations of three existing plans. These plans include the MAG Regional Bicycle Plan, the Regional Off-Street System (ROSS) Plan, and the West Valley Multi-Modal Transportation Corridor Plan.

### **Pedestrians**

MAG is a leader in promoting improvements in the Valley's streetside environments to better accommodate 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. In 1993, MAG developed a plan which identified policies to encourage walking, and suggested areas where these policies might best be implemented. In 1994, MAG formed the Pedestrian Working Group to promote increased awareness of walking as an alternative mode of travel and to improve facilities for people who walk.

The MAG Pedestrian Working Group developed a set of Pedestrian Area Policies and Design Guidelines, which was a comprehensive manual of pedestrian policies and facility design that creates a regional standard that can be used by community groups, planners and design professionals. This effort resulted in the MAG Pedestrian Design Assistance Program, which was initiated in 1996 to encourage the development of designs for pedestrian facilities according to the MAG Pedestrian Area Policies and Design Guidelines. MAG also developed a Regional Pedestrian Plan in 2000, which identified and recommended programs and actions to guide and encourage the development of pedestrian areas and facilities and ultimately increase walking as a viable mode of transportation throughout the region.

### **Freight**

At present, MAG is in the process of finalizing a Regional Freight Assessment, which is intended to serve as a comprehensive base for the analysis of current and future needs for regional freight infrastructure improvements, activities, and future planning endeavors related to freight and the goods movement process.

The Regional Freight Assessment is the latest in a series of MAG activities in the freight planning process. Past activities have included: 1) developing an Intermodal Management Systems report, which is considered in the preparation of the Transportation Improvement Program; 2) conducting freight forums, which provided goods movement providers and users an opportunity to give input on transportation needs and investments; and 3) considering freight movement factors as a part of modal plan development, which has been specifically addressed in the airport planning process.

Future steps in freight planning include: 1) continuing to monitor the impact and role of freight in the regional transportation system; 2) projecting future overall goods movement demand within, into and out of the region; 3) expanding the freight element of the regional transportation network modeling process; 4) enhancing coordination and involvement of the “freight community” in the regional transportation planning process; and 5) investigating the potential for developing a separate regional freight plan, including the organization and structure of freight planning and infrastructure needs to facilitate freight movement across the region.

### **Demand Management**

Transportation Demand Management (TDM) programs encourage reductions in travel demand within the transportation system. These programs promote alternative modes of travel, such as carpooling, vanpooling, walking, bicycling, alternative work schedules that reduce trips, and telecommuting and compressed work schedules. TDM activities utilized throughout the region include rideshare programs, the clean air campaign, trip reduction and vanpool programs, telecommuting, and audioconferencing and videoconferencing efforts.

### **System Management**

Transportation System Management (TSM) programs help to accommodate the safe and efficient movement of people and vehicles within the transportation system. The full spectrum of transportation technology applications, known as Intelligent Transportation Systems (ITS), now form the basis for all of these programs.

ITS involves the integrated application of advanced sensors, computers, electronics and communication technologies, along with management strategies, to increase the safety and efficiency of the surface transportation system.

Since 1996, MAG has taken progressive steps toward mainstreaming the development of regional ITS within the transportation planning process. All planning activities for public sector ITS infrastructure in the region are currently coordinated and led by MAG. In September of 1999, MAG launched a project to develop a comprehensive ITS Strategic Plan. Oversight for this project was provided by a group consisting of the MAG ITS Committee and other stakeholders. The Plan was adopted by MAG in April of 2001 and currently serves as the road map for future ITS within the region.

### **Special Needs Transportation**

The RTP addresses the special transportation needs of certain user groups. The transportation needs of special populations are a regional concern. Limitations caused by age or disability complicate the process of securing transportation for a portion of the population. In addition, those who are seeking employment or training and those who lack financial resources find limited transportation options available to reach second shift and weekend employment. The RTP specifically addresses concepts and issues related to changes in assistance, a number of transportation programs, and concerns for senior travelers.

### **Safety**

The RTP addresses road safety issues throughout the region. Safety continues to be highlighted as a key planning emphasis area, and improving levels of safety across the regional transportation system is an essential planning goal. A Regional Transportation Safety Action Plan has been developed by the MAG Safety Stakeholders Group as an immediate planning measure to address road safety in the region. Funding for a comprehensive Regional Transportation Safety Plan with goals linked to both national and state safety plans has been included in the RTP.

## **AIR QUALITY CONFORMITY**

The Maricopa Association of Governments (MAG) is the designated Metropolitan Planning Organization (MPO) in Maricopa County, Arizona, and is responsible for both air quality and transportation planning. As required by the Clean Air Act, an air quality conformity analysis was conducted on the RTP and the Transportation Improvement Program (TIP) as a whole. The conformity analysis demonstrates that the TIP and RTP are in conformance with regional air quality plans and will not contribute to air quality violations. In its entirety, the conformity analysis demonstrates that the criteria specified in the federal transportation conformity rule for a conformity determination are satisfied by the TIP and RTP. A finding of conformity for the FY 2004-2007 MAG TIP and MAG RTP is therefore supported.

