

MARICOPA ASSOCIATION OF GOVERNMENTS

INFORMATION SUMMARY... for your review

DATE:

September 2, 2003

SUBJECT:

Enhancement Funds Working Group Round XI Recommendations

SUMMARY:

The Enhancement Funds Working Group (EFWG) was formed by the MAG Regional Council in April 1993 to review and recommend a ranked list of Enhancement Fund applications from this region to the State Transportation Enhancement Review Committee (TERC). This year, 21 enhancement fund applications for local funds were received totaling \$8,535,715 with approximately \$7.5 million available statewide. Two applications for state funds were received totaling \$635,582 with approximately \$5.5 million available statewide. The Working Group recommends that the attached ranked applications be forwarded to the Arizona Department of Transportation (ADOT) for consideration by the TERC.

Projects are evaluated and ranked by the Working Group using criteria established by ADOT in evaluating applications. The Working Group reviews applications and recommends changes to strengthen the applications and improve their ability to compete on a statewide basis. Applicants are then expected to revise their applications based upon Working Group input. After the changes are considered, the Working Group ranks the applications. Applicants are also present at the ranking meeting, and public input on the initial rankings is encouraged by the committee co-chairs.

In addition to reviewing and recommending projects to be submitted to the TERC, the EFWG reviews ADOT policies and recommends changes to improve the transportation enhancement program. This year, the Working Group discussed ADOT policies regarding limits on the size of trees used in transportation enhancement projects. The Group felt these policies are overly restrictive, and negatively impact safety, health and public welfare. The Group recommended that regulations limiting tree size to 15 gallons in all transportation enhancement projects be dropped due to concerns for health, safety and public welfare.

With regard to health, 15 gallon trees, while they may be more easily established when young, do not offer any real shade potential until they are 36 inch box size or larger. Providing for quick and meaningful shade is a health issue in our climate. In addition, 15 gallon trees are not large enough to afford any clearance for pedestrians on adjacent walkways, which can be an especially critical safety issue for people with disabilities. Landscape architects generally specify a minimum 24 inch box size tree due to these conflicts. Finally, small trees are more subject to abuse by crowds and vandals since they are easily broken and torn. Cities have learned from experience that the smarter investment is larger trees that are more substantial and less likely to be destroyed by the public, and most cities in the MAG region specify larger trees in their landscaping ordinances. The EFWG also generally agreed that, as a matter of principle, ADOT should not be dictating tree sizes, but rather applicants should be allowed to determine the most appropriate tree size required for a project.

PUBLIC INPUT:

A workshop for potential enhancement fund applicants is held prior to each funding cycle to explain the transportation enhancement process. Notice of the workshop is advertised in Valley newspapers and mailed to approximately 1,000 persons interested in bicycling, the arts, landscape architecture,

planning, hiking, historic preservation, and alternative mode transportation. In addition, the availability of enhancement funds is communicated to the MAG Management Committee, Transportation Review Committee, Regional Bicycle Task Force, Pedestrian Working Group, Street Committee, and planning directors of member agencies. Further, all meetings of the Enhancement Funds Working Group are held in accordance with the open meeting law. The committee co-chairs provide abundant opportunity, in accordance with guidance adopted by the Group, for applicants to clarify and revise their applications before ranking by the Enhancement Funds Working Group.

PROS & CONS:

PROS: Forwarding the ranked applications creates this region's opportunity to obtain federal funds for projects which fall into the twelve enhancement fund categories.

CONS: None.

TECHNICAL & POLICY IMPLICATIONS:

TECHNICAL: None.

POLICY: None.

ACTION NEEDED:

Recommend that ranked applications from the MAG Enhancement Funds Working Group be forwarded to the Arizona Department of Transportation for consideration by the State Transportation Enhancement Review Committee, and recommend that regulations limiting tree size to 15 gallons in all transportation enhancement projects be dropped due to concerns for health, safety and public welfare.

PRIOR COMMITTEE ACTIONS:

On August 5, 2003, the Transportation Enhancements Working Group unanimously recommended that regulations limiting tree size to 15 gallons in all transportation enhancement projects be dropped due to concerns for health, safety and welfare.

On August 5, 2003, the Transportation Enhancement Funds Working Group unanimously recommended that the ranked list of applications be forwarded to the Arizona Department of Transportation.

MEMBERS ATTENDING

Phoenix: Councilmember Greg Stanton,
Co-Chair

Mesa: Mike Hutchinson, Co-Chair,
representing the MAG Management
Committee

Goodyear: Grant Anderson, representing the
MAG Street Committee

Maricopa County: Reed Kempton, representing
the MAG Pedestrian Working Group

Tempe: Mary O'Connor, representing the
MAG Regional Bicycle Task Force

Doug Kupel, representing Archaeological and
Historic Preservation (Arizona Preservation
Foundation)

Angela Dye, representing the American
Society of Landscape Architects, Arizona
Chapter

*Marcie Ellis, representing the West Valley
Fine Arts Council

*Andre Licardi, representing the Arizona
Commission of the Arts

*Member Not Present.

CONTACT PERSON:

Dawn M. Coomer, (602) 254-6300

**ROUND XI ENHANCEMENT FUND APPLICATIONS
TRANSPORTATION ENHANCEMENT FUND WORKING GROUP RECOMMENDATIONS
RANKED BY FUNDING TYPE**

Applicant	Description	Match	Federal Amt.	Total Federal Amt.	Rank
LOCAL PROJECTS					
Phoenix	2nd Avenue: Fillmore to Roosevelt Pedestrian and Landscape Enhancements – Continue TE funded project along 2 nd Avenue. Includes landscaping, new sidewalks, street furniture and lighting. New improvements will meet ADA guidelines.	52%	\$500,000	\$500,000	1
Scottsdale	Indian Bend Wash Multi-Use Path System Enhancement Connection – Fix ½ mile gap in Indian Bend Wash system. Project will build path on west side of Hayden to eliminate users having to cross at-grade twice.	20%	\$343,200	\$843,200	2
Maricopa County DOT	Gillespie Dam Bridge Restoration Project – Preserve and restore roller bearings of historic bridge in western Maricopa County near Gila Bend. Longest truss bridge along the transcontinental US 80. Listed on the National Register of Historic Places.	20%	\$303,150	\$1,146,350	3
Cave Creek	Town Core Pedestrian Pathway - 1.25 miles of 8 ft. wide pedestrian pathway throughout the Town Core. Materials include 2,300 ft. of concrete and 4,300 ft. of decomposed granite, depending on location. Site already has lots of landscaping.	31.5%	\$423,102	\$1,569,452	4
Phoenix/ Papago Salado Assn.	Arcadia Portal Multi-Use Trail Enhancement Project – Part of regional Papago Trail. Project includes 621 feet of ADA pathway, 10 ft. wide, shade structure, seating, signage, lighting, trash receptacles, pedestrian countdown signals at intersections, and landscaping. Completes a critical missing link in 11-mile trail system.	50%	\$500,000	\$2,069,452	4
Tempe	Tempe Bike Station at Downtown Tempe Intermodal Center - Includes attended secure bicycle parking, with other services: bicycle repair, supplies, refreshments, staff and transit information. Includes access to shower and restroom facility. Integral part of intermodal center that combines bus, rail, bikeway and trail connections.	16.6%	\$500,000	\$2,569,452	6
Phoenix	Historic Streetlight Restoration Project – Preserve historic lighting in Alvarado, Ashland Place and Encanto-Palmcroft historic districts. Includes luminaries, concrete poles and bases, metal poles, lead abatement and paint as needed. There are 100 cast concrete historic light poles and 28 historic metal poles in the three districts.	47.6%	\$500,000	\$3,069,452	7
Glendale	Old Roma Alley Pedestrian Enhancements and Landscape Beautification - Transform existing service alleyway in downtown to pedestrian friendly walkway and green space. Connects Old Town Retail and Antique District with activities of Catlin Court.	45.3%	\$479,452	\$3,548,904	8

**ROUND XI ENHANCEMENT FUND APPLICATIONS
TRANSPORTATION ENHANCEMENT FUND WORKING GROUP RECOMMENDATIONS
RANKED BY FUNDING TYPE**

Applicant	Description	Match	Federal Amt.	Total Federal Amt.	Rank
Goodyear	Southwest Goodyear Center - Pedestrian Improvements - Includes sidewalks at busy intersection in Goodyear. Links from intersection to fire station, public works building, and other areas.	5.7%	\$355,123	\$3,904,027	9
Glendale	New River Trail Segment C-12 – 12 ft. wide multi-use path from Northern to Glendale, along both sides of the river, a total length of 3.2 miles. Part of regional plan; connects to Glendale bikeway system; connects numerous origins and destinations, including schools, stadiums and the Glendale airport.	76%	\$500,000	\$4,404,027	10
Peoria	84th Avenue Streetscape Improvement Project - 1,500 ft. of improvements, including widening pedestrian walkways, construction of median (serves as pedestrian refuge), addition of mature trees and shrubs, pedestrian amenities (benches, drinking fountain). Artist will be included in design of the street pavers, tree boxes, and pedestrian refuge features.	48.05%	\$500,000	\$4,904,027	11
Peoria	Peoria Avenue Bridge Multi-Modal Path Underpass - TE Funds were used to construct a path along west bank of New River from Northern to Grand Avenue. This project will create a underpass at Peoria Ave. These projects will link multi-use trails and paths from Camelback Road to the 101 Bridge.	22.5%	\$500,000	\$5,404,027	12
Fountain Hills	Safe Sidewalks to School - Add sidewalks on streets that do not have them, that provide links to schools. Sidewalks will vary between 5 ft. and 8 ft. wide, for a total length of 11,400 ft, along several streets	37%	\$500,000	\$5,904,027	13
Goodyear	Goodyear Provisions for Physically Challenged Pedestrians - 50 ramps and driveways in different locations in Goodyear. Each will conform to ADA standards.	5.7%	\$193,272	\$6,097,299	13
Goodyear	Bullard Wash Multi-Use Path - One mile of 10 ft. multi-use pathway along Bullard Wash. Includes some landscaping, signage and drinking fountains.	5.7%	\$416,370	\$6,513,670	15
Glendale	Bethany Home Rd. Pedestrian Improvements - Add lateral separation along busy five-lane arterial roadway between frontage road and sidewalk. Include decorative walls and shade trees to channel pedestrians to safe crosswalk crossings. Lots of residential and commercial nearby; ranked as Glendale's most dangerous for bicyclists and pedestrians.	91.7%	\$491,593	\$7,005,263	16

**ROUND XI ENHANCEMENT FUND APPLICATIONS
TRANSPORTATION ENHANCEMENT FUND WORKING GROUP RECOMMENDATIONS
RANKED BY FUNDING TYPE**

Applicant	Description	Match	Federal Amt.	Total Federal Amt.	Rank
Phoenix	Pedestrian School Safety Zones Project – Phase I – Provide pedestrian improvements at high-risk school crosswalks. At 10 sites, provide countdown pedestrian signals. At 10 sites, provide speed monitor radar units. At two sites, narrow road crossing length by providing pedestrian refuge islands. Sites will be selected based on engineering analysis and community and school input.	33.23%	\$500,000	\$7,505,263	17
Glendale	Historic Downtown Glendale Pedestrian Improvements - Continue upgraded landscaping elements along Glenn Dr. in downtown Glendale. Includes lighting, brick patterned sidewalks, more trees, signage, benches, and seating wall with artistic elements.	5.7%	\$172,579	<i>This Project Will Not Be Forwarded to ADOT</i>	18
Phoenix	Phoenix Bioscience Center at Copper Square: Pedestrian and Landscape Improvements – Includes 34,000 ft. of new sidewalk, 163,000 sq. ft. of landscaping between Van Buren and Fillmore, and 5 th and 7 th Streets in downtown Phoenix. Features include new accessible ramps, enhanced crosswalks, countdown traffic signals, street furniture and lighting.	45%	\$500,000	<i>This Project Will Not Be Forwarded to ADOT</i>	19
Fountain Hills	Scenic Rest Area - Provide scenic rest area along Shea Blvd. at Fish Point Overlook. Project includes tables with shade canopy, concrete viewing benches, concrete sidewalk and irrigated desert landscaping.	5.8%	\$98,200	<i>This Project Will Not Be Forwarded to ADOT</i>	20
Chandler	Chandler Blvd. Gateway at Gilbert Rd. - Gateway feature that includes landscaping, lighting, signing and pavement treatments similar to other entryway features in Chandler.	5.7%	\$298,402	<i>This Project Will Not Be Forwarded to ADOT</i>	21
STATE PROJECTS					
Wickenburg	US 60 Multi-Use Path - 1.4 miles of multi-use path along US 60 from Vulture Mine Rd. to Los Altos Dr. Supported by the ADOT District.	5.7%	\$509,220	\$509,220	1
Wickenburg	US 60 Sidewalk – Construct sidewalk from milepost 111.03 to milepost 111.67. Funds a 5 ft. sidewalk that is a part of the US 60 expansion, but is not funded in the budget. Approximate distance of .64 miles. Supported by the ADOT District.	5.7%	\$126,362	\$635,582	2

MARICOPA ASSOCIATION OF GOVERNMENTS

INFORMATION SUMMARY... for your review

DATE:

September 2, 2003

SUBJECT:

Proposed Amendment to the FY 2003-2007 MAG Transportation Improvement Program for Highway Projects

SUMMARY:

The FY 2003-2007 MAG Transportation Improvement Program (TIP) was approved by the Regional Council on July 24, 2002. Since that time, ADOT has been notified that the region has been awarded \$2,980,500 in Special Intelligent Transportation System (ITS) funding to develop connectivity and interoperability opportunities with the AzTech Regional ITS system. In addition, the City of Mesa wishes to start development of an Enhancement funded project to design and construct pedestrian pathways, furniture and other amenities in their Downtown area. This project was incorrectly omitted from the current TIP as being already underway. Please refer to the attached table. In order to proceed with these projects, they need to be added to the TIP. Both of the proposed changes may be categorized as exempt projects or minor project revisions for which an air quality conformity analysis is not required. Consultation on the conformity assessment for the proposed changes is considered under a separate agenda item.

PUBLIC INPUT:

An opportunity for public input will be provided at the Management Committee meeting on September 10, 2003, at the Transportation Policy Committee meeting on September 17, 2003, and at the Regional Council meeting on September 24, 2003. Due to the cancellation of the August Transportation Review Committee, no public comment has been received to date.

PROS & CONS:

PROS: Approval of this TIP amendment will allow the projects to proceed in a timely manner.

CONS: None.

TECHNICAL & POLICY IMPLICATIONS:

TECHNICAL: Projects that are regionally significant or that wish to utilize transportation federal funds need to be shown in the TIP in the year that they expect to commence.

POLICY: This amendment request is in accord with all MAG guidelines.

ACTION NEEDED:

Recommend approving an Amendment to the FY 2003-2007 MAG Transportation Improvement Program to add a new ITS project for ADOT and an Enhancement project for Mesa.

PRIOR COMMITTEE ACTIONS:

None.

CONTACT PERSON:

Paul Ward, MAG, (602) 254-6300

Table One - Project Additions to the FY 2003-2007 MAG Transportation Improvement Program (TIP Amendment Number Ten)
NEITHER of the listed projects involve FTA funds or the transfer of FHWA funds to FTA

Project #	Agency	Location	Type of Work	FY	Fund Type	Local Cost	Federal Cost	Total Cost
Add the following projects:								
DOT03-361	ADOT	Regionwide	Develop connectivity and interoperability of Aztech	2003	ITS	\$0	\$2,980,500	\$2,980,500
MES01-003	Mesa	Downtown Mesa	Design and construct pedestrian pathways, furniture and other amenities	2004	STP-TEA	\$34,108	\$481,503	\$515,611
Total being added to the FY 2003-2007 MAG TIP:						\$34,108	\$3,462,003	\$3,496,111

August 8, 2003

TO: Members of the MAG Management Committee

FROM: Dean Giles, Air Quality Planning Program Manager

SUBJECT: CONSULTATION ON POTENTIALLY REGIONALLY SIGNIFICANT PROJECTS OF THE FY 2004-2007 MAG TRANSPORTATION IMPROVEMENT PROGRAM

Federal and state conformity regulations require Metropolitan Planning Organizations such as the Maricopa Association of Governments to consult with state and local air quality and transportation agencies, the U.S. Environmental Protection Agency, and the U.S. Department of Transportation regarding which transportation projects will be considered “regionally significant” for a regional emissions analysis. Regionally significant projects are subject to conformity requirements. A list of potentially regionally significant projects from the proposed FY 2004-2007 MAG Transportation Improvement Program is attached for your review and comment. Please provide any comments regarding the list by August 29, 2003.

The MAG designation of transportation projects as regionally significant is considered advisory to the sponsoring agencies of the projects. Section R18-2-1429(B) of the Arizona Administrative Code requires the project sponsor that is a recipient of federal highway or transit funds to determine whether or not the project is regionally significant.

PROCESS FOR IDENTIFYING REGIONALLY SIGNIFICANT PROJECTS

Federal conformity regulations specify that a regionally significant project is a transportation project that is on a facility that serves regional transportation needs, and would normally be included in the modeling of the transportation network. The criteria used to identify regionally significant projects are detailed in the *MAG Transportation Conformity Guidance and Procedures*, approved by the MAG Regional Council on September 27, 1995 and revised on March 27, 1996.

If you have any questions or comments, please contact me at (602) 254-6300.

Attachment

cc: MAG Intergovernmental Liaisons

August 8, 2003

TO: Members of the MAG Management Committee

FROM: Dean Giles, Air Quality Planning Program Manager

SUBJECT: CONSULTATION ON PROPOSED TRANSPORTATION CONFORMITY PROCESSES FOR THE 2003 MAG CONFORMITY ANALYSIS

The Maricopa Association of Governments is distributing for interagency consultation the proposed transportation conformity processes to be applied in the upcoming conformity analysis for the FY 2004-2007 MAG Transportation Improvement Program and the MAG Regional Transportation Plan. Consultation on the proposed processes is required under MAG conformity consultation procedures that were developed to meet state and federal requirements. Please provide any comments regarding this material by August 29, 2003. Additional opportunities for comment on this consultation item are anticipated during the September 10, 2003 MAG Management Committee and September 24, 2003 MAG Regional Council meetings.

The following information is being transmitted for consultation:

- Attachment A documents models, associated methods, and assumptions for use in regional emissions analyses.
- Attachment B documents the process for ensuring expeditious implementation of transportation control measures.
- Attachment C documents the process for types of projects considered exempt from conformity requirements.
- Attachment D documents the process for identifying projects which require PM-10 hotspot analysis.

If you have any questions or comments, please contact me at (602) 254-6300.

Attachments

cc: MAG Intergovernmental Liaisons

**MODELS, ASSOCIATED METHODS, AND ASSUMPTIONS FOR USE IN
REGIONAL EMISSIONS ANALYSES**

In accordance with the transportation conformity rule 40 CFR 93.105(c)(1)(i), MAG is conducting consultation for purposes of “evaluating and choosing a model (or models) and associated methods and assumptions to be used in hotspot analyses and regional emissions analyses”. In February 1996, the Maricopa Association of Governments (MAG) Regional Council adopted conformity consultation processes in response to federal and state requirements (MAG, 1996a). The MAG process M-1 directly addresses the requirement for periodic consultation on models, associated methods, and assumptions to be used in hotspot analyses and regional emissions analyses. The process indicates that regional emissions analyses are to use the latest EPA-approved motor vehicle emissions models and that all model inputs use the latest planning assumptions as required in 40 CFR Sections 93.110-111.

The agencies consulted are the Federal Highway Administration, Federal Transit Administration, United States Environmental Protection Agency, Arizona Department of Environmental Quality, Arizona Department of Transportation, Regional Public Transportation Authority, Maricopa County Environmental Services Department, and MAG member agencies (e.g. Maricopa County, cities, towns, and Indian communities).

The following sections describe the proposed approach for regional emissions analyses including the methodology, latest planning assumptions, transportation modeling, and air quality modeling to be used in the 2003 MAG Conformity Analysis on the FY 2004-2007 MAG Transportation Improvement Program (TIP) and the 2025 MAG Regional Transportation Plan (RTP).

I. METHODOLOGY FOR THE 2003 MAG CONFORMITY ANALYSIS

The criteria for determining conformity of transportation programs and plans under the federal conformity rule (40 CFR Parts 51 and 93) and the applicable conformity tests for the Maricopa County nonattainment areas are summarized in this section. The 2003 MAG Conformity Analysis will be prepared based on these criteria and tests. Presented first is a review of the development of the applicable conformity rule and guidance procedures, followed by summaries of conformity rule requirements, air quality designation status, conformity test requirements, and analysis years for the 2003 MAG Conformity Analysis.

FEDERAL AND STATE CONFORMITY RULES

Clean Air Act Amendments

Section 176(c) of the Clean Air Act (CAA, 1990) requires that Federal agencies and Metropolitan Planning Organizations (MPOs) not approve any transportation project, program, or plan which does not conform with the approved State Implementation Plan (SIP). The 1990 amendments to the Clean Air Act expanded Section 176(c) to more explicitly define conformity to an implementation plan to mean:

Conformity to the plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards; and that such activities will not (i) cause or contribute to any new violation of any standard in any area; (ii) increase the frequency or severity of any existing violation of any standard in any area; or (iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The expanded Section 176(c) also provided conditions for approval of transportation plans, programs, and projects; requirements that the Environmental Protection Agency (EPA) promulgate conformity determination criteria and procedures no later than November 15, 1991; and a requirement that States submit their conformity procedures to EPA by November 15, 1992. The initial November 15, 1991 deadline for conformity criteria and procedures was not met by EPA.

Federal Rule

Supplemental interim conformity guidance was issued on June 7, 1991 (EPA/DOT, 1991a and 1991b) for carbon monoxide, ozone, and particulate matter ten microns or less in diameter. The applicable period of this guidance was designated as Phase 1 of the interim period. EPA subsequently promulgated the Conformity Final Rule, in the November 24, 1993 *Federal Register* (EPA, 1993). The Rule became effective on December 27, 1993. The federal Transportation Conformity Final Rule has been revised several times since its initial release. The first set of amendments, finalized on August 7, 1995, (EPA, 1995b) aligned the dates of conformity lapses due to SIP failures with the application of Clean Air Act highway sanctions for certain ozone areas and all areas with disapproved SIPs with a protective finding.

The second set of amendments was finalized on November 14, 1995 (EPA, 1995c). This set allowed any transportation control measure (TCM) from an approved SIP to proceed during a conformity lapse, and aligned the date of conformity lapses with the date of application of Clean Air Act highway sanctions for any failure to submit or submissions of an incomplete control strategy SIP. The second set also corrected the nitrogen oxides provisions of the transportation conformity rule consistent with the Clean Air Act and previous commitments made by EPA. Finally, the amendments extended the grace period before which areas must determine conformity to a submitted

control strategy SIP, and established a grace period before which transportation plan and program conformity must be determined in recently designated nonattainment areas. This grace period was later overturned in *Sierra Club v. EPA* in November 1997.

The third set of amendments was finalized August 15, 1997 (EPA, 1997a). These amendments streamlined the conformity process by eliminating the reliance on the classification system of “Phase II interim period,” “transitional period,” “control strategy period,” and “maintenance period” to determine whether the budget test and/or emission reduction tests apply. The amendments also changed the time periods during which the budget test and the “Build/No Build” test are required.

Other amendments to the transportation conformity rule have followed. To incorporate provisions from the *Sierra Club v. EPA* court decision, EPA promulgated an amendment to the transportation conformity rule on April 10, 2000 that eliminated a one-year grace period for new nonattainment areas before conformity applies (EPA, 2000b). Then on August 6, 2002, the EPA promulgated an amendment to the transportation conformity rule which requires conformity to be determined within 18 months of the effective date of the EPA Federal Register notice on an budget adequacy finding in an initial SIP submission and established a one-year grace period before conformity is required in areas that are designated nonattainment for a given air quality standard for the first time (EPA, 2002b).

In addition, on June 30, 2003, EPA proposed to amend the transportation conformity rule to incorporate provisions from the March 2, 1999 *Environmental Defense Fund v. EPA* court decision (EPA, 2003). This amendment revises the transportation conformity rule based on existing guidance issued by EPA and the United States Department of Transportation (USDOT) following the court decision. Other revisions to the conformity rule have been proposed to clarify the regulations. These revisions include: using submitted motor vehicle emissions budgets for conformity determinations only after EPA has found the budgets to be adequate; elimination of the 120-day grace period following a SIP revision disapproval without a protective finding; basing the latest planning assumptions available from the time the conformity analysis begins; and, requirements for budget tests performed for the attainment year and budget test requirements performed once a maintenance plan is submitted.

State Rule

State rules for transportation conformity were adopted on April 12, 1995, by the Arizona Department of Environmental Quality (ADEQ), in response to requirements in Section 176(c)(4)(C) of the Clean Air Act as amended in 1990 (ADEQ, 1995). These rules became effective upon their certification by the Arizona Attorney General on June 15, 1995 and, as required by the federal conformity rule, were submitted to EPA as a revision to the State transportation conformity SIP.

