

# 2009 Planning Certification Review



November 3-5, 2009



**MARICOPA  
ASSOCIATION of  
GOVERNMENTS**

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## OVERALL WORK PROGRAM AND SELF CERTIFICATION

### OVERALL WORK PROGRAM

**Question: 1. How are activities in the OWP, specifically activities funded by FTA/FHWA, developed, selected, and prioritized? Moreover, how does the OWP provide a strategic view and a strategic direction for metropolitan area planning activities?**

**Response:** Activity Development: Planning for the MAG Unified Planning Work Program (UPWP) and Annual Budget is a continuous, collaborative process on the key issues facing the region. In developing the UPWP, MAG is inclusive in its development by taking into account input from the public, Metropolitan Planning Organization (MPO) member agencies and local governments, and other transportation agencies in the region, which include local transit agencies and the state.

The development of the UPWP begins with input from the MAG staff and drafting potential studies or work elements by MAG and its participating agencies. These work elements may respond to requests made by the public, participating member agencies, stakeholders, the Arizona Department of Transportation or federal agencies. These entities all provide guidance that are used to develop and promote transportation programs and policies and programs and policies for other MAG responsibilities.

MAG coordinates the review of the draft work elements through staff members of the participating agencies, MAG, the public, ADOT, and federal agencies (Federal Transit Administration (FTA), Federal Highway Administration (FHWA), and the Environmental Protection Agency (EPA), as well as through an intergovernmental review. The UPWP is then submitted on a monthly basis to MAG's technical and policy committees for its endorsement prior to its submittal for FHWA and FTA approval.

One important part of the process in developing the Work Program is the MAG transportation public involvement program. Public involvement provides the public an early opportunity to provide input into the MAG planning process and to identify the public's funding priorities. The results of the input process are published through public input opportunity reports. These reports are presented with regular updates to the MAG Management Committee, the Transportation Policy Committee and the Regional Council for review and consideration prior to action throughout the year.

In addition, various forums for input are used during the input process including public workshops, presentations and survey instruments to provide citizens an opportunity to discuss projects and identify preferences and priorities for the region given the limited resources.

As part of the public input process, a Regional Transportation Stakeholders meeting is conducted to share transportation ideas. At the meeting, the Arizona Department of Transportation provides an overview of potential projects and the Regional Public Transportation Authority (RPTA) also presents information. In addition to construction projects, ideas for future studies may be presented. Stakeholders are provided an opportunity to react to these ideas and given an opportunity to provide their suggestions.

Many of MAG's committees include representation from the RPTA and ADOT, such as the MAG Transportation Review Committee. Representatives from MAG, ADOT and the RPTA confer on the projects using ADOT federal funds in the TIP. This cooperatively developed listing of projects is presented to the MAG Transportation Review Committee for consideration.

Another important step in developing the Work Program is input received at the annual retreats for the Management Committee and/or the Regional Council if held. These retreats provide the policy makers of MAG an opportunity to discuss the challenges facing the region and potential strategies for addressing these challenges. These ideas are incorporated into the Work Program as the goals for the Program.

The formal development of the Work Program begins with a kick-off meeting in December when MAG Managers and Program Managers discuss program priorities and review the proposed timeline and input from the stakeholders meeting, retreats, the public, and committee meetings. Following this general staff discussion, the development of the Work Program begins. The development of the budget document is an incremental process over a period of five months, during which information on the budget - including financial resources, format and program ideas - is shared in a series of public meetings and a public budget workshop. This continuous review of the development of the budget begins in January and ends with the budget being considered for approval by the Regional Council in May.

Activity Selection: In January, the Program Managers begin developing their sections of the Work Program. To ensure that all planning activities proposed by ADOT, RPTA and Valley Metro Rail are included in the Work Program, a letter is sent to the ADOT Transportation Director of Planning, RPTA Executive Director, and the Valley Metro Rail Executive Director, requesting their input into the Work Program. This information is then incorporated into the new Work Program by the Program Managers. The responsibilities for the Work Program are discussed in meetings with the Managers and Program Managers throughout the budget development process. The MAG Executive Director, working with the staff, develops the Work Program for early review by the Management Committee, Regional Council Executive Committee and Regional Council.

In the spring, the draft budget is provided to the state and federal agencies for review in anticipation of the Intermodal Planning Group meeting where questions and comments are heard and, if necessary, adjustments are made regarding the state and federal agency comments. The final budget is presented to the Regional Council in May and, upon approval, is sent in June to the Arizona Department of Transportation, FTA and the FHWA.

As part of the planning process, the Federal Emphasis Areas for FHWA and FTA are received each year by MAG. These areas are highlighted in the Work Program and information is provided on how MAG proposes to respond to these emphasis areas. The guidance from the federal agencies has helped to guide program development.

The UPWP provides a listing of planning projects and defines objectives, associated tasks, and deliverables, as well as budgetary and staffing requirements. The UPWP is a requirement for metropolitan transportation planning activities performed with federal funds provided under 23 USC and 49 USC 53. The UPWP is used as a support document for the programming of these federally-assisted initiatives. Planning studies funded by other, non-federal sources are also identified in the UPWP, and MAG includes them to reflect the context and direction they set for the major transportation planning efforts being undertaken for the metropolitan planning area.

The process of developing the annual UPWP entails a closely coordinated effort among MAG, its participating agencies, including the Arizona Department of Transportation (ADOT), and stakeholders.

Planning Priorities: MAG uses the following priorities to evaluate projects and fund them through the UPWP:

1. Projects that fulfill requirements under metropolitan transportation regulations set forth in 23 CFR 450.300.
2. Projects that are necessary to enable MAG and its participating agencies to support the metropolitan transportation planning process or fulfill other federal, state, or city/town regulations applicable to this process.
3. Projects that support planning efforts for projects identified in the MAG Regional Transportation Plan.
4. Projects that support planning efforts consistent with the direction set forth in master plans or other planning documents adopted by MAG, the state, and/or the region.
5. Projects that support, develop and implement planning efforts to enable the state and the region to meet other needs that support MAG's integrated, multimodal transportation system.

Consideration of the Planning Factors: Federal regulations require that the metropolitan planning process provide for consideration of projects and strategies that address the planning factors that are part of the framework used to evaluate MAG's transportation planning program. Studies and projects are reviewed in light of both the MAG planning priorities and how they address the Federal Highway Administration planning factors mandated by SAFETEA-LU.

With the passage of SAFETEA-LU, the eight Federal Highway Administration planning factors (for both metropolitan and statewide planning) are:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
2. Increase the safety of the transportation system for motorized and non-motorized users.
3. Increase the security of the transportation system for motorized and non-motorized users.
4. Increase the accessibility and mobility of people and for freight.
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
7. Promote efficient system management and operation.
8. Emphasize the preservation of the existing transportation system.

Federal Transit Administration National Planning Emphasis Areas: The Federal Transit Administration has identified five key themes for national Planning Emphasis Areas (PEA's) to promote as priority themes for the current and upcoming fiscal year. The PEA's represent topics in statewide and metropolitan planning and statewide planning for consideration when developing the Unified Planning Work Program for statewide planning, including:

1. Incorporating safety and security in transportation planning.
2. Participation of transit operators in metropolitan and statewide planning.
3. Coordination of non-emergency human services transportation.
4. Planning for transit systems management/operations to increase ridership.
5. Support transit capital investment decisions through effective systems planning.

A core function at MAG is to establish and manage a fair and impartial setting for effective transportation decision-making in an urbanized area. MAG provides a forum for regional policy development based on meeting the federal requirements described above as well as other goals. The activities outlined in the UPWP provide the blueprint for activities on an annual basis that support the adopted policies and goals. The UPWP is a constantly changing document; work changes occur during the year to reflect priority, funding and staffing changes to best implement the strategic planning and direction of adopted policies and goals.

**Question: 2. How do the FTA/FHWA funded activities in the OWP relate to the goals and priorities identified in the Transportation Plan?**

**Response:** The FTA/FHWA funded activities in the OWP are closely aligned with the goals and priorities in the Regional Transportation Plan. As part of the process of developing the OWP, objectives and outcome measures are developed for each activity. These criteria are related to the goals identified in the Plan, to ensure that OWP work efforts focus on regional areas of concern. The Plan identifies four major goal areas, including: (1) system preservation and safety, (2) access and mobility, (3) sustaining the environment, and (4) accountability and planning.

Planning activities for these broad goal areas are realized through implementation of the federal planning emphasis areas. The manner in which the OWP activities included in the MAG FY 2010 Unified Planning Work Program correspond to these emphasis areas is outlined below:

Support Economic Vitality: Long-range infrastructure planning; transportation implementation; transportation system congestion management.

- 500.0611 - Transportation Plan Implementation Monitoring
- 500.0641 - Transportation Performance Monitoring
- 500.0651 - 500.0658 - Transportation System Management
- 500.0110 - 500.0140 - Demand Management
- 600.0110 - 600.0190 - Transportation Planning
- 600.0661 - 600.0700 - Transportation Improvement Program

Increase Safety: Safety planning program; safety information management system; safety workshops.

- 600.0180 - Transportation Safety Planning

Increase Security: Ongoing security efforts in the region; MPO security support activities.

- 500.0510 - Public Safety Implementation - 911
- 500.0550 - Community Emergency Notification System
- 600.0110 - Regional Systems Planning
- 1000.0400 - Communications Support

Increase Accessibility and Mobility: Multimodal planning and modal options: highway; transit; bicycle/pedestrian; freight; aviation; special needs.

- 300.0111 - Human Services Transportation Coordination
- 600.0120 - Highway Planning
- 600.0130 - Bicycle Planning
- 600.0140 - Pedestrian Planning
- 600.0160 - Aviation Planning
- 600.0190 - Freight Planning

Protect and Enhance the Environment: Designated regional air quality planning agency; close coordination with transportation planning and programming; air quality conformity analysis; environmental mitigation and resource conservation consultation; noise mitigation funding.

- 100.0310 - Air Quality Planning And Monitoring
- 100.0320 - Carbon Monoxide Planning
- 100.0330 - Ozone Planning
- 100.0340 - Particulate Planning
- 100.0350 - Air Quality Conformity Analysis
- 100.0410 - Air Quality Modeling and Analysis
- 600.0110 - Regional Systems Planning
- 600.0120 - Regional Highway Planning
- 600.0661 - Transportation Improvement Program

Enhance Modal Integration and Connectivity: Multimodal planning; integrated travel demand modeling.

- 600.0110 - 600.0700 Transportation Planning and Programming
- 600.0631 - 600.0633 Travel Demand Forecasting and Modeling

Promote System Management: Demand management; congestion management process; Intelligent Transportation Systems (ITS); performance monitoring and assessment.

- 500.0110 - Trip Reduction Program
- 500.0120 - Travel Reduction Program
- 500.0130 - Regional Rideshare Program
- 500.0140 - Telework Outreach Program
- 500.0651 - Traffic Signal Optimization
- 500.0653 - ITS Evaluation
- 500.0654 - Integrated Corridor Management Systems
- 500.0641 - Transportation Systems Performance Monitoring
- 500.0643 - Highway Performance Monitoring

Preserve Existing System: Investments on existing system; rubberized asphalt overlays; litter pickup/landscaping; streets committee coordination.

- 500.0595 - Litter Prevention and Education
- 600.0110 - 600.0700 Transportation Planning and Programming

**Question: 3. Does the OWP provide for the development of performance measures that relate to the Transportation Plan's goals and objectives?**

**Response:** The OWP provides for the development of performance measures that relate to the goals and objectives of the Regional Transportation Plan. A Performance Measurement Framework Report, which was included in the OWP, has been completed

and will provide a coordinated methodology to assist in the planning and programming functions at MAG. The monitoring approach developed in this study effort was specifically structured around the goals and objectives in the Regional Transportation Plan. In addition, performance measures used to assess Regional Transportation Plan alternatives were used in identifying the factors included in the MAG performance measurement and monitoring program.

The MAG OWP also includes planning work activities directed at developing indicators that measure and monitor the performance of the transportation system. Timely system performance information will not only allow decision makers to create policies that will facilitate the safe and efficient movement of people and goods, but also will assist in maintaining an acceptable and reliable level of service on the transportation system serving the region, taking into account performance by mode and facility type. Specific objectives of this effort include:

- Enhance planning and programming decision-making processes by enabling MAG to better monitor and evaluate progress toward achievement of strategic goals.
- Provide the tools necessary to better understand regional trends in transportation system performance.
- Provide a factual basis to better inform policy makers based on objectives-based performance-driven planning.

**Question: 4. Are fund transfers and reimbursements administered on a timely basis?**

**Response:** MAG is a sub-recipient of FHWA and FTA funds as well as other federal funds from the state and other funding sources. The majority of funding at MAG is on a reimbursement basis in which MAG is required to pay, with MAG funds, the portion of grants with later reimbursement of these expenditures. In general, MAG reimbursement requests are made quarterly. The deposit of funds to the MAG account may occur up to thirty days after a reimbursement request. The review and subsequent disbursement of funds is based on supporting documentation as the basis for reimbursement. The fund transfers for payment are made timely by an Electronic Funds Transfer by ADOT, with all other reimbursements paid by check.

MAG utilizes an indirect cost plan based on audited financial statements. The Indirect Cost Plan is certified by ADOT prior to approval. Any difference between the indirect estimated and actual costs is adjusted in the following year through the proposed indirect cost rate. The indirect cost adjustment, based on audited financial statements, allows for an accurate and timely adjustment of the indirect costs incurred for the programs during the year.

**Question: 5. How can ADOT better assist MAG in the development of its OWP?**

**Response:** The most important assistance is the informal “give and take” between the agencies as the UPWP is developed so that issues are identified prior to formal reviews. The benefit of this communication is to effectively identify any UPWP issues as they arise so that they can be addressed well before the formal review.

## **SELF-CERTIFICATION**

**Question: 6. What process/procedures are used to self-certify the planning process?**

**Response:** Traditionally, as part of the development of the Transportation Improvement Program, MAG and ADOT certify that the transportation planning process addresses the major issues in the metropolitan planning area and is being conducted in accordance with all applicable federal requirements.

In addition, the MAG Regional Council resolution on the UPWP includes a reference: “that the metropolitan area have a continuing, cooperative, and comprehensive transportation planning process that results in plans and programs that consider all transportation modes. These plans and programs shall lead to the development of an integrated, intermodal metropolitan transportation system that facilitates the efficient, economic movement of people and goods.” (See Appendix A.)

**Question: 7. Is documentation to support the self-certification provided to the policy board and the public?**

**Response:** Documentation to support the self-certification of the planning process is provided to the policy board and the public through the MAG Transportation Improvement Program report. This document contains a certification page, describing the certification finding that the transportation planning process addresses the major issues in the metropolitan planning area and is being conducted in accordance with all applicable federal requirements. It is signed by the Executive Director of MAG and the Director of Multimodal Planning Division at ADOT.

**Question: 8. Does the MPO have processes, procedures, guidelines, and/or policies that address Title VI, ADA, DBE, and other regulatory requirements?**

**Response:** MAG first adopted a formal public involvement process in 1994, expanding and enhancing it in 1998 and again in 2001. In 2006, MAG again enhanced the process and developed a new Public Participation Plan, which was adopted by the MAG Regional Council in December 2006. The plan meets the requirements outlined in the federal regulations, including early and continuing public involvement opportunities throughout the transportation planning and programming process, timely information about transportation issues, reasonable public access to technical and policy information used to develop transportation plans, adequate public notice, a process for seeking out and considering the needs of underserved communities, and periodic review of the process.

As part of its adopted Public Participation Plan, and as an element of the public involvement process, MAG provides Title VI communities and low-income communities access to public information on, and an opportunity for public participation in, matters relating to human health or the environment, especially as they relate to MAG's transportation plans and programs. MAG contracted with a Community Outreach Specialist in 2000, who became a full-time staff member in 2002. The Outreach Specialist is specifically tasked with engaging Title VI and low-income communities in the transportation planning process. The specialist attends community meetings, provides presentations and solicits input from these communities. For example, since 2004, MAG staff has participated in more than 80 community events and meetings. Information booths are set up at numerous community events to impart information and receive feedback. In addition, the specialist translates major MAG documents, such as policy documents, newsletters, fact sheets, MAG policy documents, public involvement documents, and press releases into Spanish for posting to the MAG Web site. The specialist responds to requests from Spanish language print and broadcast media outlets for interviews and other information related to the MAG planning process. Comprehensive stakeholder lists targeting individuals and organizations within the Title VI and Environmental Justice communities have been developed and notices of public meetings and other events are distributed to these stakeholders. While specific outreach depends on the project, focus groups and other targeted events are often held to receive input from low-income populations and minority communities.

MAG also contracted with a Disability Outreach Associate in 2001 to work with the community to receive input from people with disabilities. This associate is a contracted employee who attends meetings, makes presentations and transmits materials to the disability community on behalf of MAG. Input received by the associate is included in public input opportunity reports, which are provided to MAG policy committees for review and consideration prior to final action. The associate also translates MAG materials into braille for the visually impaired, and makes materials available in large print and audio formats. The associate position was instrumental in ensuring a high level of involvement of the disability community during the development of the Regional Transportation Plan.

To aid access to MAG Web sites by the visually impaired, all photos and illustrative graphics are accompanied by a descriptive caption, through the use of the alternate text (alt text) attribute. A visually impaired reader, who is using a screen reader, will hear the alt text in place of the image. MAG is currently undergoing a Web redesign that requires that as many of the techniques recommended by the Web Accessibility Initiative, that are applicable to our sites, are used in order to make the information on MAG Web sites accessible to persons with disabilities.

MAG has procedures and a policy for the Disadvantaged Business Enterprise (DBE) program. The adopted MAG DBE program is to ensure equal opportunity as required in federal law in contracting markets, address the effects of discrimination, and promote increased participation in federally funded contracts by small, socially and economically disadvantaged businesses, including minority and women owned enterprises. MAG is currently working with the Arizona Department of Transportation (ADOT) to update the DBE program and ensure that it is consistent with the DBE policy and procedures of the state.



## SAFETEA-LU PLANNING FACTORS

SAFETEA-LU established stand-alone planning factors for Safety and Security and expanded the Environmental planning factor to read: “(5) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.”

**Question: 1. Briefly summarize the current safety goals, objectives, performance measures and strategies in the RTP.**

**Response:** The RTP provides information on safety planning activities at MAG in compliance with the requirements of the final rule 23 CFR Part 450. This addresses the federal planning factor that calls for increasing the safety of the transportation system for motorized and non-motorized users.

Safety is identified as a major focus in the RTP and is included in the Plan’s first goal that addresses System Preservation and Safety. One of objectives under this Plan goal is to provide a safe and secure environment for the traveling public, by addressing roadway hazards, pedestrian and bicycle safety, and transit security. Safety is also identified as a critical element of each mode of transportation and the RTP specifically addresses safety issues in a separate chapter.

The RTP process includes a safety planning program that enables safety issues to be addressed as part of the regional transportation planning process. MAG has a standing committee for transportation safety planning and pursues both safety planning and implementation issues. This includes efforts such as developing a safety information management system to better understand road safety issues in the region and conducting safety workshops.

In addition, the MAG Performance Measurement Report addresses safety as one of the critical components of a complete monitoring program and one that will provide a factual basis for future safety program investments. The following performance measures have been included and analyzed: freeway system crash rates, injury rates and fatality rates for passenger vehicles and large trucks. For all freeway indicators, rates have been calculated for incidents per million VMT. On the arterial system, performance measures include: intersection crash ranking and crash, injury and fatality totals for trucks.

**Question: 2. Does MAG have TIP/RTP development procedures that ensure coordination and consistency between MAG’s TIP/RTP and other transit or transportation network security programs and projects?**

**Response:** As part of the interagency consultation on the Regional Transportation Plan, the Federal Emergency Management Agency and the Arizona Division of Emergency Management are invited to provide input regarding coordination issues and opportunities related to regional transportation planning and programming.

Transportation security is covered specifically in a separate chapter of the Regional Transportation Plan. To address this issue, an inventory of ongoing security activities and programs in the MAG region was conducted and documented. This information was assessed to gain insights into the type of role the metropolitan planning organization might play to advance and facilitate effective application of security measures to transportation systems in the region. MAG already participates in the area of security through its role in the implementation of 9-1-1 and the Community Emergency Notification System, as well as the development of an interagency communications network (Regional Community Network).

**Question: 3. Briefly describe MAG's efforts at outreach to, and input from, safety stakeholders.**

**Response:** MAG began a regional dialogue focused on transportation safety in 2001. This led to the establishment of the MAG Safety Stakeholders Group that included representatives from all four "Es" - Engineering, Enforcement, Education and Emergency Services. Between 2001 and 2004, this Group organized and held an annual Regional Transportation Safety Forum at each annual Institute of Transportation Engineers/International Municipal Signal Association Spring Conference. At the time, this was the only public forum on road safety in Arizona. This event was also open to anyone at the conference and resulted in the sharing of safety information and training with others across the state. The yearly forums featured training on Road Safety Assessments and Road Safety Analysis Tools. The Safety Stakeholders Group developed a Draft Safety Action Plan by 2004. In March 2004, MAG established the Transportation Safety Committee, one of the first MPOs in the nation to do so and also prior to SAFETEA-LU enactment. The Transportation Safety Committee included many of the same stakeholders and helped transform the Draft Safety Action Plan into the region's first Strategic Transportation Safety Plan (STSP). The Plan was adopted by MAG in October 2005, well before the development of Strategic Highway Safety Plans (SHSP) became a federal requirement for all states.

The formal mechanisms for MAG to obtain input from safety stakeholders are as follows:

- Public comments received and discussions at Transportation Safety Committee meetings.
- Public meetings held in connection with the RTP such as the Early Phase Transportation Stakeholders Open House and Meeting, and continued input opportunities during the Early Phase.
- Other opportunities during the Early Phase including special events. MAG participates in several special events that are held in conjunction with ADOT, Valley Metro and METRO. Past events have included the Chicanos Por La Causa Business Seminar in Spanish and I-17 Road Shows. MAG reached hundreds of people during this time and was able to distribute information about the RTP.

## TRANSPORTATION IMPROVEMENT PROGRAM AND PROJECT SELECTION

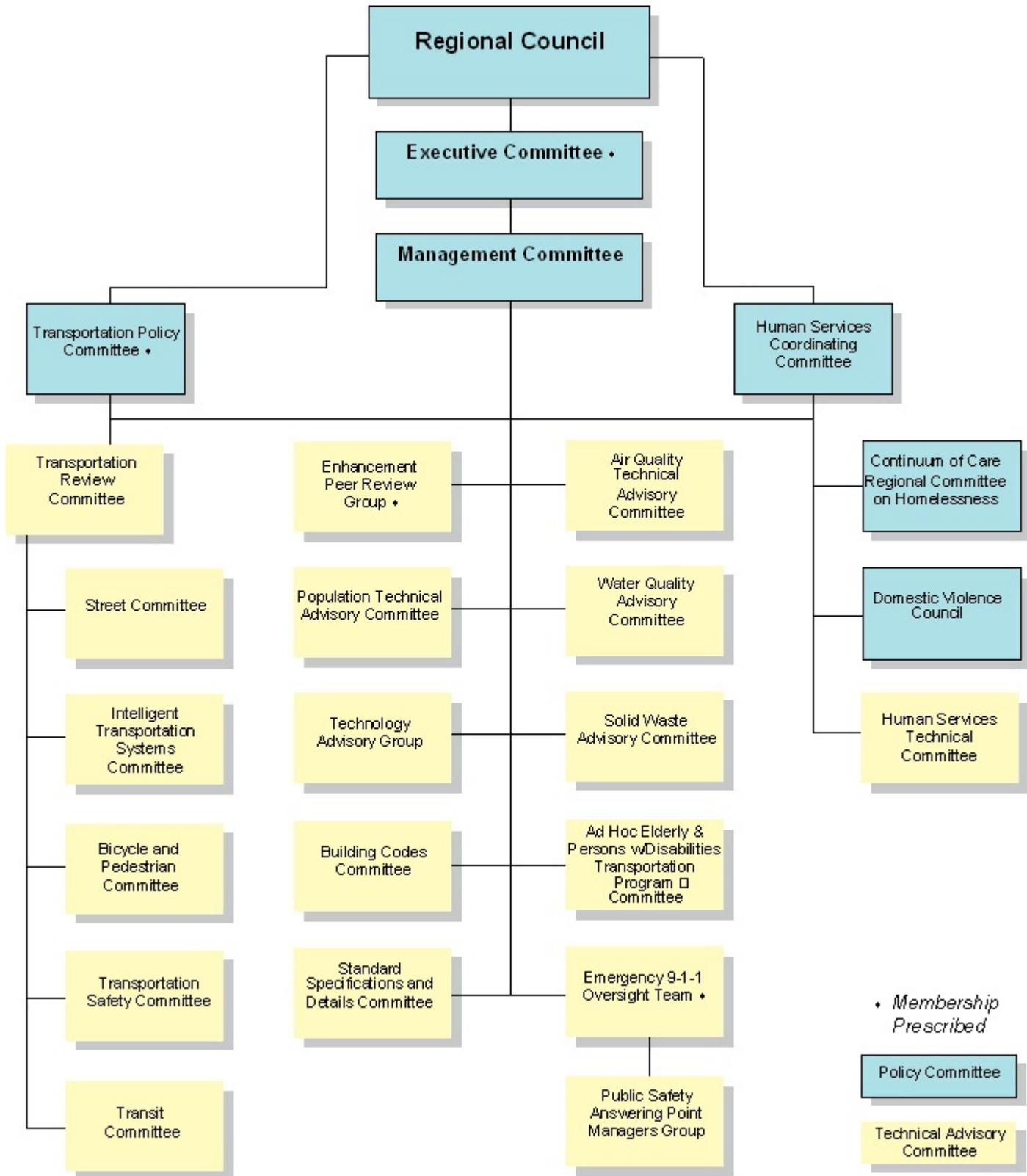
### DEVELOPMENT:

**Question: 1. Does MAG have a documented process(es) that outlines roles, responsibilities, and key decision points for consulting with Indian Tribal governments and Federal land Management Agencies in the development of the TIP?**

**Response:** Development and consultation regarding the Transportation Improvement Program (TIP) includes three types of activities: the MAG committee process, MAG member agency meetings and workshops, and participation in the MAG public involvement process.

- **MAG committee process** - The development and consultation of the TIP relies heavily on the MAG Committee process as it is related to transportation. (Please see the MAG Committee graphic on the following page.) The committee process for the development of the TIP integrates six technical advisory committees: Safety Committee, Streets Committee, Bicycle and Pedestrian Committee, Intelligent Transportation Systems Committee, Transit Committee (in current development), and the Transportation Review Committee. Once the development of projects and the TIP have passed through the technical advisory committees, the TIP continues through review and approval at the MAG Management Committee, Transportation Policy Committee, and the MAG Regional Council. All MAG committees are open to the public.
- **MAG member agency meetings and workshops** - In addition to the committee process, MAG hosts member agency meetings and workshops related to the development of the TIP, federal fund projects in the TIP, and project status of federal fund projects in the TIP. These meetings provide the opportunity to have detailed discussions on specific projects, modes, and the TIP.
- **MAG Public Involvement Process** - As part of the overall consultation process, the federal land management agencies are included in the MAG public involvement process. The MAG public involvement process is divided into four phases: Early Phase, Mid-Phase, Final Phase and Continuous Involvement.

Three Native American Indian communities within Maricopa County are MAG members. Three communities include the Fort McDowell Yavapai Nation, the Gila River Indian Community, and the Salt River Pima-Maricopa Indian Community. These tribes participate in the MAG transportation planning and programming process with full voting representation on the three MAG policy committees: MAG Management Committee, TPC and the Regional Council.



The Native American representative to TPC represents all three Native American Indian communities. These tribal nations are also full voting MAG members on all MAG transportation technical committees. A fourth Native American Community, the Tohono O'odham, has a small piece of tribal land in the MAG region and has discussed becoming a member of MAG. Regarding the MAG Public Involvement Process, an up-to-date mailing list is maintained that includes interested citizens, affected public agencies, representatives of transportation agency employees, private providers of transportation, advocates for low-income and minority interests, and representatives of community groups with an interest in transportation. This list includes approximately 3,000 individuals and organizations, which include the Bureau of Land Management, national forests in/near the MAG region, regional lands, and other land management agencies.

**Question: 2. Briefly explain how MAG ensures that project cost estimates in the TIP are regularly updated and reflect the latest available information.**

**Response:** MAG has created an Access Database system and the TIP Data Entry System that MAG member agencies utilize when updating projects contained in the TIP. MAG releases the TIP Data Entry System to MAG member agencies for approximately two months to capture new projects and document how current programmed projects are developing for an upcoming TIP.

The TIP Data Entry System provides the current information as reported in the latest approved MAG TIP, and allows MAG member agencies to update the fields in the database. The main focus of the database system is obtaining the project status relating to the schedule and project cost estimates. The TIP Data Entry System contains project information: location, description, year of work, project cost estimates per funding type, schedule, and information related to transportation modeling. This information is used to generate the TIP's Listing of Projects, in which the project costs are reported at summary levels related to type of funds, jurisdiction, modal categories, year of expenditures, and management systems.

The update through the MAG TIP Data Entry System has occurred annually for the past five years, and will occur again the fall/winter of 2009-2010. This TIP data also provides information for the updating of costs in the Regional Transportation Plan. In addition, the MAG Transportation Division is working with a consultant team to upgrade this system and have it connected to a GIS based mapping system that will integrate project programming information with the transportation modeling system for a seamless data transmission. MAG member agencies will utilize this GIS programming system, most likely in 2010 and beyond.

In addition, it is important to note that MAG closely monitors the ADOT Five-Year Construction Program and cost estimating process. This ensures that TIP cost estimates are reflective of the latest ADOT estimates. At the same time, it enables MAG to provide input into the ADOT project design process.

Another cost and revenue review occurs through the Risk Assessment Process (RAP). MAG participates in this group, which is assembled by ADOT annually to assess the future transportation cost and revenue picture. The group includes not only transportation

professionals, but also economic and development forecasters who provide their perspective on the economic trends that affect transportation costs and revenues. The outcome of sessions is a set of revenue forecasts and an assessment of the future cost outlook.

**Question: 3. Briefly describe how MAG prepares and documents system level estimates of costs and revenues to adequately operate and maintain Federal-aid highways and public transportation service in connection with TIP updates and amendments. In other words, how are system-level costs for maintenance and operations being developed and accounted for in TIP and RTP development?**

**Response:** Beginning in August 2009, MAG began working on developing the FY 2011-2015 Transportation Improvement Program. The development of the TIP begins with programming federal funds in the needed years and modes. In the winter (November 2009 - February 2010), MAG staff will be working with all member agencies to update project information that is detailed in the TIP, and to collect information, including funding commitments and estimates, regarding the operations and maintenance of the regional transportation system for which the member agency is responsible. This information will be conveyed in the technical report and in the listing of projects section as reported. In addition, the current TIP documents maintenance projects in the TIP Listing of Projects related to the regional transportation system, including transit.

The TIP relies on the RTP Planning Factor related to maintaining the regional transportation infrastructure. The RTP identifies maintenance as a critical Plan element, with the following objective: To provide for the continuing preservation and maintenance needs of transportation facilities and services in the region, eliminating maintenance backlogs. The high level of importance placed on preservation is reflected by the allocation of major blocks of regional-level funding in the RTP to improving the existing roadway network, and conducting various aspects of the maintenance function, which includes litter pick-up, landscape maintenance, and rubberized asphalt overlays.

In addition, the chapters in the RTP on the freeway system and the arterial street system include discussions of system operation, maintenance and preservation. Similarly, the RTP chapter on mass transportation includes estimates of long range operating costs for each transit mode, including maintenance facility requirements. The costs associated with these elements are taken into account as part of the long range assessment of funding and expenditures for each mode, which is included in the RTP.

**Question: 4. What opportunities does the MPO offer for one or more public hearings during the TIP development process?**

**Response:** In general, MAG's Public Participation Plan is a response to requirements included in federal legislation and is divided into four phases: Early Phase, Mid-Phase, Final Phase, and Continuous Involvement. The Early Phase meetings ensure early involvement of the public in the development of the transportation plans and programs. The Mid-Phase process provides for input on initial draft plan analysis for the RTP and the TIP,

and includes a public hearing on regional transportation issues. The Final Phase provides an opportunity for final comment on the Draft RTP, TIP, and Air Quality Conformity Analysis and also includes a public hearing. In addition, continuous outreach is conducted throughout the annual update process by way of MAG committee meetings and special events.

**Question: 5. How does the MPO ensure priority programming and expeditious implementation of TCMs from the SIP?**

**Response:** For key TCMs, such as the Maricopa County Trip Reduction Program and Regional Public Transportation Authority Regional Rideshare Program, MAG ensures priority programming and expeditious implementation through Congestion Mitigation and Air Quality Improvement (CMAQ) Program funding that is allocated in the Regional Transportation Plan for air quality projects. The committed measures are implemented by the respective agencies. The Maricopa County Air Quality Department is responsible for tracking the implementation of the air quality measures in the applicable air quality plans, in accordance with the Air Quality Memorandum of Agreement. In addition, during the priority programming process, projects that support TCMs or other air quality measures are identified.

The conformity analysis report provides a listing of projects and programs from the TIP that implement TCMs and other air quality measures. As an example, for projects that implement Transportation Demand Management projects in the FY 2008-2012 MAG Transportation Improvement Program, the total level of funding for Areawide Ridesharing, Travel Reduction, Education and Outreach Programs, and Vanpools is \$22.0 million. Given the economic downturn and reduction in transit service over the past year, these programs are currently under review by the MAG Regional Council Executive Committee to identify areas of duplication and potential opportunities for integration. In the interim, the MAG Regional Council Executive Committee has held the advertising and marketing funding for these programs in abeyance.

For each update of the TIP and Regional Transportation Plan, MAG prepares an update of the current implementation status of TCMs identified in applicable regional air quality plans. The update of the current status of TCMs is found in the conformity analysis report, which accompanies the TIP. According to a review of TCMs for the MAG region, the agencies with TCM commitments in applicable air quality plans have reported that all TCMs in the applicable air quality plans are on schedule and there are no obstacles to implementation of the TCMs. Many of the TCMs in the plans were implemented in the short term, some have been fully implemented, and others are ongoing.

In addition, the Paving of Streets, Shoulders, and Alleys and PM-10 Efficient Street Sweepers projects are in applicable air quality plans and are funded at an overall level of \$22.0 million in the FY 2008-2012 MAG Transportation Improvement Program. However, it should be noted that not all of the projects listed in the conformity analysis report correspond to specific implementation commitments, since additional TCM implementation takes place above and beyond the SIP committed levels.

**Question: 6. Does the TIP describe progress in implementing required TCMs?**

**Response:** The EPA regulations in 40 CFR 93.113 indicate that the transportation plan, TIP, or any FHWA/FTA project that is not from a conforming plan and TIP must provide for the timely implementation of TCMs from the applicable air quality plans. Nothing in the TIP may interfere with the implementation of any TCM in the applicable implementation plan.

For the Maricopa County region, the applicable air quality plans are the Revised MAG 1999 Serious Area Particulate Plan for PM-10, the Revised MAG 1999 Serious Area Carbon Monoxide Plan, the Carbon Monoxide Redesignation Request and Maintenance Plan, and the One-Hour Ozone Redesignation Request and Maintenance Plan.

For each update of the TIP and Regional Transportation Plan, MAG prepares an update of the current implementation status of TCMs identified in applicable regional air quality plans. The update of the current status of TCMs is found in the conformity analysis report, which accompanies the TIP. According to a review of TCMs for the MAG region, the agencies with TCM commitments in applicable air quality plans have reported that all TCMs in the applicable air quality plans are on schedule and there are no obstacles to implementation of the TCMs. Many of the TCMs in the plans were implemented in the short term, some have been fully implemented, and others are ongoing.

**PROJECT SELECTION:**

**Question: 1. Have expedited project selection procedures been jointly developed by MAG, the state, and transit operators to provide for the advancement of projects from the second or third year of the TIP? (Please provide a copy).**

**Response:** To meet federal requirements, the MAG TIP reports on all projects programmed with federal funds and on all regionally significant projects that are funded with federal and non-federal funds. As part of this process, MAG collaborates closely with the Arizona Department of Transportation, transit operators and local governments.

Regionally significant projects come from three main sources: (1) the freeway, arterial, and transit 20-year life cycle programs, (2) the MAG federal fund program, and (3) locally sponsored projects.

The freeway, arterial, and transit 20 year life cycle programs have specific policies and procedures that document the prioritization, project selection, and advancement of projects. Each life cycle program is funded with local, regional, and federal funds including: Surface Transportation Program (STP), Congestion Mitigation and Air Quality (CMAQ), 5307 and 5309. The TIP report includes the projects from these three programs as related to the TIP years. Each program has procedures for programming and prioritization of projects including advancement of projects from later years in either a life cycle program or a TIP.

The freeway program relies on a MAG approved Highway Acceleration Policy. This policy was initially approved in 2000 with further revisions in 2008. The Arterial Life Cycle Program (ALCP) which began in 2006 relies on the ALCP Policies and Procedures, which was initially approved in 2005 and has since had revisions and was most recently approved

in 2009. The Transit Life Cycle Program (TLCP) that also began in 2006 relies on the Transit Life Cycle Policies and Procedures for programming guidance. (See Appendices B through D. These items include the full MAG Highway Acceleration Policy, the sections of the ALCP Policies and Procedures related to programming and acceleration/advancement, and the sections of the TLCP Policies and Procedures related to programming and acceleration/advancement of projects.)

The MAG federal fund program is guided by the MAG Federal Fund Programming Principles and the three above mentioned life cycles. The MAG Federal Fund Programming Principles specifically relate to projects programmed with CMAQ funds and outlines the policy direction of MAG federal funds, the programming and prioritization process, and policies related to timely obligation of projects including the advancement of federal fund projects. (See Appendix E for a copy of the MAG Federal Fund Programming Principles.)

The locally sponsored projects that are included in the TIP rely on local funding sources, which highly correlate to the project schedule and advancement of projects from a later year in the TIP. MAG coordinates with the local agencies on an annual basis regarding project development status, including projects underway, advancements, deletions, and deferrals.

**Question: 2. Has MAG developed project selection criteria that will allow it to take advantage of the expedited procedures to advance projects from the third or fourth year of the TIP? (Please provide a copy).**

**Response:** The project selection criteria for advancing projects from a later year in the TIP mainly rely on eligibility, project readiness, and available revenue, and policy and procedure direction from either the Freeway, Arterial, or Transit Life Cycles Programs or the MAG Federal Fund Programming Principles. (See Appendices B through E).

**Question: 3. How does MAG consult with the state and transit operators in selecting projects for the TIP?**

**Response:** The MAG TIP is developed through a process that is characterized by a highly cooperative project selection process. Currently, there is a Resolution on Metropolitan Transportation Planning and Programming, which is signed by MAG, RPTA, Valley Metro Rail, and the City of Phoenix. MAG also has an agreement with the Arizona Department of Transportation covering planning and programming activities. In general, the transportation planning process in the MAG region is conducted through a participatory process that is formalized in the MAG committee process.

All projects included in the TIP are from the Regional Transportation Plan (RTP), and specific modal funding allocations are identified in the RTP. For example, the Transit Life Cycle Program receives 33.3 percent of all Proposition 400 regional sales tax funds.

MAG consults closely with ADOT regularly on individual project and TIP issues. An ad hoc group is maintained to address individual project implementation concerns, as well as discuss transportation planning issues. Topics include design factors, right-of-way acquisition, construction costs, program adjustments, project progress and outlook, cash flow, revenue forecasts, travel demand forecasts, and corridor study/design concept report development.

On September 22, 2009, the MAG Regional Council approved the consolidation of transit programming activities at MAG, as well as the formation of a new Transit Committee at MAG. As such, future decisions on choosing and ranking transit projects will be made as part of the overall TIP process at MAG. The Transit Committee will include MAG member agencies (transit operators and agencies that purchase transit services), RPTA, Valley Metro Rail, and the Arizona Department of Transportation (ADOT). The Transit Committee will provide review and input on projects` to be included in the TIP, and will assist in developing new transit programming procedures at MAG.

MAG federally funded programs are approved by MAG, working cooperatively with the Arizona Department of Transportation and transit operators. Additions to the State Highway Program are approved by the state, working cooperatively with MAG and the transit operators. Transit additions are approved by the transit operators working cooperatively with the state and MAG. As the Designated Recipient for federal transit funds, the City of Phoenix Public Transit Department implements the grant applications from the Federal Transit Administration (FTA). As part of this process, the City of Phoenix balances the FTA portion of the transportation annual appropriations bill, and provides to MAG revisions to the TIP to reconcile the grant and the first year of the TIP. Following this reconciliation, MAG, working cooperatively with the City of Phoenix, determines if the TIP is in agreement with the grant. If agreement is reached, MAG concurs with the reconciliation and informs the FTA.

MAG is currently working on a Memorandum of Understanding with all transit operators in the MAG region to clarify this planning and programming process further.

## REGIONAL TRANSPORTATION PLAN

**Question: 1.** In developing the current RTP, did MAG prepare a discussion of environmental mitigation activities, and potential areas to carry out the activities, in consultation with Federal, State and Tribal wildlife, land management and regulatory agencies? If yes, provide a brief description.

**Response:** In developing the current Regional Transportation Plan (RTP), a discussion of environmental mitigation and resource conservation issues and opportunities was prepared and included in the RTP. A broad range of Federal, State, and Tribal agencies that specifically address environmental, wildlife, land management and regulatory matters was consulted regarding potential environmental mitigation activities that may have the greatest potential to address the environmental functions affected by the RTP.

The transportation planning process and its future environmental implications were discussed, and concepts for potential environmental mitigation activities were identified. Since previously adopted projects in the RTP undergo extensive environmental and resource assessment by the implementing agencies through the National Environmental Policy Act process, the primary goal of the consultation effort was to gain insights regarding issues that may potentially involve future planning efforts and future RTP elements. This approach avoided duplicating work efforts and burdening environmental, resource and regulatory agencies with multiple requests for the same information. The consultation process yielded mitigation issues and concepts in four major areas: air quality, water quality, noise and habitat. A detailed discussion of these areas was included in the RTP.

Also, during the meetings with key agencies, the discussions often led into the area of transportation planning, in general, and how environmental and resource concerns can be effectively integrated into the planning process. The major points made in this connection focused on the areas of early agency involvement and planning coordination, which were also discussed in the RTP.

**Question: 2.** In developing the current RTP, did MAG consult with State and Local Agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation?

- If yes, did the consultation involve the comparison of transportation plan to State conservation plans/ maps and inventories of natural/historic resources?
- Please provide a brief description of the consultation effort.

**Response:** In developing the current Regional Transportation Plan (RTP), State, Local, and Tribal agencies were consulted regarding transportation planning issues affecting land use management, natural resources, environmental protection, conservation and historic preservation. These discussions also included the identification of conservation maps, inventories of natural or historic resources, and other information sources to utilize in the

regional transportation planning process. Similar to the environmental mitigation discussions, this consultation effort was aimed primarily at identifying resource and conservation concerns that address future planning efforts and future RTP elements. The consultation process yielded mitigation issues and concepts in four major areas: cultural resources, natural resources, and land use patterns. A detailed discussion of these areas was included in the RTP.

The MAG long range transportation planning process is structured to make planning decisions and prepare planning products that are sensitive to environmental mitigation and resource conservation considerations. A key step in this process is the involvement of environmental and resource agencies in MAG transportation framework studies. One of the major steps in the transportation framework study process covers the inventory of environmental and resource factors. Environmental and resource agencies are solicited for input early in the process, so that data on existing conditions can be assembled thoroughly and accurately. This includes the comparison of transportation planning alternatives to state conservation plans/maps and inventories of natural/historic resources. During the consultation process, an emphasis is placed on identifying and avoiding known environmental issues at the level of planning contained in the RTP.

In addition to data collection, the framework process includes the identification of potential environmental, cultural and natural resource issues affecting the area or corridor under study. The information on existing conditions and potential issues provides one of the key inputs for identification of alternatives. Once alternatives have been identified, environmental and resource data and issues identified in the inventory phase are utilized as input for the development of evaluation criteria and the assessment of alternatives. This evaluation process provides valuable information on possible environmental and resource impacts and helps identify mitigation and/or avoidance considerations connected with potential future decisions on proposed new transportation corridors or improvements to existing facilities.

**Question: 3. Does MAG have a documented process(es) that outlines roles, responsibilities, and key decision points for consulting with Indian Tribal governments and Federal Land Management Agencies in the development of the Long-range Transportation Plan?**

**Response:** The continuing involvement of environmental and resource agencies is pursued throughout the MAG transportation planning process, and documented in the Regional Transportation Plan. A broad range of agencies is a part of this process, including Indian Tribal governments and federal land management agencies, as well as state land management agencies. This participation is aimed at early input so that environmental mitigation and resource conservation considerations are taken into account at all key stages of the technical planning effort, as well as the decision-making process on proposed plans and programs. The approach to the consultation process includes two major elements: (1) consultation in the transportation framework study process, and (2) consultation on the Regional Transportation Plan.

Consultation in the transportation framework study process includes involvement of environmental, resource, and regulatory agencies in the inventory of environmental and resource factors. For example, as part of the Hassayampa Valley and Hidden Valley Transportation Framework studies, more than 60 meetings were held with these agencies. Agencies are solicited for input early and often in the framework study process, so that data on existing conditions can be assembled thoroughly and accurately. In addition to data collection, the framework process includes consultation on potential environmental, cultural and natural resource issues affecting the area or corridor under study. The information on existing conditions and potential issues is a major input for identification and evaluation of alternatives. This early involvement provides valuable information on possible environmental and resource impacts and helps identify mitigation and/or avoidance considerations connected with potential future decisions on proposed new transportation corridors or improvements to existing facilities.

Consultation on the Regional Transportation Plan includes three types of activities: agency workshops, individual agency meetings, and participation in the MAG public involvement process.

- **Agency Workshops** - The consultation effort includes workshops held for the agencies involved in environmental and resource issues in the MAG region. The purpose of the workshops is to receive input from the environmental and resource agencies regarding the application of environmental mitigation and resource conservation concepts in the transportation planning process. Workshops have been held in 2006, 2007, and 2008; and one is planned for the fall of 2009.
- **Individual Agency Meetings** - In addition to the workshops, separate meetings with individual agencies to discuss resource conservation and environmental mitigation issues are held, as appropriate. These meetings provide the opportunity to have detailed discussions on concerns and issues, as well as identify available data and information resources in depth.
- **MAG Public Involvement Process** - As part of the overall consultation process, the environmental and resource agencies are included in the MAG public involvement process. The MAG public involvement process is divided into four phases: Early Phase, Mid-Phase, Final Phase, and Continuous Involvement.

**Question: 4. Briefly describe how the MAG RTP development process will prepare and document system level estimates of costs and revenues to adequately operate and maintain Federal-aid highways and public transportation service.**

**Response:** The chapters in the RTP on the freeway system and the arterial street system include discussions of system operation, maintenance and preservation. Costs for these functions are developed using per-mile rates by facility-type. These rates are applied to future plan networks to develop long-range cost estimates in terms of Year of Expenditure (YOE) dollars, taking into account the estimated mileage added incrementally to the system

and future price inflation rates. Similarly, future transit system operating costs are estimated based on unit operating costs and the service levels included in the RTP, taking into account the growth in service provided during the life of the RTP and future price inflation rates.

Revenues from reasonably available revenue sources are estimated in YOE dollars by mode for the planning period of the RTP. The costs associated with operation, maintenance and preservation are taken into account as part of the long range assessment of funding and expenditures for each mode, which is included in the RTP.

**Question: 5. Briefly explain how MAG ensures that project cost estimates in the Transportation Plan are regularly updated and reflect the latest available information.**

**Response:** The Regional Transportation Plan (RTP) utilizes the life cycle programs that are maintained for the major transportation modes, as a key input to the planning process. These life cycle programs are developed by the Arizona Department of Transportation (ADOT), the Regional Public Transportation Authority (RPTA), and the Maricopa Association of Governments (MAG), respectively, for the freeway/highway system, public transit system, and arterial street system. The programs meet the requirements of Arizona state legislation calling for the agencies to conduct a budget process that ensures that the estimated cost of planned improvements does not exceed the total amount of revenues available for those improvements. Cost estimates in the life cycle programs are generally updated annually.

The life cycle programs provide a comprehensive yearly listing of projects, including their costs and implementation schedules. In addition to providing a source of updated cost estimates, they represent an invaluable tool for monitoring construction progress on individual projects and assessing the financial status of the programs as a whole. The life cycle programs provide a benchmark for the decision-making process regarding alterations to projects scopes, adjustments to construction schedules, and changes to plan and program priorities.

As part of the RTP update process, other program costs are also updated to reflect estimated future inflation.

**Question: 6. Does the planning process consider and develop strategies, costs and resources for capital and operations investments to preserve the existing transportation system? Briefly explain.**

**Response:** The RTP process recognizes the high importance of maintaining the regional transportation infrastructure. The RTP identifies maintenance as a critical Plan element, with the following objective: To provide for the continuing preservation and maintenance needs of transportation facilities and services in the region, eliminating maintenance backlogs. The high level of importance placed on preservation is reflected by the allocation of major blocks of regional-level funding in the RTP to improving the existing roadway network, and conducting various aspects of the maintenance function, which includes litter pick-up, landscape maintenance, and rubberized asphalt overlays.

In addition, the chapters in the RTP on the freeway system and the arterial street system include discussions of system operation, maintenance and preservation. Similarly, the RTP chapter on public transportation includes estimates of long range operating costs for each transit mode, including maintenance facility requirements. The costs associated with these elements are taken into account as part of the long range assessment of funding and expenditures for each mode, which is included in the RTP.



## AGREEMENTS AND CONTRACTS

**Question: 1. What interagency agreements and contracts exist between the MPO, State DOT, and transit operators, and are such agreements and contracts current? Have there been any changes to the interagency agreements and contracts since the previous planning review? Please include all current agreements and contracts with your response packet.**

**Response:** A number of interagency agreements exist between MAG and ADOT and the transit operators, Valley Metro Rail (METRO) and the Regional Planning Transportation Authority (RPTA).

The agreement between MAG and ADOT is current. In the past, this agreement has been updated every five years with the current agreement effective date of July 1, 2006. This agreement is scheduled to be updated in 2010. There were no substantive changes to the ADOT-MAG agreement with the execution of the 2005 update. (A copy of this agreement is included in Appendix F.)

There are three current interagency agreements in place between MAG and RPTA. The agreements are for Transit Support Services, Bike and Regional Bike Safety Education Campaign, and Regional Rideshare. These agreements have been in place for a number of years with annual updates. These agreements are updated and described in the MAG Unified Planning Work Program annually and have been ongoing for a number of years. There have been no substantive changes to the scope of work in the agreements since the previous planning review. (Copies of the most current agreements are included in Appendix G through I.)

An agreement with Valley Metro Rail was first executed in 2005 for Light Rail Transit Planning Services. This agreement has been updated annually and described in the MAG UPWP since the inception of the agreement. There have been no substantive changes to the scope of work in the agreement during this time. (A copy of the most current agreement is included in Appendix J.)

**Question: 2. Are there agreements between MAG and the transit operators that specify cooperative procedures for carrying out transportation planning, including corridor and sub-area planning studies?**

**Response:** There is a current resolution between transit operators, including Valley Metro Rail, RPTA, City of Phoenix (as the Designated Recipient for federal transit funds) and MAG, in place for transportation planning. This resolution was executed in 2007 and has been included as part of the UPWP since that time. This resolution has not been updated from the original document in 2007. (A copy of this resolution is included in Appendix K.)

**Question: 3. Has MAG set up any alternative procedures for agreements such as a single cooperative agreement with the State, transit operators, and the air quality agency; or have they included all of the subject roles, responsibilities, and cooperative actions in the prospectus of their Overall Work Program?**

**Response:** A working group was formed comprised of staff from MAG, RPTA and Valley Metro Rail to review the responsibilities and identify alternative ways to organize transit programming activities. Staff from the City of Phoenix joined the working group later due to the City's role as the designated grant recipient for federal transit funds. The working group produced a chart identifying all areas of transit activities and entity responsibilities for those items. The focus of the chart was to examine and evaluate responsibilities that may be duplicated, fragmented or completed, creating issues with the integration of related activities. The working group focused on policy discussions and then addressed implementation based upon guidance from the MAG Executive Committee. Four options have been developed to address better integration of transit planning and programming. The options have been finalized by the working group and will be presented this year to the MAG Executive Committee for further guidance in moving forward with changes to transit planning and implementation.

**Question: 4. Are there any problems with the contents of the agreements that would require updating?**

**Response:** On April 17, 2009, the annual Intermodal Planning Group (IPG) meeting was held for the federal review of the work activities of MAG, RPTA and Valley Metro Rail. Representatives from FHWA, FTA, the EPA, and ADOT participated in the session. During the meeting, the FTA representative stated that MAG could not delegate its transit programming responsibilities. Since the IPG meeting, the FTA has notified MAG that the programming responsibilities need to be clarified in a new Memorandum of Understanding (MOU). These activities were asterisked in the FY 2010 UPWP for further evaluation during the 2010 year. For the current fiscal year, MAG is being allowed to advance its programs, despite the lack of a comprehensive agreement. FTA is anticipating that compliance will be achieved during the current fiscal year.

MAG has begun work on a new Memorandum of Understanding (MOU) with all transit operators in the MAG region including: Valley Metro Rail, RPTA, City of Phoenix, City of Tempe, City of Surprise (dial-a-ride/para-transit operator), City of Peoria (dial-a-ride/para-transit operator), and the City of Glendale (dial-a-ride/para-transit operator). This MOU will outline the cooperative planning and programming responsibilities for the region. It is anticipated that this MOU will be executed in FY 2010.

## PROGRAM DELIVERY/PROJECT MONITORING AND LIST OF OBLIGATED PROJECTS

Please discuss MAG's project monitoring system and the overall program delivery of the previous TIP. Please address the following questions in the discussion:

**Question: 1. How does MAG monitor the TIP to assure timely authorization and completion of projects?**

**Response:** For the past five years, MAG has worked with MAG member agencies on project development status through its annual collection of project information through the TIP Data Entry System. A component of this project information is the status of the project, i.e., if it is completed, underway, deleted, advanced, deferred, or there was no change to the project schedule. This information is reported in the Project Listing section of the MAG TIP. Also, MAG consults regularly with ADOT, RPTA, and Valley Metro Rail regarding the status of improvement projects and potential implementation issues. An ad hoc group of these agencies meets at least monthly to facilitate timely completion of projects.

