

# 2011 ANNUAL REPORT ON THE STATUS OF THE IMPLEMENTATION OF PROPOSITION 400

September, 2011



**Maricopa Association of Governments**

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ON THE STATUS OF THE IMPLEMENTATION OF  
PROPOSITION 400**

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## **SUMMARY OF FINDINGS AND ISSUES**

The *Draft 2011 Annual Report on the Status of the Implementation of Proposition 400* has been prepared by the Maricopa Association of Governments (MAG) in response to Arizona Revised Statute (ARS) 28-6354. ARS 28-6354 requires that MAG annually issue a report on the status of projects funded through Proposition 400, addressing project construction status, project financing, changes to the MAG Regional Transportation Plan, and criteria used to develop priorities. In addition, background information is provided on the overall transportation planning, programming and financing process. The key findings and issues from the 2011 Annual Report are summarized below.

### **MAG REGIONAL TRANSPORTATION PLAN**

The MAG Regional Transportation Plan (RTP) provides the blueprint for the implementation of Proposition 400. By Arizona State law, the revenues from the half-cent sales tax for transportation must be used on projects and programs identified in the RTP adopted by MAG. The RTP identifies specific projects and revenue allocations by transportation mode, including freeways and other routes on the State Highway System, major arterial streets, and public transportation systems.

- During FY 2011, the life cycle programming process continued to face a difficult revenue picture. Efforts to reestablish balanced life cycle programs in each of major transportation modes were ongoing during FY 2011, but balanced programs had not been established by the end of FY 2011.

During FY 2010, a rebalancing of costs and revenues in the life cycle programs was accomplished. However, during FY 2011, as part of the annual program review process, revenue forecasts were updated and indicated that future revenues would be lower than had been estimated in FY 2010. This has resulted in a recurrence of an imbalance between projected costs and expected revenues in the life cycle programs. All three life cycle programs are dealing with lower sales and other tax revenues and a high level of uncertainty about future federal transportation funding. MAG, the Arizona Department of Transportation (ADOT) and the Regional Public Transportation Authority (RPTA) are jointly working on measures to reestablish balanced programs by the end of calendar year 2011.

- The results of the first Proposition 400 Performance Audit are expected during the fall of 2011.

As specified in A.R.S. 28-6313, a performance audit of the Regional Transportation Plan and projects scheduled for funding during the next five years is required every five years during the term of the Proposition 400 sales tax. The Auditor General has contracted with a nationally recognized independent auditor with expertise in evaluating multimodal transportation systems and in regional transportation planning to conduct the audit. It is anticipated that the results of the audit will be released in

the fall of 2011. MAG is required to hold a public hearing on the audit findings and recommendations within forty-five days after the audit's release.

- The MAG Regional Transportation Plan was amended to reflect changes in transit funding sources, as well as changes to certain and freeway and transit projects.

On September 22, 2010, the MAG Regional Council approved amendment of the Regional Transportation Plan to incorporate public transit service adjustments resulting from reductions in revenues, including repeal of the Local Transportation Assistance Fund (LTAF) by the Arizona State Legislature. Also on this date, the MAG Regional Council approved amendment of the Plan to reflect advancement of the construction of the Gateway Freeway (Santan Freeway to Ellsworth Road) from FY 2016 to FY 2012.

- A "Locally Preferred Alternative" for the Tempe South High Capacity Transit Segment in the Regional Transportation Plan was approved.

On December 8, 2010, the MAG Regional Council approved amendment of the Regional Transportation Plan to reflect a Locally Preferred Alternative (LPA) for the Tempe South High Capacity Transit Segment in the RTP. The LPA approved by the Regional Council for this segment was designated as a modern streetcar on a Mill Avenue alignment extending south from downtown Tempe to Southern Avenue, with a one-way, Mill Avenue/Ash Avenue loop in downtown Tempe. Additional transit improvements were also noted for future consideration through the regional transportation planning process.

- A modern street car illustrative project was added to the Regional Transportation Plan.

On December 8, 2010, the MAG Regional Council approved inclusion of a potential future modern street car east from Mill Avenue along Southern Avenue to Rural Road, as an Illustrative Transit Corridor in the Regional Transportation Plan.

## **HALF-CENT SALES TAX AND OTHER TRANSPORTATION REVENUES**

The half-cent sales tax for transportation approved through Proposition 400 is the major funding source for the MAG Regional Transportation Plan (RTP), providing more than half the revenues for the Plan. In addition to the half-cent sales tax, there are a number of other RTP funding sources, which are primarily from state and federal agencies.

- Fiscal Year 2011 receipts from the Proposition 400 half-cent sales tax were 3.4 percent higher than receipts in FY 2010.

The receipts from the Proposition 400 half-cent sales tax in FY 2011 totaled approximately \$308 million, corresponding to a 3.4 percent increase over FY 2010. This represents the first year-over-year increase in collections since FY 2007.

However, the collections for FY 2011 remain 21.1 percent lower than those in FY 2007.

- Forecasts of Proposition 400 half-cent revenues are 23.7 percent lower for the period FY 2012 through FY 2026, compared to the 2010 Annual Report estimate.

Future half-cent revenues for the period FY 2012 through FY 2026 are currently forecasted to total \$7.0 billion. This amount is \$2.2 billion, or 23.7 percent, lower than the forecast for the same period presented in the 2010 Annual Report. It is worth noting that actual receipts for FY 2011 (\$308.4 million) were somewhat greater than had been forecasted in the current series (\$301.0 million). The Proposition 400 half-cent revenue forecasts will be updated again in the fall of 2011.

- Forecasts of total ADOT funds dedicated to the MAG area for FY 2012 through FY 2026 are 3.5 percent lower than the 2010 Annual Report estimate.

The forecast for ADOT funds totals \$4.8 billion for FY 2012 through FY 2026, which is 3.5 percent lower than the 2010 Annual Report forecast. Due to its lesser rate of decline, this source is projected to exceed the funding provided by the half-cent sales tax to Freeway/Highway Life Cycle Program by 18.3 percent during FY 2012 - 2026.

- Forecasts of total MAG federal transportation funds for FY 2012 through FY 2026 are slightly lower compared to the 2010 Annual Report estimate.

The forecasted MAG federal aid revenues for the period FY 2012 through FY 2026 total \$3.7 billion. This forecast is \$70 million, or 1.8 percent lower than that in the 2010 Annual Report for the same period.

- The nature and magnitude of future federal transportation funding remains uncertain.

Federal funding for transportation has generally been reauthorized every six years. The latest reauthorization, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA/LU), was signed into law in August 2005 and expired in September 2009. Since that time, Congress has maintained federal transportation funding by means of continuing resolutions and extensions of SAFETEA/LU. The current extension runs through September 30, 2011. Given the growing sentiment toward austerity in federal programs, the nature and magnitude of future federal transportation funding, as well as any extensions of SAFETEA/LU, remain uncertain.

## **FREEWAY/HIGHWAY LIFE CYCLE PROGRAM**

The Freeway/Highway Life Cycle Program (FLCP) extends through FY 2026 and is maintained by the Arizona Department of Transportation (ADOT) to implement freeway/highway projects listed in the MAG Regional Transportation Plan (RTP). The

program utilizes funding from the Proposition 400 half-cent sales tax extension, as well as funding from state and federal revenue sources.

- A number of major freeway/highway construction projects were completed, underway, or advertised for bids during FY 2011.

#### Completed

- I-10 (Verrado Way to Sarival Ave.): Additional general purpose lanes.
- I-10 (Sarival Ave. to Dysart Rd.): Additional general purpose lanes.
- I-10 (at Avondale Blvd.): Interchange improvements.
- I-17 (Indian School to I-10): Southbound auxiliary lanes.
- US-60 (Loop 303 to 99<sup>th</sup> Ave.): Widen to six lanes.
- US-60 (99<sup>th</sup> Ave. to 83<sup>rd</sup> Ave.): Widen to six lanes.
- SR-74 (MP 13-15 and MP 20-22.): Add passing lanes.
- SR-85 (I-10 to Southern Ave.): Widen to four lanes.
- SR-87 (New Four Peaks Rd. to Dos S Ranch Rd.): Climbing lane.
- Loop 101/99<sup>th</sup> Ave. (I-10 to Van Buren Rd.): Street improvements.
- Loop 101 (at Beardsley/Union Hills): New traffic interchange.
- Loop 101 (at Chaparral Rd.): Interchange improvements.
- Loop 101 (Northern to Grand): Southbound auxiliary lanes.
- Loop 101 (51<sup>st</sup> Ave. to 35<sup>th</sup> Ave.): Eastbound auxiliary lanes.
- Loop 303 (at Cactus Rd., Waddell Rd., and Bell Rd.): Crossroad improvements.
- Loop 303 (Happy Valley Rd. to Lake Pleasant Pkwy): Interim four-lane divided roadway.
- Loop 303 (Lake Pleasant Pkwy to I-17): Interim four-lane divided roadway.
- Loop 101 (at Olive Rd.): Interchange improvements.

#### Advertised for Bids or Under Construction

- SR-85 (at B-8/Maricopa Rd): Reconstruct intersection.
- Loop 101 (I-10 to Tatum Blvd.): New HOV lanes.
- SR-143 (at Loop 202 Access Road): Interchange improvements.
- Loop 202/Santan (Gilbert Rd. to I-10): New HOV lanes.
- Loop 303 (at I-10): New freeway system interchange.
- Loop 303 (Peoria Ave. to Mt. View Rd.): New six-lane freeway.
- MAG Region (Various Locations): Noise Walls.

- Cost estimates for projects in the Freeway Life Cycle Program were reduced by approximately \$253 million.

Cost estimates for a number of projects in the Freeway Life Cycle Program were reduced in the 2011 Annual Report, totaling approximately \$253 million.

- Construction of the Gateway Freeway (Santan Freeway to Ellsworth Road) was advanced from FY 2016 to FY 2012.

On September 22, 2010, the MAG Regional Council approved amendment of the Regional Transportation Plan to advance the construction of the Gateway Freeway (Santan Freeway to Ellsworth Road) from FY 2016 to FY 2012. To advance the construction, the City of Mesa is issuing Highway Project Advancement Notes, which are secured by the city's excise tax. Since Mesa is issuing the debt, there is no impact in the freeway program's financing capacity.

- Lower revenue forecasts have resulted in the recurrence of an imbalance between costs and revenues in the Freeway Life Cycle Program.

During FY 2010, a rebalancing of costs and revenues in the Freeway/Highway Life Cycle Program (FLCP) was accomplished through project scope reevaluation, cost estimate adjustments, and schedule revisions. However, during FY 2011, as part of the annual program review process, revenue forecasts were updated and indicated that future revenues would be lower than had been estimated in FY 2010. This has resulted in a recurrence of an imbalance between projected costs and expected revenues in the FLCP, with a deficit of approximately \$453 million through FY 2026. This amounts to about six percent of the projected total expenditures for the period FY 2012-2026. MAG and ADOT are again jointly working on measures to reestablish a balanced FLCP, and it is anticipated that these efforts will produce a balanced program by the end of calendar year 2011.

## **ARTERIAL LIFE CYCLE PROGRAM**

The Arterial Life Cycle Program (ALCP) extends through FY 2026 and is maintained by the Maricopa Association of Governments (MAG) to implement arterial street projects in the MAG Regional Transportation Plan (RTP). The Program receives significant funding from the Proposition 400 half-cent sales tax and federal highway programs, as well as a local match component. Although MAG is charged with the responsibility of administering the overall program, the actual construction of projects is accomplished by local government agencies. MAG distributes the regional share of the funding on a reimbursement basis.

- During FY 2011, \$30 million in reimbursements were distributed to local governments from the Arterial Life Cycle Program

Five jurisdictions received reimbursements for project work during FY 2011 totaling more than \$30 million. A total of ten project agreements were executed in FY 2011. In all, 49 project agreements have been executed to date. Lead implementing agencies deferred approximately \$41 million in federal and regional reimbursements from FY 2011 to later years, due to project implementation and local funding issues.

- Continuing progress on projects in the Arterial Life Cycle Program has been maintained.

As of FY 2011, \$208 million has been disbursed and 28 ALCP projects have been completed. These projects have included arterial street widenings, capacity improvement projects, and intersection improvements throughout the MAG area. During FY 2011, project overview reports were prepared by the lead agencies for five projects in the ALCP. Since the inception of the program, 58 project overviews have been submitted to MAG.

- A \$196.5 million reduction in the Arterial Life Cycle Program through FY 2026 will be necessary.

In FY 2011, the half-cent sales tax revenue forecast was revised, and it was determined that a \$196.5 million reduction in the Arterial Life Cycle Program through FY 2026 would be necessary. To meet the required program reductions, MAG staff and member agencies are coordinating a reprogramming effort. The fiscally balanced, FY 2012 Arterial Life Cycle Program was approved by the MAG Regional Council in September 2011.

## **TRANSIT LIFE CYCLE PROGRAM**

The Transit Life Cycle Program (TLCP) is maintained by the Regional Public Transportation Authority (RPTA) and implements transit projects identified in the MAG Regional Transportation Plan. The RPTA maintains responsibility for administering half-cent sales tax revenues deposited in the Public Transportation Fund for use on transit projects, including light rail transit (LRT) projects. Although RPTA maintains responsibility for the distribution of half-cent funds for light rail projects, the nonprofit corporation of Valley Metro Rail, Inc. (METRO) was created to oversee the design, construction and operation of the light rail starter segment, as well as future corridor extensions planned for the system.

- One new supergrid bus route and one new Bus Rapid Transit (BRT) were implemented in FY 2011 and several additional routes will start service during the next five years.

### Routes Implemented During FY 2011:

- Arizona Avenue Arterial BRT (T5).
- Power Road (T63); Implemented as Route 184.

### Routes Planned for Implementation During FY 2012 through FY 2016:

- Arizona Avenue/Country Club Drive (T44); Service start: FY 2012.
- Grand Avenue Limited (T13); Service start: FY 2013.
- Elliot Road (T53); Service start: FY 2013.
- 59<sup>th</sup> Avenue (T40); Service start: FY 2014.
- McDowell/McKellips Roads (T61); Service start: FY 2014.

- Baseline Road (T45); Service start: FY 2015.
  - South Central Avenue Express (T26); Service start: FY 2015.
  - Scottsdale/Rural BRT (T25); Service start: FY 2016.
  - University Drive (T69); Service start: FY 2016.
- Major steps were taken on implementing two High Capacity Transit/ Light Rail Transit extensions.

The Central Mesa LRT Extension is currently in the Small Starts Project Development (design) phase. This light rail transit extension will extend along Main Street from the end of line station for the Central Phoenix/East Valley at Sycamore eastward to Mesa Drive. Construction is scheduled to be complete in FY 2016. The Tempe Streetcar locally preferred alternative was approved in FY 2011 and is currently in the Project Definition and Environmental Assessment phase. Construction is scheduled to be complete in FY 2016.

- During FY 2011, significant efforts were made to identify further bus system cost savings or to enhance operating revenues.

During FY 2011, major reductions in expenses were a result of identifying additional bus system operating revenues, which offset costs, lowering the amount subsidized by regional revenues. The net total of these cost changes amounts to approximately a \$299 million decrease. The TLCP bus system projects continue to be reevaluated and changes in project implementation and reductions in current service may be made based on actual revenues received.

- Estimated future Transit Life Cycle Program (TLCP) costs for FY 2012 to 2026 are not in balance with the projected future funds available.

Due to the continued economic downturn and the decrease in estimated future revenues, estimated TLCP costs for FY 2012 to 2026 are not in balance with projected future funds available, with a deficit of approximately \$581 million (2011 \$'s). A balance was achieved previously in FY 2010 by delaying the implementation of numerous projects and reducing the scope of many other projects, especially bus route frequencies. However, due to the continued economic downturn and the decrease in estimated future revenues that resulted, simply delaying future projects to balance the TLCP has become increasingly difficult.

During FY 2011, a significant effort was started to assess the TLCP funded services in operation. During FY 2012, after modifications to existing services are complete, RPTA/METRO will move forward with rebalancing the TLCP by adjusting future services and capital projects to meet the projected revenues. Public input will be solicited before any final decisions are made. It is anticipated that a balanced program will be identified by the end of calendar year 2011.

- Federal discretionary funding for transit continues to be an important issue.

A large part of the funding for the light rail transit/high capacity transit (LRT/HCT) system is awarded by the U.S. Department of Transportation through the discretionary “New Starts Program”. The timing and amounts of light rail transit new start monies coming to the MAG region will be subject to a highly competitive process at the federal level. Revenues from the Federal Transit Administration, beyond the “New Starts Program” for the LRT/HCT system, are a key source of revenues for the bus capital program. Continued pressure at the federal level to reduce spending could result in decreased federal revenues for the TLCP, which could put additional projects in jeopardy in the future.

## **PERFORMANCE MONITORING PROGRAM**

The MAG Transportation System Performance Monitoring and Assessment Program has been established to provide a framework for reporting performance at the system and project levels, and serve as a repository of historical, simulated and observed data for the transportation system in the MAG region.

- During FY 2011, the MAG Performance Measurement Report was updated.

During FY 2011, portions of the MAG Performance Measures Report were updated, including use of recently acquired traffic data from private sources. The per capital freeway vehicle-miles of travel (VMT) in the Phoenix-Mesa urbanized area has been trending slightly downward during the period 2007-2010. These trends are illustrative of the national and regional economic recession conditions during this period.

## **CHAPTER ONE**

### **INTRODUCTION**

Proposition 400 was passed by the voters of Maricopa County on November 2, 2004, authorizing a 20-year extension of a half-cent sales tax for transportation projects in Maricopa County. The extension was initiated on January 1, 2006 and will be effective through December 31, 2025. The half-cent tax was originally approved by the voters in 1985 through Proposition 300.

Arizona Revised Statute (ARS) 28-6354 requires that the Maricopa Association of Governments (MAG) annually issue a report on the status of projects funded through Proposition 400. MAG produced the first *Annual Report on the Status of the Implementation of Proposition 400* in 2005 and will produce an updated report yearly during the life of the tax. The annual reporting process addresses project construction status, project financing, changes to the MAG Regional Transportation Plan (RTP), and criteria used to develop priorities. In addition, information is provided on the overall transportation planning, programming and financing process.

The Annual Report addresses project status and tabulates expenditures through the fiscal year (FY) ending June 30<sup>th</sup>. In addition, the overall program outlook through FY 2026 for each transportation mode is reviewed, with an emphasis on the balance between projected costs and forecasted revenues. All projects for the major transportation modes (freeways/highways, arterial streets, public transit), as defined in the RTP, are monitored, whether they specifically receive half-cent funding or not. This ensures that progress on the entire RTP is monitored and trends for all revenue sources are tracked. Any amendments to the RTP are also identified as part of the annual reporting process. A database of RTP projects by mode is maintained to track costs, expenditures and accomplishments on a continuing basis.

The Annual Report is intended to identify overall progress and future trends in the life cycle programs, as opposed to providing a detailed financial accounting record. However, it is worth noting that some expenditure data may be estimated for the fourth quarter of the fiscal year being reported. This is necessary to meet the target release date for the Annual Report. Timing the release of the Annual Report to eliminate any estimates would require significant delays, greatly lessen the relevancy of the document in the decision-making process. Final expenditure information, along with other possible accounting adjustments, will be reflected in subsequent reports, which may result in minor changes in project expenditure figures or other financial data.

The following 2011 Annual Report covers progress through the fiscal year ending June 30, 2011, and reviews the program outlook through June 30, 2026. During

FY 2011, the life cycle programming process continued to face a difficult revenue picture. Efforts to re-establish balanced life cycle programs in each of the major transportation modes were ongoing during FY 2011, but balanced programs had not been established by the end of FY 2011.

## **CHAPTER TWO**

### **PROPOSITION 400 LEGISLATION**

Proposition 400 was enabled by House Bill 2292 and House Bill 2456, which were signed by the Governor of Arizona on May 14, 2003 and on February 5, 2004, respectively. These two pieces of legislation were enacted to guide the process leading up to the Proposition 400 election on November 2, 2004 and establish the features of the half-cent tax sales extension. Key elements of House Bills 2292 and 2456 are described below.

#### **2.1 HOUSE BILL 2292**

Arizona House Bill 2292, which was passed during the Spring 2003 session of the Arizona Legislature, recognized MAG's establishment of a Transportation Policy Committee (TPC). The TPC, which was tasked with the development of the Regional Transportation Plan (RTP), is a public/private partnership and consists of 23 members. Seventeen seats are from the membership of MAG and six are members who represent region-wide business interests. The MAG members include one representative each from the Citizens Transportation Oversight Committee, the ADOT State Transportation Board, the County Board of Supervisors and the Native American Indian Communities in the County, as well as 13 representatives from a geographic cross-section of MAG cities and towns. The bill required the TPC to develop the RTP in cooperation with the Regional Public Transportation Authority (RPTA) and ADOT, and in consultation with the County Board of Supervisors, Native American Indian Communities, and cities and towns in the County.

The legislation identified the consultation process to be followed by the TPC in developing the RTP, and established a formal procedure for reviewing the Draft Plan. This included reviews at the alternatives stage and final draft stage of the planning process. As part of this process, the TPC was required to vote on, and provide written responses to, individual agency comments on the Draft Plan. After this extensive review and consultation process, the TPC was required to recommend a Plan to the MAG Regional Council for final approval.

Arizona House Bill 2292 also set forth the factors to be considered during the development of the RTP, such as the impact of growth on transportation systems and the use of a performance-based planning approach. It identified key features required in the final Plan, including a twenty-year planning horizon, allocation of funds between highways and transit, and priorities for expenditures. This legislation also established the process for authorizing the election to extend the existing half-cent county transportation excise tax. This existing tax was originally approved by Maricopa County voters under Proposition 300 in October 1985 and expires on December 31, 2005.

In addition, House Bill 2292 contained the requirement that MAG issue an annual report on the status of projects funded through the half-cent sales tax for transportation. This includes a public hearing within thirty days after the report is issued. Specific items to be addressed in the annual report cover the status of projects, changes to the RTP, changes to corridor and corridor segment priorities, project financing and project options, and criteria used to establish priorities.

## **2.2 HOUSE BILL 2456**

House Bill 2456 was passed by the Arizona Legislature and signed by the Governor of Arizona in February 2004. This legislation authorized the election to extend the half-cent sales tax for transportation, known as Proposition 400, which was placed on the November 2, 2004 ballot by the Maricopa County Board of Supervisors. In addition to calling the election, this legislation included a number of requirements regarding the nature of the tax extension and its administration. Several of the key provisions are reviewed below.

### **2.2.1 Revenue Distribution**

House Bill 2456 addresses the allocation of revenues from the collection of sales tax monies from January 1, 2006, to December 31, 2025, among the eligible transportation modes. In accordance with the legislation, the net revenues collected are to be distributed as follows:

- 56.2 percent to the regional area road fund for freeways and other routes in the State Highway System, including capital expense and maintenance.
- 10.5 percent to the regional area road fund for major arterial street and intersection improvements, including capital expense and implementation studies.
- 33.3 percent to the public transportation fund for capital construction, maintenance and operation of public transportation classifications, and capital costs and utility relocation costs associated with a light rail public transit system.

### **2.2.2 Revenue Firewalls**

The legislation creates three “firewalls”, which prohibit the transfer of half-cent funding allocations from one transportation mode to another. These firewall divisions correspond to the categories established for the distribution of revenues and include:

- Freeways and highways (including sub-accounts for capital and maintenance).

- Arterial streets.
- Public transportation (with sub-accounts for capital, maintenance and operations, and light rail).
- Half-cent revenues cannot be moved among transportation modes (freeway/highway, arterial and transit).

### **2.2.3 Five-Year Performance Audit**

As specified in House Bill 2456, beginning in 2010 and every fifth year thereafter, the Auditor General shall contract with a nationally recognized independent auditor with expertise in evaluating multimodal transportation systems and in regional transportation planning, to conduct a performance audit of the Regional Transportation Plan and all projects scheduled for funding during the next five years. The audit will make recommendations regarding whether further implementation of a project or transportation system is warranted, warranted with modification, or not warranted.

In 2010, the Auditor General contracted with a nationally recognized independent auditor who is proceeding with the required audit. It is anticipated that the results of the audit will be released in the fall of 2011. Within forty-five days after the release of the audit, the Regional Public Transportation Authority, the Citizens Transportation Oversight Committee, the State Transportation Board, and the County Board of Supervisors are required to submit recommendations to the Transportation Policy Committee regarding the implementation of the audit findings. MAG is also required to hold a public hearing on the audit findings and recommendations within forty-five days after the audit's release.

### **2.2.4 Major Amendment Process**

House Bill 2456 recognized that the Regional Transportation Plan may be updated to introduce new transportation projects or to modify the existing plan. To ensure that the amendment process receives broad exposure and careful consideration, the concept of a major amendment was established. A major amendment of the Regional Transportation Plan means:

- The addition or deletion of a freeway, a route on the State Highway System, or a Fixed Guideway Transit System.
- The addition or deletion of a portion of a freeway; route on the State Highway System; or a Fixed Guideway Transit System that either exceeds one mile in length, or exceeds an estimated cost of forty million dollars as provided in the Regional Transportation Plan.

- The modification of a transportation project in a manner that eliminates a connection between freeways or fixed guideway facilities.

A major amendment is required if:

- An audit finding recommends that a project or system in the Regional Transportation Plan is not warranted, or requires a modification that is a major amendment.
- The MAG Transportation Policy Committee (TPC) recommends to the Regional Planning Agency a modification of the Regional Transportation Plan that is a major amendment.

The consideration and approval of a major amendment must adhere to a specific and rigorous consultation and review process set forth in the legislation. A major amendment requires that alternatives in the same modal category, which will relieve congestion and improve mobility in the same general corridor, are to be addressed. The TPC may recommend that funds be moved among projects within a mode, but half-cent revenues cannot be moved among transportation modes (freeway/highway, arterial and transit).

### **2.2.5 Life Cycle Programs**

The legislation required that the agencies implementing the regional freeway, arterial, and transit programs are to adopt a budget process ensuring that the estimated cost of the program of improvements does not exceed the total amount of revenues available. These “life cycle programs” are the management tools used by the implementing agencies to ensure that transportation program costs and revenues are in balance, and that project schedules can be met. Responsibilities for maintaining these programs are as follows:

- Freeway/Highway Life Cycle Program: Arizona Department of Transportation.
- Arterial Life Cycle Program: Maricopa Association of Governments.
- Transit Life Cycle Program: Regional Public Transportation Authority.

The life cycle programs develop a schedule of projects through the life of the half-cent sales tax, monitor progress on project implementation, and balance annual and total program costs with estimated revenues. The MAG Annual Report draws heavily on life cycle program data and other life-cycle progress documentation.

### **2.2.6 Regional Transportation Plan: Enhancements and Material Changes**

House Bill 2456 requires that any change in the Regional Transportation Plan and the projects funded that affect the MAG Transportation Improvement Program, including priorities, be approved by the MAG Regional Council. Requests for changes to projects funded in the Regional Transportation Plan that would materially increase costs are also required to be submitted to the MAG Regional Council for approval. If a local authority requests an enhancement to a project funded in the Regional Transportation Plan, the local authority is required to pay all costs associated with the enhancement.

## **CHAPTER THREE**

### **REGIONAL ROLES AND RESPONSIBILITIES**

The responsibility for implementing and monitoring projects and programs funded through Proposition 400 is shared by several regional and State entities. These organizations include:

- Maricopa Association of Governments.
- Transportation Policy Committee.
- Arizona Department of Transportation.
- State Transportation Board.
- Regional Public Transportation Authority.
- Valley Metro Rail.
- Citizens Transportation Oversight Committee.

A brief description of each agency and committee, and their role in implementing freeway/highway, arterial street and transit programs is provided below. It should be noted that local governments also design and construct projects covered in the regional arterial street program, and manage and operate elements of the bus transit system. These agencies are not discussed here.

#### **3.1 MARICOPA ASSOCIATION OF GOVERNMENTS**

The Maricopa Association of Governments (MAG), formed in 1967, is a regional planning agency and serves as the designated Metropolitan Planning Organization (MPO) for Maricopa County, including the Phoenix urbanized area. MAG members include the region's 25 incorporated cities and towns, Maricopa County, the Gila River Indian Community, the Fort McDowell Indian Community, the Salt River Pima-Maricopa Indian Community, the Citizens Transportation Oversight Committee, and the Arizona Department of Transportation.

MAG is responsible for the coordination of the following regional planning activities:

- Multi-modal Transportation Planning.
- Air Quality.

- Wastewater.
- Solid Waste.
- Human Services.
- Socioeconomic Projections.

MAG strives to develop plans that are comprehensive and that are consistent and compatible with one another. For example, the Regional Transportation Plan must be in conformance with the air quality plans for the metropolitan area. MAG is responsible for the air quality conformity analysis that shows whether the transportation plan complies with the provisions of air quality plans and other air quality standards. MAG is also responsible for the development of the Arterial Street Life Cycle Program. Individual projects in this program are constructed by the cities, towns and Maricopa County.

The MAG Regional Council is the decision-making body of MAG. The Regional Council consists of elected officials from each member agency. The Chairman of Citizens Transportation Oversight Committee (COTC) and the Maricopa County representatives from the State Transportation Board also sit on the Regional Council, but only vote on transportation-related issues. Many policy and technical committees provide analysis and information to the MAG Regional Council.

The MAG Regional Council is the ultimate approving body for the MAG Regional Transportation Plan and MAG Transportation Improvement Program. Any change in the Regional Transportation Plan or the projects funded that affect the Transportation Improvement Program, including priorities, must be approved by the MAG Regional Council.

### **3.2 TRANSPORTATION POLICY COMMITTEE**

The MAG Transportation Policy Committee (TPC), which met for the first time in September 2002, was initially tasked with the responsibility of developing the Regional Transportation Plan (RTP) and recommending the plan for adoption by the MAG Regional Council. The TPC recommended a Plan in September 2003 and it was adopted unanimously by the MAG Regional Council on November 25, 2003. In addition to developing the RTP, the TPC has continuing responsibilities to advise the Regional Council on transportation issues, including, but not limited to recommendations regarding: the MAG Transportation Improvement Program; the Life Cycle Programs; and requested material changes and amendments to the RTP.

The TPC is comprised of 23 members and is a public/private partnership. Of the total membership, six are members representing business interests and 17 are

from the membership of MAG. The MAG members include 13 representatives from a geographic cross-section of MAG cities and towns, as well as one representative each from the Citizens Transportation Oversight Committee, the ADOT State Transportation Board, the County Board of Supervisors and the Native American Indian Communities in the County. The business representatives are from businesses with region-wide interest, including one representing transit interests and a representative from the freight industry. Three of the business representatives are appointed by the Speaker of the Arizona House of Representatives and the other three are appointed by the President of the Arizona State Senate.

### **3.3 ARIZONA DEPARTMENT OF TRANSPORTATION**

The primary role of the Arizona Department of Transportation (ADOT) is to provide a transportation system that meets the needs of the citizens of Arizona. The transportation system includes the State Highway System, which is designed to provide safe and efficient highway travel around the State. The Governor of Arizona appoints the Director of ADOT. The MAG Regional Freeway/Highway Program is part of the State Highway System, and is the responsibility of ADOT. However, ADOT is not responsible for highways, streets, or roads that are not part of the State Highway System, which are owned and maintained by counties, or cities and towns in Arizona.

ADOT is responsible for the overall management of the Regional Freeway/Highway Program. This includes the design, engineering, right-of-way acquisition, and construction and maintenance activities. ADOT develops and maintains the Freeway/Highway Life Cycle Program, making projections of available revenues and developing financing strategies to fund projects.

ADOT also has a role for the arterial streets component of the MAG Regional Transportation Plan. Although MAG is responsible for the development of the Arterial Street Life Cycle Program, in accordance with ARS 28-6303.D.2, ADOT maintains the arterial street fund and issues bonds on behalf of the MAG Arterial Street Program.

### **3.4 STATE TRANSPORTATION BOARD**

The State Transportation Board has statutory authority over the State Highway System. The State Transportation Board also sets priorities for the State Highway System (except the MAG Regional Freeway/Highway Program), establishes a five-year construction program for individual airport and highway projects, awards construction contracts, issues bonds and sets policy. The Board consists of seven members appointed by the Governor representing six geographic regions of the State. Two members are appointed from Maricopa County. Each member serves a six-year term.

Each year, the Board approves the ADOT Five-Year Highway Construction Program for statewide projects and the Life Cycle Program for the MAG Freeway/Highway System. The Life Cycle Program incorporates the priorities set by the MAG Regional Council. ADOT and MAG cooperatively develop the program for the MAG region. The State Transportation Board cannot approve projects within the MAG region that are not consistent with the MAG Regional Transportation Plan and the MAG Transportation Improvement Program. This limitation provides for the participation of local governments in project selection and to ensure conformity with air quality standards.

The State Transportation Board adopts policies that affect the MAG Regional Freeway/Highway Program. The Board has the authority to issue bonds supported by both the Regional Area Road Fund and the Highway User Revenue Fund and issue other forms of debt. Issuance of these bonds allows for significant acceleration of the MAG Regional Freeway/Highway Program than what would be possible on a pay-as-you-go basis.

### **3.5 REGIONAL PUBLIC TRANSPORTATION AUTHORITY/VALLEY METRO**

The Regional Public Transportation Authority (RPTA)/Valley Metro is a political subdivision of the State of Arizona, and is overseen by a board consisting of an elected official from each member jurisdiction. Membership is open to all municipalities in Maricopa County and to the County government. Currently, the 14 participating communities are Avondale, Chandler, El Mirage, Gilbert, Glendale, Goodyear, Mesa, Peoria, Phoenix, Scottsdale, Surprise, Tempe, Queen Creek, and Maricopa County. In 1993, the RPTA Board adopted Valley Metro as the identity for the regional transit system. The RPTA Board cannot approve projects and programs within the MAG region that are not consistent with the MAG Regional Transportation Plan and the MAG Transportation Improvement Program.

The primary goal of RPTA/Valley Metro is to ensure that a viable public transportation system is provided for regional mobility, and to ease the traffic congestion and improve air quality. The RPTA is responsible for transit public information, the management and operation of regional bus and dial-a-ride services, the Regional Ridesharing program, a regional vanpool program and elements of the countywide Trip Reduction program and Clean Air Campaign. The RPTA is also responsible for maintaining the Transit Life Cycle Program.

In November of 2004, the passage of Proposition 400 increased the amount of funding for public transit from the former amount of approximately two percent of total half-cent sales tax revenues (\$5 million annually inflated), to a figure of over 33 percent, which will begin on January 1, 2006. These monies will be deposited in the Public Transportation Fund (PTF), which was created as part of the Proposition 400 legislation. The RPTA is charged with the responsibility of administering monies in the PTF for use on transit projects, including light rail

transit projects, identified in the MAG Regional Transportation Plan. The RPTA Board must separately account for monies allocated to: 1) light rail transit, 2) capital costs for other transit, and 3) operation and maintenance costs for other transit.

### **3.6 VALLEY METRO RAIL**

Valley Metro Rail is a non-profit, public corporation overseeing the design, construction, and operation of the light rail transit starter segment, as well as extensions to the project. The Valley Metro Rail Board of Directors is composed of the mayors of each of the participating cities. The five cities currently participating are Phoenix, Tempe, Mesa, Glendale and Chandler.

The Valley Metro Rail Board of Directors establishes procedures for the administration and oversight of the design, construction and operation of light rail, as well as receives and disburses funds and grants from Federal, State, local and other funding sources. The Valley Metro Rail board has the authority to enter into contracts for light rail design and construction, hire or contract for staff for the Light Rail Project, and undertake extensions to the system. The Valley Metro Rail Board cannot approve projects and programs within the MAG region that are not consistent with the MAG Regional Transportation Plan and the MAG Transportation Improvement Program

### **3.7 CITIZENS TRANSPORTATION OVERSIGHT COMMITTEE**

ARS 28-6356 provides for the establishment of a Citizens Transportation Oversight Committee (CTOC) in a county that has a transportation sales tax such as Maricopa County. CTOC consists of seven persons - one member appointed from each of the five supervisory districts in Maricopa County. The Governor appoints an at-large member and the Chair of the committee. Members serve three-year terms. ADOT provides a special assistant to provide staff support to CTOC and to assist in coordination among CTOC, ADOT, MAG, RPTA and local jurisdictions.

The CTOC plays a number of important roles in the regional transportation process. It reviews and advises MAG, RPTA and the State Transportation Board on matters relating to the Regional Transportation Plan, the Transportation Improvement Program, the ADOT 5-year Construction Program and the life cycle management programs. This includes making recommendations on any proposed major amendment of the RTP, on criteria for establishing priorities, and on the five-year performance audit of the RTP. The CTOC is charged with annually contracting for a financial compliance audit of expenditures from the Regional Area Road Fund and the Public Transportation Fund, as well as setting parameters for periodic performance audits of the administration of those funds (life cycle programs).

The CTOC also holds public hearings and issues reports as appropriate, receives written complaints from citizens regarding adverse impacts of transportation projects funded in the RTP, receives complaints from citizens relating to regional planning agency responsibilities, and makes recommendations regarding transportation projects and public transportation systems funded in the Regional Transportation Plan.

## **CHAPTER FOUR**

### **REGIONAL TRANSPORTATION PLAN**

The MAG Regional Transportation Plan (RTP) provides the blueprint for the implementation of Proposition 400. By Arizona State law, the revenues from the half-cent sales tax for transportation must be used on projects and programs identified in the RTP adopted by MAG. The RTP identifies specific projects and revenue allocations by transportation mode, addressing freeways and other routes on the State Highway System, major arterial streets and intersection improvements, and public transportation systems. An overview of the RTP is provided below, including plan elements, priority criteria, and changes to the RTP during FY 2011.

#### **4.1 PLAN OVERVIEW**

The MAG Regional Transportation Plan (RTP) is a comprehensive, performance based, multi-modal and coordinated regional plan, covering all major modes of transportation, including freeways/highways, streets, public mass transit, airports, bicycles and pedestrian facilities, goods movement and special needs transportation. In addition, key transportation related activities are addressed, such as transportation demand management, system management, safety and air quality conformity analysis.

##### **4.1.1 Plan Development Process**

The Regional Transportation Plan is developed and updated through a comprehensive, performance-based process, consistent with State legislation. This process takes into account household trip-making characteristics and regional travel patterns, as well as the effects of population growth, to identify future demand for transportation facilities. The transportation planning process establishes goals and objectives, estimates future travel demand, identifies and evaluates facility options, and defines a planned, multi-modal transportation network. As part of the process, funding for the implementation of the plan is identified and a facility phasing program is prepared.

The transportation planning process also includes broad-based public input, which is received as the result of an extensive public involvement process that includes an extensive public outreach effort. Public involvement meetings and events are held to receive input from citizens throughout the MAG Region. Additional comments are also received through the MAG Web Site. In addition, MAG is 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 are specifically considered during the transportation planning and programming process.

As required by the Clean Air Act, air quality conformity analyses are conducted on the RTP and the associated Transportation Improvement Program (TIP). Analyses are conducted on carbon monoxide, volatile organic compounds, and particulate matter (PM-10). These conformity analyses have demonstrated that the RTP and TIP are in conformance with regional air quality plans and will not contribute to air quality violations.

#### **4.1.2 Freeway/Highway Element**

The RTP includes new freeway corridors, as well as improvements to existing freeways and highways. Operation and maintenance of the freeway/highway system are also addressed. All projects are on the State Highway System.

New Freeway/Highway Corridors: New corridors in the RTP add approximately 490 lane miles to the network and include: Loop 202/South Mountain Freeway, Loop 303 Freeway, State Route 801/I-10 Reliever Freeway, and State Route 802/Williams Gateway Freeway.

Freeway/Highway Widening and Other Improvements: These improvements include an additional 530 lane-miles of general-purpose lanes and 300 lane-miles of HOV lanes, covering essentially the entire existing freeway system. Improvements to US 60/Grand Avenue, State Route 85 and other State Highways are also funded. In addition to new travel lanes, additional interchanges with arterial streets on existing freeways are included, as well as improvements at freeway-to-freeway interchanges to provide direct connections between HOV lanes.

Freeway/Highway Maintenance, Operations, Mitigation and System-wide Programs: The RTP provides funding for maintenance of the freeway system, directed at litter pickup, landscaping, and noise mitigation. System-wide programs, such as freeway operations management, are also identified.

Freeway/Highway Priorities: The RTP takes into account the ADOT Freeway/Highway Life Cycle Program, which is a schedule of projects that implements the freeway/highway priorities identified in the RTP (see Chapter Six).

#### **4.1.3 Arterial Street Element**

The RTP includes a component for major arterial streets in the MAG Region. While MAG is responsible for developing the RTP, local jurisdictions are primarily responsible for design, right-of-way acquisition, construction and maintenance of arterial facilities as identified in the RTP.

New Arterial Facilities, Widening and Intersection Improvements: The RTP provides regional funding for widening existing streets, improving intersections, and constructing new arterial segments. As growth extends into new areas, widening and extension of the arterial street network will be needed in order to keep up with growing traffic volumes. Congestion on the arterial street network is often caused by inadequate intersection capacity. The RTP also includes a number of intersection improvements, which enhance traffic flow and reduce congestion.

Intelligent Transportation System (ITS): The RTP allocates funding to assist in the implementation of projects identified in the regional ITS Plan. These projects smooth traffic flow and help the transportation system to operate more efficiently.

Arterial Street Priorities: The RTP takes into account the MAG Arterial Life Cycle Program, which is a listing of street projects that have been identified in the RTP for regional funding (see Chapter Seven).