To date, a State transportation conformity SIP has not received approval by EPA. Section 51.390(b) of the federal conformity rule states: “Following EPA approval of the State conformity provisions (or a portion thereof) in a revision to the applicable implementation plan, conformity determinations

would be governed by the approved (or approved portion of the) State criteria and procedures.” The federal transportation conformity rule therefore still governs, as a transportation conformity SIP has not yet been approved for this area.

The State rule specifies that MPOs (i.e., MAG, for this region) must develop specific conformity guidance and consultation procedures and processes. MAG has developed and adopted two conformity guidance documents to meet State requirements. MAG developed the “Transportation Conformity Guidance and Procedures” document, which was adopted initially on September 27, 1995 by the MAG Regional Council. The document was revised by the MAG Regional Council on March 27, 1996 (MAG, 1996b). This guidance document addresses both the determination of “regional significance” status for individual transportation projects, and the process by which regionally significant projects may be approved.

MAG also developed the “Conformity Consultation Processes” document, which was adopted on February 28, 1996 by the MAG Regional Council (MAG, 1996a). This guidance document details the public and interagency consultation processes to be used in the development of regional transportation plans, programs, and projects within the Maricopa County nonattainment area.

Case Law

On November 14, 1997, the U.S. Court of Appeals for the District of Columbia issued an opinion in *Sierra Club v. EPA* involving the 1995 transportation conformity amendment that allowed new nonattainment areas a one-year grace period. Under this ruling, conformity applied as soon as an area was designated nonattainment. The EPA issued a final rule on April 10, 2000 in the *Federal Register* deleting 40 CFR 93.102(d) that allowed the grace period for new nonattainment areas (EPA, 2000b). Then, on October 27, 2000, the FY 2001 EPA Appropriations bill included an amendment to Section 176(c) of the Clean Air Act that adds the one-year grace period to the statutory language.

On March 2, 1999, the U.S. Court of Appeals for the District of Columbia issued an opinion in *Environmental Defense Fund v. EPA* involving the 1997 transportation conformity amendments. In general, the court struck down 40 CFR 93.120(a)(2) which permitted a 120-day grace period after disapproval of a SIP; determined that the EPA must approve a “safety margin” prior to its use for conformity in 40 CFR 93.124(b); concluded that a submitted SIP budget must be found by EPA to be adequate, based on criteria found in 40 CFR 93.118(e)(4) before it can be used in a conformity determination; and ended a provision that allowed “grandfathered” projects to proceed during a conformity lapse. Following the court ruling, the EPA and USDOT issued guidance to address implementation of conformity requirements based on the court findings. The EPA issued guidance contained in a May 14, 1999 memorandum (EPA, 1999c). In addition, the USDOT issued guidance on June 18, 1999 that incorporates all USDOT guidance in response to the court decision in a single document (USDOT, 1999). On June 30, 2003, the EPA proposed transportation conformity rule amendments to incorporate provisions of the *Environmental Defense Fund v. EPA* court decision. Table A-1 summarizes the criteria for conformity determinations for transportation projects, programs, and plans, as specified in amendments to the federal conformity rule.

TABLE A-1.
CONFORMITY CRITERIA FROM THE FINAL RULE

Applicability	Pollutant	Section	Requirement
All Actions at All Times	CO, Ozone, PM-10	93.110	Latest Planning Assumptions
		93.111	Latest Emissions Model
		93.112	Consultation
Transportation Plan (RTP)	CO, Ozone, PM-10	93.113(b)	TCMs
		93.118* or 93.119	Emissions Budget or Emission Reduction
TIP	CO, Ozone, PM-10	93.113(c)	TCMs
		93.118* or 93.119	Emissions Budget or Emission Reduction
Project (From a Conforming Plan and TIP)	CO, Ozone, PM-10	93.114	Currently Conforming Plan and TIP
		93.115	Project From a Conforming Plan and TIP
	CO and PM-10	93.116	CO and PM-10 Hot Spots
	PM-10	93.117	PM-10 Control Measures
Project (Not From a Conforming Plan or TIP)	CO, Ozone, PM-10	93.113(d)	TCMs
		93.114	Currently Conforming Plan and TIP
	CO and PM-10	93.116	CO and PM-10 Hot Spots
	PM-10	93.117	PM-10 Control Measures
	CO, Ozone, PM-10	93.118* or 93.119	Emissions Budget or Emission Reduction

Source: Modified from 40 CFR Parts 51 and 93 Transportation Conformity Rule Amendments: Flexibility and Streamlining; Final Rule, Section 91.109(b), "Table 1 - Conformity Criteria".

*As modified by the June 30, 2003 EPA proposed transportation conformity rule amendments.

CONFORMITY RULE REQUIREMENTS

The federal regulations identify general criteria and procedures that apply to all transportation conformity determinations, regardless of pollutant and implementation plan status. These include:

1) *Conformity Tests* — Sections 93.118 and 93.119 specify emission tests (budget and emission reduction) that the TIP and RTP must satisfy in order for a determination of conformity to be found. Guidance issued by EPA on May 14, 1999, and proposed as a conformity rule amendment on June 30, 2003, requires a submitted SIP motor vehicle emissions budget to be affirmed as adequate by the EPA prior to use for making conformity determinations. The budget must be used on or after the effective date of EPA's finding of adequacy.

2) *Methods / Modeling:*

Latest Planning Assumptions — Section 93.110 specifies that conformity determinations must be based upon the most recent planning assumptions in force at the start of the conformity analysis (EPA, 2003). This section also requires reasonable assumptions to be made with regard to transit service and changes in projected fares.

Latest Emissions Models — Section 93.111 requires that the latest emission estimation models specified for use in SIPs must be used for the conformity analysis.

3) *Timely Implementation of TCMs* — Section 93.113 provides a detailed description of the steps necessary to demonstrate that the new TIP and RTP are providing for the timely implementation of TCMs, as well as demonstrate that the plan and/or program is not interfering with this implementation. Full documentation of this demonstration is included in the TIP.

4) *Consultation* — Section 93.105 requires that the conformity determination be made in accordance with the consultation procedures outlined in the federal regulations. These include:

- MAG is required to provide reasonable opportunity for consultation with State air agencies, local air quality and transportation agencies, the USDOT and EPA (Section 93.105(a)(1)).
- MAG is required to establish a proactive public involvement process which provides opportunity for public review and comment prior to taking formal action on a conformity determination (Section 93.105(e)).

Under the interagency consultation procedures, the RTP is prepared by MAG staff with guidance from the MAG Transportation Policy Committee, the MAG

Management Committee, and the MAG Regional Council. Copies of the final Draft are provided to MAG member agencies and others, including the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), EPA, Arizona Department of Transportation (ADOT), ADEQ, Maricopa County Environmental Services Department (MCESD), and the Regional Public Transportation Authority (RPTA). The RTP is required to be publicly available and an opportunity for public review and comment is provided.

The TIP is prepared by MAG with the assistance of the MAG Modal Committees, Transportation Review Committee, and Transportation Policy Committee. Copies of the Draft TIP are provided to MAG member agencies and others, including ADOT, FHWA, FTA, RPTA, ADEQ, EPA, and MCESD, for review. As with the RTP, the TIP is required to be publicly available and an opportunity for public review and comment is provided. The MAG consultation process for the conformity analysis includes a 30-day comment period followed by a public hearing that is conducted jointly for the TIP and RTP.

AIR QUALITY DESIGNATIONS

Portions of Maricopa County are currently designated as nonattainment for the National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO), ozone, and particulate matter under ten microns in diameter (PM-10). Air quality plans have been prepared to address carbon monoxide, ozone, and PM-10:

- The Revised MAG 1999 Serious Area Carbon Monoxide Plan, reflecting the repeal of the remote sensing program by the Arizona Legislature in 2000, was submitted to EPA in March 2001;
- The Carbon Monoxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area was submitted to EPA in June 2003;
- The EPA approved and promulgated a Revised 1998 15 Percent Rate of Progress Plan for Ozone (Revised ROP FIP) for the Maricopa County nonattainment area, effective August 5, 1999;
- The Serious Area Ozone State Implementation Plan for Maricopa County was prepared by ADEQ and submitted to EPA in December 2000 to meet the Serious Area requirements. No budget is contained in the Serious Area Ozone Plan; and
- The Revised MAG 1999 Serious Area Particulate Plan for PM-10 was submitted to EPA in February 2000.

A summary of the attainment status for each pollutant for the Maricopa County region is provided below, followed by a summary of the applicable conformity test requirements for each pollutant.

Attainment Status

Nonattainment areas in Maricopa County are shown in Figure A-1. The carbon monoxide and ozone nonattainment areas share a common boundary, encompassing 1,962 square miles (approximately 22 percent) of the county. These boundaries were originally specified in 1974.

Following promulgation of the PM-10 standard in 1987, EPA identified a larger PM-10 nonattainment area in 1990. The PM-10 nonattainment area encompasses 2,916 square miles, consisting of a 48 by 60 mile rectangular grid in eastern Maricopa County, plus a six by six mile section that includes a portion of the City of Apache Junction in Pinal County.

Following the requirements of the 1990 Clean Air Act Amendments, EPA initially identified the MAG region as a “Moderate” nonattainment area for the 8-hour CO standard, with a design value of 12.6 parts per million (ppm), exceeding the current NAAQS of 9.0 ppm. The standard was not achieved by the Clean Air Act deadline of December 31, 1995. The area was reclassified to “Serious” by operation of law in July 1996, with an effective date of August 28, 1996 (EPA, 1996b). The new carbon monoxide attainment date was December 31, 2000. It is important to note that there have been no violations of the carbon monoxide air quality standard in the past six calendar years (1997 through 2002). The State, in a July 23, 1999 letter, requested a carbon monoxide attainment determination from the EPA. In June 2003, the Carbon Monoxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area was submitted to EPA. This document demonstrates that all Clean Air Act requirements have been met and requests that EPA redesignate the area to attainment for carbon monoxide.

Under the 1990 Clean Air Act Amendments, the Maricopa County nonattainment area was classified as “Moderate” for the 1-hour ozone standard. The standard was not achieved by the deadline of November 19, 1996. On November 6, 1997, EPA reclassified the area to “Serious” for ozone (EPA, 1997b), effective February 13, 1998 (EPA, 1998). The new ozone attainment date was November 19, 1999. It is important to note that there have been no violations of the 1-hour ozone air quality standard in the past six calendar years (1997 through 2002). The State, in a February 21, 2000 letter, requested an ozone attainment determination. On May 30, 2001, the Environmental Protection Agency published a final attainment determination for the 1-hour ozone standard (EPA, 2001a). MAG is currently preparing the one-hour ozone redesignation request and maintenance plan for the Maricopa County Nonattainment area for submission to EPA in late 2003.

Under Section 107(d)(4) of the 1990 Clean Air Act Amendments, the PM-10 nonattainment area was initially classified as “Moderate”, with an attainment deadline of December 31, 1994. The standard was not achieved by this date. EPA reclassified the region to “Serious” in May 1996, with an effective date of June 10, 1996 (EPA, 1996a). The new attainment date for PM-10 is December 31, 2001 for Serious areas; however the Revised MAG 1999 Serious Area Particulate Plan

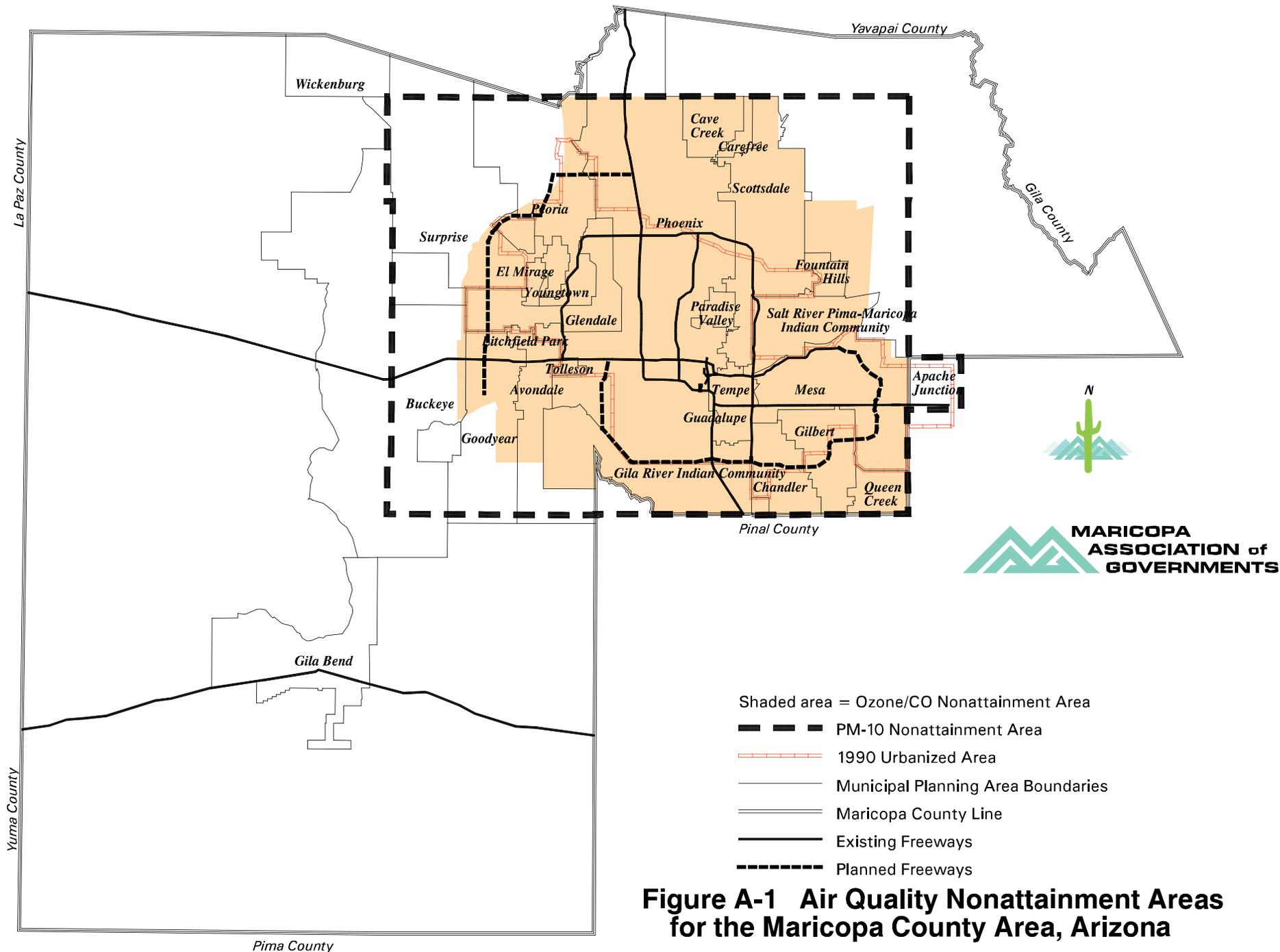


Figure A-1 Air Quality Nonattainment Areas for the Maricopa County Area, Arizona

for PM-10 for the Maricopa County Nonattainment Area contains a request to extend the attainment date to December 31, 2006, as allowed in the Clean Air Act Amendments (MAG, 2000a).

In the July 25, 2002 *Federal Register*, the Environmental Protection Agency published the final approval of the Revised MAG 1999 Serious Area Particulate Plan for PM-10, including the request to extend the attainment date to December 31, 2006.

CONFORMITY TEST REQUIREMENTS

Specific conformity test requirements established for the MAG nonattainment areas for carbon monoxide, ozone, and PM-10, are summarized below. EPA issued a notice of adequacy for the PM-10 motor vehicle emissions budget on April 21, 2000. In addition, EPA has approved the Revised MAG 1999 Serious Area Particulate Plan for PM-10, including the motor vehicle emissions budget for 2006. The EPA-approved and promulgated Revised Rate of Progress Federal Implementation Plan, effective August 5, 1999, establishes the motor vehicle emissions budget for volatile organic compounds (VOCs) to be used in conducting the ozone conformity budget test for the Maricopa County nonattainment area. The Carbon Monoxide Redesignation Request and Maintenance Plan, submitted to EPA in May 2003, contains a 2006 interim budget and a 2015 conformity budget for carbon monoxide. It is anticipated that EPA will issue a notice of adequacy for the Carbon Monoxide Maintenance Plan budgets before the 2003 MAG Conformity Analysis is conducted. The new carbon monoxide budgets will be used after the effective date of EPA's adequacy finding.

Carbon Monoxide

The MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area was submitted to the EPA in July 1999 (MAG, 1999). The MAG 1999 Serious Area Carbon Monoxide Plan used the required EPA emissions model to assess the emission reduction measures required to demonstrate attainment and established a CO emissions budget of 411.6 metric tons per day for 2000 for the modeled area. The EPA issued a notice of adequacy effective December 14, 1999 in the *Federal Register* finding that the submitted CO motor vehicle emissions budget contained in the MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area was adequate for transportation conformity purposes (EPA, 1999b).

The Revised MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area was submitted to the EPA in March 2001 (MAG, 2001a). The Revised Plan reflects the repeal of the Random Onroad Testing Requirements (Remote Sensing Program) from the Vehicle Emissions Inspection Program by the Arizona Legislature in 2000. The Revised Plan used the required EPA emissions model to assess the emission reduction measures required to demonstrate attainment and established a CO emissions budget of 412.2 metric tons per day for 2000 for the modeled area. The EPA issued a notice of adequacy in the *Federal Register* on October 17, 2001, finding that the submitted CO motor vehicle emissions budget contained in the Revised MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment

Area was adequate for transportation conformity purposes (EPA, 2001b). The new conformity budget for CO of 412.2 metric tons per day replaced the previous budget of 411.6 metric tons per day.

In June 2003, the Carbon Monoxide Redesignation Request and Maintenance Plan was submitted to EPA (MAG, 2003a). The Maintenance Plan used the EPA-approved MOBILE6 emissions model to develop a 2006 interim budget for carbon monoxide of 699.7 metric tons per day and a 2015 maintenance budget of 662.9 metric tons per day. It is anticipated that EPA will issue a notice of adequacy for these budgets before the 2003 MAG Conformity Analysis is conducted. According to the proposed amendments to the conformity rule (EPA, 2003a), the conformity budgets in the Carbon Monoxide Maintenance Plan (MAG, 2001a) can be applied on or after the effective date of EPA's adequacy finding. On or after this date, the 2006 interim budget will apply to horizon years from 2006 through 2014 (i.e., 2006) and the 2015 budget, to horizon years after 2014 (i.e., 2015 and 2025). The regional emissions analysis projected for the "Build" scenario for the TIP and RTP must be less than or equal to these budgets.

Ozone

Ozone is a secondary pollutant, generated by chemical reactions in the atmosphere involving volatile organic compounds and nitrogen oxides. EPA approved and promulgated a Revised Rate of Progress (ROP) Federal Implementation Plan (FIP) for the Maricopa County nonattainment area, effective August 5, 1999, that established a motor vehicle emission budget for VOCs of 87.1 metric tons for an average summer (ozone) season day (EPA, 1999a). Since the Revised ROP FIP budget was established in an applicable implementation plan, the approved budget test applies and the emission reduction tests ("Build/No Build" and less than 1990 emissions) do not apply. The regional emissions analysis projected for the "Build" scenario for the TIP and RTP must be less than or equal to this conformity budget. A Serious Area Ozone State Implementation Plan for Maricopa County, submitted to EPA in December 2000, contains no air quality modeling or motor vehicle emissions budget (ADEQ, 2000). Therefore, this Serious Area Ozone Plan has no impact on conformity requirements, processes, or tests, as indicated by EPA in the May 30, 2001 final ruling notice.

On May 30, 2001, EPA published a final rulemaking notice determining that the Phoenix metropolitan serious ozone nonattainment area has attained the 1-hour ozone air quality standard by the Clean Air Act deadline of November 15, 1999. In the notice, EPA also determined that the Clean Air Act requirements for reasonable further progress, attainment determination, and contingency measures are not applicable as long as the Phoenix area continues to attain the 1-hour ozone air quality standard.

Regarding the effect of the determination on transportation conformity, the notice indicates that the EPA set the current ozone conformity budget for the Phoenix metropolitan area in the Federal 15 Percent Rate of Progress Plan. The determination that the 1-hour ozone standard has been attained and that an attainment demonstration and Rate of Progress/Reasonable Further Progress demonstrations are not required will not affect the continued applicability of the existing budget (EPA, 2001a).

Therefore, the applicable motor vehicle emissions budget for VOCs has been established in the Revised ROP FIP for the Maricopa County ozone nonattainment area. The Revised ROP FIP addresses reductions in VOCs, and since it does not include a nitrogen oxides (NO_x) analysis, does not establish a NO_x budget. The EPA Final Rule on conformity does not require emissions analysis for nitrogen oxides in areas for which the EPA Administrator has determined that NO_x emission reductions would not contribute to attainment of the ozone standard. The State of Arizona petitioned EPA for a waiver of NO_x requirements in April 1994, based upon modeling results that showed nitrogen oxides reductions would not contribute to attainment. The waiver was approved by the EPA Administrator, effective April 11, 1995, and published in the April 19, 1995 *Federal Register* (EPA, 1995a).

PM-10

The Revised MAG 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area was submitted to the EPA in February 2000 (MAG, 2000a). The Clean Air Act attainment date is December 31, 2001 for Serious PM-10 Areas; however, the Revised MAG 1999 Serious Area Particulate Plan for PM-10 contains a request to extend the attainment date to December 31, 2006, as allowed in the Clean Air Act Amendments. The Revised MAG 1999 Serious Area Particulate Plan for PM-10 used the required EPA emission model to assess the emission reduction measures required to demonstrate attainment and established a PM-10 emissions budget of 59.7 metric tons per day applicable for both the annual average and 24-hour PM-10 standards in 2006 for the modeled area. The EPA issued a notice of adequacy, effective April 21, 2000 in the *Federal Register* finding that the submitted PM-10 motor vehicle emissions budget contained in the Revised MAG 1999 Serious Area Particulate Plan for PM-10 was adequate for transportation conformity purposes (EPA, 2000a). The regional emissions analysis projected for the “Build” scenario for the TIP and RTP must be less than or equal to the budget established by this Plan.

Section 93.122(d)(2) of the federal conformity rule requires that PM-10 from construction-related fugitive dust be included in the regional PM-10 emissions analysis, if it is identified as a contributor to the nonattainment problem in a PM-10 implementation plan. The motor vehicle emissions budget established in the Revised MAG 1999 Serious Area Particulate Plan for PM-10 includes regional reentrained dust from travel on paved roads, vehicular exhaust, travel on unpaved roads, and road construction. Therefore, emissions from road construction are included as part of the PM-10 estimates developed for this conformity analysis.

ANALYSIS YEARS

For the 2003 MAG Conformity Analysis regional emissions will be estimated for the horizon years 2006, 2015, and 2025 for carbon monoxide, volatile organic compounds and PM-10. For the selection of horizon years, the conformity rule requires: (1) that if the attainment year is in the time span of the transportation plan, it must be modeled; (2) the last year forecast in the transportation plan must be a horizon year; and (3) horizon years may be not more than ten years apart. The attainment years for ozone and carbon monoxide were 1999 and 2000, respectively. The years 1999

and 2000 are not within the time span of the TIP or RTP and, therefore, do not need to be modeled. The year 2006 will be modeled for PM-10, because it is the attainment year and is within the time span of the RTP. The year 2006 will be the first year modeled for carbon monoxide and volatile organic compounds that is in the time span of the RTP. The year 2025 will be modeled because it is the last year of the RTP forecast period. The year 2015 is an intermediate year that meets the federal conformity rule requirement that horizon years be no more than ten years apart.

II. LATEST PLANNING ASSUMPTIONS

The Clean Air Act states that “the determination of conformity shall be based on the most recent estimates of emissions, and such estimates shall be determined from the most recent population, employment, travel, and congestion estimates as determined by the MPO or other agency authorized to make such estimates.” On January 18, 2001, the USDOT issued guidance developed jointly with EPA to provide additional clarification concerning the use of latest planning assumptions in conformity determinations (USDOT, 2001).

Key elements of this new guidance are identified below:

- Areas are strongly encouraged to review and strive towards regular five-year updates of planning assumptions, especially population, employment and vehicle registration assumptions.
- The latest planning assumptions must be derived from the population, employment, travel and congestion estimates that have been most recently developed by the MPO (or other agency authorized to make such estimates) and approved by the MPO.
- Conformity determinations that are based on information that is older than five years should include written justification for not using more recent information. For areas where updates are appropriate, the conformity determination should include an anticipated schedule for updating assumptions.

The latest planning assumptions proposed for use in the 2003 MAG Conformity Analysis are summarized in Table A-2. The methodology and scheduled updates for the planning assumptions are discussed below.

Recently proposed revisions to the conformity rule (EPA, 2003) indicate that “the conformity determination must satisfy the requirements...using the planning assumptions available at the time the analysis begins as determined through the interagency consultation process.” The planning assumptions described in Table A-2 are the latest available assumptions.