In addition, local projects programmed to receive federal funds are monitored closely with bi-annual status reports and additional programming guidelines that address project completion issues. MAG has worked cooperatively with MAG member agencies to establish Programming Guidelines that address guiding principles, application process, competitive project selection process for MAG federal funds, programmed federal fund projects, annual year end closeout process, and re-distributed obligation authority. MAG works with the ADOT Local Government Section and MAG member agencies to obtain the most current and accurate information for the bi-annual status reports of local projects programmed with federal funds.

In addition, MAG has created a public website, MAG Federally Funded Program, that reports on project development status on all local projects programmed with CMAQ and STP funds in the MAG region. The website is: <http://www.mag.maricopa.gov/archive/fedtip>.

This site provides members of the public and local government staff with status information on the development of MAG federally funded projects currently proceeding through the Arizona Department of Transportation-Local Government process. This website is intended to serve as a "one-stop-shop" for information about local sponsored federal projects. The center piece of this website is the Projects Page, which lists all locally sponsored federal projects. A user can click on the projects tab, and either select a project by its TIP ID number or use the pull-down toolbar menus to search for the appropriate project. The Projects Page allows a user to obtain a Details Page that summarizes programming history, amount of funds programmed, statuses of various clearances, project identification information, bidding information, and contact information. Additionally, there are links to information about project development, including the process on working with the ADOT Local Governments Section, environmental requirements, and contact information.

MAG is scheduled to receive monthly obligation reports from the ADOT Financial/Planning section, but receives them inconsistently. As a result, MAG must rely on information from local agencies and the ADOT Local Government Section to determine project obligation/authorization.

**Question: 2. What process is used to ensure that projects utilize Federal funds for the year for which they are programmed? Over the past three years, what percentage of projects in the TIP actually advanced to construction?**

**Response:** MAG uses the above mentioned status reports, the MAG Federally Funded Program website, and the Programming Guidelines to encourage and ensure projects utilize federal funds in the year in which they are programmed. As part of this effort, MAG reports on obligated projects. The ADOT Local Government Section also provides bid schedules for locally sponsored federal fund projects. Information pertaining to constructing projects has not been transmitted from ADOT/FHWA to MAG.

**Question: 3. Are project status reports produced? If so, how often? Are such reports provided to project sponsors, FHWA, FTA, ADOT?**

- **Optional - What are the primary causes of project delivery delays?**
- **Optional - How has MAG addressed these delays?**
- **Optional - How can FHWA, FTA, and ADOT assist MAG (and local agencies) in addressing project delays?**
- **Optional - Did MAG experience any significant delays in the planned implementation of major projects from the previous TIP? Please provide a list of projects that were not implemented and discuss causes of the delays.**

**Response:** The project status reports are developed bi-annually at a minimum, and are shared with a minimum of three MAG Committees: the MAG Street Committee, Transportation Review Committee, and MAG Management Committee. MAG member agencies, including ADOT, are members of these committees.

In addition, the MAG Federally Funded Program website reports on project development status on all local projects programmed with CMAQ and STP funds in the MAG region. The website is available to the public at <http://www.mag.maricopa.gov/archive/fedtip>.

- **What are the primary causes of project delivery delays?**

**Response:** From working with the Arizona Department of Transportation (ADOT) and local sponsors of highway federal fund projects on a continuous basis, the primary causes of delay seem to be:

- Local sponsors not anticipating the time needed for project development, therefore causing a project not to obligate in the year it was programmed to obligate.
- Project Development process documentation, requirements, and formats not provided in electronic formats/templates for local sponsors.
- Inconsistent timelines, and timetables provided by ADOT. For example, actual clearance times vary significantly from those documented in the ADOT Local Project Development Manual.
- Project development milestone deliverables are not tracked nor managed to meet the published timetables established by ADOT, the responsible agency to administer the federal project development process.
- Funding availability for local costs commitments associated with the project.
- Adequate staff available for project development at ADOT and local sponsor agencies.
- ADOT divisions providing inconsistent and untimely comments about project development milestones. For example, as projects entering Plans Specifications and Estimates approval, one of the last steps prior to obligation, ADOT staff provides comments to the local agency regarding the design and scope of the project, which should have been provided at 30 percent or 60 percent design plans.
- In consistent and timely financial/obligation reports from ADOT to MAG.
  - **How has MAG addressed these delays?**

**Response:** MAG works continuously and cooperatively with the ADOT Local Governments Section and MAG member agencies for project obligations. MAG has worked with its member agencies through working groups and the MAG Committee process to develop the MAG Federal Fund Programming Principles. The MAG Federal Fund Programming Principles provide guidance related to programming concepts, the application process, competitive project selection process for MAG federal funds, programmed federal fund projects, the MAG closeout process, and re-distributed obligation authority. These Programming Principles were conceived from initial guidance that was approved in the mid 1990's, and expanded to include items related to project changes, deferrals of projects, financial commitment, and project prioritization. In July 2009, the MAG Management Committee, established the Federal Fund Work Group that is tasked with reviewing the MAG policies and processes related to federally funded local projects. The primary objective of the Work Group is to explore ways that MAG can improve the programming process to reduce the number of projects that have to be deferred from one fiscal year to another.

In addition to the Programming Principles, the Federal Fund Status Reports are presented through the MAG committee process. Working groups are also formed when needed to address specific issues. Currently, there is a Federal Fund Working Group consisting of 19 MAG member agencies to review and make revisions to the Programming Principles and process related to project deferrals, project development for small or inexperienced local governments, project costs, and local financial commitment.

- **How can FHWA, FTA, and ADOT assist MAG (and local agencies) in addressing project delays?**

**Response:** Assistance can be provided by working cooperatively and openly to address the above mentioned primary causes of project delivery delays, with action items and deliverables.

### **LIST OF OBLIGATED PROJECTS**

**Question: 4. Does the listing identify pedestrian walkways and bicycle transportation facilities?**

**Response:** For the past five years, MAG has worked with MAG member agencies on project development status through its annual collection of project information in the TIP Data Entry System. A component of this project information is the status of the project, i.e., if it is completed, underway, deleted, advanced, deferred, or there was no change to the project schedule. This information is reported in the Project Listing section of the MAG TIP.

The Project Listing section that reports on the completed and underway projects includes projects funded with local, regional, state, and federal funds for all modes of transportation, including pedestrian and bicycle facilities. The completed and underway projects include federally funded projects that have obligated.

In conjunction with the TIP Program of Projects, a CMAQ Annual Report is generated on an annual basis that documents the CMAQ funded projects in the MAG region that obligated in the previous year. This includes pedestrian and bicycle projects that are funded with CMAQ funds. The CMAQ Annual Report is presented and reported on at the MAG Air Quality Technical Advisory Committee meetings with information provided to the Arizona Department of Transportation and the Federal Highway Administration. The MAG Air Quality Technical Advisory Committee meetings are open to the public.

**Question: 5. How is the Annual Listing of Obligated Projects made available to the public?**

**Response:** As mentioned in the Transportation Improvement Program and Project Selection section of this report, the TIP, which includes a list of completed and underway projects, is developed, consulted on, and approved through a public process involving the MAG Committee process and an approved Public Participation Plan. The completed and underway projects reported in the TIP Listing of Projects include federally funded projects that have obligated.

The Public Participation Plan includes a Mid-Phase joint Open House and Public Hearing for MAG, ADOT - State Transportation Board, RPTA, Valley Metro Rail, City of Phoenix/Department of Public Transit, and the Citizen's Transportation Oversight Committee. The Draft TIP, Draft State Highway Program, and Draft RTP Plan Update are reviewed at the Mid-Phase meeting. A Final-Phase Open House and Public Hearing for MAG on the Final Draft TIP, Draft RTP Update, and Draft Air Quality Conformity Analysis is also held. The TIP report that is included in the Public Participation process includes a listing of completed and underway (obligated) projects in the region.

The CMAQ Annual Report is presented and reported on at the MAG Air Quality Technical Advisory Committee meetings with information provided to the Arizona Department of Transportation and the Federal Highway Administration. The MAG Air Quality Technical Advisory Committee meetings are open to the public.



## PUBLIC PARTICIPATION PLAN

Section 450.316(a) of the metropolitan planning regulations requires that the metropolitan planning process include a public participation plan that is created in consultation with interested parties and provides complete information, timely public notice and full public access to key decisions; and to support early and continuing public involvement in developing plans and TIPs.

**Question: 1. Has MAG completed its Public Participation Plan in consultation with all interested parties? (Please include a copy).**

**Response:** The MAG Regional Council adopted the new Public Participation Plan in December, 2006. (See Appendix L.) Prior to its adoption, MAG made the plan available for 45 days for review and distributed the plan to all interested parties (as defined in SAFETEA-LU regulations). MAG also held a stakeholders meeting where the plan was also presented and discussed by representatives from interested parties, including the general public, member agencies, freight, and transit interests. All comments made during the 45-day review were forwarded to policymakers where they were considered prior to adoption of the plan.

**Question: 2. How does MAG employ visualization techniques in the development of its metropolitan transportation plan and TIP?**

**Response:** With the help of its graphics, Web and Information Services staff, MAG utilizes many innovative techniques to help residents better understand what transportation investments are included in its transportation plans and programs. Examples include project specific maps and graphs, digital photography, high resolution graphic displays, Geographical Information Systems, map overlays, PowerPoint presentations, aerial photography, photo simulations, technical drawings, charts and graphs. Alternative scenarios, including visual depictions of scenarios, are presented to demonstrate differences among solutions or approaches. All of these techniques and applications are used as part of the public involvement process for the TIP and Plan updates at input opportunities such as large special events, small and large group presentations, neighborhood meetings/presentations, video conferencing and one-on-one meetings. In addition, MAG also utilizes its Video Outreach Program to provide information to the public about MAG plans and programs, such as a recent half-hour documentary on the status of Proposition 400 projects in the region. This video aired repeatedly on every city cable channel and provides another way of communicating with Valley residents.

Visualization techniques in public involvement planning are essential to assisting public understanding of transportation plans and programs. The MAG Public Participation Plan was recently cited as a notable practice in the Federal Highway Administration's *Public Involvement/Public Participation Transportation Planning Process Resource Guide*. In the category of *Public Participation Plans (PPPs) and Notable Elements*, MAG's description of its utilization of visualization techniques in its PPP was used as an example of how to include these techniques in a public involvement plan and program.

**Question: 3.** For the 2007 RTP and 2008 TIP, how did MAG seek out and consider the needs of those traditionally underserved by the existing transportation systems, including, but not limited to low-income and minority households? What issues were raised and how are their concerns documented? In what instances have comments raised during consultation resulted in changes to policy, plans, programs or projects? How does MAG respond to comments when they do not result in a change? Please discuss and provide documentation on specific initiatives or activities undertaken by MAG to these groups in the TIP development process.

**Response:** MAG conducted an Early Phase, Mid-Phase and Final Phase public involvement process, as described in the adopted MAG Public Participation Plan, for updates to the 2007 RTP and 2008-2012 TIP. During this time, MAG distributed information and received input at large community events, as well as small and large group presentations, via the Web, e-mail and telephone correspondence. All meetings were noticed with some combination of display advertisements, targeted mailing, public notice, press releases, Web posting and announcements at MAG policy committee meetings. (See Appendix M for listing of press releases.)

In an effort to make information delivery faster, MAG implemented an e-mail notification system that makes it easier for the public to receive documents such as meeting notifications, agendas, minutes and reports. Through a free subscription service called GovDelivery, users can subscribe to pages that contain information and documents for which they have the highest interest. The service monitors specific Web pages for changes, and when a change is detected, the service sends an e-mail to subscribers notifying them of the updated information available. There are about 130 monitored pages on the MAG Web site. To aid access to MAG Web sites by the visually impaired, all photos and illustrative graphics are accompanied by a descriptive caption, through the use of the alternate text (alt text) attribute. A visually impaired reader, who is using a screen reader, will hear the alt text in place of the image. MAG has a goal of meeting as many of the techniques recommended by the Web Accessibility Initiative as possible that are applicable to our Web sites.

After each key public involvement phase, MAG produced a report containing all input received during the phase. This report was delivered to the MAG Management Committee, TPC and Regional Council for review and consideration prior to action. During the Mid and Final phases, a public hearing is conducted and a court reporter is retained. Comments and suggestions received at the meeting are taken verbatim. MAG produces a formal response to comments section that is made part of the Mid-Phase and Final Phase reports, and the public hearing transcript is also included. A sample of events/meetings conducted during the update cycle where input was received included staffed booths at the MLK Day celebration, Hispanic Women's Conference, Arizona Disability Expo, National Federation of the Blind of Arizona Statewide Conference, EarthFest, Scottsdale Area Realtors Association Expo, Chicanos Por La Causa Business Expo in Spanish, Tempe Tardeada (city of Tempe's salute to Hispanic heritage), City of Phoenix Latino Institute Back to School Informational and Health Fair, Juneteenth African-American Celebration, Northwest Valley

Black History Celebration, Annual American Indian Pow Wow (cultural and informational event), ADOT Informational I-17 Road Shows (in conjunction with ADOT), Loop 202 Freeway Opening (to celebrate completion of the Loop 202), Touchstone Behavioral Health Community Fair, African-American Legislative Workshop, Transportation Safety Day sponsored by the Governor's Traffic Safety Advisory Council, and the Governor's Council on Developmental Disabilities Day at the Legislature, among others.

Since the RTP included modal splits, it is important to note that the bulk of MAG's public involvement for the RTP, and consequently the TIP, was completed prior to its approval by voters in 2004. During the development of the RTP, MAG engaged in an intensive public involvement program. There were more than 350 public input opportunities and three scientific telephone polls conducted. In the early stages of RTP development, the modal split was nearly 90 percent for freeways and three percent for transit. After the public involvement/survey process was complete, and the results provided to the TPC and Regional Council, transit received a 30 percent increase in modal share. This was due to the comments received during the public input/survey process, which included informal as well as scientifically valid surveys that included all segments of the public, including a variety of ethnic, social and economic demographics.

MAG receives comments on the transportation system on a daily basis. Staff either responds directly to the inquiry or distributes the comments to the appropriate agency, whether it be ADOT, Valley Metro, METRO, Maricopa County or a MAG member city or town. These responses are designed to answer questions, communicate the status of projects, address actions that can be taken, or provide context as to why action may not be taken.

**Question: 4. Has MAG reviewed its public involvement processes and evaluated their effectiveness in assuring that the processes provide full and open access to all? If yes, please provide a copy of the evaluation.**

**Response:** MAG continually reviews its public participation efforts for effectiveness as part of its communications planning efforts and makes adjustments as warranted. For example, in 2001, MAG sought a stronger relationship with the underserved communities in the Valley and contracted with Community Outreach Associates to the African-American, Hispanic, Native American and disability communities. It quickly became apparent to staff that there was a need for a full time staff member who could provide this outreach. In 2002, MAG hired a full time Community Outreach Specialist to work with Title VI communities, condensing the functions of the three minority functions, while maintaining the Disability Outreach Associate as a separate function.

MAG formally enhanced its public involvement process in 1994, 1998, and 2006. The most significant recent review of MAG's public participation process came during the development of the MAG Public Participation Plan (PPP) in late 2006. This document was provided for public review, including being noticed with a public notice and made available 45 days before the vote. A draft of the plan was directly mailed to all interested parties as outlined in the new regulations, including all MAG policy committee members, partner

agencies, and the MAG public involvement mailing list. After the 45-day period of review and consultation, MAG adopted the plan in December of 2006.

In addition to the above, staff recognizes that to reach the greatest number of residents, MAG needs to “go to the people” rather than expecting the people to come to us. To that end, MAG hosts information booths at numerous large and small scale community events and provides many small group presentations to provide information about MAG plans and programs, answer questions, and receive comments. During these events, MAG distributes an awareness survey in which participants are asked questions regarding transportation priorities as well as whether they have heard of the Maricopa Association of Governments. (See Appendix N.) We also ask whether the respondent has ever provided comment to MAG through any of its public input opportunities. We question their overall perception of MAG and their primary area of interest, and ask them to check boxes on publications they are interested in receiving. MAG tracks these responses and utilizes those results to evaluate our effectiveness in increasing awareness of MAG. For example, in 2001, only 28 percent of respondents said they were aware of MAG. In 2009, that number was up to 43 percent, an overall increase of 54 percent. The same survey shows that while 39 percent of respondents had an excellent or good perception of MAG in 2001, that number has since jumped to 52 percent, an increase of 33 percent. Most importantly, the survey measures whether respondents have ever provided comment to MAG through its input opportunities. From the baseline of 8 percent of respondents who stated they had provided input in 2001, to 21 percent of respondents who indicated they had provided comment in 2009, the overall percentage increase in the number of respondents indicating they have provided input to MAG through its public involvement opportunities is 162 percent – a significant achievement. (See Appendix N).

Through the utilization of GIS maps, in 2008 MAG public involvement staff used the Awareness Survey to track the percentage of awareness and perception of MAG throughout the Valley. The results revealed that some areas with high minority concentrations (e.g. Title VI communities) were as likely, or even more likely, to be aware of MAG as other communities. Other areas with high minority concentrations were not as likely to be aware of MAG. The largest percentage of awareness was in the Northeast Valley, where many public involvement activities were held surrounding the I-17 widening project. The Central Valley area also recorded high awareness levels and a good perception of MAG. Based on zip code analysis, MAG identified areas where additional outreach was needed, in particular the far Southwest Valley. Since that time, the Interstate 8 and 10-Hidden Valley Transportation Framework Study has provided numerous input opportunities including 11 city/town meetings and 12 meetings with property owners.

To aid access to MAG Web sites by those with disabilities, primarily the visually impaired, all photos and illustrative graphics are accompanied by a descriptive caption, through the use of the alternate text (alt text) attribute. A visually impaired reader, who is using a screen reader, will hear the alt text in place of the image. MAG is currently undergoing a Web redesign that requires that as many of the techniques recommended by the Web Accessibility Initiative, that are applicable to our sites, are used in order to make the information on MAG Web sites accessible to persons with disabilities.

These are just a few of the many strategies MAG uses to evaluate its public involvement process. In developing the MAG Unified Planning Work Program and Annual Budget each year, MAG public involvement staff develops numerous specific, measurable objectives and outcome measures for the next fiscal year. Each narrative additionally provides the results of the outcome measures from the previous year. MAG utilizes these results to determine progress made and to develop outreach strategies and outcome measures for the upcoming fiscal year.



## TITLE VI, ADA, and ENVIRONMENTAL JUSTICE

Please discuss MAG's efforts in addressing Title VI, ADA, and environmental justice throughout the transportation planning processes. Please address the following questions in the discussion:

**Question: 1. What Title VI and Environmental Justice measures, benchmarks, or criteria has MAG developed? (Examples: travel time from home to work, number of low-income people who can travel from home to work in under an hour.) How were these measures developed? Who had input in their development? Does the RTP and TIP provide some measure of service across all modes?**

**Response:** MAG recognizes the significance of transportation to all residents of the metropolitan area and the importance of Title VI/Environmental Justice considerations in the transportation planning process. As a result, an environmental justice analysis of the Regional Transportation Plan (RTP) was prepared. Each of the three major components of the RTP (freeways/highways, transit and arterial streets) was addressed in this analysis to assess the distribution of benefits of projects included within the RTP. The analysis determined the percentage of communities of concern that are served by new freeways or widening of existing freeways, planned transit improvements, and arterial streets projects. Five communities were included in the analysis: minority populations, low income populations, aged populations, mobility disability populations, and female head of household populations. Based on the review of freeway/highway, transit and arterial improvements, it was concluded that the RTP provides equal or better benefits to minority communities.

The measures of equity in the transportation planning process were developed as part of the RTP update process. Public involvement in connection with these efforts include opportunities for public input early on in the process, during the planning process, and prior to final hearings. The process provides complete information on transportation plans, timely public notice, full public access to key decisions, and opportunities for early and continuing involvement in the process for all segments of the region's population, including Title VI and environmental justice communities. Numerous public outreach activities are conducted as part of the MAG RTP outreach efforts. These include staffed information booths, public workshops and meetings, attendance at events, presentations, and open houses. The outreach activities have been targeted to both specific minority groups and the general public as a whole.

**Question: 2. What aspects of the regional transportation system are identified as part of a regional analysis of benefits and burdens? How are benefits and burdens of the regional transportation system distributed across different racial, ethnic and economic groups?**

**Response:** MAG endeavors to incorporate environmental justice into regional transportation planning on an ongoing basis. Each of the three major components of the RTP (freeways/highways, transit and arterial roads) was addressed in a Title

VI/Environmental Justice analysis, which determined the percentage of communities of concern that are served by new freeways or widening of existing freeways, planned transit improvements, and arterial streets projects.

Approximately 40 percent of the census tracts for each of the communities of concern (minority, female head of household, poverty, disability and age 60+) are served by the improved freeway/highway network, which is virtually the same as the 40 percent of the non-minority census tracts that are served. Similar results were found in transit where around 90 percent or more of the communities of concern were served by the transit network; whereas, a slightly lower number of non-community of concern census tracts were affected. For arterial projects, three of the five communities of concern were served less than the non-minority communities.

The analysis relied on proximity to transportation improvements as a measure of equity in the transportation planning process. Proximity is an important issue; however, individual project impacts are also addressed on a project-by-project basis. For those without cars in a region as geographically dispersed as the Phoenix Metropolitan area, transit provides a critical link to jobs, shopping, medical care, and recreation. As indicated by census and other travel survey data, there is a direct correlation between income and transit dependency. Reaching out to address this need, the RTP increased funding for transit to 33 percent of the sales tax extension from the approximate two percent in the prior sales tax, demonstrating a growing commitment to provide transportation options for all residents of Maricopa County.

**Question: 3. How does MAG determine the needs, values and issues of low-income and minority populations? (Examples: neighborhood or community advisory groups; targeting visioning process; local studies done for other major public capital investments, such as sports arenas, jails, sewage treatment plants, hospitals; MAG interviews and involvement with businesses, community leaders, and residents; focus groups; and preference surveys.) How does MAG seek viewpoints of communities that have no spokespersons or community-based organizations?**

**Response:** MAG's approach to determining the needs of low income and minority populations is unique. During the development of the RTP beginning in 2001, MAG contracted with Community Outreach Associates to the African-American, Hispanic, Native American and disability communities. The sole objective of these associates was to engage the low income and minority populations, and report the results to the MAG TPC and Regional Council via the MAG Communications Division. The associates developed extensive mail lists of key figures in these communities, participated in special events and made small and large group presentations. In 2002, MAG condensed three of the positions into one full time Community Outreach Specialist and retained the Disability Outreach Associate. These positions were critical in helping the TPC and Regional Council develop a multimodal transportation plan that was part of the successful passage of Proposition 400. The relationships forged during that time continue to flourish today, and the stakeholder lists developed during that intensive outreach period are continually updated.

More recently, MAG staff has made a priority of engaging groups that are on the fringe of the community such as brain injury survivor groups, aged caregivers groups and mental health deficiency groups, among others. MAG staff provides these presentations in cooperation with Valley Metro. The purpose of these presentations is to help these groups learn how to navigate the Valley's transportation system, including how and where to purchase a transit ticket, apply for an ADA eligibility card, and ensure a discounted fare.

In addition, MAG works closely with its Human Services division, which conducts a variety of planning efforts on behalf of disadvantaged populations. For example, the MAG Human Services Technical Committee is composed of member agency staff, representatives of United Way, community councils, the Arizona Department of Economic Security, and the Area Agency on Aging. The Continuum of Care Regional Committee on Homelessness provides direction on homeless planning and policy and directs an annual street count of homeless populations. Another committee works with domestic violence service providers. The Elderly and Persons with Disabilities Transportation Program Committee determines a priority listing of Section 5310 applications, including mobility management funds to transport older adults and people with disabilities. Recently, the MAG Human Services Coordination Transportation Plan was recognized as a national best practice. The MAG Transportation Ambassador Program is one of the strategies included in the plan and a significant reason for the award. To date, more than 200 people participate in the program from a variety of social service and transportation agencies, community based groups, and individual advocates. All participants offer feedback on the needs of transportation disadvantaged populations and the strategies to best meet these needs.

MAG also works with its Information Services division to track changes in population and employment, changes in growth patterns, and shifting demographics.

Finally, MAG works with numerous private and nonprofit partners to host forums, conduct surveys, and analyze information gathered through external sources, such as a recent partnership with the Center for the Future of Arizona, which conducted a Gallup Poll of 3,600 Arizona respondents to measures Arizonans' attitudes and values.

All of these efforts combine to assist the organization in identifying the needs, values and issues of low-income and minority populations.

**Question: 4. How does MAG provide meaningful access to persons with limited English proficiency in its public involvement processes consistent with Executive Order 13166 and US DOT LEP Guidance [70 F.R. 74087 (2005)]?**

**Response:** The MAG Community Outreach Specialist translates MAG policy documents, public involvement documents, press releases, fact sheets and other major materials into Spanish for distribution and posting to the MAG Web site. The specialist responds to requests from Spanish language print and broadcast media outlets for interviews and other information related to the MAG planning and programming process. In addition, MAG includes specific language on all public hearing/meeting notices that any special assistance needed is available if given reasonable notice.

**Question: 5. How are Indian tribal governments and related public agencies involved in the development of transportation plans and programs?**

**Response:** Three Native American Indian communities within Maricopa County are MAG members. These communities include the Fort McDowell Yavapai Nation, the Gila River Indian Community, and the Salt River Pima Maricopa Indian Community. These tribes participate in the MAG transportation planning and programming process with full voting representation on the three MAG policy committees: MAG Management Committee, Transportation Policy Committee (TPC) and the Regional Council. The Native American representative to TPC represents all three Native American Indian communities. These tribal nations are also full voting MAG members on all MAG transportation technical committees. A fourth Native American Community, the Tohono O'odham, has a small piece of tribal land in the MAG region and has discussed becoming a member of MAG. The MAG Senior Policy Planner is also currently serving on a technical advisory committee to update the long range transportation plan for the Salt River Pima-Maricopa Indian Community. This ADOT led effort included consultant selection by the technical advisory committee plus an expected year-long involvement to provide feedback into the planning process. In addition, briefings on transportation issues have been provided by MAG staff to the Arizona Inter-Tribal Council, the Tohono O'odham Nation and the Ak-Chin Indian Community.

**Question: 6. How does MAG compare investments across different modes? How are highway capital costs compared to public transit capital costs and costs to support walking and bicycling?**

**Response:** An integrated approach is taken to evaluating the trade-offs in investments among the modes. In the development of the RTP in 2002/2003, this approach involved developing a series of plan scenarios, each with a different modal emphasis but essentially the same total cost. The scenarios were characterized by an emphasis, respectively, on freeways/highways, mass transit, and arterial streets. A set of performance factors was evaluated for each scenario, providing insights into the trade-offs among the scenarios regarding factors such as service levels, impacts, and costs. Based on this analysis, a hybrid scenario was identified, providing the basis for the multimodal plan that was eventually adopted. Similarly, in the transportation framework study process where large subareas of the region are analyzed, an integrated, system level approach is taken in identifying the mix of facilities and services provided.

As noted, a comprehensive update of the Regional Transportation Plan (RTP) was conducted in 2002/2003. This update resulted in the extension of the half-cent sales tax for transportation in the MAG region, and a commitment to the voters of Maricopa County to implement the projects identified in the Plan. As a result, recently the emphasis has been on project implementation, as opposed to the comparison of individual project investments across modes. Specific funding allocations across all modes were identified in the Plan, including freeways/highways, arterials, transit, bicycle/pedestrian, and air quality measures.

**Question: 7. What does MAG do to ensure that their services are accessible to persons with disabilities?**

**Response:** MAG contracts with a MAG Disability Outreach Associate. The associate was retained in 2002 and is charged with engaging the disability community through a variety of means, including attending special events within the community, making small and large group presentations and connecting individually with members of the community. The associate also distributes information and gathers input. The input is included in an Input Opportunity Report that is distributed to the MAG Management Committee, TPC and Regional Council for review and consideration prior to action. Because the disability community is an underserved community, and because it relies heavily on transit, nearly all input opportunities that the associate conducts include a representative from Valley Metro. The associate and Valley Metro representative work together to provide as much support and information to the community as possible. This includes helping members of the community learn how to navigate the transit system, including where and how to purchase ADA eligibility cards, how to communicate with the transit operator to ensure a successful ride, and how to best utilize Valley Metro's online trip planner. In some cases, Valley Metro will return to the site of the presentation/event with a bus. Riding the bus can be an intimidating experience for people with disabilities. This allows people from the disability community an opportunity to learn about all aspects of the bus in a controlled environment. Special arrangements can also be made for groups of people within the disability community to ride the rail with a Valley Metro representative. This is also an opportunity for people with disabilities to ride with a transit representative without the intimidation of riding alone.

In addition, the disability outreach associate translates MAG materials into braille, large-print or audio formats as requested. As a person with a sight impairment, the associate is uniquely qualified to help evaluate the accessibility of MAG services.

All MAG public meetings comply with ADA requirements and are transit and wheelchair accessible. In addition, free transit passes are provided to public meeting attendees upon request. MAG always includes specific language on all public hearing/meeting notices that any special assistance needed is available if given reasonable notice.



## CONGESTION MANAGEMENT PROCESS

As a TMA, MAG is required to have a Congestion Management Process (CMP) that complies with the provisions of 23 CFR 500.109.

**Question: 1. Does MAG comply with SAFETEA-LU CMP requirements? Has MAG reviewed applicable State laws, rules and regulations to ensure the CMP for the TMA is consistent with the SAFETEA-LU revised statutory language on the Congestion Management Process?**

**Response:** MAG complies with the requirements established in the SAFETEA-LU CMP (Titles III and VI of SAFETEA-LU, Sections 3005 and 6001) to the extent that existing programs conform with the following premises and guidelines in the Metropolitan Transportation Planning Final Rule.

- To establish an objectives-driven, performance based approach integral to the regional transportation planning process.
- To be collaboratively developed and systematically and consistently applied throughout a TMA in order to reduce demand and strategically manage operations.
- To be implemented to manage the operation and functions of new and existing transportation facilities.

SAFETEA-LU introduced several changes to metropolitan and statewide transportation planning provisions. One of these changes was the updated requirement for a Congestion Management Process (CMP), as opposed to Congestion Management Systems (CMS). This change required a shift from a stand-alone program to the functional integration of operational management strategies into the planning and environmental review processes. Additionally, SAFETEA-LU states that: "The development of a congestion management process should result in multimodal system performance measures and strategies that can be reflected in the Metropolitan Transportation Plan and the Transportation Improvement Program (TIP)."

MAG's Regional Transportation Plan (RTP) was adopted in 2003, and has been updated three times since its inception. The Plan is a multimodal, performance-based, comprehensive Regional Plan, adopted in conjunction with Proposition 400, which was a voter-approved extension of a half-cent sales tax for transportation improvements in the region. One of the key purposes of the Plan is to establish and implement processes to examine and address expected congestion during the next twenty years, as well as to establish priorities for projects to address this congestion. Pursuant to Arizona statutes, the authorization for Proposition 400 requires the establishment of performance measures for all major transportation modal categories, and requires quincennial performance audits of proposed transportation projects and systems starting in 2010. This audit process will examine the RTP projects scheduled for funding within each transportation mode and evaluate them using a specific set of measures as part of a Performance Measurement Program. In addition, it will review past expenditures based on the RTP and examine the

performance of the transportation system in relieving congestion, and in improving mobility and accessibility. The audit is also required to provide recommendations regarding whether further implementation of a project is warranted, warranted with modifications, or not warranted.

Consistent with the state-mandated requirements, MAG's transportation planning activities, as stated in the multimodal, objectives-driven and collaborative RTP, are substantially consistent with SAFETEA-LU CMP requirements.

MAG's congestion management strategies have been implemented using the CMS model, combined with modal committee-based recommendations, taking into account quantitative and qualitative factors. This process was applied in the development of the 2008-2012 TIP, approved in 2007 by the MAG Regional Council. The CMS was primarily developed collaboratively through the CMS Working Group and built on several years of analysis that culminated in a Congestion Management Systems Alternatives report. The CMS comprised two main criteria: the establishment of a series of strategies to address congestion, and the development and implementation of a CMS Rating System. The elements that were considered include performance measures, data collection and system monitoring, the identification and evaluation of proposed strategies, the implementation of those strategies, and the evaluation of the effectiveness of those strategies.

The RTP, which covers a twenty year planning period, includes three life cycle programs: the Freeway Program Life Cycle Program (FLCP), the Arterial Life Cycle Program (ALCP), and the Transit Life Cycle Program (TLCP). Multimodal programs and projects included in the life cycle programs were determined with the RTP's inception, and are included in the MAG TIP, as appropriate, as part of the annual update process. These life cycle programs establish a programming approach that forecasts and allocates funds through the full life of a major funding source such as the Proposition 400 tax extension, local and other federal funding sources, and reflect a fiscal balance between anticipated revenues and expenditures.

MAG currently has a project underway to develop a new CMP for the region. As MAG develops the next generation process for Congestion Management, special consideration will be given to stakeholder involvement as well as the informational and communications component. The goal is to create a separate CMP document integrated with the Performance Measurement Report that describes a fact-based, consistent methodology for program prioritization and project programming.

As new funding sources become available, the new CMP will play a greater role in the planning and programming of future transportation investments in the MAG Region. CMP strategies will continue to be based on the same goals and objectives of the original 2003 RTP, and will continue to use the same congestion mitigation criteria in the assessment and evaluation of the projects submitted for consideration. Following this principle, the new CMP will act as a consistent and integral part of the planning process.

The upcoming CMP update covers four major components:

1. The integration of system and corridor performance measures to help identify areas of highest congestion mitigation needs.
2. The utilization of analytical and visual tools to communicate and quantify congestion.
3. The early involvement of a stakeholder group representing both planning and operational components of the CMP.
4. The emphasis on searching for management and operational solutions as well as travel demand reduction strategies as a prerequisite for any proposed additional SOV capacity increase.

For projects funded through the Congestion Mitigation and Air Quality (CMAQ) Improvement program, which constitutes a federally funded program, MAG has developed methodologies for quantifying emission reductions and cost effectiveness. As part of the programming process, jurisdictions are requested through the MAG Management Committee, Transportation Review Committee, and MAG modal committees, to submit annual requests for federally funded projects. MAG evaluates CMAQ projects for possible inclusion in the Transportation Improvement Program. In the past the MAG modal committees furnished the CMAQ assessment, along with the Congestion Management System rating system score, for project evaluation purposes. Currently recommendations from the MAG modal committees are forwarded to the Transportation Review Committee for programming consideration. The CMAQ project assessment may be in the form of a quantitative analysis resulting from the methodologies or a qualitative evaluation. CMAQ guidance allows a qualitative evaluation to be made when a quantitative analysis is not possible, although every effort is made to quantify the emissions reduction impact of each project. Qualitative assessments may be based on a reasonable review of how a project or program will decrease emissions. Committed transportation control measures identified in the air quality plans receive priority in CMAQ project programming.

**Question: 2. Briefly explain how MAG is involved in the identification of travel demand reduction and operation management strategies and working with partners to develop projects priorities and schedule for implementation.**

**Response:** The MAG region currently benefits from a broad range of strategies for travel demand management, promotion of alternative modes, and optimization of operational procedures. These programs include carpooling, vanpooling, walking, bicycling, alternative and compressed work schedules, and telework programs.

MAG works closely with a number of agencies to develop and apply demand management programs, including Valley Metro, Maricopa County, the Arizona Department of Environmental Quality and the Arizona Department of Transportation. Rideshare programs support efforts to carpool, and to use alternative modes of transportation and work schedules throughout the region. The Clean Air Campaign is a public/private partnership

that urges residents to reduce vehicle miles traveled during peak hours by using alternative modes or alternative work schedules at least one day a week. As part of the Maricopa County Trip Reduction Program (TRP), participating employers are required to conduct an annual survey of the commuting modes of their employees, and prepare and implement a travel reduction plan to reduce the rates of single-occupancy vehicle (SOV) trips or the single occupancy vehicle miles traveled. Vanpooling is one of the Transportation Demand Management strategies many employers have implemented as a Trip Reduction Program measure.

A number of projects are also generated from individual MAG modal committees, taking into account MAG modal funding policies. This is the case for all the operation management strategies and improvements, which are identified and assessed in partnership with the MAG ITS and Safety Committees. Criteria applied by the ITS Committee include whether the project has been leveraged by partners of adjacent jurisdictions to have greater impact, whether the project complies with the ITS Strategic Plan Guidelines, and if it is integrated with the Regional ITS Architecture.

Following the normal TIP process, an initial list of possible projects is developed in conjunction with projects that are listed in the MAG RTP. (The projects from the RTP were identified previously, through a performance-based evaluation of the regional system, producing a list of projects to address congestion and mobility issues). Furthermore, projects identified to be included in the RTP had been previously coded into regional networks and were subject to travel demand model runs to assess their anticipated performance and expected benefits with respect to congestion management and mitigation. The project implementation process recognizes the existing statutory limitations on funding expenditures, as well as the potential flexibility that applies to certain federal sources.

**Question: 3. Describe how MAG ensures that all projects listed or proposed for inclusion in the TIP that significantly increases SOV carrying capacity are addressed in the Congestion Management Process? How does MAG ensure that all identified reasonable travel demand reduction and operation management strategies are incorporated into the SOV project or committed to by the State and MPO for implementation?**

**Response:** MAG approaches demand reduction and operation management strategies primarily from a systems level, to ensure that program efforts are coordinated and non-duplicative. In this way, region-wide results are obtained, providing benefits to transportation facilities throughout the MAG area. As described above, MAG works closely with a number of agencies to develop and apply demand management programs, including rideshare programs, use of alternative modes of transportation and work schedules, the Clean Air Campaign, the Trip Reduction Program (TRP), and vanpooling. Also, through its extensive involvement in ITS, incident management, and safety programs, MAG facilitates the operation efficiency of the existing transportation system. In addition, the Regional Transportation Plan dedicates a significant block of funding to the construction of HOV lanes on existing freeway facilities in region.

Also, it should be noted as part of its participation in the ADOT EIS/EA study process, MAG identifies opportunities for consideration of transit and non-motorized modal options to serve corridor travel demand.

In addition, MAG has an established project application, programming schedule, project evaluation process, and project selection process. This process includes an evaluation of the expected emissions reductions and cost effectiveness, as well as a project evaluation process at the technical advisory committees level. Project selection advances through the MAG committee process: Transportation Review Committee (TRC), Management Committee, and Transportation Policy Committee (TPC) for review and recommendation, and then Regional Council for approval.

The transportation project types and responsible technical advisory committees (TAC) are:

- Bicycle & Pedestrian projects are presented, reviewed, ranked at the Pedestrian and Bicycle Committee, and then forwarded to the TRC.
- Intelligent Transportation System (ITS) projects are presented, reviewed, and ranked at the ITS Committee, and then forwarded to the TRC.
- Paving Unpaved Road projects are presented and reviewed at the Street Committee, ranked at the Air Quality TAC, and then forwarded to the TRC.
- PM-10 Certified Street Sweeper projects are reviewed at the Street Committee, ranked at the Air Quality TAC, and then forwarded to the MAG Management Committee.
- In addition, the AQTAC may forward a ranking of Air Quality projects to the Transportation Review Committee.

As in past MAG transportation planning efforts, it is anticipated that the new CMP will continue to consider a full range of transportation solutions in addition to increasing SOV carrying capacity, including:

- Transportation demand management measures.
- Traffic operational improvements.
- HOV usage.
- Public transit capital improvements.
- Public transit operational improvements.
- Non-traditional mode usage.
- Growth management and activity center strategies.
- Access management techniques.
- Incident management techniques on freeways.
- Intelligent Vehicle Highway System strategies.
- The addition of general purpose lanes to existing roadways.



## INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Identified in 23 CFR 940 are the policies and procedures for implementing section 5206(e) of the Transportation Equity Act for the 21st Century (TEA-21), Public Law 105-178, 112 Stat. 457, pertaining to conformance with the National Intelligent Transportation Systems Architecture and Standards.

**Please discuss MAG's Intelligent Transportation Systems (ITS). As part of the discussion, please address the following questions:**

**Response:** Since 1996, MAG has taken progressive steps toward mainstreaming the development of regional ITS within the transportation planning process. All planning activities for public sector owned regional ITS infrastructure are currently coordinated and led by MAG. The current ITS Strategic Plan was adopted by MAG in 2001. Oversight for this Plan was provided by a group of Regional ITS Stakeholders consisting of the MAG ITS Committee and other regional ITS stakeholders. In 2003, MAG developed a Regional Concept of Transportation Operations (RCTO), the first such Metropolitan Operations Plan in the nation. A comprehensive update of the Regional ITS Architecture (RIA) was completed in February 2009. The 2001 Plan, RIA and RCTO currently provide direction to ITS implementation within the region. An efficient process has been established at MAG to ensure that the region continues to meet the federal requirement that all ITS projects in the region must be consistent with the regional ITS architecture. In August 2006, FHWA and MAG jointly developed a guidance document on Systems Engineering Analysis required for ITS projects. Local agencies are now following this guidance and all federally funded ITS projects include this analysis as a component in project Design Concept Reports. All new ITS project development efforts in the region also include numerous references to the RIA, through information available for each agency's RIA components available via the MAG Web site. A project to update the ITS Strategic Plan is planned for early 2010.

**Question: 1. Who is responsible for maintaining and updating the regional ITS architecture. Is the regional ITS architecture the most current version or is it in need of updating?**

**Response:** MAG developed the region's current ITS architecture in February of 2009. It is current at this time and will be updated by MAG once each year as new ITS projects are programmed or added to the TIP.

**Question: 2. How is the planning/consideration of ITS being mainstreamed and incorporated into the metropolitan transportation planning process?**

**Response:** The primary tools for mainstreaming ITS within the MPO planning process are the ITS Strategic Plan, the Regional ITS Architecture, and the Regional Concept of Transportation Operations. The RTP Chapter on System Management/ITS is based on these plans. All proposed ITS projects are required to demonstrate how they are compatible with these MAG approved plans.



## TRAVEL DEMAND FORECASTING

**Question: 1. Has MAG been a defendant in, or threatened with, legal action in which the adequacy of the travel forecasting methods was challenged?**

**If so, what was outcome of this action?**

**Response:** MAG has not been a defendant in, or threatened with, legal action in which the adequacy of the travel forecasting methods was challenged.

**Question: 2. Does the MPO organizational structure include a technical committee to review planning assumptions and forecasting methods?**

**Response:** Planning assumptions and forecasting methods are continuously reviewed through a number of technical groups and committees. Planning assumptions are being discussed at Transportation Policy Committee, Transportation Review Committee, Street Committee and Population Technical Advisory Committee. Forecasting methods and relevant developments are reviewed at project specific technical advisory committees (for both MAG and relevant member agency projects), at the multi-jurisdictional Central Arizona Regional Modeling Users Group, at multi-jurisdictional evaluation teams that MAG assembles for all substantial model development projects, and occasionally by the Street Committee or Transportation Review Committee. MAG also periodically conducts peer reviews of the travel forecasting models and presents major developments to FTA as a part of the ongoing New Starts/Small Starts planning efforts.

**Question: 3. Has MAG convened a peer review of the travel forecasting methods? If so, what was the outcome of the review? Implementation of recommendations?**

**Response:** Yes, MAG convened a peer review of the travel forecasting methods and models in October 2006. The review panel confirmed that the MAG model is a state-of-the-practice travel forecasting procedure and approved its approach as generally sound. More specific observation included: all components are included, components are comparable to other regions, and the model replicated observed data, with an accuracy consistent with other metropolitan areas. The panel members have made a number of recommendations for further model improvement. All the peer review recommendations have been addressed and implemented as appropriate in the MAG travel forecasting model.

**Question: 4. Forecasting Documentation: To the extent practicable, provide copies of the technical documentation from the MPO covering the following subject areas, or provide a summary table, listing the information source, the currency of the information, and the update frequency;**

a. **Inventory of current conditions: The inventory documentation should include the following summary measures for the metropolitan planning area:**

i. **Transportation network - Inventory of the current state of transportation networks in the metropolitan area:**

1. **Highway System centerline/lane mileage by functional class.**

**Response:**

Centerline and Lane Miles by Roadway Classification

| Classification | Centerline Miles | Lane Miles | Information Source | Currency of the Information | Update Frequency  |
|----------------|------------------|------------|--------------------|-----------------------------|---|
| Freeway        | 417              | 2,226      | * MAG TDM          | 2008                        | As per Regional Transportation Plan updates or more often |
| Expressway     | 174              | 592        | * MAG TDM          | 2008                        |   |
| Collectors     | 526              | 1,213      | * MAG TDM          | 2008                        |   |
| Arterials      | 3339             | 11,132     | * MAG TDM          | 2008                        |   |
| Ramps          | 238              | 251        | * MAG TDM          | 2008                        |   |
| HOV            | 177              | 180        | * MAG TDM          | 2008                        |   |

\* MAG TDM – Maricopa Association of Governments Travel Demand Model

2. **Transit system by mode (e.g., bus vs. light rail).**

**Response:**

2008 Peak Transit Routes

| Mode Name <sup>3</sup> | Mode ID | Description                                     | Number of Lines <sup>2</sup> | Information Source   | Currency of the Information | Update Frequency  |
|------------------------|---------|---|------------------------------|----------------------|-----------------------------|---|
| Circulator             | 3       | Neighborhood/CBD Circulators (Flash, DASH, GUS) | 10                           | MAG TDM <sup>1</sup> | 2008                        | As per Regional Transportation Plan updates or more often |
| Local                  | 4       | Local Bus                                       | 126                          | MAG TDM <sup>1</sup> | 2008                        |   |
| Express                | 6       | Neighborhood Circulator-Express Bus Freeway     | 29                           | MAG TDM <sup>1</sup> | 2008                        |   |
| Rapid                  | 7       | PNR Rapid Bus                                   | 4                            | MAG TDM <sup>1</sup> | 2008                        |   |
| Urban Rail             | 9       | LRT in Freeway ROW or Arterial LRT              | 2                            | MAG TDM <sup>1</sup> | 2008                        |   |

<sup>1</sup> MAG TDM - MAG Travel Demand Model

<sup>2</sup> Peak period directional number of transit lines.

<sup>3</sup> Only modes existing in 2008 peak period transit services are shown.

3. **Other transport modes - pedestrian and bike paths.**

**Response:**

Total Bike Lane Miles by Classification

| Classification         | Miles | Information Source | Currency of the Information | Update Frequency |
|------------------------|-------|--------------------|-----------------------------|------------------|
| Multi-Use Path Unpaved | 238.7 | MAG                | 2008                        | Every 3 years    |
| Multi-Use Path Paved   | 218.8 | MAG                | 2008                        | Every 3 years    |
| Paved Shoulders        | 313.9 | MAG                | 2008                        | Every 3 years    |
| Bike Lanes             | 1270  | MAG                | 2008                        | Every 3 years    |
| Bike Routes            | 480.8 | MAG                | 2008                        | Every 3 years    |

**ii. Population - total population/households, and geographic distribution.**

**Response:** The MAG 2007 Socioeconomic Projections and documentation are attached in Appendices O and P. The documentation covers all aspects of the socioeconomic projections process. It is anticipated that the next set of projections will be prepared following the receipt of the results of the 2010 Census.

Maricopa County has been one of the fastest growing regions for the past several decades. Historic population growth in the county between 1960 and 2005 is shown in the table below, with average annual increases consistently above three percent. The September 1, 2005, population of Maricopa County was 3,700,516 people, based on a census survey. The geographic distribution of the current population can be seen in the Socioeconomic Projections Documentation. (See Appendix O, page 6.)

Maricopa County Population Growth for Decennial Census Years  
and the 2005 Special Census Survey

| Date | Population | Average Annual Increase |
|------|------------|-------------------------|
| 1960 | 664,000    |                         |
| 1970 | 971,000    | 3.9%                    |
| 1980 | 1,509,000  | 4.5%                    |
| 1990 | 2,122,000  | 3.5%                    |
| 2000 | 3,072,000  | 3.8%                    |
| 2005 | 3,700,000  | 3.5%                    |

Source: U.S. Census Bureau, 2000 and Census Survey 2005, rounded to the nearest thousand. The 2005 population is for September 1. All other years are for April 1.

The table below lists the population numbers by jurisdiction for September 1, 2005 and July 1, 2008.

**MAG 2009 Planning Certification Review**

Total Resident Population by Jurisdiction  
2005 Census Survey and July 1, 2008

| Jurisdiction                    | Total Population                  |                  |                | Percent Growth |             | Share           |                 |
|---------------------------------|-----------------------------------|------------------|----------------|----------------|-------------|-----------------|-----------------|
|                                 | September 1, 2005 (Census Survey) | July 1, 2008     | Change         | Overall        | Annual      | Share of Growth | Share of County |
| Apache Junction <sup>1, 2</sup> | 275                               | 276              | 1              | 0.3%           | 0.1%        | 0.0%            | 0.0%            |
| Avondale                        | 69,356                            | 76,648           | 7,292          | 10.5%          | 3.6%        | 2.5%            | 1.9%            |
| Buckeye                         | 25,406                            | 50,143           | 24,737         | 97.4%          | 27.1%       | 8.6%            | 1.3%            |
| Carefree                        | 3,684                             | 3,948            | 264            | 7.2%           | 2.5%        | 0.1%            | 0.1%            |
| Cave Creek                      | 4,766                             | 5,132            | 366            | 7.7%           | 2.6%        | 0.1%            | 0.1%            |
| Chandler                        | 230,845                           | 244,376          | 13,531         | 5.9%           | 2.0%        | 4.7%            | 6.1%            |
| El Mirage                       | 32,061                            | 33,647           | 1,586          | 4.9%           | 1.7%        | 0.6%            | 0.8%            |
| Fort McDowell <sup>1</sup>      | 824                               | 824              | 0              | 0.0%           | 0.0%        | 0.0%            | 0.0%            |
| Fountain Hills                  | 24,492                            | 25,995           | 1,503          | 6.1%           | 2.1%        | 0.5%            | 0.7%            |
| Gila Bend                       | 1,808                             | 1,899            | 91             | 5.1%           | 1.8%        | 0.0%            | 0.0%            |
| Gila River <sup>1, 2</sup>      | 2,742                             | 2,742            | 0              | 0.0%           | 0.0%        | 0.0%            | 0.1%            |
| Gilbert                         | 173,072                           | 214,820          | 41,748         | 24.1%          | 7.9%        | 14.5%           | 5.4%            |
| Glendale                        | 242,369                           | 248,435          | 6,066          | 2.5%           | 0.9%        | 2.1%            | 6.2%            |
| Goodyear                        | 46,213                            | 59,436           | 13,223         | 28.6%          | 9.3%        | 4.6%            | 1.5%            |
| Guadalupe                       | 5,555                             | 5,990            | 435            | 7.8%           | 2.7%        | 0.2%            | 0.2%            |
| Litchfield Park                 | 4,528                             | 5,093            | 565            | 12.5%          | 4.2%        | 0.2%            | 0.1%            |
| Mesa                            | 448,096                           | 459,682          | 11,586         | 2.6%           | 0.9%        | 4.0%            | 11.5%           |
| Paradise Valley                 | 13,863                            | 14,444           | 581            | 4.2%           | 1.5%        | 0.2%            | 0.4%            |
| Peoria <sup>2</sup>             | 138,109                           | 155,557          | 17,448         | 12.6%          | 4.3%        | 6.1%            | 3.9%            |
| Phoenix                         | 1,475,834                         | 1,561,485        | 85,651         | 5.8%           | 2.0%        | 29.8%           | 39.2%           |
| Queen Creek <sup>2</sup>        | 15,916                            | 23,329           | 7,413          | 46.6%          | 14.4%       | 2.6%            | 0.6%            |
| Salt River <sup>1</sup>         | 6,796                             | 6,879            | 83             | 1.2%           | 0.4%        | 0.0%            | 0.2%            |
| Scottsdale                      | 234,752                           | 242,337          | 7,585          | 3.2%           | 1.1%        | 2.6%            | 6.1%            |
| Surprise                        | 88,265                            | 108,761          | 20,496         | 23.2%          | 7.6%        | 7.1%            | 2.7%            |
| Tempe                           | 165,796                           | 172,641          | 6,845          | 4.1%           | 1.4%        | 2.4%            | 4.3%            |
| Tolleson                        | 6,498                             | 6,833            | 335            | 5.2%           | 1.8%        | 0.1%            | 0.2%            |
| Wickenburg                      | 6,077                             | 6,442            | 365            | 6.0%           | 2.1%        | 0.1%            | 0.2%            |
| Youngtown                       | 6,163                             | 6,522            | 359            | 5.8%           | 2.0%        | 0.1%            | 0.2%            |
| Balance of County               | 226,355                           | 243,624          | 17,269         | 7.6%           | 2.6%        | 6.0%            | 6.1%            |
|                                 |                                   |                  |                |                |             |                 |                 |
| <b>Total</b>                    | <b>3,700,516</b>                  | <b>3,987,942</b> | <b>287,426</b> | <b>7.8%</b>    | <b>2.7%</b> | <b>100.0%</b>   | <b>100.0%</b>   |

Note: Totals may not add due to rounding

<sup>1</sup> Included in "Balance of County" in 2005 Census Survey.

<sup>2</sup> Maricopa County portion only.

Approved by the Maricopa Association of Governments Regional Council, December 3, 2008.

**iii. Employment - total number of jobs, and their geographic distribution.**

**Response:** MAG maintains an employment database annually of all employers with three or more employees at any one site. In 2005 there were 1,747,500 jobs in Maricopa

County. Currently that number has not changed significantly. A geographic representation of the employment in Maricopa County by place of work can be seen in the Socioeconomic Projections Documentation. (See Appendix O, page 9.)