### **Conformity Requirements**

The federal transportation conformity rule (40 Code of Federal Regulations (CFR) Parts 51 and 93) specifies criteria and procedures for conformity determinations for transportation plans, programs, and projects and their respective amendments. The conformity test specified in the federal transportation conformity rule and applied in the 2003 MAG Conformity Analysis is the emissions budget test. For the emissions budget test, predicted emissions for the TIP and RTP must be less than or equal to the motor vehicle emissions budget specified in the approved air quality implementation plan, or the emissions budget found to be adequate for transportation conformity purposes.

For the 2003 MAG Conformity Analysis, the emissions budget test was applied for CO, since the CO emissions budget was found to be adequate for transportation conformity purposes by EPA, effective October 14, 2003. For ozone, an emissions budget test was performed for volatile organic compounds (VOC), because an approved State Implementation Plan budget for VOC is contained in the Revised 1998 15 Percent Rate of Progress Federal Implementation Plan for Ozone. For PM-10, the emissions budget test was applied using the approved budget from the Revised MAG 1999 Serious Area Plan for PM-10.

### **Results of the Conformity Analysis**

A regional emissions analysis was conducted for the years 2006, 2015, 2016, and 2026 for each pollutant. All analyses were conducted using the latest planning assumptions and emissions models. The major conclusions of the 2003 MAG Conformity Analysis are:

- For carbon monoxide, the total regional vehicle-related emissions associated with implementation of the TIP and RTP for the analysis year 2006 is projected to be less than the adequate interim emissions budget, and the emissions associated with implementation of the TIP and RTP for the analysis years 2015, 2016, and 2026 are projected to be less than the adequate maintenance budget for 2015 established in the Carbon Monoxide Redesignation Request and Maintenance Plan. The applicable conformity test for carbon monoxide is therefore satisfied.
- For volatile organic compounds, the total regional vehicle-related emissions associated with implementation of the TIP and RTP for all years tested are projected to be less than the emissions budget specified in the applicable Revised 1998 15 Percent Rate of Progress Federal Implementation Plan for Ozone. The conformity test for ozone is therefore satisfied.
- For PM-10, the total regional vehicle-related emissions associated with implementation of the TIP and RTP for all years tested are projected to be less than the emissions budget found to be adequate for transportation conformity purposes from the Revised MAG 1999 Serious Area Particulate Plan for PM-10. The conformity test for PM-10 is therefore satisfied.
- Implementation of the TIP and RTP will support and not impede the implementation of the Transportation Control Measures that have been adopted as part of applicable air quality implementation plans.
- Consultation has been conducted in accordance with federal requirements.

## ***PLAN IMPLEMENTATION POLICIES***

(This section will be revised as appropriate upon future discussion by the MAG Transportation Policy Committee)

In addition to the transportation facilities and services aspects of the RTP, the Transportation Policy Committee (TPC) also addressed plan implementation policy issues. These policies will play a vital part in how the RTP is managed and updated over the coming years. The policy concepts listed below were adopted by the TPC on September 17, 2003, as part of their action to recommend the RTP for air quality conformity analysis of this Plan. (Items on additional arterial projects and noise mitigation included in that action are not listed, since they have been specifically included in Chapters 8 and 9).

- That funding firewalls be established for the following modes of transportation: freeways, streets and transit, with the understanding that these firewalls represent the percentage of funding identified in the plan and that the funds from the sales tax be deposited in their respective accounts (Regional Area Road Fund for freeways, a sub-account of the RARF for streets and the Public Transportation Fund for transit). Increases or decreases in sales tax revenue would be reflected proportionately in the respective accounts.
- That the Arizona Department of Transportation develop a Life Cycle Certification Program for freeways and streets and the Regional Public Transportation Authority develop a Life Cycle Certification Program for transit to ensure that costs and revenues for the RTP are balanced annually.

- That freeway and street project accelerations be considered, with the existing highway acceleration policy used as a model for consideration.
- That the material cost change and enhancement policies now used for the freeway program be expanded to transportation projects funded by the sales tax as prescribed by state law.
- That every five years, the RTP be re-evaluated to consider major plan adjustments resulting from new information or studies pertaining to the implementation of the Plan.

An additional set of policies submitted by Maricopa County was considered by the TPC at their September 17, 2003 meeting. The TPC adopted the first, second and last bullet-items in that list. These policies, which complement and reinforce the above items, are listed below.

- Require an independent evaluation of the performance of the RTP every five years (Full audit of implemented projects and evaluation of projects within the balance of the plan time frame).
- The TPC must review the independent RTP evaluation and may recommend amendments to the RTP based on the independent evaluation.
- Include the above accountability provisions in the authorizing legislation.