TABLE A-2.
LATEST PLANNING ASSUMPTIONS FOR MAG CONFORMITY DETERMINATIONS

<u>Assumption</u>	<u>Source</u>	<u>MAG Models</u>	<u>Next Scheduled Update</u>
Population	Under Governor's Executive Order 95-2, official County projections are updated every 5 years by the Arizona Department of Economic Security (DES) after a census; projections must be used by all agencies for planning purposes; DES is still awaiting county migration data from the U.S. Census Bureau; MAG used ASU projections with 2000 Census data and state-of-the-art land use models to develop interim socioeconomic projections; these were accepted by the MAG Regional Council in June 2003.	DRAM/ EMPAL; SAM-IM	Official socioeconomic projections based on DES county projections may be approved by the MAG Regional Council in 2004.
Employment	County control totals are based on the official DES population projections; since these are not ready (see above), MAG used ASU projections with 2000 Employment Survey and state-of-the-art land use models to develop interim socioeconomic projections; these were accepted by the MAG Regional Council in June 2003.	DRAM/ EMPAL; SAM-IM	Official socioeconomic projections based on DES county projections may be approved by the MAG Regional Council in 2004.
Traffic Counts	Transportation models were validated in 2002 using approximately 3,000 traffic counts collected in 1998.	EMME/2	New traffic counts were collected in 2002; the data is being tabulated and when available, will be used to validate the transportation models.
Vehicle Miles of Travel	Transportation models were calibrated in 2001 based on a 1989 home interview survey and a 1995 on-board bus survey.	EMME/2	A 4,000 Household Travel Survey was conducted in 2001; the data is being tabulated and when available, will be used to re-calibrate the transportation models.
Speeds	Transportation models were validated using survey data on peak and off-peak highway speeds collected in 1993.	EMME/2	A travel time study was conducted in 2003; the data is being tabulated and will be used to validate the speeds output by the transportation models in early 2004.
Vehicle Registrations	2002 vehicle registrations were provided by ADOT.	MOBILE6	When newer data are available from ADOT in MOBILE6 model format.
Implementation Measures	Latest implementation status of commitments in prior SIPs.	N/A	Updated for every conformity analysis.

POPULATION AND EMPLOYMENT

In accordance with the Arizona Governor's Executive Order 95-2, the population projections used for all State agency planning purposes are updated by the Arizona Department of Economic Security (DES) every five years after a decennial or mid-decennial census. Unfortunately, the U.S. Census Bureau has still not made available the 2000 in-migration and out-migration data by county, data that are needed by DES to prepare the official county projections. In the meantime, MAG has prepared interim projections by traffic analysis zone (TAZ), based on Maricopa County projections developed by the Arizona State University Center for Business Research (ASU), and data from the 2000 U.S. Census, the 2000 MAG Employment Survey, and the MAG GIS and Database Enhancement Study. MAG allocated the ASU projections for Maricopa County to TAZs using the DRAM/EMPAL and Subarea Allocation Model-Information Manager (SAM-IM) land use models. These interim socioeconomic population and employment projections were accepted by the MAG Regional Council in June 2003. The travel and congestion estimates for the 2006, 2015, and 2025 "Build" scenarios in the 2003 MAG Conformity Analysis are based on these latest population and employment projections accepted by the MAG Regional Council. MAG will prepare final population and employment projections by TAZ, when DES releases the official county projections, as required by Executive Order 95-2. It is expected that these final TAZ projections will be available sometime in 2004.

Methodology

DES prepares the official Arizona population projections by county, using census data. However, since the DES projections were not available, MAG used ASU projections for Maricopa County, based on the 2000 Census. These population and employment projections for Maricopa County were "stepped down" to smaller geographic areas by MAG using the latest available data and state-of-the-art land use models. The nationally-recognized DRAM/EMPAL model was used to allocate county projections of households and employment to 147 regional analysis zones (RAZs) based upon the pre-existing location of these activities, land consumption, and transportation system accessibility. The allocation of population and employment from RAZs to one-acre grids was accomplished with a GIS-based model called SAM-IM which assesses the suitability of each grid for development based on measures such as adjacent land use, highway access, and proximity to other development. Population and employment at the one-acre level is aggregated to TAZs using SAM-IM. These interim socioeconomic projections were accepted by the MAG Regional Council in June 2003.

Next Scheduled Update

The next update of the TAZ population and employment projections will be based on the official DES county-level projections, required by Executive Order 95-2. These projections are not currently available because DES is awaiting release of 2000 in-migration and out-migration data by county from the U.S. Census Bureau. When the DES county-level projections are available, it is anticipated that MAG will allocate the Maricopa County projections to TAZs using the DRAM/EMPAL and SAM-IM land use models. This MAG modeling will take approximately six months to complete and the final TAZ projections should be available in 2004.

TRAFFIC COUNTS

Enhancements to the mode choice component of the MAG transportation models have recently been completed and the transportation modeling domain has been expanded from 1,541 TAZs to 1,995 TAZs. The new models were validated in 2002, using approximately 3,000 traffic counts collected in 1998. The validation demonstrated a good statistical fit between actual and estimated daily traffic volumes, as measured by a root mean square error of 36 percent. The transportation conformity rule Section 93.122(b)(1)(i) specifies that network-based transportation models need to be validated against observed counts for a base year that is not more than ten years prior to the date of the conformity determination.

Methodology

MAG uses EMME/2 software to perform traffic and transit assignments. The MAG transportation models follow a traditional four-step process: trip generation, trip distribution, mode choice, and traffic/transit assignment. Trip generation determines the number of person trips produced and attracted by traffic analysis zone. Trip distribution links the productions and attractions by TAZ. The recently updated mode choice model determines the number of person trips allocated to each of the following modes: auto drivers, two person carpools, three or more person carpools, express bus, local bus, and rail. The mode choice model is sensitive to highway and transit travel times, as well as pricing variables such as automobile operating costs, parking costs, and transit fares. Highway and transit route choice is determined in the assignment step, based on operating costs, travel times, and distances. Capacity-restrained traffic assignments are performed for the AM peak period, midday, the PM peak period, and nighttime. A feedback loop between traffic assignment and trip distribution is utilized to achieve near-equilibrium highway speeds. A peak spreading model is applied to derive the AM and PM peak hour traffic volumes. The transportation models are fully documented in the “Draft MAG Travel Demand Model Documentation” (MAG, 2002).

Next Scheduled Update

The MAG FY 2002 Unified Planning Work Program provided \$80,000 for a comprehensive Traffic Count Study. The traffic count study was conducted during 2002. When the data is compiled, it will be used to validate the MAG transportation models.

VEHICLE MILES OF TRAVEL

The MAG transportation models were calibrated in 2001 based on a 1989 household travel survey and a 1995 on-board bus survey. The models, described above, simulate peak and daily traffic volumes on more than 30,000 highway links, as well as transit trips on bus and rail routes. Vehicle miles of travel by link, output by the highway assignment process, are input to the emissions models used in conformity, after being reconciled with Highway Performance Monitoring System (HPMS) vehicle miles of travel (VMT).

Methodology

For serious nonattainment areas the transportation conformity guidance in Section 93.122(b)(3), as amended August 15, 1997, states that:

Highway Performance Monitoring System estimates of vehicle miles traveled shall be considered the primary measure of VMT within the portion of the nonattainment or maintenance area and for the functional classes of roadways included in HPMS, for urban areas which are sampled on a separate urban area basis. For areas with network-based travel models, a factor (or factors) may be developed to reconcile and calibrate the network-based travel model estimates of VMT in the base year of its validation to the HPMS estimates for the same period. These factors may then be applied to model estimates of future VMT. In this factoring process, consideration will be given to differences between HPMS and network-based travel models, such as differences in the facility coverage of the HPMS and the modeling network description.

In conformity analyses prior to 2002, transportation model VMT was not reconciled with HPMS, because the former closely approximated HPMS VMT. This close approximation is evident in the annual VMT tracking reports submitted to EPA to satisfy a MAG commitment in the Revised MAG 1999 Serious Area Carbon Monoxide Plan. The final vehicle miles of travel tracking report was submitted to EPA in 2001 (MAG, 2001b). To ensure that the output of the updated MAG transportation models continues to track HPMS vehicle miles of travel and comply with conformity guidance quoted above, MAG has developed factors to reconcile estimates of VMT from the 1998 transportation model validation year with 1998 HPMS VMT. The derivation of these factors is detailed in the Appendix.

The methodology to derive the HPMS reconciliation factors relies on a comparison of 1998 HPMS VMT with the transportation model VMT that has been validated against 3,000 traffic counts for 1998. The 1998 HPMS data was submitted to the Federal Highway Administration by the Arizona Department of Transportation (ADOT) on October 7, 1999. The Appendix provides ADOT's 1998 HPMS summary tables for urbanized and donut areas. The Maricopa County PM-10 Nonattainment Area is represented by Urbanized Area #33 plus Donut Area #33. The HPMS VMT in the Appendix and 1998 VMT from the validated transportation models were summarized by HPMS functional systems and comparable model facility types to develop the appropriate factors, shown in Table A-3.

After the HPMS data is converted from annual average daily traffic (AADT) to average weekday traffic (AWDT), the difference between the total 1998 HPMS and transportation model VMT for the urbanized area is less than one percent. HPMS VMT in the urbanized area is higher for freeways, collectors and locals, while arterial VMT is lower than the transportation model estimates.

To achieve consistency with the HPMS VMT distribution by functional system, the urbanized area factors in Table A-3 below are applied to the VMT by facility type for transportation model links located in the urbanized area. The urbanized area boundaries are illustrated in Figure A-1.

The area inside the PM-10 nonattainment area, but outside the urbanized area, is called the HPMS “donut area”. Less than ten percent of the 1998 VMT in the Maricopa County PM-10 nonattainment area occurs in the “donut area”. In addition to the differences in the distribution of VMT by HPMS functional system, the transportation models overestimate total VMT in the “donut area”. To achieve consistency with HPMS, the donut area factors in Table A-3 are applied to the traffic volumes by facility type for transportation model links located in the “donut area”.

Due primarily to the adjustments in the “donut area”, reconciling 1998 transportation model VMT with HPMS reduces total VMT in the nonattainment area by 4.8 percent. It is important to note, however, that 90 percent of this reduction occurs outside the urbanized area, whereas, most emissions due to on-road mobile sources are concentrated inside the urbanized area.

For each horizon year, the appropriate HPMS reconciliation factor in Table A-3 will be applied to the transportation model VMT on each link, based on its facility type (#1- #10) and location (in the urbanized area or “donut area”). The HPMS-factored VMT is then input to the M6Link program to calculate onroad mobile source emissions for the 2003 MAG Conformity Analysis.

TABLE A-3
HPMS RECONCILIATION FACTORS

Applied to Transportation Model Link VMT (By Facility Type)	In Urbanized Area #33	In Donut Area #33
Freeways (#1 + #7 + #8 + #10)	1.0682	0.7577
Arterials (#2 + #4 + #6 + #9)	0.8674	0.6153
Collectors (#3)	1.0000	0.7094
Locals (#5)	1.5305	0.5954

Next Scheduled Update

Updates to the transportation models have recently been completed, including improvements to the mode choice model (i.e. nested logit) and implementation of the latest release of the EMME/2 software. The MAG FY 2001 Unified Planning Work Program programmed \$500,000 to conduct an activity diary-based travel survey of 4,000 households. The survey instruments were distributed to randomly-selected households during 2001. When the survey data are compiled, it is anticipated that the results will be used to update and re-calibrate the MAG transportation models.

SPEEDS

Speeds obtained from the capacity-restrained traffic assignments are “fed-back” in the travel demand modeling chain. The trip distribution, mode choice, and traffic assignment steps of the chain are executed until AM peak period trip tables and link volumes are in equilibrium (root mean square error of five percent or less). In addition to vehicle miles of travel, the MAG transportation models calculate system performance measures such as vehicle hours of travel and volume to capacity ratios. AM peak, midday, PM peak, nighttime, and daily speeds by highway link are derived from the volume to capacity ratios estimated by the MAG transportation models.

Methodology

A minimum of five iterations are required to achieve equilibrium. Periodically, MAG conducts speed studies to compare model-estimated speeds with empirical data. The last speed study was conducted in 1993. A comparison of transportation model-estimated and observed 1993 vehicle hours of travel (VHT) for the PM peak period is provided in Table A-4 below.

Model-estimated speeds in this table represent the output of the transportation models used in prior conformity analyses, since there is no 1993 highway network coded for the 1,995 TAZ system. However, the volume/delay functions used in the latest transportation models have not changed, so the modeled speeds should be similar.

Overall, the transportation model-estimated VHT for 1993 is eight percent higher than the VHT observed in the speed study. Since VMT/VHT is equivalent to average speed, VHT is inversely-related to average speed. On average, the 1993 VHT for the region is eight percent higher than observed VHT, although for some facility and area types (i.e. freeways and arterials in the central business districts (CBD), suburban freeways, rural arterials), VHT is lower than the observed. It should be noted that there may be considerable variation in these estimates on a link-by-link basis.

Next Scheduled Update

The MAG FY 2002 Unified Planning Work Program contained \$300,000 for a MAG Travel Speed Study. The speed study was conducted in 2002. When compilation of the data is completed, the new speeds will be used to validate speeds used in and output by the MAG transportation models. It is anticipated that this will occur in early 2004.

VEHICLE REGISTRATIONS

Vehicle registrations for 2002 are the latest provided to MAG by the Arizona Department of Transportation, Motor Vehicle Division. The 2002 vehicle registration distribution have been converted to MOBILE6 format. MAG will use newer vehicle registration data when available from ADOT in the format required by the MOBILE6 emissions model.

TABLE A-4
RATIO OF ESTIMATED/OBSERVED VEHICLE HOURS OF TRAVEL*
1993 PM PEAK PERIOD

Facility Type	Area Type **					
	1	2	3	4	5	All
Freeway	0.962	1.180	1.170	0.978	1.123	1.112
Expressway	----	1.378	1.172	1.294	----	1.271
Collector	----	1.088	1.458	1.277	1.103	1.299
6-Leg Arterial	0.768	0.940	1.469	1.074	----	1.217
Arterial	0.976	1.098	1.081	1.063	0.966	1.066
Freeway Ramp	----	----	1.202	----	----	1.202
Total	0.950	1.107	1.107	1.062	0.986	1.080

*Vehicle Miles of Travel/Vehicle Hours of Travel=Average Speed

** Area Type 1 = CBD, Area Type 2 = Outlying, Area Type 3 = Mixed Urban, Area Type 4 = Suburban, Area Type 5 = Rural

IMPLEMENTATION MEASURES

In the 2003 MAG Conformity Analysis, emission reduction credit will be assumed for the committed control measures in the applicable air quality plans, including the measures, shown in Table A-5. The emission reductions assumed for these committed measures will reflect the latest implementation status of these measures. In subsequent conformity analyses, MAG will reflect the latest implementation status of all measures for which emissions reduction credits are assumed. As required by the conformity rule, the applicable transportation control measures (TCMs) will be fully documented in Chapter Five of the 2003 Conformity Analysis report.

TABLE A-5
SIP MEASURES TO BE ASSUMED IN THE 2003 CONFORMITY ANALYSIS

SIP Measure	Reference	Measure Description	Pollutant(s)
1	Serious Area CO Plan CO Maintenance Plan	Phased-In I/M Cutpoints	CO, Ozone
3	Serious Area CO Plan CO Maintenance Plan	One-Time I/M Waiver	CO, Ozone
4	Serious Area CO Plan CO Maintenance Plan	Increased Waiver Repair Limit	CO, Ozone
5	Serious Area CO Plan CO Maintenance Plan	Gross Emitter Waiver Provision	CO, Ozone
6	Serious Area CO Plan	Catalytic Converter Replacement Program	CO, Ozone
9	Serious Area CO Plan CO Maintenance Plan	Tougher Registration Enforcement	CO, Ozone
14 14	Serious Area CO Plan CO Maintenance Plan Serious Area PM-10 Plan	Clean Burning Gasoline	CO, Ozone PM-10
25 26	Serious Area CO Plan CO Maintenance Plan Serious Area PM-10 Plan	Intelligent Transportation Systems	CO, Ozone PM-10
34	Serious Area CO Plan CO Maintenance Plan	Area A Expansion (SB 1427)	CO, Ozone PM-10
41 58	Serious Area CO Plan CO Maintenance Plan Serious Area PM-10 Plan	Traffic Signal Synchronization	CO, Ozone PM-10
12	Serious Area PM-10 Plan	Pre-1988 Heavy-Duty Diesel Vehicle Standards	PM-10
39	Serious Area PM-10 Plan	Strengthening and Better Enforcement of Fugitive Dust Control Rules-Construction Dust	PM-10
40	Serious Area PM-10 Plan	Reduce Particulate Emissions from Unpaved Roads and Alleys	PM-10
50	Serious Area PM-10 Plan	PM-10 Efficient Street Sweepers	PM-10
69	Serious Area PM-10 Plan	Paving, Vegetating, and Chemically Stabilizing Unpaved Access Points Onto Paved Roads	PM-10
70	Serious Area PM-10 Plan	Curbing, Paving, or Stabilizing Shoulders on Paved Roads	PM-10

Sources:

- (1) *Revised MAG 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area, (MAG, 2000a).*
- (2) *Revised MAG 1999 Serious Area Carbon Monoxide Plan for the Maricopa County Nonattainment Area, (MAG, 2001a).*
- (3) *Carbon Monoxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area, (MAG, 2003a).*

In the 2003 MAG Conformity Analysis, emission reduction credit will also be applied for Congestion Mitigation and Air Quality Improvement (CMAQ) projects in the FY 2004-2007 Transportation Improvement Program and prior TIPs, if credit for these measures was not quantified in the applicable air quality plans. The equations, methods, and assumptions to be used in calculating emission reductions attributable to CMAQ projects are described in Methodologies for Evaluating Congestion Mitigation and Air Quality Improvement Funds (MAG, 2003b). In addition, emission reduction credit for the strengthening of existing control measures or implementation of new control measures, as identified in the TIP and RTP, will be incorporated into the analysis, where appropriate.

III. TRANSPORTATION MODELING

MAG regional transportation modeling is performed using EMME/2 software for both highway and transit network assignments. The transportation models forecast AM peak period, midday, PM peak period, and nighttime vehicle traffic, as well as daily transit ridership, for the MAG transportation modeling area. The transportation modeling area currently contains 1,995 traffic analysis zones, covering an area of approximately 6,500 square miles.

The latest calibration of the transportation models was completed in 2001, using data from the 1989 household travel survey and the 1995 on-board bus survey. The latest validation of the transportation models was completed in 2002 using 1998 traffic counts.

The MAG transportation models exhibit the following characteristics, which are consistent with requirements identified in the federal transportation conformity rule (Section 93.122):

- The 1998 traffic volumes simulated by the MAG transportation models have been validated against approximately 2,942 traffic counts. This validation demonstrated a good statistical fit between actual and estimated 24-hour 1998 traffic volumes, as measured by a root mean square error of 36 percent. The MAG transportation models are fully documented in the “Draft MAG Travel Demand Model Documentation” (MAG, 2002).
- The population, households, and employment inputs to the travel demand models are based on the latest interim socioeconomic projections accepted by the MAG Regional Council in June 2003. These projections were prepared using the DRAM/EMPAL land use model and the MAG Subarea Allocation Model-Information Manager (SAM-IM), as well as data from the ASU Center for Business Research, the 2000 Census, and the 2000 MAG Employment Survey for Maricopa County.
- The population and employment projections to be used in the conformity analysis are consistent with the transportation system alternatives considered. In the MAG land use models, transportation system accessibility influences the allocation of population and employment to smaller geographic areas. The DRAM/EMPAL model distributes County-level projections of households and employment to 147 regional analysis zones (RAZs)

based upon the pre-existing location of these activities, land use consumption rates, and transportation system accessibility, expressed in terms of PM peak travel times. These congested travel times are derived from an appropriate EMME/2 capacity-restrained traffic assignment for each forecast year. The allocation of population, households and employment from RAZs to one-acre grid cells is accomplished with SAM-IM. SAM-IM uses transportation system accessibility measures, such as proximity to the closest highway, in determining the likelihood that a one-acre grid will develop during a given forecast interval. SAM also aggregates population, households, and employment projections by one-acre grid to the TAZ-level for input to EMME/2. Congested travel times output by the EMME/2 transportation models are “fed-back” into the land use models to ensure that there is consistency between the transportation system assumptions and the land use projections.

- The EMME/2 transportation models perform capacity-restrained traffic assignments. Restrained assignments are produced for the AM peak period, midday, PM peak period, and nighttime, with volumes and congestion estimated for each period. A peak spreading model is used to derive AM and PM peak hour traffic volumes.
- Speeds obtained from the capacity-restrained traffic assignments are “fed-back” in the travel demand modeling chain. The trip distribution, mode choice, and traffic assignment steps of the chain are executed until AM peak period trip tables and link volumes are in equilibrium (root mean square error of five percent or less). A minimum of five iterations are required to achieve equilibrium. The travel impedances used in the mode choice model include travel times and costs associated with each of the following modes: auto-drivers, carpools (2 and 3+ persons), and transit (i.e. express bus, local bus, and rail).
- The travel impedances used in the trip distribution and traffic assignment steps of the MAG travel demand models are a composite function of highway travel times and costs. The MAG nested logit mode choice model is sensitive to highway and transit travel times, as well as pricing variables, such as automobile operating costs, parking costs, and transit fares.
- As a result of the feedback loop in the MAG travel demand modeling process, the final peak and off-peak speeds are sensitive to the capacity-restrained volumes on each highway segment represented in the network. Data from the 1993 MAG Travel Speed Study has been used to ensure that the capacity-restrained speeds and delays output by the transportation models are consistent with empirical data. The assigned speeds used in the last iteration of the models are in reasonable agreement with speed data collected in the 1993 MAG Travel Speed Study (MAG, 1995). Table A-3 provides a comparison of 1993 model-estimated and observed vehicle hours of travel (VHT) for the PM peak period. Overall, the model-estimated PM peak VHT for 1993 was eight percent higher than the 1993 survey data. MAG conducted a new speed study in the Spring of 2003 in order to validate the VHT, speeds, and other performance measures output by the latest transportation models. The model validation based on new speed data will be updated in early 2004. (See Table A-2.)

- The MAG travel demand models estimate average *weekday* traffic, while the Arizona Highway Performance Monitoring System (HPMS) reports *annual average daily* traffic. In addition, HPMS VMT is reported for the urbanized and donut areas of the PM-10 nonattainment area, which is smaller than the transportation modeling area. In some cases the functional classes used in HPMS are not consistent with the facility types used in transportation modeling. In accordance with conformity guidance in Section 93.122(b)(3), MAG has developed factors to reconcile these differences between transportation model VMT by facility type and HPMS VMT by functional system. These factors were developed by comparing VMT from the 1998 transportation model validation with 1998 HPMS data the Arizona Department of Transportation submitted to the Federal Highway Administration on October 7, 1999. The HPMS reconciliation factors, which will be applied for all horizon years in the 2003 Conformity Analysis, are shown in Table A-3.

SOCIOECONOMIC PROJECTIONS

Section 93.110 of the federal conformity rule requires that the population and employment projections used in the conformity analysis be the most recent estimates that have been officially approved by the Metropolitan Planning Organization (i.e., MAG for this region). The 2003 Conformity Analysis will be based on interim socioeconomic population projections accepted by the MAG Regional Council in June 2003.

In accordance with the Arizona Governor's Executive Order 95-2, the population projections used for all State agency planning purposes are updated by the Arizona Department of Economic Security (DES) every five years after a decennial or mid-decennial census. Unfortunately, the U.S. Census Bureau has still not made available the 2000 in-migration and out-migration data by county, data that are needed by DES to prepare the official county projections. In the meantime, MAG has prepared interim socioeconomic projections by traffic analysis zone (TAZ), based on Maricopa County projections developed by the Arizona State University Center for Business Research (ASU), as well as data from the 2000 U.S. Census, the 2000 MAG Employment Survey and the MAG GIS and Database Enhancement Study. MAG allocated the ASU projections for Maricopa County to TAZs using the DRAM/EMPAL and Subarea Allocation Model - Information Manager (SAM-IM) land use models. These interim socioeconomic population and employment projections were accepted by the MAG Regional Council in June 2003.

The interim TAZ population, households and employment projections take into account the transportation improvements contained in the conforming TIP (FY 2003-2007) and RTP (2002 Update) in effect at the time the projections were accepted. For the 2003 MAG Conformity Analysis, the interim projections of population, households, and employment by TAZ will be input to the MAG transportation models to estimate auto and transit trips, VMT, and congestion for each "Build" scenario.

When official DES county projections are prepared in accordance with Executive Order 95-2, MAG will use the DRAM/EMPAL and SAM-IM land use models to prepare a final set of TAZ projections,

based on the 2000 Census, the 2000 MAG Employment Survey and the MAG GIS and Database Enhancement Study. It is anticipated that these socioeconomic projections may be approved by the MAG Regional Council sometime in 2004. (See Table A-2.)

TRANSPORTATION NETWORK ASSUMPTIONS

This section describes the development of the highway and transit networks which will be used to perform the 2003 MAG Conformity Analysis. Criteria for identification of “qualifying” projects are defined below. The choice of analysis years is reviewed in Section I, *Proposed Methodology for the 2003 MAG Conformity Analysis*.

Qualifying Projects. Not all of the street and freeway projects included in the TIP will qualify for inclusion in the highway network. Projects which call for study, design, right-of-way acquisition, or non-capacity improvements will not be included in the networks. When these projects result in actual facility construction projects, the associated capacity changes will be coded into the network, as appropriate. Since the networks define capacity in terms of number of through traffic lanes, only construction projects that increase the lane-miles of through traffic will be included.