**iv. Vehicle miles of travel - average daily and annual VMT by highway functional class.**

**Response:**

Daily and Annual VMT by Roadway Classification

| Functional Classification | Daily VMT <sup>1</sup> | Annual VMT <sup>2</sup> | Information Source   | Currency of the Information | Update Frequency                                 |
|---------------------------|------------------------|-------------------------|----------------------|-----------------------------|--|
| Freeway                   | 35,613,290             | 11,714,322,657          | MAG TDM <sup>3</sup> | 2008                        | As per RTP <sup>4</sup><br>Updates or more often |
| Expressway                | 3,483,195              | 1,145,796,504           | MAG TDM <sup>3</sup> | 2008                        |  |
| Collectors                | 2,334,579              | 768,018,839             | MAG TDM <sup>3</sup> | 2008                        |  |
| Arterials                 | 44,274,240             | 14,563,435,606          | MAG TDM <sup>3</sup> | 2008                        |  |
| Ramps                     | 1,835,191              | 603,651,829             | MAG TDM <sup>3</sup> | 2008                        |  |
| HOV                       | 655,333                | 215,612,342             | MAG TDM <sup>3</sup> | 2008                        |  |

<sup>1</sup> Average weekday Vehicle Miles Traveled

<sup>2</sup> Annual Vehicle Miles Traveled (adjusted for weekend and holiday travel)

<sup>3</sup> Maricopa Association of Governments Travel Demand Model

<sup>4</sup> Regional Transportation Plan

**v. Transit use - system wide transit ridership and share of regional trips made on transit (average daily and peak).**

**Response:**

Systemwide Transit Person Trips by Purpose

| Purpose          | Drive Alone | 2 Person Auto | 3 Person Auto | Walk   | Bicycle | Local Bus | Express Bus | Rapid Bus | Urban Rail | Total     | Information Source   | Currency of the Information | Update Frequency                      |
|------------------|-------------|---------------|---------------|--------|---------|-----------|-------------|-----------|------------|-----------|----------------------|-----------------------------|---------------------------------------|
| HBW <sup>1</sup> | 2,103,466   | 378,363       | 100,469       | 52,463 | 31,913  | 56,634    | 4,754       | 1,869     | 12,915     | 2,742,845 | MAG TDM <sup>8</sup> | 2008                        | As per RTP <sup>9</sup> or more often |
| HBU <sup>2</sup> | 135,664     | 25,453        | 1,408         | 4,239  | 5,067   | 5,188     | -           | -         | 2,029      | 179,047   | MAG TDM <sup>8</sup> | 2008                        |                                       |
| HBO <sup>3</sup> | 3,678,600   | 2,112,869     | 734,634       | -      | -       | 47,217    | -           | -         | 6,005      | 6,579,325 | MAG TDM <sup>8</sup> | 2008                        |                                       |
| NHW <sup>4</sup> | 1,589,622   | 138,905       | 22,198        | -      | -       | 7,123     | -           | -         | 1,270      | 1,759,119 | MAG TDM <sup>8</sup> | 2008                        |                                       |
| NHO <sup>5</sup> | 1,517,102   | 833,598       | 209,068       | -      | -       | 8,622     | -           | -         | 596        | 2,568,986 | MAG TDM <sup>8</sup> | 2008                        |                                       |
| ASU <sup>6</sup> | 105,019     | 14,366        | 2,667         | 5,839  | 10,154  | 8,097     | -           | -         | 11,104     | 157,247   | MAG TDM <sup>8</sup> | 2008                        |                                       |
| SKY <sup>7</sup> | 44,504      | 19,272        | 8,630         | -      | -       | 66        | -           | -         | 6          | 72,478    | MAG TDM <sup>8</sup> | 2008                        |                                       |

<sup>1</sup> Home-based Work

<sup>2</sup> Home-based University

<sup>3</sup> Home-based Other

<sup>4</sup> Non-home based Work

<sup>5</sup> Non-home based Other

<sup>6</sup> Arizona State University

<sup>7</sup> Sky Harbor Airport.

<sup>8</sup> Maricopa Association of Governments Travel Demand Model

<sup>9</sup> Regional Transportation Plan

Share of Regional Trips made on Transit

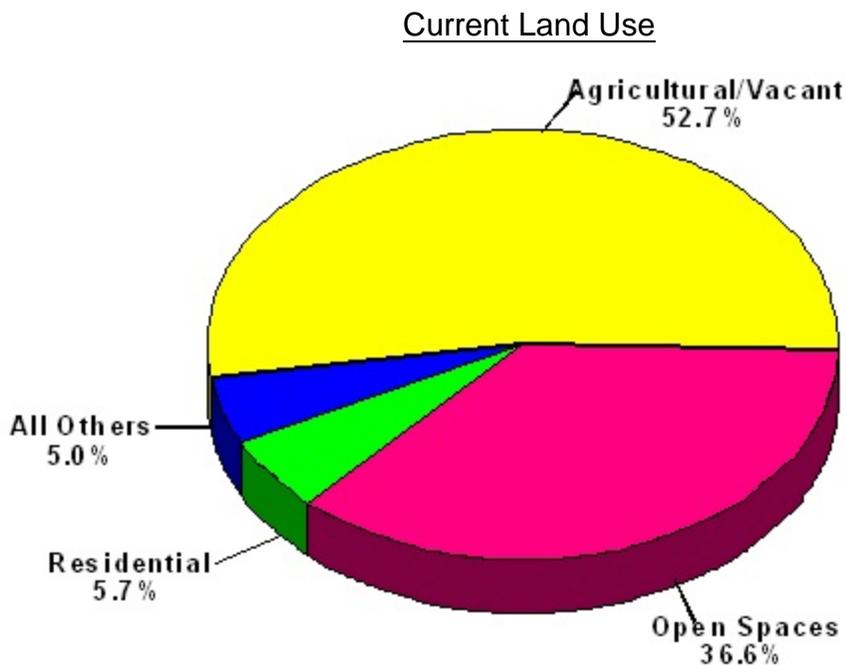
| 2008    | Daily Person Trips | Peak Person Trips |
|---------|--------------------|-------------------|
| Transit | 173,495            | 95,372            |
| Share   | 1.23%              | 3.29%             |

**vi. Congestion - description and duration of peak period (i.e., what criteria distinguish peak vs. off-peak travel (e.g., highway level of service?))**

**Response:** Peak periods include: A.M. (6-9 am) and P.M. (3-6 pm). Off-peak periods include two Midday periods (9 am-3 pm) and Night periods (6 pm-6 am). Peak periods are defined based on the highway speed and volume studies. Definition of the peak periods might change in the future based on the observed and predicted changes in travel behavior and patterns.

**vii. Land use - amount and geographic distribution of total land area that is currently developed, available for development, or not developable.**

**Response:** The MAG region can be disaggregated into the land use categories shown below. The predominant current land use type is agricultural/vacant with 52.7 percent, followed by open space with 36.6 percent. The next highest land use type is 5.7 percent for residential. Open space includes parks, mountains, river beds, washes, and other public areas. Land developed for retail, office, and industrial uses, as well as public and other types of employment, comprise the balance of the development in the metro area, with approximately five percent of the developed land dedicated to those uses. The geographic distribution of the various land uses in Maricopa County can be seen in the Socioeconomic Projections Documentation. (See Appendix O, page 11).



- b. **Planning Assumptions:** The documentation of planning assumptions should, at a minimum, address the following expected changes in the study area.
  - i. **Population change - expected change in regional population over the duration of the Transportation Plan. Population assumptions should be compared to past trends, and to statewide demographic control totals, where available.**

**Response:** Projected growth in Arizona and Maricopa County is illustrated in the table below. The growth rates in Maricopa County and Arizona are very similar, especially due to the large Maricopa County share of population. Both growth rates decline over time.

Growth in Population: Maricopa County and Arizona

| Date | Maricopa County Population | Average Annual Growth | Arizona Population | Average Annual Growth |
|------|----------------------------|-----------------------|--------------------|-----------------------|
| 2005 | 3,681,000                  |                       | 6,078,000          |                       |
| 2010 | 4,216,000                  | 2.8 %                 | 7,000,000          | 2.9%                  |
| 2020 | 5,230,000                  | 2.2%                  | 8,780,000          | 2.3%                  |
| 2030 | 6,135,000                  | 1.6 %                 | 10,348,000         | 1.7%                  |

Sources: Arizona Department of Economic Security; Maricopa Association of Governments; rounded to the nearest thousand.

- ii. **Employment change - expected change in regional employment over the duration of the Transportation Plan. Employment assumptions should be compared to past trends, and to statewide economic growth control totals, where available.**

**Response:** The table below shows historical growth and projected growth of employment in Maricopa County between 1960 and 2030. The growth rates in Maricopa County and Arizona are very similar, especially due to the large Maricopa County share of employment.

Growth in Employment

| Year | Employment | Average Annual Increase |
|------|------------|-------------------------|
| 1960 | 225,000    |                         |
| 1970 | 359,000    | 4.8%                    |
| 1980 | 693,000    | 6.8%                    |
| 1990 | 975,000    | 3.5%                    |
| 2000 | 1,565,000  | 4.8%                    |
| 2010 | 2,157,000  | 3.3%                    |
| 2020 | 2,788,000  | 2.6%                    |
| 2030 | 3,379,000  | 3.1%                    |

Source: U.S. Bureau of Labor Statistics, Current Employee Statistics and MAG Socioeconomic Projections, adopted by Regional Council, June 2007 (rounded to the nearest thousand)

- iii. **Regional distribution of future population, employment and land use the procedures used to allocate future population, employment and other activity generators within the metropolitan area. Are the land use forecasts consistent with local jurisdictions' Master Plans? If land use models were employed, these should also be documented under forecasting methods.**

**Response:** MAG develops long-range socioeconomic projections of population, housing and employment using a land use modeling process that incorporates three separate models. The projections are consistent with the general plans of all MAG member agencies. Documentation for the 2007 MAG Socioeconomic Projections, including appropriate population and employment maps, is included in Appendices O and P.

- iv. **Demographic changes - changes in the demographic characteristics of the study area population that would significantly impact aggregate tripmaking behavior and/or travel patterns. Demographic changes might include, auto ownership, household income, household size, multi-worker households, minority households, etc.**

**Response:** The Modeling Area (MA) for MAG encompasses major portions of Pinal County as well as Maricopa County, as many of the workers in Pinal County commute to jobs in Maricopa County. Thus, it is more accurate to examine the demographic changes for the MA. During the projection period from 2005 to 2030, it is anticipated that household size will remain fairly constant between 2.6 and 2.7 persons per household; the number of jobs per household will remain around 1.3 jobs per household; and minority population will become an increasing proportion of the population. For the current transportation model, household income is measured as the number of households in each income quintile by Traffic Analysis Zone, so this proportion will remain constant over time.

According to the US Census Bureau, 11 percent of the population of Maricopa County was aged 65 or older in 2000 and 21 percent of the population was of school age. According to the Arizona Department of Economic Security, the population of Maricopa County aged 65 or older is anticipated to rise to 17 percent in 2030. And although the percentage of school age children is fairly stable, the increase in population will increase the number of school age children by more than 90 percent.

Households by Auto Ownership

| Auto ownership | Number of Households | Percentage | Information Source   | Currency of the Information | Update Frequency   |
|----------------|----------------------|------------|----------------------|-----------------------------|--|
| 0              | 116,803              | 7%         | MAG TDM <sup>1</sup> | 2008                        | As per household surveys Or more often if data becomes available |
| 1              | 650,604              | 37%        | MAG TDM <sup>1</sup> | 2008                        |  |
| 2              | 735,140              | 41%        | MAG TDM <sup>1</sup> | 2008                        |  |
| 3+             | 273,958              | 15%        | MAG TDM <sup>1</sup> | 2008                        |  |

MAG TDM<sup>1</sup> - Maricopa Association of Governments Travel Demand Model

- v. **Travel behavior changes - changes in the tripmaking behavior of travelers and households that would significantly impact aggregate tripmaking behavior and/or travel patterns. Travel behavior changes might include telecommuting, Internet shopping, trip chaining, etc.**

**Response:** Changes in trip making behavior of travelers reflect a complex causality of factors affecting travel behavior. Longer term effects might include changes in car ownership or residential and employment location choices. Shorter term effects can be observable within months or even weeks and result in fluctuations in commuter and discretionary travel or short term fleet changes. Recent volatility of gas prices in combination with sharp economic slow down and turmoil in the housing market resulted in certain changes in travel behavior. These changes are superimposed on the longer term trends, accelerating some of them and slowing down some others.

A few major data collection exercises will help MAG to address these issues in the forecasting models to a larger extent than what has been implemented up to date. On the traffic data side MAG conducted extensive traffic counts data collection in 2007-2008 as well as a 2007 Regional Travel Time and Speed Study. Collected traffic data indicated a drop in the regional auto travel. Annual average weekday vehicle miles traveled decreased by 5.2 percent in 2008 versus a 3.3 percent increase in 2007 (source: ADOT FMS). Similarly, average weekday annual volume dropped by 5 percent in the summer of 2008 as compared to the same period in 2007. Weekend volumes dropped by 11 percent for the same time periods, which probably indicates a drastic reduction in discretionary travel, including entertainment and shopping. Adequate modeling of the underlying behavioral changes requires relevant travel survey data and additional analysis from a modeling perspective. Such data were collected by the MAG 2008 Regional Household Survey. The 2008 Regional Household Survey was a part of the FHWA NHTS add-on program. Data from that survey will be available from NHTS by the end of October 2009. The survey data will provide important additional insights in travel behavior changes and comparisons with the 2001 Regional Household Travel Survey. Another important milestone was the Regionwide On-board Transit Survey conducted by RPTA in 2007. The current MAG travel forecasting model was recalibrated based on the on-board survey results and reflects corresponding changes in transit travel behavior.

One of the ongoing developments includes attempts to better address the volatility of gas prices in the regional forecasting efforts. Completed work indicated that fuel price fluctuations are large and significant enough to trigger changes in travel behavior, particularly for certain disadvantaged socioeconomic groups. As fuel prices rise, or as the confidence level erodes among the public that fuel prices will remain steady for long periods, households are slowly but surely transitioning their vehicular fleet toward more fuel efficient, smaller, and alternative fueled (hybrid fuel) vehicles. Lower income groups and minorities are likely to be more substantially and adversely affected by large fluctuations in gas prices. Empirical evidence suggests that there has been a small but noticeable shift from auto to transit as a result of rising fuel prices in 2008. The chart below provides additional details.

*Average Gas Price vs. Annual VMT Per Capita*

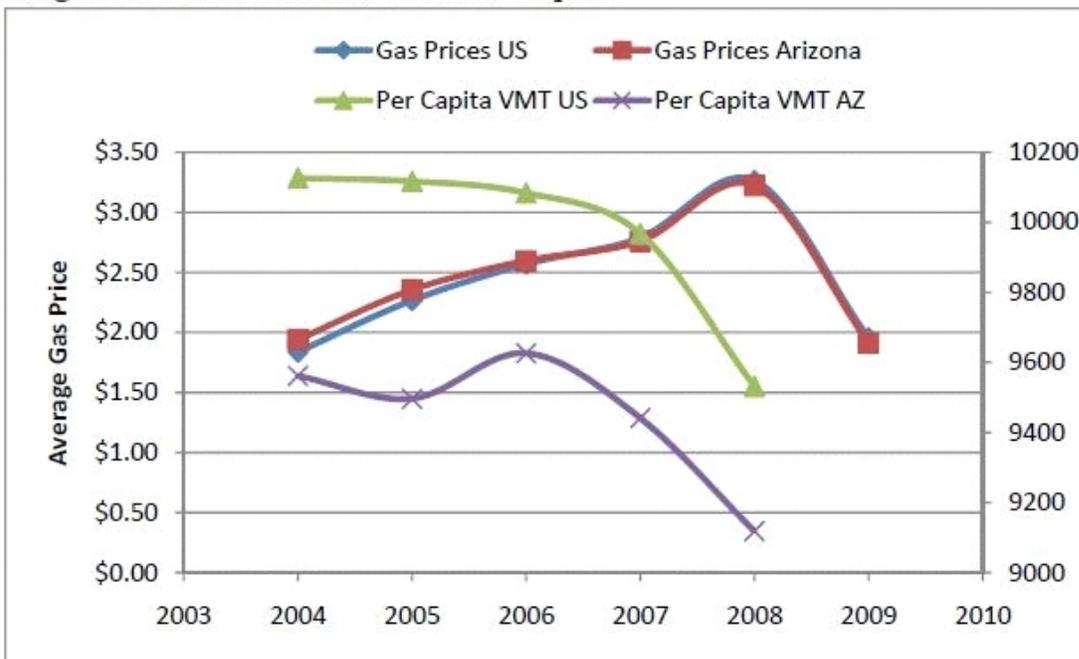


Figure 27: Comparison of Trends in Average Gas Price and Annual VMT Per Capita

Sources: AAA of Arizona, <http://www.fhwa.dot.gov/ohim/tvtw/tvtpage.cfm>

The Maricopa County Trip Reduction Program (TRP) provides another indication of the ongoing behavioral changes (even though the data is not sufficient to address the changes within the MAG modeling framework). The TRP requires organizations with 50 or more employees or students at a single site to participate in a trip reduction program. The TRP is mandated by the Arizona State Legislature. There are currently more than 1,100 employers and 2,800 sites affected by the TRP. Based on a survey administered annually, changes in trip behavior, as calculated by the Single Occupant Vehicle (SOV) trip rate, have been estimated.

The SOV trip rate is calculated by dividing the number of SOV trips by the total number of trips taken by all commuters. Aggregate data is then analyzed to count the number of

commuters, calculate the Single Occupancy Vehicles (SOV) rate and calculate the number of tons of pollution saved annually. The data shown for Maricopa County in the table below is for the fiscal year (FY) October to September.

The SOV trip rate is calculated by dividing the number of SOV trips by the total number of trips taken by all commuters. The data shown for Maricopa County in the table below is for the fiscal year (FY) October to September.

Maricopa County Trip Reduction Program (TRP)

| Fiscal Year                | 2008 (October-September) | 2007 (October-September) | Information Source | Update Frequency |
|----------------------------|--------------------------|--------------------------|--------------------|------------------|
| Commuters                  | 578,408                  | 548,279                  | TRP                | Annual           |
| SOV <sup>1</sup> trip rate | 75.84%                   | 81.33%                   | TRP                | Annual           |

<sup>1</sup> Single Occupant Vehicles

**c. Forecasting Methods. The technical documentation of the travel forecasting methods or models should include the following information:**

**i. Last model revision - when (what year) was the current set of travel models last revised (e.g., new variables, new model algorithms, recalibrated using new data)?**

**Response:** The most recent model revision was completed in September 2009. MAG has undertaken a major model update in 2008 and 2009 calendar years. Main developments included:

- Recalibration of the mode choice part of the model based on the 2007 Regional On-board Transit Survey.
- Replacement of the mode choice FORTRAN sub-models with new improved Java code.
- Development of the new special generator sub-models for Sky Harbor Airport and Arizona State University (ASU). The ASU update was based on the special ASU travel survey conducted in 2007.
- Completion of the conversion to a new TransCAD based software platform.
- Improvement of transit assignment procedures and transit accessibility procedures as per FTA recommendations.
- Development and calibration of the new volume delay functions based on the 2007 regional travel time and speed data and traffic counts.
- Update of road and transit networks for all horizon years (based on separate data collection exercises).

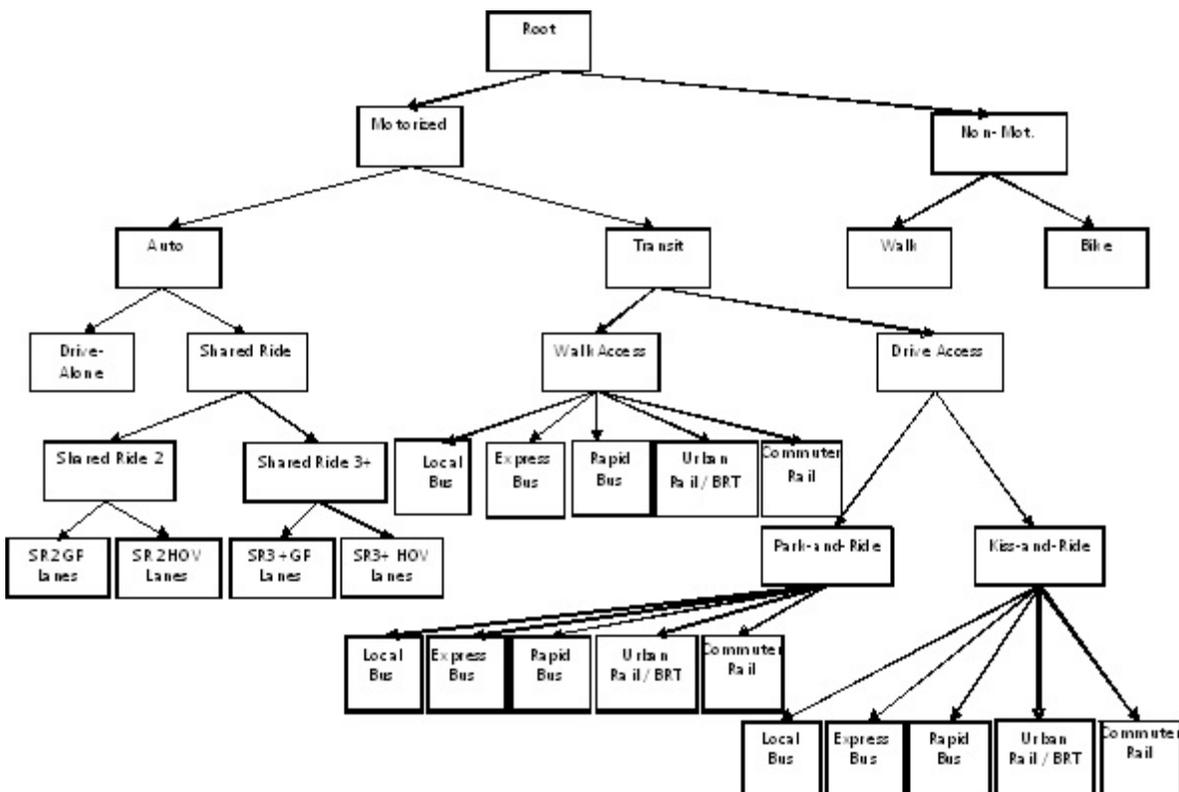
- ii. **Model specification - description of models used (e.g., gravity vs. destination choice) and interactions between models, specification of key model coefficients, calibration results (e.g., goodness-of-fit measures).**

**Response:** MAG regional travel forecasting model is a state of the practice full fledged, four-step trip-based procedure. It includes the following major components:

Trip Generation step: The following trip purposes are modeled: Home-Based Work, Home-Based Shopping, Home-Based Primary and Secondary School, Home-Based ASU, Sky Harbor International Airport, Home-Based Other University (not ASU), Home-Based Other, Non-Home-Based Work, and Non-Home-Based Other trips. The model utilizes disaggregate cross-classification methodology and linear regressions for some of the trip attraction sub-models. The newly updated ASU model uses a destination choice model for combined trip generation and trip distribution models.

Trip Distribution step: MAG person trip distribution procedures estimates the number of trips for each of the following purposes: Home-Based Work, Home-Base Shopping, Home-Based School, Home-Based Other University, Home-Based Other, Non-Home-Based Work, and Non-Home-Based Other. The trip distribution model structure used in MAG modeling is the standard gravity model, with an impedance value that considers both auto and transit travel times and costs.

Mode Choice step: MAG mode choice model is a nested logit model. Mode Choice Nesting Structure is depicted in the figure below.



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Mode choice coefficients by purpose are provided in the tables below. The information source for these tables is 2008 MAG Travel Demand Model.

Home-based Work (HBW) Mode Choice Coefficients

| Variable          | Description  | Coefficient           | Ratio to IVT / Value of Time |
|-------------------|--|-----------------------|------------------------------|
| c_ivt             | In-vehicle time coefficient                                      | -0.02500              | 1.0                          |
| c_autoacc         | Auto access time coefficient                                     | -0.05000              | 2.0                          |
| c_shwait          | Short wait time coefficient                                      | -0.05000              | 2.0                          |
| c_lgwait          | Long wait time coefficient                                       | -0.02500              | 1.0                          |
| c_xwait           | Transfer wait time coefficient                                   | -0.05000              | 2.0                          |
| c_shwalk          | Short walk access time coefficient                               | -0.05000              | 2.0                          |
| c_lgwalk          | Long walk access time coefficient                                | -0.07500              | 3.0                          |
| c_cost            | Cost coefficient   | -0.00278              | \$5.40                       |
| c_bikemode        | Bike mode coefficient  | -0.10000              | 4.0                          |
| c_xferswlk        | Transfer penalty for walk access transit modes                   | -0.12500              | 5.0                          |
| c_xfersdrv        | Transfer penalty for drive access transit modes                  | -0.50000              | 20.0                         |
| c_cbdwlkknrtrn    | CBD walk-transit coefficient                                     | 1.00000               | -40.0                        |
| c_cbdpnrtrn       | CBD drive-transit coefficient                                    | 1.00000               | -40.0                        |
| trn_d13           | Transit Penalty to District 13                                   | -1.20000              | 48.0                         |
| c_shorttrn        | Short Transit Penalty: $\min(30*c_{ivt}-10*LOV\ DIST*c_{ivt},0)$ |                       |                              |
| c_dirwktrn        | Direct Trip Dummy (Walk Access)                                  | 0.07858               | -3.1                         |
| c_combike         | Complex Trip Dummy (Bicycle)                                     | -1.30573              | 52.2                         |
| aopc              | Auto operating cost (cents)                                      | 15                    |                              |
| waitThreshold     | Short/Long wait threshold (minutes)                              | 7.5                   |                              |
| walkSpeed         | Walk speed (miles per hour)                                      | 3                     |                              |
| shortWalkTime     | Short walk maximum time (minutes)                                | $0.3333*60/walkSpeed$ |                              |
| longWalkTime      | Long walk maximum time (minutes)                                 | $0.6666*60/walkSpeed$ |                              |
| walkModeThreshold | Short/Long walk mode threshold (miles)                           | 1                     |                              |
| bikeSpeed         | Bike speed (miles per hour)                                      | 12                    |                              |

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Arizona State University (ASU) Mode Choice Coefficients

| Variable          | Description  | Coefficient           | Ratio to IVT / Value of Time |
|-------------------|--|-----------------------|------------------------------|
| c_ivt             | In-vehicle time coefficient                              | -0.02500              | 1.0                          |
| c_autoacc         | Auto access time coefficient                             | -0.05000              | 2.0                          |
| c_shwait          | Short wait time coefficient                              | -0.05000              | 2.0                          |
| c_lgwait          | Long wait time coefficient                               | -0.02500              | 1.0                          |
| c_xwait           | Transfer wait time coefficient                           | -0.05000              | 2.0                          |
| c_shwalk          | Short walk access time coefficient                       | -0.05000              | 2.0                          |
| c_lgwalk          | Long walk access time coefficient                        | -0.07500              | 3.0                          |
| c_cost            | Cost coefficient   | -0.00400              | \$3.75                       |
| c_bikemode        | Bike mode coefficient                                    | -0.10000              | 4.0                          |
| c_xferswlk        | Transfer penalty for walk access transit modes           | -0.12500              | 5.0                          |
| c_xfersdrv        | Transfer penalty for drive access transit modes          | -0.50000              | 20.0                         |
| c_cbdwlkknrtrn    | CBD walk-transit coefficient                             | 0.37500               | -15.0                        |
| c_cbdpnrtrn       | CBD drive-transit coefficient                            | 0.37500               | -15.0                        |
| c_shorttrn        | Short Transit Penalty: min (30c_ivt-10*LOV DIST*c_ivt,0) | 15                    |                              |
| aopc              | Auto operating costs                                     | 7.5                   |                              |
| waitThreshold     | Short/Long wait threshold (minutes)                      | 3                     |                              |
| walkSpeed         | Walk speed (miles per hour)                              | $0.3333*60/walkSpeed$ |                              |
| shortWalkTime     | Short walk maximum time (minutes)                        | $0.6666*60$           |                              |
| longWalkTime      | Long walk maximum time (minutes)                         | 1                     |                              |
| walkModeThreshold | Short/Long walk mode threshold (miles)                   | 12                    |                              |
| bikespeed         | Bike speed (miles per hour)                              | -0.02500              | 1.0                          |

Home-based University (HBU) Mode Choice Coefficients

| Variable          | Description                                     | Coefficient           | Ratio to IVT / Value of Time |
|-------------------|---|-----------------------|------------------------------|
| c_ivt             | In-vehicle time coefficient                     | -0.02500              | 1.0                          |
| c_autoacc         | Auto access time coefficient                    | -0.05000              | 2.0                          |
| c_shwait          | Short wait time coefficient                     | -0.05000              | 2.0                          |
| c_lgwait          | Long wait time coefficient                      | -0.02500              | 1.0                          |
| c_xwait           | Transfer wait time coefficient                  | -0.05000              | 2.0                          |
| c_shwalk          | Short walk access time coefficient              | -0.05000              | 2.0                          |
| c_lgwalk          | Long walk access time coefficient               | -0.07500              | 3.0                          |
| c_cost            | Cost coefficient                                | -0.00400              | \$3.75                       |
| c_bikemode        | Bike mode coefficient                           | -0.10000              | 4.0                          |
| c_xferswlk        | Transfer penalty for walk access transit modes  | -0.12500              | 5.0                          |
| c_xfersdrv        | Transfer penalty for drive access transit modes | -0.50000              | 20.0                         |
| c_cbdwlkknrtrn    | CBD walk-transit coefficient                    | 1.00000               | -40.0                        |
| c_cbdpnrtrn       | CBD drive-transit coefficient                   | 1.00000               | -40.0                        |
| trn_d13           | Transit Penalty to District 13                  | -1.20000              | 48.0                         |
| aopc              | Auto operating cost (cents)                     | 15                    |                              |
| waitThreshold     | Short/Long wait threshold (minutes)             | 7.5                   |                              |
| walkSpeed         | Walk speed (miles per hour)                     | 3                     |                              |
| shortWalkTime     | Short walk maximum time (minutes)               | $0.3333*60/walkSpeed$ |                              |
| longWalkTime      | Long walk maximum time (minutes)                | $0.6666*60/walkSpeed$ |                              |
| walkModeThreshold | Short/Long walk mode threshold (miles)          | 1                     |                              |
| bikeSpeed         | Bike speed (miles per hour)                     | 12                    |                              |

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Home-based Other (HBO) Mode Choice Coefficients

| Variable          | Description                                     | Coefficient           | Ratio to IVT / Value of Time |
|-------------------|---|-----------------------|------------------------------|
| c_ivt             | In-vehicle time coefficient                     | -0.01000              | 1.0                          |
| c_autoacc         | Auto access time coefficient                    | -0.02000              | 2.0                          |
| c_shwait          | Short wait time coefficient                     | -0.02000              | 2.0                          |
| c_lgwait          | Long wait time coefficient                      | -0.01000              | 1.0                          |
| c_xwait           | Transfer wait time coefficient                  | -0.02000              | 2.0                          |
| c_shwalk          | Short walk access time coefficient              | -0.02000              | 2.0                          |
| c_lgwalk          | Long walk access time coefficient               | -0.03000              | 3.0                          |
| c_cost            | Cost coefficient                                | -0.00333              | \$1.80                       |
| c_xferswlk        | Transfer penalty for walk access transit modes  | -0.05000              | 5.0                          |
| c_xfersdrv        | Transfer penalty for drive access transit modes | -0.20000              | 20.0                         |
| c_cbdwlkknrtrn    | CBD walk-transit coefficient                    | 0.40000               | -40.0                        |
| c_cbdpnrtrn       | CBD drive-transit coefficient                   | 0.40000               | -40.0                        |
| trn_d13           | Transit Penalty to District 13                  | -1.20000              | 120.0                        |
| aopc              | Auto operating cost (cents)                     | 15                    |                              |
| waitThreshold     | Short/Long wait threshold (minutes)             | 7.5                   |                              |
| walkSpeed         | Walk speed (miles per hour)                     | 3                     |                              |
| shortWalkTime     | Short walk maximum time (minutes)               | $0.3333*60/walkSpeed$ |                              |
| longWalkTime      | Long walk maximum time (minutes)                | $0.6666*60/walkSpeed$ |                              |
| walkModeThreshold | Short/Long walk mode threshold (miles)          | 1                     |                              |

Non-home based Work (NHW) Mode Choice Coefficients

| Variable          | Description                                     | Coefficient           | Ratio to IVT / Value of Time |
|-------------------|---|-----------------------|------------------------------|
| c_ivt             | In-vehicle time coefficient                     | -0.02000              | 1.0                          |
| c_autoacc         | Auto access time coefficient                    | -0.04000              | 2.0                          |
| c_shwait          | Short wait time coefficient                     | -0.04000              | 2.0                          |
| c_lgwait          | Long wait time coefficient                      | -0.02000              | 1.0                          |
| c_xwait           | Transfer wait time coefficient                  | -0.04000              | 2.0                          |
| c_shwalk          | Short walk access time coefficient              | -0.04000              | 2.0                          |
| c_lgwalk          | Long walk access time coefficient               | -0.06000              | 3.0                          |
| c_cost            | Cost coefficient                                | -0.00222              | \$5.41                       |
| c_xferswlk        | Transfer penalty for walk access transit modes  | -0.10000              | 5.0                          |
| c_xfersdrv        | Transfer penalty for drive access transit modes | 0.00000               | 0.0                          |
| c_cbdwlkknrtrn    | CBD walk-transit coefficient                    | 0.80000               | -40.0                        |
| c_cbdpnrtrn       | CBD drive-transit coefficient                   | 0.80000               | -40.0                        |
| trn_d13           | Transit Penalty to District 13                  | -1.20000              | 60.0                         |
| aopc              | Auto operating cost (cents)                     | 15                    |                              |
| waitThreshold     | Short/Long wait threshold (minutes)             | 7.5                   |                              |
| walkSpeed         | Walk speed (miles per hour)                     | 3                     |                              |
| shortWalkTime     | Short walk maximum time (minutes)               | $0.3333*60/walkSpeed$ |                              |
| longWalkTime      | Long walk maximum time (minutes)                | $0.6666*60/walkSpeed$ |                              |
| walkModeThreshold | Short/Long walk mode threshold (miles)          | 1                     |                              |

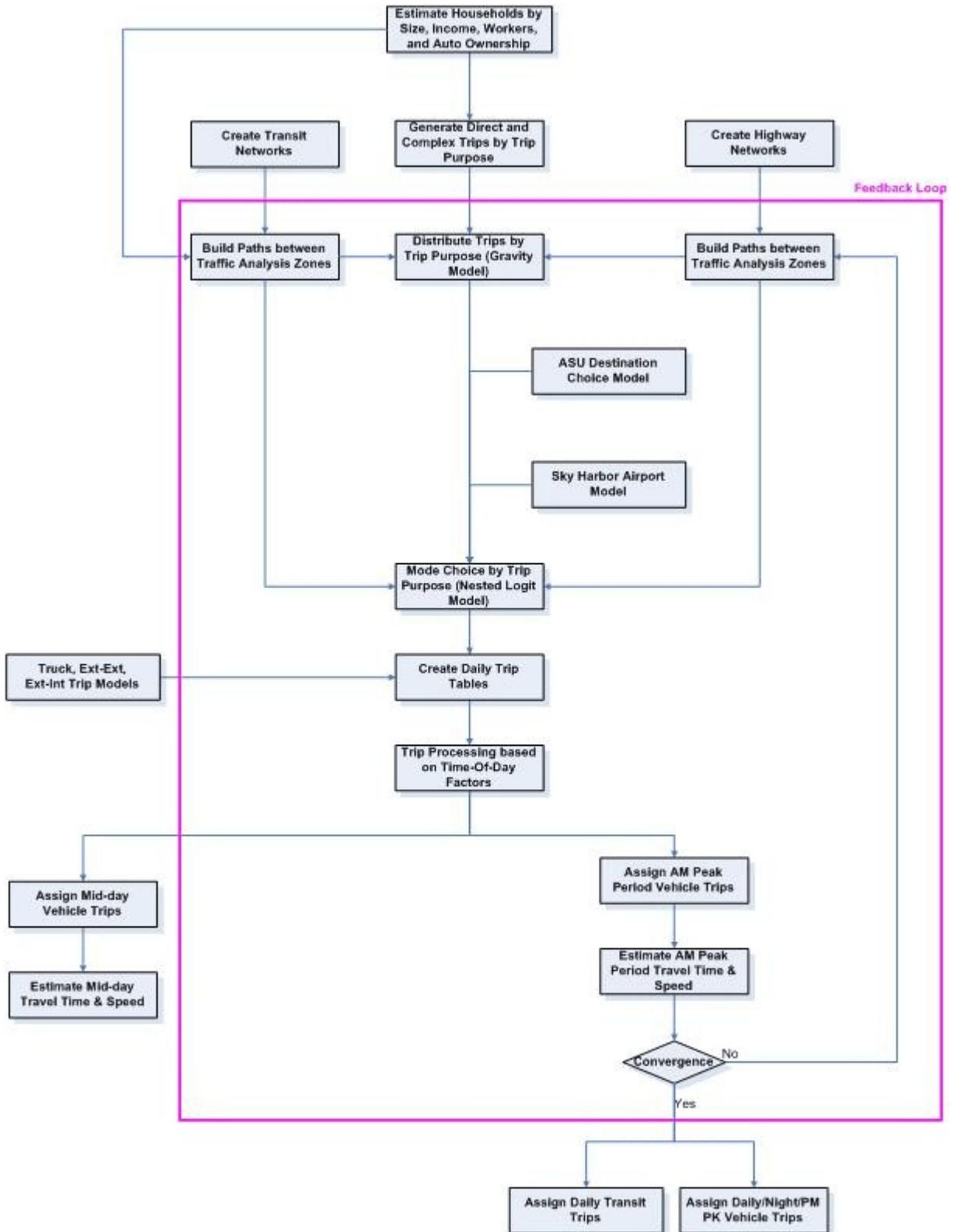
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Non-Home based Other (NHO) Mode Choice Coefficients

| Variable          | Description                                     | Coefficient           | Ratio to IVT/Value of Time |
|-------------------|---|-----------------------|----------------------------|
| c_ivt             | In-vehicle time coefficient                     | -0.02000              | 1.0                        |
| c_autoacc         | Auto access time coefficient                    | -0.04000              | 2.0                        |
| c_shwait          | Short wait time coefficient                     | -0.04000              | 2.0                        |
| c_lgwait          | Long wait time coefficient                      | -0.02000              | 1.0                        |
| c_xwait           | Transfer wait time coefficient                  | -0.04000              | 2.0                        |
| c_shwalk          | Short walk access time coefficient              | -0.04000              | 2.0                        |
| c_lgwalk          | Long walk access time coefficient               | -0.06000              | 3.0                        |
| c_cost            | Cost coefficient                                | -0.00222              | \$5.41                     |
| c_xferswk         | Transfer penalty for walk access transit modes  | -0.10000              | 5.0                        |
| c_xfersdrv        | Transfer penalty for drive access transit modes | 0.00000               | 0.0                        |
| c_cbdwlkknrtrn    | CBD walk-transit coefficient                    | 0.80000               | -40.0                      |
| c_cbdpnrtrn       | CBD drive-transit coefficient                   | 0.80000               | -40.0                      |
| trn_d13           | Transit Penalty to District 13                  | -1.20000              | 60.0                       |
| aopc              | Auto operating cost (cents)                     | 15                    |                            |
| waitThreshold     | Short/Long wait threshold (minutes)             | 7.5                   |                            |
| walkSpeed         | Walk speed (miles per hour)                     | 3                     |                            |
| shortWalkTime     | Short walk maximum time (minutes)               | $0.3333*60/walkSpeed$ |                            |
| longWalkTime      | Long walk maximum time (minutes)                | $0.6666*60/walkSpeed$ |                            |
| walkModeThreshold | Short/Long walk mode threshold (miles)          | 1                     |                            |

Interaction Between Models - Flow Chart



Calibration Results:

Total Person Trips, All Purposes<sup>1</sup>

| Mode                    | Observed <sup>4</sup> | Estimated <sup>5</sup> | Difference | Percent Difference |
|-------------------------|-----------------------|------------------------|------------|--------------------|
| Drive Alone             | 8,979,639             | 8,919,924              | -59,714    | -1%                |
| Shared ride 2           | 3,354,889             | 3,401,971              | 47,082     | 1%                 |
| Shared ride 3+          | 1,027,764             | 1,039,707              | 11,943     | 1%                 |
| Bike                    | 43,830                | 44,435                 | 604        | 1%                 |
| Walk                    | 56,585                | 57,426                 | 840        | 1%                 |
| Walk-Local              | 126,581               | 124,682                | -1,899     | -2%                |
| PNR <sup>2</sup> -Local | 6,211                 | 6,279                  | 68         | 1%                 |
| KNR <sup>3</sup> -Local | 7,548                 | 8,382                  | 834        | 11%                |
| Walk-Express            | 1,063                 | 1,230                  | 167        | 16%                |
| PNR-Express             | 1,414                 | 1,554                  | 140        | 10%                |
| KNR-Express             | 467                   | 155                    | -312       | -67%               |
| Walk-Rapid              | 446                   | 1,056                  | 610        | 137%               |
| PNR-Rapid               | 2,824                 | 2,674                  | -150       | -5%                |
| KNR-Rapid               | 402                   | 90                     | -312       | -77%               |
| Walk-ASU Shuttle        | 2,176                 | 2,284                  | 108        | 5%                 |
| Total                   | 13,611,840            | 13,611,850             | 10         | 0%                 |

<sup>1</sup> Excludes Sky Harbor Airport trips, which has different modal alternatives.

<sup>2</sup> Park and Ride

<sup>3</sup> Kiss and Ride

<sup>4</sup> Observed Transit is from 2007 on-board survey, Auto is from scaled 2001 Household Travel Study

<sup>5</sup> Estimated Numbers are from 2007 travel demand model

**iii. Calibration data - what data was used to calibrate the model set (e.g., local home interview survey, national surveys (e.g., NHTS, CTPP), models "borrowed" from another urban area)? How current is the data source?**

**Response:** A number of major data sources were utilized for calibration of the MAG regional travel forecasting model. The core of the model, including trip generation and trip distribution steps, is calibrated based on the 2001 Regional Household Travel Survey. CTPP and PUMS data were used throughout the calibration process as well. The mode choice part of the model was subsequently recalibrated based on the results of the 2007 On-board Regional Transit Survey. As a part of the NHTS add-on program MAG has completed the 2008 Household Travel Survey. Once the data becomes available MAG will recalibrate/update the rest of the model. MAG is planning for further model updates and recalibration efforts as data becomes available. The next foreseeable new data sets include the 2008 Household Travel Survey and 2010 or 2011 new Regional On-board Transit Survey that will include information on light rail ridership.

**iv. Local survey - if a local home interview survey was used to calibrate the model, when (what year) was the survey conducted, how many valid household records were collected?**

**Response:** The MAG Regional Household Travel Survey used for the model calibration was conducted in 2001. The survey data contains 4,018 valid household records. The recently completed NHTS household survey has 4,286 completed households survey samples. The 2007 On-board Regional Transit Survey has 7,600 valid completed interviews.

**v. Model validation - what year and data source was the model validated against?**

**Response:** The MAG regional travel forecasting model validation was based on a number of major data sets: the 2007 Regional Travel Time and Speed Study data were used for speeds validation; the 2006-2008 traffic counts (arterial counts were collected by MAG and MAG member agencies and freeway counts were collected by ADOT) used for corridor, screen line and cut line traffic volume validation.

**vi. Size of network - how many links are in the model highway network; what highway functional classes are included as network links; has a compatible transit network been developed?**

**Response:** Yes, a compatible transit network has been developed and fully integrated with the MAG highway modeling network using TransCAD modeling platform.

Number of Links in the Model Highway Network by Functional Class

| Functional Classification | Number of Links <sup>3</sup> | Information Source   | Currency of the Information | Update Frequency                              |
|---------------------------|------------------------------|----------------------|-----------------------------|---|
| Freeway HOV <sup>1</sup>  | 733                          | MAG TDM <sup>4</sup> | 2008                        | As per RTP <sup>5</sup> updates or more often |
| Freeway General Purpose   | 1,681                        | MAG TDM <sup>4</sup> | 2008                        |   |
| Expressways               | 203                          | MAG TDM <sup>4</sup> | 2008                        |   |
| Collectors                | 1,286                        | MAG TDM <sup>4</sup> | 2008                        |   |
| 6-legged Arterials        | 8                            | MAG TDM <sup>4</sup> | 2008                        |   |
| Centroid Connectors       | 5,477                        | MAG TDM <sup>4</sup> | 2008                        |   |
| Arterials                 | 6,442                        | MAG TDM <sup>4</sup> | 2008                        |   |
| Ramps                     | 1,367                        | MAG TDM <sup>4</sup> | 2008                        |   |
| Metered Ramps             | 814                          | MAG TDM <sup>4</sup> | 2008                        |   |
| CD <sup>2</sup> Roads     | 0                            | MAG TDM <sup>4</sup> | 2008                        |   |

<sup>1</sup> High Occupancy Vehicles

<sup>2</sup> Collector Distributor Roads

<sup>3</sup> Number of Links from TransCAD highway database, one link may represent both directions

<sup>4</sup> Maricopa Association of Governments Travel Demand Model

<sup>5</sup> Regional Transportation Plan

**vii. Number of zones - How many transportation analysis zones (TAZs) are included in the model?**

**Response:** A total of 1995 TAZ's are currently in the model for all modeling years. A new traffic zone system is currently under development in response to population growth and an expanded modeling area. In addition, there are eleven external TAZ's in the current model.

**viii. Non-home based travel - How is non-home based travel modeled (e.g., freight, commercial services, through traffic, tourists)?**

**Response:** The following outline provides key points on modeling non-home based travel in MAG regional travel forecasting model.

Non-home Based Travel Modeling Approach

- Non-home based Work (NHW)
  - Linear regression model for generation
  - Gravity model for distribution
  - Standard mode choice model for mode split
- Non-home based Other (NHO)
  - Linear regression model for generation
  - Gravity model for distribution
  - Standard mode choice model for mode split
- Internal-internal truck
  - Linear regression models by weight group for generation
  - Gravity model for distribution
- External-internal truck
  - Generation by growth factor
  - Gravity model for distribution
- External-external vehicle
  - Generation by growth factor
  - Gravity model for distribution
- Non-home based portion of Sky Harbor trips
  - Linear regression model for generation
  - Standard mode choice model for mode split

MAG conducted an internal truck travel survey in 2007 and an external truck model development using Transearch data in 2008. MAG is in the process of finalizing the implementation of internal and external truck models into the MAG travel demand model. For the internal truck model, the surveys are done using FHWA vehicle classification rather than weight groups. The new truck model uses the three step modeling process: (1) Trip Generation, (2) Trip Distribution, and (3) Trip Assignment.

**Question: 5.** Explain how the data on highway VMT and congestion summary measures is utilized and/or evaluated for consistency with traffic monitoring data used in the MAG Congestion Management Process.

**Response:** The Maricopa Association of Governments (MAG) has developed a Performance Measures Framework and Annual Report to illustrate the most important characteristics associated with the status of surface transportation in the MAG region. Measures captured in these multimodal documents include VMT, volume throughput, speeds, spatial and temporal congestion, and travel times for the MAG modeling area. The MAG Performance Report is based on observed data sets and constitutes a fundamental tool in the Congestion Management Process evaluation process. Not only does it establish benchmarks for evaluating current year performance and congestion levels but in time will allow for the historic archiving of data, facilitating trend analysis. Parallel to this effort, every RTP Update includes results of model runs that simulate performance for future network scenarios, thus allowing for the evaluation of proposed projects and effectiveness of program implementation.



## SAFETY CONSIDERATIONS

**Question: 1. Is safety an explicit goal in the MAG planning process and long range RTP?**

**Response:** Safety is identified as a major focus in the RTP and is included in the Plan's first goal that addresses System Preservation and Safety. One of the objectives under this Plan goal is to: "provide a safe and secure environment for the traveling public, addressing roadway hazards, pedestrian and bicycle safety, and transit security. Safety is also identified as a critical element of each mode of transportation and the RTP specifically addresses safety issues in a separate chapter."

**a. Briefly summarize the current safety goals, objectives, performance measures and strategies in the RTP.**

**Response:** Some of the key safety goals identified in the MAG 2005 Strategic Transportation Safety Plan (STSP) are listed below. The STSP is an adopted planning document and is an integral part of the RTP.

- Develop a reliable and efficient method to assess the safety performance of the regional transportation system.
- Improve the overall public awareness on key road safety issues.
- Reduce the number of crashes that involve bicyclists and pedestrians.
- Promote road safety audits.
- Improve safety on access routes to schools.
- Strengthen driver training and licensing standards.
- Incorporate safety considerations in pedestrian and bicycle facility planning.
- Promote safe multimodal access.
- Reduce mid-block pedestrian crashes.
- Improved lighting, signage and delineation for older drivers.
- Improved lighting, signage and accessibility for physically handicapped users.

For each of these goals the STSP identified a list of General Strategies, Potential Actions and Lead Agencies.

**b. Describe how each safety goal is framed and defined (e.g., safety outcomes such as deaths and serious injuries vs. number of crashes overall)?**

**Response:** Specific numerical performance measures will be established upon completion of the development of the safety analysis capability at MAG through the Regional Transportation Safety Information Management System (RTSIMS).

**Question: 2. How is safety measured and evaluated throughout the 3-C planning process?**

**Response:** Road safety/risk consequences are currently measured and reported based on recorded crash data. The evaluation of safety/risk consequences of transportation alternatives, during the 3-C planning process, was addressed in the RTP by the application of basic models to future scenarios. For more near term infrastructure planning decisions at MAG, relevant safety information is generated through analysis performed by MAG staff, based on custom queries that are run on the ALISS database.

**a. Is the potential safety impact of alternative project and plan scenarios forecast and evaluated?**

**Response:** Yes, this was addressed during the development of the RTP. The safety consequences of alternative transportation scenarios were generated based on future travel forecasts. In addition, ADOT and MAG local agencies take safety into account during the environmental element of the project development process.

**b. Do the transportation systems planning process and plan include safety performance measures? If so, what specific metrics are used?**

**Response:** The following road safety metrics are currently used by MAG and are reported at the MAG Web site for each year from 1999 through 2007:

- Vehicle-Vehicle Crashes:  
Total number of crashes, total number of deaths, and total number of persons injured.
- Vehicle-Pedestrian Crashes:  
Total number of crashes, total number of deaths and total number of persons injured. Injuries and fatalities per 100,000 population for each local jurisdiction.
- Vehicle-Bicyclist Crashes:  
Total number of crashes, total number of deaths and total number of persons injured. Injuries and fatalities per 100,000 population for each local jurisdiction.
- All injury & fatality crashes at intersections:  
Signalized intersections, Stop controlled intersections and at mid-block locations.
- Crash frequencies and crash rates for each of the urban freeways.

**Question: 3. What safety databases and variables does MAG routinely use and consider in the planning process (e.g., fatalities, serious injuries, crash rates, crash hot spots, collision inventories, pedestrian**

**injuries, behavior statistics, driver's age, location, GIS, roadway inventory data, etc.)? How is the data used?**

**Response:** MAG uses the ADOT ALISS crash database. Data are used to generate regional statistics that are shared in planning documents and with member agencies via the MAG Web site. MAG also performs safety analyses for examining regional issues, based on requests received from member agencies.

**Question: 4. To what extent does the MAG TIP/RTP incorporate or summarize the priorities, goals, and countermeasures from the Arizona SHSP that relate to the MPO region? Briefly describe how the RTP development process incorporates the priorities, goals, and countermeasures from the Arizona SHSP.**

**Response:** The MAG Strategic Transportation Safety Plan (STSP) was developed in 2005, prior to the state's first SHSP (2007). The SHSP incorporated many recommendations that were passed along to the State SHSP from the MAG STSP.

The process of incorporating the state's SHSP recommendations in the MAG planning process was put on temporary hold until the state completed the development of SHSP Action Plans and made decisions regarding the allocation of HSIP resources. The MAG STSP, to be fully effective, would benefit greatly from having a known and consistent source of funding. Although there has been some progress recently with ADOT in identifying safety funding for the MAG region, delays in establishing the Highway Safety Improvement Program has slowed the implementation of needed safety projects in the MAG region. We would strongly encourage improvement in coordinating Arizona's safety planning activities and making a larger proportion of the FHWA safety funds available to regions. We support an overall process to address safety problems through a systematic risk assessment process.

**Question: 5. Do MAG's project selection criteria for the TIP reflect the region's safety goals, objectives?**

**Response:** The majority of projects in the MAG TIP are drawn from the list of projects in the RTP. Safety influenced the decisions to include projects in the RTP through the analysis of safety consequences of alternative transportation scenarios.

All projects of the RTP that are developed by ADOT, RPTA, and all MAG member agencies incorporate AASHTO guidelines that maximize safety in the overall development of the future facility. In addition, all roadway projects from the RTP's Freeway and Highway Program and Arterial Program are developed using design standards identified in ADOT's Roadway Design Guide (RDG). The RDG is known for stringent safety guidelines above and beyond those identified by AASHTO, such as greater design speeds in system traffic interchanges, and length of lane drop tapers to enhance vehicle safety and also minimize congestion.



## AIR QUALITY CONFORMITY

**Question: 1. How does MAG, local transit operators, and the local air pollution control district incorporate and implement the air quality goals and objectives of the 1990 CAAAs and the EPA's final rule on transportation conformity for the following:**

- **the Overall Work Program;**
- **the Transportation Improvement Plan (TIP);**
- **the Regional Transportation Plan (RTP);**
- **public participation in the development of TIP/Plan conformity;**
- **timely implementation of applicable SIP TCMs.**

**Response:** The Maricopa Association of Governments was designated by the Governor in 1978 and recertified by the Arizona Legislature in 1992 to serve as the Regional Air Quality Planning Agency, in accordance with Section 174 of the Clean Air Act. Within this role, MAG develops the nonattainment and maintenance plans for carbon monoxide, ozone, and particulate matter (PM-10). The plans are developed cooperatively with the Arizona Department of Environmental Quality (ADEQ), Arizona Department of Transportation (ADOT), and Maricopa County Air Quality Department (MCAQD). The commitments to implement the measures in the plans are received from the local governments, MCAQD, ADOT, ADEQ and the Arizona Legislature. MAG also conducts the conformity analyses on the TIP and RTP, as required by Section 176 (c) of the Clean Air Act.