#### **4.1.4 Transit Element**

The RTP includes a range of transit facilities and services throughout the region. A regional bus network is included to ensure that reliable service is available on a continuing basis. In addition, light rail/high capacity transit corridors are identified 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.

Regional Bus: Regional bus services include both arterial grid and express type services that are designed to provide regional connections. Regional bus service consists of three categories of service: Supergrid routes, which provide local fixed route service on the arterial street grid system; Arterial Bus Rapid Transit (BRT) Routes, which operate as express overlays on streets served by local fixed route service; and Freeway BRT Routes, which use freeways to connect remote park-and-ride lots with major activity centers. Funding for both capital and operating needs is identified in the RTP.

Light Rail Transit/High Capacity Transit: The RTP includes a 57.7-mile Light Rail Transit (LRT)/High Capacity Transit (HCT) system, which incorporates the 20-mile, LRT minimum-operating segment (MOS) as designated in the Central Phoenix/East Valley Major Investment Study (MIS); a five-mile northwest extension; a five-mile extension to downtown Glendale; an 11-mile extension along I-10 west to 79th 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. Light rail transit has been selected as the technology on the northwest extension and the extension to Mesa Drive. The technology for the remaining segments has not yet been determined. Funding for LRT capital needs, only, is identified in the RTP.

The RTP also provides for the continued investigation of commuter rail implementation strategies for the region.

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

Transit Priorities: The RTP takes into account the RPTA Transit Life Cycle Program, which is a schedule of bus and light rail projects that implements the transit priorities identified in the RTP (see Chapter Eight).

#### **4.1.5 Plan Funding**

The half-cent sales tax for transportation is the major funding source for the MAG RTP. In addition, there are other funding sources from State and Federal agencies. These revenue sources, and the half-cent tax, have been termed regional revenues in the RTP. In addition to regional revenues, local governments provide certain funding allocations that support the implementation of the RTP. The regional revenue sources are discussed in detail in Chapter Five.

### **4.2 PRIORITY CRITERIA**

Arizona Revised Statute 28-6354 B. directs MAG to develop criteria that establish the priority of corridors, corridor segments, and other transportation projects. These criteria include public and private funding participation; the consideration of social and community impacts; the establishment of a complete transportation system for the region; the construction of projects to serve regional transportation needs; the construction of segments to provide connectivity on the regional system; and other relevant criteria for regional transportation. The discussion below describes how these kinds of criteria have been applied in the MAG regional transportation planning process, both for the development and the implementation of the Regional Transportation Plan (RTP).

#### **4.2.1 Extent of Local Public and Private Funding Participation**

A higher level of local public and private funding participation in the RTP benefits the region by leveraging regional revenues and helping ensure local government commitment to the success of the regional program. The extent of local public and private funding participation is addressed in a number of ways in the MAG transportation planning process.

Project Matching Requirements: In developing funding allocations among the various RTP components and project types, local matching requirements have been established. The local matching requirements in the RTP are:

- 30 percent for major street projects, including ITS elements.

- 30 percent for bicycle and pedestrian projects.
- For air quality and transit projects involving Federal funds, minimum Federal match requirements were assumed. Depending on the specific project funding mix, this match may be provided from regional revenue sources.

Private Funding Participation: As part of the policies and procedures developed for the Arterial Street Life Cycle Program, private funding participation is recognized as applicable local match for half-cent funds for street and intersections projects. This policy helps free local monies that may then be applied to additional transportation improvements.

Local Government Incentives: In the Arterial Street Life Cycle Program, incentives to make efficient use of regional funds have been established by ensuring that project savings by local governments may be applied to new projects in the jurisdiction that achieved those savings.

In the Freeway/Highway Life Cycle Program, MAG recognizes that local jurisdictions may want to accelerate highway projects by providing the local jurisdiction's financial resources to the program. Acceleration of specific highway projects benefits not only the affected local jurisdiction, but also the entire region. To facilitate local financing that allows the acceleration of freeway/highway construction in the region, MAG has adopted a Highway Acceleration Policy. This policy includes a provision that 50 percent of the interest expense incurred by the local jurisdiction will be paid by regional program revenues.

#### **4.2.2 Social and Community Impacts**

Regional transportation improvements can have both beneficial and negative social and community impacts. It is important to conduct a thorough assessment of these impacts, to ensure that they are taken into account in the decision-making process. The MAG planning effort assesses social and community impacts at each key stage of the transportation planning and programming process. In addition, it should be noted that similar efforts are carried out by the agencies implementing specific transportation improvement projects.

Public Participation and Community Outreach: An aggressive citizen participation and outreach program is conducted to obtain public views on the potential community and social impacts of transportation improvements. In particular, input is sought regarding the possible impacts of specific transportation alternatives on the community's social values and physical structure.

Social Impact Assessment: The social impact of transportation options is evaluated as part of the Title VI/Environmental Justice assessment. In this

assessment, potential transportation impacts are evaluated for key communities of concern, including minority populations, low-income populations, aged populations, mobility disability populations, and female head of household populations. In addition, community goals are taken into account by basing future travel demand estimates, on local land use plans.

Corridor and Community Impact Assessment: Corridor-level analyses are conducted, which assess the possible social and community impacts of alternative facility alignments based on neighborhood factors such as noise, air quality and land use. Community impacts of transportation facilities are further analyzed by assessing air quality effects through the emissions analysis of plan alternatives, as well as conducting a Federally required air quality conformity analysis of the RTP. In addition, the process for annually updating the Regional Transportation Improvement Program includes project air quality scores, which reflect the potential community impacts of the projects.

Consultation on Resource and Environmental Factors: As part of the planning process for the update of the Regional Transportation Plan (RTP), MAG reaches out to Federal, State, Tribal, regional, and local agencies to consult on environmental and resource issues and concerns. This effort includes consultation regarding conservation plans and maps, inventories of natural or historic resources, and potential environmental mitigation activities. Specific topics of interest include: land use management, wildlife, natural resources, environmental protection, conservation, historic preservation, and potential environmental mitigation activities. The primary goal of this consultation effort is to make transportation planning decisions and prepare planning products that are sensitive to environmental mitigation and resource conservation considerations.

#### **4.2.3 Establishment of a Complete Transportation System for the Region**

The RTP includes major investments in all elements of the regional transportation system over the next several decades. It is critical that these expenditures result in a complete and integrated transportation network for the region. The MAG planning process responds directly to this need by conducting transportation planning at the system level, giving priority to segments that can lead to a complete transportation system as quickly as possible, and maintaining a life cycle programming process for all the major modes.

System Level Planning Approach: The regional planning effort is conducted at the system level, taking into account all transportation modes in all parts of the MAG geographic area. This systems level approach is applied in identifying and analyzing alternatives, as well as specifying the final Regional Transportation Plan. In this way, the complete transportation needs of the region, as a whole, are identified and addressed in the planning process.

Project Development Process and Project Readiness: The implementation of regional transportation projects requires a complex development process. This process involves extensive corridor assessments, environmental studies, and engineering concept analyses. This is followed by right-of-way acquisition and final design work, before actual construction may begin. For a variety of reasons, certain projects may progress through this process more rapidly than others. By moving forward, where possible, on those projects with the highest level of readiness for construction, important transportation improvements can be delivered as quickly as possible.

Progress on Multiple Projects: Major needs for transportation improvements exist throughout the MAG area. The scheduling of projects is aimed at proceeding with improvements to the transportation network throughout the planning period in all areas of the region. This will lead toward a complete and functioning regional transportation system that benefits all parts of the MAG area.

Revenues, Expenditures and Life Cycle Programming: Cash flow patterns from revenue sources limit the amount of work that can be accomplished within a given period of time. Project expenditures need to be scheduled to accommodate these cash flows. Life cycle programs have been established that take these conditions into account and implement the projects in the RTP for the major transportation modes: freeways/highways, arterial streets, and transit. The life cycle programs provide a budget process that ensures that the estimated cost of the program of improvements does not exceed the total amount of revenues available. This ensures that a complete transportation system for the region will be developed within available revenues.

As part of the life cycle programming process, consideration is given to bonding a portion of cash flows to implement projects that provide critical connections earlier than might otherwise be possible. This has to be weighed against the reduction in total revenues available for constructing projects, which results from interest costs.

#### **4.2.4 Construction of Projects to Serve Regional Transportation Needs**

The resources to implement the RTP are drawn from regional revenue sources and should address regional transportation needs. Transportation projects that serve broad regional needs should have a higher priority than those that primarily only serve a local area. At the same time, the nature of regional transportation needs varies across the MAG area and the same type of transportation solution does not apply everywhere in the region. Enhancing the arterial network may represent the most pressing regional need in one part of the region, whereas adding new freeway corridors may be the key need in another; and expanding transit capacity may represent the best approach in yet another area. The process to develop the RTP recognized that this was the nature of regional

transportation needs in the MAG area. As a result, the RTP is structured to respond to different types of needs in different parts of the MAG Region.

Although the modal emphasis of the transportation improvements identified in the RTP varies from area to area, the effects of these improvements can be assessed using common measures of system performance and regional mobility. The measures that were utilized for this purpose are described below. These criteria were applied in the development of the RTP to evaluate alternatives and establish implementation priorities. They can also be applied in the future to evaluate potential adjustments to the priority of corridors, corridor segments, and other transportation projects and services.

Facility/Service Performance Measures: Facility performance measures focus on the amount of travel on specific facilities, the usage of transportation services, the degree of congestion, and other indicators of the level of service as provided:

- Accident rate per million miles of passenger travel.
- Travel time between selected origins and destinations.
- Peak period delay by facility type and geographic location.
- Peak hour speed by facility type and geographic location.
- Number of major intersections at level of service “E” or worse.
- Miles of freeways with level of service “E” or worse during peak period.
- Average Daily Traffic on freeways/highways and arterials.
- Total transit ridership by route and transit mode.
- Cost effectiveness: trips served per dollar invested.

Mobility Measures: Mobility measures focus on the availability of transportation facilities and services, as well as the range of service options as provided:

- Percentage of persons within 30 minutes travel time of employment by mode.
- Jobs and housing within one-quarter mile distance of transit service.
- Percentage of workforce that can reach their workplace by transit within one hour with no more than one transfer.
- Per Capita Vehicle Miles of Travel (VMT) by facility type and mode.

- Households within one-quarter mile of transit.
- Transit share of travel (by transit sub-mode).
- Households within five miles of park-and-ride lots or major transit centers.

#### **4.2.5 Construction of Segments that Provide Connectivity with other Elements of the Regional Transportation System**

The phasing of the development of the transportation network should be done in a logical sequence, so that maximum possible system continuity, connectivity and efficiency are maintained.

Appropriately located transportation facilities around the region enhance the general mobility throughout the region. To the extent possible, facility construction and transportation service should be sequenced to result in a continuous and coherent network and to avoid gaps and isolated segments, bottlenecks and dead-end routes. Segments that allow for the connection of existing portions of the transportation system should be given a higher priority than segments that do not provide connectivity.

#### **4.2.6 Other relevant criteria developed by the regional planning agency**

As part of the RTP, a series of objectives for the regional transportation network were identified. Two key objectives were to achieve broad public support for the needed investments, and to develop a regionally balanced plan that provides geographic equity in the distribution of investments. Specific criteria related to these objectives are:

- Transportation decisions that result in effective and efficient use of public resources and strong public support.
- Geographic distribution of transportation investments.
- Inclusion of committed corridors.

### **4.3 REGIONAL TRANSPORTATION PLAN CHANGES AND OUTLOOK**

The RTP is a long range plan for transportation improvements in the region, covering a period of over two decades. During a program of this length, inevitably, new information will be obtained and changing conditions will be faced as the implementation effort proceeds. As a result, the RTP and the MAG Transportation Improvement Program (TIP) are revised periodically to reflect factors such as changes in costs, project schedules, and the outlook for future revenues.

### **4.3.1 System-Level Activities**

Regional Transportation Plan Update: An update of the MAG Regional Transportation Plan was not conducted during FY 2011. However, the RTP was amended to reflect changes in transit funding sources, as well as changes to certain and freeway and transit projects. These amendments are described below.

### **4.3.2 Corridor-Level, Sub-Area and Modal Activities**

Reductions in Transit Revenues, Including Repeal of the Local Transportation Assistance Fund (LTAF): On September 22, 2010, the MAG Regional Council approved amendment of the Regional Transportation Plan – 2010 Update to incorporate public transit service adjustments resulting from reductions in revenues, including repeal of the LTAF by the Arizona State Legislature. The action to repeal the LTAF was taken by the Legislature to help balance the state budget and will permanently discontinue this funding source for transit in the MAG region.

Advance Construction of the Gateway Freeway (Santan Freeway to Ellsworth Road) to FY 2012: On September 22, 2010, the MAG Regional Council approved amendment of the Regional Transportation Plan – 2010 Update to advance the construction of the Gateway Freeway (Santan Freeway to Ellsworth Road) from FY 2016 to FY 2012. To advance the construction, the City of Mesa is issuing Highway Project Advancement Notes, which are secured by the city's excise tax. Since Mesa is issuing the debt, there is no impact in the freeway program's financing capacity.

Locally Preferred Alternative for the Tempe South High Capacity Transit Segment in the RTP: On December 8, 2010, the MAG Regional Council approved amendment of the Regional Transportation Plan – 2010 Update to reflect a Locally Preferred Alternative (LPA) for the Tempe South High Capacity Transit Segment in the RTP. The LPA approved by the Regional Council for this segment was designated as a modern streetcar on a Mill Avenue alignment extending south from downtown Tempe to Southern Avenue, with a one-way, Mill Avenue/Ash Avenue loop in downtown Tempe. Additional transit improvements were also noted for future consideration through the regional transportation planning process.

Illustrative Corridors/Projects: On December 8, 2010, the MAG Regional Council approved inclusion of a potential future modern street car east from Mill Avenue along Southern Avenue to Rural Road, as an Illustrative Transit Corridor in the Regional Transportation Plan.

## **CHAPTER FIVE**

### **HALF-CENT SALES TAX FOR TRANSPORTATION AND OTHER REGIONAL REVENUES**

The half-cent sales tax for transportation approved through Proposition 400 is the major funding source for the MAG Regional Transportation Plan (RTP), providing over half the revenues for the Plan. In addition to the half-cent sales tax, there are a number of other RTP funding sources, which are primarily from State and Federal agencies. These revenue sources and the half-cent tax have been termed regional revenues in the RTP. The specific regional revenue sources are:

- Half-cent Sales Tax.
- Arizona Department of Transportation (ADOT) Funds.
- MAG Area Federal Highway Funds.
- MAG Area Federal Transit Funds.

In addition to regional revenues, local governments provide funding that supports implementation of the RTP. These resources provide matching monies for capital projects in the Arterial Street Program and Light Rail Transit/High Capacity Transit Program; subsidize certain transit operating costs; and, in the form of transit farebox monies, contribute significant funding for transit operations.

A block of funding from State sources, the Statewide Transportation Acceleration Needs (STAN) Account, was available for a time but the remaining funds were swept in January 2009 by the Legislature to balance the FY 2009 State Budget. Resources from another, non-recurring source were made available in early 2009 in the form of infrastructure funding from the American Recovery and Reinvestment Act (ARRA).

It should also be noted that revenue projections are expressed in “Year of Expenditure” (YOE) dollars, which reflect the actual number of dollars collected/expended in a given year. Therefore, there is no correction or discounting for inflation. The effect of inflation is accounted for separately through an allowance for inflation that is applied when comparing project costs and revenues, which is included in the modal chapters. In these chapters, costs reflect currently available, real dollars estimates as of 2010, but may not have been specifically factored, in every case, to a 2010 base year. In addition, both actual and forecasted revenues have been updated from previous reports.

## **5.1 HALF-CENT SALES TAX (*Maricopa County Transportation Excise Tax*)**

On November 2, 2004, the voters of Maricopa County passed Proposition 400, which authorized the continuation of the existing half-cent sales tax for transportation in the region (also known as the *Maricopa County Transportation Excise Tax*). This action provides a 20-year extension of the half-cent sales tax through calendar year 2025 and went into affect on January 1, 2006.

The revenues collected from the half-cent sales tax extension are deposited into the Regional Area Road Fund (RARF), and allocated between freeway/highway and arterial street projects; and into the Public Transportation Fund (PTF) for public transit programs and projects. These monies must be applied to projects and programs consistent with the MAG RTP. Table 5-1 displays the actual and projected Proposition 400 half-cent sales tax revenues for the period FY 2006-2026. As specified in ARS 42-6105.E, 56.2 percent of all sales tax collections are distributed to freeways and highways (RARF); 10.5 percent will be distributed to arterial street improvements (RARF); and 33.3 percent of all collections will be distributed to transit (PTF). The use of PTF monies must be separately accounted for based on allocations to: (1) light rail transit, (2) capital costs for other transit, and (3) operation and maintenance costs for other transit.

As displayed in Table 5-1, actual receipts from the Proposition 400 half-cent sales tax have totaled \$1.9 billion through FY 2011. Beginning in FY 2008, annual receipts steadily declined, with the year-over-year decreases for the three years from the end of FY 2007 through the end of FY 2010 equaling, respectively, 3.1, 13.7 and 8.9 percent. The receipts in FY 2011 were 3.4 percent greater than those in FY 2010, representing the first year-over-year increase in collections since FY 2007. However, the collections for FY 2011 remain 21.1 percent lower than those in FY 2007.

Future half-cent revenues for the period FY 2012 through FY 2026 are forecasted to total \$7.0 billion. This amount is \$2.2 billion, or 23.7 percent, lower than the forecast for the same period presented in the 2010 Annual Report. Of the \$7.0 billion total included in the current forecast, \$4.0 billion will be allocated to freeway/highway projects; \$739 million to arterial street improvements; and \$2.3 billion to transit projects and programs. It is worth noting that actual receipts for FY 2011 (\$308.4 million) were somewhat greater than forecasted in this series (\$301.0 million). The Proposition 400 half-cent revenue forecasts will be updated again in the fall of 2011.

## **5.2 ARIZONA DEPARTMENT OF TRANSPORTATION (ADOT) FUNDS**

ADOT funding sources include the Arizona State Highway User Revenue Fund (HURF) monies allocated to ADOT to support the State Highway System, ADOT Federal Aid Highway Funds, and other miscellaneous sources.

**TABLE 5-1**  
**MARICOPA COUNTY TRANSPORTATION EXCISE TAX: FY 2006-2026**  
 (Year of Expenditure Dollars in Millions)

Fiscal Year	Regional Area Road Fund (RARF)		Public Transportation Fund (PTF) (33.3%)	Total
	Freeways (56.2%)	Arterial Streets (10.5%)		
<b>Actual (2)</b>				
<b>2006 (1)</b>	86.3	16.1	51.1	153.6
<b>2007</b>	219.7	41.1	130.2	391.0
<b>2008</b>	213.2	39.8	126.3	379.4
<b>2009</b>	184.0	34.4	109.0	327.4
<b>2010</b>	167.7	31.3	99.4	298.4
<b>2011 (3)</b>	173.3	32.4	102.7	308.4
<b>Subtotal</b>	<b>1,044.3</b>	<b>195.1</b>	<b>618.8</b>	<b>1,858.2</b>
<b>Forecasted</b>				
<b>2012</b>	174.4	32.6	103.4	310.4
<b>2013</b>	183.9	34.4	109.0	327.3
<b>2014</b>	196.3	36.7	116.3	349.2
<b>2015</b>	210.3	39.3	124.6	374.2
<b>2016</b>	225.4	42.1	133.6	401.1
<b>2017</b>	240.3	44.9	142.4	427.5
<b>2018</b>	253.8	47.4	150.4	451.6
<b>2019</b>	269.4	50.3	159.6	479.4
<b>2020</b>	285.9	53.4	169.4	508.8
<b>2021</b>	301.0	56.2	178.3	535.5
<b>2022</b>	317.8	59.4	188.3	565.4
<b>2023</b>	336.1	62.8	199.1	598.0
<b>2024</b>	354.6	66.2	210.1	630.9
<b>2025</b>	374.3	69.9	221.8	666.0
<b>2026 (4)</b>	231.3	43.2	137.0	411.5
<b>Subtotal</b>	<b>3,954.7</b>	<b>738.9</b>	<b>2,343.3</b>	<b>7,036.8</b>
<b>Total</b>				
<b>Totals</b>	<b>4,999.0</b>	<b>934.0</b>	<b>2,962.0</b>	<b>8,895.0</b>

(1) Represents Proposition 400 tax revenues, which began on January 1, 2006.

(2) Fiscal Year totals reflect the lag in actual receipt of revenues by the fund.

(3) Estimated subject to change.

(4) Reflects end of Proposition 400 half-cent sales tax on December 31, 2025.

### 5.2.1 ADOT Funding Overview

ADOT relies on funding from two primary sources: the Highway User Revenue Fund (HURF) and Federal transportation funds. The HURF is comprised of funds

from the gasoline and use fuel taxes, a portion of the vehicle license tax, registration fees and other miscellaneous sources. According to the Arizona constitution, HURF funds can only be used on highways and streets, therefore, HURF funds cannot be used for transit purposes.

ADOT, Arizona counties and cities and towns, and the Department of Public Safety (DPS) receive an allocation from HURF. Of the funds remaining after the allocation for DPS, ADOT receives 50.5 percent, 19 percent is allocated to counties, and 27.5 percent is allocated to Arizona cities and towns. The remaining three percent is allocated to cities with populations over 300,000. For the purposes of revenue forecasting, total HURF funds are projected based on forecasted population and economic growth, assuming that there would no change in tax rates. Total forecasted HURF funds are then distributed to ADOT and the other entities based on the current statutory formula and policy.

From the ADOT HURF allocation, State statute provides that 12.6 percent of the HURF funds flowing to ADOT are earmarked for the MAG Region, and the region comprising the Pima Association of Governments (PAG), which includes metropolitan Tucson, Arizona. In addition, the State Transportation Board has established a policy that another 2.6 percent of ADOT HURF funds would be allocated to the two regions. These funds are divided into 75 percent for the MAG Region and 25 percent for the PAG Region. These funds are referred to as "15 Percent Funds".

After the deduction of the 15 Percent Funds, ADOT must pay for operations, maintenance and debt service on outstanding bonds. This includes funds for the Motor Vehicle Division, department administration, highway maintenance and additional funding for DPS.

ADOT also receives Federal transportation funds which are allocated to Arizona through various Federal programs and allocation formulas. The remaining HURF funds are combined with the Federal highway funds to provide the basis for the ADOT Highway Construction Program. This block of funds is often referred to as "ADOT Discretionary Funds".

### **5.2.2 ADOT Funding in the MAG Area**

The MAG area receives annual funding through the Arizona Department of Transportation (ADOT) in the form of 15 Percent Funds, which are allocated from the State Highway Fund to the MAG area. These funds are spent exclusively for improvements on limited access facilities on the State Highway System in the MAG area through the ADOT Five-Year Construction Program.

In addition, a 37 percent share of ADOT Discretionary Funds is targeted to the MAG Region. Arizona Revised Statute 28-304 C.1 states that the percentage of ADOT discretionary monies allocated to the MAG region in the Regional

Transportation Plan shall not increase or decrease unless the State Transportation Board, in cooperation with the regional planning agency, agrees to change the percentage of the discretionary monies.

Table 5-2 summarizes ADOT funds applicable to projects in the MAG Regional Transportation Plan. As displayed in Table 5-2, actual receipts from ADOT Funds through FY 2011 totaled \$1.6 billion, and forecasted revenues for the period FY 2012 through FY 2026 total \$4.8 billion. This forecast is 3.5 percent lower than the 2010 Annual Report forecast. Due to its lesser rate of decline, this source is projected to exceed the funding provided by the half-cent sales tax to Freeway/Highway Life Cycle Program by 18.3 percent during FY 2012 -2026.

**TABLE 5-2**  
**ADOT FUNDING IN MAG AREA: FY 2006-2026**  
 (Year of Expenditure Dollars in Millions)

Fiscal Year	15% Funds	ADOT Discretionary	Total Funding
<b>Actual</b>			
2006	72.8	110.9	183.7
2007	76.9	161.4	238.3
2008	76.9	248.0	324.9
2009	60.5	156.3	216.8
2010	59.1	122.3	181.4
2011	60.6	351.9	412.5
<b>Subtotal</b>	<b>406.8</b>	<b>1,150.8</b>	<b>1,557.6</b>
<b>Forecasted</b>			
2012	45.4	279.2	324.6
2013	47.1	153.8	200.9
2014	49.5	162.8	212.3
2015	60.4	159.9	220.3
2016	65.8	275.3	341.1
2017	82.5	210.0	292.5
2018	85.7	215.1	300.8
2019	89.0	225.4	314.4
2020	92.4	236.2	328.6
2021	96.0	247.3	343.3
2022	99.5	261.9	361.4
2023	103.6	270.9	374.5
2024	107.4	283.5	390.9
2025	111.2	296.5	407.7
2026	115.2	310.1	425.3
<b>Subtotal</b>	<b>1,250.7</b>	<b>3,587.9</b>	<b>4,838.6</b>
<b>Total</b>			
<b>Totals</b>	<b>1,657.5</b>	<b>4,738.7</b>	<b>6,396.2</b>

### **5.3 MAG AREA FEDERAL TRANSPORTATION FUNDS**

In addition to the half-cent sales tax revenues and ADOT funding, Federal transportation funding directed to the MAG region is available for use in implementing projects in the MAG Regional Transportation Plan. These sources are summarized in Table 5-3, which displays actual and forecasted receipts. As displayed in Table 5-3, actual receipts from Federal sources totaled \$727 million through FY 2011. The forecasted revenues for the period FY 2012 through FY 2026 total \$3.7 billion. This forecast is essentially unchanged from that in the 2010 Annual Report for the same period.

Federal funding for transportation has generally been reauthorized every six years. The latest reauthorization, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA/LU), was signed into law in August 2005 and expired in September 2009. Since that time, Congress has maintained Federal transportation funding by means of continuing resolutions and extensions of SAFETEA/LU. The current extension runs through September 30, 2011. Given the growing sentiment toward austerity in Federal programs, the nature and magnitude of future Federal transportation funding, as well as any extensions of SAFETEA/LU, remains uncertain.

#### **5.3.1 Federal Transit (5307) Funds**

These Federal transit formula grants are available to large urban areas to fund bus purchases and other transit capital projects. Purchases made under this program must include a 20 percent local match. It is anticipated that approximately \$760 million will be utilized from this funding source for transit development during FY 2012 through FY 2026. This forecast is 18 percent higher than that presented in the 2010 Annual Report for the same period, due to anticipated adjustments in bus purchase schedules.

#### **5.3.2 Federal Transit (5309) Funds Federal**

Transit 5309 funds are available through discretionary grants from the Federal Transit Administration (FTA), and applications are on a competitive basis. They include grants for bus transit development and “new starts” of Light Rail Transit (LRT) and other high capacity systems. Bus transit development requires a 20 percent local match, while new starts are expected to require a 50 percent local match. These funds are granted at the discretion of the FTA, following a very thorough evaluation process. Over the planning horizon, it is estimated that \$955 million in 5309 funds for bus and rail transit projects will be utilized in the MAG Region, during FY 2012 through FY 2026. This forecast is 24 percent lower than that presented in the 2010 Annual Report for the same period, due in part to lower matching capabilities.

**TABLE 5-3**  
**MAG FEDERAL TRANSPORTATION FUNDS: FY 2006-2026**  
 (Year of Expenditure Dollars in Millions)

Fiscal Year	Transit				MAG STP			MAG CMAQ						Grand Total
	5307	5309	STP-AZ	Total	Fwy/Hwy	Arterial	Total	Fwy/Hwy	Arterial	Transit	Bk/Ped	AQ	Total	
<b>Actual</b>														
<b>2006</b>	9.9	0.0	2.3	12.2	38.1	0.0	38.1	0.0	0.0	0.0	0.0	0.0	0.0	50.3
<b>2007</b>	15.4	2.0	2.0	19.4	42.3	0.0	42.3	0.0	0.0	0.0	0.0	0.0	0.0	61.7
<b>2008</b>	70.8	13.1	0.3	84.2	38.0	0.0	38.0	5.9	11.7	15.0	12.4	9.6	54.6	176.8
<b>2009</b>	25.8	10.5	2.9	39.2	34.4	0.0	34.4	0.0	16.3	17.0	14.7	6.6	54.6	128.2
<b>2010</b>	8.9	0.0	0.0	8.9	39.3	29.1	68.4	29.1	9.3	19.0	5.2	4.0	66.6	143.9
<b>2011</b>	35.6	4.6	2.9	43.1	34.1	41.3	75.4	8.1	4.3	16.7	8.8	10.1	48.0	166.5
<b>Subtotal</b>	<b>166.4</b>	<b>30.2</b>	<b>10.4</b>	<b>207.0</b>	<b>226.2</b>	<b>70.4</b>	<b>296.6</b>	<b>43.1</b>	<b>41.6</b>	<b>67.7</b>	<b>41.1</b>	<b>30.3</b>	<b>223.8</b>	<b>727.4</b>
<b>Forecasted</b>														
<b>2012</b>	31.6	28.5	3.0	63.1	34.1	20.8	54.9	9.5	6.7	17.8	8.5	7.3	49.8	167.8
<b>2013</b>	50.0	43.9	1.6	95.5	34.1	21.7	55.8	9.7	6.8	18.1	8.6	7.4	50.6	201.9
<b>2014</b>	37.0	46.3	2.5	85.8	34.1	22.6	56.7	9.8	6.9	18.4	8.7	7.5	51.3	193.8
<b>2015</b>	46.8	63.5	1.7	112.0	34.1	24.9	59.0	10.4	7.3	19.5	9.2	7.9	54.3	225.3
<b>2016</b>	30.5	49.6	2.7	82.8	12.7	48.1	60.8	10.7	7.5	20.2	9.6	8.2	56.2	199.8
<b>2017</b>	41.8	95.9	2.7	140.4		62.9	62.9	11.1	7.8	20.9	9.9	8.5	58.2	261.5
<b>2018</b>	24.6	75.0	2.8	102.4		65.1	65.1	11.5	8.1	21.6	10.2	8.8	60.2	227.7
<b>2019</b>	57.3	85.0	2.9	145.2		67.4	67.4	11.9	8.4	22.4	10.6	9.1	62.4	275.0
<b>2020</b>	76.8	92.0	3.0	171.8		69.8	69.8	12.3	8.6	23.2	11.0	9.4	64.5	306.1
<b>2021</b>	88.4	94.0	3.1	185.5		72.2	72.2	12.8	9.0	24.0	11.4	9.8	67.0	324.7
<b>2022</b>	57.3	77.0	3.2	137.5		74.7	74.7	13.2	9.3	24.8	11.8	10.1	69.2	281.4
<b>2023</b>	53.4	42.0	3.3	98.7		77.3	77.3	13.7	9.6	25.7	12.2	10.4	71.6	247.6
<b>2024</b>	51.4	58.7	3.4	113.5		80.0	80.0	14.1	9.9	26.6	12.6	10.8	74.0	267.5
<b>2025</b>	63.9	63.9	3.5	131.3		82.9	82.9	14.6	10.3	27.5	13.0	11.2	76.6	290.8
<b>2026</b>	49.1	39.6	3.6	92.3		85.8	85.8	15.2	10.6	28.5	13.5	11.6	79.4	257.5
<b>Subtotal</b>	<b>759.9</b>	<b>954.9</b>	<b>43.0</b>	<b>1,757.8</b>	<b>149.1</b>	<b>876.2</b>	<b>1,025.3</b>	<b>180.5</b>	<b>126.8</b>	<b>339.2</b>	<b>160.8</b>	<b>138.0</b>	<b>945.3</b>	<b>3,728.4</b>
<b>Total</b>														
<b>Totals</b>	<b>926.3</b>	<b>985.1</b>	<b>53.4</b>	<b>1,964.8</b>	<b>375.3</b>	<b>946.6</b>	<b>1,321.9</b>	<b>223.6</b>	<b>168.4</b>	<b>406.9</b>	<b>201.9</b>	<b>168.3</b>	<b>1,169.1</b>	<b>4,455.8</b>

Note: Figures represent use of federal funds in life cycle programs.

### **5.3.3 Federal Highway (MAG STP) Funds**

MAG Surface Transportation Funds (STP) are the most flexible Federal transportation funds and may be used for highways, transit or streets. During the period from FY 2012 through FY 2026, it is estimated that \$1.0 billion will be available from STP funds. Of this amount, approximately \$34 million per year has been allocated through FY 2015 to retire debt related to the completion of the Proposition 300 program, and the remainder is dedicated to the RTP arterial program. This funding level is unchanged from the 2010 Annual Report estimate.

### **5.3.4 Federal Highway (MAG CMAQ) Funds**

MAG Congestion Mitigation and Air Quality (CMAQ) funds are available for projects that improve air quality in areas that do not meet clean air standards (“non-attainment” areas). Projects may include a wide variety of highway, transit and alternate mode projects that contribute to improved air quality. While they are allocated to the State, Arizona’s funds have been dedicated entirely to the MAG Region, due to the high congestion levels and major air quality issues in the area. MAG CMAQ funds are projected to generate \$945 million from FY 2012 through FY 2026. This funding level is unchanged from the 2010 Annual Report estimate.

## **5.4 STATEWIDE TRANSPORTATION ACCELERATION NEEDS (STAN) ACCOUNT**

During the spring 2006 legislative session, the Arizona Legislature provided \$307 million to accelerate highway projects statewide, of which \$184 million was allocated to the MAG region. On December 13, 2006, the MAG Regional Council approved a set of projects to be funded with these monies. In January 2009, any remaining STAN monies were used by the Legislature to help balance the FY 2009 State Budget. As a result, only \$121 million in STAN funding was applied to projects in the MAG area. Subsequently, in the spring of 2009, certain projects that would have been funded by STAN monies on I-10 and I-17 were re-accelerated, as a result of funding from the American Recovery and Reinvestment Act.

## **5.5 AMERICAN RECOVERY AND REINVESTMENT ACT**

The American Recovery and Reinvestment Act (ARRA) was signed by President Obama on February 17, 2009 and contains a national highway infrastructure component that provides approximately \$350 million to the Arizona Department of Transportation (ADOT) for highway infrastructure improvements throughout Arizona. The ADOT Board determined that approximately \$129 million of this

amount would be spent on projects on the State Highway System in the MAG area. On February 25, 2009, the MAG Regional Council approved the projects to utilize these funds.

The ARRA also sub-allocated \$105 million in funding to local jurisdictions in the MAG area for road and street improvements. On March 25, 2009, the MAG Regional Council approved allocation of these funds to MAG jurisdictions on the basis of a minimum allocation of \$500,000, plus an allocation proportional to population. A total of \$12.5 million from this allocation was utilized to provide funding for projects in the Arterial Life Cycle Program (ALCP), freeing up monies that can be applied later in the ALCP for other projects

In addition, the ARRA directed approximately \$66 million in funding to the MAG area for transit projects. On March 25, 2009, the MAG Regional Council approved allocation of these funds to transit projects such as park-and-ride lots, maintenance facilities, transit centers, and bus stop improvements. Approximately \$39.9 million of this funding was utilized in the Transit Life Cycle Program.

## **5.6 REGIONAL REVENUES SUMMARY**

Actual and forecasted regional revenue sources for the MAG RTP between FY 2006 and FY 2026 are summarized in Table 5-4. Actual receipts from all regional revenue sources through FY 2011 totaled \$4.4 billion. Future regional revenues are projected to total \$15.6 billion for the period FY 2012 through FY 2026. Total revenues for the period FY 2006 through FY 2026 amount to \$19.9 billion, which is 11.6 percent lower than the estimate in the 2010 Annual Report for this period.

In addition to the funding sources listed in Table 5-4, bonding and other debt financing assumptions, as well as allowances for inflation, are applied in each modal life cycle program. These amounts are listed in the respective modal chapters (see Chapters Six, Seven and Eight).

**TABLE 5-4**  
**REGIONAL REVENUES SUMMARY**  
 (Year of Expenditure Dollars in Millions)

Sources	FY 2006 - 2011 Actual	FY 2012 - 2026 Forecast	Total
Proposition 400: Half Cent Sales Tax Extension	1,858.2	7,036.8	8,895.0
ADOT Funds	1,557.6	4,838.6	6,396.2
American Recovery and Reinvestment Act (Freeways) *	129.0	0.0	129.0
American Recovery and Reinvestment Act (Arterials) **	12.5	0.0	12.5
American Recovery and Reinvestment Act (Transit) ***	39.9	0.0	39.9
Statewide Transportation Acceleration Needs (STAN)	120.9	0.0	120.9
Federal Transit (5307 Funds)	166.4	759.9	926.3
Federal Transit (5309 Funds)	30.2	954.9	985.1
Federal Highway (STP-AZ)	10.4	43.0	53.4
Federal Highway (MAG STP)	296.6	1,025.3	1,321.9
Federal Highway (MAG CMAQ)	223.8	945.3	1,169.1
<b>Total</b>	<b>4,445.5</b>	<b>15,603.8</b>	<b>20,049.3</b>

\* Represents amount applied to FLCP projects only.

\*\* Represents amount applied to ALCP projects only.

\*\*\* Represents amount applied to TLCP projects only.

## **CHAPTER SIX**

### **FREEWAY/HIGHWAY LIFE CYCLE PROGRAM**

The Freeway/Highway Life Cycle Program (FLCP) extends through FY 2026 and is maintained by the Arizona Department of Transportation (ADOT) to implement freeway/highway projects identified in the MAG Regional Transportation Plan (RTP). The program utilizes funding from the Proposition 400 half-cent sales tax extension, as well as funding from State and Federal revenue sources.

Lower revenue forecasts produced during FY 2011 have resulted in a recurrence of an imbalance between costs and revenues through FY 2026 in the FLCP. MAG and ADOT are jointly working on measures to reestablish a balanced FLCP, and it is anticipated that these efforts will produce a balanced program in the fall of 2011. The 2011 Annual Report reflects costs, revenues, and schedule conditions prior to any revisions or adjustments that may result from the ongoing review of the FLCP.

#### **6.1 STATUS OF FREEWAY/HIGHWAY PROJECTS**

The Freeway/Highway Life Cycle Program includes 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 existing and future system are addressed. Figure 6-1, as well as appendix Tables A-1 through A-7, provide information on the locations and costs associated with Freeway/Highway Life Cycle projects. The projects depicted in Figure 6-1 are cross-referenced with the data in the tables by the code associated with each project. In the following discussion of project status, the following abbreviations are used:

- DCR: Design Concept Report
- EIS: Environmental Impact Statement
- EA: Environmental Assessment
- CE: Categorical Exclusion

##### **6.1.1 New Corridors**

SR 153 (Sky Harbor Expressway):

On July 25, 2007, the MAG Regional Council deleted SR 153/Sky Harbor Expressway from the RTP, and shifted the funding to improvements on SR 143/

Figure 6-1



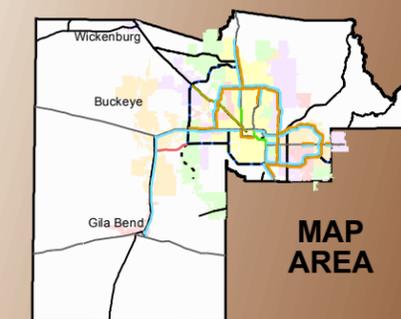
MAG 2011 Annual Report  
on Proposition 400

Freeways/Highways

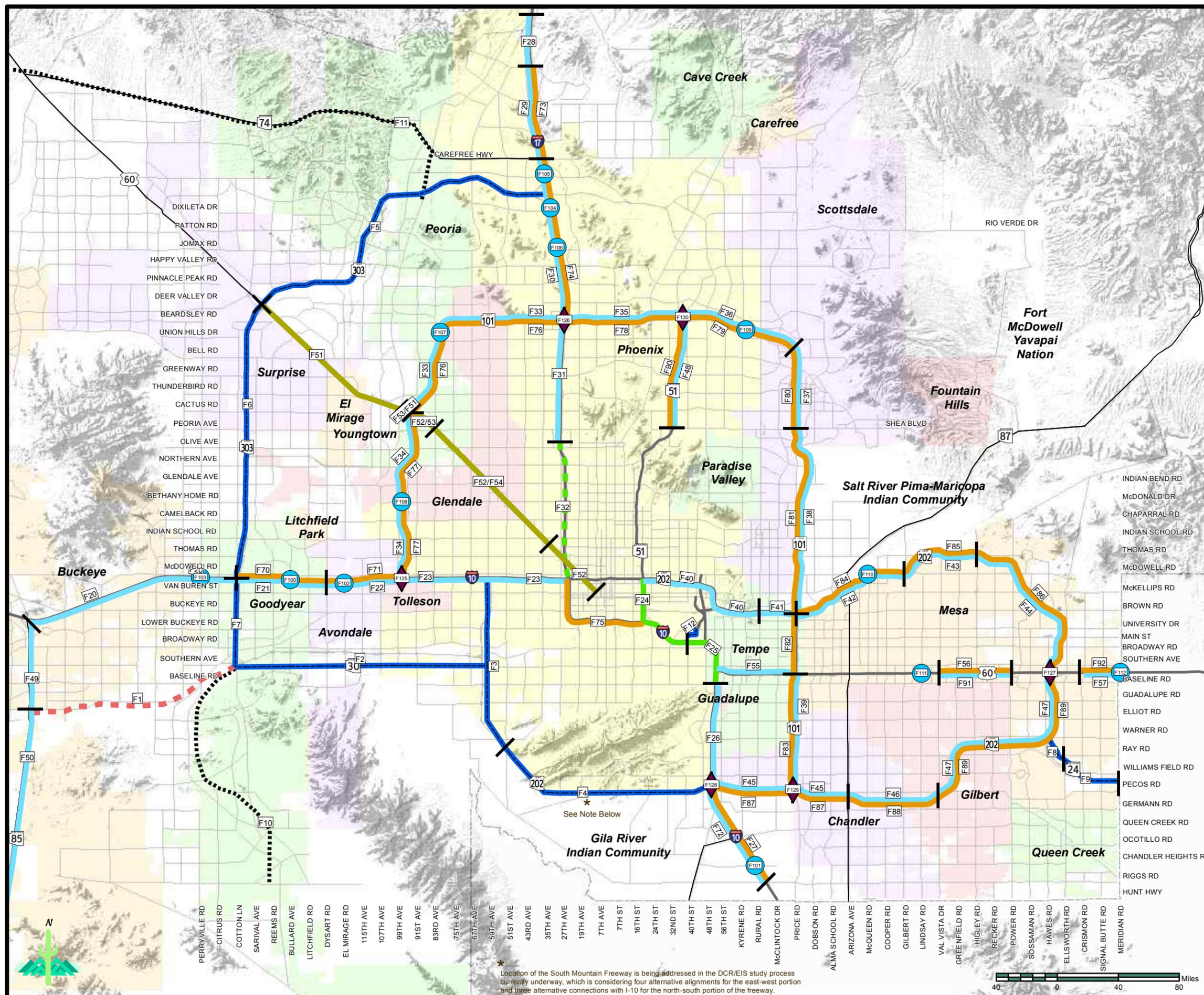
- New Traffic Interchange
- New High Occupancy Vehicle Ramp Connection
- New Freeway/Highway Construction
- New General Purpose Lanes
- New High Occupancy Vehicle Lanes
- Grand Avenue Corridor Improvements
- Corridor Capacity Improvements
- Long Term Capacity Improvements
- Interim Corridor Development
- Right of Way Preservation
- Existing Freeway
- Project Segment Separators
- Highways
- Other Roads
- County Boundary

Alignments for new freeway, highway, arterial, and light rail/high capacity transit facilities will be determined following the completion of appropriate design and environmental studies.