Generally, MAG highway networks will include only the one-mile grid system of streets, plus freeways. This includes all streets classified as arterials, as well as some collectors. Half-mile streets are not generally coded on the network, because their inclusion would increase computer processing time to unacceptable levels (i.e. multiple weeks per scenario). For similar reasons, local street improvements contained in the TIP will not be coded on the highway network.

Traffic on collectors and local streets not explicitly coded on the highway network will be simulated in the models by use of abstract links called “centroid connectors”. These represent collectors, local streets and driveways which connect a neighborhood to a regionally-significant roadway. Centroid connectors will also include travel occurring on public and private unpaved roads.

“Build” Highway Networks. The “Build” highway networks for the conformity analysis will be developed using the 2003 highway network as a base. The 2003 highway network will include all qualifying projects from the first year of the conforming FY 2003-2007 TIP and freeways scheduled to be open to traffic by December 31, 2003. The 2006 “Build” network will include qualifying projects from the FY 2004-2007 TIP and freeways scheduled to be open to traffic by December 31, 2006. The 2015 “Build” network will assume implementation of qualifying projects scheduled in the MAG Regional Transportation Plan, through the year 2015, as well as qualifying projects scheduled in the TIP. The 2025 “Build” network will assume implementation of the entire MAG Regional Transportation Plan, as well as qualifying projects scheduled in the TIP.

Coding Conventions. Specific coding conventions or criteria will be applied to determine whether a project qualifies for highway network coding. This will result in coding of all arterial streets and some collectors. The coding conventions will be:

- (1) Capacity-related projects on existing links or extensions of existing links on the 2003 highway network will be coded in future “Build” networks. This will include projects on freeways, the mile-street grid, and half-mile streets already on the 2003 network.
- (2) Capacity-related projects which are not on links or extensions of links in the 2003 network will be coded, if the street is considered a logical part of the one-mile street grid system. If the project is on a half-mile street, it will be considered for inclusion on a case-by-case basis. The key factors to be considered in making this assessment will include:
 - the density of current and future development and travel in the area of the project;
 - whether the change may be accommodated without increasing the number of zones; and
 - whether the change is consistent with standard network coding practices.

Transit Networks. Transit networks will be input to the mode choice step of the MAG transportation models to determine the number of person trips made by transit (bus and rail) and, concurrently, the number of auto trips removed from the highway. For the 2006, 2015, and 2025 “Build” scenarios, the bus service and rail networks will reflect the latest assumptions provided by the Regional Public Transportation Authority. The latest information on bus service and fares will be documented in Chapter Three of the 2003 MAG Conformity Analysis Report.

EMISSIONS MODEL INPUT

The MAG transportation models and the highway and transit networks described above will be utilized to estimate daily vehicle travel and transit ridership in the MAG transportation modeling area. The primary input to the air quality modeling process will be transportation model estimates of vehicle traffic by four vehicle classes and speeds for four time periods (AM peak, midday, PM peak, and nighttime) on each highway link, along with the attendant link lengths and coordinate data. A detailed description of the MAG emissions models is provided below in Section IV, *Air Quality Modeling*.

IV. AIR QUALITY MODELING

The models which will be used to estimate emission factors and emissions for carbon monoxide, volatile organic compounds (VOC), and PM-10 are: MOBILE6, for motor vehicle emission factors for CO and VOC; PART5, for particulate exhaust and fugitive dust emission factors; and M6Link, for the calculation of spatially and temporally allocated onroad mobile emissions using the emission factors from the above models and travel data from the transportation model. Emission factors from the 1994 Regional PM-10 Emission Inventory for the Maricopa County Nonattainment Area (MAG, 1997) will be used for the calculation of PM-10 from road construction; the methodology

for this calculation is also summarized in this section. Nitrogen oxide (NO_x) emissions will not be estimated, because a NO_x waiver was granted by EPA in 1995 based upon modeling results that showed nitrogen oxide reductions would not contribute to attainment of the ozone standard. A brief description of each model is provided below, along with a summary of the principal input and output data. For the 2003 MAG Conformity Analysis, model inputs not dependent on the TIP or RTP were generally derived from the Carbon Monoxide Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area (MAG, 2003a), the Revised Rate of Progress FIP for Ozone (EPA, 1999a), and the Revised MAG 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area, (MAG, 2000a). The modeling efforts will be kept as consistent as possible among the three pollutants modeled. Some differences in the modeling assumptions are necessary due to the different time periods modeled (e.g. different temperatures, fuel properties) and emission models used.

The USDOT guidance memo, "Use of Latest Planning Assumptions in Conformity Determinations," dated January 18, 2001, recommends that periodic inventory updates may be used as a source for recent modeling data (USDOT, 2001). The most recent periodic inventories available are the 1999 Periodic Carbon Monoxide Emission Inventory for the Maricopa County, Arizona, Nonattainment Area (MCESD, 2001a) for CO and the 1999 Periodic Ozone Emissions Inventory for the Maricopa County, Arizona, Nonattainment Area (MCESD, 2001b). It is important to note that the regional emission estimates for the 2003 MAG Conformity Analysis reflect the latest planning assumptions and EPA models, which may differ from those used in developing the 1999 periodic emissions inventories.

MOBILE6

Description. MOBILE6 is a model developed by EPA for the purpose of estimating motor vehicle emission factors, in units of grams per mile, for specified vehicle fleet, fuel, temperature, and speed conditions. This model calculates carbon monoxide, PM-10 (excluding reentrained dust), and ozone precursor motor vehicle emission factors.

On January 18, 2002, the EPA issued policy guidance on the use of MOBILE6 for transportation conformity, indicating that there would be a two-year grace period before MOBILE6 would be required for new conformity determinations (EPA, 2002a). In the January 29, 2002 *Federal Register*, EPA announced the release of MOBILE6, which triggered the start of a grace period that ends on January 29, 2004.

Inputs. There are a variety of inputs to MOBILE6. The use of a locally-derived motor vehicle registration distribution (by model year) of 25 years is recommended. For the 2003 Conformity Analysis, 2002 vehicle registration data obtained from the Arizona Department of Transportation (ADOT) will be used as input to MOBILE6. The 2002 data represent the most recent registration data that have been transmitted to MAG.

A more detailed vehicle registration data set is optimal for use with MOBILE6. MAG is working with ADOT to develop the registration data in this optimal format.

In addition, each modeled scenario may require several runs to reflect an I/M program and no I/M program. The results from these runs are weighted to reflect the fraction of vehicles participating in the I/M program. Fuel parameters, which include fuel volatility and the use of oxygenated fuels (market share and oxygen content), are also input. The model is executed with hourly domain temperatures and an array of speeds by link as estimated by the EMME/2 transportation model. The detailed temperatures and speed data are more accurate than average values, since the relationship between emission factors and temperature/speed is not linear.

Output. The output from the MOBILE6 model includes emission factors by hour, roadway facility type, pollutant, and area type. These emission factors will be utilized by the M6Link program in estimating motor vehicle emissions for the MAG region. The emission factors include the pollutants CO, VOC, and PM-10 exhaust, tire wear, and PM-10 reentrained dust is estimated with the PART5 model, described below.

PART5

PM-10 emission factors for particulate reentrained dust from travel on paved and unpaved roads will be developed using the PART5 model. The calculations of roadway construction emissions will be performed separately, as described later in this section. The National Ambient Air Quality Standards for PM-10 consist of a 24-hour standard and an annual average standard. The PM-10 emissions calculated for the conformity analysis represent the emissions on an annual average day and apply to both the 24-hour standard and the annual average standard.

Description. The PART5 model was released as a companion model to MOBILE5 by EPA. PART5 estimates reentrained dust emission factors from onroad motor vehicles traveling on paved and unpaved roads. The program provides default data and options for local conditions.

Inputs. The program inputs and format are similar to those used for MOBILE6. The normal user inputs include the scenario year, vehicle speed, registration distribution, and the particle size cutoff (i.e. the largest particle size to be included in the total emissions). Unlike MOBILE6, temperature is not an input to the PART5 model. Another input to the PART5 model is the roadway silt loading values. Silt loading values will be input for freeways, low traffic volume non-freeways, and high traffic volume non-freeways. The silt loading assumptions will be derived from the Revised MAG 1999 Serious Area Particulate Plan (MAG, 2000a) and will incorporate any strengthening of existing control measures indicated in the TIP and RTP.

Output. The output from the PART5 model includes emission factors by speed. The reentrained dust factors used from the PART5 model are the factors labeled “Unpaved Roads Fleet Average (as calculated in AP42 Vol 1 9/88, minus tailpipe and tirewear emissions)” and “Paved Roads Fleet Average (as calculated in draft AP42 Vol 1 3/93, minus tailpipe and tirewear emissions)”. These

fugitive dust factors are utilized by the M6Link program, along with estimates of unpaved road miles, in estimating motor vehicle fugitive dust emissions.

M6Link

The M6Link system will be used to process emissions for all pollutants included in this analysis. M6Link combines emission factors with traffic volumes to produce onroad vehicle emission totals.

Description. M6Link is a series of computer programs developed to process link data files output by transportation models, in this case EMME/2. These programs calculate emissions for roadway links in the MAG transportation networks. Traffic volumes for four time periods of the day (AM peak, midday, PM peak, and nighttime) and from four vehicle classes for each link are converted into hourly volumes based upon historical data for representative links. These are used to calculate hourly emissions, using emission factors for the appropriate link type, area type, hour, etc. Emission factors are calculated by either the PART5 or MOBILE6 model. Emissions for each hour are distributed geographically in the modeling domain based on the grid in which each link is located.

Transportation models are designed to model “average weekday” traffic patterns, which do not necessarily correspond to episodic time periods for which vehicle emissions are modeled. As a result, day of the week and month of the year factors are included in the pre-processor consistent with the methodology used in the applicable air quality plans for carbon monoxide and ozone. The PM-10 analysis reflects an annual average day.

Inputs. The transportation data input to the M6Link programs consist of database formatted files that contain link-specific data and a node coordinate definitions file. The link VMT data output by the EMME/2 transportation model is reconciled with HPMS by the first module of M6Link. The factors applied to the link volumes are described in Table A-3. M6Link also requires as input:

- An adjustment factor table containing factors used to allocate period traffic volumes into hourly traffic volumes.
- Fugitive dust emission factors for paved and unpaved roads (generated by the PART5 model).
- A matrix of emission factors for a range of hours, facility types, area types, vehicle classes, and vehicle ages (generated by the MOBILE6.2 model).
- Factors for the appropriate weighting of vehicles that do and do not participate in the inspection/maintenance program.
- The year being modeled.
- A table appropriate for condensing the 28 vehicle classes modeled by the MOBILE6 model to the four classes produced by the EMME/2 model (non-commercial, light duty commercial, medium duty commercial, and heavy duty commercial).
- The ratio of vehicles participating in the I/M program.

Outputs. The outputs from M6Link include an hourly, gridded onroad mobile source emissions file and several summary files containing emissions and traffic data in the modeling domain.

IMPLEMENTATION MEASURES

Emissions model input files are adjusted, as necessary, to reflect implementation of committed control measures in the applicable SIPs. Control measures from the applicable air quality plans which emissions reduction credit will be taken in the 2003 MAG Conformity Analysis are presented in Table A-5, located in Section II, *Latest Planning Assumptions*.

In the 2003 MAG Conformity Analysis, emission reduction credit will also be applied for Congestion Mitigation and Air Quality Improvement (CMAQ) projects in the FY 2004-2007 Transportation Improvement Program and prior TIPs, if credit for these measures was not quantified in the applicable air quality plans. The equations, methods, and assumptions to be used in calculating emission reductions attributable to CMAQ projects are described in Methodologies for Evaluating Congestion Mitigation and Air Quality Improvement Funds (MAG, 2003b). In addition, emission reduction credit for the strengthening of existing control measures or implementation of new control measures, as identified in the TIP and RTP, will be incorporated into the analysis, where appropriate.

CALCULATION OF PM-10 EMISSIONS FROM ROAD CONSTRUCTION

PM-10 emissions from road construction will be calculated based on the size (acres) and duration (months) of the road construction projects in the TIP and RTP. Specifically, the number of lane miles of road to be constructed per year will be developed using data from the TIP and RTP. Assuming that each lane is twelve feet wide, the number of lane miles of road to be constructed will be converted to the number of acres constructed per year. The number of acres constructed per year will be combined with an estimate of average project duration to produce an estimate of acre-months of disturbed soil. The acre-months of disturbed soil will be combined with an emission factor to produce total emissions from road construction per month. The monthly estimate of total emissions will be reduced by a factor of 30 to produce an average daily PM-10 emissions estimate for road construction.

The 2003 Conformity Analysis will use emission factors from the 1994 Regional PM-10 Emission Inventory for the Maricopa County Nonattainment Area (MAG, 1997) and control factors from the Revised MAG 1999 Serious Area Particulate Plan for PM-10 for the Maricopa County Nonattainment Area, Appendices, Volume Two (MAG, 2000b) to calculate PM-10 emissions from road construction. The emission factors and control factors will be obtained from these documents, because the PART5 model does not calculate particulate emissions from road construction. In addition, as further required in Section 93.122(d), the control measures for fugitive dust from construction listed in the Revised MAG 1999 Serious Area Particulate Plan will be applied to reduce emissions to expected levels under the applicable measures. The control level for road construction

assumed in the Revised MAG 1999 Serious Area Particulate Plan for 2006 is 72 percent. For the 2003 MAG Conformity Analysis, this control level will be applied to reduce road construction emissions for 2006, 2015, and 2025.

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APPENDIX

DERIVATION OF HPMS RECONCILIATION FACTORS

1998 Transportation Model VMT ¹ <u>By Facility Type (Based on AWDT²)</u>	<u>Urbanized Area³</u>	<u>Donut Area³</u>
#1 - Freeways	14,329,934	2,140,463
#2 - Expressways	441,383	1,196,360
#3 - Collectors	1,996,676	426,879
#4 - 6-Leg Arterials	748,358	0
#5 - Centroids	6,059,922	765,899
#6 - Arterials	33,374,324	3,759,702
#7 - Ramps (Unmetered)	628,886	53,949
#8 - Metered Ramps	31,085	2,024
#9 - Penalty Links		12,112 1,952
#10 - HOV Lanes	<u>444,901</u>	0
TOTAL	58,067,581	8,347,228

1998 HPMS VMT - Urbanized Area #33 <u>By Functional System (Based on AADT⁴)</u>	<u>Urbanized Area⁵</u>	<u>Conversion to AWDT⁶</u>
Interstate	7,526,000	8,270,330
Other Freeways	7,477,000	8,216,484
Other Principal Arterial	18,062,000	19,848,352
Minor Arterial	9,229,000	10,141,758
Collector	5,099,000	5,603,297
Local	<u>5,158,000</u>	<u>5,668,132</u>
TOTAL	52,551,000	57,748,353

1998 HPMS VMT - Donut Area #33 <u>By Functional System (Based on AADT⁴)</u>	<u>Donut Area^{5,7}</u>	<u>Conversion to AWDT⁶</u>
Principal Arterial	2,328,000	2,558,242
Minor Arterial and (Major) Collector	2,238,000	2,459,341
Minor Collector and Local	<u>415,000</u>	<u>456,044</u>
TOTAL	4,981,000	5,473,627

¹Based on the 1998LR3 EMME/2 validation traffic assignment.

²AWDT = Average Weekday Traffic (average daily traffic on a typical weekday).

³ArcInfo GIS software was used to identify EMME/2 links inside the HPMS urbanized and donut areas.

⁴AADT = Annual Average Daily Traffic (average daily traffic for a seven-day week).

⁵See the 1998 HPMS System Length and Daily Vehicle Travel summaries submitted to the Federal Highway Administration by the Arizona Department of Transportation on October 7, 1999.

⁶Divide by 0.91 to convert AADT to AWDT for comparison with transportation model output. This factor is based on continuous Automated Traffic Recorder (ATR) data for the Phoenix metropolitan area.

⁷The HPMS donut area is the area inside the PM-10 nonattainment area boundary, but outside the urbanized area boundary, as defined by the 1990 Census.

DERIVATION OF HPMS RECONCILIATION FACTORS (CONTINUED)

URBANIZED AREA #33

1998 HPMS VMT (By Functional System)	<u>Column A</u>
Freeways (Interstate + Other Freeways)	16,486,814
Arterials (Other Principal Arterial + Minor Arterial)	29,990,110
Collector	5,603,297
Local	<u>5,668,132</u>
TOTAL	57,748,353

1998 Transportation Model VMT (By Facility Type)	<u>Column B</u>
Freeways (#1 + #7 + #8 + #10)	15,434,806
Arterials (#2 + #4 + #6 + #9)	34,576,177
Collectors (#3)	1,996,676
Locals (#5)	<u>6,059,922</u>
TOTAL	58,067,581

<u>HPMS Factors (By Facility Type)</u>	<u>Urbanized Area⁸</u>
Freeways (#1 + #7 + #8 + #10)	1.06829 ⁹
Arterials (#2 + #4 + #6 + #9)	0.86749 ⁹
Collectors (#3)	1.0000 ¹⁰
Locals (#5)	1.5305 ¹⁰

⁸ The HPMS Factors for Urbanized Area #33 are applied to the VMT on each transportation model link located in the urbanized area, based on the facility type of the link.

⁹ Obtained by dividing the 1998 HPMS VMT in Column A by the corresponding 1998 Model VMT in Column B for freeways and arterials.

¹⁰ Although the factor derived by dividing collector VMT in Column A by Column B would be 2.8063, applying this factor to VMT on collector links from the transportation model would unrealistically overload the traffic volumes on the small number of collectors that are actually coded in the highway networks. The transportation model assumes that the remaining collector travel is included in the local (centroid) VMT. Therefore, the collector VMT on the highway network is left unfactored, and the additional HPMS collector VMT is added to the modeled local (centroid) VMT. The local factor is derived by summing HPMS collector and local VMT in Column A, subtracting the collector VMT in Column B, and dividing by the local VMT in Column B.

DERIVATION OF HPMS RECONCILIATION FACTORS (CONTINUED)

DONUT AREA #33

1998 HPMS VMT (By Functional System)	<u>Column C</u>
Principal Arterials	2,558,242
Minor Arterials and Major Collectors	<u>2,459,341</u>
SUBTOTAL	5,017,583
Minor Collectors and Locals	456,044
TOTAL	<u>5,473,627</u>

1998 Model VMT (By Facility Type)	<u>Column D1</u>	<u>Column D2</u> ¹¹	<u>Column D3</u>
Freeways (#1 + #7 + #8 + #10)	2,196,436	2,346,141	1,664,253 ¹²
Arterials (#2 + #4 + #6 + #9)	4,958,014	4,300,400	3,050,521 ¹²
Collectors (#3)	426,879	426,879	<u>302,810</u> ¹²
SUBTOTAL	7,581,329	7,073,420	5,017,584
Locals (#5)	765,899		<u>456,044</u> ¹³
TOTAL	8,347,228		5,473,628

<u>HPMS Factors (By Facility Type)</u>	<u>Donut Area</u> ¹⁴
Freeways (#1 + #7 + #8 + #10)	0.7577
Arterials (#2 + #4 + #6 + #9)	0.6153
Collectors (#3)	0.7094
Locals (#5)	0.5954

¹¹Since more than 90% of the VMT in the PM-10 nonattainment area occurs in the urbanized area, the methodology used to derive factors for the urbanized area is also used to reconcile transportation model VMT by facility type with HPMS VMT by functional system in the donut area. For freeways and arterials, Column D2 is derived by dividing Column A by Column B and multiplying by Column D1. For collectors, the urbanized area factor of 1.0 is applied to Column D1 to obtain Column D2.

¹²Obtained by multiplying Column D2 by the SUBTOTAL in Column C divided by the SUBTOTAL in Column D2. This normalizes the model VMT for freeways, arterials and collectors to the HPMS VMT for principal arterials, minor arterials and major collectors. It is assumed that all arterials and major collectors in the donut area are included in the highway network. This is a reasonable assumption, because only collectors carrying the highest levels of traffic are coded in the highway network in the donut area.

¹³From Column C for minor collectors and locals. It is assumed that the VMT for minor collectors and locals is included in the local (centroid) VMT from the transportation model.

¹⁴The HPMS Factors for Donut Area #33 are derived by dividing Column D3 by Column D1. These are applied to the VMT on each transportation model link located in the donut area, based on the facility type of the link.

1998 HPMS SYSTEM LENGTH AND DAILY VEHICLE TRAVEL SUMMARIES
SUBMITTED TO FHWA BY ADOT ON OCTOBER 7, 1999

Shaded cells are reserved for titles and computer software generated values. Enter data in the unshaded cells only.

SYSTEM LENGTH AND DAILY VEHICLE TRAVEL

INDIVIDUAL URBANIZED AREAS

URBANIZED AREA CODE	NONATTAINMENT AREA CODE 2/	POPULATION (1,000)	NET LAND AREA	DATA TYPE	FUNCTIONAL SYSTEM						
					PRINCIPAL ARTERIAL			MINOR ARTERIAL	COLLECTOR	LOCAL	TOTAL
					INTERSTATE & EXPRESSWAYS	OTHER FREEWAYS	OTHER				
33	33	2,482	1,054	LENGTH 1/	53	86	623	605	662	7,527	9,556
				TRAVEL (1,000) 1/	7,526	7,477	18,062	9,229	5,099	5,158	52,551
				OCCUPANCY 3/	1.3	1.3	1.3	1.3	1.3	1.3	
73	73	662	312	LENGTH 1/	19	14	174	308	195	1,472	2,181
				TRAVEL (1,000) 1/	1,462	451	5,188	3,945	703	962	12,711
				OCCUPANCY 3/	1.2	1.2	1.3	1.3	1.3	1.3	
287	0	89	34	LENGTH 1/	4	0	22	24	20	198	268
				TRAVEL (1,000) 1/	70	0	461	286	98	122	1,037
				OCCUPANCY 3/	1.6	0.0	1.6	1.4	1.3	1.3	
420	0	60	73	LENGTH 1/	17	0	13	26	50	168	274
				TRAVEL (1,000) 1/	343	0	260	144	158	107	1,012
				OCCUPANCY 3/	1.2	0.0	1.2	1.2	1.2	1.2	

1 /English units for length and travel are miles and vehicle-miles (in thousands), respectively.

2/ The National Ambient Air Quality Standards Nonattainment Area Code is the same as the Urbanized Area Code of the primary urbanized area contained in the nonattainment area.

When the Urbanized Area is not in a nonattainment area, code zero.

3/ Average vehicle occupancy is reported to the nearest tenth of a person.

Shaded cells are reserved for titles and computer software generated values. Enter data in the unshaded cells only.

SYSTEM LENGTH AND DAILY VEHICLE TRAVEL

DONUT AREA DATA FOR INDIVIDUAL NAAQS NONATTAINMENT AREAS

NONATTAINMENT AREA CODE 2/	POPULATION (1,000)	NET LAND AREA	DATA TYPE	RURAL AND SMALL URBAN FUNCTIONAL SYSTEMS COMBINED			TOTAL
				MINOR COLLECTOR	MINOR COLLECTOR AND LOCAL	MINOR COLLECTOR AND LOCAL	
33	185	1,411	LENGTH	124	643	1,307	2,074
			TRAVEL (1,000)	2,328	2,238	415	4,981
73	94	640	LENGTH	54	168	502	724
			TRAVEL (1,000)	1,408	734	217	2,359

/English units for length and travel are miles and vehicle-miles (in thousands), respectively.

/ The National Ambient Air Quality Standards Nonattainment Area Code is the same as the Urbanized Area Code of the primary urbanized area contained in the nonattainment area.

When the Urbanized Area is not in a nonattainment area, code zero.

**PROCESS FOR ENSURING EXPEDITIOUS IMPLEMENTATION OF
TRANSPORTATION CONTROL MEASURES**

Section 93.105(c)(1)(iv) of the federal conformity rule requires a consultation process be established for making a determination of whether past obstacles to implementation of transportation control measures which are behind the schedule established in the applicable air quality plan have been identified and are being overcome. A determination also is required as to whether State and local agencies with influence over approvals or funding for transportation control measures (TCMs) are giving maximum priority to approval or funding for TCMs. In addition, the process is required to consider whether delays in transportation control measure implementation necessitate revisions to the air quality plan to remove or substitute TCMs or other emission reduction measures.

In February 1996, the MAG Regional Council adopted conformity consultation processes (MAG 1996b) in response to federal and state requirements. The following text from the process M-6 directly addresses the requirement for consultation on the expeditious implementation of TCMs:

“A consultation process is required for the determination of whether past obstacles to implementation of transportation control measures which are behind schedule have been identified and are being overcome. Also, a determination is required whether State and local agencies with influence over approvals or funding for TCMs are giving maximum priority to approval or funding of TCMs. These determinations are part of the criteria for TIP conformity determinations, specified in the federal conformity regulation 40 CFR 51.418(c)(2) (*now 93.113(c)(2)*).”

For the 2003 MAG Conformity Analysis, the anticipated approach will be to provide a comprehensive review of annual progress on the implementation of transportation control measures prepared on a periodic basis by the Maricopa County Environmental Services Department. To avoid duplication of this effort, MAG uses this source of information to meet the federal requirements for documentation of TCM implementation. The most recent Maricopa County report, the 1996 Annual Progress Report, was completed in July 1998. Also, the 2001 Milestone Report for the Maricopa County PM-10 Nonattainment Area, completed by Maricopa County, provides the implementation status of committed measures for PM-10.