Overall, air quality has improved significantly within this region due to the implementation of numerous air quality measures by the federal, state and local governments. There have been no violations of the federal carbon monoxide and one-hour ozone standards since 1996 and no violations of the federal eight-hour ozone standard of 0.08 parts per million since 2004. The Environmental Protection Agency (EPA) issued official attainment determinations for the one-hour ozone standard on May 30, 2001 and for the carbon monoxide standard on September 22, 2003. In addition, EPA approved the carbon monoxide and one-hour ozone maintenance plans and redesignated the area to attainment for carbon monoxide on April 8, 2005 and one-hour ozone on June 14, 2005.

During the last two years, MAG has prepared an Eight-Hour Ozone Plan, a Five Percent Plan for PM-10, and an Eight-Hour Ozone Redesignation Request and Maintenance Plan. These plans were submitted to EPA in June 2007, December 2007, and February 2009, respectively.

MAG incorporates and implements air quality goals and objectives of the Clean Air Act and the EPA January 2008 transportation conformity rule as follows:

Overall Work Program. The MAG Work Program contains funding to implement committed measures in the MAG carbon monoxide, ozone and PM-10 plans, including transportation control measures (TCMs), as defined in Section 108(f)(1)(A) of the Clean Air Act. The FY 2010 MAG Unified Planning Work Program and Annual Budget (UPWP) allocates Congestion Mitigation and Air Quality Improvement (CMAQ) funds to implement the following TCMs: the Trip and Travel Reduction Programs (\$1.045 million), the Regional Rideshare Program (\$594,000), and the Telework and Ozone Outreach Program (\$300,000).

The MAG Five Percent Plan for PM-10 includes Measure 24 - Sweep streets with PM-10 certified street sweepers. The annual UPWP funds sweeper projects that support this committed measure in the Five Percent Plan. For example, the UPWP allocates \$1.31 million in FY 2010 CMAQ funds for MAG member agencies to purchase PM-10 certified street sweepers in the PM-10 nonattainment area. The local match for the sweeper projects is a minimum of 5.7 percent of the total cost.

The FY 2010 UPWP also budgets approximately \$2 million in federal transportation funds for MAG staff who prepare emissions inventories, identify potential control measures, obtain control measure commitments, evaluate control measures and CMAQ projects, conduct emissions and air quality modeling, prepare air quality plans, track air quality monitoring data, monitor the implementation of committed measures in the air quality plans, and conduct transportation conformity analyses for the TIP and RTP. Periodically, MAG obtains assistance from consultants in collecting data, conducting modeling, and performing special studies that enhance regional air quality planning. For example, local meteorological, air quality, silt loading, and traffic count data collected in December 2006 as part of the MAG PM-10 Source Attribution and Deposition Study were critical inputs to the dispersion modeling used to demonstrate attainment in 2010 for the MAG 2007 Five Percent Plan for PM-10.

Transportation Improvement Program. The MAG FY 2008-2012 Transportation Improvement Program (TIP) includes CMAQ funding for programs and projects that reduce transportation-related emissions. CMAQ funds in the TIP are allocated annually to regional TCMs, including the travel/trip reduction program, the rideshare program, and the telework/ozone program. CMAQ funds are also programmed in each year of the TIP for implementation of TCMs by MAG member agencies, including bicycle, pedestrian, and Intelligent Transportation System (ITS) projects. Priority is given to funding the TCMs in the TIP. Other air quality projects programmed in each year of the TIP are paving unpaved roads and PM-10 certified street sweepers.

The FY 2008-2012 TIP programs \$17.65 million for paving unpaved roads. This supports Measure 26 in the MAG Five Percent Plan for PM-10 for paving and stabilization of existing public dirt roads and alleys. In TIPs for the years FY 2001-2007, \$16.1 million in CMAQ funds were committed to purchase 111 PM-10 certified sweepers. After FY 2007, it was anticipated that local governments would continue to purchase PM-10 certified sweepers to replace older sweepers, expand the area swept, and increase the frequency of sweeping. Therefore, \$5.43 million in CMAQ funding was programmed in the MAG FY 2008-2012 TIP to purchase 48 additional PM-10 certified sweepers. The TIP assumes that

eight PM-10 sweepers will be acquired each year from FY 2008 through FY 2010. After FY 2010, it is assumed that five additional PM-10 certified units will be purchased each year to increase the frequency of sweeping and expand to developing areas of the rapidly-growing region.

Regional Transportation Plan. The MAG Regional Transportation Plan 2007 Update (RTP) incorporates funding for measures to reduce emissions generated by vehicle travel. The funding for air quality programs and projects in the FY 2008-2012 TIP is discussed above. After FY 2012, the RTP provides funding for purchasing five PM-10 certified street sweepers each year. In the RTP, the paving of dirt roads by local jurisdictions reflects a continuation of current commitments to reduce fugitive dust on unpaved roads with high traffic volumes; eliminate dirt roads in areas of new development; and pave dirt alleys, shoulders, and access points. Consistent with past trends, the RTP assumes that 10 centerline miles of high Average Daily Traffic (ADT) unpaved roads will continue to be paved each year.

Conformity on the TIP and RTP. As required by the Clean Air Act, an air quality conformity analysis was conducted by MAG on the Draft FY 2008-2012 Transportation Improvement Program and the Draft Regional Transportation Plan – 2007 Update, as a whole. The conformity analysis, approved by the MAG Regional Council in July 2007, demonstrated that the TIP and RTP are in conformance with the regional air quality plans and will not contribute to air quality violations. In its entirety, the conformity analysis demonstrated that the criteria specified in the federal transportation conformity rule (40 Code of Federal Regulations Parts 51 and 93) for a conformity determination are satisfied by the TIP and RTP. The Finding of Conformity for the TIP and RTP was issued by FHWA on August 16, 2007. The most recent Finding of Conformity on the Amended FY 2008-2012 TIP and Regional Transportation Plan Update 2007 was issued by FHWA on July 16, 2009.

Public Participation in the Development of TIP/Plan Conformity. In response to requirements of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU), MAG adopted a new Public Participation Plan in 2006. The MAG public involvement process, as presented in its Public Participation Plan, is divided into four phases: Early Phase, Mid-Phase, Final Phase, and Continuous Involvement. The Early Phase meetings ensure early involvement of the public in the development of TIP and RTP. The Mid-Phase process provides for input on initial plan analysis for the TIP and RTP, and includes a public hearing on regional transportation issues. The Final Phase provides an opportunity for final comment on the RTP, TIP and Air Quality Conformity Analysis. In addition, continuous outreach is conducted throughout the annual update process and includes activities such as distributing press releases and newsletters, presentations to community and civic groups, information booths, and special events coordinated with the Arizona Department of Transportation (ADOT), Regional Public Transportation Authority (Valley Metro), Valley Metro Rail (METRO) and the City of Phoenix Public Transit Department. All of the comments received through the MAG public involvement process are summarized and provided to the Management Committee, Transportation Policy Committee and Regional Council in the form of input opportunity reports.

Timely Implementation of Applicable SIP TCMs. Each MAG conformity analysis for a new TIP and RTP includes a chapter on Transportation Control Measures. The findings in Chapter 5 of the 2007 MAG Conformity Analysis for the FY 2008-2012 Transportation Improvement Program and Regional Transportation Plan - 2007 Update are based on a review of the TCMs contained in applicable air quality plans. The applicable plans (i.e., approved by EPA) for the 2007 Conformity Analysis were the Revised MAG 1999 Serious Area Particulate Plan for PM-10, Revised MAG 1999 Serious Area Carbon Monoxide Plan, Carbon Monoxide Redesignation Request and Maintenance Plan, and One-Hour Ozone Redesignation Request and Maintenance Plan.

In December 2004 through January 2005, MAG contacted agencies with TCM commitments in the applicable air quality plans. Each agency reported to MAG that all TCMs in the applicable plans are on schedule and there are no obstacles to implementation of the TCMs. Therefore, the 2007 Conformity Analysis concluded that the TIP and RTP provide for the timely implementation of TCMs in the applicable SIPs and nothing in the TIP or RTP interferes with the implementation of any TCM in an applicable SIP.

In general, TCM implementation in the region has exceeded the commitments in the air quality plans. Some TCM commitments in the air quality plans have been fully implemented for many years. Implementation of these TCMs is assumed in the base year traffic assignment for the conformity analysis. The TIP continues to provide funding for many TCMs (e.g., trip reduction, transit, bikeway, ridesharing, and ITS projects) that have now been implemented to a significantly greater degree than originally committed.

The RTP assumes or specifically calls for TCM implementation at current or expanded levels, consistent with TCM commitments in applicable air quality plans. The RTP specifically addresses transit service, high occupancy vehicle lanes, demand management programs, and bicycle and pedestrian facility needs. Moreover, continued reliance on alternative modes of travel is reflected in the transportation model projections used in determining facility needs and funding priorities. Despite planned increases in capacity in the RTP, the MAG transportation models project that the highway system will become more congested over time, leading to more single occupant vehicle trips being diverted to alternative modes such as transit and carpooling. Thus, TCMs will continue to play an important role in the RTP.

**Question: 2. Is there an agreement between MAG and the air quality management district defining the responsibilities of each? (If so, please provide a copy).**

**Response:** The Air Quality Memorandum of Agreement among the Arizona Department of Environmental Quality, Arizona Department of Transportation, Maricopa County and MAG provides the framework and guidelines to promote coordinated decision making in planning, development, and implementation and enforcement of those actions necessary to attain and maintain the National Ambient Air Quality Standards in Maricopa County or the area specifically designated by the Environmental Protection Agency as a nonattainment area. The roles of these agencies are defined in the document. The memorandum describes the role of MAG as the Regional Air Quality Planning Agency,

including transportation/air quality conformity. The memorandum indicates that MAG is responsible for transportation/air quality conformity determinations, subject to the consultation procedures as provided by law (Clean Air Act Section 176). (A copy of the Air Quality Memorandum of Agreement is provided in Appendix Q.)

In accordance with the Memorandum of Agreement, the Maricopa Association of Governments closely coordinates with the Arizona Department of Environmental Quality and Maricopa County Air Quality Department to develop and implement plans to attain the National Ambient Air Quality Standards and assist in achieving conformity. The air quality modeling performed by MAG for the regional nonattainment and maintenance plans is reviewed with the local air quality agencies; this modeling establishes the motor vehicle emissions budgets for conformity purposes. MAG also works with the Maricopa County Air Quality Department to ensure that the regionwide Fugitive Dust Control Rules are adequately implemented and enforced to reduce dust on paved and unpaved roadways and other sources.

The state rules for transportation conformity specify that the MPOs must develop specific conformity guidance and consultation procedures and processes. To meet state requirements, MAG developed and adopted the MAG "Transportation Conformity Guidance and Procedures" document which addresses the determination of "regional significance" status for transportation projects and the approval process for regionally significant projects. The MAG "Conformity Consultation Processes" document was also prepared to detail the public and interagency consultation processes to be used in the development of regional transportation plans, programs, and projects. In addition, MAG reviews the federal conformity regulations and subsequent revisions to ensure that the interagency consultation process is conducted in full compliance with the federal regulations.

Currently, the agencies consulted by MAG include the parties to the Air Quality Memorandum of Agreement and others as well. Specifically, the agencies are the: Federal Transit Administration, Federal Highway Administration, Arizona Department of Transportation, Arizona Department of Environmental Quality, Regional Public Transportation Authority, City of Phoenix Public Transit Department, Maricopa County Air Quality Department, Central Arizona Association of Governments, Pinal County Air Quality Department, U.S. Environmental Protection Agency, and other interested parties.

**Question: 3. How does MAG monitor and report on the timely implementation of applicable SIP TCMs?**

**Response:** The Transportation Control Measures chapter of the MAG conformity analysis for a new TIP and RTP provides a measure-by-measure assessment of the current status of each TCM in the applicable air quality plans. For information purposes, this chapter also describes the status of TCMs in previous air quality plans that MAG submitted to EPA, but were not approved. In addition, MAG includes a table in the conformity analysis that identifies the funding levels for programmed projects that implement TCMs and other air quality measures.

**Question: 4. How does MAG meet minimum travel modeling requirements as specified in the Transportation Conformity Rule (40 CFR 93.122 (b)) – applies to TMAs that are designated as serious, severe or extreme ozone or serious carbon monoxide non-attainment areas?**

**Response:** Under the 1990 CAAAs, the MAG region was identified as a “Moderate” nonattainment area for carbon monoxide. Since attainment of the eight-hour carbon monoxide standard was not achieved by December 31, 1995, the nonattainment area was reclassified to “Serious” by operation of law on August 28, 1996. No violations of the carbon monoxide standard occurred after 1996. EPA approved the Revised MAG 1999 Serious Area Carbon Monoxide Plan and the Carbon Monoxide Redesignation Request and Maintenance Plan and redesignated the area to attainment, effective April 8, 2005.

Under the 1990 CAAAs, the MAG region was classified as “Moderate” for the one-hour ozone standard. Since attainment of the standard was not achieved by the deadline of November 19, 1996, EPA reclassified the area to “Serious” effective February 13, 1998. No violations of the one-hour ozone standard occurred after 1996. On June 14, 2005, EPA approved the MAG One-Hour Ozone Redesignation Request and Maintenance Plan and redesignated the area to attainment. EPA revoked the one-hour ozone standard on June 15, 2005.

On June 15, 2004, EPA designated the MAG region as a nonattainment area for the eight-hour ozone standard of 0.08 parts per million (ppm). The Maricopa eight-hour ozone nonattainment area is classified under Section D, Subpart 1, of the Clean Air Act, referred to as a “Basic” nonattainment area, with an attainment date of June 15, 2009. No violations of the eight-hour ozone standard of 0.08 ppm have occurred since 2005. MAG submitted to EPA an Eight-Hour Ozone Plan in June 2007 and an Eight-Hour Ozone Redesignation Request and Maintenance Plan in February 2009. It is anticipated that EPA will redesignate the area to attainment for the eight-hour ozone standard of 0.08 ppm. Although the MAG region may be designated as a nonattainment area under a new, more stringent eight-hour ozone standard being considered by EPA, it is unlikely that the area will be classified as “Serious.”

Because the MAG region is no longer a “Serious” nonattainment area for carbon monoxide or ozone, the requirements of Section 93.122(b) of the transportation conformity rule no longer apply. However, the MAG transportation models used to perform the 2007 Conformity Analysis for the FY 2008-2012 TIP and RTP - 2007 Update exhibited the following characteristics, which are consistent with requirements in the federal transportation conformity rule:

- The 2002 traffic volumes simulated by the MAG transportation models were validated against approximately 3,000 traffic counts. This validation demonstrated a good statistical fit between actual and estimated 24-hour 2002 traffic volumes, as measured by a percent root mean square error of 36.3 percent.
- The population, households, and employment inputs to the travel demand models are based on DES population projections consistent with the 2005 Census Survey. These

socioeconomic projections were approved by the MAG Regional Council in May 2007. These projections were prepared using the DRAM/EMPAL land use model and the MAG Subarea Allocation Model-Information Manager (SAM-IM).

- The population and employment projections 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 148 regional analysis zones (RAZs) based upon the preexisting 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 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 the transportation models. Congested travel times output by the 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 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. The restrained assignments are “multi-class.” That is, there are five different types of trip tables assigned to the highway network: low occupancy vehicles, high occupancy vehicles, light-duty commercial trucks, medium-duty commercial trucks, and heavy-duty commercial trucks.
- 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). The travel impedances used in the mode choice model include travel times and costs associated with each of the following modes: autodrivers, carpools (2 and 3+ persons), and transit (e.g., express bus, local bus, and rail).
- The travel impedances used in the trip distribution and traffic assignment steps of the MAG transportation 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. MAG conducted a speed study in 2002-2003 in order to validate the vehicle hours of travel, speeds, and other performance measures output by the transportation models. The transportation models were recalibrated and validated using this speed data. Data from this 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. Overall, the estimated VHT for 2002 is within one percent of the VHT derived from the 2002-2003 speed survey. This indicates that assigned speeds used in conformity analysis are in reasonable agreement with speed data collected in the 2002-2003 MAG Travel Speed Study.
- The MAG travel demand models estimate average weekday traffic (AWDT), while the Arizona Highway Performance Monitoring System (HPMS) reports annual average daily traffic (AADT). In accordance with Section 93.122(b)(3), MAG has compared transportation model VMT by facility type, after conversion from AWDT to AADT, with HPMS VMT by functional class. For the 3,000 square mile PM-10 nonattainment area, total modeled and HPMS VMTs for 2002, the latest transportation model calibration year, are virtually identical. In addition, the differences by facility type are no more than one percent. Therefore, no HPMS reconciliation factors need to be applied to the traffic assignments used in the 2007 MAG Conformity Analysis.

It is important to note that the above response includes a description of the characteristics of the MAG travel demand models that were in place at the time the 2007 Conformity Analysis started in April 2007. Since that time, MAG has undertaken a major transportation model update in 2008 through 2009, with the most recent model revisions completed in September 2009.

**Question: 5. How does MAG handle the interagency consultation process? (Please provide a copy of MAG's interagency consultation procedures.) Have there been any changes since the previous certification review?**

**Response:** According to U.S. EPA regulations at 40 CFR 93.105, interagency consultation procedures are required for specific processes that involve the MPO, state and local air quality planning agencies, state and local transportation agencies, EPA, and U.S. Department of Transportation. In response to the federal consultation requirements, the State of Arizona adopted consultation rules in Arizona Administrative Code, R-18-2-1405. The state rules for transportation conformity specify that the MPOs must develop specific conformity guidance and consultation procedures and processes. To meet state requirements, MAG developed and adopted two documents. The MAG "Transportation Conformity Guidance and Procedures" document addresses the determination of "regional significance" status for transportation projects and the approval process for regionally significant projects. The second document, the MAG "Conformity Consultation Processes", details the public and interagency consultation processes to be used in the development

of regional transportation plans, programs, and projects. (A copy of the MAG Conformity Consultation Processes document is provided in Appendix R.)

Over time, several revisions to the federal transportation conformity regulations have occurred. MAG reviews these regulations and continues to conduct an interagency consultation process in full compliance with federal regulations. Generally, the major elements of the MAG consultation processes involve the distribution of a interagency consultation memorandum for review by local, state, and federal air quality and transportation agencies, the MAG Management Committee, the MAG Regional Council, and other interested parties, including members of the public.

Currently, the agencies consulted by MAG include the Federal Transit Administration, Federal Highway Administration, Arizona Department of Transportation, Arizona Department of Environmental Quality, Regional Public Transportation Authority, City of Phoenix Public Transit Department, Maricopa County Air Quality Department, Central Arizona Association of Governments, Pinal County Air Quality Control District, and the U.S. Environmental Protection Agency, and other interested parties.

Within MAG, the MAG Management Committee is a key committee for conformity consultation since the membership includes the 25 cities and towns, Maricopa County, the three Indian communities, the Regional Public Transportation Authority, and the Arizona Department of Transportation. It is important to note that the cities and towns, as well as Maricopa County, provide transportation services. The consultation process includes an opportunity for members of the MAG Management Committee and members of the public to review and provide comment on conformity consultation items (e.g., TIP amendments). The Management Committee consists of the chief administrators from each member agency, such as the jurisdiction's city or town manager, the county manager from Maricopa County, and the chief administrative officer of each Native American Indian Community. The director of the Arizona Department of Transportation and the executive director of the Regional Public Transportation Authority represent their respective agencies on transportation issues that are brought before the Management Committee.

The consultation process also includes an opportunity for members of the MAG Regional Council and members of the public to review and provide comment on conformity consultation items. The MAG Regional Council is the governing and policymaking body for the organization and membership currently is composed of elected officials appointed by each member agency for the 25 incorporated cities and towns within Maricopa County and the contiguous urbanized area, three Native American Indian Communities, and Maricopa County. The Arizona Department of Transportation (ADOT) and the Citizens Transportation Oversight Committee (CTOC) serve as ex-officio members for transportation-related issues.

The consultation process concludes when the consultation memorandum is included as an agenda item for consultation at a meeting of the MAG Regional Council. A final memorandum is distributed to the agencies and members of the public that reports on the action taken by the MAG Regional Council (e.g. TIP amendment) and comments received

during the period of consultation. MAG also prepares a response to any comments received.

Since the previous certification review in 2004, the list of agencies that receive interagency consultation memoranda has been expanded to include the Central Arizona Association of Governments, City of Phoenix Public Transit Department, and the Pinal County Air Quality Control District. In addition, the Fort McDowell Yavapai Nation became a member of the Maricopa Association of Governments in October 2004 and receives consultation materials.

## FINANCIAL PLANNING/FISCAL CONSTRAINT

**Question: 1. Does MAG provide system level estimates of both costs and reasonably available revenue sources to adequately operate and maintain Federal-aid highways and public transportation with each update or amendment to the transportation plan or TIP?**

**Response:** Revenues from reasonably available revenue sources are estimated by mode for the planning period of the RTP in Year of Expenditure (YOE) dollars. The costs associated with operation, maintenance and preservation are taken into account as part of the long range assessment of funding and expenditures for each mode, which is included in the RTP.

**a. Briefly describe how MAG prepares and documents system level estimates of costs and revenues to adequately operate and maintain Federal-aid highways and public transportation service.**

**Response:** The chapters in the RTP on the freeway system and the arterial street system include discussions of system operation, maintenance and preservation. Costs for these functions are developed using per-mile rates by facility type. Per-mile rates were estimated from information from ADOT and Maricopa County. MAG staff will be working with member agencies in the future as part of the TIP process to update information on operations and maintenance. These rates are applied to future plan networks to develop long-range cost estimates in terms of Year of Expenditure (YOE) dollars, taking into account the estimated mileage added incrementally to the system and future price inflation rates. Similarly, future transit system operating costs are estimated based on unit operating costs and the service levels included in the Plan, taking into account the growth in service provided during the life of the Plan and future price inflation rates.

**Question: 2. Briefly explain how MAG ensures that project cost estimates in the Transportation Plan and TIP are regularly updated and reflect the latest available information.**

**Response:** The Regional Transportation Plan (RTP) utilizes the life cycle programs that are maintained for the major transportation modes, as a key input to the planning process. These life cycle programs are developed by the Arizona Department of Transportation (ADOT), the Regional Public Transportation Authority (RPTA), and the Maricopa Association of Governments (MAG), respectively, for the freeway/highway system, public transit system, and arterial street system. The programs meet the requirements of Arizona state legislation calling for the agencies to conduct a budget process that ensures that the estimated cost of planned improvements does not exceed the total amount of revenues available for those improvements. Cost estimates in the life cycle programs are generally updated annually. The TIP update process also provides information for updating costs in the RTP.

The life cycle programs provide a comprehensive yearly listing of projects, including their costs and implementation schedule. In addition to providing a source of updated cost

estimates, they represent an invaluable tool for monitoring construction progress on individual projects and assessing the financial status of the programs as a whole. The life cycle programs provide a benchmark for the decision-making process regarding alterations to project scopes, adjustments to construction schedules, and changes to plan and program priorities.

Another cost and revenue review occurs through the Risk Assessment Process (RAP). MAG participates in this group, which is assembled by ADOT annually to assesses the future transportation cost and revenue picture. The group includes not only transportation professionals, but also economic and development forecasters who provide their perspective on the economic trends that affect transportation costs and revenues. The outcome of sessions is a set of revenue forecasts and an assessment of the future cost outlook.

As part of the RTP update process, other program costs are also updated to reflect estimated future inflation. Inflation factors are estimated in consultation with ADOT and RPTA.

**Question: 3. Does the financial plan take into account the capital needs both the bus and rail authorities; specifically, the proposed construction of maintenance facilities?**

**Response:** The Regional Transportation Plan (RTP) utilizes the Transit Life Cycle Program as a major input to the transit element of the Plan. The life cycle program provides a comprehensive yearly listing of projects, including their costs and implementation schedule. This includes capital needs for both bus and rail systems.

Regarding maintenance facilities specifically, the RTP provides funding for a range of future bus maintenance facilities. The identification of specific locations and exact timing of construction for these facilities will occur as the result of ongoing capital planning efforts. Included in this infrastructure are four new bus maintenance facilities and two facility upgrades; one dial-a-ride/rural bus maintenance facility; a vanpool maintenance facility; and the purchase of required land associated with the improvements. In addition, the financial plan in the RTP includes funding for support infrastructure for the initial 20-mile core of the light rail transit system, as well as future extensions.

It should be noted that due to declining half-cent sales tax revenues, the number of new maintenance facilities may be reduced in the update of the RTP, which is now underway.

## ORGANIZATIONAL STRUCTURE, REGIONAL COUNCIL MEMBERSHIP AND PLANNING BOUNDARIES

### ORGANIZATIONAL STRUCTURE, REGIONAL COUNCIL MEMBERSHIP

**Question: 1. Briefly describe MAG's organizational structure, or provide a copy of the current organization chart highlighting major changes made since 2004 Certification review.**

**Response:** MAG's current organizational structure consists of nine divisions, which includes Administration, Communications, Environmental Programs, Fiscal Services, Human Services, Information Services, Information Technology, Office Services, and Transportation. (See Appendix S.) The Executive Director reports directly to the MAG Regional Council, which is the policy board of the organization. Since the 2004 Certification review, changes have been made in MAG's divisions to create more efficiency in the organization. These changes included folding in the functions of the Regional Development Division into the responsibilities of the Information Services Division and establishing an Information Technology Division, a function which was formerly under the Information Services Division, reclassifying or reorganization of positions within divisions such as Transportation, Environmental Programs, and Information Services, and establishing new committees to be able to address specific programs, such as the recently formed Transit Committee. Since November 2004, MAG has increased its staff from sixty-three (63) FTEs to seventy-nine (79) FTEs in November 2009.

**Question: 2. Briefly describe the purpose, function, and membership of all committees (technical, policy, ad-hoc, standing, etc.).**

**Response:** MAG currently has a total of twenty-five (25) committees, including three (3) policy committees, four (4) policy-advisory committees, and eighteen (18) technical committees. Recently, MAG combined the Regional Bicycle Task Force and Pedestrian Working Group to form the Bicycle and Pedestrian Committee and established a Transit Committee. The following information addresses the purpose, function and membership of all MAG committees:

#### Policy Committees

- Regional Council

Purpose: Act as the Board of Directors of the organization.

Function:

- Approve regional plans and spending plans.
- Elect officers and members of the Executive Committee.
- Approve the annual budget and work program.
- Approve the Regional Transportation Plan and amendments.
- Approve the Transportation Improvement Program and amendments.
- Approve material cost changes to the Regional Freeway Program.
- Approve Air Quality Plan.

- Approve Air Quality Conformity Analysis.
- Approve 208 Water Quality Management Plan and Amendments.
- Consult with the Executive Committee regarding the performance review of the Executive Director.
- Ratify the hiring and retention of the Executive Director.
- Ratify the Executive Committee approval of the MAG annual goals.

Membership: The MAG Regional Council consists of thirty-two (32) members. Each unit of local government designates an individual from its duly elected governing body to serve on the Regional Council. For the majority of members, the city or town Mayor serves as the Regional Council member. Other members include the Chair of the Board of Supervisors, who usually represents Maricopa County, two (2) State Transportation Board Members representing the Arizona Department of Transportation (ADOT), the Chair of the Citizens Transportation Oversight Committee (CTOC), as well as the Governor of the Gila River Indian Community, the President of the Salt River Pima-Maricopa Indian Community, and the President of the Fort McDowell Yavapai Nation.

- Executive Committee

Purpose: Serve as the officers of the Board of Directors for the organization.

Function:

- Recommend adoption of the annual budget and work program to the Regional Council.
- Approve the Annual Goals, with ratification by the Regional Council.
- Hiring and retention of the Executive Director, with ratification by the Regional Council.
- All day to day administrative responsibilities not retained by the Regional Council.
- Performance review of the Executive Director, in consultation with the Regional Council.
- Approve amendments to the annual budget and work program.
- Contract selections and approvals or amendments.
- Appoint chairs and vice chairs of technical and other policy committees, with exception of the Regional Council, Management Committee and Transportation Policy Committee.
- Consider future agenda items requested at Regional Council.

Membership: The MAG Executive Committee includes the chair, vice chair, treasurer, the past chair, and three members-at-large. The chair, vice chair, and treasurer of the Regional Council serve as ex-officio members of the Executive Committee and the chair serves as the chair of the Executive Committee.

- Management Committee

Purpose: Provide a key role in the policymaking decisions at MAG. The

committee is responsible for receiving input from technical committees, analyzing the technical and policy implications, and providing recommendations to the MAG Regional Council.

Function:

- Appoint committees and personnel to study specific problems, programs, or other matters which the Management Committee has approved for study.
- Act as the coordinating committee for all other technical committees and subsidiary technical groups that report to the Regional Council.
- Keep the Regional Council informed on any matter or problem involving intergovernmental cooperation.
- Perform any other functions assigned by the Regional Council.

Membership: The Management Committee consists of the chief administrators from each member agency, such as the jurisdiction's city or town manager, the county manager from Maricopa County, and the chief administrative officer of each Native American Indian Community. The director of the Arizona Department of Transportation (ADOT) and the executive director of the Regional Public Transportation Authority (RPTA) represent their respective agencies on transportation issues that are brought before the Management Committee.

Policy Advisory Committees

- Transportation Policy Committee

Purpose: Develop regional transportation policy positions for Regional Council consideration.

Function:

- Recommend the Regional Transportation Plan.
- Recommend the Transportation Improvement Program.
- Recommend amendments to the Transportation Improvement Program.
- Recommend material cost changes to the Regional Freeway Program.
- Recommend accelerations to the Regional Freeway Program.
- Recommend amendments to the Regional Transportation Plan.

Membership: The Transportation Policy Committee consists of twenty-three (23) members, including elected officials from cities, towns, and the Maricopa County Board of Supervisors, and representatives of the Native American Indian Community, and the State Transportation Board, the chair of the Citizens Transportation Oversight Committee (CTOC), and regionwide business representatives.

- Human Services Coordinating Committee

Purpose: The committee prepares a Human Services Plan for the Maricopa region, solicits comments and develops recommendations on the distribution of Federal Social Services Block Grant funds, analyzes issues, and identifies possible solutions.

Function:

- Develop recommendations on human services issues for the review and approval of the MAG Regional Council.
- Reviews and recommends how locally planned Social Services Block Grant funding will be allocated at the service level.
- Identify regional human services issues for research and assessment by the MAG Human Services Technical Committee and recommend viable strategies to address those issues.
- Prepare a regional human services plan and other reports as needed.
- Recommend policy positions to address emerging human services needs.

Membership: Members of this committee include municipal and county elected officials and representatives from the boards of the Area Agency on Aging, community councils, the Department of Economic Security, and United Way organizations.

- Continuum of Care Coordinating Committee on Homelessness

Purpose: The committee prepares and submits an application for homeless assistance funding to the U.S. Department of Housing and Urban Development and addresses regional issues relating to homelessness.

Function:

- Develop recommendations on regional homeless issues for the review and approval of the MAG Regional Council.
- Conduct an annual planning process to develop strategies to end homelessness throughout the region.
- Conduct activities to support the consolidated application to the U.S. Department of Housing and Urban Development (HUD) such as organizing a homeless street count, developing a gap analysis, and creating a housing inventory chart.
- Facilitate the application process and develop the consolidated application to HUD for the Stuart B. McKinney funds.

Membership: Members of this committee include representatives from the private sector, public sector and nonprofit agencies. Private sector representatives include businesses and the general public. Public sector representatives include local elected officials, and municipal, county and state professional staff. Nonprofit agencies include shelter providers, foundations, and advocates.

- **Regional Domestic Violence Council**
  - Purpose:** The MAG Domestic Violence Council serves as a primary coordinating body for issues related to domestic violence and provides a forum for communication and coordinated action to effectively address, prevent, and eradicate domestic violence in the MAG region.
  - Function:**
    - Develop recommendations on domestic violence issues for review and approval by the MAG Regional Council.
    - Work with stakeholders to implement the recommendations of the MAG Domestic Violence Plan.
    - Conduct research and prepare reports.
  - Membership:** Members of the council are drawn from local elected officials, members of the Governor's Office Division for Women, the business community, healthcare professionals, prosecutors, police officers, shelter and service providers, and private funders.

#### Technical Committees

- **9-1-1 Oversight Team**
  - Purpose:** The committee was formed in December 1993 to provide additional participation by management in the coordination of the MAG Regional 9-1-1 System.
  - Function:**
    - Coordinate the 9-1-1 system in the MAG region with other emergency and public safety officials.
  - Membership:** This committee consists of high level officials from police and fire departments of the member agencies.
- **Air Quality Technical Advisory Committee**
  - Purpose:** The role of the Technical Advisory Committee is to review and comment on technical information generated during the planning process.
  - Function:**
    - Make recommendations throughout the air quality planning process to the MAG Management Committee.
  - Membership:** This committee consists of representatives from MAG member agencies, citizens, environmental interests, health interests, construction firms, utilities, public transit, architecture, agriculture, the business community, the automobile, fuel, trucking, rock products, and housing industries, parties to the Air Quality Memorandum of Agreement, and various state and federal agencies.

- **Bicycle and Pedestrian Committee**

**Purpose:** The committee annually reviews and updates the MAG Pedestrian Plan and recommends projects for funding under the Pedestrian Design Assistance Program. Earlier versions of the committee developed a Regional Bicycle Plan, the Regional Off-Street System (ROSS) Plan, and the Regional Bikeways Map.

**Function:**

- Encourage the implementation of these plans by recommending pedestrian and bicycle-related projects for funding from federal and other sources as well as activities to inform the region about the benefits of biking and walking.

**Membership:** The Bicycle and Pedestrian Committee consists of representatives of MAG member agencies, as well as the development, architecture, and landscape architecture communities, RPTA and the Coalition of Arizona Bicyclists.

- **Building Codes Committee**

**Purpose:** Provide a regional forum for construction, development, and other issues as they relate to building codes.

**Function:**

- Make recommendations on the development, interpretation and enforcement of building codes in the MAG region.

**Membership:** This committee consists of building officials from MAG member agencies.

- **Elderly and Persons with Disabilities Transportation Committee**

**Purpose:** Develop recommendations for the Arizona Department of Transportation regarding the prioritization of applicants to receive FTA Section 5310 capital assistance awards in the form of vehicles and related equipment to transport elderly individuals and persons with disabilities.

**Function:**

- Evaluate applications received for the FTA Section 5310 capital award assistance program.
- Develop a priority listing of FTA Section 5310 applications from agencies serving older adults and people with disabilities.
- Forward prioritized list of applications to the Arizona Department of Transportation (ADOT) for approval and awards.

**Membership:** This committee consists of representatives from MAG member agencies and regional transportation agencies.

- **Enhancement Peer Review Group**
  - Purpose: The Enhancement Peer Review Group evaluates applications for enhancement funds from the MAG region.
  - Function:
    - Forward a ranked list of applications through the MAG committee process to the Transportation Enhancement Review Committee of the Arizona Department of Transportation.
  - Membership: Consists of experts from ten program areas defined in federal legislation, and representatives of the MAG Bicycle and Pedestrian Committee, MAG Street Committee, and MAG Management Committee.
  
- **Human Services Technical Committee**
  - Purpose: Provide technical assistance to the Human Services Coordinating Committee, develop allocation recommendations for the Social Services Block Grant, and produce regional human services plans.
  - Function:
    - Advise the MAG Human Services Technical Committee on identification and prioritization of regional human services issues and assist in the formulation of the annual MAG Human Services Plan.
    - Develop allocation recommendations for locally planned Social Services Block Grant funding through research, public input, and professional expertise for review by the Human Services Coordinating Committee.
  - Membership: Includes municipal planners, the United Way organizations, the Area Agency on Aging, local community councils, and the Arizona Department of Economic Security.
  
- **Intelligent Transportation Systems (ITS) Committee**
  - Purpose: Provide oversight both to the development and periodic updates of regional plans, such as the ITS Strategic Plan, Regional ITS Architecture, and the Regional Concept of Transportation Operations. These plans serve as the overall roadmap for investments in regional ITS infrastructure and in the application of technology-based solutions for managing and operating the regional multimodal transportation system.
  - Function:
    - The primary focus of the committee is on publicly owned transportation facilities in the region. However, a number of regional ITS applications provide real-time traffic information that support value added products and services from private sector ITS partners such as radio, TV and Internet-based traffic information services.

Membership: This technical committee consists of representatives from the Federal Highway Administration, the Arizona Department of Transportation (ADOT), the Arizona Department of Public Safety, Regional Public Transit Authority, Valley Metro Rail, Arizona State University and fifteen MAG member agencies.

- **Population Technical Advisory Committee**

Purpose: To provide technical guidance for the preparation of socioeconomic estimates and projections, as well as other socioeconomic databases and coverages.

Function:

- The MAG Population Technical Advisory Committee was created to provide technical input in the development of socioeconomic information for the region. The MAG POPTAC was also designated by the MAG Regional Council as the lead committee for coordinating preparations for the Census in Maricopa County.

Membership: The committee comprises representatives of MAG's 25 cities and towns, three Indian Communities and Maricopa County. However, because of limited staff resources, some member agencies have chosen not to send an official representative to the meetings.

- **Public Safety Answering Point Managers Group**

Purpose: To provide regional coordination of the Maricopa Region 9-1-1 system.

Function:

- Oversee the technical needs of the Maricopa Region 9-1-1 system.

Membership: Consists of Public Safety Answering Point Managers from MAG member agencies.

- **Solid Waste Advisory Committee**

Purpose: Address issues related to solid waste management affecting the MAG region.

Function:

- Serve in an advisory capacity to the Management Committee and Regional Council on solid waste management matters affecting the region.

Membership: Consists of representatives of various local government agencies, economic interests, environmental interests, and private citizens selected by MAG to provide technical expertise in the areas of concern.

- **Standard Specifications and Details Committee**
  - Purpose: Address issues related to public works construction in the MAG region.
  - Function:
    - Make recommendations on proposed amendments to the MAG Specifications and Details for Public Works Construction.
  - Membership: Consists of representatives from member agency engineering departments and the construction industry.
  
- **Street Committee**
  - Purpose: Address issues related to arterial streets in the MAG region.
  - Function:
    - Make recommendations on street projects to be funded with federal monies from the Transportation Equity Act (TEA-21) of 1998, and provide input for the five year Transportation Improvement Program (TIP).
  - Membership: Includes local agency transportation representatives.
  
- **Technology Advisory Group**
  - Purpose: Formed by the Regional Council in 1994 to encourage the development of telecommunication infrastructure and applications.
  - Function:
    - Make recommendations on telecommunication infrastructure projects to increase government efficiency, improves access to public information, and expedites delivery of local government services in Maricopa County.
  - Membership: Includes local agency information technology representatives.
  
- **Transit Committee**
  - Purpose: Formed by the Regional Council in 2009 to assist in the programming process of federal transit funds.
  - Function:
    - Make recommendations to the MAG Transportation Review Committee on transit projects to be included in the Transportation Improvement Program. The committee also reviews regional transit studies as they are developed.
  - Membership: Includes local agency transit representatives from MAG member agencies, Regional Public Transportation Authority (RPTA), Valley Metro Rail (METRO), and the Arizona Department of Transportation (ADOT).

- **Transportation Review Committee**
  - Purpose: Established in March 1994 to provide input on transportation issues including the development of the Transportation Improvement Program and Regional Transportation Plan updates.
  - Function:
    - Serve as the primary committee for assembling and recommending the MAG Transportation Improvement Program (TIP).
  - Membership: Composed of high level transportation representatives from the member agencies.
  
- **Transportation Safety Committee**
  - Purpose: Formed in September 2004 to address the topic of transportation safety in an organized manner.
  - Function:
    - To help identify both current and potential future transportation safety issues, concerns and needs in the region, and determine ways to address them through the regional transportation planning process.
  - Membership: Consists of representatives from Federal Highway Administration, Arizona Governor's Office of Highway Safety, Arizona Department of Transportation, Arizona Department of Public Safety, AAA Arizona, AARP, RPTA, Arizona State University, and seventeen (17) local agencies.
  
- **Water Quality Advisory Committee**
  - Purpose: To address water quality matters and the 208 water quality management process in the MAG region.
  - Function:
    - Serve in an advisory capacity to the MAG Management Committee and Regional Council on water quality matters affecting the MAG area.
  - Membership: Consists of a wide variety of representatives from regional and state water quality related agencies, the private sector, civic organizations, and the general public.

Ad Hoc Committees

- **Transit Interagency Team**
  - Purpose: To identify opportunities for consolidating regional transit planning activities.

Function:

- Serve in an advisory capacity to the agency directors from MAG, the Regional Public Transportation Authority (RPTA), Valley Metro Rail (METRO), and the City of Phoenix Public Transit Department.

Membership: Consists of representatives from MAG, the Regional Public Transportation Authority (RPTA), Valley Metro Rail (METRO), and the City of Phoenix Public Transit Department.

- **Regional Transportation Plan Partners**

Purpose: To ensure that the implementation of the Regional Transportation Plan is a fully coordinated process among the key agencies responsible for planning, financing, programming, constructing and operating the modal systems in the Plan. A major goal is to ensure that this effort receives direction and support from the highest level in each affected organization.

Function:

- The Directors of the key agencies that conduct planning and implementing activities for the Regional Transportation Plan meet periodically to assess progress on Plan implementation, identify activities that would benefit from closer coordination, anticipate future issues that affect successful project development, and pursue opportunities for future development of the transportation system in the region. As part of this effort, quarterly Directors' coordination meetings are held to achieve a unified approach to regional transportation planning issues.

Membership: Consists of the Directors of MAG, the Regional Public Transportation Authority (RPTA), Valley Metro Rail (METRO), and the Arizona Department of Transportation (ADOT).

- **Regional Freeway Issues Ad Hoc Group**

Purpose: The purpose of this group is to ensure that transportation projects in the Regional Transportation Plan are implemented in as timely and efficient a manner as possible.

Function:

- This group meets to address individual project implementation concerns, as well as discuss transportation planning issues. Topics include design factors, right-of-way acquisition, construction costs, program adjustments, project progress and outlook, cash flow, revenue forecasts, travel demand forecasts, and corridor study/design concept report development. Another key function is to facilitate information exchange and assess potential future policy issues.

Membership: Consists of transportation planning and program implementation staff from the Maricopa Association of Governments, the Arizona

Department of Transportation, the Regional Public Transportation Authority (RPTA), and Valley Metro Rail (METRO).

- **Technical Ad Hoc Groups**

**Purpose:** The purpose of these groups is to discuss technical methodological advancements and coordinate interagency understanding of state-of-the-art approaches to key technical aspects of regional transportation planning.

**Function:**

- Technical groups have been organized by MAG to address a number of technical areas, including the MAG POPTAC Ad Hoc Subcommittee, the Central Arizona Model Users Group, and the MAG GIS Users Group. These groups, respectively, address technical methodological elements of population and socio-economic forecasting, travel demand forecasting and network simulation, and geographic information systems applications. Activities involve coordination of common technical activities, distribution of information on technical advancements, training on software packages, and making recommendations on technical issues.

**Membership:** Technical staff of MAG member agencies and other governmental and private organizations involved in the development and application of analytical transportation and socioeconomic planning tools.

**Question: 3. Briefly describe the make-up of the MAG Regional Council and any changes since the 2004 Certification review, including the representation of local jurisdictions, transit operators, Indian tribal governments, etc.**

**Response:** The Regional Council consists of 32 members: 25 cities/towns, Maricopa County, three Native American communities, two representatives from the Arizona Department of Transportation (ADOT) and a representative from the Citizens Transportation Oversight Committee (CTOC).

The following is a list of the 25 incorporated cities and towns within Maricopa County represented on the Regional Council: City of Apache Junction; City of Avondale; Town of Buckeye; Town of Carefree; Town of Cave Creek; City of Chandler; City of El Mirage; Town of Fountain Hills; Town of Gila Bend; Town of Gilbert; City of Glendale; City of Goodyear; Town of Guadalupe; City of Litchfield Park; City of Mesa; Town of Paradise Valley; City of Peoria; City of Phoenix; Town of Queen Creek; City of Scottsdale; City of Surprise; City of Tempe; City of Tolleson; Town of Wickenburg and Town of Youngtown. Additionally included on the MAG Regional Council are a Supervisor from the Maricopa County Board of Supervisors, the Governor of the Gila River Indian Community, the President of the Salt River Pima Maricopa Indian Community, the President of the Fort McDowell Yavapai Nation, two representatives from the Arizona Department of Transportation (ADOT) State Transportation Board and one representative of the Citizens Transportation Oversight

Committee (CTOC). ADOT and CTOC serve as ex-officio members for transportation-related issues.

On October 5, 2004, approved a resolution the Fort McDowell Yavapai Nation to become a MAG member agency.

The City of Phoenix contracts for the operation of the bus system, the Light Rail Transit system and is represented on the MAG Regional Council. The City of Phoenix also operates the regional airport. In addition, some members of the Regional Public Transportation Authority (RPTA) Board also sit on the MAG Regional Council.

**Question: 4. Briefly describe the MAG Regional Council approval process for transportation planning actions.**

**How is the agenda for Regional Council meetings determined? How does the general public bring issues to the Regional Council?**

**What responsibilities has the Regional Council delegated to MAG staff? (Please provide a copy of Regional Council resolutions for the delegations).**

**Response:** The transportation planning approval process at MAG begins at the technical committee level. For the purpose of transportation planning actions, these may be heard at one or more of the technical committees whose purview are transportation related issues such as the following: Transportation Safety Committee, Transportation Review Committee, Street Committee, Enhancement Peer Review Group, Elderly and Persons with Disabilities Transportation Committee, and/or Bicycle and Pedestrian Committee. After being heard at the technical level, the item proceeds to the Management Committee, Transportation Policy Committee, and ultimately the MAG Regional Council for consideration and action.

**a. How is the agenda for Regional Council meetings determined?**

**Response:** The agenda for the Regional Council is prepared by staff through the Executive Director with approval by the Chair of the Regional Council. Items that have been recommended to the Regional Council by the Management Committee or another policy committee are included on the Regional Council agenda for consideration. At MAG, the Chair does not have the unilateral power to remove an item from an agenda that has proceeded through the MAG committee process. A “request for future agenda items” is placed on all Regional Council agendas and items that are requested are considered by the MAG Executive Committee for further direction.

**b. How does the general public bring issues to the Regional Council?**

**Response:** Public involvement is encouraged at all MAG committee meetings, including the Regional Council. Opportunity for public comment is agendized at the beginning of every agenda in accordance with the MAG public input policy. Members of the public are provided the opportunity to address the Regional Council on items not scheduled on the agenda that fall under the jurisdiction of MAG, or on items on the agenda for discussion but

not for action. Members of the public are requested not to exceed a three minute time period for their comments. A total of 15 minutes is provided for the Call to the Audience agenda item, unless the Regional Council requests an exception to this limit. Those members of the public who wish to comment on action agenda items are given an opportunity to comment at the time the item is heard.

It should be noted that MAG staff responds to all appropriate telephone, e-mail, MAG Web site and other communications received from the public. This effort involves all MAG staff to ensure that complete and accurate information is provided.

**c. What responsibilities has the Regional Council delegated to MAG staff? (Please provide a copy of Regional Council resolutions for the delegations.)**

**Response:** The Regional Council has delegated authority to the MAG Executive Director to execute the necessary documents to receive funding for the MAG Unified Planning Work Program and Annual Budget, to make administrative changes to the Work Program and Annual Budget, and to execute the contracts pursuant to the Work Program and Annual Budget.

**PLANNING BOUNDARIES**

**Question: 5. Have the UAB and MPA been adjusted in accordance with the most recent Census? Have there been any other changes since the previous certification review?**

**Response:** According to § 450.312, federal regulations require that the boundaries of the Metropolitan Planning Area include at least the entire existing urbanized area (as defined by the Bureau of the Census) plus the contiguous area expected to become urbanized within a 20-year forecast period for the metropolitan transportation plan. The Metropolitan Planning Area boundaries may be further expanded to encompass the entire Metropolitan Statistical Area or Combined Statistical Area, as defined by the Office of Management and Budget. Metropolitan Statistical Areas include entire counties as regions. The Phoenix-Mesa-Scottsdale Metropolitan Statistical Area includes all of Maricopa and Pinal counties. The UAB and MPA have been adjusted in accordance with the 2000 Census and have not changed since the previous certification review. However, these areas will be reviewed based on the results of Census 2010 and shall be adjusted accordingly.

## INTEGRATING FREIGHT IN THE TRANSPORTATION PLANNING PROCESS

As part of the MPO participation planning requirements under title 23 U.S.C., the SAFETEA-LU consultation requirements were expanded in order to include freight shippers, who are providers of freight transportation services, as interested parties that should be provided a reasonable opportunity to comment on RTPs and TIPs (Reference: 23 U.S.C. 134 and §450.316 See Interested parties, participation, and consultation).

Please discuss the following questions and how they relate to the MAG freight planning process:

**Question: 1. How has MAG identified the transportation planning link between freight and economic development opportunities for the area per 23 CFR 450.306(a)? How have these planning factors been documented within MAG's planning products (e.g. TIP, RTP, OWP, etc)?**

**Response:** All of the planning factors included under 23 CFR 450.306(a) are documented in Chapter One of the Regional Transportation Plan (RTP). A discussion of the manner in which the Plan approaches the issues raised by each factor is provided in this document.

The RTP identifies several objectives related to mobility options, one of which is related to the planning link between freight and economic development. Specifically, this objective is "to maintain a reasonable and reliable travel time for moving freight into, through and within the region, as well as provide high-quality access between intercity freight transportation corridors and freight terminal locations, including intermodal facilities for air, rail and truck cargo." The RTP increases accessibility and mobility options for freight by calling for significant investments in freeways, highways, and streets, improving the level of service that would otherwise be experienced in moving freight in the MAG region. In particular, truck corridors, such as I-10, I-17 and SR-85, have significant funding in the RTP to improve the movement of freight into and through the region.

The RTP dedicates an entire chapter to goods movement and assesses items pertaining to regional freight infrastructure. The RTP provides an overview of freight movements by types of commodities and overall tons; assesses each of the trucking, rail, and air cargo freight transportation modes; and also considers the potential of regional freight planning efforts that may be pursued in the future.

The RTP addresses several key, overlying issues that are particularly relevant to the goods movement process. As addressed in the RTP, transportation solutions for freight will need to include increases in highway capacity; the widening and ultimate expansion of the regional arterial network; an enhanced Intelligent Transportation System (ITS) of traffic management; intersection improvements; and the construction of new freeways, such as the Loop 202 South Mountain Freeway and the West Valley's State Route 801, which will collectively relieve congestion by providing improved accessibility to the area south of I-10 (which contains high concentrations of truck terminals and other generators of truck traffic). New freeway construction, including the addition of freeway relievers and bypasses, will

help to handle high volumes of truck traffic engaged in the movement of goods to, from, within and throughout the MAG region.

MAG is also continuing to work with the Burlington Northern Santa Fe and Union Pacific railroads to ensure that rail freight and the intermodal connections for trucks are a consideration in the regional planning process. In addition, MAG is working with airport agencies in the region to develop a foundation for addressing air cargo and airport intermodal factors, as part of the future goods movement needs in the region.

**Question: 2. Has MAG developed a "freight contact" list for purposes of encouraging freight shippers and providers of freight transportation services a reasonable opportunity to participate as part of the metropolitan planning process per 23 CFR 450.316(a)?**

**Response:** An up-to-date mailing list is maintained that includes interested citizens, affected public agencies, representatives of transportation agency employees, private providers of transportation, advocates for low-income and minority interests, and representatives of community groups with an interest in transportation. Currently that list includes approximately 3,000 individuals and organizations. This mailing list is used to announce meetings, distribute newsletters, and for other opportunities for public involvement. Announcements are also distributed to public libraries throughout the region.

MAG's adopted policy for public involvement identifies opportunities for public input early in the process, during the planning process, and prior to final hearings. It is MAG's role and policy to obtain maximum public participation and input for each planning process and developed plan of local and regional significance. In the future, with regard to the freight community, MAG will undertake all relevant public information efforts to involve maximum participation by the broadest possible cross-section of the public throughout each stage and development of the plan.

**Question: 3. How is the freight community engaged in the planning process, particularly in the development of the RTP and the TIP?**

**Response:** The Transportation Policy Committee (TPC) was established by the MAG Regional Council to oversee the regional transportation planning process, and to find solutions to the region's transportation challenges. The TPC developed, guided and recommended the resulting plan that was eventually adopted by the MAG Regional Council in 2003. As required by state statute, the TPC includes private sector freight representation. This active presence of private freight sector representation on the committee helped to ensure that the concerns associated with regional goods movement were considered in the RTP process. The TPC also includes other members representing the business community, which has a stake in the efficient movement of goods that support a growing regional economy.

In addition to developing the RTP adopted in 2003, the TPC has a continuing role in the transportation planning process. This includes recommendations regarding updates of the RTP and the MAG Transportation Improvement Program. With freight representation on the Transportation Policy Committee, goods movement needs will continue to be

considered as part of the regional transportation planning process. In the future, MAG will further assess regional freight issues through active planning and assessment, and will work toward maintaining a strong and ongoing dialogue with private-sector freight representatives in order to identify infrastructure, investment, and policy needs of the goods movement process.

**Question: 4. Has MAG defined the term "freight corridor" for transportation planning purposes? If so, what is the definition of this term used by MAG and have these major freight corridors been visually mapped within the metropolitan planning area?**

**Response:** MAG completed a *Regional Freight Assessment*, which contains a regional inventory and analysis of goods movement facilities located throughout the MAG region. This analysis identified and mapped key facilities that are utilized in the movement of goods, such as roadways, rail lines, pipelines, freight terminals, warehouses, intermodal facilities, and cargo airports. In particular, truck corridors, such as I-10, I-17 and SR-85, play a significant roles in the movement of freight into and through the region. A total of 43 regionally significant freight terminals, 60 major warehouse facilities, 11 intermodal freight facilities, and the air cargo operations at Phoenix Sky Harbor International Airport and Williams Gateway Airport are also notable freight facilities. An in-depth analysis of land uses, freight facilities, and community job centers was also provided in order to depict "concentrations" of freight activity.

The dominant mode of goods movement for the MAG region is truck transportation. As a result, one of the continuing regional freight issues will be the need for increases in highway capacity to mitigate congestion and improve traffic flow, thereby facilitating the efficient movement of goods. This includes enhancements to the existing roadway system, addition of new arterials, highways and freeways, and improvement and expansion of the Intelligent Transportation System (ITS). In particular, the impact of having significant truck movements in and around freeway service interchanges is an important issue.