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Hohokam Expressway. This action was taken in accordance with the requirements of Arizona Revised Statute (A.R.S.) 28-6353 and met applicable Federal air quality conformity requirements. In October 2007, the State Transportation Board approved deleting SR 153 from the Arizona State Highway System and transferring the facility to the City of Phoenix.

#### Loop 202 (South Mountain Freeway):

- Overview - The South Mountain Freeway is planned as a freeway loop facility south of the central area of the region, connecting the western terminus of the Santan Freeway in the East Valley with I-10 at 59<sup>th</sup> Ave. in the West Valley. It is planned for three general purpose lanes and one HOV lane in each direction.
- DCR/EIS - A DCR/EIS is currently progressing for the South Mountain Freeway corridor. Completion and approval of a final EIS and Design Concept Report, as well as a U.S. Department of Transportation "Record-of-Decision" on the recommended alternative for the corridor, are anticipated sometime during calendar year 2013. An Administrative Draft EIS is under internal review. ADOT and MAG continue to work with the Gila River Indian Community (GRIC) regarding the possibility of locating a portion of the corridor on the GRIC. The concept was presented to the Community in the fall of 2010 and ADOT and MAG are currently awaiting a response.
- 51<sup>st</sup> Ave. to I-10 - The portion of the roadway alignment that was on 55<sup>th</sup> Ave. has been shifted to fall on 59<sup>th</sup> Ave.
- Cost Estimate - In the 2009 Annual Report, the estimated total cost for the South Mountain Freeway was increased to \$2.5 billion from the \$1.1 billion estimate shown in the 2008 Annual Report. In the 2010 Annual report, the estimate was lowered to \$1.9 billion, as a result of value engineering and decreasing construction and right-of-way costs. An estimate of \$1.9 billion has been retained in the 2011 Annual Report.

#### Loop 303 (Estrella Freeway):

- Overview - Loop 303 is planned as a six-lane freeway facility extending west from I-17 at Lone Mountain Rd., swinging southwest to Grand Ave., running south in the vicinity of Cotton Lane to I-10, and then to SR 30. Right-of-way preservation south to Riggs Rd. is also part of the plan.
- I-17 to Happy Valley Rd. - Construction has been completed on an interim four-lane divided roadway, which was opened to traffic in May of 2011. Construction of a six-lane freeway is currently programmed for FY 2019-2021.

- Happy Valley Rd. to Grand Ave. - An interim four-lane divided roadway was completed between Grand Ave. and Happy Valley Rd. by Maricopa County in 2004, and full freeway right-of-way was also acquired along most of this segment. A DCR/CE was completed in April 2010, covering construction of a full freeway facility in the corridor. Preliminary design is underway and is expected to be complete in early 2012. Construction of a six-lane freeway is currently programmed for FY 2019-2021.
- Grand Ave. to I-10 - An interim two-lane roadway was constructed in the 1990's by ADOT. A DCR/EA on the segment for construction of a freeway facility has been completed, and a "Finding of No Significant Impact" issued.

Construction of crossroad improvements in anticipation of future T.I.s at Bell Road., Waddell Road. and Cactus Road was completed in May 2011. Construction on the system T.I. at I-10 is scheduled to start in late-2011, along with the segment from Peoria Ave. to Mountain View Blvd. The construction of the remaining segments between Grand Ave. and I-10 is programmed for FY 2012-2014.

- Grand Ave. Interchange – Preliminary design of an interim interchange at Loop 303 and Grand Ave. was completed in spring 2011. Final design, using the CMAR method of project delivery, is expected to begin in fall 2011. Construction of the interim TI is programmed in FY14.
- I-10 to SR 30 - A DCR/EA is scheduled for completion by December 2012, covering construction of a full freeway facility in the corridor. Construction of this segment was shifted beyond FY 2026 but remains within the FY 2031 planning horizon of the RTP.
- SR 30 to Riggs Rd. - A location DCR and environmental overview are underway for a freeway concept. Right-of-way protection for this segment was shifted beyond FY 2026 but remains within the FY 2031 planning horizon of the RTP.
- Cost Estimate - In the 2009 Annual Report, the estimated total cost for Loop 303 was increased to \$2.8 billion from the \$1.7 billion estimate shown in the 2008 Annual Report. In the 2010 Annual report, the estimate was lowered to \$2.4 billion, as a result of value engineering and decreasing construction and right-of-way costs. An estimate of \$2.3 billion is indicated in the 2011 Annual Report.

#### SR 30 (I-10 Reliever):

- Overview - The I-10 Reliever (SR 30) is planned as an east-west facility south of I-10 in the vicinity of Southern Ave. connecting the South Mountain Freeway (Loop 202) and SR 85. The route is identified as a six-lane freeway

between Loop 202 and Loop 303; and as an arterial roadway, with right-of-way preservation for a future freeway facility, between Loop 303 and SR 85.

Construction of SR 30 has been shifted beyond FY 2026 but remains within the FY 2031 planning horizon of the RTP.

- DCR/EA - DCR/EA's are underway on the segment between Loop 202 and Loop 303, as well as the segment between Loop 303 and SR 85, and are targeted for completion by December 2012.
- Cost Estimate - In the 2009 Annual Report, the estimated total cost for SR 30 was increased to \$1.9 billion from the \$820 million estimate shown in the 2008 Annual Report. In the 2010 Annual report, the estimate was lowered to \$1.6 billion, as a result of value engineering and decreasing construction and right-of-way costs. An estimate of \$1.6 billion has been retained in the 2011 Annual Report.

#### SR 24 (Gateway Freeway):

- Overview - The Gateway Freeway (formerly Williams Gateway) is planned as a six-lane freeway extending from Loop 202 south to the Phoenix-Mesa Gateway Airport, and east to the Pinal County line at Meridian Rd.
- DCR/EA - A DCR and EA between Loop 202 and Idaho Rd. (logical terminus one mile east of Meridian Rd.) have been completed and a Finding of No Significant Impact has been received.
- Loop 202 (Santan) to Ellsworth Rd. - Final design for an interim roadway is underway and construction was programmed in FY 2016; however, the City of Mesa is advancing construction of this segment with an anticipated start date in early 2012. Final construction of this segment has been shifted beyond FY 2026 but remains within the FY 2031 planning horizon of the RTP.
- Ellsworth Rd. to Meridian Rd. - Final construction of this segment has been shifted beyond FY 2026 but remains within the FY 2031 planning horizon of the RTP.
- Cost Estimate - In the 2009 Annual Report, the estimated total cost for SR 24 was increased to \$546 million from the \$355 million estimate shown in the 2008 Annual Report. In the 2010 Annual report, the estimate was lowered to \$484 million, as a result of value engineering and decreasing construction and right-of-way costs. An estimate of \$457 million is indicated in the 2011 Annual Report.

#### Other Right-of-Way Protection on SR 74 and Loop 303 (Buckeye Rd. to Riggs Rd.):

- SR 74 - Funding for right-of-way protection on SR 74 has been shifted beyond FY 2026 but remains within the FY 2031 planning horizon of the RTP.
- Loop 303 (MC 85 to Riggs Rd.) - Funding for right-of-way protection has been shifted beyond FY 2026 but remains within the FY 2031 planning horizon of the RTP.

### **6.1.2 Widen Existing Facilities: General Purpose Lanes and HOV Lanes**

#### I-10:

- Overview - Additional general purpose lanes have been identified for construction along essentially the entire length of I-10, between State Route 85 on the west and Riggs Rd. on the east (no additional lanes are planned between I-17 and SR 51). HOV lanes will also be added along several segments to provide continuous HOV service on I-10, between Loop 303 on the west and Riggs Rd. on the east.
- Verrado Way to Sarival Ave. - Construction of one general purpose lane in each direction between Sarival Ave. and Verrado Way was advertised for bids in March 2009 using ARRA funds. Construction was completed in summer 2011. This segment now has three general purpose lanes in each direction.
- Sarival Ave. to Loop 101 (Agua Fria) - Construction work to add one HOV lane and one general purpose lane in each direction in the median of I-10 was completed in June 2010. The addition of one general purpose lane in each direction along the outside of the facility between Sarival Ave. and Dysart Rd. was completed in summer 2011. This segment now has four general purpose lanes and one HOV lane in each direction.
- Loop 101 (Agua Fria) to I-17 - A DCR/EA is underway on this segment addressing future needs for increased capacity. The approach taken will be contingent on the design and timing of the South Mountain Freeway, as well as the recommendations of the MAG Central Phoenix Framework Study, and will also consider the possibility of a future light rail extension along I-10 in this segment. Construction is programmed in FY 2019.
- SR 51 to 32<sup>nd</sup> St. - Construction of local/express lanes along this segment has been shifted beyond FY 2026, and has been designated as an illustrative project falling beyond the FY 2031 planning horizon of the RTP.
- 32<sup>nd</sup> St. to Loop 202 (Santan) - A DCR/EIS for capacity improvements is scheduled for completion by the end of 2012. Local/express lanes will be constructed along the segment from 32<sup>nd</sup> St. to US 60. One additional general purpose lane in each direction will be added along the segment from

US 60 to Loop 202 (Santan), resulting in four general purpose lanes and one HOV lane in each direction on this portion of I-10. Construction of improvements has been programmed for FY 2013-2015.

- Loop 202 (Santan) to Riggs Rd. - A project to construct one general purpose lane and one HOV lane in each direction between Loop 202 (Santan Freeway) and Riggs Rd. is programmed for FY 2015. Upon completion, this segment will have a total of three general purpose lanes and one HOV lane in each direction.

#### I-17:

- Overview - Construction of additional general purpose lanes has been identified for I-17 between I-10 (Maricopa TI) on the south and New River Rd. on the north. HOV lanes are also being added to fill gaps, and to extend the HOV system along the entire stretch of I-17 from I-10 (Maricopa TI) to Anthem Way.
- DCR/EIS - A DCR/EIS addressing capacity improvements along I-17 between Loop 101 and I-10 (Maricopa TI) is underway, with study completion targeted for early in 2013. This study is being coordinated with the MAG Central Phoenix Framework Study, the I-10 Corridor Improvement Study, and the MAG Managed Lanes Study.
- New River Rd. to Anthem Way - Construction of one general purpose lane in each direction on this segment has been shifted beyond FY 2026 but remains within the FY 2031 planning horizon of the RTP. Upon completion, this segment will have a total of three general purpose lanes lane in each direction. In 2006, ADOT completed a DCR to construct additional lanes from Loop 101 to Black Canyon City, as well as an EA for additional lanes between Loop 101 and New river Road. The New River Road to Anthem Way project, and the following two projects, were initiated as a result of that study.
- Anthem Way to Carefree Highway - The addition of one general purpose lane in each direction was completed in May 2010 for a total of three general purpose lanes in each direction. A project to convert the pavement to concrete and add one HOV lane in each direction has been shifted beyond FY 2026 but remains within the FY 2031 planning horizon of the RTP.
- Carefree Highway to Loop 101 (Agua Fria) - Construction work was completed in May 2010 to add one general purpose lane and one HOV lane in each direction. With completion of this project, this segment has three general purpose lanes and one HOV lane in each direction. The interval between Pinnacle Peak Rd. and Loop 101 includes additional lanes for exiting/merging traffic to/from Loop 101.

- Loop 101 (Agua Fria) to Arizona Canal - The construction of one additional general purpose lane in each direction is programmed for FY 2015, which will result in a total of four general purpose lanes and one HOV lane in each direction along this segment.
- Arizona Canal to I-10 (Maricopa TI) - Capacity improvements generally resulting in a total of four general purpose lanes and one HOV lane in each direction along this segment are programmed for FY 2022-2025.

SR 51 (Piestewa Freeway):

- Overview - Construction of additional general purpose lanes and HOV lanes has been identified for the stretch of SR 51 between Shea Boulevard and Loop 101.
- Loop 101 to Shea Blvd. - The project to construct the HOV lanes, including ramps at the system interchange between SR 51 and Loop 101, has been completed and was opened to traffic in January 2009, resulting in a cross section of three general purpose lanes and one HOV lane in each direction. The project to construct one additional general purpose lane in each direction has been shifted beyond FY 2026 but remains within the FY 2031 planning horizon of the RTP.

US 60 (Grand Ave.):

- Overview - A series of improvement projects have been identified for construction along various segments of Grand Ave. between Loop 303 and McDowell Rd., including the addition of general purpose lanes, grade separations and other improvements. With completion of the projects between Loop 303 and 83<sup>rd</sup> Ave., described below, Grand Avenue is now six lanes from Van Buren Street in Phoenix to Loop 303 in Surprise.
- Loop 303 to 99<sup>th</sup> Ave. - A project to widen Grand Ave. to six lanes between Loop 303 and 99<sup>th</sup> Ave. was completed in June 2011. A feasibility study on potential grade separation projects on Grand Ave. between Loop 303 and Loop 101 was completed in January 2009 and funding for construction is programmed in FY 2016.
- 99<sup>th</sup> Ave. to 83<sup>rd</sup> Ave. - A project to widen Grand Ave. to six lanes between 99<sup>th</sup> Ave. and 83<sup>rd</sup> Ave. was completed in June 2011.
- Loop 101 to McDowell Rd. - A DCR/CE for roadway improvement projects between Loop 101 and McDowell Rd. was completed in October 2008, and design work is underway. It is anticipated that a request for bids to construct these improvements will be advertised in January 2012. Funding for additional roadway improvements along this segment has been programmed

in FY 2014. Potential grade separation projects identified for this segment have been shifted beyond FY 2026 but remain within the FY 2031 planning horizon of the RTP

#### US 60 (Superstition Freeway):

- Overview - Widening projects have been identified for construction along several segments of the Superstition Freeway, providing a combination of additional general purpose and HOV lanes. These projects will increase general purpose lane capacity along certain segments and provide continuous HOV lane service between I-10 and Meridian Rd.
- I-10 to Loop 101 - Construction of one additional general purpose lane in each direction was completed in May 2010, resulting in a cross-section of four general purpose lanes and one HOV lane in each direction along this segment.
- Gilbert Rd. to Power Rd. - Construction work on the addition of both general purpose and HOV lanes from Gilbert Rd. to Power Rd. was completed and was opened in June 2007. As a result, the entire segment of the Superstition Freeway between Loop 101 and Loop 202 has five general purpose lanes and one HOV lane in each direction.

#### SR 74:

- Passing Lanes - Projects for the construction of passing lanes along mile-post segment 20-22, and mile-post segment 13-15, were completed in fall 2010 and summer 2011, respectively.

#### SR 85:

- Overview - Plans call for the widening of SR 85 to a four-lane, divided roadway between I-10 and I-8. With the completion of the projects noted below, a four-lane divided roadway has been completed from 2 ½ miles north of Gila Bend to I-10.
- I-10 to Southern Ave. - Construction to provide four lanes between I-10 and Southern Ave. was completed in fall 2010.
- Southern Ave. to MC 85 - Construction of frontage roads between Southern Ave. and MC 85 was completed in May 2008.
- Mile-post 130 to Mile-post 137 - Construction of a four-lane divided roadway between Mile-post 130 and Mile-post 137 was completed in January 2010.

- SR 85/B-8/Maricopa Rd. Intersection - The project includes construction of a new, elevated intersection at State Route 85 (Pima St.) and Business Route 8 (B-8), a wider bridge over the Union Pacific Railroad, and realigning both State Route 85 (Pima St.) and Maricopa Road. Construction began in February 2011 and is expected to be complete in late 2012.

#### SR 87:

- Overview - Since identification of the original concepts for corridors in the RTP, projects were added on SR 87 to refine roadway cross-section and provide for turning movements at a high volume recreational location.
- Mile-post 211.8 to Mile-post 213.0 - A project for erosion control and shoulder improvements along this segment has been combined with the project between New Four Peaks Rd. to Dos S Ranch Rd. (see below)
- Forest Boundary to New Four Peaks - A project for improvements between Forest Boundary and New Four Peaks Rd., including an interchange at Bush Hwy., was completed in late 2008.
- New Four Peaks Rd. to Dos S Ranch Rd. – Reconstruction of the southbound lanes, construction of a climbing lane and shoulder widening between New Four Peaks Rd. and Dos S Ranch Rd. were completed in May 2011. This project includes the improvements between MP 211.8 and MP 213.0; this work is anticipated to be completed in summer 2011

#### US 93 (Wickenburg Bypass):

- A bypass of the downtown Wickenburg was completed September 2009.

#### Loop 101:

- Overview - Additional general purpose lanes and HOV lanes have been identified for construction along most of the length of Loop 101 (the Agua Fria, Pima, and Price Freeways). Only additional HOV lanes are planned between the Red Mountain Freeway and Baseline Rd.
- Van Buren Rd. to I-10 (99<sup>th</sup> Ave.) - A project to provide improvements along 99<sup>th</sup> Ave. between I-10 and Van Buren Rd. at the southern terminus of Loop 101/Agua Fria was completed in spring 2011.
- I-10 to Tatum Blvd. - A project to construct one HOV lane in each direction from I-10 (Papago) to Tatum Blvd. was advanced into FY 2010. This project combined three HOV segments originally identified for construction between FY 2013 to FY 2015 into a single design/build project. The construction of this 30-mile segment, which includes a general-purpose lane in each direction

at the I-17 TI, started early in 2011 and is expected to be complete in fall 2011. This will complete the installation of HOV lanes on Loop 101 from the Papago Freeway in west Phoenix to the Santan Freeway in Chandler. Installation of freeway management system equipment on the Pima Freeway between I-17 and SR 51 was completed in January 2010.

- Tatum Blvd. to Princess Dr. - Construction of HOV lanes from Tatum Boulevard to Princess Dr. on the Pima Freeway was completed in August 2009.
- Princess Dr. to Loop 202 (Red Mountain Freeway) - The construction of HOV lanes on the Pima Freeway between Princess Dr. and Via De Ventura was completed in June 2009. HOV lanes between Via De Ventura and Loop 202/Red Mountain were completed in November 2008. In addition, a DCR/CE for general purpose lanes on the Pima Freeway between Princess Dr. and Loop 202 was completed in summer 2010. The Categorical Exclusion was granted by FHWA on the project in May 2010. Preliminary design of the GP lanes between Shea Blvd. and Red Mountain Freeway is underway and final design is expected to begin in early 2012. Funding for construction of this segment is programmed in FY 2014.
- Loop 202 (Red Mountain Freeway) to Loop 202 (Santan Freeway) - On the Price Freeway, HOV lanes were completed between Loop 202/Red Mountain and Loop 202/Santan in October 2009.

#### Loop 202:

- Overview - Construction of additional general purpose and HOV lanes has been identified along essentially the entire length of Loop 202 (Red Mountain and Santan Freeways). The segment of the Red Mountain Freeway from SR 51 to Loop 101 had HOV lanes prior to Proposition 400.
- SR 51 to Loop 101 -. Construction of a project to widen the Red Mountain Freeway between State Route 51 and Loop 101 was completed through a design/build contract in July 2010. This project added one general purpose lane eastbound between SR 51 and Loop 101, and one general purpose lane westbound between Loop 101 and Scottsdale Rd.
- Loop 101 to Gilbert Rd (on Red Mt. Fwy.) - Construction was completed on one HOV lane in each direction on the Red Mountain Freeway between 101 and Gilbert Rd. in July 2010. A DCR/CE to construct one additional general purpose lane in each direction in this segment is underway, with completion expected in early 2012. Construction is programmed in FY2015.
- Gilbert Rd. to I-10 (on Santan Fwy.) - A project to construct one HOV lane in each direction from Gilbert Rd. to I-10 on the Santan Freeway was advanced

into FY 2010. This project combined two HOV segments originally identified for construction between FY 2013 to FY 2015 into a single design/build project. The project is underway and anticipated to be completed in fall 2011. This project includes construction of direct HOV ramp connections at the freeway-to-freeway interchanges with Loop 101 and I-10.

- Gilbert Rd. (at Red Mt. Fwy.) to Gilbert Rd. (at Santan Fwy.) - A DCR/CE HOV lanes on the remainder of Loop 202 between Gilbert Rd. (at Red Mt. Fwy.) and Gilbert Rd. (at Santan Fwy.) was completed in August 2010. A Categorical Exclusion was granted by FHWA on the project in April 2010.

### **6.1.3 New Interchanges and New HOV Ramps on Existing Facilities**

#### New Interchanges at Arterial Streets:

- Overview - The RTP identifies a total of thirteen new traffic interchanges (T.I.s) to be constructed on existing freeways at arterial street crossings. These projects are located along most of the major segments of the regional freeway system, including I-10, I-17, Loop 101, Loop 202, and US 60 (Superstition Freeway).
- Bullard Rd. - A new traffic interchange at I-10 was completed in FY 2008.
- Bethany Home Rd. - A new traffic interchange at Loop 101 (Agua Fria Freeway) was completed in FY 2008.
- Jomax Rd./Dilxileta Dr. - New traffic interchanges at I-17 were opened to traffic in September 2008.
- SR 74/Carefree Hwy. - The reconstruction of the T.I. at I-17 was completed and opened to traffic in October 2008.
- 64<sup>th</sup> St. - The construction of a new traffic interchange at Loop 101(Pima Freeway) was completed in October 2008.
- Dove Valley Rd./Sonoran Blvd. - A new traffic interchange at I-17 was completed in January 2010.
- Beardsley/Union Hills T.I. - The widening of the Union Hills traffic interchange bridge at Loop 101 was accelerated from FY 2012 to FY 2009, allowing the project to be constructed concurrently with a project for a Beardsley Rd. connector with Loop 101. Construction was completed in May 2011.
- Perryville Rd. - A DCR/CE is underway for a new T.I. at I-10 and is expected to be complete in late 2011. Funding for construction is programmed in FY 2013. This project is anticipated to be constructed as a design-build project.

- El Mirage Rd. - Funding for construction of a new T.I. at I-10 is programmed in FY 2023.
- Chandler Hts. Rd. - Funding for construction of a new T.I. at I-10 is programmed in FY 2022.
- Mesa Dr. - Funding for construction of ramps only at Loop 202 (Red Mountain Freeway) was moved beyond FY 2026 and is included in FY 2030 in the RTP.
- Lindsey Rd. - Funding for construction of ramps only (half interchange) at US 60 was moved beyond FY 2026 to FY 2027 in the RTP.
- Meridian Rd. - Funding for construction of a half interchange at US 60 is programmed in FY 2013. A DCR/CE will be initiated in summer 2011.

New HOV Ramps at Existing Freeway-to-Freeway Interchanges:

- Overview - The RTP identifies a total of six locations at freeway-to-freeway interchanges on existing freeways where HOV ramps (DHOV ramps) will be constructed to provide a direct connection through the interchange. These projects are located at major connections among components of the Regional Freeway System, including I-10, I-17, Loop 101, Loop 202, US 60 (Superstition Freeway) and SR 51.
- I-10/Loop 101 (Agua Fria Freeway) - DHOV ramps at this location were moved beyond the horizon year of the RTP and included in the Plan as illustrative projects.
- I-17/Loop 101 (Pima Freeway) - DHOV ramps at this location were moved beyond the horizon year of the RTP and included in the Plan as illustrative projects.
- SR 51/Loop 101 (Pima Freeway) - Construction of DHOV ramps (northbound to eastbound and westbound to southbound) at this location was programmed in FY 2007 as part of the addition of HOV lanes on SR 51 and completed in January 2009.
- US 60/Loop 202 (Red Mountain Freeway) - Construction of DHOV ramps at this location was moved beyond FY 2026 and is included in FY 2029 in the RTP.
- Loop 101 (Price Freeway)/Loop 202 (Santan Freeway) - Construction of DHOV ramps at this location was combined with the HOV project on Loop 202 between Gilbert Rd. and I-10, which is underway and anticipated to be completed in fall 2011.

- I-10/Loop 202 (Santan Freeway) - Construction of DHOV ramps at this location was combined with the HOV project on Loop 202 between Gilbert Rd. and I-10, which is underway and anticipated to be completed in fall 2011.

Other Interchange Improvements:

- SR 143 - A total of \$37 million has been programmed in FY 2009 and FY 2010 for the design and construction of improvements to the interchange between SR 143 and the Loop 202 access road to Sky Harbor Airport. Construction began in December 2010 and is anticipated to be completed in early 2012.
- I-10 (West side airport access) - Construction of a project for improved access to the west entrance to Sky Harbor Airport from I-10 has been programmed for FY 2015.
- Other Interchanges - The Freeway Life Cycle Program also funds improvements at certain other existing traffic interchanges. Work has been completed at:

Higley Rd./US 60 (FY 2006)	Ray Rd./I-10 (FY 2008)
Carefree Hwy./I-17 (FY 2009)	43 <sup>rd</sup> Ave./I-10 (FY 2008)
SR 347/I-10 (FY 2008)	Cactus Rd./I-17 (FY 2008)
Thunderbird Rd./Loop 101 (FY 2010)	Avondale Blvd./I-10 (FY2011)
Chaparral Rd./Loop 101 (FY2011)	Olive Ave./Loop 101 (FY 2011)

#### **6.1.4 Maintenance, Operations and Mitigation Programs**

Noise Mitigation:

- A block of funding has been identified for noise mitigation projects on the freeway system in the MAG area. This funding has been used for mitigation projects such as rubberized asphalt overlays and noise walls.
- Approximately \$52 million of this funding has been expended for rubberized asphalt on freeway facilities, and \$26 million has been allocated to noise wall projects. A list of noise wall projects was developed for use of these funds and approved by the Regional Council in 2008. The MAG Supplemental Noise Wall project was advertised for bids in January 2011 and construction is underway, with completion expected in mid-2012.

#### **6.1.5 System-wide Preliminary Engineering, Advance Right-of-Way Acquisition, Property Management/Plans and Titles, and Risk Management**

- The overall highway development process involves a number of steps that are necessary to prepare projects for eventual construction. Key elements of the development process include: (1) Preliminary Engineering - preparation of preliminary plans defining facility design concepts, right-of-way requirements and environmental factors; (2) Advance Right-of-Way Acquisition - acquisition of right-of-way to respond to development pressures in a corridor; (3) Property Management/Plans and Titles - procedures to acquire property and manage it until needed for construction; and (4) Risk Management - programs to minimize risk of litigation.
- It is estimated that future costs for system-wide projects and programs will total approximately \$361 million for FY 2012-2026.

### **6.1.6 Proposition 300 - Regional Freeway Program**

- The Proposition 300/Regional Freeway Program was drawn to a close with the opening of the freeway segment between University Dr. and Power Rd. on the Red Mountain Freeway on July 21, 2008.
- Although sales tax collections for Proposition 300 ended on December 31, 2005, work utilizing State and Federal funding sources continued through FY 2008 to complete the last segment of the program. In addition, certain debt service requirements and other financial obligations for the program continue through FY 2026. These obligations have been taken fully into account in the planning process for the current Freeway/Highway Life Cycle Program, so that there are no conflicting demands on revenues.

## **6.2 FREEWAY/HIGHWAY PROGRAM CHANGES**

Arizona Revised Statute 28-6353 requires that MAG approve any change in the RTP, and projects funded in the RTP that affect the agency's transportation improvement program, including priorities. In addition, requests for changes to transportation projects funded in the RTP that would materially increase costs must be submitted to MAG for approval.

### **6.2.1 Program Cost Changes**

Generally, material cost increases that affect projects programmed in the current fiscal year are approved individually prior to the projects going to bid. According to the MAG Material Cost Change Policy, a material cost change is defined as: "An increase in the cost of a project that is more than five (5) percent of the adopted budget, but not less than \$500,000, or any increase greater than \$2.5 million."

Due to increased competition in the contracting industry, as well as the reevaluation of project designs, project phasing, and right-of-way estimates, cost

increases were largely offset by cost decreases in FY 2011. A detailed accounting of project component changes may be obtained by reviewing actions to amend the FY 2011 - 2015 MAG Transportation Improvement Program.

In order to present a more general view of cost trends, Table 6-1 was prepared to

**TABLE 6-1**  
**SIGNIFICANT FREEWAY/HIGHWAY PROJECT**  
**COST AND SCHEDULE CHANGES**  
**(2011 and Year of Expenditure Dollars in Millions)**

Route	Project	FY Programmed for Final Construction		Estimated Total Costs		
		From	To	From	To	Change
10	SR 85 to Loop 303 (GP Lanes)	2009/2027	2009/2028			
10	Loop 303 to Loop 101 (GP/HOV Lanes)			147.3	144.8	(2.5)
10	32nd Street to Loop 202/Santan (GP/HOV Lanes)			698.1	686.6	(11.5)
17	Bethany Home Rd. - Northern Ave., Alhambra District (Construction)	2010	2011			
24	Loop 202 to Ellsworth Road (New Frwy.)	2016/2027	2012/2027	265.7	240.1	(25.6)
74	Right-of-Way Protection for SR 74 (US 60 to Loop 303)	2025	2030			
60 S	Gilbert Rd. to Power Road (GP/HOV Lanes)			90.7	87.7	(3.0)
85	I-10 to I-8 (GP Lanes)			198.4	180.1	(18.3)
87	New Four Peaks Road - Dos S South Ranch Road (GP)			20.8	15.1	(5.7)
101 AF	I-10 to SR-51 (HOV Lanes)			148.5	112.2	(36.3)
143	Sky Harbor Blvd. T.I.	2010	2011	38.9	24.5	(14.4)
202 SAN	I-10 to Gilbert Road			142.0	108.1	(33.9)
202 SAN	Lindsey Rd. to Gilbert Rd., Multi-Use Path	2011	2012			
202 SM	I-10 (West) to 51st Avenue (New Frwy.)			1,092.2	1,042.6	(49.6)
203 SM	51st Avenue to Loop 202/I-10 (New Frwy.)	2017	2020	827.6	877.2	49.6
303	US 60 (Grand Avenue) to I-10 (New Frwy.)			1,471.3	1,384.2	(87.1)
303	I-10 to I-10R/MC 85 (New Frwy.)			336.0	331.0	(5.0)
	Noise Mitigation (noise walls and quiet pavement).			228.1	218.7	(9.4)
					TOTAL	(252.7)

provide an overview of significant changes in total project cost estimates between the 2010 and 2011 Annual Reports. As indicated in this table, the major trend was for decreasing cost estimates, with these reductions totaling approximately \$253.

It should be noted that Table 6-1 is not comprehensive in its coverage of program changes and is not designed to provide a financial accounting reconciliation between totals reported in past and the current Annual Report. In addition, all compensating cost increases and decreases, as well as project limits restructuring, are not accounted for in their entirety. The table is primarily

intended to alert decision-makers and the public to significant cost trends and schedule changes affecting projects included in the Life Cycle Program.

### **6.2.2 Project Advancements**

On September 22, 2010, the MAG Regional Council approved amendment of the Regional Transportation Plan – 2010 Update to advance the construction of the Gateway Freeway (Santan Freeway to Ellsworth Road) from FY 2016 to FY 2012. To advance the construction, the City of Mesa is issuing Highway Project Advancement Notes, which are secured by the city's excise tax. Since Mesa is issuing the debt, there is no impact in the freeway program's financing capacity.

### **6.2.3 Other Program Changes**

In FY 2010, to achieve cost/revenue balance a number of projects were shifted beyond FY 2026, which is the end of the life cycle program period. However, most of these projects remain in the RTP, which was updated and extended through FY 2031 to comply with Federal planning regulations. Three projects that were originally identified as part of the FLCP were moved beyond the current planning period of the RTP (FY 2011 - 2031) and categorized as illustrative projects. All of these projects are noted in the appropriate appendix tables.

## **6.3 FREEWAY/HIGHWAY PROGRAM EXPENDITURES, ESTIMATED FUTURE COSTS, AND FISCAL STATUS**

### **6.3.1 Program Expenditures and Estimated Future Costs**

Table 6-2 provides a summary of past expenditures, estimated future costs and total costs by major program category for the Freeway/Highway Life Cycle Program. Detailed data on costs at the project level is included in Tables A-1 through A-8 in the Appendix. In the Life Cycle Program, future costs reflect currently available, real dollars estimates as of 2011, but may not have been specifically factored, in every case, to a 2011 base year.

As indicated in Table 6-2, expenditures through FY 2011 equal \$2.3 billion (YOE \$'s) and estimated future costs covering the period FY 2012-2026 amount to \$7.6 billion (2011 \$'s). The total FY 2006-2026 cost for the program is currently estimated to be \$9.9 billion (YOE and 2011 \$'s). As indicated in Appendix A and summarized in Table A-8, the estimated cost for the Life Cycle Program through FY 2031 totals \$13.4 billion (YOE and 2011 \$'s).

### **6.3.2 Future Fiscal Status**

Table 6-3 summarizes the future funding sources and uses for the Freeway/Highway Life Cycle Program between FY 2012 and FY 2026. Sources for the Life Cycle Program between FY 2012 through FY 2026 include the

**TABLE 6-2**  
**FREEWAY/HIGHWAY LIFE CYCLE PROGRAM**  
**SUMMARY OF EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026**  
**(2011 and Year of Expenditure Dollars in Millions)**

Category	Expenditures through FY 2011 (Year of Expenditure Dollars)				Estimated Future Costs: FY 2012 -2026 (2011 Dollars)	Total Cost: FY 2006-2026 (2011 and YOE Dollars)
	Design	Right-of-Way	Construction	Total		
New Corridors	78.0	164.1	202.3	444.4	3,795.6	4,240.0
Widen Existing Facilities: Add General Purpose Lanes	46.9	186.7	794.4	1,028.0	2,242.8	3,270.8
Widen Existing Facilities; Add HOV Lanes	16.2	0.0	293.7	309.9	615.2	925.1
New Interchanges on Existing Facilities: Freeway/Arterial	12.6	9.3	174.7	196.6	140.2	336.8
New HOV Ramps on Existing Facilities: Freeway/Freeway	0.0	0.0	0.0	0.0	0.0	0.0
Maintenance, Operations, Mitigation and Systemwide Programs	168.1	32.9	96.9	297.9	759.1	1,057.0
Other Projects	3.5	0.0	68.6	72.1	34.8	106.9
<b>Total</b>	<b>325.3</b>	<b>393.0</b>	<b>1,630.6</b>	<b>2,348.9</b>	<b>7,587.7</b>	<b>9,936.6</b>

Proposition 400 half-cent sales tax extension (\$4.0 billion); ADOT funds, (\$4.8 billion); Federal highway funds (\$330 million); bond and loan proceeds (\$2.5 billion); and other income (\$71 million). Expenses totaling \$4.6 billion are deducted from these sources, which includes an RTP implementation allowance identified in legislation, estimated future debt service, and repayment of other financing. In addition, an allowance for inflation of \$1.2 billion is deducted. Including a beginning balance of \$1.3 billion, there is a net total of \$7.1 billion (2011 \$'s) for use on freeway and highway projects through FY 2026.

Table 6-3 also lists the estimated future uses identified in the Life Cycle Program for the period covering FY 2012 through FY 2026, which total \$7.6 billion (2011 \$'s). A comparison of these projects costs with the expected revenues indicates an imbalance of approximately \$453 million through FY 2026.

**TABLE 6-3**  
**FREEWAY/HIGHWAY LIFE CYCLE PROGRAM**  
**FUTURE SOURCES AND USES OF FUNDS: FY 2012-2026**  
(2011 and Year of Expenditure Dollars in Millions)

<b>SOURCES OF FUNDS</b>	
<b>Source</b>	<b>Projected Future Funding: FY 2012-2026 (YOE Dollars)</b>
Proposition 400: One-Half Cent Sales Tax Extension	3,954.7
ADOT Funds	4,838.6
MAG CMAQ and STP (Federal Highway)	329.6
American Recovery and Reinvestment Act (ARRA)	0.0
Other Income	71.1
Bond and Loan Proceeds	2,475.0
Plus Beginning Balance	1,334.4
Less Debt Service and Other Expenses	(4,641.1)
Less Inflation Allowance	(1,227.7)
<b>Total (2011 \$'s)</b>	<b>7,134.6</b>
<b>USES OF FUNDS</b>	
<b>Category</b>	<b>Estimated Future Costs: FY 2012-2026 (2011 Dollars)</b>
New Corridors	3,795.6
Widen Existing Facilities: Add General Purpose Lanes	2,242.8
Widen Existing Facilities: Add HOV Lanes	615.2
New Interchanges on Existing Facilities: Freeway/Arterial	140.2
New HOV Ramps on Existing Facilities: Freeway/Freeway	0.0
Maintenance, Operations, Mitigation and Systemwide Programs	759.1
Other Projects	34.8
<b>Total (2011 \$'s)</b>	<b>7,587.7</b>

#### **6.4 FREEWAY/HIGHWAY PROGRAM OUTLOOK**

The 2010 Annual Report indicated that projected costs and revenues for the FLCP through FY 2026 were in balance. The rebalanced program was accomplished through project scope reevaluation, cost estimate adjustments, and schedule revisions made during FY 2010.

During FY 2011, as part of the annual program review process, revenue forecasts were updated and indicated that future revenues would be lower than had been estimated in FY 2010. This has resulted in a recurrence of the imbalance between projected costs and expected revenues in the FLCP, with a deficit of approximately \$453 million through FY 2026. This amounts to about six percent of the projected total expenditures for the period FY 2012-2026. MAG and ADOT are jointly working on measures to reestablish a balanced FLCP, again reviewing factors such as project scopes, cost estimates, and schedule revisions. It is anticipated that these efforts will produce a balanced program in the fall of 2011.

## **CHAPTER SEVEN**

### **ARTERIAL LIFE CYCLE PROGRAM**

The Arterial Life Cycle Program (ALCP) extends through FY 2026 and is maintained by the Maricopa Association of Governments (MAG) to implement arterial street projects identified in the MAG Regional Transportation Plan (RTP). The Program meets the requirements of State legislation calling on MAG to conduct a budget process to ensure the estimated costs of the programmed arterial street improvements do not exceed the total amount of revenues available for these improvements. The FY 2011 ALCP was approved by the MAG Regional Council on July 28, 2010 and has been amended during FY 2011 to reflect project changes and administrative modifications. On June 29, 2011, the MAG Regional Council approved the most recent amendment to the FY 2011 Arterial Life Cycle Program.

The Arterial Life Cycle Program (ALCP) provides MAG with a management tool to administer regional funding for arterial street improvements. The Program receives funding from both the Proposition 400 half-cent sales tax extension and Federal highway programs. Although MAG is charged with the responsibility of administering the overall program, the actual construction of projects is accomplished by local government agencies that provide funding to match regional level revenues.

During FY 2008, 2009 and 2010, actual and forecasted revenues from the Proposition 400 half-cent sales tax extension declined significantly. Section 270 of the ALCP Policies and Procedures, which addresses a deficit in program funding was implemented to maintain the fiscal balance of the program. In FY 2011, the half-cent sales tax revenue forecast was revised, and it was determined that a \$196.5 million reduction in the ALCP through FY 2026 would be necessary. The impacts of this deficit, as well as efforts to maintain the fiscal balance of the ALCP, are discussed in Section 7.3.2.

Figure 7-1, as well as Appendix Tables B-1 and B-2, provides information on the locations and costs associated with Arterial Street Life Cycle projects. The projects depicted in Figure 7-1 are cross-referenced with the data in the tables by the code associated with each project. It should be noted that Tables B-1 and B-2 reflect the FY 2011 ALCP, as adopted on July 28, 2010 and revised through June 30, 2011. The FY 2012 ALCP was not available during preparation of this report, and it is anticipated that the FY 2012 ALCP will be considered for approval in September 2011.