In addition, MAG annually prepares a summary table which identifies specific projects and funds allocated in the TIP which implement adopted pollution control measures. This table will be used, together with the TCM implementation annual report described above, as the basis for assessing whether or not implementing agencies are giving maximum priority to approval or funding of transportation control measures.

The TCM findings required under federal conformity regulations will be incorporated as part of the 2003 MAG Conformity Analysis, which will be made available for interagency and public review, including a public hearing, prior to adoption by the MAG Regional Council.

**TYPES OF PROJECTS CONSIDERED EXEMPT
FROM CONFORMITY REQUIREMENTS**

Under Environmental Protection Agency regulations, a conformity determination is required before a regionally significant road or transit project (regardless of funding source) can be approved by any agency which is a recipient of federal road or transit funds. As part of this conformity determination, a regional emissions analysis is required. However, the regulations also identify various types of projects which are exempted from the analytical requirements due to their presumed negligible air quality impacts. Interagency consultation is required to determine whether any of these normally exempted projects “should be treated as non-exempt in cases where potential adverse emissions impacts may exist for any reason.”

In February 1996, the MAG Regional Council adopted conformity consultation processes (MAG, 1996b) in response to federal and state requirements. The following text from the process M-5 directly addresses the requirement for consultation on exempt projects:

“...the Metropolitan Planning Organization (i.e. MAG, for this region) shall initiate consultation for evaluating whether projects listed as exempt from conformity in the conformity regulation should be treated as non-exempt projects where potential adverse emission impacts may exist for any reason. In this consultation process, MAG provides for the participation of the transportation and air quality agencies, as well as the public.”

MAG consults on the designation of exempt status for a specific project proposal at the time the project in question is proposed for addition to the TIP and RTP. This consultation process is described in MAG process M-8.

For the 2003 MAG Conformity Analysis, the anticipated approach proposes one minor change to the exempt projects which are contained in the EPA conformity regulations, as listed in the three tables which follow. In Table C-1, the citation for emergency or hardship advance land acquisitions has been revised to read 23 CFR 710.503 to reflect the June 30, 2003 EPA proposed transportation conformity rule amendments. Table C-1 identifies the specific types of projects which require no conformity determination of any kind, by any agency. These project types include specific actions involving safety, mass transit, air quality, and other actions likely to have no adverse air quality impacts. Table C-2 lists projects for which a regional emissions analysis is not required. These projects are, however, not exempt from other conformity requirements. In addition, Table C-3 lists traffic signal synchronization projects which are exempt from conformity determinations prior to being funded, approved, or implemented.

TABLE C-1.
PROJECTS NORMALLY EXEMPT FROM CONFORMITY DETERMINATIONS
(From 40 CFR 93.126)

Safety

Railroad/highway crossing.
Hazard elimination program.
Safer non-Federal-aid system roads.
Shoulder improvements.
Increasing sight distance.
Safety improvement program.
Traffic control devices and operating assistance other than signalization projects.
Railroad/highway crossing warning devices.
Guardrails, median barriers, crash cushions.
Pavement resurfacing and/or rehabilitation.
Pavement marking demonstration.
Emergency relief (23 U.S.C. 125).
Fencing.
Skid treatments.
Safety roadside rest areas.
Adding medians.
Truck climbing lanes outside the urbanized area.
Lighting improvements.
Widening narrow pavements or reconstructing bridges (no additional travel lanes).
Emergency truck pullovers.

Mass Transit

Operating assistance to transit agencies.
Purchase of support vehicles.
*Rehabilitation of transit vehicles.
Purchase of office, shop, and operating equipment for existing facilities.
Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts, etc.).
Construction or renovation of power, signal, and communications systems.
Construction of small passenger shelters and information kiosks.
Reconstruction or renovation of transit buildings and structures (e.g., rail or bus buildings, storage and maintenance facilities, stations, terminals, and ancillary structures).
Rehabilitation or reconstruction of track structures, track, and trackbed in existing rights-of-way.
*Purchase of new buses and rail cars to replace existing vehicles or for minor expansions of the fleet.
Construction of new bus or rail storage/maintenance facilities categorically excluded in 23 CFR part 771.

TABLE C-1. (continued)
PROJECTS NORMALLY EXEMPT FROM CONFORMITY DETERMINATIONS
(From 40 CFR 93.126)

Air Quality

Continuation of ride-sharing and van-pooling promotion activities at current levels.
Bicycle and pedestrian facilities.

Other

Specific activities which do not involve or lead directly to construction, such as:

 Planning and technical studies.

 Grants for training and research programs.

 Planning activities conducted pursuant to titles 23 and 49 U.S.C.

 Federal-aid systems revisions.

Engineering to assess social, economic, and environmental effects of the proposed action or alternatives to that action.

Noise attenuation.

Emergency or hardship advance land acquisitions (23 CFR 710.503).

Acquisition of scenic easements.

Plantings, landscaping, etc.

Sign removal.

Directional and informational signs.

Transportation enhancement activities (except rehabilitation and operation of historic transportation buildings, structures, or facilities).

Repair of damage caused by natural disasters, civil unrest, or terrorist acts, except projects involving substantial functional, locational or capacity changes.

* In PM-10 nonattainment or maintenance areas, such projects are exempt only if they are in compliance with control measures in the applicable implementation plan.

TABLE C-2.
PROJECTS NORMALLY EXEMPT FROM REGIONAL EMISSIONS ANALYSIS, BUT NOT
FROM OTHER CONFORMITY REQUIREMENTS
(From 40 CFR 93.127)

Intersection channelization projects.
Intersection signalization projects at individual intersections.
Interchange reconfiguration projects.
Changes in vertical and horizontal alignment.
Truck size and weight inspection stations.
Bus terminals and transfer points.

TABLE C-3
TRAFFIC SIGNAL SYNCHRONIZATION PROJECTS
(From 40 CFR 93.128)

Traffic signal synchronization projects may be approved, funded, and implemented without satisfying the requirements of this subpart. However, all subsequent regional emissions analyses required by sections 93.118 and 93.119 for transportation plans, TIPs, or projects not from a conforming plan and TIP must include such regionally significant traffic signal synchronization projects.

IDENTIFICATION OF PROJECTS WHICH REQUIRE PM-10 HOTSPOT ANALYSIS

Under Federal conformity rule 40 CFR 93.116, a consultation process is required for identification of projects located at sites which have vehicle and dispersion characteristics which are essentially identical to those at sites which have PM-10 violations verified by monitoring, and therefore require PM-10 hot-spot analysis. PM-10 analyses are to be conducted in accordance with the methodology requirements of Section 93.123.

In addition, PM-10 hotspot analysis is required for new or expanded bus and rail terminals and transfer points which increase the number of diesel vehicles congregating at a single location. The EPA regulations allow the U.S. Department of Transportation to exclude such projects in some cases based upon their size, configuration, and activity levels. Also, if a quantitative analysis is not conducted, a qualitative consideration of local factors is required. To assist in preparing quantitative analyses, the Federal Highway Administration issued *Guidance for Qualitative Project Level "Hot Spot" Analysis in PM-10 Nonattainment and Maintenance Areas* in September 2001.

In July 1994, the MAG Regional Council adopted Conformity Procedures in response to federal requirements. The following excerpt from the MAG Conformity Procedures directly addresses the requirement for consultation on identification of projects which require PM-10 hotspot analysis:

“Section 51.454(d) (*now Section 93.123(b)(iii)(4)*) states that its requirements for quantitative PM-10 hotspot analysis are not applicable until the U.S. Environmental Protection Agency releases modeling guidance and announces in the Federal Register that these requirements are in effect. As of the end of June 1994, EPA has not taken these actions, and the hotspot modeling requirements have not yet been triggered. Similarly, the EPA regulations regarding transit terminals will apply only after the hotspot modeling requirements take effect. To meet the requirements of Section 51.402(c)(1)(v) (*now Section 93.105(c)(1)(v)*), it is proposed that if and when the PM-10 hotspot modeling requirements become effective, they be applied within a one-mile radius of any site where a PM-10 violation has occurred within the last three complete calendar years.”

For the 2003 MAG Conformity Analysis, the anticipated approach for meeting the requirements of Section 93.116 are that if and when the PM-10 hotspot modeling requirements become effective, they be applied within a one-mile radius of any site where a PM-10 violation has occurred within the last three complete calendar years. With regard to transit terminals, MAG proposes to abide by any USDOT policy regarding exclusion of smaller terminals when available. It is important to note that under 40 CFR 93.116, PM-10 hotspot analysis is required for projects funded by the Federal Highway Administration or the Federal Transit Administration, and are not required for non-Federally funded projects. Also as clarified in the June 30, 2003 EPA proposed transportation conformity rule amendments, a PM-10 hot spot analysis must demonstrate that during the time frame of the transportation plan (or regional emissions analysis) no new local violations will be created and the severity or number of existing violations will not be increased as a result of the project (EPA, 2003).

Section 93.123(b)(iii)(4) states that, “the requirements for quantitative [PM₁₀ hotspot] analysis... will not take effect until EPA releases modeling guidance on this subject and announces in the Federal Register that these requirements are in effect”. EPA has not taken these actions, and the hotspot modeling requirements have not yet been triggered. Similarly, the EPA regulations regarding transit terminals will apply only after the hotspot modeling requirements take effect.

**REPORT: 04-07 Draft TIP
Reg Sig Highway Projects**

**DRAFT FY 2004-2007 MAG TIP - POTENTIALLY
REGIONALLY SIGNIFICANT HIGHWAY PROJECTS**

**TABLE : DRAFT 04-07 TIP
HIGHWAY
073003**

AGENCY: ADOT

FISCAL YEAR: 2004

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
DOT05-117	10 at Warner Rd TI	Construct dual left turn lanes	.20	6	6	State	1,137,000	0	1,137,000
DOT05-176	85: MP 142.49 to MP 147.60	Construct roadway (NB mainline)	5.11	2	4	NHS	0	9,000,000	9,000,000
DOT03-108	10 at 7th St	Construct triple left turn lane from WB I-10 onto SB 7th St	.20	6	6	CMAQ	7,125	117,875	125,000
DOT03-109B	GR6003BSC -- Grand Ave: 67th Ave/Northern	Construct structure	.50			GAN	705,318	11,668,682	12,374,000
DOT04-417	GR6004ASC -- 59th Ave at Glendale Ave	Construct structure	.20	6	6	RARF/ 15%	400,000	0	400,000
DOT04-402	SA202L19A SCL -- 202L Santan Fwy: Greenfield,	Construct structure	.20	0	6	Local	10,000,000	0	10,000,000
DOT04-418	RM202L12BRCL -- 202L Red Mountain Fwy: Higley Rd to Power Rd	Construct roadway (Local funds)	2.00	0	6	Local	400,000	0	400,000
DOT04-419	SA202L15 RCL -- 202L Santan Fwy: Elliot Rd to Baseline Rd	Construct roadway (Local funds)	1.90	0	6	Local	2,000,000	0	2,000,000
DOT04-420	SA202L15 RCD -- 202L Santan Fwy: Elliot Rd to	Construct roadway (Private funds)	1.90	0	6	Private	2,500,000	0	2,500,000
DOT04-421	SA202L16 RCL -- 202L Santan Fwy: Power Rd to Elliot Rd	Construct roadway (Local funds)	3.90	0	6	Local	800,000	0	800,000
DOT04-422	SA202L17 RC -- 202L Santan Fwy: Higley Rd to Power Rd	Construct roadway	2.00	0	6	RARF/ 15%	3,500,000	0	3,500,000
DOT04-	60 (Superstition Fwy) at Val Vista Dr TI	Widen structures for dual left turn lanes and two	.20	4	6	CMAQ	78,000	1,400,000	1,478,000
DOT04-259B	60 (Superstition Fwy) at Val Vista Dr TI	Widen structures for dual left turn lanes and two through lanes (1 of 2 - STP-MAG portion)	.20	4	6	STP-MAG	50,000	800,000	850,000
DOT04-167	85: MP 125.40 to MP 130.45	Construct roadway	5.10	2	4	NHS	0	14,723,000	14,723,000
DOT04-172	85: MP 139.01 to MP 142.49	Construct roadway	3.48	2	4	NHS	0	9,322,000	9,322,000

FISCAL YEAR: 2005

AGENCY: ADOT**FISCAL YEAR: 2005**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
DOT06-256	93: Wickenburg By-pass	Construct by-pass	3.00			NHS	0	27,000,000	27,000,000
DOT04-112	17 at Cactus Rd	Construct dual left turn lanes from Cactus Rd onto I-17 in both directions	.50	6	6	CMAQ	131,100	2,168,900	2,300,000
DOT04-188	85: MC 85 to I-10	Construct roadway	3.50	2	4	NHS	0	19,304,000	19,304,000
DOT95-004	101 (Pima Fwy): Pima Rd; McDowell Rd to Via Linda	Widen roadway	7.00	2	4	RARF/ 15%	2,000,000	0	2,000,000
DOT05-401	GR6004ASCL -- 59th Ave at Glendale Ave	Construct structure	.20	6	6	Local	1,000,000	0	1,000,000
DOT05-423	SA202L19 RCL -- 202L Santan Fwy: Gilbert Rd to	Construct roadway (Local funds)	3.80	0	6	Local	500,000	0	500,000
DOT05-237	10: Ray Rd TI (1 of 2)	Widen bridge and approaches	.10	4	6	STP-MAG	73,000	1,200,000	1,273,000
DOT02-201	17: Peoria Ave to Greenway Rd	Construct auxiliary lanes & walls	3.00	6	6	IM	798,000	13,202,000	14,000,000
DOT04-035	17 at SR-74 TI (Carefree Hwy)	Reconstruct TI	.30	4	4	IM	0	8,200,000	8,200,000
DOT05-238A	17 at Deer Valley Rd TI	Add 2nd WB left turn lane, widen approaches to	.50	4	4	CMAQ	60,500	1,000,000	1,060,500
DOT05-238B	17 at Deer Valley Rd TI	Add 2nd westbound left turn lane; widen approaches to increase storage in both directions (STP-MAG)	.50	4	4	STP-MAG	50,000	800,000	850,000
DOT04-113	GR6004ASC -- Grand Ave: 59th Ave/Glendale Ave	Construct structure	.50			RARF/ 15%	22,401,000	0	22,401,000
DOT04-260	60 (Superstition Fwy) at Val Vista Dr TI	Widen structures for dual left turn lanes and two	.20	4	6	CMAQ	60,500	1,000,000	1,060,500
DOT05-121	60 (Superstition Fwy) at Gilbert Rd TI	Construct dual left turn lanes	.20	4	4	State	1,700,000	0	1,700,000
DOT05-122C	60 (Superstition Fwy) at Stapley Dr TI	Widen structure to construct dual left turn lanes in both directions	.20	4	4	CMAQ	203,000	3,472,000	3,675,000
DOT03-229	87: MP 201 to MP 202.5	Construct roadway widening	1.50	2	4	NHS	171,000	2,829,000	3,000,000
DOT05-127	SA202L17 RC -- 202L Santan Fwy: Higley Rd to Power Rd	Construct roadway	2.00	0	6	RARF/ 15%	25,004,000	0	25,004,000
DOT05-128	SA202L18 RC -- 202L Santan Fwy: Williams Field Rd	Construct roadway	2.40	0	6	RARF/ 15%	50,000,000	0	50,000,000
DOT05-128R	SA202L18 RC -- 202L Santan Fwy: Greenfield, Ray and UPRR underpasses	Construct structures with GAN for expected repayment with fed funds	2.40	0	6	GAN	44,598,000	0	44,598,000
DOT05-129	SA202L19 RC -- 202L Santan Fwy: Gilbert Rd to Williams Field Rd	Construct roadway	3.80	0	6	RARF/ 15%	67,000,000	0	67,000,000

AGENCY: ADOT**FISCAL YEAR: 2005**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
DOT05-150	RM202L13 RC -- 202L Red Mountain Fwy: Power Rd to University Dr	Construct roadway	4.50	0	6	RARF/ 15%	81,368,000	0	81,368,000

FISCAL YEAR: 2006

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
DOT99-124	PI101L10IRC -- 101L Pima Fwy: Pima Rd Extension	Construct roadway extension	3.00	0	4	RARF/ 15%	3,634,000	0	3,634,000
DOT04-408	AF101L RD -- Bethany Home Rd TI (North Half)	Construct TI	.20			State	700,000	0	700,000
DOT02-003	10 at Bullard Ave TI	Construct ramps, crossroads & traffic signals	.20	6	6	Private	6,000,000	0	6,000,000
DOT06-244	10: Ray Rd TI (2 of 2)	Widen bridge and approaches	.10	4	6	STP-MAG	170,000	2,800,000	2,970,000
DOT06-215	60 (Superstition Fwy) at Higley Rd TI	Construct dual left turn lanes	.20	4	4	STP-AZ	0	1,300,000	1,300,000
DOT06-252	85: MP 130.71 to MP 137.00	Reconstruct roadway (utilities included)	7.05	2	4	NHS	0	15,665,000	15,665,000
DOT06-253	87: Forest Boundary to Dos S Rd	Construct roadway	1.50	2	4	NHS	171,000	2,829,000	3,000,000
DOT06-313	RM202L14ARC -- 202L Red Mountain Fwy:	Construct roadway	2.70	0	6	RARF/ 15%	59,623,000	0	59,623,000
DOT06-315	RM202L14CRC -- 202L Red Mountain Fwy: US-60/202 TI, Phase II	Construct roadway	.50	0	6	RARF/ 15%	60,307,000	0	60,307,000

FISCAL YEAR: 2007

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
DOT04-207A	10: 40th St to Baseline Rd	Construct CD roads	4.00	0	4	NHS	2,280,000	37,720,000	40,000,000
DOT05-119B	10: 40th St to Baseline Rd	Construct CD roads	4.00	0	4	NHS	2,280,000	37,720,000	40,000,000
DOT07-426	85: MP 122.99 to MP 125.4	Construct roadway	2.40	2	4	NHS	436,000	7,200,000	7,636,000
DOT07-427	85: MP 120.54 to MP 122.99	Construct roadway	2.40	2	4	STP	650,000	9,100,000	9,750,000
DOT07-325	10: 16th St to 40th St	Construct CD roads	3.50	0	4	NHS	570,000	9,430,000	10,000,000

AGENCY: ADOT

FISCAL YEAR: 2007

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
DOT07-332	60 (Grand Ave): 101L to 83rd Ave	Widen roadway	1.70	4	6	NHS	114,000	1,886,000	2,000,000
DOT07-333	60 (Superstition Fwy): Val Vista Dr to Power Rd	Construct HOV/SOV lanes	4.00	6	10	STP-AZ	2,850,000	47,150,000	50,000,000
DOT07-323	101 (Agua Fria Fwy): I-10 to MC-85	Widen roadway	1.70	2	4	STP-AZ	200,000	3,300,000	3,500,000

AGENCY: Avondale**FISCAL YEAR: 2004**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
AVN99-713	Van Buren St: 103rd Ave to 115th Ave	Widen road, add 2 west bound lanes, left turn lane, curb, gutter and sidewalk	1.50	2	4	Private	1,600,000	0	1,600,000

FISCAL YEAR: 2005

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
AVN01-004	McDowell Rd: 99th Ave to 107th Ave	Widen south side of road for one east bound lane, left turn lane, curb, gutter and sidewalk	1.00	4	5	Private	500,000	0	500,000
AVN02-107	Dysart Rd: Buckeye Rd to Lower Buckeye Rd.	Add four new through lanes, left turn lane, curb, gutter	1.00	0	4	Local	2,000,000	0	2,000,000
AVN03-213	Roosevelt St: 115th Ave to 107th Ave	Add two new through lanes, turn lane, curb, gutter and sidewalk	1.00	0	2	Private	1,000,000	0	1,000,000
AVN96-608	Thomas Rd: RID Canal to 99th Ave	Widen north side of road to add one west bound lane, left turn lane, curb, gutter and sidewalk	.50	3	4	Private	650,000	0	650,000
AVN97-702	115th Ave: Thomas Rd to McDowell Rd	Reconstruct roadway, add two through lanes, left turn	1.00	2	4	Private	2,500,000	0	2,500,000
AVN98-710	McDowell Rd: 115th Ave to 119th Ave	Widen road, add 1 west bound lane, left turn lane, re-stripe to add one lane, curb, gutter and sidewalk.	.50	4	6	Private	500,000	0	500,000
AVN98-712	Van Buren St: 115th Ave to 99th Ave	Widen road, add 2 east bound lanes, left turn lane, curb, gutter and sidewalk	2.00	4	6	Private	2,600,000	0	2,600,000

AGENCY: Buckeye

FISCAL YEAR: 2004

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
BKY04-401	Verado Way: I-10, 4 miles north to Mountains	Construct new roadway to connect to I-10	4.00	0	4	Local	4,000,000	0	4,000,000
BKY01-102	Jackrabbit Trl: Van Buren St to R.I.D. Canal	Add south bound lane, turn lanes, curb, gutter and sidewalks, and signalization	.75	2	3	Private	300,000	0	300,000

AGENCY: Chandler**FISCAL YEAR: 2004**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
CHN02-104	Gilbert Rd: Riggs Rd to Hunt Hwy	Reconstruct 2-lane rural section to 4-lane urban arterial section	1.00	2	4	Private	3,600,000	0	3,600,000
CHN03-109	McQueen Rd: Ocotillo Rd to Chandler Heights Rd	Reconstruct 2-lane rural section to 4-lane urban	1.00	2	4	Private	3,600,000	0	3,600,000
CHN99-714	Ocotillo Rd: McQueen Rd to Cooper Rd	Reconstruct roadway, adding 2 lanes	1.00	2	4	Private	3,600,000	0	3,600,000
CHN04-401	Queen Creek Rd: Cooper Rd to Gilbert Rd	Reconstruct roadway, adding two lanes	1.00	2	4	Private	4,000,000	0	4,000,000
CHN04-404	Ocotillo Rd: Gilbert Rd to Lindsay Rd	Reconstruct roadway, adding 2 lanes	1.00	2	4	Private	4,000,000	0	4,000,000
CHN04-405	Gilbert Rd: South of Ocotillo Rd to North of Chandler	Reconstruct roadway, adding 2 lanes	.25	2	4	Private	1,000,000	0	1,000,000
CHN04-408	Dobson Rd: Frye Rd to Germann Rd	Reconstruct roadway to 6 lanes	1.50	2	6	Local	2,750,000	0	2,750,000
CHN02-205R	Ray Rd: Alma School Rd to Arrowhead Dr	Add third eastbound lane	.50	5	6	Local	750,000	0	750,000
CHN03-110	McQueen Rd: Pecos Rd to Queen Creek Rd	Widen from 2-lane rural section to 4-lane urban arterial section	2.00	2	4	Local	6,000,000	0	6,000,000
CHN03-111	Riggs Rd: Arizona Ave to Gilbert Rd	Reconstruct 2-lane rural section from Arizona Avenue to Gilbert Road, add 2 lanes to remaining section	3.00	2	6	Local	10,500,000	0	10,500,000
CHN05-118R	Pecos Rd: Dobson Rd to McQueen Rd	Widen from 2-lane rural section to 6-lane urban arterial section (partially constructed by private developers)	3.00	2	6	Local	8,000,000	0	8,000,000

FISCAL YEAR: 2005

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
CHN03-207	Arizona Ave at Elliot Rd	Widen intersection to provide dual left turn lanes and right turn lanes on all approaches	.60	5	8	Local	2,900,000	0	2,900,000
CHN03-208	Arizona Ave at Ray Rd	Intersection improvements to add dual left turn lanes	.60	5	8	Local	3,200,000	0	3,200,000
CHN04-210	Chandler Blvd: California St to Colorado St	Widen existing from 5-lane to 7-lane and intersection improvements at Arizona Ave	.75	5	7	Local	3,500,000	0	3,500,000
CHN96-002	Gilbert Rd: Germann Rd to Queen Creek Rd	Reconstruct roadway, adding 2 lanes	1.00	2	4	Private	3,600,000	0	3,600,000
CHN97-003	Queen Creek Rd: Alma School Rd to Arizona Ave	Reconstruct roadway, adding 2 lanes (both sides)	1.00	2	4	Private	1,800,000	0	1,800,000