## FOLLOW-UP ON 2004-05 CERTIFICATION REVIEW FINDINGS

During the 2004-05 certification review, the review team made several recommendations for improvements to the planning process. Please review the recommended improvements below (and recognizing that SAFETEA-LU may have made adjustments that may have changed some of the recommendations since 2005), and provide discussion as to whether any of the recommendations have been implemented – or, if not, why:

**Question: 1. As the urbanized area continues to grow outside the boundaries of Maricopa County, the boundaries of the MPO should grow with it. We strongly encourage MAG to work with the neighboring jurisdictions outside Maricopa County to make their transition to the MPO as seamless as possible.**

**Response:** Since 2004, MAG has embarked on several efforts with neighboring jurisdictions and Councils of Governments (COGs) to help make a transition to the metropolitan planning organization (MPO) seamless and prepare to address future issues that cross jurisdictional boundaries. In 2008, MAG worked with jurisdictions outside of Maricopa County on the development of the Hidden Valley framework study. This transportation planning study, which illustrates the projected growth and transportation needs within Maricopa County and neighboring jurisdictions, initiated a statewide Reconnaissance Study leading to the Building a Quality Arizona (BqAZ) effort. BqAZ, envisioned as a key nexus of statewide collaboration, is aiming to collectively bring MPOs together with state government officials, as well as other community based stakeholders, to coordinate and address Arizona's long term transportation and infrastructure needs. The goal of BqAZ includes the development of a Statewide Transportation Framework, which will include regional framework planning efforts from across the state leading to an update of Arizona's statewide transportation plan in 2011. In addition, MAG worked closely with ADOT, PAG, and CAAG on intercity rail planning between Tucson and Phoenix and commuter rail service from Pinal County into Maricopa County.

In the summer of 2009, MAG, in cooperation with the Central Arizona Association of Governments (CAAG) and the Pima Association of Governments (PAG), contracted a study by Arizona State University's North American Center for Transborder Studies to identify the key challenges and opportunities for Arizona's Sun Corridor region. The purpose of the report is to understand how transboundary cooperation between regions on issues of infrastructure, transportation, economic development and other planning and implementation projects may lead to solutions in the areas for the MAG, CAAG and PAG regions as well as the state. A presentation of the report and discussion regarding the possibility of addressing joint planning opportunities is anticipated at a meeting of MAG, CAAG and PAG officials in early December 2009.

MAG has continued to work with Arizona Councils of Governments, Metropolitan Planning Organizations, the Arizona Department of Transportation, the Arizona State Land Department and other Arizona state agencies to create a common socioeconomic modeling suite, AZ-SMART (Arizona's Socioeconomic Modeling, Analysis and Reporting Toolbox.) This socioeconomic modeling suite not only supports socioeconomic activities at the

Maricopa Association of Governments (MAG), the Pima Association of Governments (PAG) and the Central Arizona Association of Governments (CAAG), but also within the Northern Arizona Council of Governments (NACOG) region and elsewhere throughout the state. This modeling suite is a platform on which to build, calibrate, run, and analyze socioeconomic projections and projection models and will seamlessly incorporate local and national models at different levels of geography with expanded model boundaries in order to adequately support the transportation and regional planning activities at MAG and elsewhere.

MAG has pursued the creation and implementation of a shared Geographic Information System (GIS) and data infrastructure with Valley Metro Rail (METRO), and the Regional Public Transportation Authority (RPTA). Since MAG, Valley Metro Rail and RPTA use much of the same information in the generation of and analysis of data, this shared infrastructure will allow access to the most recent and accurate Geographic Information System (GIS) layers and data available from the other agencies. In addition to the Valley Metro Rail and RPTA support, this shared infrastructure could also provide the backbone for a shared service with MAG member agencies.

Another planning coordination activity has been an effort to develop a "Resolution of Planning Coordination" among MAG, PAG and CAAG. The intent of MAG, PAG, and CAAG is to coordinate their respective planning activities and cooperatively work together to foster a successful and economically viable Sun Corridor in the State of Arizona. In addition, a Joint Planning Advisory Council would be established to identify mutually agreed upon goals and interests, provide guidance on possible technical assistance and joint planning activities, and enhance the communication and cooperation among the policymakers in the three regions. A resolution has been approved by the CAAG Regional Council and the MAG Regional Council Executive Committee. It will be considered by the MAG Regional Council in October 2009 and PAG in November 2009.

Additional efforts with neighboring jurisdictions have involved travel demand modeling and transportation network simulation activities. The MAG travel simulation model has been expanded to cover significant portions of Pinal County. Population and socioeconomic inputs for the travel model have been developed, and travel demand forecasts have been prepared for this modeling area. By approximately the end of the current fiscal year, it is anticipated that all of Pinal County will be covered by the model, and the population and socioeconomic projections and other characteristics required by the modeling system will be completed. In 2008, MAG contracted with CAAG to review and refine the modeling networks in Pinal County.

In air quality, the Maricopa Association of Governments has coordinated with the neighboring jurisdiction of Pinal County as the Environmental Protection Agency (EPA) has proceeded through the designation process to expand the eight-hour ozone nonattainment area boundary. On March 12, 2009, the Governor of Arizona recommended to the Environmental Protection Agency that a revised eight-hour ozone nonattainment area boundary be designated for the more stringent ozone standard (.075 ppm) established by EPA in March 2008. The current boundary was revised primarily to include the new power plants to the west and southwest, and a planned power plant and the Queen Valley monitor to the southeast, which would move the boundary further into Pinal County. On September

16, 2009, EPA announced that the agency would be reconsidering the 2008 ozone standard and would propose any needed revisions by December 2009. The reconsidered standard would be finalized in August 2010 and final designations would occur in August 2011. During the remainder of the designation process, MAG will continue to coordinate with Pinal County.

MAG has played a key role in the development of the Intermountain MPOs organization. The purpose of this group is to foster communication and coordinate planning efforts among MPOs serving as Transportation Management Areas (TMAs) within the intermountain west region of the United States. In the fall of 2008, the Brookings Institution issued a report, *Mountain Megs, America's Newest Metropolitan Places and a Federal Partnership to Help Them Prosper*. This report states that in the Intermountain West – Arizona, Colorado, Nevada, New Mexico and Utah are experiencing some of the fastest growth and economic and demographic transition anywhere in the country. These areas are experiencing similar struggles in providing infrastructure such as freeways, light rail and commuter rail. Lessons learned from these rapidly growing areas and the benefit in forging a new federal agenda that would be mutually beneficial to these areas could be explored. MAG hosted an Intermountain West MPOs meeting in conjunction with the National Association of Regional Councils Executive Directors' Conference from October 4-6, 2009. Intermountain West MPOs discussed common needs, strategies and opportunities to work together.

In the fall of 2009, MAG, in cooperation with the Regional Transportation Commission of Washoe County, the Utah Transit Authority, the Denver Regional Council of Governments, and the Regional Transportation Commission of Southern Nevada, formed and signed a master agreement regarding the creation and operation of the Western High Speed Rail Alliance. The Western High Speed Rail Alliance was formed to improve the connectivity by the development of high speed rail infrastructure serving the Intermountain West region with connections to the Pacific coast and other regions of the United States. The organization will work cooperatively for the acquisition of funding to conduct studies of high speed rail options and feasibility, to develop plans for high speed rail infrastructure, and to construct high speed rail facilities through the region as is deemed appropriate. The organization will look to partner with various stakeholders, including the private sector, state departments of transportation, and the federal government.

**Question: 2. In the area of safety, the USDOT Secretary's office is focusing on reducing the number of highway-related fatalities. We recommend that the MAG Transportation Safety Planning Committee look at opportunities in the MAG region to reduce highway-related fatalities.**

**Response:** The MAG Transportation Safety Committee has been meeting since September 2004 and has developed a Strategic Transportation Safety Plan.

Since the 2004 certification review, the MAG Transportation Safety Committee has developed a Strategic Transportation Safety Plan (STSP) that clearly outlines the emphasis areas for road safety improvement in the region. The committee had very high expectations that SAFETEA-LU enactment would provide fair access to highway safety funds for road safety improvements in our region for addressing the very urgent road safety

needs. The MAG region accounts for 45 percent of the total fatalities and 66 percent of all crashes in Arizona.

Although the total number of crashes in the MAG region has increased as the region's population has grown, progress has been made in reducing the number of injuries. In 2007, there were 43,256 injuries compared to 51,196 in 2000. The trend for fatalities is less clear given there is more annual variation, but the 463 fatalities in 2007 compare favorably to the 436, 500 and 491 fatalities in 2000, 2001 and 2002, respectively. Similar trends are evident for crashes involving bicycle and pedestrians with stable or slight reductions in injuries and fatalities even with substantial population growth.

The MAG STSP, to be fully effective, would benefit greatly from having a known and consistent source of funding. Although there has been some progress recently with ADOT in identifying safety funding for the MAG region, delays in establishing the Highway Safety Improvement Program has slowed the implementation of needed safety projects in the MAG region. We would strongly encourage improvement in coordinating Arizona's safety planning activities and making a larger proportion of the FHWA safety funds available to regions. We support an overall process to address safety problems through a systematic risk assessment process.

**Question: 3. A previous recommendation is carried forward. MAG should measure effectiveness of public involvement outreach. Substantive changes were not implemented since the last Certification, in 2001.**

**Response:** Following the certification review in 2001, MAG reevaluated its process of relying on public meetings to receive public input. MAG recognized that most residents are too busy with their own lives to travel to meetings, and redoubled its efforts to find ways to go to where the people are, rather than expecting them to come to MAG. MAG communications staff attends dozens of large community events each year and interacts with thousands of individuals. Along with listening to residents' issues and concerns and responding to questions, MAG implemented the distribution of an "awareness survey" in which participants are asked not only for their transportation input, but also to communicate their knowledge of and involvement in MAG. (See Appendix N.)

Respondents are asked whether they have heard of the Maricopa Association of Governments, whether they have ever provided comment to MAG through any of its public input opportunities, their overall perception of MAG, and their primary area(s) of interest. They are also asked to check boxes on a list of publications or communication materials that they would be interested in receiving. MAG tracks these responses and utilizes those results to evaluate our effectiveness in increasing awareness of MAG.

For example, in 2001, only 28 percent of respondents said they were aware of MAG. In 2009, that number was up to 43 percent, an overall increase of 54 percent. The same survey shows that while 39 percent of respondents had an excellent or good perception of MAG in 2001, that number has since jumped to 52 percent, an increase of 33 percent. Most importantly, the survey measures whether respondents have ever provided comment to MAG through its input opportunities. From the baseline of 8 percent of respondents who stated they had provided input in 2001, to 21 percent of respondents who indicated they

had provided comment in 2009, the overall percentage increase in the number of respondents indicating they have provided input to MAG through its public involvement opportunities is 162 percent – a significant achievement.

Through the utilization of GIS maps, public involvement staff additionally uses the zip code information provided on the Awareness Survey to track the percentage of awareness and perception of MAG throughout the Valley. In 2008, for example, the results revealed that some areas with high minority concentrations (e.g. Title VI communities) were as likely, or even more likely, to be aware of MAG as other communities. Other areas with high minority concentrations were not as likely to be aware of MAG. The largest percentage of awareness was in the Northeast Valley, where many public involvement activities were held surrounding the I-17 widening project. The Central Valley area also recorded high awareness levels and a good perception of MAG. Based on zip code analysis, areas where additional outreach was needed in the far Southwest Valley were identified. This has since been addressed in development of the Interstate 8 and 10-Hidden Valley Roadway Transportation Framework Study.

This is just one of many strategies MAG uses to evaluate its public involvement process. In developing the MAG Unified Planning Work Program and Annual Budget each year, MAG public involvement staff develops numerous specific, measurable objectives and outcome measures for the next fiscal year. Each narrative additionally provides the results of the outcome measures from the previous years. MAG utilizes these results to determine progress made and to develop outreach strategies and outcome measures for the upcoming fiscal year.

MAG continually reviews its public participation efforts for effectiveness as part of its communications planning efforts and makes adjustments as warranted. For example, MAG utilizes a full time Community Outreach Specialist to work with Title VI communities, to ensure participation through small and large group events/meetings, social networking and via telephone and e-mail. The specialist also participates in radio and television interviews with minority owned and operated media outlets and translates MAG policy documents into Spanish. MAG additionally contracts with a Disability Outreach Associate to provide outreach to persons with disabilities. The Associate conducts many presentations with small groups, meets individually with members, responds to questions, translates MAG materials into braille and other formats, and is charged with engaging the disability community in dialogue and encouraging the community to participate in the transportation planning and programming process.

During the development of the Public Participation Plan, community members and stakeholders were asked to review the plan for public involvement and provide comment. All of the public involvement requirements called for within the SAFETEA-LU regulations are imbedded in the Public Participation Plan and the MAG public involvement process.

Over the years, MAG has collected input through surveys, large and small group meetings (where the process is routinely discussed for effectiveness) and in one-on-one sit meetings with Valley residents in an informal effort to review and clarify MAG's public involvement policies and procedures. As a result of these efforts, the adopted process for receiving public comment at MAG policy committee meetings has been uniformly implemented at all

MAG meetings, including all policy and technical committees. MAG's public involvement staff continues to listen to issues expressed by residents and to explore new ways of conducting its public involvement program, which includes analyzing public involvement trends and attending training to better communicate the transportation planning process to the residents of the region.

**Question: 4. Another previous recommendation is carried forward. MAG should evaluate its Environmental Justice achievement. Substantive changes were not implemented.**

**Response:** In measuring environmental justice achievement, it is important to note that in conducting all of its technical planning studies, MAG includes environmental justice mapping to ensure that Title VI communities are not unduly impacted by proposed facilities. This mapping was most recently conducted in the Hassayampa Framework Study, Hidden Valley Framework Study, and Transit Framework Study. MAG also ensures that all of its transportation plans conform to federal air quality standards, and that there are no disproportionately high and adverse human health and environmental effects on minority populations and low income populations.

During the development of the Regional Transportation Plan, MAG contracted with community outreach associates to the African-American, Hispanic, Native American and disability communities. The charge of these associates was to engage each specific community in a dialogue about transportation and glean each community's transportation needs and desires. The associates developed extensive mail lists of interested parties within each community, which continue to be utilized as part of MAG's ongoing public involvement mailing list. MAG held focus groups among the target populations to document the suggestions and comments they had for the transportation system. After the passage of Proposition 400, MAG condensed three of the contracted Community Outreach Associate positions into one full-time position, while maintaining the Disability Outreach Associate.

The MAG Community Outreach Specialist participates in more than 20 community events/meetings each year in an effort to keep the underserved communities involved in the planning and programming process. In addition, the specialist is interviewed by minority owned and operated media outlets on a regular basis and translates MAG policy documents into Spanish. The Disability Outreach Associate schedules nearly 20 presentations to disability groups throughout the Valley each year, which are done in concert with MAG staff and Valley Metro staff. MAG staff also participates with the associate in a variety of special events throughout the year, in cooperation with Valley Metro. At these meeting and events, MAG and Valley Metro staff help members of the community learn how to navigate the transit system, including where and how to purchase ADA eligibility cards, how to communicate with the transit operator to ensure a successful ride, and how to best utilize Valley Metro's online trip planner.

As noted above, MAG communications staff members attend dozens of large community events each year and interact with thousands of individuals. Along with listening to residents' issues and concerns and responding to questions, MAG staff distributes an "awareness survey" in which participants are asked not only for their transportation input,

but also to communicate their knowledge of and involvement in MAG. MAG tracks these responses and utilizes those results to evaluate our effectiveness in increasing awareness of MAG.

Through the utilization of GIS maps, in 2008 MAG public involvement staff used the zip code information provided on the Awareness Survey to track the percentage of awareness and perception of MAG throughout the Valley. The results revealed that some areas with high minority concentrations (e.g. Title VI communities) were as likely, or even more likely to be aware of MAG as other communities. Other areas with high minority concentrations were not as likely to be aware of MAG. The largest percentage of awareness was in the Northeast Valley, where many public involvement activities were held surrounding the I-17 widening project. The Central Valley area also recorded high awareness levels and a good perception of MAG. Based on zip code analysis, MAG identified areas where additional outreach was needed, in particular the far Southwest Valley. Since that time, the Interstate 8 and 10-Hidden Valley Transportation Framework Study has provided numerous input opportunities including 11 city/town meetings and 12 meetings with property owners.

**Question: 5. A third previous recommendation is carried forward. MAG should document how it chooses and subsequently ranks transit projects in the TIP and make this information available to interested members of the public. Substantive changes were not implemented.**

**Response:** In the past, transit projects were ranked by the Regional Public Transportation Authority (RPTA) and forwarded to MAG for inclusion in the Transportation Improvement Program (TIP). The RPTA relies on a committee process for project prioritization and selection. All committee meetings held at RPTA are public meetings. In addition, the RPTA works with MAG through the MAG Public Involvement Process and attends and presents information at the Mid-Phase public hearing. Projects derived from this prioritization and selection process are included in the MAG TIP, which also integrates the public in its development and approval process as noted in the Transportation Improvement Program and Project Selection section of this document. In February 2009, MAG staff, in cooperation with staff members from RPTA and Valley Metro Rail (METRO), began evaluating opportunities to better integrate transit programming and planning functions. Staff from the City of Phoenix joined the group due to the City's role as the designated grant recipient for federal transit funds. The group identified the following four elements for potential consolidation at MAG:

1. Transit programming (including preparation and maintenance of the Transportation Improvement Program).
2. Transit system planning (long range transit planning).
3. Transit project planning (project development for funded transit projects).
4. Environmental and bicycle/pedestrian education activities.

On September 22, 2009, the MAG Regional Council approved the consolidation of transit programming activities at MAG, as well as the formation of a new Transit Committee at MAG. As such, future decisions on choosing and ranking transit projects will be made as part of the overall TIP process at MAG. The Transit Committee will include MAG member agencies (transit operators and agencies that purchase transit services), RPTA, Valley Metro Rail, and the Arizona Department of Transportation (ADOT). The Transit Committee will provide review and input on projects to be included in the TIP, and will assist in developing new transit programming procedures at MAG.

**NAME OF PERSON PREPARING TOPIC RESPONSES**

|  |   |
|--|---|
| Overall Work Program   | Becky Kimbrough<br>Roger Herzog<br>Kelly Taft                       |
| Regional Transportation Plan (RTP)   | Roger Herzog  |
| Air Quality Planning/Conformity  | Lindy Bauer   |
| Transportation Improvement Program and Project Selection                         | Eileen Yazzie<br>Lindy Bauer  |
| Program Delivery/Project Monitoring and List of Obligated Projects               | Eileen Yazzie   |
| Congestion Management Process  | Monique de los Rios<br>Urban  |
| SAFETEA-LU Planning Factors  | Sarath Joshua<br>Roger Herzog                                       |
| Safety Considerations  | Sarath Joshua   |
| Intelligent Transportation Systems (ITS)   | Sarath Joshua   |
| Travel Demand Forecasting  | Vladimir Livshits<br>Monique de los Rios<br>Urban<br>Anubhav Bagley |
| Integrating Freight in the Transportation Planning Process                       | Tim Strow   |
| Public Participation Plan  | Kelly Taft  |
| Title VI, ADA, and Environmental Justice   | Kelly Taft<br>Roger Herzog  |
| Agreements and Contracts   | Becky Kimbrough   |
| Financial Planning/Fiscal Constraint   | Roger Herzog  |
| Organizational Structure, Regional Council Membership<br>and Planning Boundaries | Alana Chavez<br>Anubhav Bagley                                      |
| Follow-Up on 2004-05 Certification Review Findings                               | Alana Chavez<br>Sarath Joshua<br>Kelly Taft<br>Kevin Wallace        |



# **Appendix A**

# Resolution on FY 2010 MAG Unified Planning Work Program and Annual Budget

A RESOLUTION OF THE MARICOPA ASSOCIATION OF GOVERNMENTS  
APPROVING THE FY 2010 MAG UNIFIED PLANNING WORK PROGRAM AND ANNUAL BUDGET

WHEREAS, the Maricopa Association of Governments was formed in 1967 as a Council of Governments and provides regional planning assistance in transportation, air quality, water quality, solid waste, population projections, growth/open space, human services, 9-1-1 and public works; and

WHEREAS, the Federal Intermodal Surface Transportation Efficiency Act of 1991 requires a metropolitan planning organization be designated for each urbanized area and that the metropolitan area have a continuing, cooperative, and comprehensive transportation planning process that results in plans and programs that consider all transportation modes. These plans and programs shall lead to the development of an integrated, intermodal metropolitan transportation system that facilitates the efficient, economic movement of people and goods; and

WHEREAS, the Maricopa Association of Governments has served as the designated Metropolitan Planning Organization for this region since December 14, 1973; and

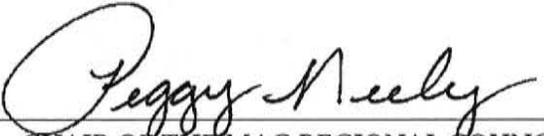
WHEREAS, the Federal Intermodal Surface Transportation Efficiency Act of 1991 requires a metropolitan planning organization in cooperation with the State and operators of publicly owned transit to develop a unified planning work program that meets the requirements of federal law, that includes discussing the planning priorities facing the metropolitan area and describing all metropolitan transportation-related air quality planning activities anticipated within the area during the next one or two year period, regardless of funding source or agencies conducting activities, in sufficient detail to indicate who will perform the work, the schedule for completing it and the products that will be produced; and

WHEREAS, the By-Laws of the Maricopa Association of Governments provide that the powers and functions of the Regional Council include the approval and adoption of a budget for each fiscal year and a service charge schedule;

WHEREAS, the FHWA planning and research funds (as defined in 23 CFR 420.103) shall be administered in accordance with the provisions of 49 CFR part 18 and 23 CFR part 420.

NOW, THEREFORE, BE IT RESOLVED, that the Regional Council of the Maricopa Association of Governments hereby approves the FY 2010 MAG Unified Planning Work Program and Annual Budget including the dues and assessments schedule. In addition, the Regional Council authorizes the MAG Executive Director to execute the necessary documents to receive the funding, to maximize the use of local funds by having them become unrestricted at the end of each fiscal year, to make administrative changes to the Annual Budget and Unified Planning Work Program, and to execute the contracts pursuant to the Work Program and Annual Budget.

PASSED AND ADOPTED BY THE MARICOPA ASSOCIATION OF GOVERNMENTS this 27th day of May, 2009.

  
\_\_\_\_\_  
CHAIR OF THE MAG REGIONAL COUNCIL

  
\_\_\_\_\_  
ATTEST:  
MAG SECRETARY

# **Appendix B**

MAG HIGHWAY ACCELERATION POLICY  
As Approved by MAG Regional Council, February 2008

PURPOSE: The completion of the regional freeway program and other state highways is key to the continued economic viability of Maricopa County by improving mobility and reducing levels of future traffic congestion. Regional cooperation is critical for expediting progress toward the goal of completing the regional freeway system and other important regional transportation projects. MAG recognizes that the freeway program must be in fiscal balance and that established priorities must be maintained.

MAG recognizes that local jurisdictions may want to accelerate highway projects by providing the local jurisdiction's financial resources to the freeway program. Acceleration of specific highway projects benefits not only the affected local jurisdiction but also the entire region. To provide another source of financing that allows the acceleration of freeway construction in the region, MAG has adopted this Highway Acceleration Policy to ensure that any local financing is provided in a fiscally prudent manner so that other projects planned are not affected.

1. The Transportation Policy Committee will review any request to accelerate a highway project and will make a recommendation to the MAG Regional Council, which must approve or disapprove the acceleration request. The jurisdiction or jurisdictions requesting the acceleration (sponsoring jurisdictions) must provide a resolution of support and demonstration of financial commitment for the request from the governing body of the jurisdiction before the Transportation Policy Committee and the MAG Regional Council take formal action.
2. Subsequent to the approval of the MAG Regional Council, the sponsoring jurisdiction(s) must enter into an agreement with the Arizona Department of Transportation (ADOT) that includes the parameters of the approval from MAG in addition to other terms and conditions required by ADOT. MAG shall be a party to the agreement to ensure it conforms to this policy. The agreement among the sponsoring jurisdiction(s), ADOT and MAG may include the option of reverting to the original project schedule under certain circumstances as long as all non-recoverable costs incurred or committed are paid for by the jurisdiction.
3. Eligible projects covered by the MAG Highway Acceleration Policy include all projects on the State Highway System that are included in the ADOT Highway Life-cycle Program for the MAG Region and included in the adopted MAG Transportation Improvement Program (TIP) or the MAG Regional Transportation Plan (RTP). Projects may include right-of-way acquisition, design, or construction.
4. Since the primary sources of regional transportation funding have been included in the MAG RTP, funds that are the result of specific earmarks of either federal or state funds that have already been accounted for in the RTP ("below the line funding") are not eligible to be used to accelerate highway projects in the MAG region. Any previous commitments to provide local funding for highway projects included in the TIP or RTP should be maintained.
5. ADOT will continue to be responsible for all aspects of right-of-way acquisition, design and construction.

6. Local funding for enhancements beyond the elements included in the RTP or ADOT standards for other highway projects is not eligible for repayment.
7. Acceleration of a project outside a jurisdiction's limits should only be approved with the written agreement of the jurisdiction in which the project is located.
8. Coordination with adjacent jurisdictions is important to avoid adverse impacts. ADOT must consider the impact of project acceleration on other planned highway projects so that adverse traffic impacts do not result.
9. Fifty percent (50%) of the interest expense will be reimbursed by the jurisdiction and the balance will be paid by regional program revenues if it is determined that the program cash flow is adequate. Interest expense is based on the actual interest expense of the financing plus the costs of issuance, if any, or the imputed interest cost based on documented market rates if cash balances are used.
10. The repayment schedule of principal/project costs and interest reimbursement must follow the schedule as listed in the MAG TIP or the RTP. If projected program revenues are lower than expected, then the repayment schedule would be subject to delays or funding reductions in the same manner as any other project. If projected program revenues are higher than expected, then the repayment schedule would be advanced in the same manner as any other project.
11. No highway project, portion or segment in the adopted TIP or RTP is to be adversely impacted, delayed, reduced or removed as a result of the acceleration of another project, portion or segment. No highway project, portion or segment in the adopted TIP or RTP is to be adversely impacted, delayed, reduced or removed with respect to meeting air quality conformity requirements as a result of the acceleration of another project, portion or segment.

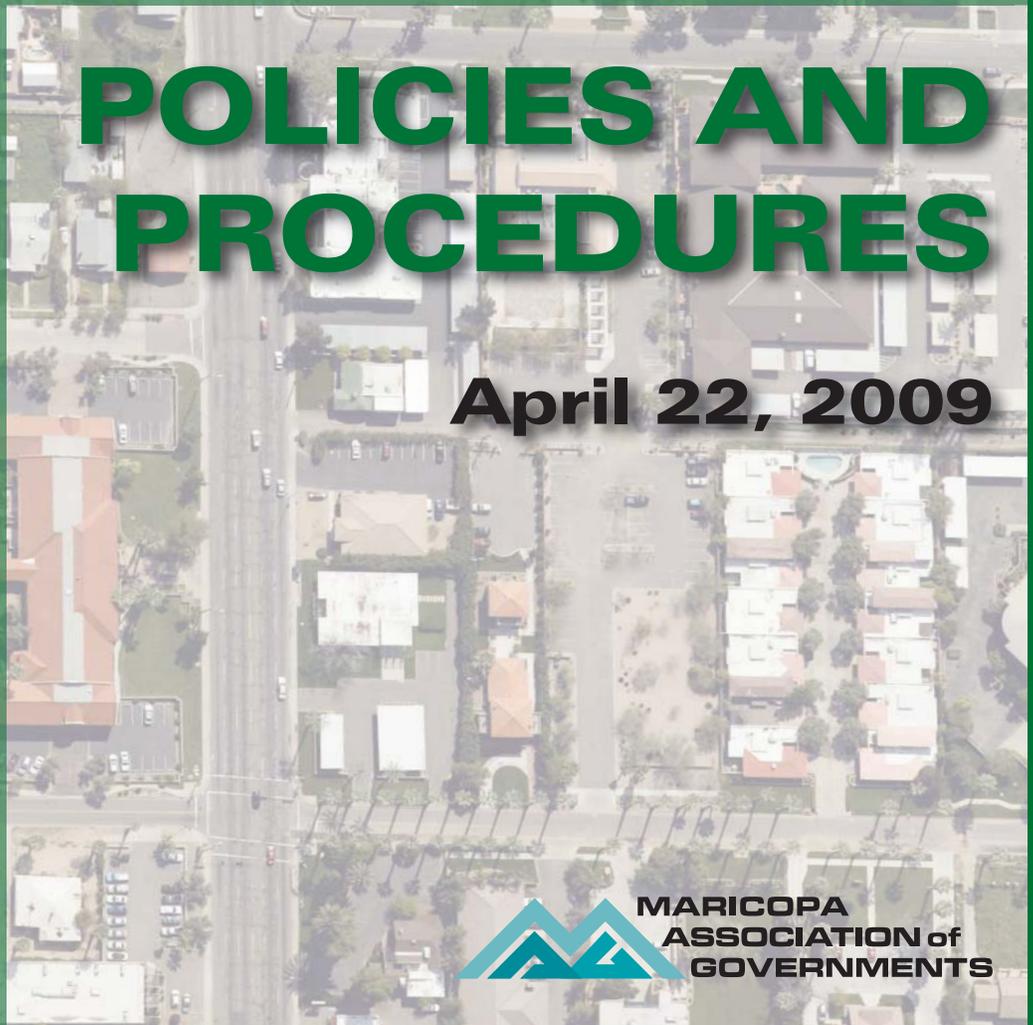
# **Appendix C**



# ARTERIAL LIFE CYCLE PROGRAM (ALCP)

## POLICIES AND PROCEDURES

April 22, 2009



**ARTERIAL LIFE CYCLE POLICIES AND PROCEDURES  
APPROVED APRIL 22, 2009**

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## BACKGROUND

In 2004, the Maricopa Association of Governments (MAG) initiated the development of the Arterial Life Cycle Program (ALCP, or the “Program”) to provide management and oversight for the implementation of the arterial component of the Regional Transportation Plan (RTP, or the “Plan”). MAG is the designated Metropolitan Planning Organization (MPO) for the Maricopa region. MAG serves the role designated in ARS: 28-6308 as the “regional planning agency” for this region.

The Policies and Procedures were developed in coordination with the Transportation Review Committee in workshops held in 2004 and early 2005 and are consistent with the requirements in House Bill 2456, passed in 2004 in association with the development of the Regional Transportation Plan (RTP) and Proposition 400. House Bill 2456 allocated 10.5 percent of Regional Area Road Funds collected for arterial streets, including capital expenses and implementation studies.

The original version of the ALCP Policies and Procedures were approved by the Transportation Policy Committee on June 21, 2006 and by the Regional Council on June 28, 2006. The current version of the ALCP Policies and Procedures was approved by the Regional Council on April 22, 2009.

The ALCP relies upon two main elements:

1. Policies, which provide direction to decisions and processes, in conjunction with procedures, which specify the steps needed to implement these specified policies; and,
2. Project Agreements (PA), which define the roles and requirements for agencies participating in the implementation of each Project.

## II. PROGRAMMING THE ARTERIAL LIFE CYCLE PROGRAM

### SECTION 200: PROGRAMMING THE ALCP

- A. The RTP establishes regional funding limits, reimbursement phases, as well as general scopes and priorities for all ALCP Projects.
1. The regional funding is guided by the funding recommendations set forth in the MAG Regional Transportation Plan (RTP).
    - a. The RTP allocates 10.2 percent of Regional Area Road Funds (RARF) to capital expenses for streets.
    - b. The RTP allocates 0.3 percent of RARF to implementations studies.
  2. The regional funding for the ALCP is comprised of three revenue sources: the regional area road fund (RARF), otherwise known as the 1/2 cent sales tax, federal surface transportation program (STP) funds targeted for the MAG region, and federal congestion mitigation and air quality (CMAQ) targeted for the MAG region.
  3. The RARF funding distribution to the ALCP is bound by the requirements set forth in House Bill 2456 (2004).
  4. The RTP and ALCP include four reimbursement phases as outlined below.
    - a. Phase I – Fiscal Years 2006 – 2010
    - b. Phase II – Fiscal Years 2011 – 2015
    - c. Phase III – Fiscal Years 2016 – 2020
    - d. Phase IV – Fiscal Years 2021 -2026
- B. All ALCP Projects must be programmed in the local government agencies Capital Improvement Program (CIP) and the approved MAG Transportation Improvement Program (TIP) before they may be implemented or reimbursed.
1. During the annual update of the ALCP, MAG Staff will review and analyze the Lead Agency's, and partnering agency's approved and/or draft Capital Improvement Program when programming ALCP Projects for reimbursement in the current and following fiscal year for fiscal commitments.
- C. Programming of Projects funded by the ALCP must be consistent with the ALCP Program and the ALCP Policies and Procedures. The Maricopa Association of Governments (MAG) is the agency designated by law to implement the Arterial Life Cycle Program ensuring the estimated cost of the program improvements does not exceed the total amount of available revenues.
1. Initially, Projects will be programmed based on the regional funding specified in the RTP plus local match contributions, as well as scopes and termini as described in the RTP.
    - a. In order to support the development of Project Agreements that include a scope and schedule for each Project, programming of each ALCP Project shall include a separate scoping or design phase that precedes right-of-way acquisition and construction, unless otherwise agreed to by MAG. Environmental clearances may be funded as part of the scoping or design phase.
  2. All ALCP Projects will be updated annually and the ALCP will be programmed and produced at the beginning of each fiscal year.

- a. The Lead Agency for each ALCP Project will be responsible for Project updates.
  - b. MAG Staff will produce an ALCP update schedule at the beginning of each fiscal year.
3. All ALCP Project Reimbursements are dependent upon the availability of regional funds.
- a. During the annual update, all project change requests will be reviewed by MAG Staff for compatibility with Section 110.A and the current, and projected regional funds: RARF, STP, and CMAQ.
  - b. MAG Staff will coordinate with Lead Agency Staff to resolve project change requests that are not compatible with the availability of regional funds or Section 110.A. Methods to resolve these issues may include the:
    - i. Advancement/deferral of project reimbursements, projects, project segments, or work phases per Section 270;
    - ii. Change in fund type allocated to a project or work phase based on available funding;
    - iii. Change in the reimbursement amount allocated to a project, project segment, and/or work phase over multiple fiscal years.
4. Federal funds will be allocated to Projects, considering:
- a. A request from the Lead Agency.
  - b. It is on a new alignment, has a potential impact on sensitive areas and/or populations or that it may readily accommodate the federal process given the length, amount of Project Regional budget or schedule.
  - c. The availability of federal funds.
5. If a Project programmed to receive federal funds is deferred (Project A) and another Project programmed to receive federal funds is able to use the federal funds that year (Project B), then Project B may be accelerated to expend the maximum amount of committed federal funds in the ALCP that year. It is the ALCP's goal to expend the maximum amount of committed STP-MAG and CMAQ funds for a given year in the ALCP.
- a. Projects programmed to receive federal funds can be accelerated from one phase to another to use federal funds. This does not pertain to Projects programmed to receive RARF funds.
  - b. If a Project is programmed to receive both, federal and RARF, funds, the portion of the Project that is programmed to receive federal funds may be accelerated. The portion of the Project programmed to receive RARF funds cannot be accelerated from one phase to another.
  - c. MAG staff will work with the Lead Agency on the Project's new schedule and reimbursement matters.

#### **SECTION 210: UPDATING ALCP PROJECTS IN THE ALCP**

- A. All ALCP Projects will be updated annually (refer to Section 200C. 2).
- B. Any necessary changes to an ALCP Project must be submitted by a written request stating the new updated schedule and budget and any other necessary justifications.
  - 1. Requests will be approved through the MAG Committee Process by the approval of the ALCP.
  - 2. Update forms will be provided by MAG.

- C. All ALCP Projects that are moved, changed or updated from their original schedule in the RTP must consider the impact of the proposed changes on other RTP Projects and on neighboring communities.
- D. MAG, the Lead Agency, and other agency (ies)/jurisdiction(s) listed in the Project Agreement must agree to the proposed changes or updates.

## SECTION 220: TYPES OF ALCP PROJECT UPDATES

- A. **Projects may be advanced** by the Lead Agency and other agency(ies)/jurisdiction(s) listed in the Project Agreement, who must pay the costs of advancing the Project and wait for reimbursement from the Program in the fiscal year the Project or Projects are scheduled in the ALCP to receive regional funds. To do so, it is required that:
  - 1. In advancing a Project, the Lead Agency and other agency(ies)/jurisdiction(s) listed in the Project Agreement must bear all costs and risks associated with advance design, right-of-way acquisition, construction and any related activities for ALCP Projects.
  - 2. Financing costs and any other incremental costs associated with the advancement are not eligible for reimbursement.
  - 3. The reimbursement for the advanced Project must be in the currently approved programmed ALCP.
    - a. Reimbursement for a Project will be the amount listed, plus inflation to the year the Project is programmed for reimbursement in the ALCP.
      - i. MAG Staff will use inflation factors as noted in Section 240.
  - 4. The Lead Agency and other agency(ies)/jurisdiction(s) listed in the Project Agreement may request to revert to the original Project schedule as long as all non-recoverable costs incurred or committed are paid for by the Lead Agency and/or other agency(ies)/jurisdiction(s) listed in the Project Agreement, and there are no other unacceptable adverse impacts associated with the reversion.
  - 5. For Projects advanced as segments of a larger RTP Project, the amount of regional reimbursement will be determined following the completion of the process for segmenting Projects and must be specified in the Project Overview and Project Agreement.
  - 6. Upon completion of an advanced Project, all Project Reimbursement Requests must be submitted to MAG. Reimbursement payments will follow the schedule established in the Project Agreement and Project Overview.
    - a. Reimbursement payments may be accelerated for projects approved for RARF Closeout Funds through the MAG Committee Process, per Section 260.
- B. An ALCP Project has the option of segmenting an original RTP Project as long as the resulting Project would provide for the completion of the original Project as specified in the RTP.
  - 1. A Design Concept Report or equivalent may be used to determine major Project elements within each jurisdiction and to develop recommendations for budget allocations.
- C. Projects may be deferred at the request of the Lead Agency and other agency(ies)/jurisdiction(s) listed in the Project Agreement and/or MAG.
  - 1. If a Project is deferred, other Projects will be moved in priority order at that time, taking into account: Project readiness, local match available and funding source preferences.
- D. A Lead Agency may exchange two Projects in the ALCP if:

1. Project 1 is deferred from Phase I, II or III to Phase II, III, or IV, AND Project 2 is advanced from Phase II, III or IV to Phase I, II, or III.
  2. When Projects are exchanged, the advanced Project 2 may receive regional reimbursement up to the maximum of the budgeted reimbursement amount of Project 1 or the maximum budget of Project 2, whichever is less.
  3. Funding for all Projects involved in a Project exchange must be documented for the ALCP Program both before and after the proposed exchange in order to demonstrate that there will be no negative fiscal impact on the ALCP.
- E. If an original ALCP Project is deemed not feasible, a substitute Project may be proposed for substitution in the same jurisdiction as the original Project.
1. The Lead Agency may propose a substitute Project that would use the regional funds allocated to the original Project. The substitute Project shall relieve congestion and improve mobility in the same general area addressed by the original Project, if possible.
  2. Substitute projects may not be completed prior to inclusion in the Arterial Life Cycle Program.
  3. The Lead Agency must submit a written request to MAG. The written request must include:
    - a. Justification, such as a feasibility study, level of service justification, or other documents explaining why the Project is deemed not feasible, and the description of steps to overcome any issues related to deleting the original Project from the ALCP and RTP.
    - b. How the proposed project would relieve congestion and improve mobility; and,
    - c. The proposed substitute project budget and schedule.
    - d. MAG Staff will work with jurisdictions on a case-by-case basis to ensure proper justification.
- F. An original ALCP Project can change its original Project scope due to environmental issues, public concerns, costs and other factors.
1. The Lead Agency must submit a written request to MAG. The written request must include justification, such as a feasibility study, level of service justification, revised budget and/or other documents explaining why the change to the original Project is required, and the description of steps to overcome any issues related to changing the original scope of the ALCP Project.
    - a. MAG Staff will work with jurisdictions on a case-by-case basis to ensure proper justification.
  2. The scope change should relieve congestion and improvement mobility in the same area addressed by the original planned Project, if possible.
  3. Project scope changes may not include completed portions of a project or project segment, which are not included in an Arterial Life Cycle Program approved through the MAG Committee process.
- G. All requests to change original ALCP project scope or a substitute a project in the ALCP must meet all requirements established in Sections 200, Section 210, and Section 220.
1. Before being approved through the standard MAG Committee Process, the requests will be presented by an employee of the Lead Agency to the MAG Street Committee for a technical review and recommendation. The presentation will address:

- a. The reason(s) the original project was deemed not feasible;
  - b. Explain how the change the original ALCP project scope or substitute project would relieve congestion and improve mobility;
  - c. The new/revised project cost estimate;
  - d. And other information as requested by the MAG Street Committee.
2. After the Streets Committee technical review and recommendation on the proposed changes, the project(s) will be approved through the MAG Committee Process.
  3. Requests to change original ALCP project scope or substitute a project must be made by the deadline established in the ALCP Schedule published annually in the MAG Transportation Programming Guidebook.
  4. Reimbursements for substitute projects will :
    - a. Be programmed in the same fiscal year(s) as the original project
    - b. Be programmed with the same funding amount and type as the original project
- H. To use Project Savings on another ALCP Project, a Project must follow the policies and procedures outlined in Section 350. If those are followed, a Lead Agency is allowed to request that Project Savings be reallocated to another ALCP Project.
1. The written request must include name of the Project with the Project Savings, the amount of Project Savings, the Project that will use the Project Savings and Project Budget showing that the Project Savings applied to the new Project will not exceed 70% of the total Project costs.

#### **SECTION 260: ALCP RARF CLOSEOUT**

- A. Annually, MAG Staff will determine the availability of RARF funds to be used for the ALCP RARF Closeout.
  1. MAG Staff will demonstrate the fiscal constraint of the ALCP with proposed ALCP RARF Closeout options.
  2. A Project or Project segment in the ALCP may not be adversely impacted, delayed, reduced or removed as a result of the reimbursement of RARF funds in the Closeout process to another Project, portion or segment.
  3. Lead Agencies and other agency(ies)/jurisdiction(s) listed in a Project Agreement that receive RARF Closeout funds will not be liable to reimburse the RARF funds to the Program if a Program deficit occurs in the future.
- B. Lead Agencies should submit a RARF Closeout Notification to MAG per eligible project.
  1. MAG Staff will provide a RARF Closeout Notification Form on the MAG ALCP website.
- C. The ALCP RARF Closeout Process will begin at the April TRC and continue through the MAG Committee process in May, one month before the annual update of the ALCP.
  1. The ALCP Schedule published annually in the MAG Transportation Programming Guidebook will specify all deadlines pertaining to the ALCP RARF Closeout Process, including due dates to submit RARF Closeout Notification forms and ALCP Project Requirements.

2. MAG Staff will notify the ALCP Working Group, in advance, if a change in the ALCP Project Schedule is required.
- D. To be considered as an eligible project for reimbursement with RARF Closeout funds:
1. The Project or Project segment must be completed/closed out.
  2. The Lead Agency must completed the following Project Requirements:
    - a. Project Overview
    - b. Project Agreement, and
    - c. Project Reimbursement Request.
  3. All three requirements must be accepted by MAG Staff as complete.
- E. The determination and allocation of ALCP RARF Closeout funds for eligible completed projects will be made according to the following priorities (in sequential order):
1. Projects scheduled for reimbursement in the next fiscal year;
  2. All other Projects according to the chronological order of the programmed reimbursements.
- F. If two or more eligible projects are programmed for reimbursement in the same fiscal year, the reimbursement of the eligible projects will be made according to the following additional priorities (in sequential order):
1. The date of the Project's final invoice.
  2. The date the Project Reimbursement Request was accepted by MAG Staff.

#### **SECTION 270: USE OF SURPLUS OR DEFICIT PROGRAM FUNDS**

- A. If a surplus Program funds occurs, existing Projects may be accelerated. Any acceleration will occur according to priority order of the ALCP.
1. For Projects to be accelerated, matching local funds must be committed.
  2. If there are no current Projects ready for acceleration, the next Project scheduled for reimbursement may be accelerated.
  3. If there are surplus funds available upon the full completion of the ALCP, the MAG Transportation Policy Committee will discuss options regarding additional Projects.
- B. ALCP Projects may be delayed if there is a deficit of Program funds. ALCP Projects will be delayed in priority order of the ALCP.

# **Appendix D**

# TRANSIT LIFE CYCLE POLICIES

Updated February 19, 2009

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**Guiding Principle 2: A defined and consistent process for Plan amendments and changes will be established.**

## Adopted Policies

- a) Requests for changes in the bus transit program will be entered in the TLCP financial model and the impacts will be reviewed by the VMOCC and FOAC.
- 1) An Amendment Request Form must be completed for each change requested. The form will highlight the type of change (advancement, deferral, addition or deletion) and the impacts on implementation date, cost, the Transportation Improvement Program and the RPTA Capital Improvement Program.
  - 2) All change requests will include proposed revenues by source.
  - 3) Changes will be categorized as major amendments, material changes, TIP changes or non-material changes.
- d) Major amendments will follow the process mandated in State statutes.
- e) Material changes for the transit program are defined as follows:
- 1) Material Cost Change
    - i. Bus Capital Projects: An increase in the total cost of a project that is either 1) more than five (5) percent of the project budget developed in the Design Concept Report and greater than \$500,000; or 2) greater than \$2.5 million. Material cost increases above the amounts allocated in the TLCP for park and ride facilities and transit centers must be funded by the affected jurisdictions.
    - ii. Rail Capital Projects: An increase in the total cost of a project that is either 1) more than five (5) percent of the total project budget developed during Preliminary Engineering or 2) greater than \$10 million, whichever is less.
  - 2) Material Scope Change
    - i. Bus Capital Projects: A change in a project scope is considered a material change when 1) a change in project location requires an updated or new environmental assessment; 2) it adds design elements that results in a material cost change; or 3) it adds a new project not currently identified in the Regional Transportation Plan to the program.
    - ii. Bus Operating Projects: A change in a project scope is considered a material change when an alignment change outside of the adopted corridor 1) affects more than 25% of the corridor; 2) changes the directional route miles by more than 25%; or 3) adds a new project not currently identified in the Regional Transportation Plan

- to the program. A change in project scope is considered a material change when route characteristics such as frequency and span of service are adjusted such that weekly revenue vehicle miles increase by more than twenty five (25) percent.
- iii. Rail Capital Projects: A change in project scope is considered a material change when a change in project location requires a supplemental environmental impact statement.

If the material scope change is requested by a local jurisdiction and meets the definition of an enhancement, then the local jurisdiction must execute an approved Intergovernmental Agreement (IGA) and provide the necessary funding to complete the enhancement. If the material scope change is requested by the Lead Agency, the cost of the scope change, if approved, can be paid from the Public Transportation Fund (PTF) after a review through the standard committee process and with approval of the RPTA Board if it is not considered an enhancement and will not impair completion of all other projects identified in the Transit Life Cycle Program.

According to ARS 28-6351, enhancement means an addition that exceeds generally accepted engineering or design standards for the specific type of facility. The Lead Agency should ensure that the design elements of each project meet generally accepted engineering or design standards adopted or accepted for general use by the Federal Transit Administration (FTA).

3) Material Schedule Change

- i. Bus Capital Projects: A change in the schedule developed in the Design Concept Report for the start of design, property acquisition or construction that causes: 1) completion to be delayed by more than three months or; 2) completion of the construction phase of the project to be delayed beyond the fiscal year shown in the Transit Life Cycle Program. For the purposes of this policy, completion means that the project is operational.
  - ii. Bus Operating Projects: A change in the approved implementation schedule that results in any advancement of a new route or route improvements of more than one year or deferment of a new route or route improvements of more than three years.
  - iii. Rail Capital Projects: A change that would advance or defer project completion by one or more fiscal years from the target completion identified in the TLCP.
- b) Non-material changes are defined as changes that alter the cost, scope or schedule for a project but do not meet the definitions of material change or major amendment. Any non-material cost increases above the amounts allocated in the TLCP for park and ride facilities and transit centers must be funded by the affected jurisdictions.
- c) Proposed changes will be forwarded by the RPTA Executive Director to the RPTA Transit Management Committee for recommendation and to the RPTA Board of Directors for approval. Non-material changes do not require any further action.

- d) Changes to the Regional Transportation Plan that are either major amendments, material changes or changes that require an amendment to the TIP are not final until they have been adopted by the Maricopa Association of Governments Regional Council.

## Arizona Revised Statute (ARS) References

The following Arizona Revised Statutes (ARS) govern changes to the Regional Transportation Plan (RTP) in two general categories, Major Amendments and Other Amendments.

### MAJOR AMENDMENTS

#### ARS 28-6301.7

*"Major amendment" means either:*

- (a) *The addition or deletion of a freeway, route on the state highway system or a fixed guideway transit system.*
- (b) *The addition or deletion of a portion of a freeway, route on the state highway system or a fixed guideway transit system that either exceeds one mile in length or exceeds an estimated cost of forty million dollars as provided in the regional transportation plan.*
- (c) *The modification of a transportation project in a manner that eliminates a connection between freeway facilities or fixed guideway facilities.*

#### ARS 28-6353

- A. *The regional planning agency in the county [MAG] shall approve any change in the regional transportation plan and the projects funded in the regional transportation plan that affect the planning agency's transportation improvement program, including project priorities.*
- B. *Requests for changes to transportation projects funded in the regional transportation plan that would materially increase costs shall be submitted to the regional planning agency for approval and submitted by the regional planning agency to the [ADOT] board for approval.*
- C. *If a local authority requests an enhancement to a transportation project funded pursuant to the regional transportation plan, the local authority shall pay all costs associated with the enhancement.*
- D. *The process prescribed in subsection E of this section is required if:*
  - 1. *An audit finding pursuant to section 28-6313 recommends that a project or system in the regional transportation plan is not warranted or requires a modification that is a major amendment as defined in section 28-6301.*

2. *The transportation policy committee recommends to the regional planning agency a modification of the regional transportation plan that is a major amendment as defined in section 28-6301.*
- E. *A major amendment requires the following:*
1. *Consideration by the transportation policy committee of alternatives in the same modal category that will relieve congestion and improve mobility in the same general corridor addressed by the originally planned project or system.*
  2. *If a reasonable option is identified as an alternative for the originally planned project or system, the transportation policy committee shall submit the proposed amendment for review by the regional public transportation authority in the county, the state board of transportation, the county board of supervisors, Indian communities, cities and towns in the county and the citizens transportation oversight committee. After reviewing the proposed amendment, the board of directors of the regional public transportation authority, the state board of transportation and the county board of supervisors, by a majority vote of the members of each board within thirty days after receiving the proposed amendment, shall submit a written recommendation to the transportation policy committee that the proposed amendment be approved, modified or disapproved. Within thirty days after receiving the amendment, the citizens transportation oversight committee and the Indian communities, cities and towns may also submit written recommendations to the transportation policy committee that the proposed amendment be approved, modified or disapproved.*
  3. *If no reasonable option for an alternative to the originally planned project or system is identified, the transportation policy committee shall submit an amendment to delete the original project for review by the regional public transportation authority, the state board of transportation, the county board of supervisors, Indian communities, cities and towns in the county and the citizens transportation oversight committee. After reviewing the proposed amendment the board of directors of the regional public transportation authority, the state board of transportation and the county board of supervisors, by a majority vote of the members of each board within thirty days after receiving the proposed amendment, shall submit a written recommendation to the transportation policy committee that the proposed amendment be approved, modified or disapproved. Within thirty days after receiving the proposed amendment, the citizens transportation oversight committee and Indian communities, cities and towns in the county may also submit written recommendations to the transportation policy committee that the proposed amendment be approved, modified or disapproved.*

4. *The transportation policy committee must consider any written recommendations submitted by any of the reviewing entities as prescribed by paragraph 2 or 3 of this subsection.*
  5. *The transportation policy committee shall recommend approval, disapproval or modification of the proposed amendment to the regional planning agency for consideration.*
- F. *The affirmative vote of seventeen members of the transportation policy committee is required to approve and proceed with either of the following:*
1. *Recommendation of a major amendment to the regional planning agency that fails to receive approval of either the regional public transportation authority in the county, the state board of transportation or the county board of supervisors as prescribed in this section.*
  2. *A transportation project or system that is found to be unwarranted by an audit as prescribed in this section.*

**ARS 28-6356.F.2**

*The citizens transportation oversight committee shall:*

*Review and make recommendations regarding any proposed major amendment of the regional transportation plan by the governing body of the regional planning agency pursuant to section 28-6353.*

**OTHER AMENDMENTS**

**ARS 28-6308.B**

*Through the regional planning agency, the transportation policy committee shall:*

1. *By a majority vote of the members, recommend approval of a twenty year comprehensive, performance based, multimodal and coordinated regional transportation plan in the county, including transportation corridors by priority and a schedule indicating the dates that construction will commence for projects contained in the plan.*
2. *Develop the plan in cooperation with the regional public transportation authority in the county and the department of transportation and in consultation with the County Board of Supervisors, Indian communities, and cities and towns in the county.*
3. *Submit the plan for review by the regional public transportation authority in the county, the state board of transportation, the county board of supervisors, Indian communities and cities and towns in the county at the alternatives stage of the plan and the final draft stage of the plan. After reviewing the plan, the regional public transportation authority in the county, the county board of supervisors and the state*

board of transportation, by majority vote of the members of each entity within thirty days after receiving the plan, shall submit a written recommendation to the transportation policy committee that the plan be approved, modified or disapproved. Within thirty days after receiving the plan, Indian communities and cities and towns in the county may submit a written recommendation to the transportation policy committee that the plan be approved, modified or disapproved.

4. Consider plan modifications proposed by any of the entities as prescribed in paragraph 3 of this subsection.
5. By majority vote, approve, disapprove or further modify each proposed plan modification.
6. Provide a written response to the regional public transportation authority, the state board of transportation, the county board of supervisors and the entity that submitted the proposed modification within thirty days after the vote on the proposed modification explaining the affirmation, rejection or further modification of each proposed modification.
7. Recommend the plan to the regional planning agency for approval for an air quality conformity analysis.