#### **7.1 STATUS OF ARTERIAL PROJECTS**

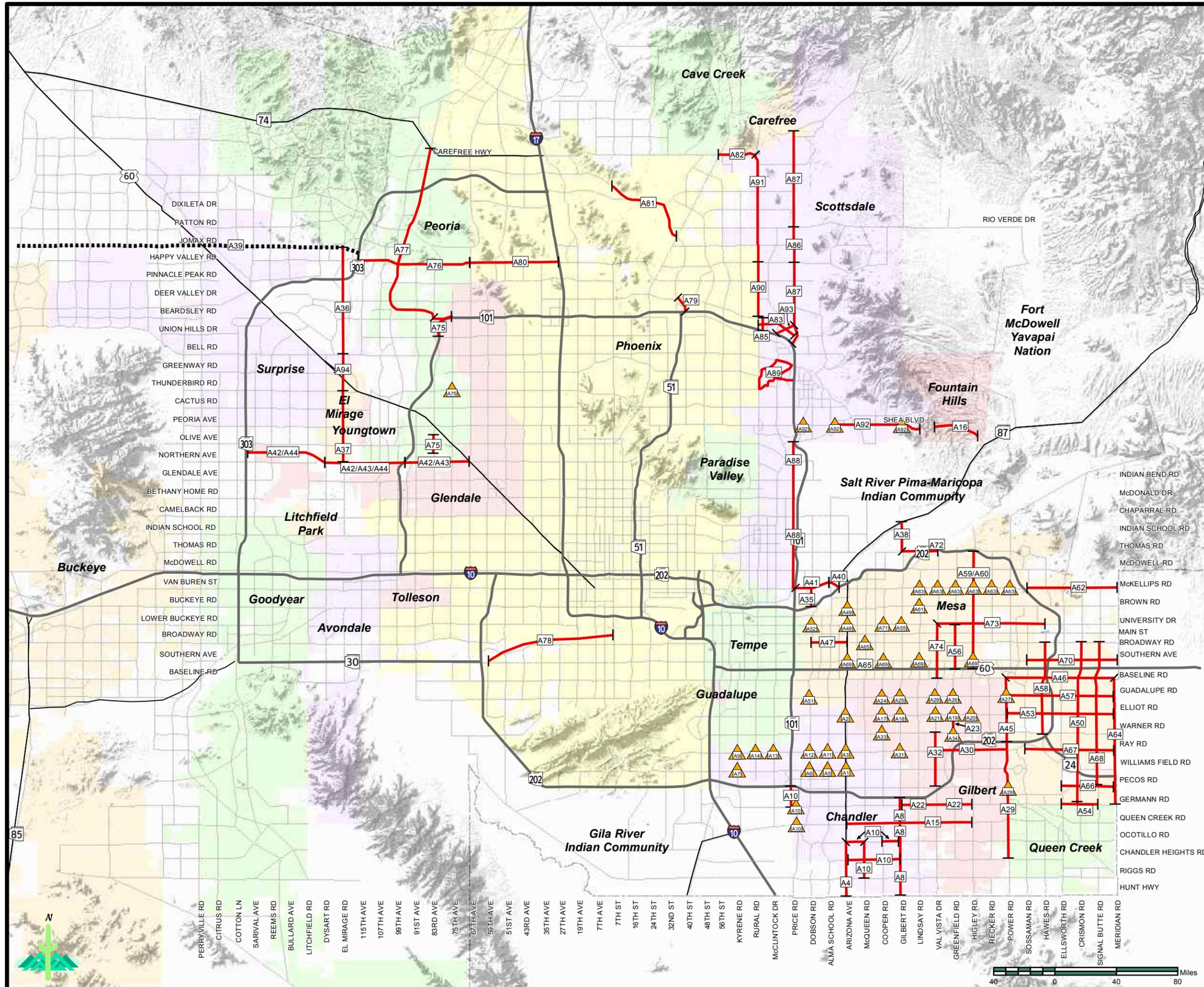
Figure 7-1



MAG 2011 Annual Report  
on Proposition 400

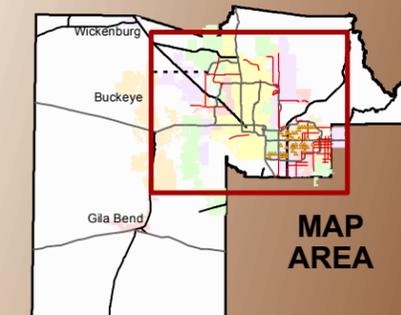
New/Improved  
Arterials

- New/Improved Arterials
- ▲ Improved Intersections
- Right of Way Preservation
- Freeways
- Highways
- Other Roads
- County Boundary



Alignments for new freeway, highway, arterial, and light rail/high capacity transit facilities will be determined following the completion of appropriate design and environmental studies.

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MAP AREA

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The ALCP provides regional funding to widen existing streets, improve intersections, and construct new arterial segments. The program also provides resources for MAG planning studies and implementation of arterial Intelligent Transportation System (ITS) projects. It should be noted that the funding for the construction of arterial improvements is spread throughout the 20-year period covered by the Life Cycle Program.

In certain cases, local governments plan to construct projects sooner than originally scheduled in the Regional Transportation Plan in response to local priorities and development issues. When this occurs, the local jurisdiction implementing the project will be reimbursed according to the original arterial street program schedule identified in the RTP adopted in November 2003, even though construction occurs earlier. In cases when a project is deferred, the reimbursement does not occur until work is completed. Funding swaps among an individual jurisdiction's projects and the allocation of "close-out" funds may alter the reimbursement sequence for certain projects. In some cases, advanced projects will not be reimbursed unless sales tax or other program revenues in the future are higher than currently projected.

The following sections provide an overview of the status of the projects in the FY 2011 Arterial Life Cycle Program (ALCP). In the discussion, emphasis is placed on reviewing work anticipated during the five-year period from FY 2011 through 2015. The five-year period that would normally be considered covers FY 2012 through 2016. However, complete information for this period was not available during preparation of this report, since the FY 2012 ALCP was still under development.

### **7.1.1 Arterial Capacity/Intersection Improvements**

A total of 94 arterial capacity/intersection improvement projects were originally identified in the RTP and included in the Arterial Life Cycle Program. As the engineering process proceeds, the specific types of improvements are defined and detailed designs are prepared. After the detailing of project concepts and phasing, the original 94 projects have been segmented into a total of 204 individually defined projects.

During the period FY 2011 through FY 2015, work will proceed on 87 arterial street project segments. Various stages of work will be conducted on the projects and all segments may not be completed during this period. Arterial street segments that will undergo work (design, right-of-way acquisition, or construction), including projects advanced by local governments from later stages of the program, are listed in Table 7-1. Of the 87 project segments underway between FY 2011 and FY 2015, 61 projects will have design activity in progress, 52 projects will have right-of-way acquisition, and 69 projects will undergo construction at some time during the five-year period. Of these projects, 34 will undergo all three activities; i.e. design, right-of-way acquisition, and construction.

**TABLE 7-1**  
**ARTERIAL STREET PROJECTS UNDERWAY FY 2011 - 2015**

PROJECT/SEGMENT	PROJECT/SEGMENT
75th Avenue at Thunderbird Rd	Northern Parkway: Corridorwide ROW Protection
83rd Avenue: Butler Rd to Mountain View	Northern Parkway: Dysart to 111th
Avenida Rio Salado: 51st Avenue to 7th Street	Northern Parkway: Litchfield Overpass
Baseline Rd: Power Rd to Ellsworth Rd	Northern Parkway: Northern Aven at L101
Black Mountain Blvd: SR-51/Loop 101 to Deer Valley Rd	Northern Parkway: Reems Overpass
Broadway Rd: Dobson Rd to Country Club Dr	Northern Parkway: Sarival Overpass
Carefree Hwy: Cave Creek Rd to Scottsdale Rd	Northern Parkway: Sarival to Dysart
Chandler Blvd at Alma School Rd	Northsight Blvd: Hayden to Frank Lloyd Wright
Chandler Blvd at Dobson Rd	Ocotillo Road: Arizona Avenue to McQueen Road
Country Club Dr at University Dr	Pima Rd: Chaparral Rd to Thomas Rd
Crismon Rd: Broadway to Guadalupe	Pima Rd: Krail to Chaparral Rd
Dobson Rd at Guadalupe Rd	Pima Rd: Thomas Rd to McDowell Rd
Dobson Rd at University Dr	Pima Rd: Via De Ventura to Krail
Dobson Road Bridge over the Salt River	Pima Rd: Via Linda to Via De Ventura
El Mirage Rd: Bell Rd to Deer Valley Drive	Pima Rd: Pinnacle Peak Rd to Happy Valley Rd
El Mirage Rd: Thunderbird Rd to Bell Rd	Pima Rd: Thompson Peak Pkwy to Pinnacle Peak Rd
Elliot Rd at Greenfield Rd	Power Rd: Santan Fwy to Pecos Rd
Elliot Rd at Val Vista Dr	Queen Creek Rd: Greenfield to Higley
Frank Lloyd Wright Frontage Rd	Queen Creek Rd: Lindsay Rd to Greenfield Rd
Frank Lloyd Wright -Loop 101 Traffic Interchange	Raintree -Loop 101 Traffic Interchange
Germann Rd: Gilbert Rd to Val Vista Rd	Ray Rd at Alma School Rd
Germann Rd: Val Vista Dr to Higley	Ray Rd at Dobson Rd
Gilbert Rd: Ocotillo Rd to Chandler Heights	Ray Rd at McClintock Dr
Gilbert Rd: Queen Creek to Ocotillo	Ray Rd: Higley to Recker
Gilbert Rd: Chandler Heights Rd to Hunt Hwy	Ray Rd: Recker to Power
Gilbert Road Bridge over the Salt River	Ray Rd: Val Vista to Higley
Greenfield Rd: Elliot Rd to Ray Rd	Ray Rd: Sossaman Rd to Ellsworth Rd
Greenfield Rd: Southern Ave to University Dr	Redfield Rd: Scottsdale Rd to Hayden
Guadalupe Rd at Cooper Rd	Scottsdale Rd: Pinnacle Peak to Jomax Rd
Guadalupe Rd at Gilbert Rd	Scottsdale Rd: Thompson Peak Pkwy to Pinnacle Peak
Guadalupe Rd: Hawes Rd to Crismon Rd	Shea at 120/124th Streets
Hawes Rd: Santan Fwy to Ray Rd	Shea Blvd - 96th St to 144th St ITS Improvements
Higley Rd Pkwy: US 60 to SR 202L Grade Separations	Shea Blvd at Frank Lloyd Wright Blvd
Lake Pleasant Pkwy: CAP to SR-74/Carefree Hwy	Shea Blvd: Technology Dr to Cereus Wash
Lindsay Rd at Brown Rd	Southern Ave at Country Club Dr
L101 N Frontage Rd: Pima Rd/Princess Dr to Hayden Rd	Southern Ave at Higley Rd
McKellips Rd: Loop 101 to SRP-MIC/Alma School Rd	Southern Ave at Lindsay Rd
McKellips Road Bridge over the Salt River	Southern Ave at Stapley Dr
McQueen Road: Ocotillo Road to Riggs Road	Stapley Dr at University Dr
Meridian Rd: Baseline Rd to Ray	Thunderbird-Raintree Loop
Mesa Dr at Broadway Rd	Val Vista Dr: Baseline Rd to Southern Ave
Mesa Dr: US-60 (Superstition Fwy) to Southern	Warner Rd at Greenfield Rd
Northern Parkway: Agua Fria Bridge	

## **7.1.2 Intelligent Transportation Systems (ITS)**

The RTP allocates funding to assist in the implementation of projects identified in the Regional ITS Plan. The ITS projects smooth traffic flow and help the transportation system to operate more efficiently (see Appendix Table B-2 for project listing). An estimated \$34.7 million (2010 \$'s) in reimbursements from regional funds will be made for ITS projects between FY 2011 and FY 2015. The focus of the arterial ITS program is to assist MAG member agencies with the development of their arterial traffic management systems to better address jurisdictional needs. The process for identifying and recommending arterial ITS projects for funding is overseen by the MAG ITS Committee. The ITS Committee has used an objective project rating system, which is linked to the region's ITS Strategic Plan and Regional ITS Architecture, to provide guidance in prioritizing projects.

## **7.2 ARTERIAL STREET PROGRAM CHANGES**

During FY 2011, minor fiscal adjustments were made to the Arterial Life Cycle Program (ALCP). Fiscal adjustments that occurred included the reallocation of project savings from the Dobson Road/Guadalupe Road intersection improvement to Greenfield Road (Baseline Road to Southern Avenue) arterial capacity improvements, and the reprogramming of Northern Parkway. For the segment of Northern Parkway from Sarival Avenue to Dysart Avenue, federal funding in FFY 2010 and 2011 was reprogrammed to reflect updated project costs, and the federal funds programmed for FFY 2012 and FFY 2013 were advanced to the current fiscal year. No significant ALCP project scope changes occurred in FY 2011.

Through FY 2011, 28 ALCP projects have been completed. These projects included arterial street widenings, capacity improvement projects, and intersection improvements at the following locations.

- Arizona Ave. at Chandler Blvd.: Intersection Improvements
- Arizona Ave. at Elliot Rd.: Intersection Improvements
- Arizona Ave. at Ray Rd.: Intersection Improvement
- Beardsley Rd.: Loop 101 to 83rd Ave/Lake Pleasant Parkway
- Chandler Blvd. at Dobson Rd.: Intersection Improvements
- Dobson Rd. at Guadalupe Rd.: Intersection Improvements
- El Mirage Rd.: Bell Rd to Deer Valley Dr.
- El Mirage Rd.: Deer Valley Drive to Loop 303
- Gilbert Rd. at University Dr.: Intersection Improvements
- Gilbert Rd.: SR202L/Germann Road to Queen Creek Rd.
- Greenfield Rd.: Baseline Rd. to Southern Ave
- Happy Valley Rd.: Lake Pleasant Pkwy to 67th Ave.
- Happy Valley: I-17 to 35th Ave.
- Hawes Rd.: Santan Freeway to Ray Rd.

- Lake Pleasant Pkwy.: Union Hills to Dynamite Rd.
- Loop 101 at Beardsley Rd/Union Hills Dr.
- Loop 101 Frontage Rd.: Hayden Rd to Scottsdale Rd.
- Pima Rd.: SR101L to Thompson Peak Pkwy.
- Power Rd at Pecos: Intersection Improvements
- Power Rd.: Baseline Rd. to East Maricopa Floodway
- Queen Creek Rd.: Arizona Ave. to McQueen Rd.
- Ray Rd.: Sossaman Rd. to Ellsworth Rd.
- Shea Blvd. at 90th/92nd/96th: Intersection Improvements
- Shea Blvd. at Mayo/134th St.: Intersection Improvements
- Shea Blvd. at Via Linda (Phase1): Intersection Improvements
- Shea Blvd.: Palisades Blvd. to Fountain Hills Blvd.
- Warner Rd. at Cooper Rd.: Intersection Improvements
- Val Vista Dr.: Warner Rd to Pecos Rd.

### **7.3 ARTERIAL PROGRAM REIMBURSEMENTS AND FISCAL STATUS**

#### **7.3.1 Program Reimbursements**

The Arterial Life Cycle Program (ALCP) is based on the principle of project budget caps. Under this approach, regional funding allocated to a specific project is fixed (on an inflation adjusted basis) in the Regional Transportation Plan. The budgeted amount must be matched by the implementing, or lead, agency with a 30 percent minimum contribution to the total project costs. Any project costs above the amount budgeted are the responsibility of the lead agency. Under this funding scheme, program administration focuses on tracking actual project expenditures and determining the corresponding regional share. As a result, data monitoring is primarily directed at regional funding reimbursements and total project expenditures.

The ALCP Policies and Procedures detail the three required documents for each ALCP project - the Project Overview, the Project Agreement, and Project Reimbursement Request. The Project Overview describes the general design features of the project, the implementation schedule, estimated costs, and the relationships among participating agencies. The Project Agreement is developed jointly between the lead agency and MAG and determines the responsibilities of each party. Project Reimbursement Requests may be submitted by jurisdictions once a Project Agreement has been executed. The Project Reimbursement Request requires an invoice, progress report, and request for payment signed by the lead agency and MAG. The signed request for payment form is submitted to the Arizona Department of Transportation, who, in turn, reimburses the lead agency.

Table 7-2 provides a summary of project expenditures reported and reimbursements that occurred during FY 2011.

**TABLE 7-2  
ARTERIAL STREET LIFE CYCLE PROGRAM  
EXPENDITURES AND REIMBURSEMENTS IN FY 2011**

<b>Project Location</b>	<b>Reimbursed in FY11 (2010\$)</b>	<b>Expenditures Reported in FY11 (2010\$)</b>	<b>Project Status</b>
<b>CHANDLER</b>			
Chandler Blvd at Alma School Road: Intersection Improvements	\$88,561	\$126,516	91% Design
<b>MARICOPA COUNTY</b>			
El Mirage Rd: Bell Road to Deer Valley Drive	\$4,200,809	\$12,433,350	Project Completed. Remaining Regional Reimbursement to occur in a later fiscal year
<b>MESA</b>			
Greenfield Road: Baseline Road to Southern Avenue	\$3,410,141	\$5,997,766	Project Completed
Mesa Drive: US 60 to Southern Avenue	\$361,886	\$516,980	45% Design
Southern Avenue at Stapley Drive: Intersection Improvements	\$50,521	\$82,903	Pre-Design Complete; 10% Design
Dobson Road at Guadalupe Road: Intersection Improvements	\$1,462,796	\$2,089,708	Project Completed
<b>PEORIA</b>			
Happy Valley Road: Lake Pleasant Parkway to 67th Avenue	\$11,617,619	\$51,971,719	Project Completed. Remaining Regional Reimbursement to occur in a later fiscal year
75th Avenue at Thunderbird Rd: Intersection Improvements	\$462,225	\$725,519	100% Design
<b>SCOTTSDALE</b>			
Pima Road: Thompson Peak Parkway to Pinnacle Peak	\$7,659,463	\$10,942,090	Design 99%; ROW 97%; Construction 60%
Scottsdale Rd: Thompson Peak Parkway to Pinnacle Peak	\$693,962	\$991,375	Pre-Design 90%; Design 20%

Five jurisdictions received reimbursements for project work during FY 2011 totaling over \$30 million. Lead implementing agencies deferred approximately \$41 million in Federal and regional reimbursements from FY 2011 to later years, due to project implementation and local funding issues.

Detailed data showing regional funding reimbursements and estimated total expenditures for all projects is included in Appendix Tables B-1 and B-2. The information included in the Appendices is based on program revenues and project data included in the FY11 ALCP, as revised through June 30, 2011, but do not include reimbursements paid in FY11. (See Table 7-2). As noted previously, the FY 2012 ALCP was not available during preparation of this report, and it is anticipated that the FY 2012 ALCP will be considered for approval in September 2011.

### **7.3.2 Deficit of Program Funds**

Each year, the Arizona Department of Transportation (ADOT) updates the forecasted revenues for the Proposition 400 half-cent sales tax extension. When warranted, ADOT may revise the forecasted revenue stream more frequently. In FY 2009 -2011, the forecasts of revenues from the Proposition 400 half-cent sales tax extension were reduced.

In FY 2011, the revised revenue forecast indicated that a \$196.5 million reduction in the ALCP through FY 2026 would be necessary. To address the deficit, the MAG Transportation Policy Committee (TPC) recommended a proportional reduction of remaining reimbursements in the ALCP based on each agency's original allocation of regional funds and emphasized that no new projects be added to the program until funding was restored to existing projects in the same manner funds were removed. The TPC also recommended that if revenues increased in the future, funding would be restored to the projects in proportion to each project's share of the reduction.

The proportional reduction amounts were determined by calculating each agency's allocation of regional funds over the life of the program. This included actual reimbursements between FY 2006 and FY 2010, programmed reimbursements for FY 2011, and programmed reimbursements between FY 2012-2026 with an assumed inflation rate of 2 percent. (Projects carried over beyond FY 2026 were also included.) Then, each agency's allocation was compared to the amount of total regional funds programmed to determine the reduction required to balance the program. Table 7-3 displays each agency's new allocation of the ALCP, as well as the required reduction from its previous level to maintain the fiscal balance of the ALCP.

### **7.3.3 Future Fiscal Status**

In March 2011, the preparation of the FY 2012 ALCP was initiated consistent with the ALCP Policies and Procedures and the TPC guidance. To meet the required program reductions indicated in Table 7-3, agencies were given the opportunity to delete, consolidate, and/or reprioritize programmed reimbursements. As of June 29, 2011, MAG staff and member agencies were continuing to coordinate the reprogramming effort. It is anticipated that through

**TABLE 7-3  
REVISED AGENCY PROGRAM ALLOCATIONS (Millions)**

Lead Agency	Agency Allocation (FY11 ALCP)				Required Reduction (2011\$)	Reduced Allocation of ALCP
	FY06-10 (YOE\$)	FY11 (2010\$)	FY12-26 (2011\$)*	Total		
Carefree	\$ -	\$ -	\$ 5.6	\$ 5.6	\$ 0.6	\$ 4.9
Chandler	\$ 6.7	\$ 5.0	\$ 10.8	\$ 142.5	\$ 16.0	\$ 126.5
Fountain Hills	\$ 0.4	\$ 1.7	\$ 4.1	\$ 6.2	\$ 0.7	\$ 5.5
Gilbert	\$ 19.2	\$ 6.6	\$ 20.8	\$ 146.6	\$ 16.5	\$ 130.1
Maricopa County	\$ 34.3	\$ 8.8	\$ 368.8	\$ 412.0	\$ 46.3	\$ 365.7
Mesa	\$ 6.5	\$ 7.1	\$ 456.2	\$ 469.8	\$ 52.8	\$ 417.0
Peoria	\$ 44.7	\$ 5.3	\$ 38.9	\$ 98.9	\$ 11.2	\$ 87.7
Phoenix	\$ -	\$ 21.3	\$ 96.9	\$ 118.2	\$ 13.3	\$ 104.9
Scottsdale	\$ 25.5	\$ 20.0	\$ 301.6	\$ 347.1	\$ 39.0	\$ 308.1
<b>TOTAL</b>	<b>\$ 157.3</b>	<b>\$ 85.7</b>	<b>\$1,503.9</b>	<b>\$1,746.8</b>	<b>\$196.5</b>	<b>\$1,550.4</b>

\* Projects that were shifted beyond FY 2026 are included in these allocations.

this process a fiscally balanced program will be achieved, and the FY 2012 ALCP will be considered for approval in September 2011.

#### **7.4 ARTERIAL STREET PROGRAM OUTLOOK**

The Arterial Life Cycle Program (ALCP) is based on the principle of project budget caps, with a fixed amount of regional funding allocated to individual projects (on an inflation adjusted basis). Since the beginning of the program, \$208 million has been disbursed and 28 projects have been completed.

During FY 2011, project overview reports were prepared by the lead agencies for five projects in the ALCP. Since the inception of the program, 58 project overviews have been submitted to MAG. These reports describe the general design features of the project, estimated costs, implementation schedules and relationships among participating agencies. The project overview reports provide the basis for preparation of project agreements, which must be executed before agencies may receive any reimbursements from the program.

A total of ten project agreements were executed in FY 2011. Five jurisdictions received reimbursements for project work during FY 2011 totaling over \$30

million. In all, 49 project agreements have been executed to date. Lead implementing agencies deferred approximately \$41 million in Federal and regional reimbursements from FY 2011 to later years, due to project implementation and local funding issues.

In FY 2011, a revised revenue forecast indicated that a reduction in the ALCP through FY 2026 would be necessary. As of June 29, 2011, MAG staff and member agencies were continuing to coordinate the reprogramming effort to meet the required program reductions. It is anticipated that through this process a fiscally balanced program will be achieved, and the FY 2012 ALCP will be considered for approval in September 2011.

## **CHAPTER EIGHT**

### **TRANSIT LIFE CYCLE PROGRAM**

The Transit Life Cycle Program is maintained by the Regional Public Transportation Authority (RPTA) and implements transit projects in the MAG Regional Transportation Plan (RTP). The Program meets the requirements of state legislation calling on the RPTA to conduct a budget process that ensures the estimated cost of the Regional Public Transportation System does not exceed the total amount of revenues expected to be available. This includes expenses such as bus purchases and operating costs, passenger facilities, maintenance facilities, park-and-ride lot construction, light rail construction and other transit projects.

The Transit Life Cycle Program will receive major funding from the Proposition 400 half-cent sales tax extension, as well as federal transit funds, fare revenues and local sources. The half-cent sales tax extension started on January 1, 2006 and revenues from the tax were available beginning in March 2006. The RPTA maintains responsibility for administering half-cent revenues deposited in the Public Transportation Fund (ARS 48-5103) for use on transit projects, including light rail transit (LRT) projects as identified in the MAG RTP. The RPTA Board must separately account for monies allocated to light rail transit, capital costs, and operation and maintenance costs for other transit modes.

Although the RPTA maintains responsibility for the distribution of half-cent funds for light rail projects, Valley Metro Rail, Inc., (VMR) a public nonprofit corporation, was created to form a partnership among the cities of Phoenix, Tempe, Mesa and Glendale to implement the LRT system. The cities of Chandler and Peoria are also current members of VMR. VMR is responsible for overseeing the operation of the light rail line, as well as the design, construction and operation of future corridor extensions to the system. It should be noted that the RPTA often uses the term "*Valley Metro*" for the agency, having adopted the name in 1993 as the marketing identity for the regional transit system. Similarly, VMR uses the name "*METRO*" to refer to the light rail system.

#### **8.1 STATUS OF BUS PROJECTS**

The Transit Life Cycle Program includes funding for operations, vehicle fleet and new capital facility improvements to the regional bus network. This includes Freeway Bus Rapid Transit (BRT)/Express, Arterial BRT, Supergrid, and other bus service. The following sections provide an overview of the status of the bus operations and capital projects in the Transit Life Cycle Program. In these discussions, the emphasis is placed on reviewing ongoing activities, as well as service additions anticipated during the next five years (FY 2012 through FY 2016).

### **8.1.1 Bus Operations: Bus Rapid Transit (BRT)/Express**

Regional BRT/Express transit services are comprised of Arterial BRT and Freeway BRT/Express routes. Arterial BRT routes are intended to operate as overlays on corridors served by local fixed route service, but provide higher speed services by operating with limited stops and with other enhancements, such as bus only lanes, queue-jumpers or signal priority systems. The proposed Arterial BRT routes as identified in the RTP are intended to operate during peak and off-peak periods. In addition to Arterial BRT routes, the RTP also includes Freeway routes, which use existing and proposed high occupancy vehicle (HOV) facilities to connect park-and-ride lots with major activity centers, including core downtown areas. Freeway routes provide suburb-to-suburb and suburb to central city connections using the regional freeway system and intermediate stops. Figure 8-1 and Table C-1 provide information on the locations and costs associated with BRT/Express Transit Services. The routes depicted in Figure 8-1 are cross-referenced with the data in Table C-1 by the code associated with each route.

Collectively, the Regional BRT/Express transit services account for a total of \$110 million (2011 and YOY \$'s) in regional funding for operating costs for the period FY 2006 through FY 2026 (see Table 8-2). This total represents approximately 2.1 percent of the total regional funding budget allocated for transit. There are a total of 16 BRT/Express routes identified for funding in the TLCP during the planning period from FY 2006 through 2026. An additional 15 routes have been shifted beyond FY 2026 but are in the Regional Transportation Plan. Also, another route (Chandler Blvd. Arterial BRT) is included in the RTP as an illustrative project. Since funding became available a total of 12 routes have been implemented. Two of the routes were implemented with two different patterns, one providing an express connection to downtown Phoenix and the other to light rail stations. As a result of the continued decline in revenues and the loss of Local Transportation Assistance Funds (LTAF), four of the express routes have been eliminated due to low productivity. The routes were eliminated in July 2010 and include routes 511 (East Loop 101 Connector), 536 (Part of Red Mountain Express), 572 (North Loop 101 Connector) and 576 (Part of West Loop 101 Connector).

During the next five years, FY 2012 through FY 2016, three additional routes are planned for implementation. The routes generally operate in the peak direction at 30-minute intervals, during the three-hour morning and afternoon commute periods.

#### Routes Implemented During FY 2011

- Arizona Avenue Arterial BRT (T5).

Figure 8-1



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on Proposition 400

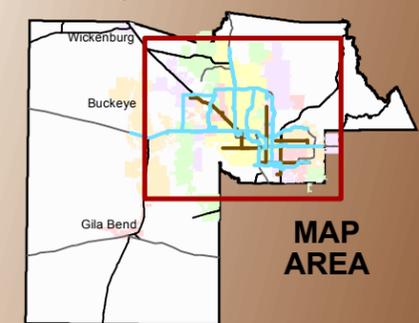
Bus Rapid Transit (BRT)

- Arterial BRT Routes
- Freeway BRT Routes
- Freeways
- Highways
- Other Roads
- County Boundary

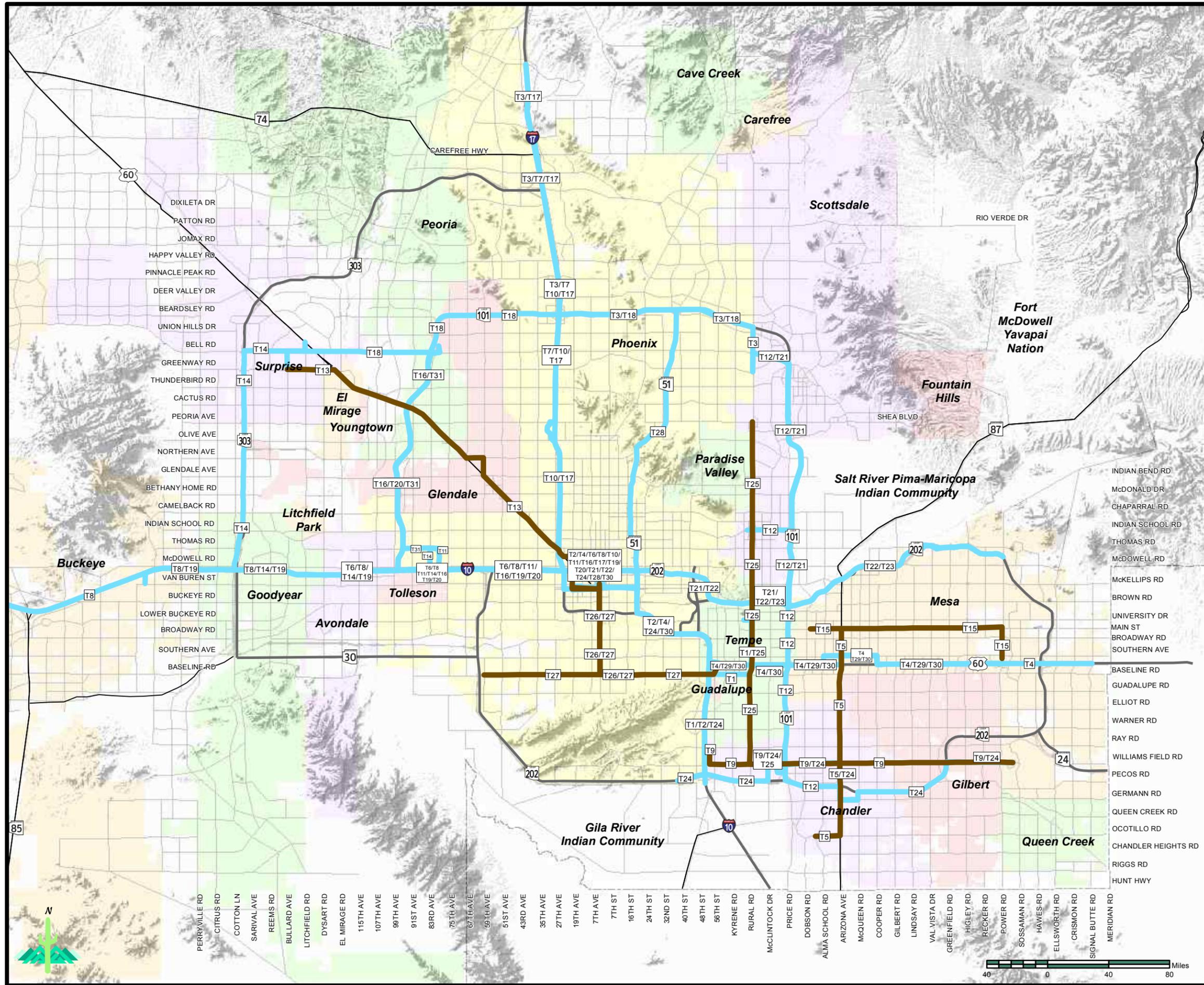
Routes are conceptual and subject to change. Contact Valley Metro to obtain current status. Ongoing operational planning includes an extensive public outreach component.

Alignments for new freeway, highway, arterial, and light rail/high capacity transit facilities will be determined following the completion of appropriate design and environmental studies.

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## Routes Planned for Implementation During FY 2012 through FY 2016

- Grand Avenue Limited (T13); Service start: FY 2013
- South Central Avenue Express (T26); Service start: FY 2015
- Scottsdale/Rural BRT (T25); Service start: FY 2016

### **8.1.2 Bus Operations: Supergrid**

Regional Grid bus routes, which are also commonly referred to as “Supergrid Routes,” include bus routes that are situated along major roads on the regional arterial grid network. The supergrid network addresses a major weakness of the current fixed route bus network. The operational efficiency of the current bus network is hampered by varying service levels across routes and jurisdictions, which is a direct result of the variability of local funding from jurisdiction to jurisdiction. The supergrid addresses this problem by regionally funding key routes at a consistent level of service across all served jurisdictions. Regional funding of bus operations along the arterial grid network ensures a degree of consistency in service levels across jurisdictions, which may not otherwise be possible due to current funding limitations at the local level. Figure 8-2 and Table C-2 provide information on the locations and costs associated with the regional bus grid. The routes depicted in Figure 8-2 are cross-referenced with the data in Table C-2 by the code associated with each route.

Regional Grid bus operations account for a total of \$548 million (2011 and YOE \$’s) in regional funding for the period FY 2006 through FY 2026 (see Table 8-2). This represents approximately 12.8 percent of the total regional funding budget allocated for transit. There are a total of 24 Regional Grid routes identified for funding in the TLCP during the planning period from FY 2006 through 2026. However, many of the routes scheduled for funding will not be implemented with the full service levels originally programmed. Lower levels of service have been programmed in order to implement more of the routes through FY 2026. An additional 9 routes have been shifted beyond FY 2026 but are in the Regional Transportation Plan. Also, another route (Litchfield Rd.) is included in the RTP as an illustrative project. Since funding became available eight routes have been implemented.

During the next five years, FY 2012 through FY 2016, six routes are planned for implementation. In general these routes were originally planned to operate in the peak direction at 15-minute intervals during the two-hour morning and afternoon commute periods, and at 30-minute intervals during the rest of the service day. In addition, 30-minute service on Saturday and Sunday is provided. However, many of the routes are currently planned for lesser service levels due to the reduction in revenues.

Figure 8-2



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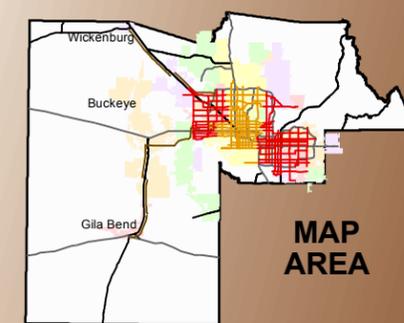
Super Grid Bus System

- Regional Grid Routes
- Grid Routes Funded by City of Phoenix
- New Rural Routes
- Freeways
- Highways
- Other Roads
- County Boundary

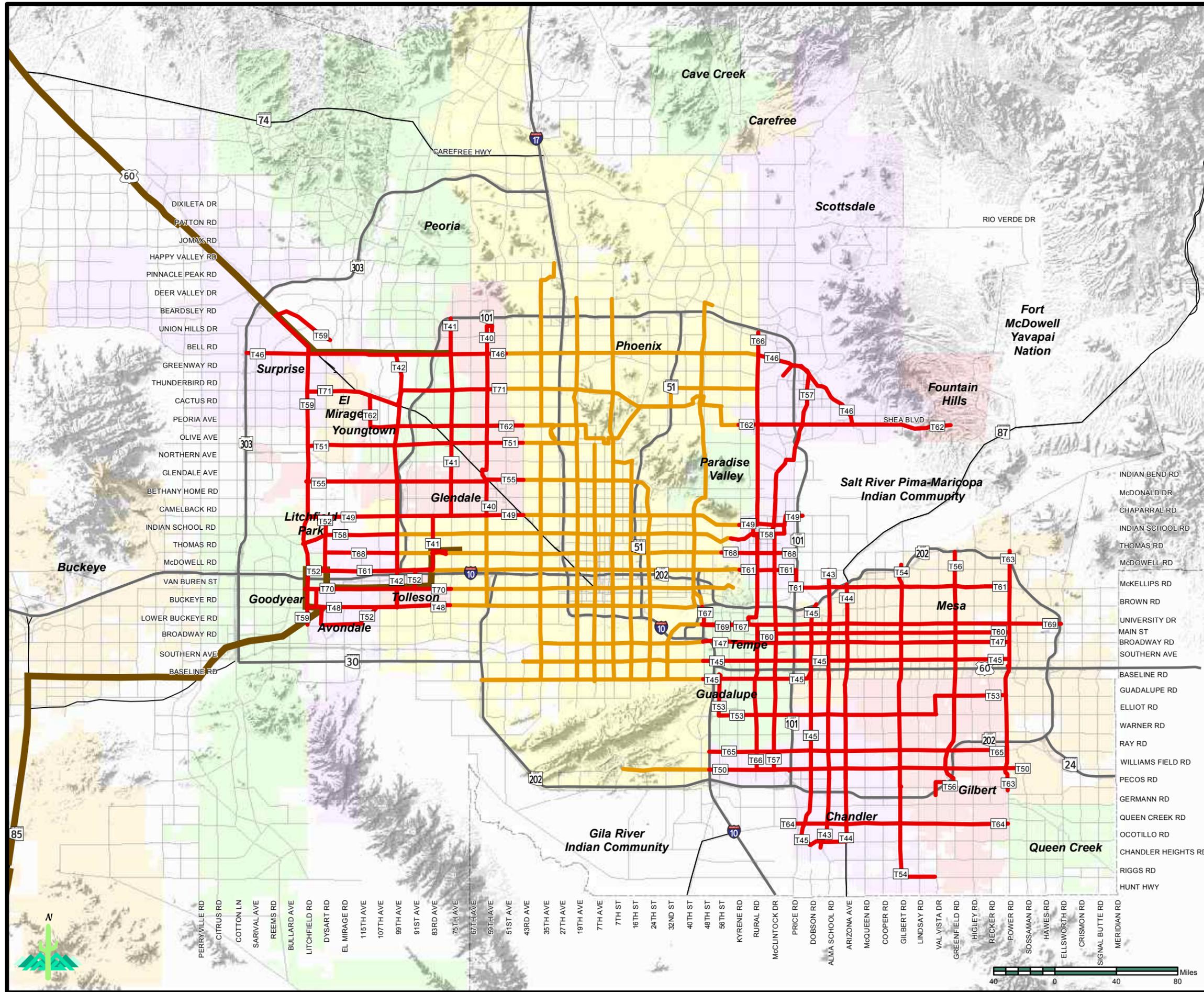
Routes are conceptual and subject to change. Contact Valley Metro to obtain current status. Ongoing operational planning includes an extensive public outreach component.

Alignments for new freeway, highway, arterial, and light rail/high capacity transit facilities will be determined following the completion of appropriate design and environmental studies.

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### Routes Implemented During FY 2011

- Power Road (T63); Implemented as Route 184.

### Routes Planned for Implementation During FY 2012 through FY 2016

- Arizona Avenue/Country Club Drive (T44); Service start: FY 2012.
- Elliot Road (T53); Service start: FY 2013.
- 59<sup>th</sup> Avenue (T40); Service start: FY 2014.
- McDowell/McKellips Roads (T61); Service start: FY 2014.
- Baseline Road (T45); Service start: FY 2015.
- University Drive (T69); Service start: FY 2016.

### **8.1.3 Bus Operations: Other**

In addition to the BRT/Express and Regional Grid services, other services account for a total of \$719 million (2011 and YOE \$'s) in regional funding for operating costs for the period FY 2006 through FY 2026 (see Table 8-2). These services include rural/flexible routes, commuter vanpools, paratransit services, safety and security, operations and capital contingencies and RPTA planning and administration costs. Table C-3 provides information on the costs associated with these services. The services are described briefly below:

Rural/flexible Routes - This service type addresses the need to provide connections between the urban and rural communities of the county. Rural routes provide connections between remote communities and urban transit nodes and address a range of trip needs including work, shopping, education, and access to various community services. These services account for a total of \$8 million (2011 and YOE \$'s) in regional funding during FY 2006 through FY 2026 (see Table C-3).

Funding has been identified for two rural transit routes. One route operates between Gila Bend and West Phoenix and was initiated in FY 2006. The second route operates between Wickenburg and Glendale and was initiated in FY 2007. Productivity on the Wickenburg route has been very low and Valley Metro has looked at ways to enhance ridership. However, as the productivity has continued to be very low, changes to the route will be made in FY 2012 up to and including eliminating the route.