AGENCY: Chandler**FISCAL YEAR: 2005**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
CHN98-703	56th St: Frye Rd to Pecos Rd	Reconstruct roadway, adding 2 lanes	.60	2	4	Private	2,100,000	0	2,100,000
CHN05-402	Queen Creek Rd: Gilbert Rd to Lindsay Rd	Reconstruct roadway, adding 2 lanes	1.00	2	4	Private	4,000,000	0	4,000,000
CHN05-403	Lindsay Rd: Chandler Heights Rd to Ocotillo Rd	Reconstruct roadway, adding 2 lanes	1.00	2	4	Private	4,000,000	0	4,000,000
CHN05-409	Chandler Hts Rd: Eastern Canal to Gilbert Rd	Reconstruct roadway, adding 2 lanes	.30	2	4	Private	1,300,000	0	1,300,000
CHN05-410	Chandler Hts Rd: Gilbert Rd to Lindsay Rd	Reconstruct roadway, adding 2 lanes	1.00	2	4	Private	4,000,000	0	4,000,000
CHN05-411	Cooper Rd: Ocotillo Rd to Queen Creek Rd	Reconstruct roadway, adding two lanes	1.00	2	4	Private	4,000,000	0	4,000,000
CHN02-105	Lindsay Rd: Chandler Heights Rd to Hunt Hwy	Reconstruct 2-lane rural section to 4-lane urban arterial section	2.00	2	4	Private	7,200,000	0	7,200,000
CHN02-201	Cooper Rd: Santan Fwy to Germann Rd	Reconstruct existing 2-lane to 4-lane	.20	2	4	Local	700,000	0	700,000
CHN02-202	Germann Rd: Cooper Rd to Gilbert Rd	Reconstruct existing 2-lane to 4-lane roadway	1.20	2	4	Private	3,500,000	0	3,500,000
CHN02-203	Gilbert Rd: Pecos Rd to Germann Rd	Reconstruct existing 2-lane to 6-lane	1.00	2	7	Local	1,000,000	0	1,000,000
CHN04-115	Cooper Rd: Ocotillo Rd to Chandler Heights Rd	Reconstruct 2-lane rural section to 4-lane urban arterial section	1.00	2	4	Private	3,600,000	0	3,600,000
CHN05-117	Ocotillo Rd: Basha Rd to Arizona Ave	Add 2 lanes to existing urban arterial half-street	1.00	2	4	Local	2,150,000	0	2,150,000
CHN98-704	Chandler Heights Rd: Alma School Rd to 0.5 mile east of Arizona Ave	Reconstruct roadway, adding 2 lanes (south side complete, from Alma School Rd to Arizona Ave)	1.50	2	4	Private	1,800,000	0	1,800,000
CHN99-713	McQueen Rd: Queen Creek Rd to Ocotillo Rd	Reconstruct roadway, adding 2 lanes	1.00	2	4	Private	3,600,000	0	3,600,000

FISCAL YEAR: 2006

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
CHN04-113	Queen Creek Rd: Arizona Ave to McQueen Rd	Widen from 2-lane rural section to 4-lane urban arterial section	1.00	2	4	Local	3,600,000	0	3,600,000

FISCAL YEAR: 2007

AGENCY: Chandler**FISCAL YEAR: 2007**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
CHN01-723	Arizona Ave: Ocotillo Rd to Hunt Hwy	Reconstruct roadway, adding 2 lanes	3.00	4	6	Local	9,000,000	0	9,000,000
CHN04-114	Riggs Rd: Gilbert Rd to Val Vista Rd	Add 2 lanes to existing 2-lane urban arterial half-street constructed by developers	2.00	2	4	Local	5,000,000	0	5,000,000
CHN06-215	Dobson Rd at Chandler Blvd	Widen existing intersection to provide dual left turn lanes and right turn lane in all directions	.60	5	8	Local	4,200,000	0	4,200,000
CHN95-208	Pecos Rd: Gilbert Rd to McQueen Rd	Reconstruct roadway, adding 2 lanes (complete, from	2.00	2	4	Private	6,350,000	0	6,350,000
CHN96-217	Germann Rd: Price Rd to Alma School Rd	Reconstruct roadway, adding 2 lanes	1.75	2	4	Local	5,260,000	0	5,260,000
CHN97-225	Germann Rd: Alma School Rd to Arizona Ave	Reconstruct roadway, adding 2 lanes	1.00	2	4	Local	3,820,000	0	3,820,000
CHN99-710	Cooper Rd: Frye Rd to Santan Freeway	Reconstruct roadway, adding 4 lanes	1.00	2	6	Local	5,100,000	0	5,100,000
CHN06-213	Chandler Blvd: Colorado St to McQueen Rd	Widen 5-lane to 7-lane	.75	5	7	Local	6,700,000	0	6,700,000

AGENCY: El Mirage

FISCAL YEAR: 2004

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
ELM03-209	El Mirage Rd: Olive Ave to Peoria Ave	Reconstruct roadway and add two through lanes	1.00	2	4	Local	1,750,000	0	1,750,000

AGENCY: Gilbert**FISCAL YEAR: 2004**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
GLB01-718	Ray Rd: Val Vista Dr to Greenfield Rd	Reconstruct roadway to add 3 through lane in each direction	1.00	2	4	Local	1,300,000	0	1,300,000
GLB05-110	Pecos Rd: Lindsay Rd to Val Vista Dr	Reconstruct roadway to add 1 through lane in each	1.00	2	4	Local	1,300,000	0	1,300,000
GLB05-112	Val Vista Dr: Williams Field Rd to Pecos Rd	Reconstruct roadway to add 2 through lanes in each direction	1.00	2	6	Private	1,500,000	0	1,500,000
GLB99-706	Greenfield Rd: Knox Rd to Ray Rd	Reconstruct roadway to add 1 through lane in each direction	.50	2	4	Private	650,000	0	650,000
GLB01-714	Germann Rd: Higley Rd to Power Rd	Construct new 6 lane roadway	2.00	0	6	Private	2,500,000	0	2,500,000
GLB03-903	Baseline Rd: Higley Rd to Power Rd	Reconstruct roadway to add 1 through lane in each direction	2.00	4	6	Private	3,500,000	0	3,500,000
GLB03-906	Guadalupe Rd: Roadrunner Rd to Power Rd	Reconstruct roadway to add 1 through lane in each	.50	2	4	Private	500,000	0	500,000
GLB04-401	Pecos Rd: Val Vista Dr to Higley Rd	Reconstruct roadway to add 3 lanes in each direction	1.00	0	6	Local	3,000,000	0	3,000,000
GLB03-907	Lindsay Rd: Ray Rd to Williams Field Rd	Reconstruct roadway to add 1 through lane in each direction	1.00	2	4	Private	1,000,000	0	1,000,000
GLB04-103	Gilbert Rd: Williams Field Rd to Pecos Rd	Reconstruct roadway to add 2 through lanes in each	1.00	2	6	Local	4,500,000	0	4,500,000
GLB04-104	Greenfield Rd: Ray Rd to Williams Field Rd	Reconstruct roadway to add 2 through lanes in each direction	1.00	2	6	Local	4,500,000	0	4,500,000
GLB04-105	Pecos Rd: Gilbert Rd to Lindsay Rd	Reconstruct roadway to add 1 through lane in each direction	1.00	2	4	Private	1,300,000	0	1,300,000
GLB04-106	Val Vista Dr: Ray Rd to Williams Field Rd	Reconstruct roadway to add 2 through lanes in each	1.00	2	6	Local	1,500,000	0	1,500,000
GLB99-707	Ray Rd: Gilbert Rd to Lindsay Rd	Reconstruct roadway to add 1 through lane in each direction	1.00	2	4	Local	1,300,000	0	1,300,000

FISCAL YEAR: 2005

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
GLB00-712	Recker Rd: Baseline Rd to Houston Ave	Reconstruct roadway to add 2 through lane in each direction	.50	2	4	Local	650,000	0	650,000
GLB01-716	Pecos Rd: Power Rd to Recker Rd	Construct new 6 lane roadway	1.00	0	6	Private	1,500,000	0	1,500,000

AGENCY: Gilbert**FISCAL YEAR: 2005**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
GLB02-808	Recker Rd: Elliot Rd to Warner Rd	Reconstruct roadway to add 1 through lane in each direction	1.00	2	4	Private	1,500,000	0	1,500,000
GLB03-904	Elliot Rd: Recker Rd to Power Rd	Reconstruct roadway to add 2 through lane in each direction	1.00	2	4	Private	1,000,000	0	1,000,000
GLB03-910	Warner Rd: Recker Rd to Power Rd	Reconstruct roadway to add 1 through lane in each direction	1.00	2	4	Private	1,000,000	0	1,000,000
GLB02-806	Ocotillo Rd: Recker Rd to Power Rd	Reconstruct roadway to add 1 through lane in each direction	1.00	2	4	Private	1,500,000	0	1,500,000
GLB05-108	Higley Rd: Warner Rd to Ray Rd	Reconstruct roadway to add 2 through lanes in each direction	1.00	2	6	Private	2,500,000	0	2,500,000
GLB05-109	Higley Rd: Williams Field Rd to Pecos Rd	Reconstruct roadway to add 2 through lanes in each direction	1.00	2	6	Private	1,500,000	0	1,500,000
GLB05-111	Ray Rd: Recker Rd to Power Rd	Reconstruct roadway to add 1 through lane in each direction	1.00	2	4	Private	1,300,000	0	1,300,000
GLB05-113	Warner Rd: Claiborne Rd to Higley Rd	Reconstruct roadway to add 2 through lanes in each direction	.40	2	6	Private	800,000	0	800,000

FISCAL YEAR: 2006

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
GLB01-719	Recker Rd: Queen Creek Rd to Ocotillo Rd	Construct new 4 lane roadway	1.00	0	4	Private	1,300,000	0	1,300,000
GLB97-720	Higley Rd: US-60 to Baseline Rd	Reconstruct roadway to add 3 through lanes in each direction	.65	2	6	Private	850,000	0	850,000
GLB03-908	Ray Rd: Greenfield Rd to Higley Rd	Reconstruct roadway to add 1 through lane in each direction	1.00	2	4	Private	1,000,000	0	1,000,000

AGENCY: Glendale**FISCAL YEAR: 2004**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
GLN01-706	59th Ave: Deer Valley Rd to Pinnacle Peak Rd	Reconstruct to 4 lanes and bike path	1.00	2	4	Local	2,600,000	0	2,600,000
GLN04-303	95th Ave: Glendale Ave to Bethany Home Rd	Construct new four lane roadway	1.00	0	4	Private	4,000,000	0	4,000,000
GLN04-304	Glendale Ave: 75th Ave to 91st Ave	Widen roadway with curb, gutter, sidewalk and landscaping	2.00	4	6	Private	4,000,000	0	4,000,000
GLN04-305	Glendale Ave: 91st Ave to Agua Fria Fwy	Widen roadway with curb, gutter, sidewalk and	.75	4	6	Private	2,000,000	0	2,000,000

FISCAL YEAR: 2005

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
GLN03-106	Bethany Home Rd: 83rd to 99th Aves	Construct new street	2.00	0	2	Local	2,000,000	0	2,000,000
GLN01-708	Bethany Home Rd: 75th Ave to 83rd Ave	Reconstruct to 4 lanes, curb, gutter, sidewalk and irrigation improvements	1.00	2	4	Local	2,125,000	0	2,125,000
GLN05-306	91st Ave: Maryland Ave to Camelback Rd	Widen roadway with curb, gutter, sidewalk and landscaping	1.50	4	6	Local	3,085,500	0	3,085,500

FISCAL YEAR: 2006

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
GLN00-703	59th Ave: Olive St to Brown St	Widen street for turn lane, curb, gutter, sidewalk, bicycle facility and reconstruct major irrigation facilities	.75	4	5	CMAQ	1,082,500	917,500	2,000,000
GLN06-307	91st Ave: Glendale Ave to Northern Ave	Widen roadway with curb, gutter, sidewalk and	1.00	4	6	Local	1,028,500	0	1,028,500
GLN06-308	95th Ave: Bethany Home Rd to Camelback Rd	Construct new four lane roadway	1.00	0	4	Private	4,000,000	0	4,000,000
GLN06-309	95th Ave: Glendale Ave to Northern Ave	Construct new four lane roadway	1.00	0	4	Private	4,000,000	0	4,000,000
GLN99-901	59th Ave: Westcot Dr to Beardsley Rd	Reconstruct to 6 lanes, curb, gutter, sidewalk, median, landscaping	.75	4	6	Private	500,000	0	500,000

FISCAL YEAR: 2007

AGENCY: Glendale

FISCAL YEAR: 2007

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
GLN07-313	Glendale Ave: Agua Fria Fwy to 115th Ave	Widen roadway with curb, gutter, sidewalk and landscaping	2.25	4	6	Private	4,000,000	0	4,000,000

AGENCY: Goodyear

FISCAL YEAR: 2004

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
GDY00-802	Van Buren St: Litchfield Rd to Estrella Pkwy	Construct 6 lanes, bridge, curb and gutter, sidewalk and landscape	1.50	2	4	Private	1,200,000	0	1,200,000
GDY04-401	Estrella Pkwy: Yuma Rd to McDowell Rd	Reconstruct 2 lanes & add 2 lane with turn bays	2.00	2	4	Local	2,500,000	0	2,500,000

FISCAL YEAR: 2005

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
GDY97-008	Lower Buckeye Rd: Estrella Pkwy to 159th Ave	Reconstruct 2 lanes, curb and gutter, sidewalk &	.50	0	4	Private	500,000	0	500,000
GDY99-902	Fillmore St: 137th to RR tracks	Construct 3 lanes, curb and gutter, sidewalk and landscape	.50	0	3	Private	550,000	0	550,000

FISCAL YEAR: 2006

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
GDY98-321	Vineyard Rd: Bullard Ave to Indian Springs Rd	Widen, add 2 lanes, grade, curb and gutter, sidewalk & bike lane	2.10	2	4	Local	850,000	0	850,000
GDY99-001	Broadway Rd: Estrella Pkwy to Bullard Ave	Pave dirt road, add 2 lanes and bridge	1.00	2	4	Private	1,150,000	0	1,150,000
GDY99-904	Litchfield Rd: I-10 to Fillmore St	Widen west side, new curb and gutter, sidewalk,	.30	2	3	Private	500,000	0	500,000

AGENCY: Maricopa County**FISCAL YEAR: 2004**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
MMA00-746	51st Ave: GRIC Boundary to Baseline Rd	Safety improvements	3.75	2	3	Local	2,057,000	0	2,057,000
MMA01-771	Bush Hwy: McKellips Rd to McDowell Rd	Reconstruct and widen roadway from 2 to 4 lanes (participate with Mesa)	1.00	2	4	Local	717,000	0	717,000
MMA01-774	Elliot Rd: Val Vista Dr to Greenfield Rd	Widen roadway from 2 to 4 lanes (participate with Gilbert)	1.00	2	4	Local	680,000	0	680,000
MMA01-775	Ellsworth Rd: Germann Rd to Baseline Rd	Widen roadway from 2 to 4 lanes (participate with	4.00	2	4	Local	10,470,000	0	10,470,000
MMA01-7C2	Warner Rd: Lindsay Rd to Greenfield Rd & Val Vista Dr: Ray Rd to Warner Rd (package project)	Widen roadway from 2 to 6 lanes (participate with Gilbert)	2.00	2	6	Local	530,000	0	530,000
MMA03-913	MC-85: Estrella Pkwy to Litchfield Rd	Widen roadway from 2 to 4 lanes	2.00	2	4	Local	2,028,000	0	2,028,000
MMA04-118	Riggs Rd: Arizona Ave to Gilbert Rd	Widen roadway from 2 to 6 lanes	3.00	2	4	Local	4,500,000	0	4,500,000
MMA04-119	Val Vista Dr: Ray Rd to Warner Rd	Widen the roadway from 4 to 6 lanes (Gilbert is the lead agency, Maricopa County is an IGA partner)	1.00	4	6	Local	530,000	0	530,000

FISCAL YEAR: 2005

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
MMA02-838	McQueen Rd: Queen Creek Rd to Pecos Rd	Widen roadway from 2 to 4 lanes	2.00	2	4	Local	6,482,000	0	6,482,000
MMA00-754	Ellsworth Rd: University Dr to McLellan Rd	Widen roadway from 2 to 4 lanes	1.50	2	4	Local	4,222,000	0	4,222,000
MMA00-903	51st Ave: Baseline Rd to Broadway Rd	Widen roadway from 2 lanes to 4	2.00	2	4	Local	10,110,000	0	10,110,000
MMA01-770	Alma School Rd: McLellan Rd to McKellips Rd	Widen roadway from 4 to 6 lanes	.75	4	6	Local	2,011,000	0	2,011,000
MMA04-116	Lindsay Rd: Williams Field Rd to Ray Rd	Widen roadway from 2 to 4 lanes	1.33	2	4	Local	2,600,000	0	2,600,000

FISCAL YEAR: 2006

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
MMA01-793	Ray Rd: Lindsay Rd to Greenfield Rd	Widen roadway from 2 to 4 lanes (participate with Gilbert)	2.00	2	4	Local	550,000	0	550,000

AGENCY: Maricopa County

FISCAL YEAR: 2006

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
MMA06-404	83rd Ave: Northern Ave to Olive Ave	Roadway will be widened from two lanes to four lanes.	1.00	2	4	Local	1,700,000	0	1,700,000

FISCAL YEAR: 2007

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
MMA03-912	MC-85: Cotton Ln to Estrella Pkwy	Widen roadway from 2 to 4 lanes	2.00	2	4	Local	3,360,000	0	3,360,000
MMA06-215	Queen Creek Rd: Arizona Ave to McQueen Rd	Widen roadway from 2 to 4 lanes	1.00	2	4	Local	2,645,000	0	2,645,000
MMA07-401	Loop 303: Camelback Rd to Bethany Home Rd	Roadway will be widened from two lanes to four lanes.	1.00	2	4	Local	3,875,000	0	3,875,000
MMA07-402	Loop 303: Bethany Home Rd to Glendale Ave	Roadway will be widened from two lanes to four lanes	1.00	2	4	Local	4,075,000	0	4,075,000
MMA07-403	Power Rd: Guadalupe Rd to Baseline Rd	Roadway will be widened from four lanes to six lanes.	1.00	4	6	Local	5,462,000	0	5,462,000
MMA07-405	Loop 303: Indian School Rd to Camelback Rd	Roadway will be widened from two lanes to four lanes	1.00	2	4	Local	4,095,000	0	4,095,000

AGENCY: Mesa**FISCAL YEAR: 2004**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
MES01-105	Ellsworth Rd: University Dr to McLellan Rd	Widen roadway from 2 to 4 lanes (with Maricopa County)	1.50	2	4	Local	3,905,000	0	3,905,000
MES02-811	Ellsworth Rd: Germann Rd to Guadalupe Rd	Widen roadway from 2 to 4 lanes (with Maricopa County)	6.00	2	4	Local	11,000,000	0	11,000,000
MES98-586	Ellsworth Rd: US-60 to Baseline Rd	Widen roadway from 4 to 6 lanes	.50	4	6	Private	300,000	0	300,000
MES04-406	Guadalupe Rd: Santan Fwy to Ellsworth Rd	Widen south half from 1 to 3 lanes.	.50	1	3	Private	750,000	0	750,000
MES04-408	Sossaman Rd: WGA to Velocity Way	Widen from 2 to 4 lanes with raised median	2.00	2	4	Local	1,614,000	0	1,614,000
MES01-106	Germann Rd: Ellsworth Rd to 1/2 mile east	Widen roadway from 2 to 4 lanes	.50	2	4	Private	343,000	0	343,000
MES01-721	Ray Rd: Hawes Rd to Meridian Rd	Construct new 4 lane roadway	4.00	0	4	Local	1,500,000	0	1,500,000
MES01-722	Ray Rd: Sossaman Rd to Hawes Rd	Construct new 4 lane roadway	1.00	0	4	Local	1,500,000	0	1,500,000
MES97-565	Southern Ave: Country Club to Recker Rd and Mesa Dr: US-60 to Southern Ave	Widen roadway from 4 to 6 lanes	3.00	4	6	Local	12,500,000	0	12,500,000

FISCAL YEAR: 2005

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
MES00-713	Mesa Dr: Broadway Rd to US 60	Widen roadway from 4 to 6 lanes	1.50	4	6	Local	16,000,000	0	16,000,000
MES02-116	Power Rd: Baseline Rd to Williams Field Rd	Widen roadway from 4 to 6 lanes (with Maricopa County)	5.00	4	6	Local	3,000,000	0	3,000,000
MES02-128	Ellsworth Rd: Elliot Rd to Pecos Rd	Widen roadway up to 6 lanes (with Maricopa County)	4.00	4	6	Local	2,400,000	0	2,400,000
MES05-310	Gilbert Rd: McDowell Rd to Thomas Rd	Widen roadway from 2 to 4 lanes	1.00	2	6	Local	500,000	0	500,000

FISCAL YEAR: 2007

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
MES03-122	Sossaman Rd: Guadalupe Rd to Baseline Rd	Widen roadway from 2 to 4 lanes	1.00	2	4	Local	1,000,000	0	1,000,000
MES03-123	Thomas Rd: Gilbert Rd to Val Vista Dr	Construct new 4 lane roadway	2.00	0	4	Local	1,470,000	0	1,470,000

AGENCY: Mesa

FISCAL YEAR: 2007

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
MES07-312	Gilbert Rd: University Dr to McKellips Rd	Improve roadway	2.00	4	6	Local	600,000	0	600,000

AGENCY: Peoria**FISCAL YEAR: 2004**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
PEO07-313	Westwing Pkwy: Pinnacle Vista Rd to Lake Pleasant Pkwy	Extend parkway to Lake Pleasant Pkwy with paving, curb, gutter, sidewalk, medians and landscape.	1.00	0	4	Local	3,300,000	0	3,300,000
PEO96-678	Lake Pleasant Rd: Deer Valley Rd to Jomax Rd	Widen, pave, curb, gutter and median	3.00	2	4	Local	9,500,000	0	9,500,000
PEO97-686	83rd Ave: Olive Ave to Monroe Ave	Widen, pave, curb and gutter	.80	2	3	Local	1,100,000	0	1,100,000
PEO97-715	Dynamite Blvd: Lake Pleasant Rd to 99th Ave	Paving, curb and gutter	.70	0	2	Private	600,000	0	600,000

FISCAL YEAR: 2005

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
PEO04-304	Lake Pleasant Pkwy: 99th Ave to Jomax Rd	Widen to 4-lanes, paving, curb, gutter, medians and	3.50	2	4	Local	8,800,000	0	8,800,000
PEO00-601	Happy Valley Rd: 75th Ave to 91st Ave	Widen, paving, shoulder	2.00	0	2	Private	1,200,000	0	1,200,000
PEO02-811	Pinnacle Peak Rd: 75th Ave to 79th Ave	Paving, curb and gutter	.50	0	2	Private	275,000	0	275,000
PEO05-305	Dynamite Rd: El Mirage Rd to Agua Fria Blvd	Paving, curb, gutter, sidewalks, striped bike lanes, medians and landscaping.	1.00	0	4	Private	2,400,000	0	2,400,000
PEO05-306	El Mirage Rd: Agua Fria Blvd to Dynamite Rd	Paving, curb, gutter, sidewalks, striped bike lanes, medians and landscaping.	1.00	0	4	Private	2,030,000	0	2,030,000
PEO05-307	Lone Mountain Rd: El Mirage Rd to Agua Fria Blvd	Paving, curb, gutter, sidewalk, striped bike lane,	1.30	0	4	Local	4,800,000	0	4,800,000
PEO95-658	Twin Buttes Pkwy: Happy Valley Rd to SR-74	Paving, curb and gutter, sidewalk, landscape and bridge	7.00	0	4	Private	7,000,000	0	7,000,000
PEO96-024	Peak Pkwy: Stagecoach Pkwy to Lake Pleasant Blvd	Paving, curb and gutter, sidewalk, landscape and bike lane	2.00	0	4	Private	2,000,000	0	2,000,000
PEO96-674	Carefree Hwy: Agua Fria River to Twin Buttes Pkwy	Paving, curb and gutter, sidewalk, landscape and	3.00	0	4	Private	5,000,000	0	5,000,000
PEO97-004	Peak Pkwy: SR-74 to Stagecoach Pkwy	Paving, curb and gutter, sidewalk, landscape and bike lane	2.00	0	4	Private	2,200,000	0	2,200,000
PEO97-005	Vintage Rd: Stagecoach Pkwy to Peak Pkwy	Paving, curb and gutter, sidewalk, landscape and bike lane	1.75	0	4	Private	1,750,000	0	1,750,000
PEO97-006	Williams Rd: 91st Ave to Lake Pleasant Rd	Paving, curb and gutter, sidewalk and landscape	1.50	0	2	Private	1,500,000	0	1,500,000
PEO97-689	91st Ave: Villa Lindo to Happy Valley Rd	Widen, pave, overlay and shoulder	.25	2	4	Local	400,000	0	400,000

AGENCY: Peoria**FISCAL YEAR: 2005**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
PEO97-695	Lake Pleasant Rd: Jomax Rd to Dixileta Dr	Widen, pave, curb, gutter and median	2.00	2	4	Local	6,125,000	0	6,125,000
PEO97-697	Stagecoach Pkwy: SR-74 to Lake Pleasant Blvd	Paving, curb and gutter, sidewalk, landscape and bike lane	3.00	0	4	Private	6,000,000	0	6,000,000
PEO97-719	Pinnacle Vista Dr & 83rd Ave to Dynamite Blvd & 67th Ave	Paving, curb and gutter	2.00	0	2	Private	1,400,000	0	1,400,000
PEO98-004	Western Rd: Peak Pkwy to 163rd Ave	Paving, curb and gutter, sidewalk, landscape and bike	1.00	0	4	Private	1,100,000	0	1,100,000
PEO98-699	71st Ave: Grand Ave to Olive Ave	Paving, curb and gutter and sidewalk	.50	0	2	Private	250,000	0	250,000
PEO98-706	Lake Pleasant Rd: Dixileta Dr to Dove Valley Rd	Widen, pave, curb, gutter and median	2.00	2	4	Local	6,125,000	0	6,125,000
PEO99-716	71st Ave: Thunderbird Rd to Banff Ln	Widen, pave, curb, gutter, sidewalk and overlay	.60	2	4	Local	420,000	0	420,000
PEO99-733	99th Ave: Northern Ave to Olive Ave	Widen, pave, curb and gutter	1.00	2	4	Private	800,000	0	800,000
PEO99-734	Acoma Dr: 75th Ave to 81st Ave	Widen, pave, curb and gutter	.80	2	4	Private	400,000	0	400,000
PEO99-739	Deer Valley Rd: 95th Ave to Lake Pleasant Rd	Widen, pave, curb and gutter	1.00	0	2	Local	740,000	0	740,000
PEO99-741	Lake Pleasant Rd: Dove Valley Dr to Carefree Hwy	Widen, pave, curb, gutter and median	1.00	2	4	Local	3,500,000	0	3,500,000
PEO99-742	Mountain View Rd: 75th Ave to 79th Ave	Widen, pave, curb and gutter	.50	2	4	Private	290,000	0	290,000