**ARS 28-6351.2**

"Enhancement" means an addition that exceeds generally accepted engineering or design standards for the specific type of facility.

**ARS 48-5121.D**

If the plan includes a rail component and if the [RPTA] board adopts estimates of capital and maintenance and operation costs of the rail system, each member municipality in which the rail system is constructed shall pay to the public transportation fund amounts by which the actual capital, maintenance and operation costs exceed the estimated costs by more than fifteen per cent, computed in constant dollars. The excess costs shall be allocated among the affected member municipalities according to the proportion of the rail system facilities that are located in each municipality. The affected member municipalities shall:

1. Pay the monies from their respective general funds to the public transportation fund in the fiscal year following the fiscal year in which the excess costs were incurred.
2. Not pay to the public transportation fund under this subsection monies that it received from any source pursuant to title 28.
3. Not reduce its support of transportation projects funded by any source pursuant to title 28 in order to make payments under this subsection.

**ARS 48-5121.E**

*The [RPTA] board may modify the regional public transportation system plan to reflect changes in population density or technological advances in the approved public transportation modes. A majority of the members of the board voting at a public hearing called for that purpose must approve a modification to the plan.*

# **Appendix E**

**MAG Federal Fund Programming Principles**  
**Competitive Project Selection Process for MAG Federal Funds**

**DRAFT August 6, 2008**

## DEFINITIONS

**Clean Air Act** – The Clean Air Act (CAA) is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes the Environmental Protection Agency to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emission of hazardous air pollutants. – (Summary of the Clean Air Act, <http://www.epa.gov/lawsregs/laws/caa.html>, Retrieved on May 9, 2008)

**Congestion Mitigation and Air Quality (CMAQ) Improvement Program** - Congestion Mitigation and Air Quality Program are federal funds that are available for projects that improve congestion and air quality in areas that do not meet clean air standards (“non-attainment” areas). The transportation projects and programs that are eligible under the Congestion Mitigation and Air Quality Improvement Program are: Transportation Control Measures (TCMs), Extreme Low-Temperature Cold Start Programs, Alternative Fuels, Congestion Relief & Traffic Flow Improvements (ITS projects and programs), Transit Improvements, Bicycle and Pedestrian Facilities and Programs, Travel Demand Management, Public Education and Outreach Activities, Transportation Management Associations, Carpooling and Vanpooling, Freight/Intermodal, Diesel Engine Retrofits, Idle Reduction, Training, I/M Programs, and Experimental Pilot Projects. The current federal guidelines related to the available CMAQ funding for the Competitive Project Selection Process for MAG Federal Funds is titled, ‘The Congestion Mitigation and Air Quality Program (CMAQ) under the SAFETEA-LU Interim Program Guidance’ can be accessed online at: <http://www.fhwa.dot.gov/environment/cmaq06gd.pdf>.

**Contingency Projects** - Projects identified during Interim Closeout if the number of projects submitted to use Closeout funds, exceeds the Interim Closeout amount. These projects would then be funded during Final Closeout under the condition that additional funds were identified by changes to a project schedule, to the apportionment or appropriations formulas, and/or notification of redistributed obligation authority (OA) that would increase the funds available.

**Designated Representative** – A designated representative of a jurisdiction is an employed staff person of the jurisdiction designated by the chief administrator to sign MAG funding request documents on behalf of that jurisdiction.

**Eligible Projects/Project Components** – Eligible projects/project components are defined by the current federal guidelines related to the type of federal fund that is being considered.

**Incomplete Application** – An application that does not have required application fields filled-in is defined as incomplete.

**Joint Project** – A joint project is a project that has more than one jurisdiction financially committed to the project.

**MAG Approved Plan** – MAG approved plans are used in the evaluation of Regional Projects. The list of MAG approved plans that can be used are the most recently approved Regional Transportation Plan, MAG ITS Strategic Plan – April 2001, MAG Strategic Transportation Safety Plan – October 2005, MAG Regional Bikeway Master Plan – 2007, Pedestrian Plan – 2000, MAG Regional Action Plan on Aging and Mobility, MAG Regional Off-Street System Plan – February 2001, and the Arizona Strategic Highway Safety Plan – August 2007

**MAG Committee Process** – For purposes related to this document and process: Transportation Review Committee, the Management Committee, the Transportation Policy Committee, and the Regional Council. Please see Appendix A

**MAG Federal Fund Program** – The MAG Federal Fund Program consists of projects in the MAG Transportation Improvement Program (TIP) that are funded with federal funds, both highway and transit projects. A component of this Program are the projects that are local sponsored, competitively selected and programmed through the MAG Process with Federal Funds. The categories that are available for local agencies to apply for federal funds through the MAG Process are: Arterial-ITS Projects – CMAQ funded, Arterial Projects – STP-MAG funded, Bicycle and Pedestrian Projects – CMAQ funded, and Air Quality Projects – CMAQ funded.

**Regional Project** – A transportation project that is sponsored and funded by one or more MAG member agency that impacts other jurisdictions besides those sponsoring the project. The project concept must be consistent with an approved MAG Plan.

**SAFETEA-LU** - On August 10, 2005, President George W. Bush signed the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU authorizes the Federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005-2009.<sup>i</sup>

**Surface Transportation Program (STP) funds** – Surface Transportation Program funds are federal funds designated to be used on highways, transit or street projects.

**The Transportation Programming Guidebook** – The Guidebook is published on a yearly basis and its purpose is to provide MAG member agencies background information, instructions, and deadlines on the different transportation programs and requirements for the RTP, the MAG TIP, and the MAG Federal Fund Program for the upcoming fiscal year.

**Technical Advisory Committees (TAC)** – The MAG Technical Advisory Committees that are related to Competitive Project Selection Process for MAG Federal Funds are the MAG Street Committee, MAG Intelligent Transportation System (ITS) Committee, Air Quality Technical Advisory Committee, and the Pedestrian Working Group and the Regional Bicycle Task Force. Please see Appendix A

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<sup>i</sup> SAFETEA-LU Home Page. *US Department of Transportation, Federal Highway Administration*. Retrieved on July 9, 2008 from <http://www.fhwa.dot.gov/safetealu/index.htm>.

## 100. Guiding Principles

1. The MAG Federal Fund Programming Principles for the Region shall comply with federal laws. The Principles will be reviewed and updated for compliance as new state, and federal laws are adopted.
2. The MAG Federal Fund Programming Principles will incorporate policy direction, as appropriate from Regional Council approved MAG Transportation Plans.
3. The MAG Federal Fund Programming Principles and changes to the Principles will be approved through the MAG Committee Process including the Transportation Review Committee, the Management Committee, the Transportation Policy Committee, and the Regional Council. Please see Appendix A for the MAG Committee Structure chart.
4. The MAG Federal Fund Programming Principles are applicable to federal funded projects that are competitively selected and programmed through the MAG process. These projects compose part of the MAG Federal Fund Program.
5. Member agencies are encouraged to complete programmed federal funded projects on schedule to ensure that committed obligation authority is fully used, and to increase prospects of receiving a share of Arizona redistributed obligation authority.
6. A commitment will be made to use Congestion Mitigation and Air Quality (CMAQ) funds at the same rate of Surface Transportation Program (STP) funds. STP funds will not be obligated at a higher rate than CMAQ funds, which means the obligation authority percentage for CMAQ funds will be equal to or higher than the rate for STP funds.
7. *The Transportation Programming Guidebook (Guidebook)* will be published annually, prior to the start of the application process. The *Guidebook* will describe and provide the programming schedule and deadlines for the MAG Federal Fund Program, application forms, Federal fund estimates, programming process information per modal type, and contacts.
8. In accordance with the Clean Air Act, projects which are committed measures in the MAG air quality plans are legally binding for implementation. Examples include: Paving Unpaved Road Projects, PM-10 Certified Street Sweepers, and Paving Unpaved Road Shoulders. In addition, these types of projects are also essential for demonstrating air quality conformity for the Transportation Improvement Program and Regional Transportation Plan.

## 200. Application Process

1. Annually, MAG will request MAG member agencies to submit new project applications for consideration in the MAG Federal Fund Program dependent on the needs established by the *Guidebook*.
  - a. Project applications submitted from prior years will not be retained or used.

2. A pre-application workshop/meeting will be available to MAG member agencies to review available funding amounts, applications, schedules, and due dates for the competitive project selection process for MAG Federal funds.
3. A project can be sponsored and funded by one agency; be a joint project with multiple funding partners; or be considered a regional project.
  - a. A Joint Project has more than one agency financially contributing to the project.

The application must: -

    - i. Be submitted by the sponsoring agency that will be responsible for implementing the project and reporting on it to MAG;
    - ii. List the main contacts for all agencies involved;
    - iii. Document how the local cost component will be shared between the partnering agencies; and
    - iv. Include signatures from each jurisdiction's Manager(s)/Administrator(s) or designated representative.
  - b. A Regional Project is a transportation project that is sponsored and funded by one or more MAG member agency that impacts other jurisdictions besides those sponsoring the project and the project concept is consistent with an approved MAG Plan.
4. The application forms will annotate and define the required information.
  - a. Each application will have a checklist of application components to be completed by the sponsoring agency. The information that is required for will be identified on the checklist.
  - b. Each application will be signed by the Manager/Administrator of the jurisdiction or designated representative.
5. Completed applications must be submitted before or on the due date and time. Late applications will not be accepted.
  - a. Completed applications will be printed, signed by the jurisdiction Manager/Administrator or designated representative, and submitted via fax, e-mail (scan of signed application), mail, or in person.
  - b. If a completed application is faxed or e-mailed with the required signature, it is accepted at that time, but it is required that the original signed hard copy will follow either in the mail or be delivered in person.
  - c. Upon receiving the application, MAG staff will review submitted application for required information. MAG staff will complete an application receipt indicating the date and time it was received, and if the application was complete or incomplete.
    - i. If the application is incomplete, the application receipt will note the incomplete fields.
    - ii. The sponsoring agency will have two working days to complete the incomplete fields. The due date and time to submit incomplete field information will be noted on the application receipt.
  - d. The application will also be submitted electronically for ease of data entry.
6. MAG staff will review the application to verify the eligibility of the project, and project components in the context of the current Federal regulations following the due date of project applications.

- a. MAG staff will work with Federal Highway Administration (FHWA) to determine eligibility.
  - b. The current federal guidelines related to the CMAQ funding, which is available for the Competitive Project Selection Process for MAG Federal Funds is titled, 'The Congestion Mitigation and Air Quality Improvement Program (CMAQ) under the SAFETEA-LU Interim Program Guidance' can be accessed online at: <http://www.fhwa.dot.gov/environment/cmaq06gd.pdf>. Copies are also available at MAG.
  - c. If a project is not eligible under the current Federal regulations, a notification will be sent to the project contact within two weeks.
  - d. If certain project components are not eligible under the current Federal regulations, MAG staff will work with the jurisdiction to modify the project budget components for eligibility purposes. MAG staff and the sponsoring agency representatives will present and explain the original and modified application at the technical advisory committee.
7. Project information from the applications will be compiled by MAG Staff.

### **300. Competitive Project Selection Process for MAG Federal Funds**

1. MAG has an established project application, programming schedule, project evaluation process, and project selection process that are explained and published in *The Transportation Programming Guidebook*.
2. Complete and eligible project applications submitted for consideration in the MAG Federal Fund Program are processed through the MAG Committee Process for project evaluation, and selection. This process includes an evaluation of the expected emissions reductions and cost effectiveness, a project evaluation process at the Technical Advisory Committees (TAC), and project selection through the MAG Committee Process: Transportation Review Committee (TRC), Management Committee, and Transportation Policy Committee (TPC) for review and recommendation, and then Regional Council for approval.
3. In accordance with federal CMAQ guidance, an evaluation of the expected emissions reductions and cost effectiveness is conducted for all proposed CMAQ funded projects by MAG staff for consideration by the Air Quality Technical Advisory Committee (AQTAC). The role of the AQTAC is to forward the evaluation of proposed CMAQ funded projects to the Transportation Review Committee (TRC) and the Technical Advisory Committees for use in prioritizing projects.
4. A congestion management analysis will be conducted, as appropriate, during the project evaluation process.
5. The transportation project types and responsible technical advisory committees (TAC) are:
  - a. Bicycle & Pedestrian Projects will be presented, reviewed, ranked at the Pedestrian Working Group and The Regional Bicycle Task Force, and then forwarded to the TRC.
  - b. Intelligent Transportation System (ITS) Projects will be presented, reviewed, and ranked at the ITS Committee, and then forwarded to the TRC.

- c. Paving Unpaved Road Projects will be presented and reviewed at the Street Committee, ranked at the Air Quality TAC, and then forwarded to the TRC.
  - d. PM-10 Certified Street Sweeper Projects will be reviewed at the Street Committee, ranked at the Air Quality TAC, and then forwarded to the MAG Management Committee.
  - e. In addition, the AQTAC may forward a ranking of Air Quality Projects to the Transportation Review Committee.
6. The Technical Advisory Committee's role is to develop and administer a project evaluation process that involves a technical evaluation, project criteria analysis, and a qualitative assessment that is guided by the goals and objectives of the MAG Regional Transportation Plan (RTP), and Federal guidelines.
  - a. The TAC is responsible to implement its project evaluation process and produce a ranked order list of project applications to be considered for Federal funding. The rank ordered list is then forwarded to the TRC.
  - b. Technical Advisory Committees will not change the project scope, schedule, budget, or requested federal funds during the evaluation process. The TAC's purpose is to rank order projects as submitted in the application through a project evaluation process.
7. Project information from the complete applications will be sent to the technical advisory committee (TAC) for a tiered review process. Please see Appendix B for flow chart.
  - a. At the first TAC meeting, the sponsoring agency will present their project(s) and have the TAC review the application information.
  - b. If the committee would like further clarification on project information contained in the application, the project sponsor can answer clarification questions at the first meeting, and the project sponsor also has the opportunity to clarify information on the application for the second TAC meeting. The Committee will not change scope, schedule, nor budget for requested funds.
    - The MAG Staff person for that TAC will provide the date for revised application information to be submitted to MAG in preparation for the second TAC meeting.
  - c. The expected emissions reductions and cost effectiveness for all proposed CMAQ funded projects are evaluated by MAG staff for consideration by the AQTAC. A congestion management analysis will be conducted, as appropriate, during the project evaluation process.
  - d. At the second TAC meeting, any clarified project information is presented, and the project ranking can move forward based on the TAC approved process including the technical evaluation, project criteria analysis, and the qualitative assessment.
  - e. The ranked list of projects and evaluation summary is then forwarded from the TAC to the Transportation Review Committee for project selection, and then continues through the MAG Committee Process.
  - f. The PM-10 Certified Street Sweeper ranked list of projects and evaluation summary is forwarded directly from the AQTAC to the Management Committee for project selection, and then to the MAG Regional Council.
8. The Transportation Review Committee's (TRC) role is to review the evaluation and analysis completed by the TACs, and recommend projects to be selected and programmed with Federal funds based on guidelines established for project selection.

- a. The TRC can make recommendations to change the project scope, schedule, or budget during the project selection process.
  - b. If the amount of federal funds for a project is recommended to be lower than initially requested in the project application, or the scope of the project is recommended to change, the project application with proposed changes will be sent back to the Manager/Administrator of the jurisdiction or designated representative for acceptance of new funding amounts or scope change.
    - At the same time, MAG staff will determine if the CMAQ evaluation is affected.
    - The programming process is delayed accordingly.
  - c. The TRC will develop guidelines for project selection.
  - d. The recommended projects selected for available federal funds and a summary of selection process will then be forwarded to the MAG Management Committee, TPC, and Regional Council for approval.
9. Projects selected and approved by MAG Regional Council to be programmed with federal funds will be included in the MAG Transportation Improvement Program (TIP).
- a. As required by Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the TIP shall include projects only if full funding can be reasonably anticipated to be available within the time period contemplated for completion of the project. In nonattainment and maintenance areas, projects included in the first two years of the TIP shall be limited to those for which funds are available or committed.<sup>ii</sup>
  - b. This requirement is for all funding sources including the local match funds for projects programmed with federal funds.
10. For construction projects that are selected to be programmed with federal funds into the MAG Transportation Improvement Program (TIP), a design/clearance phase will be programmed *at least* one year prior to the federally funded construction phase depending on the information and schedule provided in the project application.
- a. It is not assumed that the separate design/clearance phase is funded with federal funds. Member agencies can request federal funds for the design phase *if* federal funds are available either in the programming process or the closeout.
  - b. Member agencies will program the design & clearance phase with scope, budget, and schedule information provided in the initial application.

#### **400. Programmed Federal Fund Projects**

1. If a federal fund project does not use the full amount of its programmed and obligated federal funds, the remaining balance of unused federal funds, will be returned to the region to be reprogrammed.
  - a. The member agency shall notify MAG of the amount of unused federal funds once construction and invoicing is completed with ADOT.
2. If a member agency is not able to complete a federal funded project with federal funds, the federal funds will be returned to the region to be reprogrammed.

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<sup>ii</sup> Department of Transportation - Statewide Transportation Planning; Metropolitan Transportation Planning; Final Rule, Federal Register, Wednesday, February 14, 2007, Part III §450.324(i). *US Department of Transportation, Federal Highway Administration*. Retrieved on August 1, 2008 from <http://www.fhwa.dot.gov/HEP/legreg.htm>.

- a. The member agency shall notify MAG if it decides it will not utilize federal funds for a project.
3. The amount of MAG federal funds available for a project is the programmed amount listed in an approved TIP. Member agencies are responsible for any project cost increases.
4. A member agency can request a change to a programmed Federal Fund Project in the TIP for the current fiscal year.
  - a. Types of project changes: advancing the project, segmenting the project, or modification of the Project Scope. All Project Change requests are reviewed on a case-by-case basis.
    - i. If a MAG member agency requests to advance a federal fund project, or project phase with local funds, an Intergovernmental Agreement (IGA) with ADOT is required. Advancing a project or phase of a project includes (1) design advancement, (2) ROW advancement and/or (3) construction advancement. The jurisdiction will be responsible to utilize "local" funds to advance the requested project or phases. The sponsoring agency is required to develop the project or phase to federal standards.
  - b. MAG staff will review the eligibility of the project change request by the Federal guidelines.
  - c. MAG staff will review the impact of the project change request on the conforming TIP and Plan. For example, the advancement or deferral of a project could affect analysis year modeling assumptions, and require a redetermination of conformity.
  - d. MAG staff will also review, analyze, and summarize how the project change request will impact the CMAQ evaluation and other criteria the TAC has established.
  - e. The requested change will go through the MAG Committee Process, as part of the Project Change request, beginning at the appropriate technical advisory committee that originally programmed/prioritized them.
  - f. This does not include notifications of deferred projects and/or projects that will not be utilizing federal funds. Notifications of deferred projects and/or projects that will not be using federal funds will occur during the Closeout.
5. Once a project change request has been approved through the MAG Committee Process, the TIP is amended/modified, and the changes are sent forward to ADOT and FHWA to amend/modify the STIP.
6. MAG Staff produces a status report on projects programmed with federal funds semiannually. The status report indicates the progress of the project through the milestones of the required Federal process.

## **500. Closeout Process**

1. MAG attempts to utilize all of the spending authority, known as Obligation Authority (OA), made available to the region. To meet this goal, MAG established a Closeout process. The most important criteria for a project to be funded through closeout is that it has completed, is near completion of the federal project development process administered by ADOT Local Government Section, and/or be in a position to obligate by the end of the current federal fiscal year.
2. The Closeout Process consists of three phases:

- a. Initial Closeout: The initial closeout usually occurs as soon as the FY Appropriations Bill is available. It involves a simple comparison between the funds available and the projects programmed, resulting in an estimate of “uncommitted” funds.
  - b. Interim Closeout: Member agencies notify MAG staff, during the month of March of each year, of the projects that they wish to defer from the current fiscal year to the following fiscal year or that they do not wish to proceed with. When this total amount of federal funds to be deferred or removed is known, agencies are then requested to identify projects that can utilize the funds made available. Project submittals to use Closeout funds usually occur in mid to late April. Through the MAG Committee Process, Closeout projects are selected in the established priority order as described in 700.2. If the number of projects submitted to use Closeout funds, exceeds the Interim Closeout amount, a contingency project list of rank ordered projects may be developed.
  - c. Final Closeout: Final Closeout captures additional funds identified by changes to a project schedule, to the apportionment or appropriations formulas, and notification of redistributed obligation authority (OA) that can add to, or subtract from, the funds available. If additional funds are identified, contingency projects that were identified and rank ordered during Interim Closeout can be funded.
3. *The Transportation Programming Guidebook* will explain the Closeout schedule, due dates, forms, and requirements for project deferrals and project submittals for the Closeout.
  4. During the closeout process, the deferred projects and non-obligated federal funds will be considered within each mode as determined by the Regional Transportation Plan (RTP).
  5. If a MAG federally funded project is requested to be deferred, the close-out process continues through the mode classification of the project.
  6. The modes that are programmed in the RTP to receive federal funds and are in the MAG Federal Fund Program are: Streets/ITS-CMAQ, Streets-STP-MAG, Bicycle/Ped-CMAQ, and Air Quality-CMAQ. The funds (in dollars not percentages) would stay in each mode.
    - i. Example: if Bike Project A, funded by CMAQ, was deferred to a later year, the funds associated with Bike Project A would stay in the Bike/Pedestrian mode.

## **600. Closeout Process – Deferrals**

1. MAG member agencies will complete a Project Deferral/Deletion Form to request a project to be deferred, to delete federal funds from a project, or to delete a federal funded project from the current TIP.
  - a. The *Guidebook* will explain the schedule and forms.
2. For construction and right of way projects, member agencies would be allowed a one time deferral without justification.
  - a. If this project has a design contract underway, the project would be deferred 1 year, if and only if, it had an approved scoping document, project assessment, or DCR from ADOT.
  - b. If there is no design contract underway, the project would be deferred 2 years as it generally takes 2 years to complete the ADOT process.

- c. If there is a design and clearance work phase for the project, it would be deferred accordingly.
3. For procurement, pre design, design, and planning study projects, member agencies would be allowed a one time deferral without justification.
4. If a project is requesting to be deferred for the second time or more, the sponsoring agency for the project will submit a justification letter explaining why the project should remain in the MAG Federal Fund Program.
  - a. The sponsoring agency for the project will submit a justification letter to MAG with the deferral notification that will be taken through the MAG Committee Process, beginning at TRC.
    - i. If the justification is approved the project would remain in the program.
    - ii. If the justification is not submitted or not approved, the project would be removed from the program.
  - b. MAG will provide either a form, or memo explaining the information for the justification memo in *The Transportation Programming Guidebook*.

## **700. Closeout Process - Prioritization of Unobligated Federal Funds**

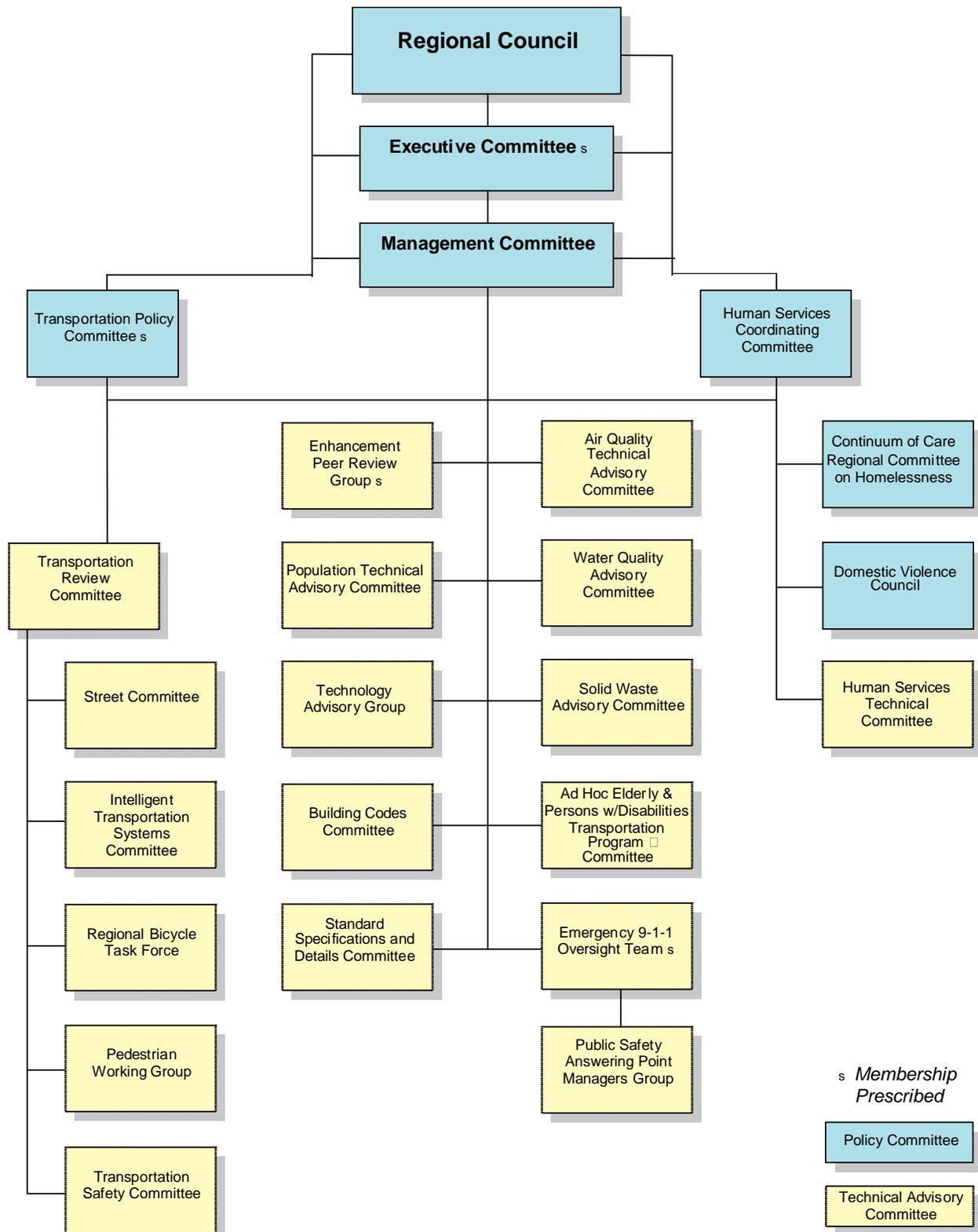
1. MAG member agencies will complete a Closeout Project Submittal or a new project application to submit projects for the use of unobligated Federal funds for the current federal fiscal year.
  - a. The *Guidebook* will explain due dates and forms.
  - b. Forms and/or applications must be submitted before or on the due date and time. Late forms and/or applications will not be accepted.
2. Projects submitted for use of Closeout funds will be selected based on the following three priorities in order:
  - a. Advancing projects (or phases of projects) of the same mode, that are already programmed in the current Transportation Improvement Program (TIP) with MAG federal funds from a future year, in chronological order of the TIP;
  - b. Adding additional federal funds to an existing, unobligated project, up to the originally programmed, federal-aid maximum, or the maximum established by the mode in the RTP, whichever is less.
  - c. New projects
3. Local jurisdictions submitting a project for advancement or additional funds will complete and submit a Closeout Project Submittal Form by the due date for project submittals for Closeout funds.
4. Local jurisdictions submitting a new project for Closeout will complete and submit the most current project application form by the due date for project submittals for Closeout funds.
5. MAG staff will conduct a fiscal analysis to determine if the program can provide additional funds to an existing project (priority 2), and/or fund new projects (priority 3) within the fiscally constrained federal programs in the current TIP.

6. MAG staff will review the projects submitted for Closeout funds with ADOT Local Government Section to ensure that the projects can be obligated before the end of the current federal fiscal year.
7. Once projects are submitted, an evaluation of the expected emissions reductions and cost effectiveness is conducted for all proposed CMAQ funded projects by MAG staff for consideration by the Air Quality Technical Advisory Committee (AQTAC). The proposed projects proceed through the MAG Committee Process for evaluation and prioritization beginning at TRC.

## **800. Re-distributed Obligation Authority (OA)**

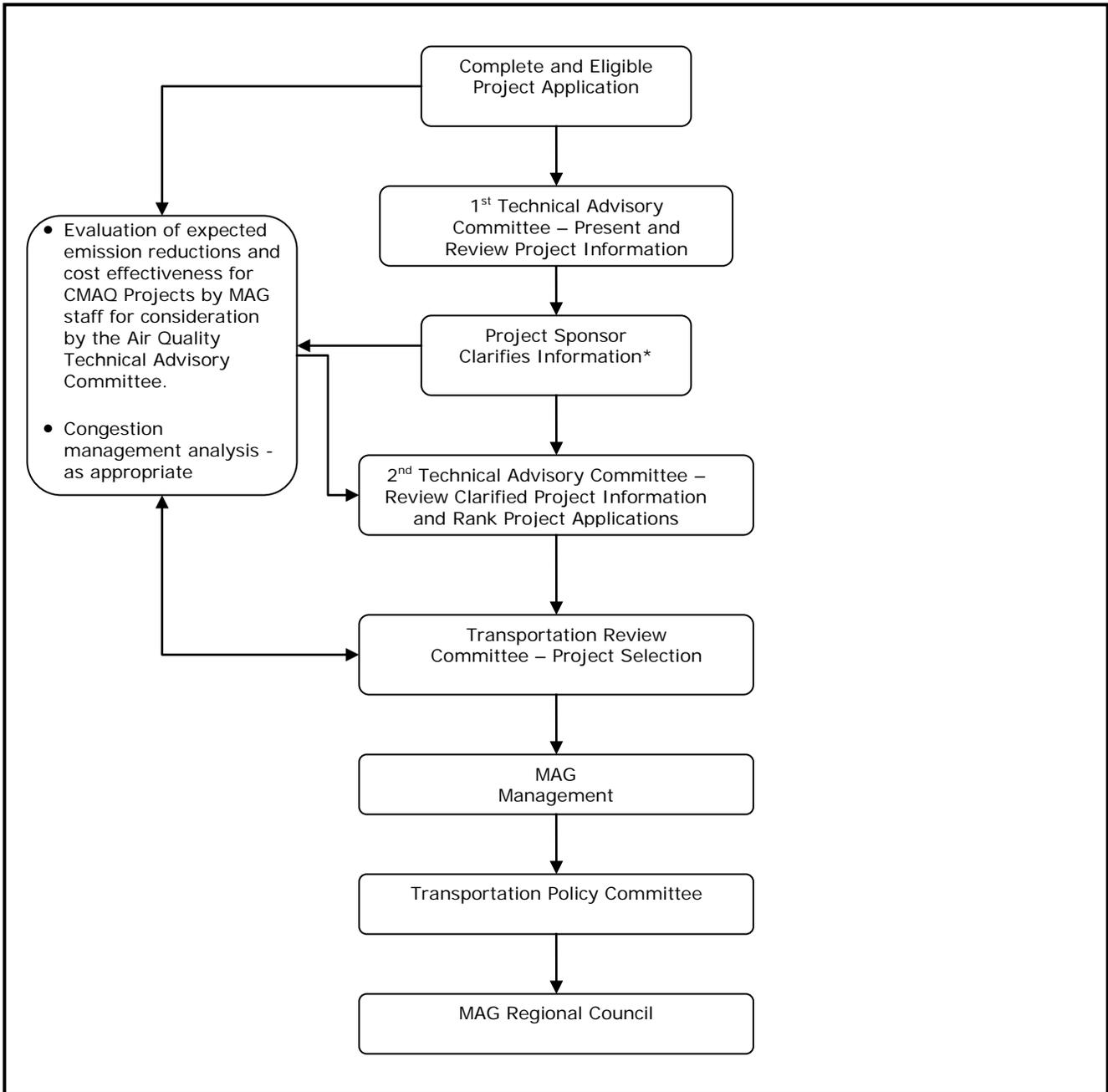
1. Re-distributed OA are federal funds in addition to the annual allocation and obligation authority that are distributed to the states. These additional funds are usually distributed at the end of the federal fiscal year. It will be decided through the MAG Committee Process on the Region's priority/priorities for re-distributed OA. The priorities can, but are not limited to, establishing contingency lists of projects for funding. This allows the MAG Committees flexibility to address the needs of the region, which can change over time.
  - a. The priority/priorities for re-distributed OA will be established during the close-out process, which can be funded in the remainder of the current fiscal year.

# APPENDIX A



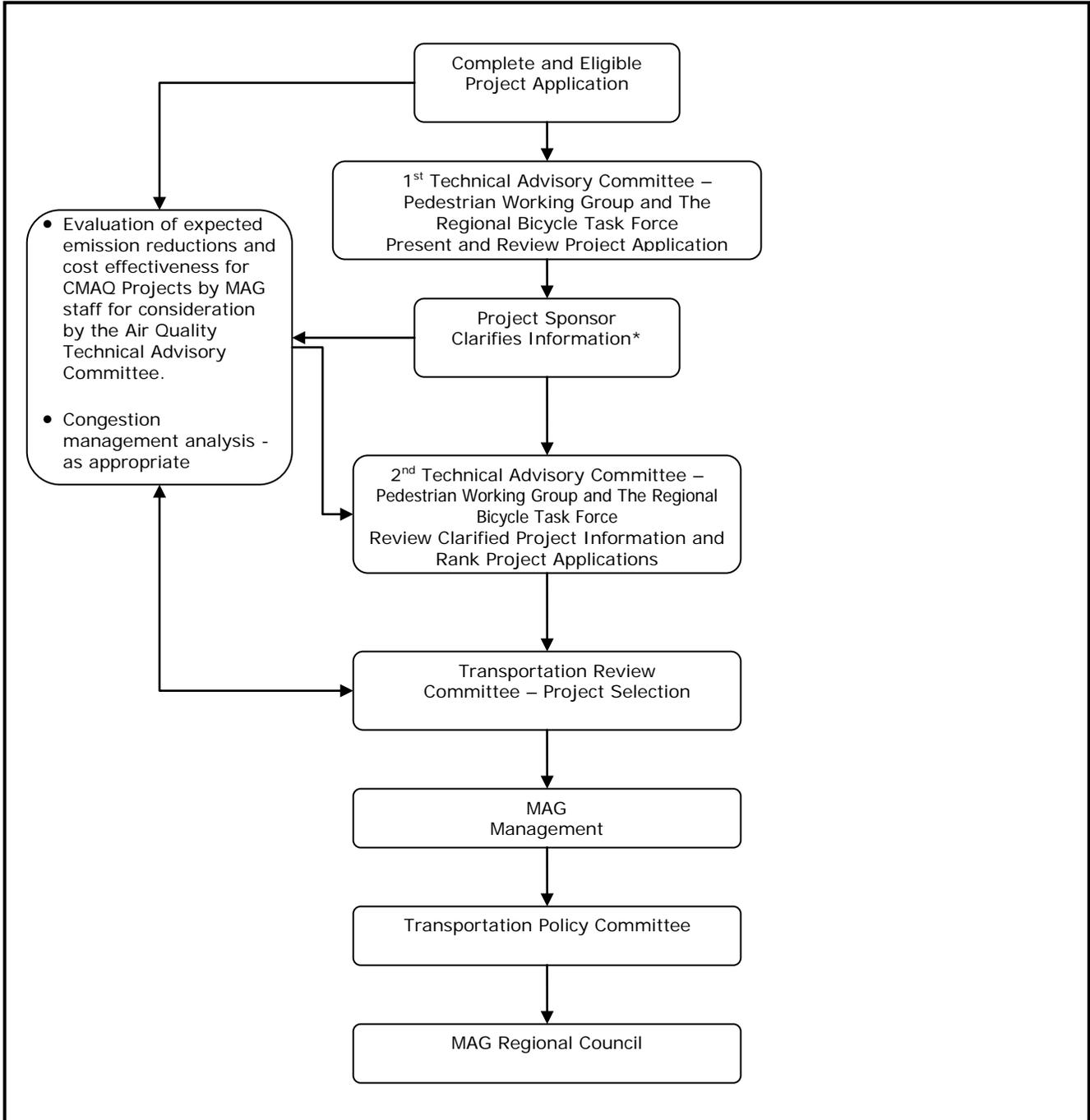
## APPENDIX B

### Flowchart – Competitive Project Selection Process for MAG Federal Funds



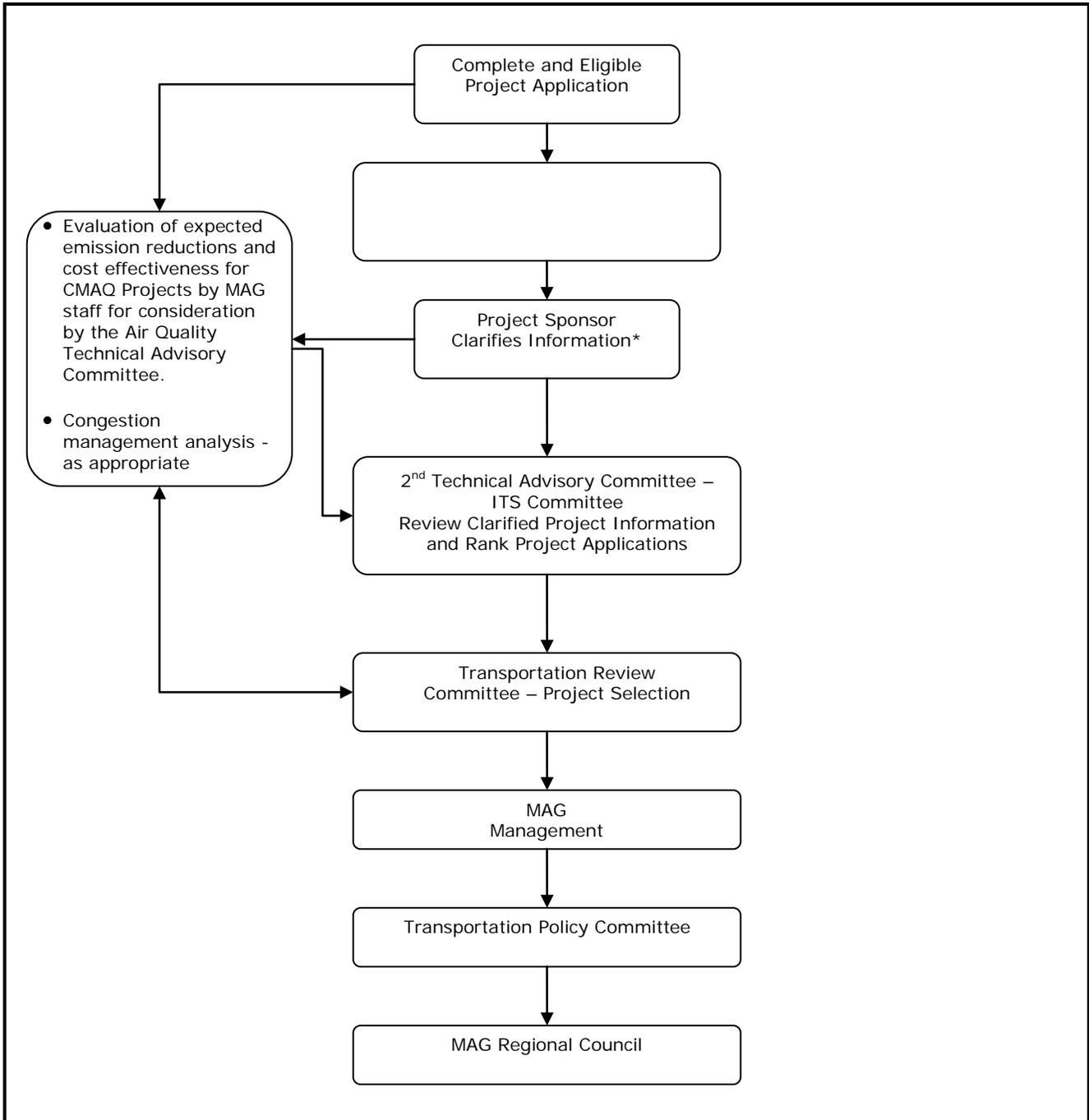
\*If needed

## Flowchart – Competitive Project Selection Process for MAG BICYCLE AND PEDESTRIAN PROJECTS



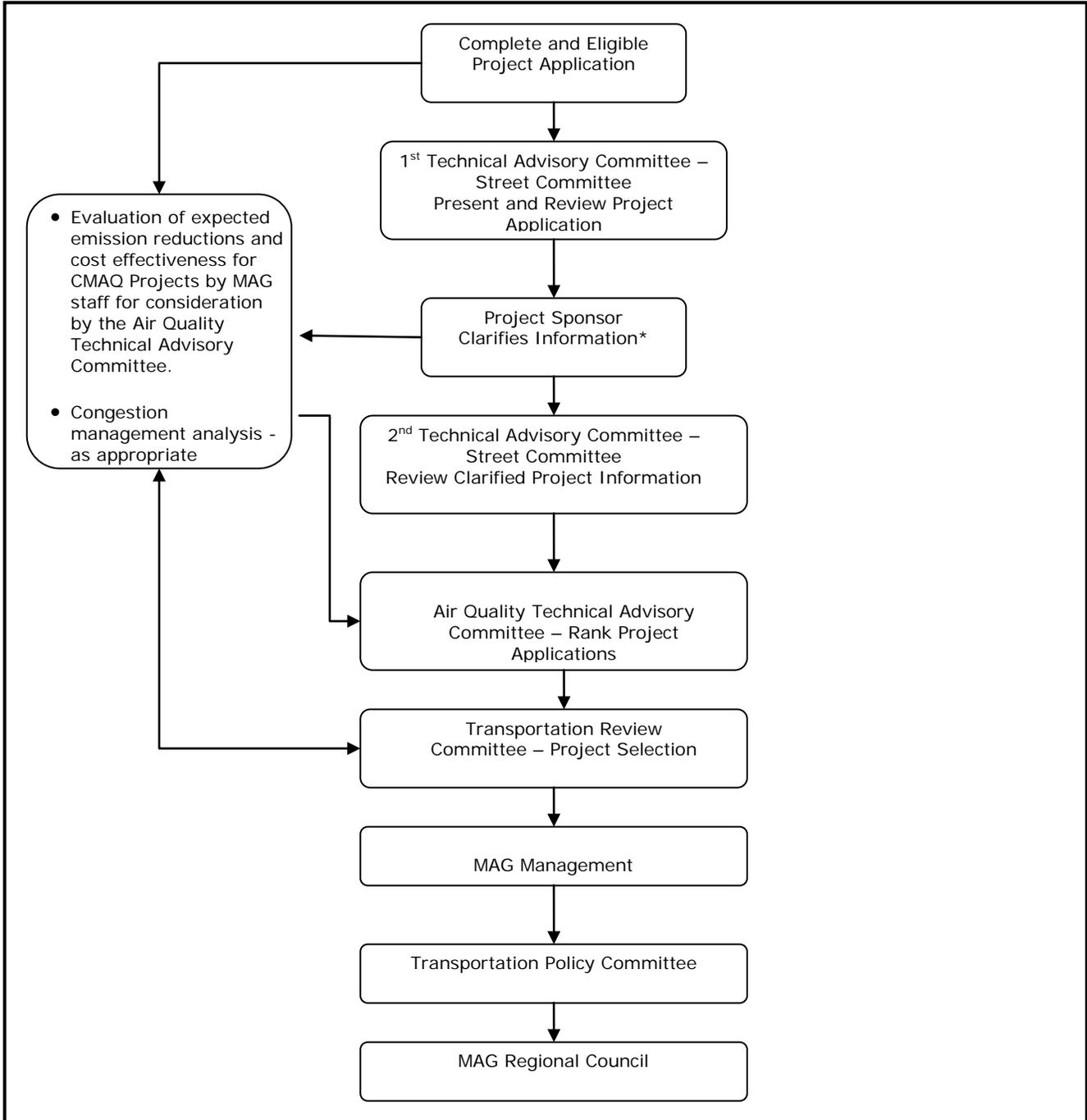
\* If needed

# Flowchart – Competitive Project Selection Process for MAG INTELLIGENT TRANSPORTATION SYSTEM (ITS) PROJECTS



\*If needed

# Flowchart – Competitive Project Selection Process for MAG Federal Funds PAVE UNPAVED ROAD PROJECTS



\*If needed



# **Appendix F**

**ARIZONA DEPARTMENT OF TRANSPORTATION**

Procurement Group  
1739 W. Jackson Street, Room 100P  
Phoenix, Arizona 85007-3276  
Phone: (602) 712-7211

**CONTRACT NO. T0649C0001**

**CONTRACT**

**Between**

**ARIZONA DEPARTMENT OF TRANSPORTATION**

**And**

**MARICOPA ASSOCIATION OF GOVERNMENTS METROPOLITAN PLANNING ORGANIZATION**

THIS CONTRACT entered into by and between the State of Arizona, acting by and through the Arizona Department of Transportation, herein referred to as ADOT, established pursuant to Arizona Revised Statutes (A.R.S.) § 28-101, § 28-334, § 28-367 et seq., and authorized to contract under A.R.S. § 28-401; and the Maricopa Association of Governments (MAG) Metropolitan Planning Organization, herein referred to as the MPO, established pursuant to Title 23, Section 134 of the United States Code (23 U.S.C. 134); Title 23, Section 450.300 of the Code of Federal Regulations (23 CFR 450.300), and authorized by the Governor of Arizona via Executive Order # 70-2, dated July 8, 1970.

**RECITALS**

WHEREAS, in order to ensure a comprehensive, coordinating and continuing transportation planning process that involves cooperation between the MPO and the ADOT, and

WHEREAS, federal statutes, rules and regulations require that a Metropolitan Planning Organization (MPO) be designated for urban areas and that the metropolitan area has a continuing, cooperative and comprehensive transportation planning process that results in plans and programs that consider all transportation modes and supports metropolitan community development and social goals; and

WHEREAS, the MPO is charged with the responsibility of carrying out transportation planning and programming processes that lead to the development and operation of an integrated, intermodal transportation system that facilitates the efficient, economic movement of people and goods; and

WHEREAS, ADOT, a State Transportation Agency pursuant to United States Code (23 U.S.C. 134); Title 23, Section 450.310 of the Code of Federal Regulations, that is apportioned federal transportation funds, is a recipient of Federal Highway Administration (FHWA) Planning and Research Funds, including State Planning and Research (SPR) funds, Metropolitan Planning (PL) funds, Surface Transportation Program (STP) funds, Congestion Mitigation Air Quality Improvement (CMAQ) funds, and Enhancement funds, , and additional funding which may be provided by the Federal Transit Administration , and any other additional funding which may be provided if applicable; and

WHEREAS, ADOT is authorized by law to apportion said funds to the MPO on a cost reimbursement basis for the purpose of securing metropolitan transportation planning and programming processes for the public benefit in said Maricopa Association of Governments (MAG) MPO planning area boundaries; and

WHEREAS, the MPO will prepare with the input of ADOT a Work Program which must be adopted by the MPO's governing board and accepted by ADOT as the document describing the total regional planning and management program for this region; and

WHEREAS, ADOT has primary responsibility for administering FHWA Planning and Research Funds passed through to the MPO and ensuring that such funds are expended for eligible activities and allowable costs within the Maricopa Association of Governments (MAG) MPO planning area boundaries; and

NOW, THEREFORE, in consideration of mutual covenants herein stated, it is mutually agreed as follows:

1.0 **SCOPE OF WORK**

1.1 The MPO shall perform those work activities specified in the approved annual overall work program herein referred to as the Work Program, which shall be adopted annually, and amended as needed and approved by ADOT. Said approved work program shall hereby be incorporated herein.

1.2 The MPO shall submit 5 copies of the approved overall work program to ADOT. (2/ADOT and 3/FHWA)

2.0 **THE MPO SHALL:**

2.1 Combine the Federal Highway Administration (FHWA) planning grants (State Planning and Research (SPR), Surface Transportation Planning (STP), and Metropolitan Planning (PL)) passed through ADOT into one federal funding category if appropriate, Federal Planning Funds (PF) for budget purposes only; and to invoice ADOT separately for each type of funds using the MPO Invoice/Recapitulation Form ((Refer to MPO Invoice/Recap, Exhibit 1). The grant reimbursements are billed by the MPO and paid by ADOT upon approval.

2.2 Develop the various objectives, tasks, products and budget of the work activities to be undertaken with the available funding within each of the categories.

2.3 Be responsible for preparing, adopting and forwarding to ADOT for approval and authorization to proceed with any changes to the Work Program that may be desirable or necessary.

2.4 In conjunction with ADOT staff, conduct a quarterly reconciliation to ensure that all invoices have been properly accounted for by both parties and to ensure both parties are in agreement as to the remaining balances for each category and funding source. The MPO's staff shall be responsible for preparing and presenting the quarterly reconciliation, including match, to ADOT staff within sixty (60) days after the end of the calendar quarter. If there are no variances, ADOT shall approve the reconciliation in writing. A copy of the reconciliation shall be signed by ADOT and sent to the MPO. If there are variances, ADOT and the MPO shall research and resolve the variance in a timely manner.

2.5 Submission of Quarterly Progress Reports shall be in a specified format identified by ADOT and sent on or before the 30th day after the end of each calendar quarter pursuant to Common Rule Preamble and 49 CFR Part 18.40 to:

2.5.1 ADOT Transportation Planning Division  
206 South 17<sup>th</sup> Avenue, MD310B  
Phoenix, Arizona 85007-  
ATTN: Administrative Section

2.6 Submit two (2) copies of a Final Project Report to ADOT and three (3) copies of the same to FHWA due 90 days after fiscal year.

2.7 Notify and return any overpayment of funds to ADOT within 90 days of discovery.

2.8 Prepare invoices for FHWA SPR & Planning Funds for allowable costs within each of the three (3) expenditure categories: Air Quality, Transportation, and Comprehensive Planning/Administration of Program, if applicable, to include appropriate match; and by funding source for which reimbursement is requested along with supporting accounting documents. Each invoice shall indicate the indirect cost rate and indirect costs separately from all other charges. ADOT shall pay the invoice from the requested funding source or contact the MPO prior to making any changes in either the reimbursement amount or the funding source. If costs are found to be ineligible, disallowance adjustment shall be made. The MPO Invoice/Recap shall be submitted at least quarterly but no more frequently than monthly. The MPO will invoice carry-forward funds prior to the use of any new funding when appropriate.

- 2.9 Prepare invoices for Federal Transit Administration (FTA) for allowable costs using the MPO Invoice/Recap, Exhibit 1.
- 2.10 Maintain records of verifiable matching funds and verifiable value of third party in-kind contributions pursuant to 49 CFR Part 18.20 and 49 CFR Part 18.24.
- 2.11 Resolve, or have a resolution in place to resolve any audit findings, recommendations or exceptions cited in audit by next audit year pursuant to OMB Circular A-133.
- 2.12 Responsible for the timely production of all the products that it has committed to in the annual Work Program. The Work Program, Transportation Improvement Plan (TIP) and Transportation Plan will be reviewed and/or approved by ADOT, FHWA and FTA as defined in CFR 23 Part 420.
- 2.13 Submit an annual Indirect Cost Plan to ADOT pursuant to OMB Circular A-87, if applicable (See Exhibit 2).
- 2.14 Establish and maintain accounting procedures to permit tracing of funds and expenditures to ensure funds have been expended appropriately pursuant to 49 CFR Part 18.20.
- 2.15 Establish and maintain on file with ADOT, procurement policy and procedures to ensure competition pursuant to 49 CFR Part 18.36.
- 2.16 List each year in the Work Program all capital equipment expected to be procured valued at \$5000 or greater. Prior approval for additional equipment of \$5000 or greater throughout the term of the contract shall be approved by FHWA through ADOT.
- 2.17 Obtain prior written approval from FHWA through ADOT when disposing of such equipment that has a current per unit fair market value in excess of \$5,000 at time of disposal. The request for disposal shall include documentation from the MPO that establishes the fair market value.
- 2.18 Furnish ADOT with certificates of insurance prior to commencement of the work described herein providing coverage with limits of liability not less than those stated below.
  - 2.18.1 Commercial General Liability – Occurrence Form
    - 2.18.1.1 Policy shall include bodily injury, property damage, personal injury and broad form contractual liability.
 

|  |             |
|--|-------------|
| General Aggregate                                | \$2,000,000 |
| Products – Completed Operations Aggregate        | \$1,000,000 |
| Personal and Advertising Injury                  | \$1,000,000 |
| Blanket Contractual Liability – Written and Oral | \$1,000,000 |
| Fire Legal Liability                             | \$ 50,000   |
| Each Occurrence                                  | \$1,000,000 |
    - 2.18.1.2 The policy shall be endorsed to include the following additional insured language: ***“The State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees shall be named as additional insured with respect to liability arising out of the activities performed by or on behalf of the MPO.”***
    - 2.18.1.3 Policy shall contain a waiver of subrogation against the State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees for losses arising from work performed by or on behalf of the MPO.
    - 2.18.1.4 The MPO insurance coverage shall be primary insurance with respect to all other available sources.

2.18.2 Worker's Compensation and Employers' Liability

|                         |             |
|-------------------------|-------------|
| Workers' Compensation   | Statutory   |
| Employers' Liability    |             |
| Each Accident           | \$ 500,000  |
| Disease – Each Employee | \$ 500,000  |
| Disease – Policy Limit  | \$1,000,000 |

2.18.2.1 Policy shall contain a waiver of subrogation against the State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees for losses arising from work performed by or on behalf of the MPO.

3.0 ADOT SHALL:

- 3.1 Notify the MPO annually, no later than December 31, in writing, of the estimated amount of Federal funds which may be available to the MPO to fund the next annual fiscal year Work Program; and ADOT shall notify the MPO of its official amount(s) upon receipt of official U.S. Department of Transportation notice of actual federal funds available to Arizona. Such notice shall state the amount and class of the funds awarded and the maximum rate of Federal participation for the specific class of funds.
- 3.2 Notify the MPO, in writing, if in the course of the fiscal year there are subsequent adjustment(s) to the actual award based upon official actions of the U.S. Department of Transportation or ADOT.
- 3.3 Establish and maintain the accounts and procedures necessary to reimburse the MPO for eligible costs incurred in the accomplishment of the approved Work Program for the term of the Contract and any extensions.
- 3.4 Allow the MPO the right to inspect ADOT records at a mutually agreed upon time and place.
- 3.5 Pay the MPO within thirty (30) days of acceptance of work products and invoices based on quarterly progress reports. Payments shall be for authorized costs incurred under this Contract for work accomplished to date in accordance with the budget and annual Work Program. Such payment shall be on a cost reimbursement through allowable costs basis according to the Code of Federal Regulations (23 CFR 420.113). All federal funds, which are used for transportation planning purposes, must be matched in accordance with federal guidelines. No reimbursement is allowable for activity prior to contract and federal authorization.