Commuter Vanpools – The Commuter Vanpool Program operates as a personalized express service for commuters, and is managed by Valley Metro/RPTA through its complementary rideshare program. Commuter vanpools allow groups of commuters throughout the region to self-organize and obtain a vehicle from Valley Metro/RPTA to operate a carpool service. Vanpools can be very effective at serving suburban employment centers such as office parks and

office campuses. Vanpooling is one of the Transportation Demand Management strategies many employers have implemented as a Trip Reduction Program measure. Through sponsorship and funding of a vanpool program, Valley Metro/RPTA aspires to maintain rider fares at a level that is attractive to the commuter and available to all employers and commuter groups in Maricopa County. Operating costs are fully recovered through fare revenues and are not subsidized.

ADA Paratransit Services – ADA paratransit services address the needs of disabled riders who cannot utilize fixed route bus service due to physical or cognitive disability. Paratransit service is demand-response and provides curbside pick-ups and drop-offs. This service is required by the Americans with Disabilities Act (ADA) for all ADA-certified patrons for all areas within three-quarter miles of a fixed route. These services account for a total of \$422 million (2011 and YOE \$'s) in regional funding during FY 2006 through FY 2026 (see Table C-3). During the next five years (FY 2012 through FY 2016), it is anticipated that \$124 million (2010 \$'s) will be expended to provide required ADA paratransit services.

Safety and Security – Funds are set aside to improve the safety and security of passengers and transit assets, including rolling stock and facilities. Specific expenditures will be programmed each year based on need and may include such items as closed circuit television at facilities, cameras on buses, and other needed infrastructure improvements.

Contingencies – Funds are set aside for operating and capital contingencies. This amount is equal to two and one half percent of the budget for operations and 3.75 percent of the budget for purchased capital (e.g. fleet) and 10 percent of constructed capital (e.g. park and rides). Any contingencies not spent revert back to the general fund to be re-programmed for other projects.

RPTA Planning and Administration – RPTA receives an allocation from the Regional Area Road Fund (RARF) for planning and administration. This pays for the overhead and administration costs and any regional or general planning costs that are not attributable to specific RTP projects.

Existing Local and Express Service: Supplementary funding is allocated to previously existing local and express services, which complement the planned BRT and Supergrid networks. This accounts for a total of \$75 million (2011 and YOE \$'s) in regional funding during FY 2006 through FY 2026 (see Table C-3).

#### **8.1.4 Bus Capital: Facilities**

Associated with the expansion of transit service will be the need for additional maintenance and passenger facilities. The identification of specific locations and timing of construction for these facilities will occur as the result of ongoing capital

planning efforts. These efforts will include the identification and evaluation of potential sites for transit passenger and maintenance facilities. This process will guide the selection of sites, and will be done in cooperation with the host communities, which will include public outreach efforts to identify and address the concerns of affected neighborhoods, institutions, and commercial users.

The numerous capital projects affiliated with regional bus operations account for a total of \$266 million (2011 and YOE \$'s) during FY 2006 through 2026 (see Table 8-2). There is \$4 million (2011 and YOE \$'s) for contingency included in this amount. The Regional Transportation Plan calls for the completion of 13 park-and-ride lots; 6 transit centers (4 bus-bay); 4 transit centers (6 bus-bay); 3 transit centers (for major activity centers); 4 new bus maintenance facilities and 2 facility upgrades; two dial-a-ride/rural bus maintenance facilities; a vanpool maintenance facility; the purchase of BRT Right-of-way and associated improvements and maintenance; 1,200 bus stop pullouts/improvements at various locations, and the implementation of ITS/VMS in 2,154 vehicles. Not all of these facilities are currently funded through FY 2026. These facilities include 5 maintenance facilities, 2 park-and-ride facilities, 9 transit centers and 2 BRT corridors.

As of 2011, construction is underway on a number of park-and-ride facilities. Other maintenance and passenger facilities are to be implemented over the next several years. It is anticipated that a total of \$53 million (2011 \$'s) in regional funding will be expended during the next five years (FY 2012 through FY 2016) on bus capital facilities.

### **8.1.5 Bus Capital: Fleet**

Over the planning horizon associated with Proposition 400, fleet purchases account for a total of \$973 million (2011 and YOE \$'s) during FY 2006 to FY 2026 (see Table 8-2). This includes the purchase of 1,673 buses for fixed route networks; 34 buses for rural routes; 937 Dial-a-Ride (DAR) vans for paratransit purposes; and 1,445 vanpool vans. There is \$11 million (2011 and YOE \$'s) contingency included. It is anticipated that a total of \$230 million (2011 \$'s) in regional funding will be expended during the period FY 2012 through FY 2016 on vehicle purchases. These purchases will include 325 fixed route buses, 8 express/BRT buses, 6 rural transit buses, 169 paratransit vehicles, and 325 commuter vans. These reflect both replacement and expansion vehicles.

## **8.2 STATUS OF HIGH CAPACITY/ LIGHT RAIL TRANSIT PROJECTS**

The Transit Life Cycle Program includes an extensive High Capacity / Light Rail Transit (HCT/LRT) component for the MAG Region. This covers support infrastructure for the HCT/LRT system, as well as future extensions of HCT/LRT corridors that are planned throughout the region. The construction of the 20-mile light rail Central Phoenix / East Valley (CP/EV) that was developed through the

CP/EV Major Investment Study (MIS) is not a part of the Transit Life Cycle Program, except for some funding for support infrastructure.

Figure 8-3, as well as Tables C-6 and C-7, provide information on the locations and costs of HCT/LRT throughout the metropolitan area. HCT/LRT projects account for a total of \$2.6 billion (2011 and YOE \$'s) in the Transit Life Cycle Program (see Table 8-2), which is approximately 48 percent of the total regional funding dedicated to transit. Of this amount, approximately \$2.1 billion (2011 and YOE \$'s) applies toward construction, whereas the remaining \$592 million (2011 and YOE \$'s) applies to support infrastructure affiliated with the HCT/LRT system. None of the regional funding for HCT/LRT is allocated to operating costs. It should be noted that the cost data for HCT/LRT projects is under review and will be updated in the final report.

### **8.2.1 Central Phoenix/East Valley (CP/EV) LRT**

Although the construction of the CP/EV light rail starter segment was not a part of completion of the CP/EV Major Investment Study (MIS) in 1998. The purpose of the CP/EV MIS was to identify transportation improvements designed to reduce existing and future traffic congestion, improve mobility options, and provide transportation alternatives in the corridor linking central Phoenix with the cities of Tempe and Mesa. The approved alignment for the CP/EV extends from Bethany Home Road and 19<sup>th</sup> Avenue into downtown Phoenix; from downtown Phoenix to downtown Tempe and Arizona State University; and continuing to the intersection of Main Street and Sycamore in Mesa. The CP/EV was completed in December 2008 and averaged over 40,000 boardings per day in FY 2011, over 50 percent higher than projected.

The CP/EV operates primarily at-grade on city streets, with two tracks and light rail vehicles running in trains from one to three cars. The trains run in both directions approximately 18 hours per day on weekdays, and 22 hours per day on weekends. The trains operate every 12 minutes during peak hours, 15 minutes on weekends and 20 minutes during off-peak hours..

Important elements of the CP/EV include 28 stations, 9 park-and-ride lots, 50 light rail vehicles and traffic signal priority strategies to improve speed. The park-and-ride facilities have over 3,600 spaces. Light rail stations are generally located about 3/4-mile apart, but closer (1/3-mile) in urban centers. Shuttle buses and an improved fixed route network play an important role in the light rail system. Half-cent sales tax money from Proposition 400 was not utilized to pay for route construction of the CP/EV, but is rather allocated toward certain elements of the support infrastructure.

### **8.2.2 High Capacity / Light Rail Transit: Support Infrastructure**

Figure 8-3



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on Proposition 400

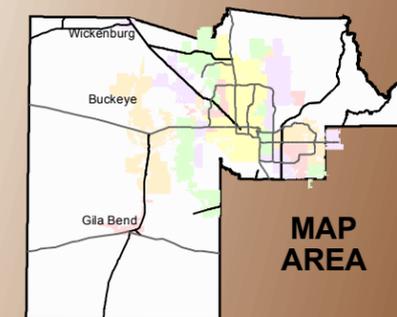
Light Rail Transit (LRT)/  
High Capacity Transit

-  Initial 20-mile Light Rail Segment
-  Future High Capacity Transit Corridor
-  Freeways
-  Highways
-  Other Roads
-  County Boundary

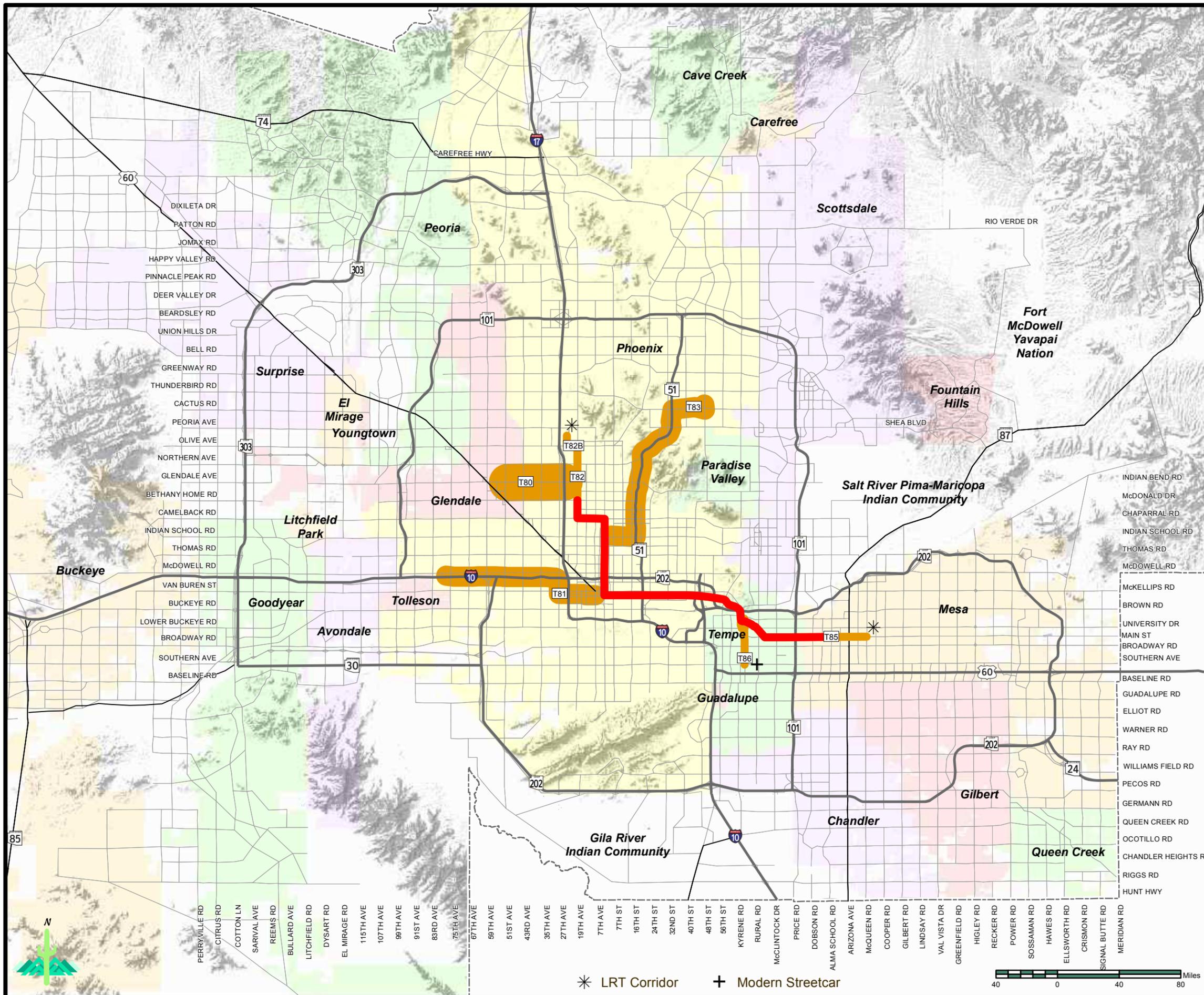
The Transit Life Cycle Program does not include funding for the Eligible High Capacity Corridors

Alignments for new freeway, highway, arterial, and light rail/high capacity transit facilities will be determined following the completion of appropriate design and environmental studies.

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Completion of support infrastructure affiliated with the HCT/LRT system accounts for a total of \$592 (2011 and YOE \$'s) in the Transit Life Cycle Program for the period FY 2006 through FY 2026. Of this amount, \$199 million (2011 and YOE \$'s) applies toward infrastructure along the CP/EV (to be expended by 2010); \$5 million (2011 and YOE \$'s) applies toward infrastructure needs on the Northwest Extension, from 19<sup>th</sup> Avenue/Bethany Home to the Rose Mofford Sports Complex (to be expended by 2026; \$5 million (2011 and YOE \$'s) applies toward infrastructure needs on the Glendale corridor from 19<sup>th</sup> Avenue/Bethany Home to Downtown Glendale (to be expended by 2026); \$157 million for utility relocation reimbursements; and \$226 million (2011 and YOE \$'s) applies to other HCT/LRT improvements throughout the system (to be expended by 2026).

### **8.2.3 High Capacity / Light Rail Transit: Future Corridors**

The Transit Life Cycle Program includes regional funding for the completion of six additional LRT/HCT segments on the system. These include a five-mile Northwest Extension, which in FY 2007 was split into two phases; a 2.6-mile Tempe Streetcar; a 3.1-mile light rail extension from the east terminus of the CP/EV to Mesa Drive; a five-mile corridor to downtown Glendale; an 11-mile corridor along I-10 into west Phoenix; and a 12-mile corridor to northeast Phoenix; Development of the route extensions account for a total of \$2.1 billion (2011 and YOE \$'s) during FY 2006 through FY 2026 (see Table 8-2).

It should be noted that local sources will provide a significant share of the funding for the Northwest Extension and Glendale corridor. For these segments, regional funding in the form of Federal 5309 funds will provide approximately half of the funding, with local sources providing the remaining half. Other than the funding for support infrastructure and preliminary planning efforts, it is not anticipated that half-cent funds will be applied to these segments. The status of development work on the route extensions is discussed below.

#### Future Corridors

In FY 2007 the Northwest Extension was split into two phases. For Phase 1, the design was completed in 2008-2009 and right-of-way acquisition occurring in 2008-2010. Construction of the extension is on-hold and Phase 1 is now scheduled to be complete in FY 2023. Phase 2 is scheduled to be complete in FY 2026. It is expected that utility relocations and street improvements will be completed in the corridor in FY 2013 to facilitate the eventual light rail construction.

The Central Mesa LRT Extension is currently in the Small Starts Project Development (design) phase. The light rail transit extension will extend along Main Street from the end of line station for the CP/EV at Sycamore eastward to Mesa Drive. Construction is scheduled to be complete in FY 2016.

The Tempe Streetcar locally preferred alternative was approved in FY 2011 and is currently in the Project Definition and Environmental Assessment phase. Construction is scheduled to be complete in FY 2016.

The Phoenix West corridor is currently in the Alternatives Analysis/Draft Environmental Impact Statement phase. An early recommendation adopted by the METRO Board in 2008 was a high capacity transit alignment within the I-10 right-of-way west of I-17. Two transit modes, Bus Rapid Transit (BRT) and LRT, are still under consideration. Construction is scheduled to be complete in FY 2021.

The City of Glendale and the City of Phoenix have engaged with METRO to discuss alternatives to the 2026 Glendale corridor currently shown in the RTP to ensure service to prominent activity centers and anticipated growth areas. As an initial step, an early Alternatives Analysis continued in FY 2011 and is evaluating corridors primarily to identify priorities for federal funding opportunities. The purpose of the study is to identify the potential project alternatives for the Glendale corridor that would be eligible for FTA 5309 New Starts funding and further evaluated through AA/NEPA. The full Alternatives Analysis/Draft Environmental Impact Statement phase will begin in FY 2012. Construction is scheduled to be completed in FY 2026.

While remaining in the Regional Transportation Plan, the Northeast Phoenix LRT corridor, which is planned to begin at Indian School Rd./Central Ave. and extend to Paradise Valley Mall, has been shifted beyond the TLCP horizon year of FY 2026. It was necessary to delay this project beyond FY 2026 to accommodate the decrease in actual and forecasted revenues, and construction is scheduled to be complete in FY 2031.

### **8.3 TRANSIT PROGRAM CHANGES**

The estimated total transit costs of \$5.5 billion for FY 2006-2026 represent a 1.8 percent decrease over the figure of \$5.6 billion provided in the 2010 Annual Report. During FY 2011, significant efforts were made to identify further cost savings or to enhance operating revenues. The major reductions in expenses were a result of identifying additional operating revenues, which offset costs, lowering the amount subsidized by regional revenues. The resulting cost adjustments estimated for the Life Cycle Program components are summarized in Table 8-1. The net total of these cost changes amounts to approximately a \$99 million decrease. The TLCP projects continue to be reevaluated and changes in project implementation and reductions in current service may be made based on actual revenues received.

As a result of the TLCP adjustments made in FY 2009 and FY 2010, the “service start date” for a number of bus routes was shifted beyond FY 2026. These routes are noted in the transit appendix tables. In addition, in FY 2011 four

BRT/Express routes were eliminated and the City of Phoenix assumed funding for four other BRT/Express routes that are already in service. These routes are also noted in the transit appendix tables.

**TABLE 8-1**  
**TRANSIT LIFE CYCLE PROGRAM COST CHANGES**  
(2010, 2011 and Year of Expenditure Dollars in Millions)

Category	2010 Annual Report Total Costs: FY 2006 - 2026 (2010 and YOE Dollars)	2011 Annual Report Total Costs: FY 2006 - 2026 (2011 and YOE Dollars)	Change in Total Costs: 2010 vs. 2011
Bus Operations: BRT/Express	115.90	128.99	13.09
Bus Operations: Regional Grid	710.77	697.93	(12.84)
Bus Operations: Other	804.50	742.13	(62.37)
Bus Capital Projects: Facilities	323.88	265.64	(58.24)
Bus Capital Projects: Fleet	954.12	973.05	18.93
Light Rail Transit: Support Infrastructure	591.91	604.65	12.74
Light Rail Transit Capital: Route Extensions	2,051.43	2,041.25	(10.18)
<b>Total</b>	<b>5,552.51</b>	<b>5,453.65</b>	<b>(98.86)</b>

## 8.4 TRANSIT PROGRAM EXPENDITURES, ESTIMATED FUTURE COSTS AND FISCAL STATUS

### 8.4.1 Program Expenditures and Estimated Future Costs

Table 8-2 provides a summary of past expenditures, estimated future costs and total costs by major program category for the Transit Life Cycle Program. Detailed data on costs at the project level is included in Tables C-1 through C-7 in the appendix. It is important to note that, as a part of the expenditures for light rail, A.R.S. 48-5107 requires that all costs for relocation of utility facilities incurred after July 1, 2003 as a direct result of the construction and operation of a light rail project be reimbursed to the utility by the light rail project. Also, for light rail projects only capital expenditures and costs are reported, since operating expenses were excluded from the Proposition 400 program from its inception. However, expenditures and costs reported for both bus and rail projects reflect total costs and include all funding sources.

As indicated in Table 8-2, the total estimated cost for the Transit Life Cycle Program for the period FY 2006 through FY 2026 is \$5.5 billion (2011 and YOE

\$'s). Expenditures through FY 2011 total \$1,144 million (YOE \$'s), while estimated future costs total \$4.3 billion (2011 \$'s).

**TABLE 8-2**  
**TRANSIT LIFE CYCLE PROGRAM**  
**SUMMARY OF EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026**  
(2011 and Year of Expenditure Dollars in Millions)

Category	Expenditures: through FY 2011 (Year of Expenditure Dollars)			Estimated Future Costs: FY 2012-2026 (2011 Dollars)	Total Costs: FY 2006 - 2026 (2011 and YOE Dollars)
	Operations	Capital Investments	Total		
Bus Operations: BRT/Express	32.44	--	32.44	96.55	128.99
Bus Operations: Regional Grid	96.25	--	96.25	601.68	697.93
Bus Operations: Other	144.67	--	144.67	597.46	742.13
Bus Capital Projects: Facilities	--	188.51	188.51	77.13	265.64
Bus Capital Projects: Fleet	--	249.73	249.73	723.32	973.05
Light Rail Transit: Support Infrastructure	--	332.05	332.05	272.60	604.65
Light Rail Transit Capital: Route Extensions		100.25	100.25	1,941.00	2,041.25
<b>Total</b>	<b>273.36</b>	<b>870.54</b>	<b>1,143.90</b>	<b>4,309.75</b>	<b>5,453.65</b>

#### 8.4.2 Future Fiscal Status

Table 8-3 summarizes the future funding sources and uses that apply to the Transit Life Cycle Program for the period FY 2012 through FY 2026. Funding sources available for this period are estimated to total \$3.7 billion (2011 \$'s). These sources include the Proposition 400 half-cent sales tax extension (\$2.3 billion); Regional Area Road Fund transfer (\$58 million); Federal Transit/5307 funds (\$760 million); Federal Transit/5309 funds (\$956 million); Federal Highway/CMAQ funds (\$339 million); other income from local sources (\$153 million); and bond and loan proceeds (\$175 million). Estimated future bus farebox receipts of \$200 million provide additional revenue. Expenses totaling \$364 million are deducted from these sources, covering estimated future debt service. In addition, an allowance for inflation of \$991 million is deducted. Including a beginning balance of \$105 million, this yields a net total of \$3.8 billion (2011 \$'s) for use transit projects and programs through FY 2026.

Table 8-3 also lists the estimated future uses identified in the Life Cycle Program totaling \$4.3 billion for the period covering FY 2012 through FY 2026, expressed in 2011 \$'s. These costs cover bus operations (\$1.3 billion), bus capital projects

(\$800 million), and light rail transit capital projects (\$2.2 billion). Therefore, for the remainder of the Transit Life Cycle Program, projected revenues are insufficient to meet future projects costs, with a deficit of approximately \$518 million (2011 \$'s). RPTA and METRO, in conjunction with their members and MAG, are currently reviewing projects and priorities to bring the program back into balance.

**TABLE 8-3**  
**TRANSIT LIFE CYCLE PROGRAM**  
**FUTURE SOURCES AND USES OF FUNDS: FY 2012-2026**  
**(2011 and Year of Expenditure Dollars in Millions)**

<b>SOURCES OF FUNDS</b>	
<b>Category</b>	<b>Projected Future Funding: FY 2012-2026 (YOE Dollars)</b>
Proposition 400: One-Half Cent Sales Tax Extension	2,343.30
Regional Area Road Fund	57.73
Federal Transit / 5307 Funds	759.90
Federal Transit / 5309 Funds	956.28
Federal Highway/ MAG CMAQ	339.20
STP-AZ	42.80
Other Income	152.60
Bond and Loan Proceeds	174.50
Bus Farebox Revenues	215.28
Plus Beginning Balance	104.50
Less Debt Service	(364.30)
Less Inflation Allowance	(990.80)
<b>Total (2011 \$'s)</b>	<b>3,790.99</b>
<b>USES OF FUNDS</b>	
<b>Category</b>	<b>Estimated Future Costs: FY 2012-2026 (2011 Dollars)</b>
Bus Operations: BRT/Express	96.55
Bus Operations: Regional Grid	601.68
Bus Operations: Other	597.46
Bus Capital Projects: Facilities	77.13
Bus Capital Projects: Fleet	723.32
Light Rail Transit: Support Infrastructure	272.60
Light Rail Transit Capital: Route Extensions	1,941.00
<b>Total (2011 \$'s)</b>	<b>4,309.75</b>

## 8.5 TRANSIT PROGRAM OUTLOOK

The Transit Life Cycle Program, which covers FY 2006 through FY 2026, started on July 1, 2005. The primary goal of the life cycle program is the development and implementation of transit projects, as identified in the MAG RTP. The estimated future costs for FY 2012 to 2026 are not in balance with the projected future funds available, with a deficit of approximately \$518 million (2011 \$'s). Balance was achieved in FY 2010 by delaying the implementation of numerous projects and reducing the scope of many other projects, especially bus route frequencies. Due to the continued economic downturn and the decrease in estimated future revenues that resulted, simply delaying future projects to balance the TLCP became increasingly difficult.

During FY 2011, a significant effort was started to assess the TLCP funded services in operation. During FY 2012, the RPTA Board of Directors may make the difficult decision to eliminate existing services, or to modify and streamline existing services to make them more efficient and more productive. This key step is being undertaken with careful analysis. After the analysis is complete, public input will be solicited before any final decisions will be made by the RPTA. After modifications to existing services are complete, RPTA and METRO will move forward with rebalancing the TLCP by adjusting future services and capital projects to meet the projected revenues. It is anticipated that a balanced program will be identified by the end of calendar year 2011.

A continuing requirement of the life cycle process is to maintain a balance, through effective financing and cash flow management, value engineering of projects, and Plan and Program adjustments as may be necessary.

Another consideration is that a large part of the funding for the LRT/HCT system is awarded by the US Department of Transportation through the discretionary "New Starts Program". The timing and amounts of light rail transit new start monies coming to the MAG region will be subject to a highly competitive process at the Federal level. The prospects for awards from this program will require careful monitoring. Revenues from the Federal Transit Administration, beyond the "New Starts Program" for the LRT/HCT system, are a key source of revenues for the bus capital program. Continued pressure at the federal level to reduce spending could result in decreased federal revenues for the TLCP, which could put additional projects in jeopardy in the future.

## **CHAPTER NINE**

### **PERFORMANCE MONITORING AND ASSESSMENT**

Proposition 400 legislation set forth the factors to be considered during the development of the MAG Regional Transportation Plan (RTP), such as the impact of growth on transportation systems and the use of a performance-based planning approach. Consistent with State legislation, the development of the MAG Regional Transportation Plan (RTP) included a performance-based planning and programming process. This process established goals, objectives and performance measures for developing various options and evaluating potential scenarios to be included in the Plan. A number of the goals and objectives adopted relate to the performance of the system as a whole, as well as the individual components of the systems across all modes. MAG, continuing to place emphasis on performance-based planning, has established an ongoing Transportation System Performance Monitoring and Assessment Program. The material presented in this chapter documents performance of the system as a result of the on-going monitoring and assessment program, as well as forecasted performance of the system.

#### **9.1 PERFORMANCE MONITORING AND ASSESSMENT CONCEPTS**

The transportation system performance monitoring and assessment process includes: (1) tracking of the performance of the transportation system on an ongoing basis, and (2) forecasting how the system is likely to perform in the future. The tracking element emphasizes collection of data and development of comparative statistics that reveal trends in system performance over time. The forecasting element focuses on the use of travel demand computer models to project travel conditions and draw conclusions regarding future performance of the transportation system.

##### **9.1.1 Monitoring Current Conditions**

The optimum combination of accuracy and detail for performance measurement is based on real time, observed data sources. This data provides the information to assess the principal operating characteristics of the current transportation system and to establish a historical record that tracks performance trends over time. The specific parameters observed vary by the transportation mode and must take into consideration the practicality and expense of collecting data on a continuing basis. The latter factor is particularly important if a historical record is to be established that allows effective analysis of performance trends.

A large amount of data is collected annually in the MAG region related to the movement of people, goods, and services. Data from the Arizona Department of Transportation's (ADOT) Freeway Management System (FMS) is collected

continuously from sensors and other systems that detect and record the movement of vehicles across a large portion of the MAG region. As the FMS system continues to grow, it will allow the use of these data for future reliability performance calculations. In addition, traffic data is collected on arterial roadways through both permanent and temporary counting stations deployed by a variety of MAG member agencies. Moreover, periodic studies are conducted to collect information on topics such as the average number of people in cars, the proportion of trucks on the roadways, and levels of congestion on the freeways and arterials. For roadway systems, typical data collected to assess current performance includes: vehicle counts at a sample of locations; vehicle densities along various roadway segments; speeds and point-to-point travel times; intersection queue lengths and delays; and number and types of accidents.

MAG is also contracting with private data collection sources to supplement the arterial and freeway observed data. This will allow the current data archive to be more geographically comprehensive and enable MAG to perform analysis on system and corridor performance from real-time data sources. For transit systems, common data items cover: boardings and farebox revenues by route; on-board passenger loadings at various points in the system; operating costs; and service reliability.

Per Capita Freeway Vehicle-Miles of Travel (VMT) provides a measure of overall travel trends for the region. As seen in Table 9-1, the per capita freeway VMT in the Phoenix-Mesa urbanized has been trending downward somewhat during the period 2007-2010. These trends are illustrative of the national and regional economic recession conditions during this period.

**TABLE 9-1  
AVERAGE WEEKDAY PER CAPITA FREEWAY VMT  
for the PHOENIX/MESA URBANIZED AREA**

	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Total Freeway VMT*	29,240,000	28,960,000	28,950,000	29,087,000
Population of Phoenix-Mesa Urbanized Area**	3,254,634	3,278,843	3,308,396	3,348,296
Per Capita Freeway VMT	9.0	8.8	8.8	8.7

Source:

\*ADOT Highway Performance Monitoring System (HPMS)

\*\* ACS & census2010

### **9.1.2 Forecasting Future Performance**

The second key aspect of performance monitoring and assessment is the analysis of future conditions on the transportation system. An understanding of potential future performance status provides valuable input into the decision-making process for prioritizing expansions or other improvements to the system. Forecasts of travel on the roadway and transit system are developed through the use of computer simulations of the future transportation network. These simulations are based on assumptions regarding potential future improvements to the transportation system, projections of future population levels, and other critical factors such as land use densities and patterns. The use of computer simulations allows the testing of various network options to determine how future system performance is affected by alternative investment strategies. The models have the capability to produce simulated data for all the same factors that are collected as part of the monitoring process, as well as additional data that would be impractical or too costly to collect.

Transportation network simulation models are also used to assess the impact of improvements compared to “no-build” conditions. This capability is especially important when an area experiences high growth, such as the years 2004-2006 in the MAG region. Under high growth conditions, the performance of the transportation system may decline even though improvements are made, due to increased travel demand brought on by the growth in housing units and population. However, conditions may have been much worse, if improvements had not been made. Network simulation models provide the capability to analyze conditions with and without improvements, allowing an assessment of project performance relative to a “no-build” option.

An important observation regarding the current MAG Four Step Travel Demand Model is that it is inherently a static model. Current performance results have been consolidated from model runs using the 2007 Update to the Socioeconomic Projections, which may not reflect recent changes in regional demographics, as well as the fact that market conditions such as fuel costs are not factored into the simulation runs.

## **9.2 ROADWAY SYSTEM PERFORMANCE**

A broad range of monitoring data on the performance of the roadway system in the MAG area has been collected over the years. These data collection efforts have addressed a variety of performance factors and have enabled historical comparisons to be made. In addition, the MAG Travel Demand Model has been applied routinely to assess future performance of the roadway network.

### **9.2.1 Roadway Monitoring Data**

Traffic data is available for the MAG Region from various studies and surveys. These include travel time and speed studies, the weekday traffic volume database, and various other periodic travel surveys, such as household travel surveys, on-board transit surveys, and truck travel surveys..

Volume Data: The ADOT Freeway Management System (FMS) provides count data on the mainline general purpose lanes and HOV lanes 24/7/365, and on ramps on the majority of the urbanized freeway system. Traffic counts are collected through in-pavement loop detectors and passive acoustic detectors (PADs). This data feeds directly to the Arizona AZ511 system, providing real-time traveler information. Data is also aggregated in periods from five minutes to 24 hours for weekdays and weekends.

For the arterial system, MAG collects traffic data at over 770 stations using machine counts. Data is collected on weekdays every three to four years, over a 48-hour time period, and aggregated by 15 minute, hour, peak period, and 24 hours. Counts are conducted by direction at mid-block locations throughout the region. Data from the MAG count program undergoes a variety of data quality control checks; count data collected from other jurisdictions/member agencies is usually subject to the same kind of quality control checks.

Travel Time Data: Travel time is among the measures that are most meaningful to travelers and system managers alike, since it relates to their experience of everyday travel. Point-to-point travel time is the average time required to traverse a fixed distance in a single direction. Table 9-2 compares the travel times for 2008 and 2009 for various point-to-point pairs on selected corridors. This comparison shows that freeway conditions in the MAG region are changing, but the changes during this period were generally modest in size and scope and differed from facility to facility across the region.

Speed Data: Speed information is obtained from periodic speed studies, commercial data, and the ADOT FMS. Table 9-3 depicts changes in average speed for all freeway corridors monitored by ADOT'S FMS System between 2008 and 2009. This data shows a pattern similar to the travel times shown in Table 9-2.

### **9.2.2 Roadway Performance Forecasts**

In order to analyze future congestion, it is necessary to make use of simulations of the regional transportation network. The MAG travel demand model, which is a state-of-the-art computer travel demand model, was utilized for this purpose.

Modeling Scenarios: For the analysis presented in this chapter, three network scenarios were modeled to assess potential future conditions on the transportation system in the region.

**TABLE 9-2  
FREEWAY TRAVEL TIMES for SELECTED LOCATIONS**

Freeway Corridor	Dir	From	To	Average Travel Time (minutes)							
				AM Peak Period				PM Peak Period			
				General Purpose Lanes		HOV Lanes		General Purpose Lanes		HOV Lanes	
				2009	Change from 2008	2009	Change from 2008	2009	Change from 2008	2009	Change from 2008
I-10 Papago	EB	81st Avenue	I-17	9.68	-0.74	8.63	-0.62	7.40	0.10	7.30	0.10
	WB	I-17	82nd Avenue	7.87	0.17	7.67	0.14	8.90	0.16	8.19	0.13
I-10 Papago	EB	I-17	SR 51	4.49	-0.32	3.76	-0.39	4.18	-0.01	3.89	-0.03
	WB	SR 51	I-17	4.46	0.06	4.03	0.07	6.72	-0.51	6.20	-0.74
I-10 Maricopa	EB	SR 51	US 60	7.97	-0.07	7.54	0.08	14.46	-0.77	12.81	-0.64
	WB	US 60	SR 51	8.52	-0.26	8.00	-0.19	8.02	-0.22	7.65	-0.03
I-10 Maricopa	EB	US 60	Chndl. Blvd.	5.46	0.02	5.13	0.06	6.82	0.09	5.73	0.05
	WB	Chndl. Blvd.	US 60	8.57	-0.11	6.06	-0.61	5.76	0.02	5.09	0.03
I-17 NB	NB	I-10 (East)	I-10 (West)	6.38	0.15	N/A	-	7.50	-1.20	N/A	-
	SB	I-10 (West)	I-10 (East)	7.43	-0.83	N/A	-	6.99	-0.46	N/A	-
I-17	NB	I-10	Peoria Ave.	8.84	0.10	8.15	0.37	11.28	-0.09	9.18	0.49
	SB	Peoria Ave.	I-10	10.21	-0.97	8.68	-0.02	9.37	0.13	8.44	0.31
SR 51	NB	I-10/202	Glendl. Ave.	5.25	0.08	4.82	0.04	5.90	-0.01	5.03	0.01
	SB	Glendl. Ave.	I-10/202	6.13	0.03	5.58	0.13	5.81	0.09	5.38	0.20
SR 51	NB	Glendl. Ave.	Bell Road	7.43	0.01	8.01	4.66	7.54	-0.21	7.75	4.53
	SB	Bell Road	Glendl. Ave.	8.05	-0.32	7.44	3.47	7.47	-0.09	7.16	3.34
Loop 202	EB	I-10/SR 51	Loop 101	9.77	0.33	9.08	0.34	11.87	0.79	10.51	0.21
	WB	Loop 101	I-10/SR 51	11.64	-0.75	9.19	0.06	13.30	-0.78	10.37	-0.55
U.S. 60	EB	I-10	Loop 101	4.75	0.14	4.52	0.14	6.49	0.68	4.62	0.06
	WB	Loop 101	I-10	5.81	-0.68	4.63	-0.07	4.50	0.03	4.39	0.12
U.S. 60	EB	Loop 101	Val Vista Dr.	7.86	0.15	7.60	0.14	7.97	0.10	7.44	0.07
	WB	Val Vista Dr.	Loop 101	8.31	0.03	8.37	0.11	7.86	0.04	7.91	0.11
U.S. 60	EB	Val Vista Dr.	Loop 202	5.77	N/A	5.35	-	5.72	N/A	5.33	-
	WB	Loop 202	Val Vista Dr.	5.78	N/A	5.43	-	5.85	N/A	5.37	-
SR 143	NB	I-10	202/ McDwl.	3.88	0.14	N/A	-	3.89	0.13	N/A	-
	SB	202/ McDwl.	I-10	4.51	0.95	N/A	-	4.51	-0.45	N/A	-
Loop 101	NB	202 (Santan)	U.S. 60	7.55	N/A	N/A	-	6.45	N/A	N/A	-
	SB	U.S. 60	202 (Santan)	6.45	N/A	N/A	-	7.08	N/A	N/A	-
Loop 101	NB	U.S. 60	202 (Red Mt)	3.54	-0.81	N/A	-	2.93	0.00	N/A	-
	SB	202 (Red Mt)	U.S. 60	3.17	0.09	N/A	-	4.62	-1.25	N/A	-

Source: ADOT FMS

**TABLE 9-3  
FREEWAY SPEEDS for SELECTED LOCATIONS**

Freeway Corridor	Dir	From	To	Average AM Peak Period Speed (mph)				Average PM Peak Period Speed (mph)			
				General-purpose Lanes		HOV Lanes		General-purpose Lanes		HOV Lanes	
				2009	Change from 2008	2009	Change from 2008	2009	Change from 2008	2009	Change from 2008
I-10 Papago	EB	83 <sup>rd</sup> Ave.	I-17	51.8	2.8	56.1	2.9	61.9	-0.9	63.0	-0.9
	WB	I-17	83 <sup>rd</sup> Ave.	60.0	-1.0	61.2	-0.8	54.0	0.0	58.1	-0.3
I-10 Papago	EB	I-17	SR 51/202	52.4	2.8	62.6	4.1	56.4	-0.8	62.9	-0.1
	WB	SR 51/202	I-17	57.1	-0.8	64.0	-0.9	40.0	0.9	49.3	3.0
I-10 Maricopa	EB	SR 51/202	U.S. 60	60.9	0.9	64.8	-0.7	41.1	1.0	48.2	1.6
	WB	U.S. 60	SR 51/202	58.3	0.8	60.8	-0.3	61.2	0.2	62.9	-1.4
I-10 Maricopa	EB	U.S. 60	Chndl. Blvd.	63.3	-0.4	67.4	-1.7	52.0	-0.9	61.5	-1.1
	WB	Chndl. Blvd.	U.S. 60	42.7	2.9	59.7	2.0	59.6	-0.7	68.7	-1.8
I-17	NB	I-10 (East)	I-10 (West)	57.6	-1.4	N/A	N/A	50.8	3.5	N/A	N/A
	SB	I-10 (West)	I-10 (East)	53.9	2.0	N/A	N/A	56.6	-0.7	N/A	N/A
I-17	NB	I-10	Peoria Ave.	57.1	-0.9	62.8	-2.8	48.0	0.3	57.1	-2.7
	SB	Peoria Ave.	I-10	50.7	1.4	59.8	-1.0	55.2	-1.2	61.2	-2.4
SR 51	NB	I-10/202	Glendl. Ave.	61.8	-0.6	66.9	-0.6	56.3	-0.8	65.0	-1.1
	SB	Glendl. Ave.	I-10/202	53.7	-0.7	58.8	-2.1	56.3	-1.8	60.3	-2.7
SR 51	NB	Glendl. Ave.	Bell Road	64.2	-0.1	61.2	1.5	63.4	1.4	61.1	1.5
	SB	Bell Road	Glendl. Ave.	60.6	3.8	65.1	0.3	63.7	0.8	66.5	0.1
Loop 202	EB	I-10/SR 51	Loop 101	58.6	-1.9	62.8	-2.7	48.7	-2.5	57.0	-2.6
	WB	Loop 101	I-10/SR 51	53.8	0.9	62.1	-0.8	56.4	-1.2	63.0	-1.8
U.S. 60	EB	I-10	Loop 101	57.6	-1.7	62.0	-1.2	52.1	0.4	60.2	-0.7
	WB	Loop 101	I-10	48.4	2.3	60.8	0.6	61.1	-0.8	64.2	-0.8
U.S. 60	EB	Loop 101	Val Vista Dr.	59.6	-1.1	62.6	-1.0	58.9	-0.7	63.9	-0.5
	WB	Val Vista Dr.	Loop 101	58.8	-0.9	62.3	-0.7	61.9	-0.6	61.8	-1.1
U.S. 60	EB	Val Vista Dr.	Loop 202	64.8	N/A	68.7	N/A	65.6	N/A	70.3	N/A
	WB	Loop 202	Val Vista Dr.	63.6	N/A	68.0	N/A	63.0	N/A	66.4	N/A
SR 143	NB	I-10	202/ McDwl.	53.5	-2.1	N/A	N/A	53.9	-1.9	N/A	N/A
	SB	202/ McDwl.	I-10	54.6	-3.2	N/A	N/A	51.6	-1.2	N/A	N/A
Loop 101	NB	202 (Santan)	U.S. 60	54.2	-6.6	N/A	N/A	61.0	-3.7	N/A	N/A
	SB	U.S. 60	202 (Santan)	61.1	-0.2	N/A	N/A	56.5	6.2	N/A	N/A
Loop 101	NB	U.S. 60	202 (Red Mt)	52.5	6.2	N/A	N/A	59.8	-0.7	N/A	N/A
	SB	202 (Red Mt)	U.S. 60	60.3	-2.4	N/A	N/A	40.0	2.7	N/A	N/A

Source: ADOT FMS

- 2008 Base Year Scenario - For this scenario the highway, arterial and transit networks reflect the base year 2008. This network reflects conditions after implementing a number of projects identified in the RTP, as well as 2008 travel demand. The socio-economic data that generated the travel demand for this scenario is based on the 2007 Update to the Socioeconomic Projections.
- 2031 RTP Plan Scenario - The network used for this model run includes all the projects in the RTP Plan and utilizes MAG's 2007 Update to the Socioeconomic Projections for the year 2031.
- 2031 No-Build Scenario - The purpose of this scenario is to quantify the performance of the system without including RTP investments, and assess the impact on levels of service. This scenario uses the same socioeconomic data for 2031 as that used for the RTP scenario, and the same networks as used for the 2008 Base Year Scenario.