FISCAL YEAR: 2006

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
PEO99-724	83rd Ave: Northern Ave to Olive Ave	Widen, pave, curb and gutter	1.00	2	4	Local	495,000	0	495,000
PEO06-308	Lake Pleasant Pkwy: Jomax Rd to Carefree Hwy	Widen to 4-lanes, paving, medians and landscaping	5.50	2	4	Local	12,000,000	0	12,000,000
PEO99-714	107th Ave: Union Hills Dr to Palm Tree Dr	Widen, pave, curb and gutter	.50	2	4	Local	160,000	0	160,000

FISCAL YEAR: 2007

AGENCY: Peoria

FISCAL YEAR: 2007

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
PEO03-201	Beardsley Rd: Agua Fria Fwy to 83rd Ave	Freeway ramp connection for Lake Pleasant Parkway to Loop 101	1.00	0	2	Local	6,200,000	0	6,200,000
PEO99-738	Lake Pleasant Blvd: SR-74 to Twin Buttes Pkwy	Paving, curb and gutter, sidewalk, landscape and bike	2.00	0	4	Private	2,000,000	0	2,000,000
PEO07-310	El Mirage Rd: Loop 303 to Agua Fria Blvd	Paving, curb, gutter, sidewalks, striped bike lanes, medians and landscaping.	2.80	0	2	Private	15,000,000	0	15,000,000
PEO07-311	Lone Mountain Rd: El Mirage Rd to Lake Pleasant Pkwy	Paving, curb, gutter, sidewalks, striped bike lanes, medians and landscape including bridge.	3.00	0	2	Private	18,900,000	0	18,900,000

AGENCY: Phoenix**FISCAL YEAR: 2004**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
PHX00-001	107th Ave: Campbell Ave to Camelback Rd	Add 1 southbound lane	.50	2	3	Private	350,000	0	350,000
PHX00-006	Camelback Rd: Agua Fria River to 107th Ave	Reconstruct to 74' cross section adding 2 new lanes	.80	2	4	Private	1,000,000	0	1,000,000
PHX03-303	Chandler Blvd: 27th Ave to 19th Ave	Construct 4 lane roadway to 74' cross section	1.00	0	4	Private	2,500,000	0	2,500,000
PHX03-334	27th Ave: Chandler Blvd to Pecos Rd	Construct new 2 lane roadway	.60	0	2	Private	700,000	0	700,000
PHX96-793	56th St: Pima Fwy to Pinnacle Peak Rd	Construct new 2 lane roadway	2.50	0	2	Private	1,000,000	0	1,000,000
PHX97-701	51st Ave: Happy Valley Rd to Jomax Rd	Construct new 4 lane roadway (64' cross section)	1.00	0	4	Private	2,400,000	0	2,400,000
PHX97-702	55th Ave: Happy Valley Rd to Jomax Rd	Construct new 4 lane roadway (64' cross section)	1.00	0	4	Private	2,400,000	0	2,400,000
PHX97-706	Happy Valley Rd: 63rd Ave to 51st Ave	Reconstruct to 94' cross section adding 1 new westbound lane	1.50	2	3	Private	1,800,000	0	1,800,000
PHX04-402	35th Ave: Happy Valley Rd to Jomax Rd	Construct new roadway to 50' cross section	1.00	0	2	Local	1,500,000	0	1,500,000
PHX04-403	Camelback Rd: 107th Ave to 99th Ave	Reconstruct to 64' cross section, adding 2 new lanes	1.00	2	4	Local	700,000	0	700,000
PHX04-404	North Valley Pkwy: Dixileta Dr to Sonoran Pkwy	Construct new two lane roadway	1.00	0	2	Local	1,200,000	0	1,200,000
PHX04-406	51st Ave: Southern Ave to Salt River	Reconstruct to 74' cross section adding 2 new lanes	.90	2	4	Local	2,250,000	0	2,250,000
PHX04-407	51st Ave: North of Dobbins Rd to Southern Ave	Reconstruct to 74' cross section adding 2 new lanes	1.80	2	4	Local	5,100,000	0	5,100,000
PHX03-020	Baseline Rd: 24th St to 32nd St	Reconstruct to 104' cross section adding 2 new lanes	1.00	4	6	Local	2,800,000	0	2,800,000
PHX03-913	Baseline Rd: 16th St to 24th St	Reconstruct to 104' cross section adding 2 new lanes	1.00	4	6	Local	2,800,000	0	2,800,000
PHX04-022	Baseline Rd: 32nd St to 40th St	Reconstruct to 104' cross section adding 2 new lanes	1.00	4	6	Local	2,800,000	0	2,800,000
PHX04-209	64th St at Pima Fwy	Construct new freeway interchange	.20	4	4	Local	3,393,000	0	3,393,000
PHX04-212	Tatum Blvd: Pinnacle Peak Rd to Happy Valley Rd	Reconstruct to 104' cross section adding 4 new lanes	1.00	2	6	Local	4,116,000	0	4,116,000

FISCAL YEAR: 2005

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
PHX03-019	83rd Ave: Van Buren St to Papago Fwy	Reconstruct to 74' cross section adding 2 new lanes	1.00	2	4	Local	2,500,000	0	2,500,000
PHX03-912	51st Ave: Lower Buckeye Rd to Buckeye Rd	Reconstruct to 74' cross section adding 2 new lanes	1.00	2	4	Local	2,600,000	0	2,600,000

AGENCY: Phoenix**FISCAL YEAR: 2005**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
PHX04-207	19th Ave: Deer Valley Rd to Pinnacle Peak Rd	Reconstruct to 74' cross section adding 2 new lanes	1.00	2	4	Local	3,980,000	0	3,980,000
PHX04-210	75th Ave: Buckeye Rd to Van Buren St	Reconstruct to 64' cross section adding 2 new lanes	1.00	2	4	Local	2,478,600	0	2,478,600
PHX05-114	Pinnacle Peak Rd: I-17 to 19th Ave	Reconstruct to 74' adding 2 new lanes	1.00	2	4	Local	3,300,000	0	3,300,000
PHX05-214	7th St: Pima Fwy to Deer Valley Rd	Reconstruct to 79' adding 4 new lanes	1.00	2	6	Local	3,328,000	0	3,328,000
PHX05-215	19th Ave: Pinnacle Peak Rd to Happy Valley Rd	Reconstruct to 74' cross section adding 2 new lanes	1.00	2	4	Local	3,343,600	0	3,343,600
PHX05-216	35th Ave: Deer Valley Rd to Pinnacle Peak Rd	Reconstruct to 74' adding 2 new lanes	1.00	2	4	Local	2,657,000	0	2,657,000

FISCAL YEAR: 2006

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
PHX04-024	McDowell Rd: 83rd Ave to 75th Ave	Reconstruct to 64' cross section adding 2 new lanes	1.00	2	4	Local	2,800,000	0	2,800,000
PHX04-109	51st Ave: Broadway Rd to Lower Buckeye Rd	Reconstruct to 74' cross section adding 2 new lanes	1.00	2	4	Local	2,600,000	0	2,600,000
PHX05-217	Deer Valley Rd: 7th St to Cave Creek Rd	Construct new 2 lane roadway	2.20	2	4	Local	9,477,000	0	9,477,000
PHX05-135	67th Ave: Buckeye Rd to Van Buren St	Reconstruct to 64' cross section adding 2 new lanes	1.00	2	4	Local	2,500,000	0	2,500,000
PHX06-222	35th Ave: Broadway Rd to Lower Buckeye Rd	Reconstruct to 64' cross section adding 2 new lanes	1.00	2	4	Local	1,800,000	0	1,800,000

FISCAL YEAR: 2007

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
PHX05-115	Van Buren St: 67th Ave to 59th Ave	Reconstruct to 64' cross section adding 2 new lanes	1.00	2	4	Local	3,500,000	0	3,500,000
PHX07-311	35th Ave: Southern Ave to Broadway Rd	Reconstruct to 64' cross section adding 2 new lanes	1.00	2	4	Local	2,700,000	0	2,700,000
PHX07-318	Pinnacle Peak Rd: 64th St to Scottsdale Rd	Reconstruct to 104' adding 4 new lanes	1.00	2	6	Local	3,500,000	0	3,500,000

AGENCY: Scottsdale**FISCAL YEAR: 2004**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
SCT04-403	Union Hills Dr: Scottsdale Rd to 74th St	Construct four new through lanes	.20	0	4	Local	3,400,000	0	3,400,000
SCT99-604	Union Hills Dr: 94th St to Thompson Peak Pkwy	Construct new 4 lane roadway	1.25	0	4	Private	2,400,000	0	2,400,000

FISCAL YEAR: 2005

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
SCT02-912	Cactus Rd: Pima Fwy to 96th St.	Reconstruct roadway, adding two through lanes from Loop 101 to 96th St.	1.00	2	4	Local	8,650,400	0	8,650,400
SCT97-606	Scottsdale Rd: Frank Lloyd Wright Blvd to Thompson Peak Parkway	Reconstruct roadway, adding two through lanes	2.80	4	6	Local	16,896,000	0	16,896,000
SCT04-009	Pima Rd: Pima Fwy to Thompson Peak Pkwy	Reconstruct roadway, adding two through lanes	2.50	4	6	Local	11,014,700	0	11,014,700

FISCAL YEAR: 2006

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
SCT03-008R	Scottsdale Rd: Thompson Peak to Pinnacle Peak Rd	Reconstruct roadway, adding two through lanes	1.50	4	6	Local	15,811,500	0	15,811,500
SCT04-114	Indian Bend Rd: Scottsdale Rd to Hayden Rd	Widen roadway, adding two through lanes	1.00	2	4	Local	11,205,000	0	11,205,000
SCT06-404	Bell Rd: 94th St to Thompson Peak Pkwy	Reconstruct roadway, adding two through lanes	1.00	2	4	Local	5,046,000	0	5,046,000

FISCAL YEAR: 2007

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
SCT00-603	Thompson Peak Pkwy: Bell Rd to Union Hills Dr	Construct new 4 lane roadway	1.20	0	4	Local	16,035,800	0	16,035,800
SCT03-007	Pinnacle Peak Rd: Scottsdale Rd to Pima Rd	Reconstruct roadway, adding two through lanes	2.00	2	4	Local	10,439,700	0	10,439,700
SCT04-118	Thunderbird Rd/Redfield Rd alignment: Scottsdale Rd	Widen roadway, adding two through lanes	1.20	2	4	Local	4,640,000	0	4,640,000

AGENCY: Surprise**FISCAL YEAR: 2004**

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
SUR01-101	Greenway Rd: Litchfield Rd to Bullard Ave	Construct new arterial with 2 lanes, curb, gutter, sidewalk, landscaping.	2.00	3	5	Private	425,000	0	425,000
SUR03-301	163rd Ave: Jomax Rd to 1/2 Mile south of Jomax Rd	Reconstruct arterial, adding 2 lanes, curb, sidewalk	.50	2	5	Private	500,000	0	500,000
SUR03-302	Avenue of the Arts: Bell Rd to 115th Ave; 115th Ave: Avenue of the Arts to Union Hills	Construct new 2 lane roadway, add two box culverts	.60	2	3	Private	250,000	0	250,000
SUR03-312	Jomax Rd: 163rd Ave to 1/3 Mile east of 163rd Ave	Construct new 3 lane roadway	.30	0	3	Private	150,000	0	150,000
SUR03-314	Litchfield Rd: Greenway Rd to Waddell Rd	Reconstruct arterial roadway, add curb, sidewalks and landscaping	1.00	2	5	Private	875,000	0	875,000
SUR03-317	Reems Rd: Hearn Rd to Waddell Rd	Reconstruct arterial, adding 1 lanes, curb, sidewalk and landscaping	.25	2	3	Private	175,000	0	175,000
SUR03-321	Waddell Rd:151 Ave. to Reems Rd.	Reconstruct arterial, adding 2 lanes, curb, sidewalk	1.00	2	3	Private	250,000	0	250,000
SUR03-323	Waddell Rd: Litchfield Rd to 135th Ave	Reconstruct arterial, adding 2 lanes, curb, gutter, sidewalks and landscaping	.50	2	3	Private	250,000	0	250,000
SUR04-401	Waddell Rd: Litchfield Rd to 143rd Ave	Reconstruct existing arterial roadway, curb, sidewalk, landscaping	.50	2	3	Private	250,000		250,000
SUR04-405	Bullard Ave: Cactus Rd to Peoria Ave.	Reconstruct arterial roadway, add curb, sidewalk and	1.00	2	5	Private	900,000		900,000
SUR04-407	Litchfield Rd: Peoria Ave north for 2100'	Reconstruct arterial roadway, add curb, sidewalk and lanscaping	.40	2	3	Private	200,000		200,000
SUR04-409	Waddell Rd: Reems Rd to Bullard Ave	reconstruct arterial roadway add curb, sidewalk, landscaping	1.00	3	5	Private	525,000		525,000
SUR04-411	Reems Rd: Waddell Rd to Cactus Rd	reconstruct arterial roadway add curb, sidewalk,	1.00	2	3	Private	525,000		525,000
SUR04-413	Reems Rd: Cactus Rd to Peoria Ave	Reconstruct arterial roadway, add curb, sidewalk and landscaping	1.00	3	5	Private	525,000		525,000

AGENCY: Tolleson

FISCAL YEAR: 2004

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
TOL03-902	91st Ave: I-10 to Buckeye Rd	Reconstruct and widen roadway, adding three lanes, curb and gutter on westside and tiling irrigation ditch on eastside	1.50	2	4	Local	5,000,000	0	5,000,000

FISCAL YEAR: 2005

ID#	Location	Type of Work	Miles	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Total Cost
TOL03-901	99th Ave: I-10 to Buckeye Rd	Reconstruct and widen roadway, adding one lane, curb, gutter and sidewalk on east side	2.00	5	6	Local	3,000,000	0	3,000,000

**REPORT: 04-07 Draft TIP
Reg Sig Transit Projects**

**DRAFT FY 2004-2007 MAG TIP - POTENTIALLY
REGIONALLY SIGNIFICANT TRANSIT PROJECTS**

**TABLE : DRAFT 04-07 TIP
TRANSIT 080603**

AGENCY: Gilbert

FISCAL YEAR: 2004

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
GLB04-204TR	60 (Superstition Fwy) at Val Vista Dr	Advance construct park-and-ride	.00	Local	2,397,334		2,397,334

AGENCY: Glendale

FISCAL YEAR: 2005

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
GLN04-208T	Loop 101 at Glendale Ave	Construct park and ride lot		STP-Flex	546,997	2,187,989	2,734,986

FISCAL YEAR: 2006

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
GLN02-002T	Regionwide	Construct park-and-ride (Downtown Glendale)		Local	2,000,000	0	2,000,000

AGENCY: Goodyear

FISCAL YEAR: 2007

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
GDY06-204T	10 at Litchfield Rd	Construct regional park-and-ride		STP-Flex	508,666	2,034,665	2,543,331

AGENCY: Mesa

FISCAL YEAR: 2005

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
MES05-103T	Regionwide	Purchase bus: standard - 21 expand		5309	1,142,400	5,577,600	6,720,000
MES05-104T	Regionwide	Purchase bus: standard - 4 expand		5307	217,600	1,062,400	1,280,000

FISCAL YEAR: 2006

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
MES06-210T	Regionwide	Purchase bus: standard - 10 expand		5307	544,000	2,656,000	3,200,000
MES06-213T	Regionwide	Purchase bus: standard - 15 expand		5309	1,020,000	4,980,000	6,000,000
MES06-207T	202 (Red Mtn Fwy) at Power Rd	Construct regional park-and-ride		STP-Flex	580,309	2,321,238	2,901,547

AGENCY: Phoenix

FISCAL YEAR: 2004

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
PHX01-902T	Phoenix	Construct West Valley operations facility		Local	33,480,000	0	33,480,000

FISCAL YEAR: 2006

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
PHX05-132T	Regionwide	Purchase bus: standard - 8 expand		5307	435,200	2,124,800	2,560,000

AGENCY: Scottsdale

FISCAL YEAR: 2004

AGENCY: Scottsdale**FISCAL YEAR: 2004**

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
SCT01-903T	Scottsdale	Construct transit center - Mustang		Local	4,250,000	0	4,250,000

FISCAL YEAR: 2005

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
SCT05-110T	Regionwide	Purchase bus: standard - 5 expand		5307	272,000	1,328,000	1,600,000
SCT05-204T	101 (Pima Fwy) in Scottsdale	Construct regional park-and-ride		5307	563,407	2,253,629	2,817,036

AGENCY: Tempe**FISCAL YEAR: 2005**

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
TMP05-204T	101 (Price Fwy) in Tempe	Construct regional park-and-ride		CMAQ-Flex	563,407	2,253,629	2,817,036

AGENCY: VM Rail**FISCAL YEAR: 2004**

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
VMR04-401T	Various locations	Fixed guideway corridor - construction		5309	244,677,777	61,027,851	305,705,628
VMR04-405T	Various locations	Fixed guideway corridor - construction		Local	124,103,270	0	124,103,270

FISCAL YEAR: 2005

AGENCY: VM Rail**FISCAL YEAR: 2005**

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
VMR05-414T	Various locations	Fixed guideway corridor - construction		5309	58,478,100	60,363,826	118,841,926

AGENCY: Valley Metro**FISCAL YEAR: 2004**

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
RPT03-909T	Regionwide	Purchase bus: < 30 foot - 1 expand (Sun City area transit)		5307	13,000	52,000	65,000

FISCAL YEAR: 2006

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
RPT01-906T	Regionwide	Construct regional maintenance facility		5309	6,016,000	24,064,000	30,080,000

FISCAL YEAR: 2007

ID#	Location	Type of Work	Miles	Fund Type	Local Cost	Federal Cost	Total Cost
RPT07-319T	Regionwide	Construct regional heavy-maintenance facility		5307	616,250	1,848,750	2,465,000
RPT07-320T	Regionwide	Construct regional heavy-maintenance facility		STP-Flex	841,250	2,523,750	3,365,000

MARICOPA ASSOCIATION OF GOVERNMENTS

INFORMATION SUMMARY... for your review

DATE:

September 2, 2003

SUBJECT:

Conformity Consultation

SUMMARY:

A proposed amendment to the FY 2003-2007 Transportation Improvement Program involves the addition of two new projects. The Arizona Department of Transportation has been notified that the region has been awarded \$2,980,500 in federal Intelligent Transportation System (ITS) funding to develop connectivity and interoperability with the AzTech ITS system. The amendment also includes the addition of a City of Mesa transportation enhancement project for the design and construction of pedestrian pathways, furniture, and other amenities in the Downtown Mesa area. The amendment involves new projects that are exempt from conformity determinations. A description of the projects is provided in the attached interagency consultation memorandum.

PUBLIC INPUT:

Copies of the conformity assessment have been distributed for consultation to the Federal Highway Administration, Federal Transit Administration, Arizona Department of Environmental Quality, Arizona Department of Transportation, Regional Public Transportation Authority, Maricopa County Environmental Services Department, U.S. Environmental Protection Agency, and other interested parties including members of the public. Comments on the conformity assessment are due by September 19, 2003.

PROS & CONS:

PROS: Interagency consultation for the amendment notifies the planning agencies of project modifications to the TIP.

CONS: The review of conformity assessment requires additional time in the project approval process.

TECHNICAL & POLICY IMPLICATIONS:

TECHNICAL: The amendment may not be considered until the consultation process for the conformity assessment is completed.

POLICY: Federal transportation conformity regulations require interagency consultation on development of the transportation plan, TIP, and associated conformity determinations to include a process involving the Metropolitan Planning Organization, State and local air quality planning agencies, State and local transportation agencies, Environmental Protection Agency, Federal Highway Administration, and the Federal Transit Administration. Consultation on the conformity assessment has been prepared in accordance with MAG Conformity Consultation Processes adopted by the Regional Council in February 1996, and with MAG Transportation Conformity Guidance and

Procedures adopted by the Regional Council in March 1996. In addition, federal guidance is followed in response to court rulings regarding transportation conformity.

ACTION NEEDED:

For consultation.

PRIOR COMMITTEE ACTIONS:

None.

CONTACT PERSON:

Dean Giles, MAG, (602) 254-6300.

September 2, 2003

TO: Leslie Rogers, Federal Transit Administration
Robert Hollis, Federal Highway Administration
Victor Mendez, Arizona Department of Transportation
Stephen Owens, Arizona Department of Environmental Quality
Ken Driggs, Regional Public Transportation Authority/ Valley Metro
Al Brown, Maricopa County Environmental Services Department
Colleen McKaughan, U.S. Environmental Protection Agency, Region IX
Other Interested Parties

FROM: Dean Giles, Air Quality Planning Program Manager

SUBJECT: CONSULTATION ON A CONFORMITY ASSESSMENT FOR A PROPOSED
AMENDMENT TO THE FY 2003-2007 MAG TRANSPORTATION
IMPROVEMENT PROGRAM

A proposed amendment to the FY 2003-2007 Transportation Improvement Program involves the addition of two new projects. The Arizona Department of Transportation has been notified that the region has been awarded \$2,980,500 in federal Intelligent Transportation System (ITS) funding to develop connectivity and interoperability with the AzTech ITS system. The amendment also includes the addition of a City of Mesa transportation enhancement project for the design and construction of pedestrian pathways, furniture, and other amenities in the Downtown Mesa area. The proposed amendment, as well as the consultation on the corresponding conformity assessment, are on the agenda for the September 10, 2003 meeting of the MAG Management Committee and the September 24, 2003 meeting of the MAG Regional Council. Comments on the conformity assessment are requested by September 19, 2003.

MAG has reviewed the projects for compliance with the federal conformity rule and has found that the amendment requires consultation on the conformity assessment. The amendment includes new projects that may be categorized as exempt. The current conformity finding of the TIP and the associated Long Range Transportation Plan 2002 Update that was made jointly by the Federal Highway Administration and Federal Transit Administration in a letter dated August 5, 2002, remains unchanged by this action. The conformity assessment is being transmitted for consultation to the agencies and other interested parties listed above. If you have any questions or comments, please contact me at (602) 254-6300.

cc: Nancy Wrona, Arizona Department of Environmental Quality

ATTACHMENT

CONFORMITY ASSESSMENT FOR A PROPOSED AMENDMENT TO THE FY 2003-2007 MAG TRANSPORTATION IMPROVEMENT PROGRAM

The federal transportation conformity rule requires consultation when making modifications to the TIP and Long Range Transportation Plan. In addition, the consultation processes are contained in the Arizona Conformity Rule. This information is provided for consultation as outlined in the MAG Conformity Consultation Processes document adopted by the MAG Regional Council on February 28, 1996.

The amendment includes new projects which may be categorized as exempt. Types of projects considered exempt are defined in the federal transportation conformity rule. A conformity determination is not required for exempt projects. The federal transportation conformity regulations indicate that traffic signal synchronization projects may be approved, funded, and implemented prior to determining conformity, but that projects of this type are to be included in the conformity determinations of subsequent regional emissions analyses.

The projects included in the proposed amendment to the FY 2003-2007 MAG Transportation Improvement Program are addressed below. The project number (if available), the agency, and description is provided followed by the conformity assessment.

New Projects

DOT03-361, - ADOT. The federal ITS funding of \$2,980,500 will allow regionwide connectivity and interoperability with the AzTech ITS system. This project may be categorized as a "traffic signal synchronization project" which is exempt from conformity determinations; however, projects of this type are to be included in the conformity determinations of subsequent regional emissions analyses. The conformity status of the TIP and LRTP would be unchanged by this project.

MES01-003, - Mesa. This transportation enhancement project is for design and construction of pedestrian pathways, furniture, and other amenities in the Downtown area. The total project cost is estimated at \$515,611, with \$481,503 in federal funds. This project may be categorized as a "transportation enhancement activity" which is exempt from conformity determinations. The conformity status of the TIP and LRTP would be unchanged by this project.

MAG has reviewed the projects for compliance with the federal conformity rule and found that the new projects require consultation on the conformity assessment. The projects are not expected to create adverse emission impacts or interfere with Transportation Control Measure implementation. The results of the 2002 Conformity Analysis for the TIP and Long Range Transportation Plan 2002 Update would be unchanged by this action.