4.0 IT IS MUTUALLY AGREED:4.1 Term of the Contract

4.1.1 The term of this agreement shall be from the date of execution through June 30, 2010.

4.2 Amendments

- 4.2.1 The Contract shall be modified only through a written contract amendment within the scope of the Contract signed by the Procurement Officer. Additionally, the MPO's authorized representative(s) are also required to sign such amendments as deemed necessary by both parties.
- 4.2.2 A written letter from the MPO requesting to amend the OWP shall be required to increase, decrease, or transfer funds between Air Quality, Transportation, and Comprehensive Planning/Administration of Program categories and/or FTA funds, as applicable.
- 4.2.2.1 MPO shall submit to the Transportation Planning Division (TPD) an Exhibit along with a letter requesting amendment to the OWP. TPD will respond with a written authorization letter confirming approval for items in 4.2.2.

#### 4.3 Compliance With Applicable Laws

- 4.3.1 The MPO and ADOT shall comply with all applicable laws, ordinances, rules, regulations and executive orders of the federal, state and local government, which may affect the performance of this Contract. Any provision required by law, ordinances, rules, regulations, or executive orders to be inserted in the Contract shall be deemed inserted, whether or not such provisions appear in this Contract. ADOT shall endeavor to ensure the MPO is notified and made aware of such applicable laws and procedures.

#### 5.0 ADDITIONAL TERMS AND CONDITIONS

##### 5.1 Authority

- 5.1.1 This Contract is issued under the authority of the Procurement Officer who signed this Contract. Changes to the Contract, including the addition of work or materials, the revision of payment terms, or the substitution of work or materials, directed by an unauthorized State employee or made unilaterally by the MPO are violations of the Contract and of applicable law. Such changes, including unauthorized written Contract amendments shall be void and without effect, and the MPO shall not be entitled to any claim under this Contract based on those changes.

##### 5.2 Severability

- 5.2.1 The provisions of this Contract are severable. Any term or condition deemed illegal or invalid shall affect the condition of the Contract.

##### 5.3 Relationship of Parties

- 5.3.1 The MPO under this Contract is an independent contractor. Neither party to this Contract shall be deemed to be the employee or agent of the other party to the Contract.

##### 5.4 General Indemnification

- 5.4.1 Each party (as "Indemnitor") agrees to indemnify, defend, and hold harmless the other party (as "Indemnitee") from and against any and all claims, losses, liability, costs, or expenses (including reasonable attorney's fees) (hereinafter collectively referred to as "Claims") arising out of bodily injury of any person (including death) or property damage, but only to the extent that such Claims which result in vicarious/derivative liability to the Indemnitee are caused by the act, omission, negligence, misconduct, or other fault of the Indemnitor, its officers, officials, agents, employees, or volunteers.
- 5.4.2 In addition, MPO shall cause its contractor(s) and subcontractors, if any, to indemnify, defend, save and hold harmless the State of Arizona, any jurisdiction or agency issuing any permits for any work arising out of this Contract, and their respective directors, officers, officials, agents, and employees (hereinafter referred to as "Indemnitee") from and against any and all claims, actions, liabilities, damages, losses, or expenses (including court costs, attorneys' fees, and costs of claim processing, investigation and litigation) (hereinafter referred to as "Claims") for bodily injury or personal injury (including death), or loss or damage to tangible or intangible property caused, or alleged to be caused, in whole or in part, by the negligent or willful acts or omissions of MPO's contractor or any of the directors, officers, agents, or employees or subcontractors of such contractor. This indemnity includes any claim or amount arising out of or recovered under the Workers' Compensation Law or arising out of the failure of such contractor to conform to any federal, state or local law, statute, ordinance, rule, regulation or court decree. It is the specific intention of the parties that the Indemnitee shall, in all instances, except for Claims arising solely from the negligent or willful acts or omissions of the Indemnitee, be indemnified by such contractor from and against any and all claims. It is agreed that such contractor will be responsible for primary loss investigation, defense and judgment costs where this indemnification is applicable.

## 5.5 Indemnification - Patent And Copyright

- 5.5.1 To the extent permitted by A.R.S. § 41-621 and § 35-154, the MPO shall indemnify and hold harmless the State against any liability, including costs and expenses, for infringement of any patent, trademark or copyright arising out of Contract performance or use by the State of materials furnished or work performed under this Contract. The State shall reasonably notify the MPO of any claim for which it may be liable under this paragraph.

## 5.6 Publications

- 5.6.1 All reports and maps completed as a part of this agreement, jointly written or produced by the MPO and ADOT or any agency of the federal government, except copies of such documents made for the exclusive internal use of the MPO, shall include an acknowledgment on the front cover or a title page, or in the case of maps, in the title block, which identifies the cooperative parties.

- 5.6.2 In addition, all such documents shall contain the following disclaimer statement:

- 5.6.2.1 "The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Arizona Department of Transportation or any other State or Federal Agency. This report does not constitute a standard, specification or regulation".

## 5.7 Suspensions or Debarment

- 5.7.1 Pursuant to 49 CFR 18.35, States and other grantees must not make any award or permit any award at any tier to any party which is debarred, suspended or is otherwise excluded from or not eligible to receive Federal assistance.

## 5.8 Cancellation For Conflict of Interest

- 5.8.1 No employee of the MPO, and no public official of the governing body of the locality or localities in which the project is situated or being carried out who exercises any functions or responsibilities in the review or approval of the undertaking or carrying out of this project, shall participate in any decision relating to this Contract which affects his personal interest or have any personal or pecuniary interest, direct or indirect, in this Contract or the proceeds thereof.
- 5.8.2 MPO covenants that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this Contract. MPO further covenants that in the performance of this Contract, no person having any such interest shall be employed.
- 5.8.3 No members of or delegates to the Congress of the United States of America, and no Resident Commissioner, shall be admitted to any share or part thereof or to any benefit to arise here from.

## 5.9 Termination For Convenience

- 5.9.1 Termination for Convenience shall be in accordance with 49 CFR 18.44.

## 5.10 Failure To Perform

- 5.10.1 Failure to perform any and all of the terms and conditions of this Contract, including the schedule of work identified in the Work Program, shall be deemed a substantial breach thereof and give ADOT cause to cancel this Contract on five (5) days written notice to MPO. In the event of cancellation of this Contract, MPO shall not be entitled to damages and agrees not to sue or make a claim against the State for damages. After notice of cancellation, MPO agrees to perform the terms and conditions of this Contract up to and including the date of cancellation, as though no cancellation had been made and, notwithstanding other legal remedies that may be available to ADOT because of the cancellation, agrees to indemnify ADOT for costs in procuring the services of a new contractor.

5.11 Non-Availability of Funds

5.11.1 Every payment obligation of the State under this Contract is contingent upon the availability of funds appropriated or allocated for the payment of such obligation. If funds are not allocated and available for the continuance of this Contract, this Contract may be terminated by the State at the end of the period for which funds are available. No liability shall accrue to the State in the event this provision is exercised, and the State shall not be obligated or liable for any future payments or for any damages as a result of termination under this paragraph.

5.12 Cancellation of State Contract

5.12.1 All parties are hereby put on notice that this Contract is subject to cancellation pursuant to Arizona Revised Statutes Section 38-511.

5.13 Mediation

5.13.1 If a dispute arises out of or relates to this Contract, and if the dispute cannot be settled through negotiation, the parties agree first to try in good faith to resolve the dispute by mediation before resorting to litigation or some other dispute resolution procedure. Each party agrees to bear its own costs in mediation. The parties will not be obligated to mediate if an indispensable party is unwilling to join the mediation.

5.14 Arbitration

5.14.1 The parties agree to use arbitration, after exhausting applicable administrative reviews, to resolve disputes arising out of this Contract where sole relief sought is monetary damages in an amount under the jurisdictional limits set forth in A.R.S. § 12.133.

5.15 Employment of Federal Highway Administration And State's Personnel

5.15.1 The MPO shall not employ any person or persons in the employ of the Federal Highway Administration or of the State of Arizona or any of its boards, agencies, or commissions, for any work required by the terms of this Contract, without prior written permission of the Federal Highway Administration and the State.

5.16 Federally Required Terms

5.16.1 Civil Rights

5.16.1.1 The Contractor is required to comply with Executive Order 99-4 "Non-Discrimination in Employment by Government Contractors and Subcontractors," which is hereby included in its entirety by reference and considered a part of this Contract.

5.16.1.2 The Contractor is required to comply with Title VI of the Civil Rights Act of 1964, as amended. Accordingly, Title 49, Code of Federal Regulations, Part 21 through Appendix H and Title 23 CFR 710.405 (b) are made applicable by reference and are hereinafter considered part of this Contract.

5.16.1.3 The Contractor is required to comply with the provisions of Executive Order 11246, entitled " Equal Employment Opportunity," as amended by Executive Order 11375, and as supplemented in Department of Labor Regulations (41 CFR Part 60). Said provisions are made applicable by reference and are hereinafter considered a part of this Contract.

5.16.2 Affirmative Action

5.16.2.1 MPO shall take the following affirmative action steps with respect to securing supplies, equipment or services under the terms of this Contract:

5.16.2.2 Include qualified small and minority businesses on solicitation lists.

5.16.2.3 Assure that small and minority businesses are solicited whenever they are potential sources.

- 5.16.2.4 When economically feasible, dividing total requirements into smaller tasks or quantities so as to permit maximum small and minority business participation.
- 5.16.2.5 Where the requirement permits, establishing delivery schedules that will encourage participation by small and minority businesses.
- 5.16.2.6 Use the services and assistance of the Small Business Administration, the Office of Minority Business Enterprise of the Department of Commerce and the Community Services Administration as required.
- 5.16.2.7 MPO shall take similar appropriate affirmative action in support of women's business enterprises.
- 5.16.3 Energy Conservation
- 5.16.3.1 MPO is required to comply with mandatory standards and policies, as applicable relating to energy efficiency, which are contained in the State Energy Conservation Plan issued by the State of Arizona in compliance with the Energy Policy and Conservation Act (P.L. 94-165).
- 5.16.4 Environmental Protection
- 5.16.4.1 (This clause is applicable if this Contract exceeds \$100,000.00) Contractor is required to comply with all applicable standards, orders or requirements issued under Section 306 of the Clean Air Act (42 U.S.C 1857 (h), Section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738 and Environmental Protection Agency regulations (40 CFR Part 32, Subpart J) which prohibits the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities. Violations shall be reported to the Federal Highway Administration and to the U.S.E.P.A. Assistant Administration Enforcement (EN-329).
- 5.16.5 Anti-Lobbying
- 5.16.5.1 The MPO agrees to comply with the provisions of Section 1352 of Title 31, U.S. Code (Public law 101.121) as codified in Title 48, Federal Acquisition Regulations Subpart 3.8 and Subpart 52.203-11. The legislation prohibits Federal funds from being expended by a recipient or any lower tier subrecipients of a Federal contract, grant, loan, or cooperative agreement to pay any person for influencing or attempting to influence a Federal agency or Congress in connection with the award of any Federal contract, the making of any Federal grant or loan, or entering into any cooperative agreement, including the extension, continuation, renewal, amendments or modification of any Federal contract, grant, loan or cooperative agreement. All disclosure statements are to be furnished to ADOT.
- 5.16.5.2 The MPO agrees to require all lower tier subcontractors who have agreements exceeding \$100,000.00 to complete the Certification for Federal-aid Contracts (ECS Form 90-1, see attached) and when appropriate, the Disclosure of Lobbying Activities (ES Form 90-3, see attached) prior to the execution of the MPO agreement with ADOT. Lower tier certifications are to be maintained by the MPO.
- 5.16.6 Non-Discrimination
- 5.16.6.1 The MPO, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The MPO shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of Department of Transportation assisted contracts. Failure by the MPO to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy, as the recipient deems appropriate.
- 5.17 Audits
- 5.17.1 A MPO, which is defined as a State, Local Government, and/or Non-profit Organization, and is defined as a "sub recipient" pursuant to 31 U.S.C. § 7501, that expends \$500,000 or more in federal awards in its fiscal year must comply with the audit and reporting requirements set forth in 31 U.S.C. and 49 CFR 18.26.

- 5.17.2 In compliance with the Federal Single Audit Act of 1996 (P.L. 104-156) MPOs designated as subrecipients expending federal funds from all sources totaling \$500,000 or more must have a yearly audit conducted in accordance with the audit and reporting standards as prescribed in OMB Circular A-133 (Audits of State, Local Governments, and Non-Profit Organizations). The audit must include separate reports on the financial statements, internal controls, compliance and the Supplementary Schedule of Expenditures of Federal Awards and the Schedule of Findings and Questioned Costs. The audit and the action plan for the resolution of any findings and/or questioned costs must be submitted within 9 months of the MPO's fiscal year end.
- 5.17.3 All MPOs are subject to the programmatic and fiscal monitoring requirements of each ADOT program to ensure accountability of the delivery of all goods and services, as required under the Federal Single Audit Act. A minimum fiscal requirement for all MPOs is an annual financial audit. ADOT's contract numbers and award amounts must be included in a separate schedule if not included on the schedule of federal financial assistance. The audit must be submitted to the ADOT location as specified by the reporting requirements of the contract for all MPOs.
- 5.17.4 Pursuant to OMB Circular A-133 and A.R.S. 35-214, at any time during the term of this Contract and five (5) years thereafter, the MPO's or any subcontractor's books and records shall be subject to audit by the State and, where applicable, the Federal Government, to the extent that the books and records relate to the performance of the Contract or subcontract.
- 5.18 Work Program
- 5.18.1 The MPO's Work Program referenced herein may create additional obligations for the MPO in order for the MPO to fulfill the intent of the Contract, but it may not create additional obligations for ADOT unless this Contract is amended to formally reflect such obligations.
- 5.19 Notices
- 5.19.1 All formal written notices to this Contract shall be sent by mail to the following address:
- 5.19.1.1 To ADOT at: Arizona Department of Transportation  
Procurement Group  
1739 West Jackson Street, Suite A, MD 100P  
Phoenix, Arizona 85007-3276
- 5.19.1.2 To MPO at: Maricopa Association of Governments  
302 North 1<sup>st</sup> Avenue, Suite 300  
Phoenix, Arizona 85003
- 5.20 This Contract shall become effective on date of execution by ADOT.

| Arizona Department of Transportation |   | Maricopa Association of Governments |  |
|--------------------------------------|---|-------------------------------------|--|
| Signature                            |  | Signature                           |  |
| Typed Name                           | Karie Ingles, CPPB  | Typed Name                          | Dennis Smith   |
| Title                                | Procurement Contract Officer  | Title                               | Executive Director   |
| Date                                 | July 1, 2005  | Date                                | JUNE 28, 2005  |

ARIZONA DEPARTMENT OF TRANSPORTATION  
LOBBYING CERTIFICATION  
CERTIFICATION FOR FEDERAL AID CONTRACTS

Applies to: Federal-aid contractors, and consultants, as well as lower tier subcontractors and sub consultants.

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

*The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000, and that all such sub recipients shall certify and disclose accordingly.*

  
\_\_\_\_\_  
SIGNATURE

JUNE 28, 2005  
DATE

EXECUTIVE DIRECTOR  
TITLE

**DISCLOSURE OF LOBBYING ACTIVITIES**

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352  
(See reverse for public burden disclosure.)

|   |  |  |
|---|--|--|
| <p>1. Type of Federal Action:</p> <p><input type="checkbox"/> a. Contract</p> <p><input type="checkbox"/> b. Grant</p> <p><input type="checkbox"/> c. Cooperative agreement</p> <p><input type="checkbox"/> d. Loan</p> <p><input type="checkbox"/> e. Loan guarantee</p> <p><input type="checkbox"/> f. Loan insurance</p>   | <p>2. Status of Federal Action:</p> <p><input type="checkbox"/> a. Bid/offer/application</p> <p><input type="checkbox"/> b. Initial award</p> <p><input type="checkbox"/> c. Post-award</p>  | <p>3. Report type:</p> <p><input type="checkbox"/> a. Initial filing</p> <p><input type="checkbox"/> b. Material change</p> <p>For Material Change Only:</p> <p>Year _____ Quarte _____</p> <p>Date of last report _____</p> |
| <p>4. Name and Address of Reporting Entity:</p> <p><input type="checkbox"/> Prime <input type="checkbox"/> Subawardee</p> <p>Congressional District, if known: _____</p>  | <p>5. If Reporting in No. 4 is a Subawardee, Enter Name and Address of Prime:</p> <p>Congressional District, if known: _____</p>   |  |
| <p>6. Federal Department Agency:</p>  | <p>7. Federal Program Name/Description:</p> <p>CDFA Number, if applicable: _____</p>   |  |
| <p>8. Federal Action Number, if known: _____</p>  | <p>9. Award Amount, if known:</p> <p>\$ _____</p>  |  |
| <p>10.a. Name and Address of Lobbying Entity<br/>(if individual, last name, first name, MI):</p>  | <p>b. Individuals Performing Services<br/>(including address if different from No. 10a)<br/>(last name, first name, MI):</p>   |  |
| <p>11. Amount of Payment (check all that apply):</p> <p>\$ _____ <input type="checkbox"/> Actual <input type="checkbox"/> Planned</p>   | <p>13. Type of Payment (check all that apply):</p> <p><input type="checkbox"/> a. Retainer</p> <p><input type="checkbox"/> b. One-time fee</p> <p><input type="checkbox"/> c. Commission</p> <p><input type="checkbox"/> d. Contingent fee</p> <p><input type="checkbox"/> e. Deferred</p> <p><input type="checkbox"/> f. Other, specify _____</p> |  |
| <p>12. Form of Payment (check all that apply):</p> <p><input type="checkbox"/> a. Cash</p> <p><input type="checkbox"/> b. in-kind; specify nature _____</p> <p>value _____</p>  |  |  |
| <p>14. Brief Description of Services Performed or to be Performed and Date(s) of Service, including officer(s), employee(s), or Member(s) contacted, for Payment indicated in Item 11:</p> <p>(attach Continuation Sheet(s) SF-LLL-A, if necessary)</p>   |  |  |
| <p>15. Continuations Sheet(s) SF-LLL-A attached <input type="checkbox"/> Yes <input type="checkbox"/> No</p>  |  |  |
| <p>16. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the ties above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.</p> |  |  |
| <p>Signature: _____</p> <p>Print Name: _____</p> <p>Title: _____</p> <p>Telephone No.: _____ Date: _____</p>  |  | <p>Authorized for Local Reproduction<br/>Standard Form - LLL</p>   |
| <p>Federal Use Only</p>   |  |  |

## INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Use the SF-LLL-A Continuation Sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. This is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or sub award recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Sub awards include but are not limited to subcontracts, sub grants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee", then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, bans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or ban award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001".
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.  
(b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).
11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.
12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.
14. Provide a specific and detailed description of the services that the lobbyist has performed, or will be expected to perform, and the date(s) of any services rendered. Include all preparatory and related activity, not just time spent in actual contact with Federal officials. Identify the Federal official(s) or employee(s) contacted or the officer(s), employee(s), or Member(s) of Congress that were contacted.
15. Check whether or not a SF-LLL-A Continuation Sheet (s) is attached.
16. The certifying official shall sign and date the form print his/her name, title, and telephone number.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-046), Washington, D.C. 20503.

ECS - Form 90-3

**DISCLOSURE OF LOBBYING ACTIVITIES  
CONTINUATION SHEET**

Reporting Entity:

Page

Of

# **Appendix G**



**MARICOPA ASSOCIATION OF GOVERNMENTS**

MAG Agreement No. 388

**AGREEMENT FOR TRANSIT PLANNING SUPPORT SERVICES**

This AGREEMENT entered into as of the 1<sup>st</sup> day of July, 2008, by and between the Maricopa Association of Governments hereinafter called MAG, and Regional Public Transportation Authority, a political subdivision of the State of Arizona, hereinafter referred to as RPTA.

**RECITALS**

**WHEREAS, MAG** is the recipient of Federal Transit Administration Funds.

**WHEREAS, MAG** desires to have prepared by the most efficient and effective means possible, Transit Planning Support Services, including long range transit planning, short range transit planning, capital planning, and administration of the planning program;

**NOW THEREFORE,**

It is hereby agreed:

**I. SCOPE OF WORK**

The scope of work to be accomplished by the parties pursuant to this AGREEMENT shall be set forth annually by MAG in the Unified Planning Work Program (Work Program). Each year, for the development of the Work Program, RPTA shall submit to MAG, the work elements, funding and outcome-based performance measurements for the MAG federally funded Transit Planning Support Services. Annually, following approval of the Work Program by the MAG Regional Council, RPTA is required to develop a detailed budget and scope of services for approval by MAG, in accordance with the adopted Work Program. On or before June 30, 2008, MAG shall provide to RPTA, the work elements and funding from the Work Program, and the budget and scope of services to be conducted by RPTA. For FY

2009, the funding and work elements, and detailed budget and scope of services are included in Appendix A-1 and Appendix A-2 and made a part of this AGREEMENT.

## II. PROJECT COSTS AND BILLING PROCEDURES

- A. Invoices will be submitted monthly, documenting services by each work task, the hours and hourly rate of each person, and other direct expenses. All costs incurred in preparing invoices and progress reports shall be included in the general and administrative expenses or the overhead. A billing format shall be provided to RPTA by MAG.
- B. The basis for payment to RPTA for services rendered hereunder shall be reimbursement for costs in conformance with the budget described in Appendix A-1 and Appendix A-2 and pursuant to the cost breakdown furnished by RPTA, the detailed budget and scope of services approved by MAG, in accordance with the adopted Work Program. RPTA may make adjustments within the tasks of the approved budget as needed to accomplish the requirements of the Scope of Services. No adjustment shall exceed 10 percent of the task budget without prior written approval from the MAG Executive Director.
- C. RPTA shall maintain cost records in accordance with Article III, Records and Audit Rights, of this AGREEMENT. Costs shall be available for verification audit by the authorized representatives of MAG, the Federal Transit Administration, and the Comptroller General of the United States. MAG agrees to make progress payments that are commensurate with work completed. Partial payment shall be made to RPTA upon receipt of monthly report of work accomplished and invoices, but not more often than once each month. Final payment of any balance due RPTA will be made upon completion and acceptance of work and services to be completed hereunder.
- D. RPTA agrees to make quarterly in-kind contributions in the form of office space, furniture and furnishings, office equipment, office support and overhead costs as required by the applicable federal grantor as described in the Work Program.
- E. RPTA agrees to make quarterly reports for the outcome-based performance measurements for the Transit Planning Support Services.

## III. RECORDS AND AUDIT RIGHTS

RPTA's work and accounting records (hard copy, as well as computer readable data), and any other supporting evidence deemed necessary by MAG to substantiate charges and claims related to this AGREEMENT shall be open to inspection and subject to audit and/or reproduction by authorized representatives of MAG, Federal Transit Administration, and the Comptroller General of the United States ("Auditors") to the extent necessary to adequately permit evaluation and verification of the performance and cost of the work, and any invoices, change orders, payments or claims submitted by RPTA or any of its payees pursuant to the execution of the AGREEMENT. The Auditors shall be afforded access, at reasonable times and places, to all of RPTA's records and personnel pursuant to the provisions of this Section throughout the term of this AGREEMENT and for a period of five (5) years after last or final payment.

If an audit in accordance with this Section discloses overcharges, of any nature, by RPTA to MAG in excess of five percent (5%) of the total AGREEMENT billings, the actual cost of the Auditor's audit shall be reimbursed to the auditing organization by RPTA. Any adjustments and/or payments which must be made as a result of any such audit or inspection of RPTA's invoices and/or records shall be made within a reasonable amount of time (not to exceed 90 days) from presentation of the Auditor's findings to RPTA.

#### IV. COSTS

Costs of RPTA include all direct labor costs, all direct non-labor costs and all overhead costs. OMB Circular A-87 will be used to determine allowable costs.

- A. Direct labor cost is defined as the actual salaries and salaries cost burden of all employees of RPTA used for the time directly chargeable to work to be performed hereunder including time involved in travel.
- B. Direct non-salary costs shall include any actual expenditures required directly in performance of services hereunder other than actual direct labor costs and include such items as the following:
  - 1. Travel expense of RPTA in connection with the work hereunder. RPTA allowance for mileage and per diem for lodging, meals and miscellaneous costs shall be reimbursed according to the MAG Policy.
  - 2. Communication such as long distance telephone, telegraph and cable expenses applicable to service hereunder.

3. Costs of special services, RPTA services and applicable equipment rental.
4. Any other related actual costs such as meeting rooms, reproduction, graphics, and research materials.

C. RPTA's overhead is defined as the costs which are not directly allocable to the project as a direct labor cost or direct non-salary cost as defined above. RPTA shall maintain records setting forth the actual overhead as computed from the annual financial statement(s) applicable to the work period under this AGREEMENT and these are to be kept available for inspection for a period of five (5) years after final payment.

#### **V. KEY PERSONNEL**

In the event that any of the key personnel of RPTA set forth in Appendix A-2 becomes unavailable, RPTA will notify MAG and substitute other personnel to ensure proper performance and continuity.

#### **VI. ASSIGNMENT AND SUBCONTRACTING**

RPTA shall not assign or subcontract any part of this AGREEMENT or the work to be performed hereunder without written approval by MAG except as identified in the Work Program and identified in Appendix A-2, Scope of Services.

#### **VII. ADMINISTRATIVE RULES AND REGULATIONS AND APPLICABLE LAW**

RPTA shall become and remain informed of all applicable Federal, State and local laws, ordinances, rules, regulations, and all orders and decrees of bodies or tribunals having any jurisdiction or authority which may in any manner affect the completion of the project under this AGREEMENT. RPTA shall observe and comply with all such laws, ordinances, rules, regulations, orders, and decrees and obtain all permits that are applicable to the performance of services outlined. Appendices B, C and D describe additional provisions required to comply with Title VI and Title VII of the Civil Rights Act of 1964; and Appendix E describes environmental, resource, energy protection, and conservation requirements. These Appendices are considered part of the AGREEMENT.

#### **VIII. SUBRECIPIENT AUDITS**

RPTA, which is a political subdivision of the State, and is defined as a "subrecipient" pursuant to 31 U.S.C. §7501, that expends \$300,000 or more in federal awards in its fiscal year shall comply with the audit and reporting requirements set forth in 31 U.S.C. Subpart A--General, Section.105, Definitions.

In compliance with the Federal Single Audit Act of 1996 (P.L. 104-156), Contractors designated as subrecipients expending federal funds from all sources totaling \$300,000 or more shall have a yearly audit conducted in accordance with the audit and reporting standards as prescribed in OMB Circular A-133 (Audits of State, Local Governments, and Non-Profit Organizations). The audit shall include separate reports on the financial statements, internal controls, compliance, the Supplementary Schedule of Expenditures of Federal Awards and the Schedule of Findings and Questioned Costs. MAG's contract number(s), applicable task number(s) and the award amount(s) shall be included in a separate schedule if not included on the Supplementary Schedule of Expenditures of Federal Awards. RPTA's annual audit report and an action plan for the resolution of any findings and/or questioned costs shall be submitted to MAG within 9 months of RPTA's fiscal year end.

RPTA is subject to the programmatic and fiscal monitoring requirements of each MAG program to ensure accountability of the delivery of all goods and services, as required under the Federal Single Audit Act. A minimum fiscal requirement for all Contractors, designated as subrecipients, is an annual financial audit, which includes MAG's contract number(s), applicable task number(s) and the award amount(s). The audit shall be submitted to the MAG location, as specified in the reporting requirements of the agreement between RPTA and MAG. MAG may, at its discretion, periodically request additional information from RPTA.

#### **IX. WRITTEN ORDERS REQUIRED FOR CHANGES**

No changes in the scope, character, or complexity of work shall be made by RPTA without first receiving a written approval by MAG's Executive Director properly defining and limiting any such change. It is distinctly understood and agreed that no claim for payment for extra work done or materials furnished by RPTA shall be paid by MAG except as hereinabove provided; nor shall RPTA do any work or furnish any materials not covered by this AGREEMENT unless a written order is first received from MAG's Executive Director. Any such work or materials furnished by RPTA without such written order shall be at the risk, cost, and expense of RPTA, and no claim for compensation for any such work or materials shall be made.

**X. TERMINATION, ABANDONMENT OR POSTPONEMENT**

The right is reserved by MAG to terminate or abandon this study and this AGREEMENT may be terminated by giving written notice to RPTA at least fifteen (15) days prior to the effective date of termination. In the event of such termination, MAG shall be liable to RPTA for acceptable work performed to the date of termination only, computed as provided in Section II, Project Costs and Billing Procedures, and Section IV, Costs, of this AGREEMENT. The right is also reserved by MAG to indefinitely postpone work on this study by giving twenty-four (24) hour written notice.

**XI. FISCAL LIMITATIONS**

In the event that the funds required for performance of this AGREEMENT are withdrawn or are not available for funding hereunder, this AGREEMENT without penalty to either party may be immediately terminated. MAG shall be liable to RPTA for acceptable work performed to the date of termination only, computed as provided in Section II and Section IV of this AGREEMENT.

**XII. RELATIONSHIP OF MAG AND RPTA; EXERCISE OF MAG'S POWERS**

It is understood and agreed that RPTA is an "independent authority" and that no relationship of agency, master-servant, or employer-employee shall be created or exist between RPTA and MAG as a result of the execution of this AGREEMENT; and RPTA shall not exercise any powers of MAG nor make any AGREEMENT, obligation, or commitment on behalf of MAG nor in any other way represent any of RPTA or its employees as agents of MAG.

**XIII. INDEMNIFICATION**

Each party to this AGREEMENT agrees to defend, indemnify, save and hold harmless the other (and each of their respective directors, officers, agents, and employees) from and against all liabilities, suits, obligations, claims, demands, damages, fines, costs and expenses (including reasonable attorney's fees) arising under this AGREEMENT to the extent that such are attributable, directly or indirectly, to the indemnifying party's negligence, error omission or intentional act. An indemnifying party's negligence, error, omission or intentional act, as that phrase is used herein, includes the negligence, error, omission or intentional act of its officers, agents, employees, and contractors.

**XIV. INSURANCE**

RPTA shall maintain during the term of this AGREEMENT, the following insurance with forms and insurers acceptable to MAG as provided below:

- A. If applicable, Workmen's Compensation insurance to cover obligations imposed by Federal and State statutes having jurisdiction of its employees engaged in the performance of the services, and Employers' Liability insurance with a minimum limit of not less than \$500,000 for each accident, \$500,000 disease for each employee and \$1,000,000 disease policy limit.
- B. If applicable, Architects and Engineers Professional Liability insurance in the amount of \$1,000,000 each claim and \$2,000,000 all claims. In the event the insurance policy is written on a "claims made" basis, coverage shall extend for three (3) years past completion and acceptance of the work or services, and RPTA shall submit certificates of insurance evidencing proper coverage is in effect as required herein.
- C. Commercial General Liability Insurance with an unimpaired limit of less than \$1,000,000 for each occurrence, \$2,000,000 Products and Completed Operations Annual Aggregate, and a \$2,000,000 General Aggregate Limit. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, contractors protective, products and completed operations. The policy shall contain a severability of interest clause.
- D. Business Automobile Liability insurance with a limit of \$1,000,000 each occurrence on RPTA's owned, hired, and non-owned vehicles assigned to or used in the performance of RPTA's work or services under this AGREEMENT. To the fullest extent allowed by law, for claims arising out of the performance of this AGREEMENT, MAG, its agents, representatives, officers, directors, officials and employees shall be cited as an Additional Insured under Insurance Service Offices, Inc. Business Auto policy Designated Insured Endorsement form CA 20 48 or equivalent. If any Excess insurance is utilized to fulfill the requirements of this paragraph, such Excess insurance shall be "follow form" equal or broader in coverage scope than underlying.
- E. Valuable Papers insurance in an amount sufficient to assure the restoration of any documents, memoranda, reports or other similar data relating to the work of RPTA used in the completion of this AGREEMENT.

- F. The policies required by this AGREEMENT shall be endorsed to include MAG, its agents, officials and employees as additional insureds and shall stipulate that the insurance afforded RPTA shall be primary insurance and that any insurance carried by MAG, its agents, officials or employees shall be excess and not contributory insurance to that provided by RPTA.
- G. A certificate of insurance acceptable to MAG shall be issued to MAG prior to commencement of the AGREEMENT as evidence that policies providing the required coverages, conditions and limits are in full force and effect. Such certificate shall contain provisions that coverage afforded under the policies will not be cancelled, terminated or materially altered until at least 30 days prior written notice has been given to MAG.

**XV. ACCURACY OF WORK**

RPTA shall be responsible for the accuracy of the work and shall promptly make all necessary revisions or corrections resulting from errors on the part of RPTA without additional compensation.

**XVI. REVIEWS OF RPTA'S WORK**

Work performed by RPTA shall be subject to periodic reviews and partial acceptance at various stages. MAG reserves the right to make such reviews and pass upon the acceptability of RPTA's work on behalf of itself, the State, and other affected public agencies. No partial acceptance shall relieve RPTA's obligation to make reasonable efforts to correct, without charge, any errors in the work.

**XVII. OWNERSHIP OF INFORMATION**

RPTA agrees that all reports, estimates, maps, computations and computer databases, programs and procedures prepared for MAG under the terms of this AGREEMENT shall be delivered to, become and remain the property of MAG upon termination or completion of this AGREEMENT and MAG shall have the right to their use without restriction or limitation and without additional compensation to RPTA. Major promotional items will indicate that the program is sponsored in part by MAG and include the MAG logo when possible.

**XVIII. PATENT RIGHTS**

If any invention, improvement, or discovery of RPTA is conceived or first actually reduced to practice in the course of or under this project, which invention, improvement, or discovery may be patentable under the laws of the United States of America or any foreign country, RPTA shall immediately notify the Federal Transit Administration and provide a detailed report. The rights and responsibilities of MAG, RPTA and the Federal Transit Administration with respect to such invention, improvement, or discovery will be determined in accordance with applicable Federal laws, regulations, policies, and any waiver thereof.

**XIX. CONTINUING OBLIGATION**

RPTA agrees that if, because of death or any other occurrence, it becomes impossible for any key employee of RPTA to render the services required under this AGREEMENT, RPTA shall not be relieved of any obligation to render complete performance. However, in such event, MAG may terminate this AGREEMENT if it considers the absence of such principal or employee to be a loss of such magnitude as to affect RPTA's ability to satisfactorily complete the performance of this AGREEMENT. In the event that MAG so chooses to terminate this AGREEMENT, payment for accepted work shall be made as specified in Section II and Section IV of this AGREEMENT.

**XX. CONFLICT OF INTEREST, CANCELLATION**

This AGREEMENT is subject to cancellation for conflict of interest without penalty or further obligation as provided by A. R. S. § 38-511.

**XXI. GENERAL PROVISIONS**

**A. ENTIRE AGREEMENT**

This AGREEMENT constitutes the entire understanding of the parties and supersedes all previous representations, written or oral, with respect to the services specified herein. This AGREEMENT may not be modified or amended except by a written document, signed by authorized representatives of each party.

**B. ARIZONA LAW**

In the event of litigation between RPTA and MAG involving this AGREEMENT, the laws and decisions of the State of Arizona shall apply and any such litigation shall

be commenced and prosecuted in the appropriate court of competent jurisdiction within the geographical boundaries of the State of Arizona.

C. MODIFICATIONS

Any amendment, modification or variation from the terms of this AGREEMENT shall be in writing and shall be effective only after approval of all parties signing the original AGREEMENT.

D. SUCCESSORS AND ASSIGNS

This AGREEMENT shall extend to and be binding upon RPTA, its successors and assigns, including any individual, company, partnership or other entity with or into which RPTA shall merge, consolidate or be liquidated, or any person, corporation, partnership or other entity to which RPTA shall sell its assets.

E. ATTORNEY'S FEES

In the event either party brings any action for any relief, declaratory or otherwise, arising out of this AGREEMENT, or on account of any breach or default hereof, the prevailing party shall be entitled to receive from the other party reasonable attorneys' fees and reasonable costs and expenses, determined by the court sitting without a jury, which shall be deemed to have accrued on the commencement of such action and shall be enforceable whether or not such action is prosecuted to judgment.

F. NOTICES

All notices or demands required to be given pursuant to the terms of this AGREEMENT shall be given to the other party in writing, delivered in person, sent by facsimile transmission, deposited in the United States mail, postage prepaid, registered or certified mail, return receipt requested, or deposited with any commercial air courier or express service at the addresses set forth below, or to such other address as the parties may substitute by written notice given in the manner prescribed in this paragraph.

For RPTA:

David Boggs

Regional Public Transportation Authority  
302 North First Avenue, Suite 700  
Phoenix, Arizona 85003  
(602) 262-7242  
FAX (602) 495-2002

For MAG:

Dennis Smith  
Executive Director  
Maricopa Association of Governments  
302 North 1st Avenue, Suite 300  
Phoenix, Arizona 85003  
(602) 254-6300  
FAX (602) 254-6490

Notices shall be deemed received on date delivered, if delivered by hand, on the day it is sent by facsimile transmission, on the second day after its deposit with any commercial air courier or express services or, if mailed, ten (10) days after the notice is deposited in the United States mail as above provided, and on the delivery date indicated on receipt if delivered by certified or registered mail. Any time period stated in a notice shall be computed from the time the notice is deemed received. Notices sent by facsimile transmission shall also be sent by regular mail to the recipient at the above address. This requirement for duplicate notice is not intended to change the effective date of the notice sent by facsimile transmission.

G. FORCE MAJEURE

Neither party shall be responsible for delays or failures in performance resulting from acts beyond their control. Such acts shall include, but not be limited to, acts of God, riots, acts of war, epidemics, governmental regulations imposed after the fact, fire, communication line failures, power failures, or earthquakes.

H. ADVERTISING

No advertising or publicity concerning MAG using RPTA's services shall be undertaken without prior written approval of such advertising or publicity by MAG's Executive Director.

**I. COUNTERPARTS**

This AGREEMENT may be executed in one or more counterparts, and each originally executed duplicate counterpart of this AGREEMENT shall be deemed to possess the full force and effect of the original.

**J. CAPTIONS**

The captions used in this AGREEMENT are solely for the convenience of the parties, do not constitute a part of this AGREEMENT and are not to be used to construe or interpret this AGREEMENT.

**K. SEVERABILITY**

If any term or provision of this AGREEMENT shall be found to be illegal or unenforceable, then notwithstanding such illegality or unenforceability, this AGREEMENT shall remain in full force and effect and such term or provision shall be deemed to be deleted.

**L. AUTHORITY**

Each party hereby warrants and represents that it has full power and authority to enter into and perform this AGREEMENT, and that the person signing on behalf of each has been properly authorized and empowered to enter this AGREEMENT. Each party further acknowledges that it has read this AGREEMENT, understands it, and agrees to be bound by it.

**XXII. YEAR 2000 COMPLIANCE**

**A. DEFINITIONS**

"Year 2000 Compliant" means having the capability to: (a) accurately and consistently process date information before, during and after January 1, 2000 (including the Year 2000 as a leap year), including but not limited to accepting date input, providing date output on dates or portions of dates, date calculations, logical functions, program branching, format conversion, edits and validations, and the use of dates in comparisons, sorting, sequencing, merging, retrieving, searching and

indexing; (b) function accurately and without interruption before, during and after January 1, 2000 (including the Year 2000 as a leap year), without any change in operations associated with the advent of the new century; (c) respond to two-digit input in a way that resolves any ambiguity as to century in a disclosed, defined and predetermined manner; and (d) store and provide output of date, including displaying information in ways that are unambiguous as to century.

"Information Technology Product" means all computerized and auxiliary automated information processing, telecommunications and related technology, including hardware, software, firmware, vendor support and related services, and equipment (including without limitation, computers date processing, microprocessors, calculators, programmable systems and other electronic devices).

## **B. REPRESENTATIONS AND WARRANTIES**

RPTA represents and warrants that any and all Information Technology Product[s] that the RPTA will deliver under this AGREEMENT will:

1. Be "Year 2000 Compliant" as defined above.
2. Lose no functionality or performance with respect to the introduction of records or data containing dates falling on or after January 1, 2000, and will be interoperable with other software used by MAG which interacts with the Information Technology Product[s] or which may deliver records or data to the Information Technology Product[s] , including but not limited to back-up and archive data.

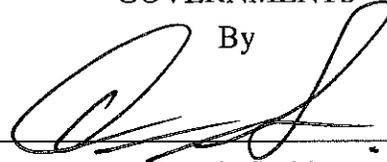
Notwithstanding any other limitation of warranty or warranties in this AGREEMENT, the above Year 2000 warranty shall extend into the Year 2000, and the remedies available to MAG under such Year 2000 warranty shall also include, but not be limited to, repair or replacement of any or all Information Technology Product[s] whose non-compliance are discovered and made known to the RPTA by MAG.

Nothing in this warranty shall be construed to limit any rights or remedies MAG may otherwise have under this AGREEMENT with respect to RPTA's noncompliance with its obligations other than Year 2000 performance.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed by their duly authorized officers.

MARICOPA ASSOCIATION OF  
GOVERNMENTS

By



Dennis Smith

MAG Executive Director

10/07/08

Date

REGIONAL PUBLIC TRANSPORTATION  
AUTHORITY

By



David Boggs

Executive Director

10/24/08

Date

Reviewed as to form:

By



MAG General Counsel

10/3/08

Date

By



RPTA General Counsel

10/21/08

Date

**CERTIFICATION OF MAG**

I hereby certify that I am the MAG Executive Director and that RPTA or its representative has not been required, directly or indirectly as an expressed or implied condition in connection with obtaining or carrying out this AGREEMENT to:

- A. Employ or retain, or agree to employ or retain, any firm or person; or
- B. Pay, or agree to pay, to any firm or person or organization, any fee, contribution, donation, or consideration of any kind.

I acknowledge that this certificate is to be furnished to the Regional Transit Administration, and is subject to applicable State and Federal laws, both criminal and civil.

10/27/08  
Date

  
Dennis Smith  
MAG Executive Director

**CERTIFICATION OF RPTA**

I hereby certify to the best of my knowledge and belief that the Regional Public Transportation Authority, whose address is 302 N. First Avenue, Suite 700, Phoenix, Arizona, and I, as the Executive Director:

- A. Have not employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me or the above firm) to solicit or secure this AGREEMENT;
- B. Have not agreed, as an expressed or implied condition for obtaining the AGREEMENT, to employ or retain the services of any firm or person in connection with carrying out the AGREEMENT;
- C. Have not paid, or agreed to pay, to any firm, organization, or person (other than a bona fide employee working solely for me or the above firm) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the AGREEMENT;
- D. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency, and are not prohibited from working on Federally assisted projects;
- E. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or AGREEMENT under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- F. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commissions of any of the offenses enumerated in paragraph (E) of this certification; and
- G. Have not within a three-year period preceding this application/proposal had one or more public transaction (Federal, State or local) terminated for cause or default.

Where RPTA is unable to certify to any of the statements in this certification, it shall attach an explanation.

I acknowledge that this certificate is to be furnished to MAG and the Regional Transit Administration and is subject to applicable State and Federal laws, both criminal and civil.

By  
REGIONAL PUBLIC TRANSPORTATION  
AUTHORITY

10/24/08  
Date

David A. Boggs  
David Boggs  
Executive Director

**CERTIFICATION LIMITING LOBBYING ACTIVITIES**

David Boggs, acting as agent for RPTA certifies, to the best of his/her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of RPTA to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, RPTA shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.

(3) RPTA shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subgrants, and contracts and subcontracts under grants, subgrants, loans, and cooperative agreements), which exceed \$100,000, and that all such subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

David Boggs \_\_\_\_\_  
Name

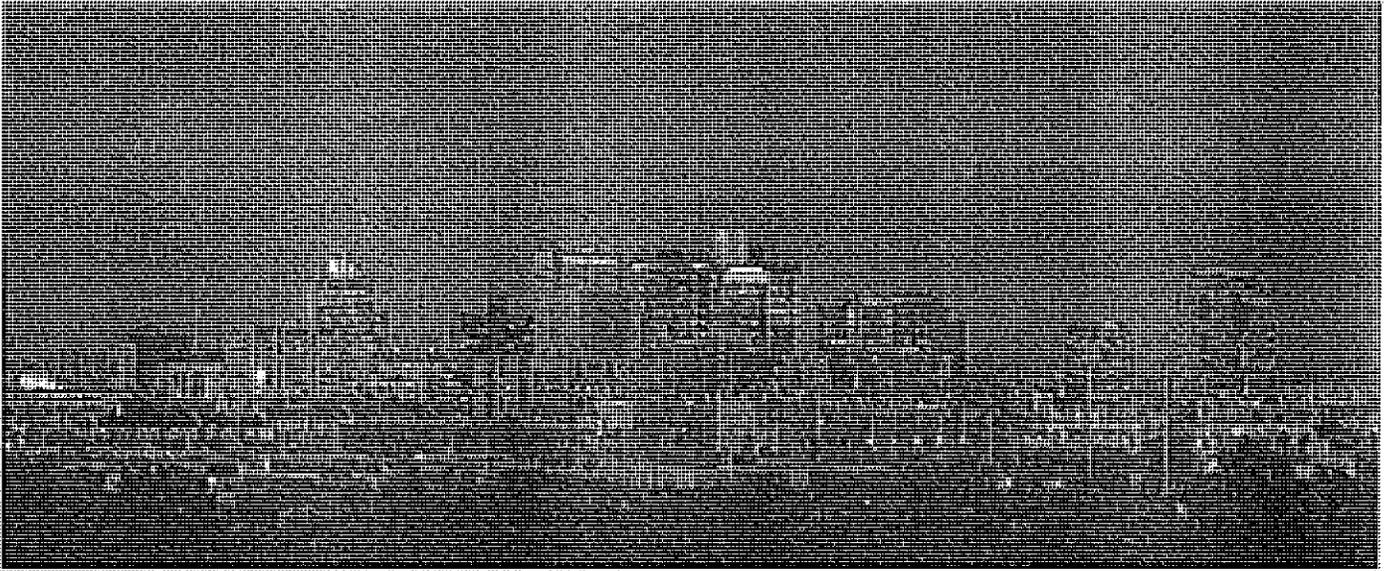
Executive Director \_\_\_\_\_  
Title

 \_\_\_\_\_  
Signature

10/24/08 \_\_\_\_\_  
Date

**APPENDIX A-1**

# FY 2009 Unified Planning Work Program & Annual Budget



May 2008



Maricopa Association of Governments

302 North 1st Avenue, Suite 300, Phoenix, Arizona 85003

## Regional Transit Planning

600-0150

Develop strategies to promote mobility, as well as the social and economic well-being of the community, by providing an efficient and effective regional transit system that addresses the travel needs of the public.

### Follow-up on FY 2008 Outcome Measures

- **Measure:** Complete transit facility plans to support existing and future transit services in Maricopa County.

*Result: METRO initiated three alternative analyses. The outcomes of these analyses will identify future transit facilities. RPTA completed a Regional Park-and-Ride Reprioritization Study to determine when the 13 regionally funded park-and-rides identified in the Regional Transportation Plan (RTP) need to be completed to support planned express bus investments. This study will be followed in FY 2009 by a similar study to determine the implementation priority for the 13 regional transit centers identified in the RTP.*

- **Measure:** Refine the Transit Life Cycle Program (TLCP), which is a requirement of Proposition 400, that shows that the transit program is in fiscal balance and that the transit projects are scheduled in accordance with the RTP.

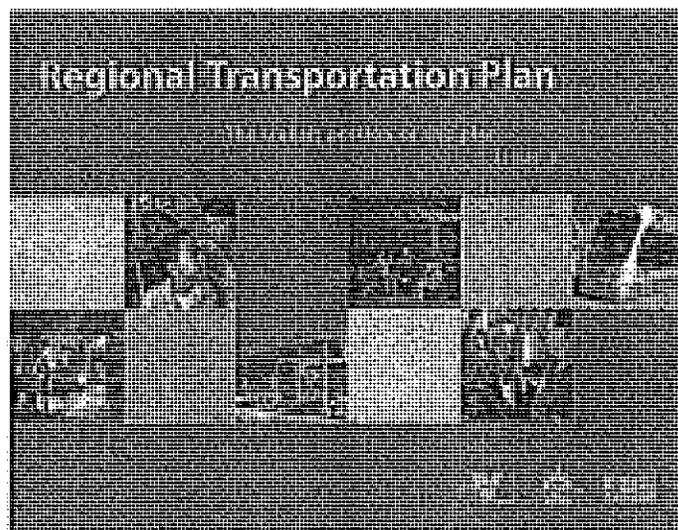
*Result: RPTA retained the services of the firm HDR/SR Beard to perform an audit of the financial, operating, and capital assumptions that provide the basis for the Transit Life Cycle Program. The audit includes recommendations to guide the implementation of the TLCP.*

- **Measure:** Update of the Long Range Transit Plan, which serves as a component of the RTP.

*Result: MAG updated the transit element of the RTP with input from RPTA and METRO. RPTA undertook an update of the financial element of the TLCP to reflect changes in the half-cent sales tax revenue forecast. METRO submitted the Light Rail/High Capacity Transit Lifecycle Program element to RPTA for inclusion into the TLCP.*

- **Measure:** Update of the transit element of the TIP.

*Result: RPTA coordinated the regional transit element of the MAG Transportation Improvement Program (TIP) and assisted agencies in identifying capital needs*



*and developing project submittals.*

- **Measure:** Provide written responses to agencies requesting comments on environmental and design concept studies, as appropriate, to make sure appropriate transit components are considered during the study process.

*Result: METRO, during the Alternative Analysis (AA)/ Draft Environmental Impact Statement (DEIS) process in on-going corridor studies, has formally requested agencies to participate as participating, and in some instances, as cooperating agencies in these studies. RPTA staff provided comments on environmental studies and design concept reports undertaken by ADOT in FY 2008. Staff also provided comments on master development project applications and rezoning applications submitted by various local jurisdictions in Maricopa County.*

- **Measure:** Conduct a corridor planning study for the Arizona Avenue Bus Rapid Transit (BRT) line. This route is one of a series of arterial street BRT lines identified in the RTP and funded through Proposition 400.

*Result: Work on the Arizona Avenue BRT corridor planning study was initiated in FY 2008 and will be completed in FY 2009.*

- **Measure:** Create a plan, in cooperation with transportation public safety stakeholders, that defines roles and responsibilities in the implementation of the county-wide Transportation Emergency Support Function (ESF-1) RPTA is the designated lead agency for ESF-1.

**Result:** *The Southeast Maricopa/Northern Pinal County study has been tentatively deferred to FY 2009 subject to definition of funding partners for portions of the study area outside Maricopa County.*

- **Measure:** Develop a model Transit Oriented Development ordinance (TOD) that can be adopted by RPTA and MAG member agencies to help communities promote bus transit friendly, development around regional and local transit centers.

**Result:** *Development of the TOD model ordinance was initiated in FY 2008 and will be completed in FY 2009.*

- **Measure:** Increase member agency and stakeholder awareness of the strength, weaknesses, opportunities, and threat associated with commuter rail service in the MAG region.

**Result:** *MAG conducted a regional SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis as part of the strategic planning process for commuter rail. Regional stakeholders guided development of the SWOT Analysis and the resulting implementation plan.*

- **Measure:** Finalize the Commuter Rail Strategic Plan presented for adoption by the MAG Regional Council.

**Result:** *The Commuter Rail Strategic Plan was finalized for review by the MAG Regional Council.*

- **Measure:** Recommend a preferred commuter rail corridor from the highest rated corridors in the Commuter Rail Strategic Plan.

**Result:** *As decided through the commuter rail stakeholders process, the relative strengths and weaknesses of individual corridors were evaluated, but the plan did not select a preferred commuter rail corridor. Future planning work, including a Corridor Development Plan, will help identify a preferred corridor.*

- **Measure:** Develop a draft scope for the Commuter Rail Corridor Development Plan.

**Result:** *A scope of work for Phase II of the Commuter Rail Strategic Plan was developed.*

## FY 2009 Objectives

- Conduct the Regional Transit Framework Study.
- Conduct Phase II work of the Commuter Rail Strategic Plan (Corridor Development Plan).



- Develop transit facility plans to support existing and future transit services in Maricopa County as well as services that address emerging inter-county work trips. Coordinate efforts with ADOT, municipalities, and developers to identify and evaluate transit facility options.

- Assist with planning, design, and environmental efforts to implement future high capacity transit corridors as identified in the RTP.

- Provide planning support to assist in the integration of the Regional Freeway Program and the Arterial Street Program with the transit components of the RTP.

- Develop and refine criteria that will allow for the evaluation of the performance of implemented transit investments.

- Assist with planning and design to implement the transit recommendations identified in the MAG RTP.

- Work with local member agencies in the development of local transit plans and small area transit studies.

- Coordinate development of interagency emergency transportation protocols as part of large area evacuation planning.

- Continue planning efforts to improve the efficiency, effectiveness, and integration of the region's demand response transit services to meet community needs.

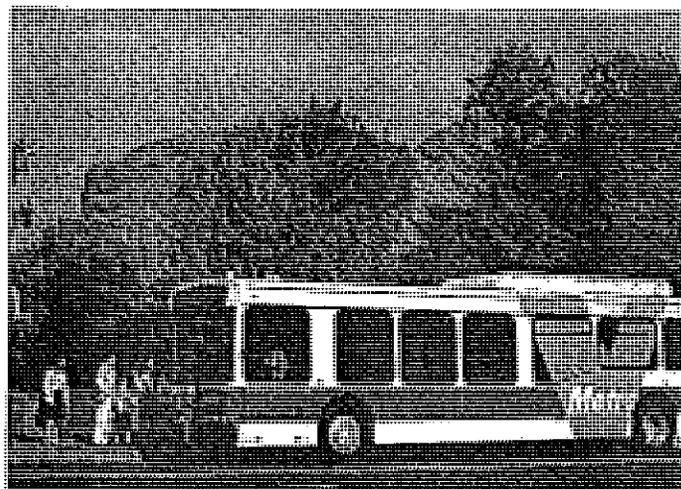
- Initiate the planning process to frame how commuter rail service will be implemented for a specific corridor in the MAG region.