Roadway Performance Measures: To illustrate the relationship between the various indicators of future roadway system performance, data has been grouped into three categories: Supply Measures, Demand Measures and Level of Service Measures. These measures have been selected as representative indicators of the overall performance of the transportation system and are presented in a comparative fashion among three modeling scenarios: the 2008 Base Year, the 2031 RTP and the 2031 No-Build. All data is for the Maricopa County portion of the MAG transportation modeling area. Table 9-4 provides a comparison of key system level parameters and performance measures for the three scenarios that were modeled.

- Supply Measures - Two measures of the supply of roadway capacity in the region are included in Table 9-4: lanes miles and capacity miles. As shown, there is an increase of approximately 48 percent in freeway capacity between the 2008 Base Year and the 2031 RTP. Arterial capacity for the RTP increases by approximately 77 percent, compared to the Base 2008 Year network. For the No-Build scenario, the arterial and freeway capacities are the same as the 2008 Base Year.
- Demand Measures - The demand measure identified in Table 9-4 is vehicle miles of travel (VMT) for arterials and freeways on an average weekday. These facility types were selected, since they carry the vast majority of travel in the roadway network. However, there is some additional VMT carried by local and collector streets, which is not reflected in the figures in Table 9-4. Comparing the 2008 Base Year and the 2031 RTP, a 69 percent VMT

**TABLE 9-4  
ROADWAY PERFORMANCE MEASURES FROM MAG MODEL**

Measures	Scenario		
	2008 Updated	2031 RTP	2031 No Build
<b>Population</b>	4,236,285	6,466,372	6,466,372
<b>Supply Measures</b>			
Lane-Miles			
Freeways	1,921	2,846	1,921
Arterials	10,271	18,298	10,271
Capacity Miles			
Freeways	58,600,819	86,655,054	58,600,819
Arterials	105,058,959	186,981,932	105,058,959
<b>Demand Measures</b>			
Daily Vehicle-Miles (VMT)			
Freeways	35,350,959	59,789,284	48,615,218
Arterials	42,184,591	72,303,974	73,895,500
<b>Level of Service Measures</b>			
Congested Lane-Miles			
Freeways	334	622	938
Arterials	366	715	2,302
% Congested Lane-Miles			
Freeways	17.4	21.9	48.8
Arterials	3.6	3.9	22.4
Daily Congested VMT			
Freeways	9,846,674	18,620,196	30,415,731
Arterials	3,797,278	7,462,670	28,373,929
% Daily Congested VMT			
Freeways	27.9	31.1	62.6
Arterials	9	10.3	38.4
Total Vehicle Hours of Delay			
Hours of Delay	454,601	866,208	1,547,635
Hrs of. Delay per 1000 VMT	5.9	6.6	12.6

Source: MAG Transportation Model; Maricopa County Portion of modeling area.

increase is observed on freeways and 71 percent on arterials. For the No-Build Scenario, the VMT increases are 37 percent and 75 percent, respectively, reflecting the lack of freeway improvements.

- **Level of Service (LOS) Measures** - A number of LOS measures are included in Table 9-4 for the three modeled scenarios, including congestion on freeways, congested VMT, and vehicle hours of delay. As noted previously, congested freeway segments are those with LOS E-F, and delay represents amount of extra travel time due to congestion.

A review of Table 9-4 indicates that the roadway capacity added in the RTP helps significantly to mitigate the effects of a growing population. For example, compared to the 2008 Base Year, the portion of freeway lane miles that are congested increases by 180 percent for the No-Build scenario, but increases by only 26 percent for the RTP. For arterials, the percentage of congested lane miles for the RTP increases by approximately eight percent compared to the 2008 Base Year. For the No-Build Scenario, the percentage of congested lane miles increases by a factor of six. The vehicle hours of delay per 1000 VMT experiences an increase of 12 percent between the 2008 Base Year and the 2031 RTP, but dramatically increases by 114 percent under the No-Build Scenario.

### **9.3 TRANSIT SYSTEM PERFORMANCE**

One of the key components of the transit performance monitoring effort is the Transit Performance Report (TPR). The TPR is prepared and updated annually by Valley Metro/Regional Public Transportation Authority (RPTA). This report is developed using input from, and is reviewed by, member agencies and the RPTA Board. The TPR serves as an important information source for the MAG regional transportation planning process.

#### **9.3.1 Service Efficiency and Effectiveness Study**

In 2006 RPTA hired a consultant to conduct a Service Efficiency and Effectiveness Study (SEES). One task of this study was to develop a series of performance measures. This SEES also developed initial performance targets that allow comparison between performance expectations and actual performance. These performance measures and performance targets are being incorporated into the TPR. As plan implementation continues, targets are reviewed, refined and indexed to inflation as appropriate.

The SEES framework performance targets establish a baseline of performance expectation for Fixed Route bus (system-wide); Fixed Route bus at the route level; Paratransit; and Light Rail Transit (LRT). One of the key goals of the performance targets is to ensure consistent service levels throughout the region.

### **9.3.2 Performance Targets and Operating Results**

The specific performance measures and targets developed during the Service Efficiency and Effectiveness Study are listed in Tables 9-5 through 9-7. It is important to note that SEES targets for LRT are preliminary, since data represents a limited period of service. Results are preliminary and may not be an appropriate basis for final targets until the system continues to operate and mature.

Tables 9-5 through 9-7 also include actual operating results, where available, from the 2008, 2009 and 2010 Transit Performance Reports (TPR). The modes covered by the TPR includes fixed route bus, paratransit, and, light rail. Fixed route bus service includes local routes, super grid (major arterial routes), express/bus rapid transit, circulators, and rural connector routes and shuttles.

### **9.4 PERFORMANCE MONITORING PROGRAM OUTLOOK**

The MAG Transportation System Performance Monitoring and Assessment Program has been established to provide a framework for reporting performance at the system and corridor levels, and serve as a repository of historical, simulated and observed data for the transportation system in the MAG Region. As part of this effort, the program consolidates the data collection efforts related to system performance and develops an archive of historic and current performance data sets that can be used for future evaluation and analysis. The overall goal of the program is to communicate measures related to mobility and accessibility in the MAG Region, and to continuously provide the public with timely and relevant information on the performance of the multi-modal transportation system.

As mentioned, the Regional Public Transportation Authority has established a specific set of performance measures to monitor and evaluate bus and rail systems in the region, results are published in the RPTA Annual Transit Performance Report. For roadway systems in the region, a broad range data to support performance measurement activities has been collected and state-of-the-art modeling capabilities are in place. In order to enhance these initial efforts, in 2008 MAG initiated the Performance Measurement study to further refine and focus the performance monitoring approach for the regional roadway network. A Performance Measurement Framework has been developed with the participation of MAG's member agencies, and will be used for periodic reporting as the implementation of the RTP moves forward. Based on the findings of this study and input from the Transit Performance Report, MAG will annually produce a Transportation System Monitoring and Performance Report.

**TABLE 9-5  
FIXED ROUTE BUS PERFORMANCE MEASURES (SYSTEM-WIDE)**

Measure	Target	2008 Results	2009 Results	2010 Results
<b>Cost Efficiency/Effectiveness</b>				
Farebox Recovery Ratio	25%	22.40%	22.30%	24.10%
Operating Cost per Boarding	\$2.52	\$3.05	\$3.00	\$3.50
Subsidy (Net Operating Cost per Boarding)	\$1.90	\$2.37	\$2.33	\$2.66
Operating Cost Per Revenue Mile	\$5.39	\$5.61	\$5.75	\$5.90
Average Fare	\$0.73	\$0.68	\$0.67	\$0.84
<b>Service Effectiveness</b>				
Annual Increase in Total Boardings	3.00%	3.50%	9%	-15.22%
Annual Increase in Average Boardings (Weekday/Sat., Sun.)	3.0%, 3.0%,3.0%	3.3%, 3.8%,12.1%	7.5%, 6.7%, 13.4%	-14.08%, - 14.08%, -16.58%
Avg. Boardings per Revenue Mile	2.1	1.84	2.02	1.69

Source: Valley Metro Transit Performance Report

**TABLE 9-6  
PARATRANSIT PERFORMANCE MEASURES**

Measure	Target	2008 Results	2009 Results	2010 Results
<b>Cost Efficiency/Effectiveness</b>				
Farebox Recovery Ratio	5.00%	4.00%	4.10%	6.30%
Operating Cost per Boarding	\$31.03	\$35.33	\$36.44	\$36.99
Subsidy (Net Operating Cost) per Boarding)	\$29.52	\$33.90	\$34.95	\$34.69
Operating Cost Per Revenue Hour	\$54.68	\$59.04	\$60.70	\$60.15
<b>Service Effectiveness</b>				
Annual Increase in Total Boardings	3.00%	-2.10%	-3.30%	-11.05%
Boardings per Revenue Hour	1.76	1.67	1.67	1.63
ADA On-time Performance	90.00%	94.70%	96.08%	97.35%

Source: Valley Metro Transit Performance Report

**TABLE 9-7  
LIGHT RAIL TRANSIT (LRT) PERFORMANCE MEASURES**

Measure	Target	Actual FY 09 July 1, 2008 thru June 30, 2009	Actual FY 10 July 1, 2009 thru June 30, 2010
<b><u>Cost Efficiency/Effectiveness</u></b>			
Farebox Recovery Ratio	25.00%	21.22%	27.99%
Operating Cost per Boarding	\$3.19	\$2.85	\$2.72
Subsidy (Net Operating Cost per Boarding)	\$2.34	\$2.24	\$1.96
Cost Per Revenue Mile	\$16.19	\$11.66	\$12.43
Average Fare	\$0.86	\$0.60	\$0.76
<b><u>Service Effectiveness</u></b>			
Annual Total Boardings	7,827,000	5,580,857	12,112,738
Boardings Average Weekday	26,090	No data	38,098
Boardings Average Saturday	20,800	No data	27,779
Boardings Average Sunday/Holiday	11,267	No data	16,801
Boardings per Vehicle Revenue Mile	3.94	No data	4.57
Boardings per Revenue Mile	8.04	4.1	4.57
Safety Incidents per 100,000 Vehicle Miles	N/A	0.16	0.41
Security Incidents per "x" Boardings	N/A	0	0
Complaints per "x" Boardings	28	No data	No data
On-Time Performance	95.00%	93.90%	95.80%
Miles Between Mechanical Failures	25,000	No data	11,738
Customer Satisfaction	89.00%	74%	No data

Source: Valley Metro Transit Performance Report

## **Appendix A**

### **Freeway/Highway Life Cycle Program**

**TABLE A-1**  
**FREEWAY/HIGHWAY LIFE CYCLE PROGRAM - NEW CORRIDORS**  
**EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031**  
**(2011 and Year of Expenditure Dollars in Millions)**

Map Code	Facility	Expenditures through FY 2011 (Year of Expenditure Dollars)				Estimated Future Costs: FY 2012-2026 (2010 Dollars)	Total Estimated Cost: FY 2006-2026 (2011 and YOE Dollars)	Estimated Future Costs: FY 2027-2031 (2011 Dollars)	Total Estimated Cost: FY 2006-2031 (2011 and YOE Dollars)	FY Prgm. for Final Construction	Project Length (Center-line Miles)	Other Information
		Design	R/W	Construc.	Total							
<b>SR 30 (I-10 Reliever)</b>												
F1	SR 85 to Loop 303	0.0	0.0	0.0	0.0	0.0	0.0	192.7	192.7	2031	11.0	Final construction moved beyond FY 2026 in FY 2010.
F2	Loop 303 to Loop 202	0.0	15.0	0.0	15.0	28.3	43.3	1,341.2	1,384.5	2031	13.0	Final construction moved beyond FY 2026 in FY 2010.
<b>Subtotal</b>		<b>0.0</b>	<b>15.0</b>	<b>0.0</b>	<b>15.0</b>	<b>28.3</b>	<b>43.3</b>	<b>1,533.9</b>	<b>1,577.2</b>		<b>24.0</b>	
<b>Loop 202 (South Mountain Freeway)</b>												
F3	I-10 (West) to 51st Avenue	0.3	0.0	0.0	0.3	1,042.3	1,042.6	0.0	1,042.6	2021	10.0	
F4	51st Avenue to Loop 202/I-10	0.1	0.0	0.0	0.1	877.1	877.2	0.0	877.2	2020	12.0	
<b>Subtotal</b>		<b>0.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.4</b>	<b>1,919.4</b>	<b>1,919.8</b>	<b>0.0</b>	<b>1,919.8</b>		<b>22.0</b>	
<b>Loop 303 (Estrella Freeway)</b>												
F5	I-17 to US 60 (Grand Avenue)	27.7	3.7	185.5	216.9	380.0	596.9	0.0	596.9	2021	18.0	Interim roadway (Happy Valley Rd. to I-17) completed in FY 2011.
F6	US 60 (Grand Avenue) to I-10	42.3	129.6	16.8	188.7	1,115.5	1,304.2	80.0	1,384.2	2014/2027	15.0	Includes final phase of Northern Pkwy. T.I.
F7	I-10 to I-10R/MC 85	0.0	0.0	0.0	0.0	102.0	102.0	229.0	331.0	2028	5.0	Final construction moved beyond FY 2026 in FY 2010.
<b>Subtotal</b>		<b>70.0</b>	<b>133.3</b>	<b>202.3</b>	<b>405.6</b>	<b>1,597.5</b>	<b>2,003.1</b>	<b>309.0</b>	<b>2,312.1</b>		<b>38.0</b>	
<b>SR 24 (Gateway Freeway)</b>												
F8	Loop 202 to Ellsworth Road	7.6	15.8	0.0	23.4	172.9	196.3	43.8	240.1	2027	2.0	Interim construction advanced to FY 2012; final construction moved beyond FY 2026 in FY 2010.
F9	Ellsworth Road to Meridian Road	0.0	0.0	0.0	0.0	58.8	58.8	157.8	216.6	2028	3.0	Final construction moved beyond FY 2026 in FY 2010.
<b>Subtotal</b>		<b>7.6</b>	<b>15.8</b>	<b>0.0</b>	<b>23.4</b>	<b>231.7</b>	<b>255.1</b>	<b>201.6</b>	<b>456.7</b>		<b>5.0</b>	
<b>Right-of-Way</b>												
F10	Right-of-Way Protection for Loop 303 (Extension south of MC 85 to Riggs Road)	0.0	0.0	0.0	0.0	0.0	0.0	46.6	46.6	2030		Acquisition moved beyond FY 2026.
F11	Right-of-Way Protection for SR 74 (US 60 to Loop 303)	0.0	0.0	0.0	0.0	18.7	18.7	26.1	44.8	2030		Acquisition moved beyond FY 2026.
<b>Subtotal</b>		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>18.7</b>	<b>18.7</b>	<b>72.7</b>	<b>91.4</b>			
<b>Sky Harbor Expressway</b>												
F12	Superior Ave. to University Dr.											Project deleted from program in FY 2008.
<b>Subtotal</b>		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>			

Map Code	Facility	Expenditures through FY 2011 (Year of Expenditure Dollars)				Estimated Future Costs: FY 2012-2026 (2010 Dollars)	Total Estimated Cost: FY 2006-2026 (2011 and YOE Dollars)	Estimated Future Costs: FY 2027-2031 (2011 Dollars)	Total Estimated Cost: FY 2006-2031 (2011 and YOE Dollars)	FY Prgm. for Final Construction	Project Length (Center-line Miles)	Other Information
		Design	R/W	Construc.	Total							
	<b>TOTAL</b>	78.0	164.1	202.3	444.4	3,795.6	4,240.0	2,117.2	6,357.2			

**TABLE A-2**  
**FREeway/HIGHWAY LIFE CYCLE PROGRAM - WIDEN EXISTING FACILITIES: GENERAL PURPOSE LANES**  
**EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031**  
**(2011 and Year of Expenditure Dollars in Millions)**

Map Code	Facility	Expenditures through FY 2011 (Year of Expenditure Dollars)				Estimated Future Costs: FY 2012-2026 (2011 Dollars)	Total Estimated Cost: FY 2006-2026 (2011 and YOE Dollars)	Estimated Future Costs: FY 2027-2031 (2011 Dollars)	Total Estimated Cost: FY 2006-2031 (2011 and YOE Dollars)	FY Prgm. for Final Construction	Project Length (Center-line Miles)	Other Information
		Design	R/W	Construc.	Total							
<b>I-10</b>												
F20	SR 85 to Loop 303	2.5	0.0	25.8	28.3	5.8	34.1	40.0	74.1	2009/2028	12.0	Includes advancement of segment between Loop 303 and Verrado Way as ARRA project in FY 2009, and was completed in FY 2011. Final construction of remainder moved beyond FY 2026 in FY 2010.
F21	Loop 303 to Loop 101	8.1	1.7	123.4	133.2	11.6	144.8	0.0	144.8	2009	9.0	Includes projects F22, F70 and F71; inside widening completed in FY 2010; outside widening completed in FY 2011.
F22	Dysart Road to Loop 101											Combined with project F21.
F23	Loop 101 to I-17	0.0	0.0	0.0	0.0	88.2	88.2	0.0	88.2	2019	7.0	
F24	SR 51 to 32nd Street											Project limits redefined from SR-51 to 40th to cover SR-51 to 32nd St.; Project dropped from program in FY 2010 and designated as an illustrative project in the 2010 RTP Update.
F25	32nd Street to Loop 202/Santan	0.2	50.0	3.2	53.4	633.2	686.6	0.0	686.6	2015	11.0	Includes auxiliary lane project from Southern Ave. to SR 143. Project limits redefined from 40th St. to Baseline to cover 32nd St. to 202L/Santan.
F26	Baseline Road to Loop 202/Santan											Combined with F25
F27	Loop 202/Santan Freeway to Riggs Rd.	0.0	0.0	0.0	0.0	73.7	73.7	0.0	73.7	2015	6.0	Includes project F72.
<b>Subtotal</b>		<b>10.8</b>	<b>51.7</b>	<b>152.4</b>	<b>214.9</b>	<b>812.5</b>	<b>1,027.4</b>	<b>40.0</b>	<b>1,067.4</b>			
<b>I-17</b>												
F28	New River Road to Anthem Way	0.0	0.0	0.0	0.0	0.0	0.0	57.4	57.4	2028	3.0	Final construction moved beyond FY 2026 in FY 2010.

Map Code	Facility	Expenditures through FY 2011 (Year of Expenditure Dollars)				Estimated Future Costs: FY 2012-2026 (2011 Dollars)	Total Estimated Cost: FY 2006-2026 (2011 and YOE Dollars)	Estimated Future Costs: FY 2027-2031 (2011 Dollars)	Total Estimated Cost: FY 2006-2031 (2011 and YOE Dollars)	FY Prgm. for Final Construction	Project Length (Center-line Miles)	Other Information
		Design	R/W	Construc.	Total							
F29	Anthem Way to Carefree Highway	2.5	0.0	13.6	16.1	6.4	22.5	83.6	106.1	2009/2027	5.0	Includes project F73. Interim GP lane improvements were completed in FY 2010 as an ARRA project. Final construction of remainder moved beyond FY 2026 in FY 2010.
F30	Carefree Highway to Loop 101	12.8	117.0	169.3	299.1	0.0	299.1	0.0	299.1	2008	9.0	Includes project F74; project completed in FY 2010.
F31	Loop 101 to Arizona Canal	0.0	0.0	0.0	0.0	92.4	92.4	0.0	92.4	2015	6.0	
F32	Arizona Canal to McDowell Road	0.0	0.0	0.0	0.0	598.6	598.6	0.0	598.6	2024	7.0	
	<b>Subtotal</b>	<b>15.3</b>	<b>117.0</b>	<b>182.9</b>	<b>315.2</b>	<b>697.4</b>	<b>1,012.6</b>	<b>141.0</b>	<b>1,153.6</b>			
<b>Loop 101 (Agua Fria Freeway)</b>												
F33	US 60/Grand Avenue to I-17	0.0	0.0	0.0	0.0	0.0	0.0	150.4	150.4	2029	12.0	Final construction moved beyond FY 2026 in FY 2010.
F34	I-10 to US 60/Grand Avenue	0.0	0.0	0.0	0.0	7.6	7.6	108.8	116.4	2027	10.0	Final construction moved beyond FY 2026 in FY 2010.
	<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>7.6</b>	<b>7.6</b>	<b>259.2</b>	<b>266.8</b>			
<b>Loop 101 (Pima Freeway)</b>												
F35	I-17 to SR 51	0.0	0.0	0.0	0.0	73.5	73.5	0.0	73.5	2024	7.0	
F36	SR 51 to Princess Drive	0.0	0.0	0.0	0.0	77.9	77.9	0.0	77.9	2021	6.0	
F37	Princess Drive to Shea Boulevard	0.0	0.0	0.0	0.0	56.4	56.4	0.0	56.4	2021	4.0	
F38	Shea Boulevard to Loop 202 (Red Mt.)	4.9	0.0	0.0	4.9	92.5	97.4	0.0	97.4	2014	11.0	
	<b>Subtotal</b>	<b>4.9</b>	<b>0.0</b>	<b>0.0</b>	<b>4.9</b>	<b>300.3</b>	<b>305.2</b>	<b>0.0</b>	<b>305.2</b>			
<b>Loop 101 (Price Freeway)</b>												
F39	Baseline Road to Loop 202/Santan	0.0	0.0	0.0	0.0	53.4	53.4	0.0	53.4	2023	6.0	
	<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>53.4</b>	<b>53.4</b>	<b>0.0</b>	<b>53.4</b>			
<b>Loop 202 (Red Mountain Freeway)</b>												
F40	I-10/SR 51 to Loop 101 (Pima)	0.9	0.0	211.4	212.3	14.7	227.0	0.0	227.0	2008	9.0	Includes project F41; converted to design-build project in FY 2008; project completed in FY 2010.
F41	Rural Road to Loop 101 (EB & WB)											Combined with project F40.
F42	Loop 101 to Gilbert Road	0.2	0.0	0.0	0.2	60.1	60.3	0.0	60.3	2015	6.0	
F43	Gilbert Road to Higley Road	0.0	0.0	0.0	0.0	0.0	0.0	51.9	51.9	2028	5.0	Final construction moved beyond FY 2026 in FY 2010.
F44	Higley Road to US 60/Superstition	0.0	0.0	0.0	0.0	0.0	0.0	108.3	108.3	2029	10.0	Final construction moved beyond FY 2026 in FY 2010.

Map Code	Facility	Expenditures through FY 2011 (Year of Expenditure Dollars)				Estimated Future Costs: FY 2012-2026 (2011 Dollars)	Total Estimated Cost: FY 2006-2026 (2011 and YOE Dollars)	Estimated Future Costs: FY 2027-2031 (2011 Dollars)	Total Estimated Cost: FY 2006-2031 (2011 and YOE Dollars)	FY Prgm. for Final Construction	Project Length (Center-line Miles)	Other Information
		Design	R/W	Construc.	Total							
	<b>Subtotal</b>	<b>1.1</b>	<b>0.0</b>	<b>211.4</b>	<b>212.5</b>	<b>74.8</b>	<b>287.3</b>	<b>160.2</b>	<b>447.5</b>			
<b>Loop 202 (Santan Freeway)</b>												
F45	I-10 to Dobson Rd.	0.0	0.0	0.0	0.0	3.3	3.3	47.0	50.3	2027	5.0	Final construction moved beyond FY 2026 in FY 2010.
F46	Dobson Rd. to Val Vista Dr.	0.0	0.0	0.0	0.0	0.0	0.0	83.5	83.5	2029	7.0	Final construction moved beyond FY 2026 in FY 2010.
F47	Val Vista Road to US 60	0.0	0.0	0.0	0.0	0.0	0.0	104.0	104.0	2030	11.0	Final construction moved beyond FY 2026 in FY 2010.
	<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>3.3</b>	<b>3.3</b>	<b>234.5</b>	<b>237.8</b>			
<b>SR 51 (Piestewa Freeway)</b>												
F48	Loop 101/Pima to Shea Boulevard	0.0	0.0	0.0	0.0	4.0	4.0	56.2	60.2	2027	6.0	Final construction moved beyond FY 2026 in FY 2010.
	<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>4.0</b>	<b>4.0</b>	<b>56.2</b>	<b>60.2</b>			
<b>SR 85</b>												
F49	I-10 to I-8	1.5	2.0	69.6	73.1	107.0	180.1	0.0	180.1	2018	32.5	Includes project F50. Completed in FY 2011.
F50	Hazen Road to I-8											Combined with project F49.
	<b>Subtotal</b>	<b>1.5</b>	<b>2.0</b>	<b>69.6</b>	<b>73.1</b>	<b>107.0</b>	<b>180.1</b>	<b>0.0</b>	<b>180.1</b>			
<b>US 60 (Grand Avenue)</b>												
F51	Loop 303 to Loop 101	3.9	0.9	21.5	26.3	66.6	92.9	0.0	92.9	2009/2016	10.0	Widening phase identified as an ARRA project for programming in FY 2009. Completed in FY 2011.
F52	Loop 101 to Van Buren Street	2.8	0.0	0.0	2.8	71.3	74.1	67.5	141.6	2030	11.0	Final construction moved beyond FY 2026 in FY 2010.
F53	99th Ave. to 83rd Ave.	0.7	0.0	8.5	9.2	1.4	10.6	0.0	10.6	2009	2.0	Designated as an ARRA project. Completed in FY 2011.
	83rd Ave. / Peoria Ave.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2006	0.5	Project completed in FY 2007.
F54	71st Ave. to Grand Canal Bridge	0.0	0.0	3.0	3.0	1.0	4.0	0.0	4.0	2006	6.5	Project completed in FY 2008.
	<b>Subtotal</b>	<b>7.4</b>	<b>0.9</b>	<b>33.0</b>	<b>41.3</b>	<b>140.3</b>	<b>181.6</b>	<b>67.5</b>	<b>249.1</b>			
<b>US 60 (Superstition Freeway)</b>												
F55	I-10 to Loop 101	0.0	0.0	25.5	25.5	0.0	25.5	0.0	25.5	2008	5.0	Project completed in FY 2010.
F56	Gilbert Rd. to Power Road	1.0	0.0	86.7	87.7	0.0	87.7	0.0	87.7	2006	6.0	Includes project F91. Project completed in FY 2007.
F57	Crison Road to Meridian Road	0.0	0.0	0.0	0.0	28.4	28.4	0.0	28.4	2017	2.0	Includes project F92.
	<b>Subtotal</b>	<b>1.0</b>	<b>0.0</b>	<b>112.2</b>	<b>113.2</b>	<b>28.4</b>	<b>141.6</b>	<b>0.0</b>	<b>141.6</b>			
<b>US 93 (Wickenburg Bypass)</b>												
F58	Wickenburg Bypass	0.0	15.1	27.1	42.2	0.0	42.2	0.0	42.2	2007	1.7	Project completed in FY 2010.
	<b>Subtotal</b>	<b>0.0</b>	<b>15.1</b>	<b>27.1</b>	<b>42.2</b>	<b>0.0</b>	<b>42.2</b>	<b>0.0</b>	<b>42.2</b>			

Map Code	Facility	Expenditures through FY 2011 (Year of Expenditure Dollars)				Estimated Future Costs: FY 2012-2026 (2011 Dollars)	Total Estimated Cost: FY 2006-2026 (2011 and YOE Dollars)	Estimated Future Costs: FY 2027-2031 (2011 Dollars)	Total Estimated Cost: FY 2006-2031 (2011 and YOE Dollars)	FY Prgm. for Final Construction	Project Length (Center-line Miles)	Other Information
		Design	R/W	Construc.	Total							
	<b>SR 143 (Hohokam Expressway)</b>											
F59	Sky Harbor Blvd. T.I.	4.9	0.0	5.8	10.7	13.8	24.5	0.0	24.5	2011	1.0	Project added to program in FY 2008.
	<b>Subtotal</b>	<b>4.9</b>	<b>0.0</b>	<b>5.8</b>	<b>10.7</b>	<b>13.8</b>	<b>24.5</b>	<b>0.0</b>	<b>24.5</b>			
	<b>TOTAL</b>	<b>46.9</b>	<b>186.7</b>	<b>794.4</b>	<b>1,028.0</b>	<b>2,242.8</b>	<b>3,270.8</b>	<b>958.6</b>	<b>4,229.4</b>			

**TABLE A-3**  
**FREEWAY/HIGHWAY LIFE CYCLE PROGRAM - WIDEN EXISTING FACILITIES: HIGH OCCUPANCY VEHICLE LANES**  
**EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031**  
**(2010 and Year of Expenditure Dollars in Millions)**

Map Code	Facility	Expenditures through FY 2011 (Year of Expenditure Dollars)				Estimated Future Costs: FY 2012-2026 (2011 Dollars)	Total Estimated Cost: FY 2006-2026 (2011 and YOE Dollars)	Estimated Future Costs: FY 2027-2031 (2011 Dollars)	Total Estimated Cost: FY 2006-2031 (2011 and YOE Dollars)	FY Prgm. for Final Construction	Project Length (Center-line Miles)	Other Information
		Design	R/W	Construc.	Total							
<b>I-10</b>												
F70	Loop 303 to Dysart Road											Combined with project F21.
F71	Dysart Road to Loop 101											Combined with project F21.
F72	Loop 202/Santan to Riggs Road											Combined with project F27.
	<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>			
<b>I-17</b>												
F73	Anthem Way to Carefree Highway											Combined with project F29.
F74	Carefree Highway to Loop 101											Combined with project F30.
F75	I-10 (West) to I-10 (East)	0.0	0.0	0.0	0.0	400.0	400.0	0.0	400.0	2025	7.0	Expanded to include GP lanes.
	<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>400.0</b>	<b>400.0</b>	<b>0.0</b>	<b>400.0</b>			
<b>Loop 101 (Agua Fria Freeway)</b>												
F76	I-10 to SR-51	0.0	0.0	53.9	53.9	58.3	112.2	0.0	112.2	2010	29.0	Includes F77 and F78. Project limits expanded from US 60 to I-17 to cover I-10 to SR 51. Design-build project.
F77	I-10 to US 60/Grand Avenue											Combined with F76.
	<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>53.9</b>	<b>53.9</b>	<b>58.3</b>	<b>112.2</b>	<b>0.0</b>	<b>112.2</b>			
<b>Loop 101 (Pima Freeway)</b>												
F78	I-17 to SR 51 (Tatum)											Combined with F76.
F79	SR 51 (Tatum) to Princess Drive	1.4	0.0	16.0	17.4	1.4	18.8	0.0	18.8	2008	6.0	Project completed in FY 2010.
F80	Princess Drive to Loop 202 (Red Mt.)	5.7	0.0	56.1	61.8	0.0	61.8	0.0	61.8	2007	4.0	Project completed in FY 2009.
F81	Shea Boulevard to Loop 202											Combined with project F80.
	<b>Subtotal</b>	<b>7.1</b>	<b>0.0</b>	<b>72.1</b>	<b>79.2</b>	<b>1.4</b>	<b>80.6</b>	<b>0.0</b>	<b>80.6</b>			
<b>Loop 101 (Price Freeway)</b>												
F82	Loop 202/Red Mountain to Loop 202/Santan	3.1	0.0	35.3	38.4	4.8	43.2	0.0	43.2	2008	10.0	Includes project F83. Project completed in FY 2010.
F83	Baseline to Loop 202/Santan											Combined with project F82
	<b>Subtotal</b>	<b>3.1</b>	<b>0.0</b>	<b>35.3</b>	<b>38.4</b>	<b>4.8</b>	<b>43.2</b>	<b>0.0</b>	<b>43.2</b>			

Map Code	Facility	Expenditures through FY 2011 (Year of Expenditure Dollars)				Estimated Future Costs: FY 2012-2026 (2011 Dollars)	Total Estimated Cost: FY 2006-2026 (2011 and YOE Dollars)	Estimated Future Costs: FY 2027-2031 (2011 Dollars)	Total Estimated Cost: FY 2006-2031 (2011 and YOE Dollars)	FY Prgm. for Final Construction	Project Length (Center-line Miles)	Other Information
		Design	R/W	Construc.	Total							
<b>Loop 202 (Red Mountain Freeway)</b>												
F84	Loop 101 to Gilbert Road	2.6	0.0	23.0	25.6	1.2	26.8	0.0	26.8	2008	6.0	Project completed in FY 2010.
F85	Gilbert Road to Higley Road	0.0	0.0	0.0	0.0	18.1	18.1	0.0	18.1	2019	5.0	
F86	Higley Road to US 60/Superstition	0.0	0.0	0.0	0.0	34.5	34.5	0.0	34.5	2022	10.0	
	<b>Subtotal</b>	<b>2.6</b>	<b>0.0</b>	<b>23.0</b>	<b>25.6</b>	<b>53.8</b>	<b>79.4</b>	<b>0.0</b>	<b>79.4</b>			
<b>Loop 202 (Santan Freeway)</b>												
F87	I-10 to Gilbert Road	0.0	0.0	61.4	61.4	46.7	108.1	0.0	108.1	2010	10.5	Includes project F128 and F129 and portion of F88. Project limits extended from I-10 to Dobson Rd. to cover I-10 to Gilbert Rd. Design-build project.
F88	Dobson Road to Val Vista Road											Project combined with F87 and F89.
F89	Gilbert Rd. to US 60 (Superstition)	0.0	0.0	0.0	0.0	50.2	50.2	0.0	50.2	2022	14.5	Includes portion of F88. Project limits extended from Val Vista Dr. to US 60 to cover Gilbert Rd. to US 60.
	<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>61.4</b>	<b>61.4</b>	<b>96.9</b>	<b>158.3</b>	<b>0.0</b>	<b>158.3</b>			
<b>SR 51 (Piestewa Freeway)</b>												
F90	Loop 101/Pima to Shea Boulevard	3.4	0.0	48.0	51.4	0.0	51.4	0.0	51.4	2007	6.0	Includes project F130. Project completed in FY 2009.
	<b>Subtotal</b>	<b>3.4</b>	<b>0.0</b>	<b>48.0</b>	<b>51.4</b>	<b>0.0</b>	<b>51.4</b>	<b>0.0</b>	<b>51.4</b>			
<b>US 60 (Superstition Freeway)</b>												
F91	Gilbert Road to Power Road											Combined with project F56.
F92	Crismon Road to Meridian Road											Combined with project F57.
	<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>			
	<b>TOTAL</b>	<b>16.2</b>	<b>0.0</b>	<b>293.7</b>	<b>309.9</b>	<b>615.2</b>	<b>925.1</b>	<b>0.0</b>	<b>925.1</b>			

**TABLE A-4**  
**FREEWAY/HIGHWAY LIFE CYCLE PROGRAM - NEW ARTERIAL INTERCHANGES ON EXISTING FACILITIES**  
**EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031**  
**(2010 and Year of Expenditure Dollars in Millions)**

Map Code	Facility	Expenditures through FY 2011 (Year of Expenditure Dollars)				Estimated Future Costs: FY 2012-2026 (2011 Dollars)	Total Estimated Cost: FY 2006-2026 (2011 and YOE Dollars)	Estimated Future Costs: FY 2027-2031 (2011 Dollars)	Total Estimated Cost: FY 2006-2031 (2011 and YOE Dollars)	FY Prgm. for Final Construction	Project Length (Center-line Miles)	Other Information
		Design	R/W	Construc.	Total							
<b>I-10</b>												
F100	Bullard Avenue	1.1	5.5	9.6	16.2	0.0	16.2	0.0	16.2	2007	N/A	Project completed in FY 2008.
F101	Chandler Heights	0.0	0.0	0.0	0.0	22.9	22.9	0.0	22.9	2022	N/A	
F102	El Mirage	0.0	0.0	0.0	0.0	20.3	20.3	0.0	20.3	2023	N/A	
F103	Perryville Road	0.1	0.0	0.0	0.1	21.0	21.1	0.0	21.1	2013	N/A	
F104	Sky Harbor West Access	0.0	0.0	0.0	0.0	50.6	50.6	0.0	50.6	2015	N/A	Project added to program in FY 2010.
	<b>Subtotal</b>	<b>1.2</b>	<b>5.5</b>	<b>9.6</b>	<b>16.3</b>	<b>114.8</b>	<b>131.1</b>	<b>0.0</b>	<b>131.1</b>			
<b>I-17</b>												
F104	Dixileta Drive/Jomax Road	2.8	2.7	40.2	45.7	4.0	49.7	0.0	49.7	2007	N/A	Includes project F106. Project completed in FY 2009.
F105	Dove Valley Road	2.2	0.0	20.2	22.4	2.6	25.0	0.0	25.0	2009	N/A	Local advancement; project completed in FY 2010.
F106	Jomax Road											Combined with project F104.
	<b>Subtotal</b>	<b>5.0</b>	<b>2.7</b>	<b>60.4</b>	<b>68.1</b>	<b>6.6</b>	<b>74.7</b>	<b>0.0</b>	<b>74.7</b>			
<b>Loop 101 (Agua Fria Freeway)</b>												
F107	Beardsley Road/Union Hills Drive	0.6	0.0	16.8	17.4	0.3	17.7	0.0	17.7	2009	N/A	Local advancement. Identified as an ARRA project. Completed in FY 2011.
F108	Bethany Home Road	1.5	0.0	8.4	9.9	0.0	9.9	0.0	9.9	2006	N/A	Project completed in FY 2008.
	<b>Subtotal</b>	<b>2.1</b>	<b>0.0</b>	<b>25.2</b>	<b>27.3</b>	<b>0.3</b>	<b>27.6</b>	<b>0.0</b>	<b>27.6</b>			
<b>Loop 101 (Pima Freeway)</b>												
F109	64th Street	2.3	1.1	24.1	27.5	3.9	31.4	0.0	31.4	2007	N/A	Project completed in FY 2009.
	<b>Subtotal</b>	<b>2.3</b>	<b>1.1</b>	<b>24.1</b>	<b>27.5</b>	<b>3.9</b>	<b>31.4</b>	<b>0.0</b>	<b>31.4</b>			
<b>Loop 202 (Red Mountain Freeway)</b>												
F110	Mesa Drive (Ramps Only)	0.0	0.0	0.0	0.0	0.0	0.0	13.5	13.5	2030	N/A	Final construction moved beyond FY 2026 in FY 2010.
	<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>13.5</b>	<b>13.5</b>			
<b>US 60 (Superstition Freeway)</b>												

Map Code	Facility	Expenditures through FY 2011 (Year of Expenditure Dollars)				Estimated Future Costs: FY 2012- 2026 (2011 Dollars)	Total Estimated Cost: FY 2006- 2026 (2011 and YOE Dollars)	Estimated Future Costs: FY 2027- 2031 (2011 Dollars)	Total Estimated Cost: FY 2006- 2031 (2011 and YOE Dollars)	FY Prgm. for Final Construc- tion	Project Length (Center- line Miles)	Other Information
		Design	R/W	Construc.	Total							
F111	Lindsay Road (Half Interchange)	0.0	0.0	0.0	0.0	0.6	0.6	7.6	8.2	2027	N/A	Final construction moved beyond FY 2026 in FY 2010.
F112	Meridian Road (Half Interchange)	0.0	0.0	0.0	0.0	12.5	12.5	0.0	12.5	2013	N/A	
	<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>13.1</b>	<b>13.1</b>	<b>7.6</b>	<b>20.7</b>			
<b>Other Arterial Interchange Improvements</b>												
	Deer Valley Road at I-17											Deleted from program in FY 2006.
	Higley Road at US 60	0.3	0.0	5.0	5.3	0.0	5.3	0.0	5.3	2007	N/A	Project completed in FY 2008.
	Ray Road at I-10	0.0	0.0	9.4	9.4	0.0	9.4	0.0	9.4	2006	N/A	Project completed in FY 2008.
	Carefree Highway at I-17	1.4	0.0	22.4	23.8	1.2	25.0	0.0	25.0	2007	N/A	Project completed in FY 2009.
	43rd Avenue at I-10	0.3	0.0	2.5	2.8	0.0	2.8	0.0	2.8	2007	N/A	Project completed in FY 2008.
	51st Avenue at I-10											Combined with 43rd Avenue.
	Avondale Blvd. at I-10	0.0	0.0	2.7	2.7	0.0	2.7	0.0	2.7	2010	N/A	Included in program in FY 2009. Completed in FY 2011.
	SR 347 at I-10	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.2	2008	N/A	Included in program in FY 2007
	Cactus Rd. at I-17	0.0	0.0	6.7	6.7	0.1	6.8	0.0	6.8	2006	N/A	Project completed in FY 2008.
	Thunderbird Rd at Loop 101	0.0	0.0	3.4	3.4	0.0	3.4	0.0	3.4	2008	N/A	Included in program in FY 2007; project completed in FY 2010.
	Olive Ave. at Loop 102	0.0	0.0	2.5	2.5	0.0	2.5	0.0	2.5	2009	N/A	Included in program in FY 2009.
	Chaparral Rd. at Loop 101	0.0	0.0	0.8	0.8	0.0	0.8	0.0	0.8	2010	N/A	Included in program in FY 2009. Completed in FY 2011.
	<b>Subtotal</b>	<b>2.0</b>	<b>0.0</b>	<b>55.4</b>	<b>57.4</b>	<b>1.5</b>	<b>58.9</b>	<b>0.0</b>	<b>58.9</b>			
	<b>TOTAL</b>	<b>12.6</b>	<b>9.3</b>	<b>174.7</b>	<b>196.6</b>	<b>140.2</b>	<b>336.8</b>	<b>21.1</b>	<b>357.9</b>			