MARICOPA ASSOCIATION OF GOVERNMENTS

INFORMATION SUMMARY... for your review

DATE:

September 2, 2003

SUBJECT:

Draft MAG 208 Water Quality Management Plan Amendment for the Town of Buckeye Tartesso West Water Reclamation Facility

SUMMARY:

The Town of Buckeye has requested that MAG amend the 208 Water Quality Management Plan to include the Tartesso West Water Reclamation Facility with an ultimate capacity of 18 million gallons per day. Reclaimed water from the facility would be disposed through reuse, recharge and an Arizona Pollutant Discharge Elimination System discharge. The Maricopa County unincorporated area is within three miles of the project, and the County has indicated they do not object to the proposed facility.

On June 5, 2003, the MAG Water Quality Advisory Committee authorized a public hearing on the draft amendment and attached three provisos including: that Buckeye meet with Goodyear to resolve Goodyear's concerns on the project, that resolution be presented to the Committee at the hearing, and that a Tartesso hydrologic report be developed. The City of Goodyear requested further evaluation of any potential Tartesso Facility impact to groundwater or wells included in the West Maricopa Combine Pipeline, a private project which would provide drinking water to the West Valley. At the July 28, 2003 public hearing, the Town of Buckeye and the City of Goodyear indicated that the provisos from the Water Quality Advisory Committee had been addressed.

PUBLIC INPUT:

On July 28, 2003, a public hearing was conducted on the Draft Tartesso Amendment. A Buckeye elected official indicated that the Tartesso Facility went through Buckeye's review process without opposition and requested that the City of Goodyear and the West Maricopa Combine clarify their concern. Tartesso would not impact the Pipeline, is far from proposed wells, and would introduce better quality water. He questioned whether the Committee has jurisdiction to examine the Tartesso - Combine Pipeline link.

The Buckeye Town Manager indicated that Buckeye supports the Tartesso Facility. The Town of Buckeye has a Sun Valley water agreement, considerable planning has been conducted, many area facilities were approved without objection, and the Tartesso Facility would not negatively impact groundwater or existing or planned wells.

A hydrologist for Tartesso indicated that Goodyear and Buckeye met to resolve concerns, and the Tartesso Hydrogeologic Report had been prepared. He indicated that Buckeye, Goodyear, and the Combine had reviewed the report and a recovery well impact analysis and reached consensus in terms of no negative Tartesso impact on Combine recovery wells. A hydrologic model showed

no negative Tartesso impact to existing recovery wells, the mound rise would be a positive, and Tartesso would reduce the high Total Dissolved Solids impact of water flowing into recovery wells.

A representative from the Town of Buckeye staff indicated that State agencies have regulatory requirements and controls on the quality of water introduced into the aquifer, the Tartesso Facility would produce Class A+ water with lower Total Dissolved Solids than the Combine water, and Tartesso would help prevent the Combine project from drawing in existing high Total Dissolved Solids water from south.

An attorney representing Tartesso indicated that effluent ponds and percolation may affect the Combine Pipeline. Combine may not have an agreement with a city but wants to recharge Central Arizona Project water into the Hassayampa River, then withdraw water at a different point to send to other cities. Combine could be concerned that effluent could mix with groundwater and affect recovery. The Tartesso hydrologist has assured him that there would be no negative impact. He then commented that Combine could present concerns to the Arizona Department of Environmental Quality (ADEQ) during their permitting process.

A hydrologist representing the West Maricopa Combine and its potential users, which believe Tartesso will be a good project, commented that Combine wants to ensure that Tartesso does not present future water quality problems. Combine and the Tartesso hydrologist developed a list of issues with possible solutions, including a request for Tartesso Total Organic Carbons to create an increase of less than one milligram per liter, a facility Nitrogen limitation, and consideration that endocrine disruptors may be a future problem. Combine raised concerns during the 208 process to ensure ADEQ facility review through their permitting process.

A representative from West Maricopa Combine indicated that they do not oppose the Tartesso Facility. They want safeguards built in to protect groundwater and wells. There are an existing 150 homes in the area which no one has brought up and these residents are very real. The Combine's recharge project is on its way, a siphon sheet has already been built, Combine has a Goodyear letter of intent, and all that is left is an actual contract. Combine wants to be reasonable and requests that Tartesso consider additional monitoring to ensure future safety.

PROS & CONS:

PROS: Approval of the 208 Plan Amendment for the Town of Buckeye Facility would make the facility consistent with the MAG 208 Plan. The MAG 208 Water Quality Management Plan is the key guiding document used by Maricopa County and the Arizona Department of Environmental Quality in granting permits for wastewater treatment systems in the MAG region.

CONS: Currently, initial concerns and issues appear to have been resolved. There do not appear to be any negative impacts associated with the approval of the 208 Plan Amendment for the Town of Buckeye.

TECHNICAL & POLICY IMPLICATIONS:

TECHNICAL: The proposed Tartesso West facility is needed to accommodate growth in the Buckeye Wastewater Planning Area.

POLICY: The MAG 208 Water Quality Management Plan is the key guiding document used by Maricopa County and the Arizona Department of Environmental Quality in granting permits for wastewater treatment systems in the MAG region. Approval of the facility would enable the facility to be deemed consistent with the MAG 208 Plan. Consistency is necessary for permit approvals.

ACTION NEEDED:

Recommend approval of the Draft MAG 208 Water Quality Management Plan Amendment for the Town of Buckeye Tartesso West Water Reclamation Facility.

PRIOR COMMITTEE ACTIONS:

Water Quality Advisory Committee: On July 28, 2003, the MAG Water Quality Advisory Committee conducted a public hearing on the Draft 208 Amendment for the Town of Buckeye Tartesso West Water Reclamation Facility. Immediately following the hearing, the Committee considered public comments received and unanimously recommended approval of the Draft 208 Plan Amendment to the MAG Management Committee.

MEMBERS ATTENDING

Roger Klingler, Scottsdale, Chairman
*Avondale: Esmeralda Avila
#Chandler: Jacqueline Strong
*Gilbert: Lonnie Frost
Glendale: Chris Ochs
#Goodyear: Joel Wade
#Mesa: Bill Haney
Peoria: William Mattingly for
Steven Bontrager

*Phoenix: Robert Hollander
Surprise: Rich Williams
*Tempe: David McNeil
Maricopa County: Dale Bodiya for
John Power
*Pinnacle West Capital: John Boyer
*Salt River Project: Ray Hedrick
U of A Cooperative Extension:
Patrick Clay
Citizen Representative: Eugene Jensen

*Those members neither present nor represented by proxy.
#Attended by videoconference or by telephone conference call.

CONTACT PERSON:

Brenda Geisen, MAG, 602-254-6300

MARICOPA ASSOCIATION OF GOVERNMENTS

INFORMATION SUMMARY... for your review

DATE:

September 2, 2003

SUBJECT:

2005 Population Options

SUMMARY:

In October 2002, the MAG Management Committee established a Subcommittee on 2005 Population Options to explore more cost-effective alternatives to a Special Census for deriving a 2005 population figure for distributing state-shared revenues to cities and towns. To create the opportunity to use other options, state law needed to be changed to allow for methods other than a Special Census. This year State law was amended to allow for the use of a Census Survey, or a July 1, 2005 Arizona Department of Economic Security Population estimate instead of a Special Census for distributing almost \$1 billion in state-shared revenue annually. After extensive deliberations during ten meetings held over a 10-month period, the MAG Management Subcommittee on 2005 Population Options has recommended that MAG conduct a Census Survey, with a confidence interval of 95 percent plus/minus 2 percent, at a cost of \$9.4 million. Jurisdictions that wish to conduct a survey with the higher confidence interval – 95 percent plus/minus 1 percent, would be able to do so if they agreed to incur any additional local costs associated with the larger sample size (see attached table).

The Federal Highway Administration (FHWA) has agreed to allow MAG to use FHWA Surface Transportation Program (STP) funds to cover half the cost of the survey because of the data benefits offered by the survey, if all MAG member agencies agree to participate. The remaining \$4.7 million in survey costs would be allocated among MAG member agencies in accordance with the attached table. The costs for jurisdictions that wish to conduct a survey using the higher 1 percent confidence interval are also shown in the table. The proposed Census Survey would be conducted in September 2005, and MAG would need to enter into an agreement with the Census Bureau by March 2004 to pursue this option. MAG member agencies would be billed for their share of the costs of the survey at the beginning of Fiscal Year 2006 (July 2005).

The efforts of the Subcommittee could not have been accomplished without the support and guidance of Census Bureau personnel in the Denver Regional Office and at Headquarters in Maryland.

PUBLIC INPUT:

A citizen encouraged efforts to ensure he is counted in the Special Census.

PROS & CONS:

PROS: With about \$1 billion in state-shared revenue distributed annually, the rapid growth in the metropolitan area and the financial condition of member agencies, it is crucial to have a cost-effective method for deriving a 2005 population figure for distributing state-shared revenue.

CONS: Pursuing a Census Survey is less expensive than a Special Census but is subject to sampling error.

TECHNICAL & POLICY IMPLICATIONS:

TECHNICAL: The logistics of carrying out a Census Survey for the region will be demanding, but will carry certain benefits of economies of scale and regional promotional activities to achieve participation and staffing.

POLICY: The 2005 population counts will be used to distribute more than \$1 billion annually in state-shared revenues between 2005 and 2010. The ability to use Federal Highway Administration funds to defray a portion of the cost of a Special Census or survey will require that the entire region pursue the Census Survey option.

ACTION NEEDED:

Information and discussion.

PRIOR COMMITTEE ACTIONS:

MAG Management Subcommittee on 2005 Population Options: On July 11, 2003, the MAG Management Subcommittee on 2005 Population Options recommended that MAG conduct a Census Survey for 2005 figures for distributing state shared revenue; and that the costs of the survey be allocated in accordance with the cost allocation table. MAG members that wish to conduct a survey with a higher confidence interval – 95 percent plus/minus 1 percent – would be able to do so if they agreed to incur the additional local costs associated with the larger sample size as shown in the attached table. The subcommittee unanimously agreed that there is a benefit to collecting regional information and updating Census data, but disagreement on the cost-allocation formula. The motion was recommended with one voting no (*italics*).

MEMBERS ATTENDING

George Pettit, Gilbert, Chairman
Charlie McClendon, Avondale
Prisila Ferreira, Peoria

Norris Nordvold, Phoenix
Jim Huling, Mesa
*Patrick Flynn, Tempe

*Those members not present.

Management Committee: On October 14, 2002, the Management Committee approved establishment of a Subcommittee on 2005 population options to explore alternatives to deriving a 2005 population figure for distributing stated shared revenue.

MEMBERS ATTENDING

Peoria: Terry Ellis, Chairman
Mesa: Mike Hutchinson, Vice Chair
Apache Junction: Pat Brenner for
George Hoffman
Avondale: Kristin Greene Skabo for
Todd Hileman
* Buckeye: Joe Blanton
Carefree: Jon Pearson
Cave Creek: Usama Abujbarah
Chandler: Patrice Kraus for Donna Dreska
El Mirage: Stuart Brackney
* Fountain Hills: Tim Pickering
Gila Bend: Shane Dille
* Gila River Indian Community: Urban Giff
Gilbert: Tami Ryall for George Pettit
Glendale: Ed Beasley
Goodyear: Stephen Cleveland

Guadalupe: Tom Morales
Litchfield Park: Horatio Skeete
Paradise Valley: Tom Martinsen
Phoenix: Norris Nordvold for Frank Fairbanks
Queen Creek: Cynthia Seelhammer
*Salt River Pima-Maricopa Indian Community:
Bryan Meyers
Scottsdale: Steve Olson for Jan Dolan
Surprise: Bill Pupo
Tempe: Amber Wakeman for Will Manley
Tolleson: Reyes Medrano for Ralph Velez
*Wickenburg: Jerry Stricklin
Youngtown: Mark Fooks
ADOT: Dale Buskirk for Victor Mendez
Maricopa County: Mike Sabatini for
David Smith
RPTA: Ken Driggs

*Those members not present.

Participated by videoconference or telephone conference call.

Regional Council: On April 24, 2002, the Regional Council approved reserving at least \$6 million of MAG federal funds over a four year period (\$1.5 million per year) to keep our options open regarding taking a 2005 Special Census or using an estimate and to forward an assessment schedule to the MAG member agencies reflecting \$24 million over a four year period. The motion was approved, with one voting no (*italics*).

MEMBERS ATTENDING

Peoria: Mayor John Keegan, Vice Chair
Avondale: Mayor Ron Drake
* Buckeye: Mayor Dusty Hull
* Carefree: Mayor Edward C. Morgan
* Cave Creek: Vice Mayor Ralph Mozilo
* Chandler: Mayor Jay Tibshraeny
El Mirage: Mayor Roy Delgado
* Fountain Hills: Mayor Sharon Morgan
* Gila Bend: Mayor Chuck Turner
* Gila River Indian Community: Governor Donald Antone
Gilbert: Mayor Steven Berman
Glendale: Mayor Elaine Scruggs
Goodyear: Mayor Bill Arnold
* Guadalupe: Mayor Margarita Cota
* Litchfield Park: Mayor J. Woodfin Thomas
Maricopa County: Supervisor Max W. Wilson for Supervisor Don Stapley

* Mesa: Mayor Keno Hawker
Paradise Valley: Mayor Edward Lowry
Phoenix: Councilmember Peggy Bilsten for Mayor Skip Rimsza
Queen Creek: Mayor Wendy Feldman-Kerr
* Salt River Pima-Maricopa Indian Community: President Ivan Makil
* Scottsdale: Mayor Mary Manross
Surprise: Mayor Joan Shafer
* Tempe: Mayor Neil Giuliano
* Tolleson: Mayor Adolfo Gamez
Wickenburg: Mayor Lon McDermott
Youngtown: Councilmember Lucille Retherford for Mayor Daphne Green
ADOT: Joe Lane
ADOT: Dallas Gant
Citizens Transportation Oversight Committee: F. Rockne Arnett

*Those members not present.

Participated by videoconference or telephone conference call.

Management Committee: On April 10, 2002, the Management Committee recommended reserving at least \$6 million of MAG federal funds over a four year period (\$1.5 million per year) to keep our options open regarding taking a 2005 Special Census or to develop an estimate and to forward an assessment schedule to the MAG member agencies reflecting \$24 million over a four year period. The motion was recommended, with one abstention (shaded).

MEMBERS ATTENDING

Wickenburg: Fred Carpenter, Chairman
Avondale: Kristin Greene for Scott Schrader
* Buckeye: Joe Blanton
* Carefree: Jon Pearson
* Cave Creek: Usama Abujbarah
Chandler, Donna Dreska
El Mirage: Stuart Brackney
* Fountain Hills: Paul Nordin
Gila Bend: Shane Dille
* Gila River Indian Community: Urban Giff
Gilbert: George Pettit
Glendale: Tim Ernster for Ed Beasley
Goodyear: Stephen Cleveland
* Guadalupe: Tom Morales
* Litchfield Park: Horatio Skeete

Mesa: Mike Hutchinson
Paradise Valley: Tom Martinsen
Peoria: Terry Ellis
Phoenix: Frank Fairbanks
Queen Creek: Cynthia Seelhammer
Salt River Pima-Maricopa Indian Community: Jacob Moore for Bryan Meyers
Scottsdale: Peggy Carpenter for Jan Dolan
Surprise: Bill Pupo
Tempe: Will Manley
Tolleson: Ralph Velez
*Youngtown: Mark Fooks
ADOT: Mary Lynn Tischer for Victor Mendez
Maricopa County: Tom Buick for David Smith
RPTA: Ken Driggs

*Those members not present.

Participated by videoconference or telephone conference call.

CONTACT PERSON:

George Pettit, Gilbert, (480) 503-6864
Harry Wolfe, MAG, (602) 254-6300

MAG MANAGEMENT SUBCOMMITTEE ON 2005 POPULATION OPTIONS

Member	Agency
George Pettit, Chair, Manager	Gilbert
Prisila Ferreira, Vice Chair, Deputy City Manager	Peoria
Charlie McClendon, Assistant City Manager	Avondale
Jim Huling, Assistant to the City Manager	Mesa
Norris Nordvold, Intergovernmental Programs Director	Phoenix
Patrick Flynn, Assistant City Manager	Tempe

September 2, 2003

TO: Members of the MAG Management Committee

FROM: George A. Pettit, Chair
Management Subcommittee on 2005 Population Options

SUBJECT: RECOMMENDATION ON 2005 POPULATION OPTIONS FOR
DISTRIBUTING STATE SHARED REVENUES

Almost \$1 billion in state-shared revenues is distributed annually to local governments throughout Arizona using population as one part of the distribution formula. This includes state shared income tax, sales tax, gasoline tax, and vehicle license tax. Lottery funds are distributed based on annual population estimates prepared by DES and approved by the Economic Estimates Commission. State law provides for the population to be changed on all other distributions using only the Decennial Census, or a mid-decade Special Census. A 1994 amendment which allowed for use of a Census survey lapsed in June, 2001.

Because of the rapid growth of the MAG Region, member agencies opted in 1985, and again in 1995 to conduct a Special Census to provide updated population data for the state-shared revenue formulas. The cost of a Decennial Census is paid by the federal government, while the costs of a Special Census must be paid by the contracting local governments. In 1985 the cost of the Special Census to MAG member agencies was approximately \$3.5 million. The 1995 Special Census cost approximately \$9 million, with half paid by Federal Highway (FHWA) Surface Transportation Program (STP) funds. FHWA approved use of the funds to provide updated data to use for transportation modeling efforts in the rapidly growing urban area. Initial estimates secured by MAG staff from the Office of Special Census for a 2005 Special Census was \$30 million, based upon an estimated 3.6 million persons to be counted in the region. It was estimated that a maximum of \$6 million in FHWA funds could be available, making the net costs to member agencies \$24 million for a Special Census.

While growth in the urban area continues to be explosive, the characteristics of that growth are changing, and the effects of population formulas upon member agencies distributions is different. There is a likelihood that larger communities that are continuing to grow will actually receive less in state shared revenue as surrounding communities grow faster. Additionally, the financial condition of several communities as a result of decline in state-shared income tax receipts created financial concerns on paying for a Special Census.

Legislative Remedies

A priority for the Subcommittee was securing changes in State Law which would allow for the use of methods other than a Special Census to change the distribution formulas. The 2003 Legislative session approved an amendment to State Law which would allow for use of the following options:

- Census Survey
- Arizona Department of Economic Security population estimate
- Special Census
- Retaining 2000 Census population estimates

Analysis of Options

Over the past ten months, the Subcommittee met to discuss and evaluate the options to a Special Census. Each option afforded by the legislative change is presented below.

Census Survey

A Census Survey is a statistical sampling of the households in a community sufficient to secure enough data to statistically derive the total population.

The Census Bureau has indicated the cost of a Survey with a 95 percent confidence interval, plus or minus 2 percent would be \$9.4 million, assuming a 50 percent mail response rate. If the response rate is lower, then additional costs for enumerators to make follow up visits to secure the information will be added. If the response rate is higher, then the costs could decrease. The cost of a 95 percent confidence interval plus or minus 1 percent approaches \$20 million.

An extensive amount of time was spent examining the proper accuracy level to use for the Survey. The Subcommittee worked with the Census Bureau and examined two options, a 95 percent confidence interval, plus or minus 2 percent and a 95 percent confidence interval, plus or minus 1 percent. The Subcommittee recommendation is to use the 95 percent, plus or minus 2 percent Survey.

One of the major underlying concerns of the Subcommittee was accuracy and completeness of a Survey. As a by-product of that concern, Group Quarters (dormitories, prisons, nursing homes, and the homeless) are recommended to receive a special census, rather than Survey. This cost is included in the \$9.4 million estimated cost.

The Census Survey represents a cost effective approach to secure updated population information and characteristics for the region.

DES Estimate

The Subcommittee recognized that the DES Estimate approach would cost the least. However, the Estimate uses completed housing units as a source of estimating population, as well as Census 2000 base data, and does not provide any updated information on the characteristics of the community such as vacancy rates and household size which will be collected by the Survey and be of value in transportation and community planning for the next five years until another Decennial Census in 2010.

Special Census

The Subcommittee determined that the cost/benefit of conducting a Regional Special Census was not realistic or affordable. The \$30 million estimated cost is prohibitive when viewed in terms of the the overall ability to pay given the information received. A Special Census involves having a Census enumerator visit each household in Maricopa County. The logistical concerns over recruiting sufficient staff to conduct a door to door census was also of concern.

Retaining 2000 Population

There was little discussion on this option, since most communities in the region are continuing to grow. However, we recognize the value to communities who might experience population decline in the rest of the State.

The Subcommittee unanimously recommended the use of a Census Survey to secure a mid-decade census count for the Region.

Cost Distribution Formula

The costs of the previous Special Census was distributed on a per capita basis, since there was a relationship between the costs of collecting the information based upon the number of persons being counted.

However, as the Committee reviewed the technical sampling and relative costs of a survey to collect information to achieve the statistical accuracy, a discussion on the cost distribution formula resulted. In some cases, the number of housing units required to sample smaller communities approached or exceeded the cost of a Special Census, while statistical accuracy sampling was less costly in larger communities.

The final compromise formula recommended by the Subcommittee uses a blending of allocating costs on per capita basis for communities with less than 6,000 population and a projected growth rate of less than 3.5 percent with housing unit sample size for all other communities. In no case can the costs of the 95 percent confidence interval, plus or minus 2 percent survey exceed the cost of a Special Census.

The Subcommittee further recommended that a community can choose to pay the additional costs associated with an improved accuracy level to plus or minus 1 percent, at their own choice. This recommendation assumes that all member agencies will agree to participate and fund the costs. There are additional costs associated with promotion and local efforts to assure that the return rate of the surveys is achieved.

The Subcommittee had one dissenting opinion on the cost allocation formula. The preference was to stay with per capita costs.

Timing

The Office of Special Census has indicated that MAG needs to enter into an Agreement for a Census Survey by March, 2004. All member agencies would have to agree to participate in the Survey, which will also allow for half the cost of the Survey to be covered by FHWA funds.

The Survey would be conducted in September, 2005. The change in population distribution would be effective July, 2006 for the 2006-07 Fiscal Year.

The Subcommittee recommendation is for information and discussion in September, 2004, with action planned for October, 2004. If recommended, MAG would use the FHWA funds to cover the initial costs of the Survey, and then invoice member agencies for their share of the projected costs. The final costs would be allocated in accordance with the recommended formula and actual population derived.

Acknowledgments

I want to express my appreciation to the personnel in the Census Bureau's Denver Regional Office and at Census Bureau Headquarters in Maryland who participated in our subcommittee meetings via teleconference, and provided valuable information and counsel to the subcommittee.

Additionally, Harry Wolfe, Rita Walton and others on the MAG staff provided timely information, explanations of the data and support to the subcommittee.

Finally, I appreciate the presence and participation of Norris Nordvold, Jim Huling, Patrick Flynn, Charlie McClendon and Prisila Ferriera in the meetings, deliberations and recommendations of the Subcommittee.

I can be reached at (480) 503-6864 if you have any questions or require additional information, or you can contact Harry Wolfe at (602) 254-6300.

**Comparison of
Net Survey Cost at 95% Confidence Interval +/- 2%,
Net Survey Cost at 95% Confidence Interval +/- 1%
and
Net Special Census Cost**

Jurisdiction	Net survey cost (after FHWA contribution)*		Net 2005 Special Census cost based on share of 2005 population (after FHWA contribution)*
	95% +/- 2%	95% +/- 1%	
Avondale	\$138,800	\$430,500	\$469,800
Buckeye	\$128,100	\$128,300	\$128,300
Carefree	\$4,500	\$12,600	\$23,000
Cave Creek	\$5,800	\$16,200	\$29,500
Chandler	\$213,400	\$717,900	\$1,464,800
El Mirage	\$136,000	\$136,000	\$136,000
Fountain Hills	\$157,600	\$158,200	\$158,200
Gila Bend	\$2,700	\$7,500	\$13,600
Gilbert	\$146,700	\$535,600	\$1,165,800
Glendale	\$215,400	\$731,500	\$1,578,400
Goodyear	\$140,800	\$288,600	\$288,600
Guadalupe	\$7,000	\$19,700	\$35,900
Litchfield Park	\$5,000	\$14,100	\$25,600
Mesa	\$628,400	\$1,298,900	\$3,128,300
Paradise Valley	\$96,600	\$96,600	\$96,600
Peoria	\$205,200	\$684,500	\$970,900
Phoenix	\$1,260,900	\$4,437,200	\$9,397,600
Queen Creek	\$54,800	\$54,800	\$54,800
Scottsdale	\$272,500	\$988,400	\$1,519,500
Surprise	\$277,600	\$512,700	\$512,700
Tempe	\$206,300	\$712,300	\$1,053,300
Tolleson	\$6,600	\$18,600	\$33,900
Wickenburg	\$40,400	\$40,400	\$40,400
Youngtown	\$24,600	\$24,600	\$24,600
Balance of County	\$324,300	\$1,134,200	\$1,650,000
Total	\$4,700,000	\$13,199,900	\$24,000,000

Notes:

Balance of County = Unincorporated areas, Gila River Indian Community and Salt River Pima-Maricopa Indian Community

Unless all member agencies decide to go for a Census Survey or all member agencies decide to go for a Special Census, FHWA funds will not be available