**TABLE A-5**  
**FREEWAY/HIGHWAY LIFE CYCLE PROGRAM - NEW HOV RAMPS AT FREEWAY-TO-FREEWAY INTERCHANGES**  
**EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031**  
**(2010 and Year of Expenditure Dollars in Millions)**

Map Code	Facility	Expenditures through FY 2011 (Year of Expenditure Dollars)				Estimated Future Costs: FY 2012-2026 (2011 Dollars)	Total Estimated Cost: FY 2006-2026 (2011 and YOY Dollars)	Estimated Future Costs: FY 2027-2031 (2011 Dollars)	Total Estimated Cost: FY 2006-2031 (2011 and YOY Dollars)	FY Prgm. for Final Construction	Project Length (Center-line Miles)	Other Information
		Design	R/W	Construc.	Total							
<b>Loop 101</b>												
F125	I-10											Project dropped from program in FY 2010 and designated as an illustrative project in the 2010 RTP Update.
F126	I-17											Project dropped from program in FY 2010 and designated as an illustrative project in the 2010 RTP Update.
	<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>			
<b>Loop 202 (Red Mountain Freeway)</b>												
F127	Red Mountain and US 60 (Superstition)	0.0	0.0	0.0	0.0	0.0	0.0	42.1	42.1	2029	N/A	Final construction moved beyond FY 2026 in FY 2010.
F128	Santan and I-10											Combined with project F87.
F129	Santan and Loop 101 / Price											Combined with project F87.
	<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>42.1</b>	<b>42.1</b>			
<b>SR 51</b>												
F130	Loop 101 / Pima										N/A	Combined with project F90.
	<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>			
	<b>TOTAL</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>42.1</b>	<b>42.1</b>			

**TABLE A-6**  
**FREEWAY/HIGHWAY LIFE CYCLE PROGRAM - OPERATIONS, MAINTENANCE AND SYSTEMWIDE PROGRAMS**  
**EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031**  
**(2010 and Year of Expenditure Dollars in Millions)**

Facility	Expenditures through FY 2011 (Year of Expenditure Dollars)			Estimated Future Costs: FY 2012- 2026 (2011 Dollars)	Total Estimated Cost: FY 2006- 2026 (2011 and YOE Dollars)	Estimated Future Costs: FY 2027- 2031 (2011 Dollars)	Total Estimated Cost: FY 2006- 2031 (2011 and YOE Dollars)	FY Prgm. for Implementation	Other Information
	Operating	Capital	Total						
<b>Freeway Management System</b>									
Freeway Management System	0.2	10.2	10.4	139.6	150.0	0.0	150.0	2011-2026	Includes all corridor-specific FMS projects, ramp meters, as well as systemwide FMS activities.
<b>Subtotal</b>	<b>0.2</b>	<b>10.2</b>	<b>10.4</b>	<b>139.6</b>	<b>150.0</b>	<b>0.0</b>	<b>150.0</b>		
<b>Maintenance</b>									
Maintenance (Landscaping, including restoration and litter pick-up)	52.9	0.0	52.9	203.2	256.1	82.5	338.6	2011-2026	
<b>Subtotal</b>	<b>52.9</b>	<b>0.0</b>	<b>52.9</b>	<b>203.2</b>	<b>256.1</b>	<b>82.5</b>	<b>338.6</b>		
<b>Noise Mitigation</b>									
Noise Mitigation (noise walls and quiet pavement).	0.1	43.7	43.8	54.9	98.7	120.0	218.7	2011-2026	
<b>Subtotal</b>	<b>0.1</b>	<b>43.7</b>	<b>43.8</b>	<b>54.9</b>	<b>98.7</b>	<b>120.0</b>	<b>218.7</b>		
<b>Systemwide</b>									
Right-of-Way Plans and Titles, Property Management, Advanced R/W Acquisition	2.9	32.9	35.8	83.6	119.4	7.8	127.2	2011-2026	
Preliminary Engineering, Design Change Orders, Risk Management, and Miscel. Studies.	111.9	0.0	111.9	277.8	389.7	74.0	463.7	2011-2026	
Minor projects (park-n-ride lots, T.I. improvements and freeway service patrol).	0.1	43.0	43.1	0.0	43.1	0.0	43.1	2011-2026	
<b>Subtotal</b>	<b>114.9</b>	<b>75.9</b>	<b>190.8</b>	<b>361.4</b>	<b>552.2</b>	<b>81.8</b>	<b>634.0</b>		
<b>TOTAL</b>	<b>168.1</b>	<b>129.8</b>	<b>297.9</b>	<b>759.1</b>	<b>1,057.0</b>	<b>284.3</b>	<b>1,341.3</b>		

**TABLE A-7**  
**FREEWAY/HIGHWAY LIFE CYCLE PROGRAM - OTHER PROJECTS**  
**EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031**  
**(2010 and Year of Expenditure Dollars in Millions)**

Facility	Expenditures through FY 2011 (Year of Expenditure Dollars)				Est. Future Costs: FY 2012- 2026 (2011 Dollars)	Total Est. Cost: FY 2006-2026 (2011 and YOE Dollars)	Est. Future Costs: FY 2027- 2031 (2011 Dollars)	Total Est. Cost: FY 2006-2031 (2011 and YOE Dollars)	FY Prgm. for Final Construc- tion	Project Length (Center- line Miles)	Other Information
	Design	R/W	Construc.	Total							
<b>I-17</b>											
Greenway Rd./Thunderbird Rd. (Drainage Improvements)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		N/A	Combined with Peoria Avenue.
Peoria Ave./Cactus Rd. (Drainage Improvements)	0.0	0.0	0.0	0.0	16.5	16.5	0.0	16.5	2015	N/A	Includes Greenway/Thunderbird.
Bethany Home Rd. - Northern Ave., Alhambra District (Construction)	0.2	0.0	0.0	0.2	2.1	2.3	0.0	2.3	2011	N/A	
16th Street - Buckeye Rd.	0.0	0.0	4.6	4.6	0.0	4.6	0.0	4.6	2006	N/A	Project completed in FY 2008.
Buckeye Rd./Northbound On-Ramp (Construction)										N/A	Project deleted in FY 2006.
I-10 to Indian School Rd.	0.0	0.0	1.4	1.4	0.0	1.4	0.0	1.4	2010	N/A	Project added in FY 2010 (ARRA). Completed in FY 2011.
<b>Subtotal</b>	<b>0.2</b>	<b>0.0</b>	<b>6.0</b>	<b>6.2</b>	<b>18.6</b>	<b>24.8</b>	<b>0.0</b>	<b>24.8</b>			
<b>US 60 (Superstition Freeway)</b>											
Val Vista to Power (landscape)	0.0	0.0	4.9	4.9	0.1	5.0	0.0	5.0	2007	N/A	Included in program in FY 2006. Completed in FY 2009.
<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>4.9</b>	<b>4.9</b>	<b>0.1</b>	<b>5.0</b>	<b>0.0</b>	<b>5.0</b>			
<b>SR 74</b>											
Passing Lanes	0.0	0.0	5.4	5.4	0.5	5.9	0.0	5.9	2010	N/A	Included in program in FY 2006. Completed in FY 2011.
<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>5.4</b>	<b>5.4</b>	<b>0.5</b>	<b>5.9</b>	<b>0.0</b>	<b>5.9</b>			
<b>SR 87</b>											
Forest Boundary - New Four Peaks (Construction)	0.0	0.0	22.3	22.3	0.0	22.3	0.0	22.3	2007	N/A	Project completed in FY 2009.
MP 211.8 - MP 213.0	0.0	0.0	0.0	0.0	1.4	1.4	0.0	1.4	2010	N/A	Included in program in FY 2007.
New Four Peaks Road - Dos S South Ranch Road	2.3	0.0	12.1	14.4	0.7	15.1	0.0	15.1	2010	N/A	Included in program in FY 2007. Completed in FY 2011.
<b>Subtotal</b>	<b>2.3</b>	<b>0.0</b>	<b>34.4</b>	<b>36.7</b>	<b>2.1</b>	<b>38.8</b>	<b>0.0</b>	<b>38.8</b>			
<b>SR 88</b>											
Apache Trail (District Force Account)	0.0	0.0	0.2	0.2	0.0	0.2	0.0	0.2	2006	N/A	Project completed in FY 2007.
Fish Creek Hill	0.2	0.0	0.0	0.2	0.0	0.2	0.0	0.2		N/A	Dropped from program in FY 2010.
<b>Subtotal</b>	<b>0.2</b>	<b>0.0</b>	<b>0.2</b>	<b>0.4</b>	<b>0.0</b>	<b>0.4</b>	<b>0.0</b>	<b>0.4</b>			

Facility	Expenditures through FY 2011 (Year of Expenditure Dollars)				Est. Future Costs: FY 2012- 2026 (2011 Dollars)	Total Est. Cost: FY 2006-2026 (2011 and YOЕ Dollars)	Est. Future Costs: FY 2027- 2031 (2011 Dollars)	Total Est. Cost: FY 2006-2031 (2011 and YOЕ Dollars)	FY Prgm. for Final Construc- tion	Project Length (Center- line Miles)	Other Information
	Design	R/W	Construc.	Total							
<b>Loop 101 (Agua Fria Freeway)</b>											
I-10 - MC 85 (99th Avenue)	0.6	0.0	2.5	3.1	3.0	6.1	0.0	6.1	2010	N/A	Project completed in FY 2011.
Northern Ave. to 31st Ave. (Landscape)	0.2	0.0	0.0	0.2	1.3	1.5	0.0	1.5	2007	N/A	Project completed in FY 2008.
Skunk Crk. To Union Hills	0.0	0.0	2.5	2.5	0.0	2.5	0.0	2.5	2007	N/A	Project completed in FY 2008.
I-10 to I-17 (Traffic Flow Imprv.)	0.0	0.0	9.7	9.7	0.0	9.7	0.0	9.7	2007	N/A	Project completed in FY 2008.
Northern Ave. To Grand Ave. (SB)	0.0	0.0	1.6	1.6	0.4	2.0	0.0	2.0	2010	N/A	Project added FY 2010 (ARRA). Completed in FY 2011.
51st Ave. to 35th Ave. (EB)	0.0	0.0	1.4	1.4	0.3	1.7	0.0	1.7	2010	N/A	Project added FY 2010 (ARRA). Completed in FY 2011.
<b>Subtotal</b>	<b>0.8</b>	<b>0.0</b>	<b>17.7</b>	<b>18.5</b>	<b>5.0</b>	<b>23.5</b>	<b>0.0</b>	<b>23.5</b>			
<b>Loop 101 (Pima Freeway)</b>											
Pima Road Extension (JPA)	0.0	0.0	0.0	0.0	3.9	3.9	0.0	3.9	2007	N/A	Included in program in FY 2008.
<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>3.9</b>	<b>3.9</b>	<b>0.0</b>	<b>3.9</b>			
<b>Loop 101 (Price Freeway)</b>											
Balboa Dr., Multi-Use Path (Local)	0.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2015	N/A	
Galveston St. (Drainage)	0.0	0.0	0.0	0.0	2.1	2.1	0.0	2.1	2009	N/A	Included in program in FY 2009.
<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>4.1</b>	<b>4.1</b>	<b>0.0</b>	<b>4.1</b>			
<b>Loop 202 (Santan Freeway)</b>											
Lindsey Rd. to Gilbert Rd., Multi-Use Path	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.5	2012	N/A	
<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.5</b>	<b>0.5</b>	<b>0.0</b>	<b>0.5</b>			
<b>TOTAL</b>	<b>3.5</b>	<b>0.0</b>	<b>68.6</b>	<b>72.1</b>	<b>34.8</b>	<b>106.9</b>	<b>0.0</b>	<b>106.9</b>			

**TABLE A-8  
FREEWAY/HIGHWAY LIFE CYCLE PROGRAM - SUMMARY TOTALS  
EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031  
(2010 and Year of Expenditure Dollars in Millions)**

Facility	Expenditures through FY 2010 (Year of Expenditure Dollars)				Est. Future Costs: FY 2011- 2026 (2010 Dollars)	Total Est. Cost: FY 2006-2026 (2010 and YOЕ Dollars)	Est. Future Costs: FY 2027- 2031 (2010 Dollars)	Total Est. Cost: FY 2006-2031 (2010 and YOЕ Dollars)	FY Prgm. for Final Construc- tion	Project Length (Center- line Miles)	Other Information
	Design	R/W	Const.	Total							
<b>SUMMARY TOTALS</b>	<b>325.3</b>	<b>393.0</b>	<b>1,630.6</b>	<b>2,348.9</b>	<b>7,587.7</b>	<b>9,936.6</b>	<b>3,423.3</b>	<b>13,359.9</b>			

## **Appendix B**

### **Arterial Street Life Cycle Program**

**TABLE B-1**  
**ARTERIAL STREET LIFE CYCLE PROGRAM**  
**REGIONAL FUNDING REIMBURSEMENTS AND TOTAL EXPENDITURES: FY 2006-2026**  
**(2010 and Year of Expenditure Dollars in Millions)**

YOE Year of Expenditure                      CONST Construction                      All Arterial Intersection Improvements  
FY Fiscal Year                                      Expend Expenditures                      ACI Arterial Capacity Improvements  
\$ Dollars    Reimb Reimbursement(s)                      \* Measured in centerline miles

MAP CODE	FACILITY/LOCATION	PROJECT TYPE	REGIONAL FUNDING			TOTAL EXPENDITURES			FINAL FY for CONST	LENGTH* (Miles)	OTHER PROJECT INFORMATION
			Reimb through FY10 (YOES)	Estimated Future Reimb FY10-FY26 (2010\$)	Total Reimb FY06-FY26 (2010\$,YOES)	Expend through FY10 (YOES)	Estimated Future Expend FY10-FY26 (2010\$)	Total Expend FY06-FY26 (2010\$,YOES)			
<b>CHANDLER</b>											
A1	Arizona Ave/Chandler Blvd	All	3.582	0.000	3.582	7.209	0.000	7.209	2006	0.25	Project Completed
A2	Arizona Ave/Elliott Rd	All	3.211	0.000	3.211	4.587	0.000	4.587	2006	0.25	Project Completed
A3	Arizona Ave/Ray Rd	All	3.464	0.000	3.464	4.949	0.000	4.949	2007	0.25	Project Completed
A4	Arizona Ave: Ocotillo Rd to Hunt Highway	ACI	0.000	7.407	7.407	0.000	15.902	15.902	2022	3.00	Project exchanged/deferred to Phase IV
A5	Chandler Blvd/Alma School Rd	All	0.387	3.361	3.748	1.875	9.846	11.721	2012	0.25	
A6	Chandler Blvd/Dobson Rd	All	2.073	0.427	2.500	6.922	0.427	7.349	2011	0.25	Project Completed
A7	Chandler Blvd/Kyrene Rd	All	0.000	3.753	3.753	0.000	16.656	16.656	2026	0.25	
A8	Gilbert Rd: SR-202L to Hunt Hwy	ACI	6.078	14.649	20.727	14.533	50.595	65.128	2014	5.25	
	Gilbert Rd: SR-202L/Germann to Queen Creek Rd	ACI	6.078	0.670	6.747	10.307	0.000	10.307	2010	1.25	FY10 RARF Closeout Project. Project Completed.
	Gilbert Rd: Queen Creek Rd to Ocotillo Rd	ACI	0.000	4.011	4.011	1.057	10.002	11.059	2012	1.00	
	Gilbert Rd: Chandler Heights Rd to Hunt Hwy	ACI	0.000	5.957	5.957	2.113	30.590	32.703	2013	2.00	
	Gilbert Rd: Ocotillo Rd to Chandler Heights	ACI	0.000	4.011	4.011	1.057	10.002	11.059	2014	1.00	
A9	Kyrene Rd/Ray Rd	All	0.000	3.753	3.753	0.000	17.419	17.419	2024	0.25	

MAP CODE	FACILITY/LOCATION	PROJECT TYPE	REGIONAL FUNDING			TOTAL EXPENDITURES			FINAL FY for CONST	LENGTH* (Miles)	OTHER PROJECT INFORMATION
			Reimb through FY10 (YOE\$)	Estimated Future Reimb FY10-FY26 (2010\$)	Total Reimb FY06-FY26 (2010\$,YOE\$)	Expend through FY10 (YOE\$)	Estimated Future Expend FY10-FY26 (2010\$)	Total Expend FY06-FY26 (2010\$,YOE\$)			
A10	Price Rd Substitute Projects	ACI	0.000	49.506	49.506	0.000	78.312	78.312	2020	6.00	
	Chandler Heights Rd: Arizona Avenue to McQueen Road	ACI	0.000	7.282	7.282	0.000	10.403	10.403	2018	1.00	
	Chandler Heights Road: McQueen Road to Gilbert Road	ACI	0.000	10.728	10.728	0.000	17.250	17.250	2020	3.00	
	McQueen Road: Ocotillo Road to Riggs Road	ACI	0.000	7.226	7.226	0.000	12.224	12.224	2015	2.00	
	Ocotillo Road: Arizona Avenue to McQueen Road	ACI	0.000	6.227	6.227	0.000	6.453	6.453	2015	1.00	
	Ocotillo Road: Cooper Road to Gilbert Road	ACI	0.000	6.460	6.460	0.000	9.229	9.229	2019	2.50	
	Price Rd at Germann Rd: Intersection Improvements	ACI	0.000	3.357	3.357	0.000	4.795	4.795	2020	0.80	
	Price Rd at Queen Creek Rd: Intersection Improvements	ACI	0.000	5.191	5.191	0.000	7.415	7.415	2020	0.80	
	Price Rd: Santan to Germann	ACI	0.000	3.035	3.035	4.414	0.000	4.414	2008	1.25	
A11	Ray Rd/Alma School Rd	All	2.217	3.630	5.846	5.973	6.811	12.784	2011	0.25	
A12	Ray Rd/Dobson Rd	All	0.000	6.678	6.678	0.000	9.541	9.541	2015	0.25	
A13	Ray Rd/McClintock Dr	All	0.000	5.614	5.614	0.327	8.019	8.346	2015	0.25	
A14	Ray Rd/Rural Rd	All	0.000	3.753	3.753	0.000	15.822	15.822	2025	0.25	
<b>CHANDLER/GILBERT</b>											
A15	Queen Creek Rd: Arizona Ave to Higley Rd	ACI	5.672	31.675	37.347	8.103	48.749	56.852	2013	6.00	
	CHANDLER Queen Creek Rd: Arizona Ave to McQueen Rd	ACI	5.672	0.000	5.672	8.103	0.000	8.103	2009	1.00	Project Completed
	CHANDLER Queen Creek Rd: McQueen Rd to Gilbert Rd	ACI	0.000	10.478	10.478	0.000	14.970	14.970	2020	2.00	
	GILBERT Queen Creek Rd: Lindsay Rd to Greenfield Rd	ACI	0.000	11.530	11.530	0.000	17.298	17.298	2015	2.00	Combined two segments
	GILBERT Queen Creek Rd: Greenfield Rd to Higley	ACI	0.000	9.667	9.667	0.000	16.482	16.482	2013	1.00	
<b>FOUNTAIN HILLS</b>											

MAP CODE	FACILITY/LOCATION	PROJECT TYPE	REGIONAL FUNDING			TOTAL EXPENDITURES			FINAL FY for CONST	LENGTH* (Miles)	OTHER PROJECT INFORMATION
			Reimb through FY10 (YOE\$)	Estimated Future Reimb FY10-FY26 (2010\$)	Total Reimb FY06-FY26 (2010\$,YOE\$)	Expend through FY10 (YOE\$)	Estimated Future Expend FY10-FY26 (2010\$)	Total Expend FY06-FY26 (2010\$,YOE\$)			
A16	Shea Blvd: Palisades Blvd to Cereus Wash	ACI	0.367	5.681	6.049	4.768	8.142	12.910	2020	4.00	
	Shea Blvd: Palisades Blvd to Fountain Hills Blvd	ACI	0.247	0.040	0.287	4.595	0.000	4.595	----	1.00	Project is for design only. Project Completed.
	Shea Blvd: Technology Dr to Cereus Wash	ACI	0.121	3.043	3.163	0.172	4.347	4.520	2011	0.80	
	Shea Blvd: Fountain Hills Blvd to Technology Dr	ACI	0.000	2.598	2.598	0.000	3.794	3.794	2020	2.20	
<b>GILBERT</b>											
A17	Elliot Rd/Cooper Rd	All	0.000	4.116	4.116	0.000	6.976	6.976	2020	0.50	
A18	Elliot Rd/Gilbert Rd	All	0.000	3.753	3.753	0.000	10.474	10.474	2021	0.50	
A19	Elliot Rd/Greenfield Rd	All	0.000	3.753	3.753	0.000	5.364	5.364	2017	0.50	
A20	Elliot Rd/Higley Rd	All	0.000	3.753	3.753	0.000	6.976	6.976	2020	0.50	
A21	Elliot Rd/Val Vista Dr	All	0.000	3.753	3.753	0.000	6.976	6.976	2017	0.50	
A22	Germann Rd: Gilbert Rd to Power Rd	ACI	0.000	22.034	22.034	0.000	31.475	31.475	2015	4.00	
	Germann Rd: Gilbert Rd to Val Vista Dr	ACI	0.000	6.609	6.609	0.000	9.440	9.440	2015	2.00	
	Germann Rd: Val Vista Dr to Higley Rd	ACI	0.000	15.424	15.424	0.000	22.035	22.035	2015	2.00	
A23	Greenfield Rd: Elliot Rd to Ray Rd	ACI	0.000	3.753	3.753	0.000	5.525	5.525	2015	2.00	
A24	Guadalupe Rd/Cooper Rd	All	0.000	3.753	3.753	4.800	2.138	6.939	2011	0.50	
A25	Guadalupe Rd/Gilbert Rd	All	0.000	3.753	3.753	0.000	5.361	5.361	2013	0.50	
A26	Guadalupe Rd/Greenfield Rd	All	0.000	3.753	3.753	0.000	6.976	6.976	2023	0.50	
A27	Guadalupe Rd/Power Rd	All	0.000	3.753	3.753	0.000	8.919	8.919	2018	0.50	
A28	Guadalupe Rd/Val Vista Dr	All	0.000	3.753	3.753	0.000	5.659	5.659	2018	0.50	
A30	Ray Rd: Val Vista Dr to Power Rd	ACI	0.000	16.925	16.925	0.000	23.694	23.694	2017	4.00	

MAP CODE	FACILITY/LOCATION	PROJECT TYPE	REGIONAL FUNDING			TOTAL EXPENDITURES			FINAL FY for CONST	LENGTH* (Miles)	OTHER PROJECT INFORMATION
			Reimb through FY10 (YOE\$)	Estimated Future Reimb FY10-FY26 (2010\$)	Total Reimb FY06-FY26 (2010\$,YOE\$)	Expend through FY10 (YOE\$)	Estimated Future Expend FY10-FY26 (2010\$)	Total Expend FY06-FY26 (2010\$,YOE\$)			
	Ray Rd: Val Vista to Higley	ACI	0.000	7.567	7.567	0.000	7.486	7.486	2017	2.00	
	Ray Rd: Higley to Recker	ACI	0.000	3.753	3.753	0.000	5.399	5.399	2017	1.00	
	Ray Rd: Recker to Power	ACI	0.000	5.606	5.606	0.000	10.809	10.809	2017	1.00	
A31	Ray Rd/Gilbert Rd	All	0.000	5.240	5.240	0.000	5.362	5.362	2018	0.50	
A32	Val Vista Dr: Warner Rd to Pecos	ACI	10.398	0.000	10.398	15.768	0.000	15.768	2006	2.90	FY08 RARF Closeout Project. Project Completed.
A33	Warner Rd/Cooper Rd	All	3.701	0.000	3.701	6.268	0.000	6.268	2010	0.50	Project Completed
A34	Warner Rd/Greenfield Rd	All	0.000	3.753	3.753	0.000	5.361	5.361	2015	0.50	
<b><u>GILBERT/MESA/MARICOPA COUNTY</u></b>											
A29	Power Rd: Santan Fwy to Chandler Heights	ACI	5.143	15.356	20.499	23.849	39.883	63.732	2024	5.00	
	GILBERT Power Rd/Pecos	All	5.143	0.000	5.143	7.347	0.000	7.347	2009	0.50	Project Completed
	GILBERT Power Rd: Santan Fwy to Pecos Rd	ACI	0.000	15.356	15.356	16.502	12.055	28.557	2011	1.50	
	GILBERT Power Rd: Pecos to Chandler Heights	ACI	0.000	0.000	0.000	0.000	27.828	27.828	2024	3.00	
A45	Power Rd: Baseline Rd to Santan Fwy	ACI	7.760	10.197	17.958	23.312	15.048	38.359	2009	4.50	
	MESA Power Rd: East Maricopa Floodway to Santan Fwy/Loop 202	ACI	0.000	10.197	10.197	1.272	15.048	16.319	2018	3.50	
	M.C. Power Rd: Baseline Rd to East Maricopa Floodway	ACI	7.760	0.000	7.760	22.040	0.000	22.040	2009	1.00	Project Completed
<b><u>MARICOPA COUNTY</u></b>											
A35	Dobson Rd: Bridge over Salt River	ACI	0.000	18.523	18.523	0.692	42.665	43.357	2015	1.60	
A36	El Mirage Rd: Bell Rd to Jomax Rd	ACI	5.535	13.869	19.403	13.908	36.249	50.157	2016	6.20	
	El Mirage Rd: Bell Rd to Deer Valley Dr	ACI	0.000	13.869	13.869	6.002	18.466	24.467	2011	3.00	Project Completed
	El Mirage Rd: L303 to Jomax	ACI	0.000	0.000	0.000	0.000	17.783	17.783	2024	2.00	

MAP CODE	FACILITY/LOCATION	PROJECT TYPE	REGIONAL FUNDING			TOTAL EXPENDITURES			FINAL FY for CONST	LENGTH* (Miles)	OTHER PROJECT INFORMATION
			Reimb through FY10 (YOE\$)	Estimated Future Reimb FY10-FY26 (2010\$)	Total Reimb FY06-FY26 (2010\$,YOE\$)	Expend through FY10 (YOE\$)	Estimated Future Expend FY10-FY26 (2010\$)	Total Expend FY06-FY26 (2010\$,YOE\$)			
	El Mirage Rd: Deer Valley Dr to L303	ACI	5.535	0.000	5.535	7.906	0.000	7.906	2009	1.20	FY10 RARF Closeout Project. Project Completed.
A94	El Mirage Rd: Thunderbird Rd to Bell Rd	ACI	1.448	19.843	21.290	2.334	45.694	48.028	2016	2.00	
A37	El Mirage Rd: Thunderbird Rd to Northern Ave	ACI	0.000	16.707	16.707	0.434	25.857	26.291	2018	4.00	
A38	Gilbert Rd: Bridge over Salt River	ACI	0.000	13.922	13.922	1.285	39.625	40.910	2015	1.62	
A39	Jomax Rd: SR-303L to Sun Valley Parkway	ACI	0.000	20.581	20.581	0.000	29.401	29.401	2018	18.50	
A40	McKellips Rd: Bridge over Salt River	ACI	0.000	13.922	13.922	1.769	26.344	28.112	2016	0.80	
A41	McKellips Rd: SR-101L to SRP-MIC/Alma School Rd	ACI	0.000	39.225	39.225	0.629	47.377	48.005	2015	1.96	
A42	Northern Pkwy: Sarival to Grand (Phase I)	ACI	19.593	40.626	60.219	22.725	74.734	97.460	2013	12.50	Total corridor length is 12.5 miles
	Northern Parkway: Sarival to Dysart	ACI	19.593	38.025	57.618	20.112	69.915	90.028	2013	4.10	
	Northern Parkway: ROW Protection	ACI	0.000	2.601	2.601	2.613	4.819	7.432	2012	12.50	
A43	Northern Pkwy: Sarival to Grand (Phase II)	ACI	0.000	80.371	80.371	0.000	127.381	127.381	2020	12.50	
	Northern Pkwy: Dysart to 111th	ACI	0.000	18.919	18.919	0.000	27.028	27.028	2015	2.50	
	Northern Pkwy: Sarival Overpass	ACI	0.000	9.753	9.753	0.000	13.933	13.933	2016	0.10	
	Northern Pkwy: Reems Overpass	ACI	0.000	8.360	8.360	0.000	11.942	11.942	2014	0.10	
	Northern Pkwy: Litchfield Overpass	ACI	0.000	7.846	7.846	0.000	11.466	11.466	2015	0.10	
	Northern Pkwy: Agua Fria Bridge	ACI	0.000	4.913	4.913	0.000	7.019	7.019	2014	0.10	
	Northern Pkwy: Northern Ave at L 101	ACI	0.000	5.940	5.940	0.000	8.485	8.485	2015	0.50	
	Northern Pkwy: Dysart Overpass	ACI	0.000	20.313	20.313	0.000	35.243	35.243	2018	0.10	
	Northern Pkwy: ROW Protection	ACI	0.000	4.327	4.327	0.000	6.181	6.181	2020	12.50	

MAP CODE	FACILITY/LOCATION	PROJECT TYPE	REGIONAL FUNDING			TOTAL EXPENDITURES			FINAL FY for CONST	LENGTH* (Miles)	OTHER PROJECT INFORMATION
			Reimb through FY10 (YOE\$)	Estimated Future Reimb FY10-FY26 (2010\$)	Total Reimb FY06-FY26 (2010\$,YOE\$)	Expend through FY10 (YOE\$)	Estimated Future Expend FY10-FY26 (2010\$)	Total Expend FY06-FY26 (2010\$,YOE\$)			
A44	Northern Pkwy: Sarival to Grand (Phase III)	ACI	0.000	82.778	82.778	0.000	6.084	6.084	2026	12.50	
	Northern Pkwy: El Mirage Alternative Access	ACI	0.000	4.180	4.180	0.000	5.972	5.972	2022	1.00	
	Northern Pkwy: El Mirage Overpass	ACI	0.000	21.999	21.999	0.000	31.428	31.428	2022	0.10	
	Northern Pkwy: Agua Fria to 111th	ACI	0.000	2.713	2.713	0.000	3.876	3.876	2022	1.00	
	Northern Pkwy: 111th to 107th	ACI	0.000	14.740	14.740	0.000	21.057	21.057	2024	0.50	
	Northern Pkwy: 107th to 99th	ACI	0.000	21.119	21.119	0.000	30.171	30.171	2025	1.00	
	Northern Pkwy: Loop 101 to 91st	ACI	0.000	3.447	3.447	0.000	4.924	4.924	2026	0.50	
	Northern Pkwy: 91st to Grand Intersection Improvements	ACI	0.000	5.866	5.866	0.000	8.381	8.381	2026	3.00	
	Northern Pkwy: ROW Protection	ACI	0.000	2.567	2.567	0.000	3.667	3.667	2026	12.50	
	Northern Pkwy: Ultimate Construction	All	0.000	6.147	6.147	0.000	9.013	9.013	2026	12.50	
<b>MESA</b>											
A46	Baseline Rd: Power Rd to Meridian Rd	ACI	0.000	17.796	17.796	0.000	25.501	25.501	2019	6.00	
	Baseline Rd: Power Rd to Ellsworth Rd	ACI	0.000	8.708	8.708	0.000	12.512	12.512	2016	3.00	
	Baseline Rd: Ellsworth Rd to Meridian Rd	ACI	0.000	9.089	9.089	0.000	12.989	12.989	2019	3.00	
A47	Broadway Rd: Dobson Rd to Country Club	ACI	0.082	7.299	7.381	0.286	19.045	19.332	2015	2.00	
A48	Country Club/University Dr	All	0.000	2.784	2.784	0.096	8.790	8.887	2015	1.00	
A49	Country Club/Brown Rd	All	0.000	2.784	2.784	0.000	5.033	5.033	2018	0.50	
A50	Crismon Rd: Broadway Rd to Germann Rd	ACI	0.000	36.561	36.561	0.000	52.289	52.289	2025	9.00	

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	Crismon Rd: Broadway Rd to Guadalupe Rd	ACI	0.000	12.456	12.456	0.000	17.809	17.809	2016	3.00	
	Crismon Rd: Guadalupe Rd to Ray Rd	ACI	0.000	12.090	12.090	0.000	17.272	17.272	2025	3.00	
	Crismon Rd: Ray Rd to Germann Rd	ACI	0.000	12.016	12.016	0.000	17.209	17.209	2020	3.00	
A51	Dobson Rd/Guadalupe Rd	All	0.707	1.463	2.770	1.010	3.387	4.398	2011	0.50	Project Completed
A52	Dobson Rd/University Dr	All	0.000	2.784	2.784	0.649	6.339	6.988	2012	0.50	
A53	Elliot Rd: Power Rd to Meridian Rd	ACI	0.000	18.038	18.038	0.000	25.770	25.770	2025	6.00	
	Elliot Rd: Power Rd to Ellsworth Rd	ACI	0.000	8.950	8.950	0.000	12.785	12.785	2023	3.00	
	Elliot Rd: Ellsworth Rd to Meridian Rd	ACI	0.000	9.089	9.089	0.000	12.985	12.985	2025	3.00	
A54	Germann Rd: Ellsworth Rd to Signal Butte Rd	ACI	0.000	12.470	12.470	0.000	17.822	17.822	2021	2.00	
A55	Gilbert Rd/University Dr	All	2.741	0.000	2.741	11.765	0.000	11.765	2010	0.50	FY10 RARF Closeout Project. Project Completed.
A56	Greenfield Rd: University Rd to Baseline Rd	ACI	2.367	8.356	10.723	8.295	11.021	19.316	2016	3.00	
	Greenfield Rd: Baseline Rd to Southern Ave	ACI	2.367	3.410	5.176	8.295	0.000	8.295	2010	1.00	Received reallocated Project Savings from Dobson at Guadalupe. Project completed.
	Greenfield Rd: Southern Ave to University Rd	ACI	0.000	5.546	5.546	0.000	11.021	11.021	2019	2.00	
A57	Guadalupe Rd: Power Rd to Meridian Rd	ACI	0.000	23.002	23.002	0.000	38.544	38.544	2019	6.00	
	Guadalupe Rd: Power Rd to Hawes Rd	ACI	0.000	7.830	7.830	0.000	15.037	15.037	2019	2.00	
	Guadalupe Rd: Hawes Rd to Crimson Rd	ACI	0.000	7.830	7.830	0.000	13.017	13.017	2017	2.00	

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	Guadalupe Rd: Crimson Rd to Meridian Rd	ACI	0.000	7.343	7.343	0.000	10.490	10.490	2018	2.00	
A58	Hawes Rd: Broadway Rd to Ray Rd	ACI	0.000	20.702	20.702	1.237	28.760	29.997	2024	6.00	
	Hawes Rd: Broadway Rd to US60	ACI	0.000	7.131	7.131	0.000	10.187	10.187	2022	2.00	
	Hawes Rd: Baseline Rd to Elliot Rd	ACI	0.000	6.922	6.922	0.000	9.889	9.889	2024	2.00	
	Hawes Rd: Elliot Rd to Santan Freeway	ACI	0.000	4.296	4.296	0.000	6.138	6.138	2024	1.25	
	Hawes Rd: Santan Freeway to Ray Rd	ACI	0.000	2.353	2.353	1.237	2.547	3.784	2011	0.75	Project Completed
A59	Higley Rd Parkway: S 60 to SR-202L	ACI	0.000	16.707	16.707	0.000	23.867	23.867	2020	6.50	
	Higley Rd Parkway: SR-202L to Brown Rd	ACI	0.000	8.353	8.353	0.000	11.934	11.934	2019	3.00	
	Higley Rd Parkway: Brown Rd to US-60	ACI	0.000	8.353	8.353	0.000	11.933	11.933	2020	3.50	
A60	Higley Rd Parkway: US 60 to SR 202L (RM) Grade Separations	ACI	0.000	27.724	27.724	0.000	39.606	39.606	2017	1.00	
A61	Lindsay Rd/Brown Rd	All	0.000	2.784	2.784	0.000	4.049	4.049	2017	0.50	
A62	McKellips Rd: East of Sossaman to Meridian	ACI	0.000	19.854	19.854	0.000	28.364	28.364	2018	5.00	
	McKellips Rd: East of Sossaman to Crismon Rd	ACI	0.000	11.969	11.969	0.000	17.100	17.100	2018	3.00	
	McKellips Rd: Crismon Rd to Meridian Rd	ACI	0.000	7.885	7.885	0.000	11.264	11.264	2018	2.00	A portion of the programmed reimbursement was deferred to FY2027
A63	McKellips Rd: Gilbert Rd to Power Rd	All	0.162	21.501	21.663	0.234	33.929	34.163	2019	3.00	
	McKellips Rd/Lindsay Rd	All	0.043	6.299	6.341	0.061	10.401	10.462	2018	0.50	
	McKellips Rd/Greenfield Rd	All	0.040	2.869	2.909	0.057	5.000	5.058	2018	0.50	

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	McKellips Rd/Higley Rd	All	0.040	2.869	2.909	0.058	5.007	5.065	2018	0.50	
	McKellips Rd/Power Rd	All	0.000	3.298	3.298	0.000	4.711	4.711	2019	0.50	
	McKellips Rd/Recker Rd	All	0.000	3.297	3.297	0.000	4.710	4.710	2019	0.50	
	McKellips Rd/Val Vista Dr	All	0.040	2.869	2.909	0.058	4.100	4.157	2018	0.50	
A64	Meridian Rd: Baseline Rd to Germann Rd	ACI	0.000	29.176	29.176	0.000	41.683	41.683	2019	7.00	
	Meridian Rd: Baseline Rd to Ray Rd	ACI	0.000	16.779	16.779	0.000	23.973	23.973	2017	4.00	
	Meridian Rd: Ray Rd to Germann Rd	ACI	0.000	12.397	12.397	0.000	17.710	17.710	2019	3.00	
A65	Mesa Dr: Southern Ave to US60 and Mesa Dr to Broadway Rd	ACI	0.312	9.003	9.316	0.510	38.608	39.118	2016	2.00	
	Mesa Dr: US 60 to Southern Ave	ACI	0.257	8.199	8.456	0.367	13.337	13.704	2013	1.00	
	Mesa Dr/Broadway Rd	All	0.056	0.804	0.860	0.143	25.271	25.414	2016	1.00	
A66	Pecos Rd: Ellsworth Rd to Meridian Rd	ACI	0.000	12.591	12.591	0.000	19.246	19.246	2019	3.00	
A67	Ray Rd: Sossaman Rd to Meridian Rd	ACI	0.000	25.060	25.060	5.351	31.685	37.036	2025	5.00	
	Ray Rd: Sossaman Rd to Ellsworth Rd	ACI	0.000	3.799	3.799	5.351	4.138	9.489	2011	2.00	Project Completed
	Ray Rd: Ellsworth Rd to Meridian Rd	ACI	0.000	21.262	21.262	0.000	27.547	27.547	2025	3.00	
A68	Signal Butte Rd: Broadway to Pecos Rd	ACI	0.000	32.929	32.929	0.000	47.044	47.044	2024	8.00	
	Signal Butte Rd: Broadway Rd to Elliot Rd	ACI	0.000	16.780	16.780	0.000	23.972	23.972	2022	4.00	
	Signal Butte Rd: Elliot Rd to Pecos Rd	ACI	0.000	16.150	16.150	0.000	23.072	23.072	2024	4.00	
A69	Southern Ave: Country Club Dr to Recker Rd	All	0.168	30.455	30.623	0.424	49.927	50.350	2015	2.00	

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	Southern/Country Club Dr	All	0.000	4.861	4.861	0.108	8.272	8.380	2013	0.50	
	Southern Ave/Stapley Dr	All	0.168	12.560	12.728	0.316	21.601	21.917	2013	0.50	
	Southern Ave/Lindsay Rd	All	0.000	4.779	4.779	0.000	8.258	8.258	2015	0.50	
	Southern Ave/Higley Rd	All	0.000	8.255	8.255	0.000	11.796	11.796	2015	0.50	
A70	Southern Ave: Sossaman Rd to Meridian Rd	ACI	0.000	18.038	18.038	0.000	25.770	25.770	2024	5.00	
	Southern Ave: Sossaman Rd to Crismon Rd	ACI	0.000	10.908	10.908	0.000	15.584	15.584	2022	3.00	
	Southern Ave: Crismon Rd to Meridian Rd	ACI	0.000	7.130	7.130	0.000	10.186	10.186	2024	2.00	
A71	Stapley Dr/University Dr	All	0.000	2.784	2.784	0.000	13.485	13.485	2015	0.50	
A72	Thomas Rd: Gilbert Rd to Val Vista Dr	ACI	0.000	5.569	5.569	0.000	8.035	8.035	2026	2.00	
A73	University Dr: Val Vista Dr to Hawes Rd	ACI	0.000	21.670	21.670	0.000	30.962	30.962	2023	6.00	
	University Dr: Val Vista Dr to Higley Rd	ACI	0.000	10.906	10.906	0.000	15.585	15.585	2021	2.00	
	University Dr: Higley Rd to Hawes Rd	ACI	0.000	10.764	10.764	0.000	15.377	15.377	2023	4.00	
A74	Val Vista Dr: University Dr to Baseline Rd	ACI	0.000	11.017	11.017	0.000	16.867	16.867	2018	3.00	
	Val Vista Dr: Baseline Rd to Southern Ave	ACI	0.000	5.563	5.563	0.000	9.075	9.075	2014	1.00	
	Val Vista Dr: Southern Ave to University Dr	ACI	0.000	5.454	5.454	0.000	7.792	7.792	2018	2.00	
<b>PEORIA</b>											
A75	Beardsley Connection: SR-101L to Beardsley Rd at 83rd Ave/Lake Pleasant Pkwy	ACI	16.976	6.003	22.978	29.097	12.524	41.621	2012	3.95	
	Beardsley Connection: Loop 101 to 83rd Ave/Lake Pleasant Pkwy	ACI	6.125	0.000	6.125	8.473	0.000	8.473	2010	0.75	Project Completed.

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	Loop 101 (Agua Fria Fwy) at Beardsley Rd/Union Hills Dr	ACI	10.851	0.000	10.851	19.151	0.000	19.151	2010	2.00	Project Completed
	83rd Avenue: Butler Rd to Mountain View	ACI	0.000	4.118	4.118	0.813	5.413	6.225	2011	1.00	
	75th Ave at Thunderbird Rd: Intersection Improvement	ACI	0.000	1.884	1.884	0.660	7.111	7.771	2012	0.20	
A76	Happy Valley Rd: L303 to 67th Avenue	ACI	0.000	20.581	20.581	50.078	0.000	50.078	2024	8.00	
	Happy Valley Rd: Loop 303 to Lake Pleasant Parkway	ACI	0.000	0.000	0.000	0.000	0.000	0.000	2024	3.00	
	Happy Valley Rd: Lake Pleasant Pkwy to 67th Ave	ACI	0.000	20.581	20.581	50.078	0.000	50.078	2010	5.00	Exchanged with Lake Pleasant Parkway. Project Completed.
A77	Lake Pleasant Pkwy: Union Hills to SR74	ACI	29.034	24.744	53.779	48.591	36.730	85.321	2020	14.06	
	Lake Pleasant Pkwy: Dynamite Blvd to CAP	ACI	1.907	22.327	24.234	9.838	33.276	43.114	2012	2.50	
	Lake Pleasant Pkwy: Union Hills to Dynamite Rd	ACI	27.127	0.000	27.127	38.753	0.000	38.753	2008	9.76	FY2008 RARF Closeout Project. Project Completed.
	Lake Pleasant Pkwy: CAP to SR-74/Carefree Hwy	ACI	0.000	2.418	2.418	0.000	3.454	3.454	2021	1.80	
<b>PHOENIX</b>											
A78	Avendia Rio Salado: 51st Ave. to 7th St.	ACI	0.000	44.430	44.430	7.199	63.473	70.672	2015	6.00	Project length and scope changed.
A79	Black Mountain Blvd: SR-51and Loop 101/ Pima Fwy to Deer Valley Rd	ACI	0.000	22.397	22.397	0.041	31.995	32.036	2014	2.00	
A80	Happy Valley Rd: 67th Ave to I-17	ACI	0.000	16.465	16.465	7.927	30.066	37.993	2018	4.50	
	Happy Valley: I-17 to 35th Ave	ACI	0.000	5.218	5.218	7.454	0.000	7.454	2005	1.00	Project Completed

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	Happy Valley: 35th Ave to 43rd Ave	ACI	0.000	4.237	4.237	0.437	11.632	12.069	2018	1.00	
	Happy Valley: 43rd Ave to 55th Ave	ACI	0.000	4.181	4.181	0.035	9.473	9.508	2018	1.50	
	Happy Valley: 55th Ave to 67th Ave	ACI	0.000	2.828	2.828	0.000	8.962	8.962	2018	1.00	A portion of the programmed reimbursement was deferred to FY2027
A81	Sonoran Blvd: 15th Avenue to Cave Creek	ACI	0.000	32.445	32.445	13.830	46.352	60.182	2013	7.00	
<b>SCOTTSDALE/CAREFREE</b>											
A87	Pima Rd: SR101L to Happy Valley Rd and Dynamite Rd to Cave Creek	ACI	16.891	79.527	96.417	29.801	111.110	140.911	2020	10.65	
	SCOTTSDALE Pima Rd: Thompson Peak Parkway to Pinnacle Peak	ACI	3.251	20.544	23.795	8.275	25.718	33.993	2011	1.50	
	SCOTTSDALE Pima Rd/Happy Valley	All	0.000	0.000	0.000	1.599	0.000	1.599	2008	0.40	
	SCOTTSDALE Pima Rd: Pinnacle Peak to Happy Valley Rd	ACI	0.000	15.896	15.896	0.000	22.709	22.709	2013	1.00	
	SCOTTSDALE Pima Rd: Dynamite Blvd to Stagecoach Rd	ACI	0.000	37.669	37.669	0.000	54.945	54.945	2020	5.00	
	CAREFREE Pima Rd: Stagecoach Rd to Cave Creek	ACI	0.000	5.417	5.417	0.000	7.739	7.739	2018	0.25	
	SCOTTSDALE Pima Rd: SR101L to Thompson Peak Pkwy	ACI	13.639	0.000	13.639	19.926	0.000	19.926	2008	2.50	Project Completed
<b>SCOTTSDALE</b>											
A82	Carefree Hwy: Cave Creek Rd to Scottsdale Rd	ACI	0.000	9.322	9.322	0.000	14.260	14.260	2016	2.00	
A83	SR-101L North Frontage Roads: Pima/Princess Dr to Scottsdale Rd	ACI	3.745	16.097	19.842	5.350	18.668	24.018	2015	2.00	
	SR-101L Frontage Rd: Hayden Rd to Scottsdale Rd	ACI	3.745	0.000	3.745	5.350	0.000	5.350	2009	1.00	Project Completed
	SR-101L Frontage Rd: Pima Rd/Princess Dr to Hayden Rd	ACI	0.000	16.097	16.097	0.000	18.668	18.668	2015	1.00	

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A84	SR-101L South Frontage Rd: Hayden Rd to Pima	ACI	0.000	0.000	0.000		0.000	0.000	0	1.00	This project was deleted in FY2009.
A85	Miller Rd/SR-101L Underpass	ACI	0.000	13.922	13.922	0.000	19.889	19.889	2020	1.30	
A86	Pima Rd: Happy Valley Rd to Dynamite Blvd	ACI	0.000	23.607	23.607	0.000	33.725	33.725	2018	2.00	
A88	Pima Rd: McKellips Rd to Via Linda	ACI	0.000	30.294	30.294	5.763	43.317	49.080	2011	7.40	
	Pima Rd: Via Linda to Via De Ventura	ACI	0.000	1.331	1.331	0.000	2.341	2.341	2013	1.30	
	Pima Rd: Via De Ventura to Krail	ACI	0.000	7.467	7.467	5.763	4.907	10.670	2011	1.30	
	Pima Rd: Thomas Rd to McDowell Rd	ACI	0.000	6.044	6.044	0.000	8.641	8.641	2012	1.00	
	Pima Rd: Krail to Chaparral	ACI	0.000	9.407	9.407	0.000	16.453	16.453	2012	1.80	
	Pima Rd: Chaparral Rd to Thomas Rd	ACI	0.000	6.044	6.044	0.000	10.976	10.976	2014	2.00	
A89	Scottsdale Airport: Runway Tunnel	ACI	0.000	72.983	72.983	0.000	104.261	104.261	2026	6.15	
	Frank Lloyd Wright -Loop 101 Traffic Interchange	ACI	0.000	3.954	3.954	0.000	5.648	5.648	2017	0.40	
	Raintree -Loop 101 Traffic Interchange	ACI	0.000	1.168	1.168	0.000	1.668	1.668	2014	0.40	
	Northsight Blvd: Hayden to Frank Lloyd Wright	ACI	0.000	6.957	6.957	0.000	9.939	9.939	2015	0.35	
	Frank Lloyd Wright Frontage Rd: Northsight to Greenway-Hayden Loop	ACI	0.000	0.977	0.977	0.000	1.396	1.396	2015	0.75	
	Redfield Rd: Scottsdale Rd to Hayden	ACI	0.000	2.456	2.456	0.000	3.509	3.509	2015	1.20	
	Thunderbird-Raintree Loop	ACI	0.000	20.596	20.596	0.000	29.422	29.422	2016	0.30	
	Raintree Drive: Loop 101 to Hayden	ACI	0.000	17.715	17.715	0.000	25.307	25.307	2023	1.00	
	Hayden Rd: Redfield to Raintree	ACI	0.000	4.819	4.819	0.000	6.884	6.884	2024	0.50	
	CAP Canal South Frontage Rd: Loop 101 to Frank Lloyd Wright	ACI	0.000	2.753	2.753	0.000	3.933	3.933	2018	0.50	

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	Hayden Rd - Loop 101 Interchange Improvements	ACI	0.000	11.588	11.588	0.000	16.555	16.555	2026	0.75	
A90	Scottsdale Rd: Thompson Peak Pkwy to Jomax Rd	ACI	0.000	13.317	13.317	6.957	62.117	69.074	2015	4.00	
	Scottsdale Rd: Thompson Peak Pkwy to Pinnacle Peak Pkwy	ACI	0.000	11.528	11.528	6.957	24.308	31.265	2012	2.00	
	Scottsdale Rd: Pinnacle Peak Pkwy to Jomax Rd	ACI	0.000	1.789	1.789	0.000	37.809	37.809	2015	2.00	
A91	Scottsdale Rd: Jomax Rd to Carefree Hwy	ACI	0.000	28.329	28.329	0.000	51.027	51.027	2019	5.00	
	Scottsdale Rd: Jomax Rd to Dixileta Dr	ACI	0.000	9.443	9.443	0.000	17.975	17.975	2019	2.00	
	Scottsdale Rd: Dixileta Dr to Ashler Hills Dr	ACI	0.000	9.443	9.443	0.000	16.526	16.526	2019	1.50	
	Scottsdale Rd: Ashler Hills Dr to Carefree Highway	ACI	0.000	9.443	9.443	0.000	16.526	16.526	2019	1.50	
A92	Shea Blvd: SR-101L to SR-87	All	4.839	18.173	23.012	7.932	24.968	32.900	2019	12.80	
	Shea Blvd at 90th/92nd/96th	All	4.056	0.000	4.056	5.749	0.000	5.749	2007	0.75	Project Completed
	Shea Auxiliary Lane from 90th St to Loop 101	All	0.000	6.353	6.353	0.000	9.075	9.075	2021	1.00	A portion of the programmed reimbursement was deferred to FY2027
	Shea Blvd at Via Linda (Phase1)	All	0.621	0.000	0.621	0.888	0.000	0.888	2006	0.20	Project Completed
	Shea Blvd at Via Linda (Phase 2)	All	0.000	2.074	2.074	0.000	2.962	2.962	2017	0.25	
	Shea Blvd at 120/124th St	All	0.000	1.391	1.391	0.136	1.852	1.988	2011	0.40	
	Shea Blvd at Mayo/134th St	All	0.162	0.000	0.162	0.231	0.000	0.231	2006	0.20	Project Completed
	Shea Blvd: SR-101L to 96th St, ITS Improvements	All	0.000	0.381	0.381	0.614	0.000	0.614	2010	1.00	
	Shea Blvd: 96th St to 144th St, ITS Improvements	All	0.000	2.347	2.347	0.000	3.352	3.352	2012	6.25	
	Shea Blvd at Loop 101	All	0.000	3.667	3.667	0.000	5.238	5.238	2018	1.00	

MAP CODE	FACILITY/LOCATION	PROJECT TYPE	REGIONAL FUNDING			TOTAL EXPENDITURES			FINAL FY for CONST	LENGTH* (Miles)	OTHER PROJECT INFORMATION
			Reimb through FY10 (YOE\$)	Estimated Future Reimb FY10-FY26 (2010\$)	Total Reimb FY06-FY26 (2010\$,YOE\$)	Expend through FY10 (YOE\$)	Estimated Future Expend FY10-FY26 (2010\$)	Total Expend FY06-FY26 (2010\$,YOE\$)			
	Shea Blvd at 110th St	All	0.000	0.264	0.264	0.000	0.377	0.377	2017	0.25	
	Shea Blvd at 114th St	All	0.000	0.264	0.264	0.000	0.377	0.377	2019	0.25	
	Shea Blvd at Frank Lloyd Wright Blvd	All	0.000	0.660	0.660	0.314	0.629	0.943	2011	0.25	
	Shea Blvd at 115th St	All	0.000	0.110	0.110	0.000	0.158	0.158	2019	0.25	
	Shea Blvd at 125th St	All	0.000	0.377	0.377	0.000	0.540	0.540	2019	0.25	
	Shea Blvd at 135th St	All	0.000	0.110	0.110	0.000	0.158	0.158	2019	0.25	
	Shea Blvd at 136th St	All	0.000	0.176	0.176	0.000	0.251	0.251	2017	0.25	
A93	Legacy Dr: Hayden Rd to 88th Street	ACI	0.000	13.559	13.559	1.953	21.354	23.307	2021	1.20	Project limits extended by 0.2 miles and segment renamed from Union Hills Dr to Legacy Dr.
<b>TOTALS</b>			<b>158.835</b>	<b>1459.718</b>	<b>1618.901</b>	<b>406.229</b>	<b>2275.551</b>	<b>2681.779</b>			

**TABLE B-2**  
**ARTERIAL STREET LIFE CYCLE PROGRAM - INTELLIGENT TRANSPORTATION SYSTEMS**  
**REGIONAL FUNDING DISBURSEMENTS AND TOTAL EXPENDITURES: FY2006-2026**  
**(2010 and Year of Expenditure Dollars in Millions)**

FACILITY	REGIONAL FUNDING			TOTAL EXPENDITURES			FINAL FY for CONST	OTHER PROJECT INFORMATION
	Disbursed through FY10 (YOE Dollars)	Estimated Future Disbursements FY11-2026 (2010\$)	Total Disbursement FY06-26 (2010\$, YOE\$)	Expend through FY10 (YOE\$)	Estimated Future Expend FY11-FY26 (2010\$)	Total Expend FY06-FY26 (2010\$, YOE\$)		
Systemwide ITS	17.661	47.287	64.948	25.230	67.552	92.782	2009-2019	
<b>TOTAL</b>	<b>17.661</b>	<b>47.287</b>	<b>64.948</b>	<b>25.230</b>	<b>67.552</b>	<b>92.782</b>		

## **Appendix C**

### **Transit Life Cycle Program**

**TABLE C-1**  
**TRANSIT LIFE CYCLE PROGRAM - BUS OPERATIONS: BUS RAPID TRANSIT/EXPRESS**  
**EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031**  
**(2011 and Year of Expenditure Dollars in Millions)**

Map Code	Route	Expenditures: through FY 2011: (YOE Dollars)	Est. Future Costs: FY2012 - 2026 (2010 Dollars)	Total Est. Costs: FY 2006-2026 (2011 and YOE Dollars)	Est. Future Costs: FY2027 - 2031 (2011 Dollars)	Total Est. Costs: FY 2006-2031 (2011 and YOE Dollars)	Service Start (Fiscal Year)	Other Project Information
T1	Ahwatukee Connector	0.00	0.00	0.00	0.18	0.18	2031	
T2	Ahwatukee Express	4.86	0.00	4.86	0.00	4.86	2008	I-10 East RAPID (Phoenix assumed funding in FY 2011)
T3	Anthem Express	0.00	0.00	0.00	0.55	0.55	2031	
T4	Apache Junction Express	0.00	0.00	0.00	2.13	2.13	2027	
T5	Arizona Avenue Arterial BRT	0.45	14.53	14.98	4.67	19.66	2011	
T6	Avondale Express	0.00	4.03	4.03	2.71	6.74	2020	
T7	Black Canyon Freeway Corridor	0.00	0.00	0.00	0.30	0.30	2031	
T8	Buckeye Express	0.00	0.00	0.00	1.41	1.41	2028	
T9	Chandler Boulevard Arterial BRT	0.00	0.00	0.00	0.00	0.00	2034	
T10	Deer Valley Express	5.18	0.00	5.18	0.00	5.18	2008	I-17 RAPID (Phoenix assumed funding in FY 2011)
T11	Desert Sky Express	2.00	0.00	2.00	0.00	2.00	2008	I-10 West RAPID (Phoenix assumed funding in FY 2011)
T12	East Loop 101 Connector	1.02	3.89	4.91	1.21	6.13	2009	Route 511 - Chandler/Scottsdale Airpark Express (route eliminated in FY 2011)
T13	Grand Avenue Limited	1.14	6.72	7.87	2.12	9.99	2013	
T14	Loop 303 Express	0.00	0.00	0.00	0.74	0.74	2031	
T15	Main Street Arterial BRT	4.31	22.64	26.95	7.06	34.01	2009	
T16	North Glendale Express	3.30	9.68	12.98	2.99	15.97	2008	Route 573 - Northwest Valley
T17	North I-17 Express	0.00	0.00	0.00	0.47	0.47	2031	
T18	North Loop 101 Connector	2.75	0.00	2.75	2.79	5.54	2008	Route 572 - Surprise/Scottsdale Express (route eliminated in FY 2011)
T19	Papago Fwy Connector	0.76	8.86	9.63	2.74	12.37	2009	Routes 562 - Goodyear Express
T20	Peoria Express	0.00	0.00	0.00	1.17	1.17	2028	
T21	Pima Express	0.00	0.00	0.00	1.67	1.67	2028	
T22	Red Mountain Express	0.94	3.18	4.11	0.99	5.10	2009	Routes 535 & 536 - Northeast Mesa Express (route 536 eliminated in FY 2011)
T23	Red Mountain Fwy Connector	0.00	0.00	0.00	0.27	0.27	2031	
T24	Santan Express	0.00	0.00	0.00	0.72	0.72	2031	
T25	Scottsdale/Rural Arterial BRT	0.00	6.43	6.43	2.73	9.16	2016	
T26	South Central Avenue	0.00	10.33	10.33	4.01	14.34	2015	

Map Code	Route	Expenditures: through FY 2011: (YOE Dollars)	Est. Future Costs: FY2012-2026 (2010 Dollars)	Total Est. Costs: FY 2006-2026 (2011 and YOE Dollars)	Est. Future Costs: FY2027-2031 (2011 Dollars)	Total Est. Costs: FY 2006-2031 (2011 and YOE Dollars)	Service Start (Fiscal Year)	Other Project Information
T27	South Central Avenue Arterial BRT	0.00	0.00	0.00	3.20	3.20	2031	
T28	SR 51 Express	3.95	0.00	3.95	0.00	3.95	2008	SR-51 RAPID (Phoenix assumed funding in FY 2011)
T29	Superstition Fwy Connector	0.00	0.00	0.00	0.70	0.70	2027	
T30	Superstition Springs Express	0.00	0.00	0.00	0.52	0.52	2031	
T31	West Loop 101 Connector	1.77	6.25	8.02	1.93	9.95	2009	Routes 575 & 576 - Northwest Valley Express (route 576 eliminated in FY 2011)
	<b>TOTAL</b>	<b>32.44</b>	<b>96.55</b>	<b>128.99</b>	<b>50.00</b>	<b>178.98</b>		

**TABLE C-2**  
**TRANSIT LIFE CYCLE PROGRAM - BUS OPERATIONS: REGIONAL GRID**  
**EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031**  
**(2011 and Year of Expenditure Dollars in Millions)**

Map Code	Route	Expenditures: through FY 2011: (YOE Dollars)	Est. Future Costs: FY2012 - 2026 (2010 Dollars)	Total Est. Costs: FY 2006-2026 (2011 and YOE Dollars)	Est. Future Costs: FY2027 - 2031 (2011 Dollars)	Total Est. Costs: FY 2006-2031 (2011 and YOE Dollars)	Service Start (Fiscal Year)	Other Project Information
T40	59th Avenue	3.47	19.59	23.06	6.66	29.72	2014	Route 59 - 59th Avenue
T41	83rd Avenue/75th Avenue	0.00	5.23	5.23	6.35	11.58	2023	
T42	99th Avenue	0.00	0.00	0.00	1.19	1.19	2031	
T43	Alma School Rd.	1.49	13.80	15.28	6.19	21.48	2018	Route 104 - Alma School Road
T44	Arizona Avenue/Country Club	3.64	31.16	34.80	10.13	44.93	2012	Route 112 - Country Club Drive/Arizona Avenue
T45	Baseline Rd	0.00	13.60	13.60	5.53	19.12	2015	
	Dobson Rd	7.01	30.23	37.24	9.68	46.93	2009	Route 96 - Dobson Road
	Southern Ave	8.06	34.10	42.16	10.88	53.04	2009	Route 61 - Southern Avenue
T46	Bell Road	0.00	21.60	21.60	21.21	42.80	2024	
T47	Broadway	0.47	28.13	28.60	13.71	42.31	2018	Route 45 - Broadway Road
T48	Buckeye Road	0.00	0.00	0.00	2.04	2.04	2031	
T49	Camelback Road	0.65	3.61	4.26	4.61	8.88	2025	Route 50 - Camelback Road
T50	Chandler Blvd.	11.94	37.44	49.38	12.13	61.51	2008	Route 156 - Chandler Boulevard
T51	Dunlap/Olive Avenue	0.00	0.00	0.00	2.28	2.28	2031	
T52	Dysart Road	0.00	0.00	0.00	3.39	3.39	2030	
T53	Elliot Road	0.00	22.48	22.48	7.68	30.17	2013	
T54	Gilbert Road	2.31	18.23	20.54	5.75	26.30	2010	Route 136 - Gilbert Road
T55	Glendale Avenue	10.19	40.29	50.48	12.94	63.42	2008	Route 70 - Glendale Avenue
T56	Greenfield Road	0.00	5.08	5.08	4.93	10.00	2022	
T57	Hayden/McClintock	2.42	25.56	27.98	19.54	47.52	2021	Route 81 - Hayden Road/McClintock Drive
T58	Indian School Road	0.00	0.00	0.00	4.57	4.57	2031	
T59	Litchfield Road	0.00	0.00	0.00	0.00	0.00	2032	
T60	Main Street	5.73	34.08	39.81	11.10	50.90	2009	Route 40 - Apache/Main Street
T61	McDowell/McKellips	0.00	24.00	24.00	9.69	33.69	2014	
T62	Peoria Ave./Shea	5.62	15.85	21.47	4.99	26.46	2030	Route 106 - Peoria Road/Shea Boulevard
T63	Power Road	0.72	22.98	23.70	7.34	31.04	2011	Route 184 - Power Road
T64	Queen Creek Road	0.00	0.00	0.00	0.41	0.41	2031	
T65	Ray Road	0.00	3.72	3.72	4.52	8.25	2023	
T66	Scottsdale/Rural	31.41	102.59	134.00	32.86	166.86	2007	Route 72 - Scottsdale/Rural Road
T67	Tatum / 44th Street	0.00	0.00	0.00	3.12	3.12	2031	

Map Code	Route	Expenditures: through FY 2011: (YOE Dollars)	Est. Future Costs: FY2012 - 2026 (2010 Dollars)	Total Est. Costs: FY 2006-2026 (2011 and YOE Dollars)	Est. Future Costs: FY2027 - 2031 (2011 Dollars)	Total Est. Costs: FY 2006-2031 (2011 and YOE Dollars)	Service Start (Fiscal Year)	Other Project Information
T68	Thomas Road	0.00	0.00	0.00	4.01	4.01	2031	
T69	University Drive	1.13	34.18	35.32	14.86	50.17	2016	Route 30 - University Drive
T70	Van Buren	0.00	7.63	7.63	6.24	13.87	2021	
T71	Waddell/Thunderbird	0.00	6.53	6.53	8.09	14.61	2024	
	<b>TOTAL</b>	<b>96.25</b>	<b>601.68</b>	<b>697.93</b>	<b>278.62</b>	<b>976.55</b>		

**TABLE C-3**  
**TRANSIT LIFE CYCLE PROGRAM - BUS OPERATIONS: OTHERS**  
**EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031**  
**(2011 and Year of Expenditure Dollars in Millions)**

Route	Expenditures: through FY 2011: (YOE Dollars)	Est. Future Costs: FY2012 - 2026 (2010 Dollars)	Total Est. Costs: FY 2006-2026 (2011 and YOE Dollars)	Est. Future Costs: FY2027 - 2031 (2011 Dollars)	Total Est. Costs: FY 2006-2031 (2011 and YOE Dollars)	Service Start (Fiscal Year)	Other Project Information
ADA Paratransit	49.10	372.59	421.69	138.94	560.63	2006	
Regional Passenger Support Services	39.69	86.24	125.93	26.05	151.99	2006	
Existing Local Service	6.73	6.77	13.50	2.11	15.61	2006	
Existing Express Service	21.35	62.10	83.45	18.71	102.16	2006	
Rural/Non-Fixed Route Service	2.14	6.48	8.62	2.11	10.73	2006	
Vanpool Service	0.00	0.00	0.00	0.00	0.00	2006	Vanpool operations are funded entirely through fares
Safety and Security Costs	1.95	12.72	14.68	5.52	20.20	2006	
Operating Contingency	0.93	0.94	1.86	0.00	1.86	2006	Contingencies were eliminated to help balance the program
RPTA Planning and Administration	22.77	49.62	72.39	14.84	87.24	2006	Primarily funded through RPTA's allocation from Regional Area Road Fund
<b>TOTAL</b>	<b>144.67</b>	<b>597.46</b>	<b>742.13</b>	<b>208.28</b>	<b>950.41</b>		

**TABLE C-4**  
**TRANSIT LIFE CYCLE PROGRAM - BUS CAPITAL: FACILITIES**  
**EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031**  
**(2011 and Year of Expenditure Dollars in Millions)**

Category	Expend. through FY 2011: (YOE Dollars)	Est. Future Costs: FY2012 - 2026 (2011 Dollars)	Total Est. Costs: FY 2006-2026 (2011 and YOE Dollars)	Est. Future Costs: FY2027 - 2031 (2011 Dollars)	Total Est. Costs: FY 2006-2031 (2011 and YOE Dollars)	No. of Units Construc./ Installed through FY 2011	Tot. No. of Units to be Construc./ Installed through FY 2026	Tot. No. of Units to be Construc./ Installed through FY 2031	Other Project Information
Arterial BRT Right-of-Way and Improvements	23.59	15.45	39.05	28.93	67.98	13	39	51	
Bus Stop Pullouts/Improvements	5.49	0.00	5.49	0.00	5.49	230	230	230	Major reduction in planned bus stop improvements beginning in FY 2011 due to funding shortfall.
Dial-a-Ride and Rural Bus Maintenance Facilities	0.00	0.00	0.00	22.76	22.76	0	0	2	Rural facility was postponed beyond 2031 and 2 DAR facilities are funded
Intelligent Transportation Systems (ITS) / Vehicle Management Systems (VMS)	7.41	14.81	22.22	0.00	22.22				Funding designated for system wide radio communications; individual units originally identified are included in bus purchases.
Park & Ride Lots	43.39	37.05	80.44	12.71	93.15	1	11	13	
Standard Bus Maintenance Facilities	103.78	0.00	103.78	26.62	130.40	2	4	4	One new facility was postponed beyond 2031, while 4 projects are funded
Transit Centers (4 Bay)	0.00	2.50	2.50	12.34	14.83	0	1	6	
Transit Centers (6 Bay)	0.00	3.48	3.48	7.12	10.59	0	2	4	
Transit Centers (Major Activity Centers)	4.86	0.17	5.03	18.42	23.45	0	1	3	
Vanpool Vehicle Maintenance Facilities	0.00	0.00	0.00	0.00	0.00	0	0	0	Project was postponed indefinitely
Contingency		3.67	3.67	6.45	10.12				
<b>TOTAL</b>	<b>188.51</b>	<b>77.13</b>	<b>265.64</b>	<b>135.35</b>	<b>400.99</b>				

**TABLE C-5**  
**TRANSIT LIFE CYCLE PROGRAM - BUS CAPITAL: FLEET**  
**EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031**  
**(2011 and Year of Expenditure Dollars in Millions)**

Category	Expend. through FY 2011: (YOE Dollars)	Est. Future Costs: FY2012 - 2026 (2011 Dollars)	Total Est. Costs: FY 2006-2026 (2011 and YOE Dollars)	Est. Future Costs: FY2027 - 2031 (2011 Dollars)	Total Est. Costs: FY 2006-2031 (2011 and YOE Dollars)	No. of Units to be Acquired through FY 2011	Tot. No. of Units to be Acquired through FY 2026	Tot. No. of Units to be Acquired through FY 2031	Other Project Information
Paratransit	19.22	59.85	79.07	28.65	107.72	201	727	937	
Fixed Route	218.75	617.69	836.44	100.43	936.87	432	1520	1673	
Rural Route	0.99	2.30	3.29	0.60	3.89	13	29	34	
Vanpool	10.77	32.79	43.56	11.48	55.04	305	1305	1445	
Contingency	0.00	10.69	10.69	2.12	12.81				
<b>TOTAL</b>	<b>249.73</b>	<b>723.32</b>	<b>973.05</b>	<b>143.27</b>	<b>1,116.32</b>				

**TABLE C-6**  
**TRANSIT LIFE CYCLE PROGRAM - LIGHT RAIL TRANSIT/HIGH CAPACITY TRANSIT: SUPPORT INFRASTRUCTURE**  
**EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031**  
**(2011 and Year of Expenditure Dollars in Millions)**

Facility	Expenditures: through FY 2011 (Year of Expenditure Dollars)				Est. Future Costs: FY 2012-2026 (2010 Dollars)	Tot. Costs: FY 2006- 2026 (2010 and YOE Dollars)	Est. Future Costs: FY 2027-2031 (2010 Dollars)	Tot. Costs: FY 2006- 2031 (2010 and YOE Dollars)	Target Opening Date	Project Length (Center- line Miles)	Other Project Information
	Design	R/W	Construc.	Total							
Glendale Link: 19th Ave./Bethany Home to Downtown Glendale	0.70	0.00	0.00	0.70	5.25	5.95	0.00	5.95	12 / 2026	5	AA Costs
Northwest Link Phase 1: 19th Ave/Bethany Home to 19th Ave/Dunlop	3.20	0.00	0.00	3.20	0.50	3.70	0.00	3.70	12 / 2023	3.2	Concep Eng \$3.2 Proj Devel .5
Northwest Link Phase 2: 19th Ave./Dunlop to Rose Mofford Sports Complex	0.00	0.00	0.00	0.00	1.25	1.25	0.00	1.25	12 / 2026	1.8	AA & Draft EA
CPEV Regional Reimbursements	0.00	0.00	193.50	193.50	5.30	198.80	0.00	198.80	12 / 2008	20	Segment will open in FY 2009, but reimbursements will continue through FY 2012
Systemwide Support Infrastructure	42.70	0.00	0.00	42.70	151.50	194.20	250.00	444.20	N/A		
Design Standards and System Planning	5.10	0.00	0.00	5.10	9.80	14.90	0.00	14.90	N/A		
Capital Project Development Admin.	2.40	0.00	0.00	2.40	22.70	25.10	7.50	32.60	N/A		
Utility Reimbursements	2.00	0.00	82.45	84.45	76.30	160.75	43.20	203.95	N/A		
<b>TOTAL</b>	<b>56.10</b>	<b>0.00</b>	<b>275.95</b>	<b>332.05</b>	<b>272.60</b>	<b>604.65</b>	<b>300.70</b>	<b>905.35</b>			

**TABLE C-7**  
**TRANSIT LIFE CYCLE PROGRAM - LIGHT RAIL TRANSIT/HIGH CAPACITY TRANSIT: ROUTE EXTENSIONS**  
**EXPENDITURES AND ESTIMATED FUTURE COSTS: FY 2006-2026, FY 2027-2031**  
**(2011 and Year of Expenditure Dollars in Millions)**

Map Code	Facility	Expenditures: through FY 2011 (Year of Expenditure Dollars)				Est. Future Costs: FY 2012-2026 (2010 Dollars)	Tot. Costs: FY 2006-2026 (2010 and YOE Dollars)	Est. Future Costs: FY 2027-2031 (2010 Dollars)	Tot. Costs: FY 2006-2031 (2010 and YOE Dollars)	Target Opening Date	Project Length (Center-line Miles)	Other Project Information
		Design	R/W	Construc.	Total							
T80	Glendale Link: 19th Ave./Bethany Home to Downtown Glendale	0.00	0.00	0.00	0.00	356.20	356.20	0.00	356.20	12 / 2026	5.0	
T81	Phoenix West Link: Washington Ave./Central Ave. to 79th Ave.	4.10	0.00	0.00	4.10	783.50	787.60	0.00	787.60	12 / 2021	11.0	
T82	Northwest Link Phase 1: 19th Ave/Bethany Home to 19th Ave/Dunlop	23.35	60.90	0.00	84.25	203.90	288.15	0.00	288.15	12 / 2023	3.2	
	Northwest Link Phase 2: 19th Ave./Dunlop to Rose Mofford Sports Complex	0.00	0.00	0.00	0.00	100.10	100.10	0.00	100.10	12 / 2026	1.8	
T83	Northeast Phoenix Link: Indian School Rd./Central Ave. to Paradise Valley Mall	0.00	0.00	0.00	0.00	151.00	151.00	543.70	694.70	12 / 2031	12.0	
T84	Tempe South Link: Main St./ Rural Rd. to Southern Ave.	2.70	0.00	0.00	2.70	135.70	138.40	0.00	138.40	12 / 2016	2.6	
T85	Central Mesa Link: Main St./Sycamore to Main St./Mesa Dr.	9.20	0.00	0.00	9.20	210.60	219.80	0.00	219.80	12 / 2016	3.1	
	<b>TOTAL</b>	<b>39.35</b>	<b>60.90</b>	<b>0.00</b>	<b>100.25</b>	<b>1,941.00</b>	<b>2,041.25</b>	<b>543.70</b>	<b>2,584.95</b>			

**TABLE C-8  
TRANSIT LIFE CYCLE PROGRAM - BUS RAPID TRANSIT/EXPRESS  
ROUTE CHARACTERISTICS AND USAGE SUMMARY: FY 2006 to FY 2026**

Map Code	Route	Service Start (Fiscal Year)	Route Length (Miles)	Annual Bus-Miles of Service (Thousands)	Total Boardings: through FY 2011 (Thousands)	Farebox Revenues: through FY 2011 (YOE Dollars)	Annual Average Boardings: through FY 2011 (Thousands)	Annual Average Farebox Revenues: through FY 2011 (YOE Dollars)	Other Project Information
T1	Ahwatukee Connector	2031	14.7	30.0					
T2	Ahwatukee Express	2008	20.8	160.3	654.0	928,635	218.0	309,500	
T3	Anthem Express	2031	30.4	77.4					
T4	Apache Junction Express	2027	37.4	76.4					
T5	Arizona Avenue Arterial BRT	2011	15.0	152.9	68.8	127,872	68.8	127,900	
T6	Avondale Express	2020	19.0	77.6					
T7	Black Canyon Freeway Corridor	2031	16.6	67.7					
T8	Buckeye Express	2028	43.7	66.9					
T9	Chandler Boulevard Arterial BRT	2034	18.5	226.6					
T10	Deer Valley Express	2008	13.6	188.2	900.2	1,391,804	300.1	463,900	
T11	Desert Sky Express	2008	22.6	89.1	520.4	523,880	173.5	174,600	
T12	East Loop 101 Connector	2009	44.6	73.2	26.4	64,814	8.8	21,600	
T13	Grand Avenue Limited	2013	25.9	158.4	27.4	18,656			
T14	Loop 303 Express	2031	38.1	77.8					
T15	Main Street Arterial BRT	2009	13.0	385.1	775.0	623,976	258.3	208,000	
T16	North Glendale Express	2008	29.6	94.6	176.0	239,461	44.0	59,900	
T17	North I-17 Express	2031	34.4	87.6					
T18	North Loop 101 Connector (Surprise to Scottsdale)	2008	31.6	105.3	57.5	74,520	19.2	24,800	
T19	Papago Fwy Connector	2009	30.0	26.4	104.4	78,886	34.8	26,300	
T20	Peoria Express	2028	24.1	73.6					
T21	Pima Express	2028	35.4	72.2					
T22	Red Mountain Express	2009	32.8	54.4	107.3	126,406	35.8	42,100	
T23	Red Mountain Fwy Connector	2031	19.2	78.5					

Map Code	Route	Service Start (Fiscal Year)	Route Length (Miles)	Annual Bus-Miles of Service (Thousands)	Total Boardings: through FY 2011 (Thousands)	Farebox Revenues: through FY 2011 (YOE Dollars)	Annual Average Boardings: through FY 2011 (Thousands)	Annual Average Farebox Revenues: through FY 2011 (YOE Dollars)	Other Project Information
T24	Santan Express	2031	44.9	228.9					
T25	Scottsdale/Rural Arterial BRT	2016	23.1	282.8					
T26	South Central Avenue	2015	9.4	114.8					
T27	South Central Avenue Arterial BRT	2031	23.7	120.9					
T28	SR 51 Express	2008	22.3	128.3	541.6	701,856	180.5	234,000	
T29	Superstition Fwy Connector	2027	17.5	26.8					
T30	Superstition Springs Express	2031	31.9	162.5					
T31	West Loop 101 Connector	2009	31.4	64.4	130.1	129,444	43.4	43,100	
	<b>TOTAL</b>				<b>4,089.1</b>	<b>5,030,210</b>	<b>1,385.1</b>	<b>1,735,700</b>	

**TABLE C-9**  
**TRANSIT LIFE CYCLE PROGRAM - REGIONAL GRID**  
**ROUTE CHARACTERISTICS AND USAGE SUMMARY: FY 2006 to FY 2026**

Map Code	Route	Service Start (Fiscal Year)	Route Length (Miles)	Annual Bus-Miles of Service (Thousands)	Total Boardings: through FY 2011 (Thousands)	Farebox Revenues: through FY 2011 (YOE Dollars)	Annual Average Boardings: through FY 2011 (Thousands)	Annual Average Farebox Revenues: through FY 2011 (YOE Dollars)	Other Project Information
T40	59th Avenue	2014	16.2	394.2					
T41	83rd Avenue/75th Avenue	2023	21.4	542.4					
T42	99th Avenue	2031	16.5	401.3					
T43	Alma School Rd.	2018	19.1	523.5					
T44	Arizona Avenue/Country Club	2012	16.3	462.4					
T45	Baseline Road	2015	19.6	586.1					
	Dobson Road	2009	15.7	481.7	1,865.6	1,225,671	621.9	408,600	
	Southern Avenue	2009	28.1	961.8	4,569.8	3,167,045	1,523.3	1,055,700	
T46	Bell Road (via 303)	2024	38.1	1,138.5					
T47	Broadway	2018	27.8	776.3					
T48	Buckeye Road (Litchfield Road to Central Ave.)	2031	22.7	586.5					
T49	Camelback Road	2025	28.5	851.2					
T50	Chandler Blvd.	2008	32.7	768.5	1,412.5	1,517,666	353.1	379,400	
T51	Dunlap/Olive Avenue	2031	14.3	411.7					
T52	Dysart Road	2030	21.0	311.9					
T53	Elliot Road	2013	21.9	600.0					
T54	Gilbert Road	2010	20.9	519.1	403.1	312,628	201.6	156,300	
T55	Glendale Avenue	2008	32.7	965.2	6,995.2	6,766,852	1,748.8	1,691,700	
T56	Greenfield Road	2022	15.2	369.3					
T57	Hayden/McClintock	2021	29.7	827.0					
T58	Indian School Road	2031	30.4	879.1					
T59	Litchfield Road	2032	21.5	523.8					
T60	Main Street	2009	17.3	406.7	1,679.9	1,075,221	560.0	358,400	
T61	McDowell/McKellips	2014	41.8	1,250.2					
T62	Peoria Ave./Shea	2030	43.0	1,506.1					
T63	Power Road	2011	14.2	345.2	35.1	91,746	35.1	91,700	

Map Code	Route	Service Start (Fiscal Year)	Route Length (Miles)	Annual Bus-Miles of Service (Thousands)	Total Boardings: through FY 2011 (Thousands)	Farebox Revenues: through FY 2011 (YOE Dollars)	Annual Average Boardings: through FY 2011 (Thousands)	Annual Average Farebox Revenues: through FY 2011 (YOE Dollars)	Other Project Information
T64	Queen Creek Road (Pecos P&R to Power Road)	2031	12.0	293.4					
T65	Ray Road	2023	18.4	447.9					
T66	Scottsdale/Rural	2007	28.9	1,193.0	7,617.4	5,321,883	1,523.5	1,064,400	
T67	Tatum / 44th Street	2031	22.8	682.2					
T68	Thomas Road	2031	26.7	770.5					
T69	University Drive (to Ellsworth Road)	2016	27.8	802.2					
T70	Van Buren	2021	23.4	711.5					
T71	Waddell/Thunderbird	2024	27.9	692.4					
	<b>TOTAL</b>				<b>24,578.7</b>	<b>19,478,712</b>	<b>6,567.3</b>	<b>5,206,200</b>	