▲ MAG will provide support to METRO for the following projects:

- The completion of the Central Mesa AA/DEIS/ Design Concept Study.
- The completion of the I-10 West Alternative Analysis and continue the DEIS.
- The completion of the LRT Transit System Configuration Study, Phase II.

### FY 2009 Outcome Measures

- Complete the Regional Transit Framework Study.
- Complete the Phase II work of the Commuter Rail Strategic Plan (Corridor Development Plan).
- Complete transit facility plans to support existing and future transit services in Maricopa County.
- Update the Transit Life Cycle Program, which is a requirement of Proposition 400, that shows that the transit program is in fiscal balance and that the transit projects are scheduled in accordance with the RTP.
- Update of the Long Range Transit Plan, which serves as a component of the RTP.
- Update of the transit element of the TIP.
- Complete Short Range Transit Plan.
- Provide written responses to agencies requesting comments on environmental and design concept studies, as appropriate, to make sure appropriate transit components are considered during the study process.
- Complete the Commuter Rail Corridor Development Plan.
- Undertake a development planning study for a corridor identified in the Commuter Rail Strategic Plan.
- MAG will provide support to METRO for the following projects:
  - The completion of the Central Mesa AA/DEIS/Design Concept Study.
  - The completion of the I-10 West Alternative Analysis and continue the DEIS.



- The completion the LRT Transit System Configuration Study, Phase II.
- Valley Metro/RPTA will conduct the following projects:
  - Complete a Design Concept Report study for the Arizona Avenue Bus Rapid Transit (BRT) line. This route is one of a series of arterial street BRT lines identified in the RTP and funded through Proposition 400.
  - Create a plan, in cooperation with transportation public safety stakeholders, that defines roles and responsibilities in the implementation of the countywide Transportation Emergency Support Function (ESF-1). RPTA is the designated lead agency for ESF-1.
  - Complete development of a model Transit Oriented Development ordinance that can be adopted by RPTA and MAG member agencies to help communities promote bus transit friendly development around regional and local transit centers.
  - Increase member agency and stakeholder awareness of the strength, weaknesses, opportunities, and threats associated with commuter rail service in the MAG region.

## APPENDIX A-2

### SCOPE OF SERVICES

#### TASK 1.0 – LONG RANGE TRANSIT PLANNING

##### *Task 1.1 – Regional Transit Planning*

- Refine and update the systems level studies and the transit element of the Regional Transportation Plan, which includes future transit mode feasibility studies.
- Continue assisting with planning, design, and environmental assessments to implement the Northwest Valley LRT extension, and the I-10 West High Capacity Transit Corridor.
- Continue assisting with planning and environmental assessments associated with the Rural Road and Main Street Alternatives Analyses.
- Provide technical support for the integration of the MAG freeway plans and the Long Range Regional Transit Plan. This integration will include such issues as air quality, high occupancy vehicle lanes, joint use facility opportunities, and traffic congestion management.
- Provide technical support to MAG in the development of the Regional Transit Framework Study.
- Building on the work of the Regional Paratransit Study, evaluate opportunities and obstacles to development of a cooperative inter-jurisdictional model of transit for the elderly and persons with disabilities.

##### *Task 1.2 – Stakeholder Coordination/Outreach*

- Conduct and/or participate in public meetings and open house/workshops as part of the development of the annual transit element of the MAG RTP.
- Provide technical support as requested to other member communities developing transit plans or studies.
- Participate in the RTP Partners process.
- Participate in the Freeway Issues Working Group.

- Participate in the development of inter county transportation studies with ADOT, MAG, Maricopa County, and Pinal County.

**Deliverables:**

- An updated transit element for the MAG RTP.

**TASK 2.0 – SHORT RANGE TRANSIT PLANNING**

*Task 2.1 – Technical Support*

- In coordination with MAG, provide coordination and planning assistance to human service agencies and community custom transit service providers.
- Collect and analyze information from operators and area communities to develop an Annual Transit Performance Report (ATPR), emphasizing current and next year programs. Oversee development and implementation of web based transit performance reporting tool.
- Organize and maintain transportation/transit resources and conduct research and surveys on related issues. Study overall performance of bus service offerings through a detailed analysis of performance factors. Outcomes should include strategies to improve or modify lowest performance-related services and development of recurring evaluation strategy and methodology that can be applied to a regular rating process.

*Task 2.2 – ADA Federal Oversight*

- Assist with the review and recommendation of grant applications for federal Elderly and Persons with Disabilities Transportation Program funds to the MAG Regional Council for Arizona Department of Transportation (ADOT) special transportation capital assistance.
- Monitor compliance with and update the Joint Complementary Paratransit requirements for the region.
- In order to comply effectively and efficiently with the transit provisions of the ADA, monitor, document, and report the implementation of modifications required for fixed route and Dial-a-Ride transit systems.

- Develop and administer a program that can effectively adjudicate issues of compliance and ADA eligibility.
- Work with RPTA member jurisdictions and agencies to identify regional coordination strategies that address the transportation needs of the region's ADA community.

### ***Task 2.3 – Education and Outreach***

- Act as a resource for transit information for persons with disabilities, agencies serving persons with disabilities, and other transit agencies and providers in the region. Provide outreach to ADA populations as part of ongoing transit planning efforts. As appropriate, coordinate this outreach with other regional public involvement efforts, especially the MAG Public Involvement Program.

### **Deliverables:**

- Annual Transit Performance Report (includes information previously provided by in the Performance Management Analysis System Report [PMAS]).
- Quarterly Planning Projects Report.
- Survey to compare the performance through various operating indicators of the transit systems in selected peer cities.

## **Task 3.0 – CAPITAL PLANNING PROGRAM**

### ***Task 3.1 – Evaluation of Capital Investments***

- Recognizing the RPTA/Valley Metro and MAG commitment to performance based planning, collect and analyze infrastructure and other capital investment information from transit service operations and area communities to assess impact of RPTA/Valley Metro and MAG funded transit investments. Results of this analysis will help guide future transit investment decisions.
- Undertake development of regional bus stop inventory. Said inventory will utilize input from individual bus stop inventories maintained by municipalities within Maricopa County.
- Prepare annual inventory of capital assets for the American Public Transportation Association (APTA) Transit Vehicle Survey (Allow for peer system comparisons, and insure that RPTA/Valley Metro has up to date data on capital assets. The latter is important when evaluating capital needs, especially in light of asset depreciation and replacement.).

- Undertake a reprioritization of the regional Transit Centers identified in the 2003 Regional Transportation Plan (RTP). The project will insure that the phasing of these facilities conforms to the transit service phasing identified in the RTP and Proposition 400, which was approved by Maricopa County voters in 2004.

***Task 3.2 – Develop Capital Program***

- Develop the draft update of the transit element of the 2010-2014 TIP in cooperation with member and non-member agencies.
- Provide and maintain a long-range capital needs program in support of project development and funding requirements.
- Develop transit facility plans to support existing and future transit services in Maricopa County. Where necessary, coordination efforts will continue with ADOT, municipalities, and developers to identify and evaluate transit facility options. Facility master plans, regional guidelines, and research reports for facility development needs will also be prepared.

**Deliverables**

- The draft transit element of the 2010-2014 TIP.
- Preliminary development of passenger and operating facilities, such as park-and-rides, transit centers, priority bus treatments, operating bases, and bus stop improvements. Projects include planning for new transit facilities, as well as refurbishment.

**TASK 4.0 – ADMINISTRATION OF THE PLANNING PROGRAM**

***Task 4.1 – Reports and Audits***

- Develop the transit-related elements of the FY 2009 Unified Planning Work Program in coordination with state agencies and local governments.
- Assist in the development of the MAG Annual Performance Report. The report is a requirement of HB 2456. Valley Metro/RPTA shall be responsible for development of the annual transit report, which shall provide input to the annual performance report.
- Provide regional coordination for local review of A-95 projects.

**Deliverables**

- Progress reports to MAG.
- Updates to the transit-related elements of the FY10 Unified Planning Work Program.

**APPENDIX B**

**COMPLIANCE WITH TITLE VI OF THE CIVIL RIGHTS ACT OF 1964  
FOR  
FEDERAL-AID CONTRACTS**

The contractor will comply with Executive Order 11246 entitled Equal Employment Opportunity as amended by Executive Order 11375 and as supplemented in Department of Labor Regulations (41 Code of Federal Regulations Part 60) which are hereby incorporated by reference and made a part of this AGREEMENT.

**APPENDIX C**

**EXECUTIVE ORDER 99-4  
AMENDING 75-5  
REVISED MARCH 1, 1999**

**PROHIBITION OF DISCRIMINATION IN STATE CONTRACT  
NONDISCRIMINATION IN EMPLOYMENT BY GOVERNMENT CONTRACTORS  
AND SUBCONTRACTORS**

I, Jane Dee Hull, under and by virtue of the authority vested in me as Governor of the State of Arizona by the Constitution and Statutes of the State of Arizona do order and direct:

**PART I: NONDISCRIMINATION IN EMPLOYMENT BY GOVERNMENT  
CONTRACTORS AND SUBCONTRACTORS**

All government contracting agencies shall include in every government contract hereinafter entered into the following provisions:

During the performance of this Agreement, the contractor agrees as follows:

- A. The contractor will not discriminate against any employee or applicant for employment because of race, age, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, age, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, lay-off or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

A continued Executive Order No. 75-5 is hereby amended to permit government contractors and subcontractors that are religious organizations to provide employment preferences based upon religion when dealing with a bona fide occupational qualification reasonably necessary to the operation of the religious organization, in

accordance with the requirements of Title 41, chapter 9, article 4, Arizona Revised Statutes.

Executive Order No. 75-5 prohibits all government contractors and subcontractors from discriminating against any employee or applicant for employment because of race, age, color, religions, sex or national origin. Executive Order 75-5 further requires all government contractors and subcontractors to take affirmative action to ensure that applicants are employed and employees are treated during employment without regard to their race, age, color, religion, sex or national origin.

Arizona's Civil Rights Act, Title 41, chapter 9, article 4, does not apply to religious organizations with respect to employment of individuals of a particular religion to perform work connected with the activities of the employer. It also provides that religious organizations may provide employment preferences based upon religion when dealing with a bona fide occupational qualification reasonable necessary to the operation of the religious organization. This is consistent with the provisions of the Civil Rights Act of 1964 (42 U.S.C. 2000e, et seq.). In addition, in the Personal Responsibility and Work Opportunity Reconciliation Act, P.L. 104-193, Congress provided that religious organizations are eligible for the receipt of federal funds on the same basis as other private organizations. The contractor will in all solicitations or advertisement for employees placed by or on behalf of the contractor state that all qualified applicants will receive consideration for the employment without regard to race, age, color, religion, sex or national origin.

- B. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding a notice to be provided by the agency contracting officer advising the labor union or workers' representative of the contractor's commitments under the Executive Order and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- C. The contractor will furnish all information and reports required by the contracting agency and will permit access to his books, records, and accounts by the contracting agency and the Civil Rights Division for purposes of investigation to ascertain compliance with such rules, regulations and orders.
- D. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations or orders of the Arizona Civil Rights

Division said noncompliance will be considered a material breach of the contract and this contract may be cancelled, terminated or suspended in whole or in part, and the contractor may be declared ineligible for further government contracts until said contractor has been found to be in compliance with the provisions of this order and the rules and regulations of the Arizona Civil Rights Division, and such sanctions may be imposed and remedies invoked as provided in Part II of this order, and the rules and regulations of the Arizona Civil Rights Division.

- E. The contractor will include the provisions of paragraphs A through E in every subcontractor purchase order so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect in the subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the State of Arizona to enter into such litigation to protect the interest of the State of Arizona.
- F. Each contractor having a contract containing the provisions prescribed in this section shall file and shall cause each of his subcontractors to file compliance reports with the contracting agency or the Civil Rights Division, as may be directed. Compliance reports shall be filed within such times and shall contain such information as the practices, policies, programs and employment policies, programs and employment statistics of the contractor and each subcontract and shall be in such form as the Arizona Civil Rights Division may prescribe.
- G. Bidders or prospective contractors or subcontractors shall be required to state whether they have participated in any previous contract subject to the provisions of this order or any preceding similar Executive Order and in that event to submit on behalf of themselves and the proposed subcontractors compliance reports prior to, or as an initial part of negotiation of a contract.
- H. Whenever the contractor or subcontractor has a collective bargaining agreement or other contract or understanding with a labor union or an agency referring workers or providing or supervising apprenticeship or training for such workers, the compliance report shall include such information from such labor unions or agency practices and policies affecting compliance as the contracting agency or Civil Rights Division may prescribe; provided that, to the extent such information is within the exclusive possession of a

labor union or an agency referring workers or providing or supervising apprenticeship or training and such labor union or agency shall refuse to furnish such information to the contractor, the contractor shall so certify the contracting agency as part of its compliance report and shall set forth what efforts he has made to obtain such information.

- I. The contracting agency or the Civil Rights Division shall require that the bidder or prospective contractor or subcontractor shall submit as part of his compliance report a statement in writing signed by an authorized officer or agent on behalf of any labor union or any agency referring workers or providing or supervising apprenticeship or other training with which the bidder or prospective contractor deals with supporting information to the effect that the signer's practices and policies do not discriminate on the grounds of race, color, religion, sex or national origin, and that the signer either will affirmatively cooperate in the implementation of the policy and provisions of this order or that it consents and agrees that recruitment employment and the terms and conditions of employment under the proposed contract shall be in accordance with the purpose and provisions of this order. In event that the union or the agency shall refuse to execute such statement, the compliance shall so certify and set forth what efforts have been made to secure such a statement and such additional factual material as the contracting agency or the Civil Rights Division may require.

## **PART II: ENFORCEMENT**

- A. Each contracting agency shall be primarily responsible for obtaining compliance with this Executive Order with respect to contracts entered into by such agency or its contractors. All contracting agencies shall comply with the rules of the Civil Rights Division in discharging their primary responsibility for securing compliance with the provisions of contracts and otherwise with the terms of this order and the rules and regulations and orders of the Civil Rights Division issued pursuant to this order. They are directed to cooperate with the Civil Rights Division and to furnish the Division such information and assistance as it may require in the performance and assistance as it may require in the performance of the Division's functions under this order. They are further directed to appoint or designate from among the agency personnel compliance officers. It shall be the duty of such officers to first seek compliance with the objective of this order by conference, conciliation, mediation or persuasion.
- B. The Civil Rights Division may investigate the employment practices of any government

contractor or subcontractor of initiate such investigation by the appropriate contracting agency or determine whether or not the contractual provisions specified in this order have been violated. Such investigations shall be conducted in accordance with the procedures establishment by the Civil Rights Division and the investigating agencies shall report to the Civil Rights Division any action taken or recommended. The Civil Rights Division may receive and investigate or cause to be investigated complaints by employees or prospective employees of a government contractor or subcontractor which allege discrimination contrary to the contractual provisions specified in Part I of this order. If the investigation is conducted for the Civil Rights Division by a contracting agency that agency shall report to the Civil Rights Division what action has been taken or its recommended with regard to such complaint.

- C. The Civil Rights Division shall use its best efforts directly and through contracting agencies, other interested state and local agencies, contractors and all other available instrumentalities to cause any labor union engaged in work under government contracts or any agency referring workers or providing or supervising apprenticeship or training for or in the course of such work or cooperate in the implementation of the purpose of this order.
- D. The Civil Rights Division or any agency, officer or employee in the executive branch of the government designated by rule, regulation or order of the Civil Rights Division may hold such hearings, public or private as the Division may deem advisable for the compliance, enforcement of educational purposes. The Civil Rights Division may hold or cause to be held hearings in accordance with rules and regulations issued by the Civil Rights Division prior to imposing, ordering or recommending the imposition of penalties and sanctions under this order.
- E. No order for debarment of any contractor from further government contracts under this order shall be made without affording the contractor an opportunity for a hearing.
- F. Sanctions and Penalties. In accordance with such rules, regulations or orders as the Civil Rights Division may issue or adopt, the Civil Rights Division or the appropriate contracting agency may publish or cause to be published the names of contractors or unions which it has concluded have complied or have failed to comply with the provisions of this order and with the rules, regulations and orders of the Civil Rights Division.
  - 1. Contracts may be cancelled in whole or in part, terminated, or suspended absolutely, or continuation of contracts may be conditioned upon a program for future compliance approved by the contracting agency or the Civil Rights Division; provided that any

contracting agency shall refrain from entering into further contracts, extensions or other modifications of existing contract with any noncomplying contractor until such contractor has established and will carry out personnel and employment policies in compliance with the provisions of this order.

2. Under rules and regulations prescribed by the Civil Rights Division, each contracting agency shall make reasonable efforts within a reasonable time limitation to secure compliance with the contract provisions of this order by methods of conference, conciliation, mediation and persuasion before proceedings shall be instituted under this order or before a contract shall be cancelled or terminated in whole or in part under this order for failure of a contractor or subcontractor to comply with the contract provision of this order.

G. This Executive Order shall become effective within sixty (60) days of its issuance.

**IN WITNESS WHEREOF**, I have hereunto set my hand and caused to be affixed the Great Seal of the State of Arizona

DONE at the Capitol in Phoenix this First day of March in the year of Our Lord One Thousand Nine Hundred and Ninety-Nine and of the Independence of the United States of America the Two Hundred and Twenty-third.

Signed by  
Jane Dee Hull  
GOVERNOR

In order to carry out the provisions of Executive Order 99-4 Amending 75-5, the consultant shall comply with the requirements of:

1. Standard Federal Equal Employment Opportunity Construction Contract Specifications, July 1, 1978, Revised November 3, 1980, Revised April 15, 1981, and
2. Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity, July 1, 1978, Revised November 3, 1980, Revised April 15, 1981.

**APPENDIX D**

**MISCELLANEOUS NON-DISCRIMINATION ACTS**

The contractor shall comply with Title VII of the Civil Rights Act of 1964, as amended, the Age Discrimination in Employment Act of 1975, and State Executive Order No. 99-4 Amending 75-5 which mandates that all persons, regardless of race, color, religion, sex, age, national origin or political affiliation, shall have equal access to employment opportunities. RPTA shall comply with section 503 of the Rehabilitation Act of 1973, as amended, which prohibits discrimination in the employment or advancement in employment of qualified persons because of physical or mental handicap. RPTA shall comply with the requirements of Section 504 of the Rehabilitation Act of 1973, as amended, which prohibits discrimination on the basis of handicap, in delivering contract services.

**APPENDIX E****ENVIRONMENTAL, RESOURCE, ENERGY PROTECTION, AND  
CONSERVATION REQUIREMENTS**

- A. Environmental Policy. The National Environmental Policy Act of 1969, as amended, 42 U.S.C. §§ 1601 et seq.; the Council on Environmental Quality regulations, 40 C.F.R. Part 1500 et seq.; and the FHWA/FTA regulation, "Environmental Impact and Related Procedures," 23 C.F.R. Part 771, as amended, are applicable to the Project.
- B. Compliance with Environmental Standards. RPTA shall comply with the provisions of the Clean Air Act, as amended, 42 U.S.C. §§ 1857 et seq.; the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§ 1251 et seq.; and implementing regulations, in the facilities that are involved in the Project for which Federal assistance is given. RPTA shall ensure that the facilities under ownership, lease or supervision, whether directly or under contract, that will be utilized in the accomplishment of the Project are not listed on the Environmental Protection Agency (EPA) List of Violating Facilities. Contracts, subcontracts, and subgrants of amounts in excess of \$100,000 shall contain a provision requiring compliance with all applicable standards, orders, or requirements issued pursuant to Federal statute or regulation. RPTA shall be responsible for reporting any violations to the FHWA and to the EPA Assistant Administrator for Enforcement. In addition, RPTA shall notify the FHWA of the receipt of any communication from the Director of the EPA Office of Federal Activities indicating that a facility to be utilized in the Project is under consideration for listing by EPA.
- C. Air Pollution. No facilities or equipment shall be acquired, constructed, or improved as a part of the Project unless RPTA obtains satisfactory assurances that they are (or will be) designed and equipped to limit air pollution as provided in accordance with the following EPA regulations: "Control of Air Pollution from Motor Vehicles and Motor Vehicle Engines," 40 C.F.R. Part 85; "Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines: Test Procedures for Light-Duty Vehicles and Light-Duty Trucks and Selective Enforcement Auditing of New Light-Duty Vehicles, Light-Duty Trucks and Heavy-Duty Engines," 40 C.F.R. Part 86; and "Fuel Economy of Motor Vehicles," 40 C.F.R. Part 600; in accordance with applicable federally-approved State Implementation Plan(s) (in particular, the Transportation Control Measures); and in accordance with appropriate FAA directives and all other applicable standards.
- D. Use of Public Lands. No publicly owned land from a park, recreation area, or wildlife or

waterfowl refuge of national, State or local significance as determined by the Federal, State or local officials having jurisdiction thereof, or any land from an historic site of national, State, or local significance may be used for the Project unless specific findings required under 49 U.S.C. § 303 are made by the Department of Transportation.

- E. Historic Preservation. RPTA shall assist the Government (Federal Transit Administration) to comply with Section 106 of the national Historic Preservation Act involving historic and archaeological preservation by:
1. Consulting the State Historic Preservation Officer on the conduct of investigations, in accordance with Advisory Council on Historic Preservation regulations, "Protection of Historic and Cultural Properties", 36 C.F.R. Part 800, to identify properties and resources listed in or eligible for inclusion in the National Register of Historic Places that may be affected by the Project, and notifying the Government (*FHWA*) of the existence of any such properties; and
  2. Complying with all Federal requirements to avoid or mitigate adverse effects upon such properties.
- F. Energy Conservation. RPTA shall comply with mandatory standards and policies relating to energy efficiency that are contained in applicable State energy conservation plans issued in compliance with the Energy Policy and Conservation Act, 42 U.S.C. §§ 6321 et seq.
- G. Mitigation of Adverse Environmental Effects. Should the proposed Project cause adverse environmental effects, RPTA shall take all reasonable steps to minimize such effects pursuant to 49 U.S.C. app. § 1610, other applicable statutes, and the procedures set forth in 23 C.F.R. Part 771. RPTA shall undertake all environmental mitigation measures that may be identified as commitments in applicable environmental documents (such as environmental assessments, environmental impact statements, memoranda of contracts, and statements required by 49 U.S.C. § 303) and with any conditions imposed by the Government as part of a finding of no significant impact or a record of decision; all such mitigation measures are incorporated in and made part of this agreement by reference. In the event that some or all mitigation measures are deferred, once such measures are agreed upon by MAG and RPTA, those mitigation methods subsequently determined will be incorporated into this agreement. Such mitigation measures may not be modified or withdrawn without the express written approval of MAG.
- H. Use of Fly Ash in Cement and Concrete. In carrying out the Project, RPTA shall make all appropriate efforts to foster the use of fly ash, substantially in compliance with EPA regulations

“Guideline for Federal Procurement of Cement and Concrete Containing Fly Ash”, 40 C.F.R. Part 249. Should RPTA make a determination that the use of fly ash is inappropriate in a particular procurement of cement or concrete, RPTA shall provide FHWA a written justification to support that decision.

**Addendum**

**ENVIRONMENTAL REGULATIONS AND POLICIES**

This project will demonstrate compliance with all applicable federal, state and local regulations, including but not limited to the following environmental regulations and any related subsequent guidance or regulations:

**Federal**

National Environmental Policy Act of 1969

36 CFR 800 - Protection of Historic Properties

23 CFR 771 - Environmental Impact and Related Procedures

FHPM 7-7-3 - Procedures for the Abatement of Highway Traffic and Construction Noise

FHPM 7-79 - Air Quality Guidelines

Endangered Species Act of 1973, and supplements

Executive Order 11990 (Protection of Wetlands)

Executive Order 11988 (Floodplain Management)

National Historic Preservation Act of 1966

Section 4(f) of the Department of Transportation Act

Wild and Scenic Rivers Act of 1969

Section 402 (NPDES) and Section 404 of the Clean Water Act

Federal Farmlands Protection Policy Act of 1981

FHWA Technical Advisory T6640.8, "Guidance Material for the Preparation of Environmental Documents"

Section 1424 of the Safe Drinking Water Act (Sole Source Aquifer Review)

36 CFR 60 - Determinations of Eligibility for Inclusion in the National Register of Historic Places

Public Law 91-646 - Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970

Wilderness Act of 1964, Public Law 88-577

Arizona Desert Wilderness Act of 1990, Public Law 101-628

Resource Conservation and Recovery Act (RCRA)

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA)

Superfunded Amendments and Reauthorization Act (SARA)

United States Forest Service, Project Implementation Process for Integrated Resource Management (3<sup>rd</sup> Edition), August 1990

**State**

Arizona Native Plant Law  
Arizona Historic Preservation Law  
State Water Quality Law  
ADOT Action Plan (and subsequent updates)  
ADOT Highways Division Policy and Implementation Memorandum 89-05, "Preservation of Arizona's Wetlands", August 1, 1989

**ADOT**

Noise Abatement Policy  
State of Arizona Water Control Policy  
Arizona Environmental Quality Act (EQA)  
Hazardous Waste Management Act (HWMA)  
Underground Storage Tank Act of 1986  
ADOT Relocation and Assistance Program

**LOCAL**

Local codes and ordinances relating to air quality, noise, dust abatement, light, etc.

**Contract # 388**

**Transit Planning Services  
Regional Public Transportation Authority  
Original Budget**

| GOVERNMENT AGENCY                               |                        | Hours by Personnel and Task Description |                      |                  |                |              |                |        | Total Cost |             |             |
|---|------------------------|---|----------------------|------------------|----------------|--------------|----------------|--------|------------|-------------|-------------|
| Personnel                                       | Raw Direct Hourly Rate | Task 1                                  |                      | Task 2           |                | Task 3       |                | Task 4 |            | Total Hours | Total Cost  |
|   |                        | Long Range Planning                     | Short Range Planning | Capital Planning | Administration | Planning     | Administration |        |            |             |             |
| Carol Ketcherside                               | \$60.8399              | 112.00                                  | 208.00               | 62.00            | 18.00          | 400.00       |                |        |            | 400.00      | \$24,335.96 |
| Stuart Boggs                                    | \$52.1962              | 144.44                                  | 208.00               | 81.55            | 20.00          | 453.99       |                |        |            | 453.99      | \$23,696.54 |
| Anne MacCracken                                 | \$35.9591              | 312.00                                  | 208.00               | 416.00           | 46.40          | 982.40       |                |        |            | 982.40      | \$35,326.25 |
| Ratna Korepella                                 | \$36.9202              | 312.00                                  | 208.00               | 416.00           | 38.00          | 974.00       |                |        |            | 974.00      | \$35,960.27 |
| Janet Strauss                                   | \$26.5000              | 208.00                                  | 312.00               | 312.00           | 49.26          | 881.26       |                |        |            | 881.26      | \$23,353.39 |
| Nichole Myers                                   | \$22.1361              | 0.00                                    | 0.00                 | 0.00             | 60.00          | 60.00        |                |        |            | 60.00       | \$1,328.16  |
| Bryan Jungwirth                                 | \$69.1702              | 10.00                                   | 36.21                | 0.00             | 0.00           | 46.21        |                |        |            | 46.21       | \$3,196.43  |
| Bob Antila                                      | \$43.1375              | 0.00                                    | 0.00                 | 340.00           | 0.00           | 340.00       |                |        |            | 340.00      | \$14,666.75 |
| Chris Curcio                                    | \$66.9500              | 0.00                                    | 0.00                 | 58.00            | 0.00           | 58.00        |                |        |            | 58.00       | \$3,883.10  |
| <b>Total Task Hours</b>                         |                        | 1098.44                                 | 1180.21              | 1685.55          | 231.66         | 4,195.86     |                |        |            |             |             |
| <b>Total Task Cost</b>                          |                        | \$43,295.33                             | \$49,443.13          | \$65,164.32      | \$7,844.07     | \$165,746.85 |                |        |            |             |             |
| <b>Overhead (or Fringe) Rate (Audited Rate)</b> |                        | \$15,404.89                             | \$17,591.87          | \$23,185.47      | \$2,790.92     | \$58,973.15  |                |        |            |             |             |
| <b>GRAND TOTAL</b>                              |                        | \$58,700.22                             | \$67,035.00          | \$88,349.79      | \$10,634.99    | \$224,720.00 |                |        |            |             |             |

Line Item Amounts can be adjusted by 10 percent among tasks without prior written approval from MAG Executive Director.

# **Appendix H**

**MARICOPA ASSOCIATION OF GOVERNMENTS**

**AGREEMENT FOR**

**REGIONAL BIKE SAFETY EDUCATION CAMPAIGN**

This AGREEMENT entered into as of the 1st day of December, 2008, by and between the Maricopa Association of Governments hereinafter called MAG, and Regional Public Transportation Authority, a political subdivision of the State of Arizona, hereinafter referred to as RPTA.

**RECITALS**

**WHEREAS, MAG** is the recipient of Federal Highway Administration Funds and Regional Area Road Funds as described in the FY 2009 MAG Unified Planning Work Program; and as described in the 2005 agreement between MAG and the Arizona Department of Transportation.

**WHEREAS, MAG** desires to have prepared by the most efficient and effective means possible, the Regional Bike Safety Education Campaign;

**NOW THEREFORE,**

It is hereby agreed:

**I. SCOPE OF WORK**

- A. The purpose of this project is to develop and implement an integrated educational and awareness campaign for safe bicycling behavior. Specifically, this will be accomplished by teaching the RPTA audience how to use the tools and curriculum provided to stage effective, interesting and well-attended Bike Rodeos, train outreach coordinators in helmet safety, and reach all the April Bike Month participants with a bicycle safety message reinforced by incentive items and helmets.
- B. To accomplish this project, RPTA has submitted to MAG a work plan and schedule, which are included in Appendix A and made a part of this AGREEMENT. The tasks to be performed and the services to be provided pursuant to the work plan and

schedule included in Appendix A (also referred to in this contract as the "Scope of Services") are referred to herein as the "Services".

## II. PROJECT COSTS AND BILLING PROCEDURES

- A. Invoices will be submitted monthly, documenting services by each work task, the hours and hourly rate of each person, and other direct expenses. All costs incurred in preparing invoices and progress reports shall be included in the general and administrative expenses or the overhead. A billing format shall be provided to RPTA by MAG.
- B. The basis for payment to RPTA for services rendered hereunder shall be reimbursement for costs in conformance with the budget described in Appendix A and pursuant to the cost breakdown to be furnished by RPTA, the detailed budget and scope of services approved by MAG, in accordance with the adopted Work Program. RPTA may make adjustments within the tasks of the approved budget as needed to accomplish the requirements of the Scope of Services. No adjustment shall exceed 10 percent of the task budget without prior written approval from the MAG Executive Director.
- C. RPTA shall maintain cost records in accordance with Article III, Records and Audit Rights, of this AGREEMENT. Costs shall be available for verification audit by the authorized representatives of MAG, the Federal Highway Administration, Citizen Transportation Oversight Committee (CTOC), and the Comptroller General of the United States. MAG agrees to make progress payments that are commensurate with work completed. Partial payment shall be made to RPTA upon receipt of monthly report of work accomplished and invoices, but not more often than once each month. Final payment of any balance due RPTA will be made upon completion and acceptance of work and services to be completed hereunder.
- D. RPTA agrees to make quarterly in-kind contributions in the form of office space, furniture and furnishings, office equipment, office support and overhead costs as required by the applicable federal grantor as described in the Work Program.
- E. RPTA agrees to make quarterly reports for the outcome-based performance measurements for the Regional Bike Safety Education Campaign.

## III. RECORDS AND AUDIT RIGHTS

RPTA's work and accounting records (hard copy, as well as computer readable data), and any other supporting evidence deemed necessary by MAG to substantiate charges and claims related to this AGREEMENT shall be open to inspection and subject to audit and/or reproduction by authorized representatives of MAG, the Federal Highway Administration, the Citizen Transportation Oversight Committee (CTOC), and the Comptroller General of the United States ("Auditors") to the extent necessary to adequately permit evaluation and verification of the performance and cost of the work, and any invoices, change orders, payments or claims submitted by RPTA or any of its payees pursuant to the execution of the AGREEMENT. The Auditors shall be afforded access, at reasonable times and places, to all of RPTA's records and personnel pursuant to the provisions of this Section throughout the term of this AGREEMENT and for a period of five (5) years after last or final payment.

If an audit in accordance with this Section discloses overcharges, of any nature, by RPTA to MAG in excess of five percent (5%) of the total AGREEMENT billings, the actual cost of the Auditor's audit shall be reimbursed to the auditing organization by RPTA. Any adjustments and/or payments which must be made as a result of any such audit or inspection of RPTA's invoices and/or records shall be made within a reasonable amount of time (not to exceed 90 days) from presentation of the Auditor's findings to RPTA.

#### IV. COSTS

Costs of RPTA include all direct labor costs, all direct non-labor costs and all overhead costs. OMB Circular A-87 will be used to determine allowable costs.

- A. Direct labor cost is defined as the actual salaries and salaries cost burden of all employees of RPTA used for the time directly chargeable to work to be performed hereunder including time involved in travel.
- B. Direct non-salary costs shall include any actual expenditures required directly in performance of services hereunder other than actual direct labor costs and include such items as the following:
  - 1. Travel expense of RPTA in connection with the work hereunder. RPTA's allowance for mileage and per diem for lodging, meals and miscellaneous costs shall be reimbursed according to MAG Policy.
  - 2. Communication such as long distance telephone, telegraph and cable expenses applicable to service hereunder.

3. Costs of special services, RPTA services and applicable equipment rental.
  4. Any other related actual costs such as meeting rooms, reproduction, graphics, and research materials.
- C. RPTA's overhead is defined as the costs which are not directly allocable to the project as a direct labor cost or direct non-salary cost as defined above. RPTA shall maintain records setting forth the actual overhead as computed from the annual financial statement(s) applicable to the work period under this AGREEMENT and these are to be kept available for inspection for a period of five (5) years after final payment.

**V. KEY PERSONNEL**

In the event that any of the key personnel of RPTA set forth in Appendix A becomes unavailable, RPTA will notify MAG. MAG shall approve any substitute personnel to ensure proper performance and continuity.

**VI. ASSIGNMENT AND SUBCONTRACTING**

RPTA shall not assign or subcontract any part of this AGREEMENT or the work to be performed hereunder without written approval by MAG except as identified in the Work Program and identified in Appendix A, Scope of Services.

**VII. ADMINISTRATIVE RULES AND REGULATIONS AND APPLICABLE LAW**

RPTA shall become and remain informed of all applicable Federal, State and local laws, ordinances, rules, regulations, and all orders and decrees of bodies or tribunals having any jurisdiction or authority which may in any manner affect the completion of the project under this AGREEMENT. RPTA shall observe and comply with all such laws, ordinances, rules, regulations, orders, and decrees and obtain all permits that are applicable to the performance of services outlined. Appendices B, C and D describe additional provisions required to comply with Title VI and Title VII of the Civil Rights Act of 1964; and Appendix E describes environmental, resource, energy protection, and conservation requirements. These Appendices are considered part of the AGREEMENT.

**VIII. SUBRECIPIENT AUDITS**

RPTA, which is a political subdivision of the State, and is defined as a "subrecipient" pursuant to 31 U.S.C. §7501, that expends \$300,000 or more in federal awards in its fiscal year shall comply with the audit and reporting requirements set forth in 31 U.S.C. Subpart A--General, Section.105, Definitions.

In compliance with the Federal Single Audit Act of 1996 (P.L. 104-156), Contractors designated as subrecipients expending federal funds from all sources totaling \$300,000 or more shall have a yearly audit conducted in accordance with the audit and reporting standards as prescribed in OMB Circular A-133 (Audits of State, Local Governments, and Non-Profit Organizations). The audit shall include separate reports on the financial statements, internal controls, compliance, the Supplementary Schedule of Expenditures of Federal Awards and the Schedule of Findings and Questioned Costs. MAG's contract number(s), applicable task number(s) and the award amount(s) shall be included in a separate schedule if not included on the Supplementary Schedule of Expenditures of Federal Awards. RPTA's annual audit report and an action plan for the resolution of any findings and/or questioned costs shall be submitted to MAG within 9 months of RPTA's fiscal year end.

RPTA is subject to the programmatic and fiscal monitoring requirements of each MAG program to ensure accountability of the delivery of all goods and services, as required under the Federal Single Audit Act. A minimum fiscal requirement for all Contractors, designated as subrecipients, is an annual financial audit, which includes MAG's contract number(s), applicable task number(s) and the award amount(s). The audit shall be submitted to the MAG location, as specified in the reporting requirements of the agreement between RPTA and MAG. MAG may, at its discretion, periodically request additional information from RPTA.

#### **IX. WRITTEN ORDERS REQUIRED FOR CHANGES**

No changes in the scope, character, or complexity of work shall be made by RPTA without first receiving a written approval by MAG's Executive Director properly defining and limiting any such change. It is distinctly understood and agreed that no claim for payment for extra work done or materials furnished by RPTA shall be paid by MAG except as hereinabove provided; nor shall RPTA do any work or furnish any materials not covered by this AGREEMENT unless a written order is first received from MAG's Executive Director. Any such work or materials furnished by RPTA without such written order shall be at the risk, cost, and expense of RPTA, and no claim for compensation for any such work or materials shall be made.

**X. TERMINATION, ABANDONMENT OR POSTPONEMENT**

The right is reserved by MAG to terminate or abandon this study and this AGREEMENT may be terminated by giving written notice to RPTA at least fifteen (15) days prior to the effective date of termination. In the event of such termination, MAG shall be liable to RPTA for acceptable work performed to the date of termination only, computed as provided in Section II, Project Costs and Billing Procedures, and Section IV, Costs, of this AGREEMENT. The right is also reserved by MAG to indefinitely postpone work on this study by giving twenty-four (24) hour written notice.

**XI. FISCAL LIMITATIONS**

In the event that the funds required for performance of this AGREEMENT are withdrawn or are not available for funding hereunder, this AGREEMENT without penalty to either party may be immediately terminated. MAG shall be liable to RPTA for acceptable work performed to the date of termination only, computed as provided in Section II and Section IV of this AGREEMENT.

**XII. RELATIONSHIP OF MAG AND RPTA; EXERCISE OF MAG'S POWERS**

It is understood and agreed that RPTA is an "independent authority" and that no relationship of agency, master-servant, or employer-employee shall be created or exist between RPTA and MAG as a result of the execution of this AGREEMENT; and RPTA shall not exercise any powers of MAG nor make any AGREEMENT, obligation, or commitment on behalf of MAG nor in any other way represent any of RPTA or its employees as agents of MAG.

**XIII. INDEMNIFICATION**

Each party to this AGREEMENT agrees to defend, indemnify, save and hold harmless the other (and each of their respective directors, officers, agents, and employees) from and against all liabilities, suits, obligations, claims, demands, damages, fines, costs and expenses (including reasonable attorney's fees) arising under this AGREEMENT to the extent that such are attributable, directly or indirectly, to the indemnifying party's negligence, error omission or intentional act. An indemnifying party's negligence, error, omission or intentional act, as that phrase is used herein, includes the negligence, error, omission or intentional act of its officers, agents, employees, and contractors.

**XIV. INSURANCE**

RPTA shall maintain during the term of this AGREEMENT, the following insurance with forms and insurers acceptable to MAG as provided below:

- A. If applicable, Workmen's Compensation insurance to cover obligations imposed by Federal and State statutes having jurisdiction of its employees engaged in the performance of the services, and Employers' Liability insurance with a minimum limit of not less than \$500,000 for each accident, \$500,000 disease for each employee and \$1,000,000 disease policy limit.
- B. If applicable, Architects and Engineers Professional Liability insurance in the amount of \$1,000,000 each claim and \$2,000,000 all claims. In the event the insurance policy is written on a "claims made" basis, coverage shall extend for three (3) years past completion and acceptance of the work or services, and RPTA shall submit certificates of insurance evidencing proper coverage is in effect as required herein.
- C. Commercial General Liability Insurance with an unimpaired limit of less than \$1,000,000 for each occurrence, \$2,000,000 Products and Completed Operations Annual Aggregate, and a \$2,000,000 General Aggregate Limit. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, contractors protective, products and completed operations. The policy shall contain a severability of interest clause.
- D. Business Automobile Liability insurance with a limit of \$1,000,000 each occurrence on RPTA's owned, hired, and non-owned vehicles assigned to or used in the performance of RPTA's work or services under this AGREEMENT. To the fullest extent allowed by law, for claims arising out of the performance of this AGREEMENT, MAG, its agents, representatives, officers, directors, officials and employees shall be cited as an Additional Insured under Insurance Service Offices, Inc. Business Auto policy Designated Insured Endorsement form CA 20 48 or equivalent. If any Excess insurance is utilized to fulfill the requirements of this paragraph, such Excess insurance shall be "follow form" equal or broader in coverage scope than underlying.
- E. Valuable Papers insurance in an amount sufficient to assure the restoration of any documents, memoranda, reports or other similar data relating to the work of RPTA used in the completion of this AGREEMENT.

- F. The policies required by this AGREEMENT shall be endorsed to include MAG, its agents, officials and employees as additional insureds and shall stipulate that the insurance afforded RPTA shall be primary insurance and that any insurance carried by MAG, its agents, officials or employees shall be excess and not contributory insurance to that provided by RPTA.
- G. A certificate of insurance acceptable to MAG shall be issued to MAG prior to commencement of the AGREEMENT as evidence that policies providing the required coverages, conditions and limits are in full force and effect. Such certificate shall contain provisions that coverage afforded under the policies will not be cancelled, terminated or materially altered until at least 30 days prior written notice has been given to MAG.

**XV. ACCURACY OF WORK**

RPTA shall be responsible for the accuracy of the work and shall promptly make all necessary revisions or corrections resulting from errors on the part of RPTA without additional compensation.

**XVI. REVIEWS OF RPTA'S WORK**

Work performed by RPTA shall be subject to periodic reviews and partial acceptance at various stages. MAG reserves the right to make such reviews and pass upon the acceptability of RPTA's work on behalf of itself, the State, and other affected public agencies. No partial acceptance shall relieve RPTA's obligation to make reasonable efforts to correct, without charge, any errors in the work.

**XVII. OWNERSHIP OF INFORMATION**

RPTA agrees that all reports, estimates, maps, computations and computer databases, programs and procedures prepared for MAG under the terms of this AGREEMENT shall be delivered to, become and remain the property of MAG upon termination or completion of this AGREEMENT and MAG shall have the right to their use without restriction or limitation and without additional compensation to RPTA. Major promotional items will indicate that the program is sponsored in part by MAG and include the MAG logo when possible.

**XVIII. PATENT RIGHTS**

If any invention, improvement, or discovery of RPTA is conceived or first actually reduced to practice in the course of or under this project, which invention, improvement, or discovery may be patentable under the laws of the United States of America or any foreign country, RPTA shall immediately notify the Federal Highway Administration and the Citizen Transportation Oversight Committee (CTOC) and provide a detailed report. The rights and responsibilities of MAG, RPTA, the Federal Highway Administration, and the Citizen Transportation Oversight Committee (CTOC) with respect to such invention, improvement, or discovery will be determined in accordance with applicable Federal laws, regulations, policies, and any waiver thereof.

**XIX. CONTINUING OBLIGATION**

RPTA agrees that if, because of death or any other occurrence, it becomes impossible for any key employee of RPTA to render the services required under this AGREEMENT, RPTA shall not be relieved of any obligation to render complete performance. However, in such event, MAG may terminate this AGREEMENT if it considers the absence of such principal or employee to be a loss of such magnitude as to affect RPTA's ability to satisfactorily complete the performance of this AGREEMENT. In the event that MAG so chooses to terminate this AGREEMENT, payment for accepted work shall be made as specified in Section II and Section IV of this AGREEMENT.

**XX. CONFLICT OF INTEREST, CANCELLATION**

This AGREEMENT is subject to cancellation for conflict of interest without penalty or further obligation as provided by A. R. S. § 38-511.

**XXI. GENERAL PROVISIONS**

**A. ENTIRE AGREEMENT**

This AGREEMENT constitutes the entire understanding of the parties and supersedes all previous representations, written or oral, with respect to the services specified herein. This AGREEMENT may not be modified or amended except by a written document, signed by authorized representatives of each party.

**B. ARIZONA LAW**

In the event of litigation between RPTA and MAG involving this AGREEMENT, the laws and decisions of the State of Arizona shall apply and any such litigation shall be commenced and prosecuted in the appropriate court of competent jurisdiction within the geographical boundaries of the State of Arizona.

C. MODIFICATIONS

Any amendment, modification or variation from the terms of this AGREEMENT shall be in writing and shall be effective only after approval of all parties signing the original AGREEMENT.

D. SUCCESSORS AND ASSIGNS

This AGREEMENT shall extend to and be binding upon RPTA, its successors and assigns, including any individual, company, partnership or other entity with or into which RPTA shall merge, consolidate or be liquidated, or any person, corporation, partnership or other entity to which RPTA shall sell its assets.

E. ATTORNEY'S FEES

In the event either party brings any action for any relief, declaratory or otherwise, arising out of this AGREEMENT, or on account of any breach or default hereof, the prevailing party shall be entitled to receive from the other party reasonable attorneys' fees and reasonable costs and expenses, determined by the court sitting without a jury, which shall be deemed to have accrued on the commencement of such action and shall be enforceable whether or not such action is prosecuted to judgment.

F. NOTICES

All notices or demands required to be given pursuant to the terms of this AGREEMENT shall be given to the other party in writing, delivered in person, sent by facsimile transmission, deposited in the United States mail, postage prepaid, registered or certified mail, return receipt requested, or deposited with any commercial air courier or express service at the addresses set forth below, or to such other address as the parties may substitute by written notice given in the manner prescribed in this paragraph.

For RPTA:

David Boggs  
Regional Public Transportation Authority  
302 North First Avenue, Suite 700  
Phoenix, Arizona 85003  
(602) 262-7242  
FAX (602) 495-2002

For MAG:

Dennis Smith  
Executive Director  
Maricopa Association of Governments  
302 North 1st Avenue, Suite 300  
Phoenix, Arizona 85003  
(602) 254-6300  
FAX (602) 254-6490

Notices shall be deemed received on date delivered, if delivered by hand, on the day it is sent by facsimile transmission, on the second day after its deposit with any commercial air courier or express services or, if mailed, ten (10) days after the notice is deposited in the United States mail as above provided, and on the delivery date indicated on receipt if delivered by certified or registered mail. Any time period stated in a notice shall be computed from the time the notice is deemed received. Notices sent by facsimile transmission shall also be sent by regular mail to the recipient at the above address. This requirement for duplicate notice is not intended to change the effective date of the notice sent by facsimile transmission.

G. FORCE MAJEURE

Neither party shall be responsible for delays or failures in performance resulting from acts beyond their control. Such acts shall include, but not be limited to, acts of God, riots, acts of war, epidemics, governmental regulations imposed after the fact, fire, communication line failures, power failures, or earthquakes.

H. ADVERTISING

No advertising or publicity concerning MAG using RPTA's services shall be undertaken without prior written approval of such advertising or publicity by MAG's Executive Director.

I. COUNTERPARTS

This AGREEMENT may be executed in one or more counterparts, and each originally executed duplicate counterpart of this AGREEMENT shall be deemed to possess the full force and effect of the original.

J. CAPTIONS

The captions used in this AGREEMENT are solely for the convenience of the parties, do not constitute a part of this AGREEMENT and are not to be used to construe or interpret this AGREEMENT.

K. SEVERABILITY

If any term or provision of this AGREEMENT shall be found to be illegal or unenforceable, then notwithstanding such illegality or unenforceability, this AGREEMENT shall remain in full force and effect and such term or provision shall be deemed to be deleted.

L. AUTHORITY

Each party hereby warrants and represents that it has full power and authority to enter into and perform this AGREEMENT, and that the person signing on behalf of each has been properly authorized and empowered to enter this AGREEMENT. Each party further acknowledges that it has read this AGREEMENT, understands it, and agrees to be bound by it.

**XXII. YEAR 2000 COMPLIANCE**

A. DEFINITIONS

"Year 2000 Compliant" means having the capability to: (a) accurately and consistently process date information before, during and after January 1, 2000 (including the Year 2000 as a leap year), including but not limited to accepting date

input, providing date output on dates or portions of dates, date calculations, logical functions, program branching, format conversion, edits and validations, and the use of dates in comparisons, sorting, sequencing, merging, retrieving, searching and indexing; (b) function accurately and without interruption before, during and after January 1, 2000 (including the Year 2000 as a leap year), without any change in operations associated with the advent of the new century; (c) respond to two-digit input in a way that resolves any ambiguity as to century in a disclosed, defined and predetermined manner; and (d) store and provide output of date, including displaying information in ways that are unambiguous as to century.

"Information Technology Product" means all computerized and auxiliary automated information processing, telecommunications and related technology, including hardware, software, firmware, vendor support and related services, and equipment (including without limitation, computers date processing, microprocessors, calculators, programmable systems and other electronic devices).

#### B. REPRESENTATIONS AND WARRANTIES

RPTA represents and warrants that any and all Information Technology Product[s] that the RPTA will deliver under this AGREEMENT will:

1. Be "Year 2000 Compliant" as defined above.
2. Lose no functionality or performance with respect to the introduction of records or data containing dates falling on or after January 1, 2000, and will be interoperable with other software used by MAG which interacts with the Information Technology Product[s] or which may deliver records or data to the Information Technology Product[s] , including but not limited to back-up and archive data.

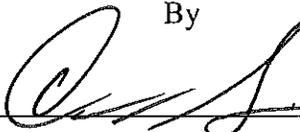
Notwithstanding any other limitation of warranty or warranties in this AGREEMENT, the above Year 2000 warranty shall extend into the Year 2000, and the remedies available to MAG under such Year 2000 warranty shall also include, but not be limited to, repair or replacement of any or all Information Technology Product[s] whose non-compliance are discovered and made known to the RPTA by MAG.

Nothing in this warranty shall be construed to limit any rights or remedies MAG may otherwise have under this AGREEMENT with respect to RPTA's noncompliance with its obligations other than Year 2000 performance.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed by their duly authorized officers.

MARICOPA ASSOCIATION OF GOVERNMENTS

By



Dennis Smith

MAG Executive Director

02/19/09

Date

REGIONAL PUBLIC TRANSPORTATION AUTHORITY

By



David Boggs

Executive Director

2/13/09

Date

Reviewed as to form:

By



MAG General Counsel

1-28-09

Date

By



RPTA General Counsel

2-8-09

Date

**CERTIFICATION OF MAG**

I hereby certify that I am the MAG Executive Director and that RPTA or its representative has not been required, directly or indirectly as an expressed or implied condition in connection with obtaining or carrying out this AGREEMENT to:

- A. Employ or retain, or agree to employ or retain, any firm or person; or
- B. Pay, or agree to pay, to any firm or person or organization, any fee, contribution, donation, or consideration of any kind.

I acknowledge that this certificate is to be furnished to the Federal Highway Administration and the Citizen Transportation Oversight Committee (CTOC) and is subject to applicable State and Federal laws, both criminal and civil.

08/19/09  
Date

  
Dennis Smith  
MAG Executive Director

**CERTIFICATION OF RPTA**

I hereby certify to the best of my knowledge and belief that the Regional Public Transportation Authority, whose address is 302 N. First Avenue, Suite 700, Phoenix, Arizona, and I, as the Executive Director:

- A. Have not employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me or the above firm) to solicit or secure this AGREEMENT;
- B. Have not agreed, as an expressed or implied condition for obtaining the AGREEMENT, to employ or retain the services of any firm or person in connection with carrying out the AGREEMENT;
- C. Have not paid, or agreed to pay, to any firm, organization, or person (other than a bona fide employee working solely for me or the above firm) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the AGREEMENT;
- D. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency, and are not prohibited from working on Federally assisted projects;
- E. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or AGREEMENT under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- F. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commissions of any of the offenses enumerated in paragraph (E) of this certification; and
- G. Have not within a three-year period preceding this application/proposal had one or more public transaction (Federal, State or local) terminated for cause or default.

Where RPTA is unable to certify to any of the statements in this certification, it shall attach an explanation.

I acknowledge that this certificate is to be furnished to MAG, the Federal Highway Administration, and the Citizen Transportation Oversight Committee (CTOC) is subject to applicable State and Federal laws, both criminal and civil.

By  
REGIONAL PUBLIC TRANSPORTATION  
AUTHORITY

\_\_\_\_\_  
Date *2/13/09*

\_\_\_\_\_  
*David A Boggs*  
David Boggs  
Executive Director

**CERTIFICATION LIMITING LOBBYING ACTIVITIES**

David Boggs, acting as agent for RPTA certifies, to the best of his/her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of RPTA to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, RPTA shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.

(3) RPTA shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subgrants, and contracts and subcontracts under grants, subgrants, loans, and cooperative agreements), which exceed \$100,000, and that all such subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

David Boggs  
Executive Director

\_\_\_\_\_  
*David Boggs*  
Signature

\_\_\_\_\_  
*2/13/09*  
Date

**APPENDIX A  
SCOPE OF SERVICES**

**MARICOPA ASSOCIATION OF GOVERNMENTS (MAG)  
REGIONAL BIKE SAFETY EDUCATION CAMPAIGN**

**I. TASKS TO BE PERFORMED FOR THE FY 2009 & FY 2010 BIKE SAFETY EDUCATION CAMPAIGN**

The purpose of this project is to develop and implement an integrated educational and awareness campaign for safe bicycling behavior. Specifically, this will be accomplished by teaching the RPTA audience how to use the tools and curriculum provided to stage effective, interesting, and well-attended bicycle rodeos, train outreach coordinators in helmet safety, and reach all the April Bike Month participants with a bicycle safety message reinforced by incentive items and helmets.

The Bike Education project will be carried out by RPTA and will include strategic promotion, community outreach, education, and communications plan for a Bike Safety Education Campaign in Maricopa County. This includes awareness elements, public relations strategies, as well as community outreach and education initiatives. One component will be continuing the Bike Safety Education training for school outreach developed by St. Joseph's Hospital for teachers and/or public safety or school nurses.

New to the FY 2009 & FY 2010 program is the RPTA plan to train and distribute "Bike Rodeo Tool Kits" for public safety practitioners, educators, and school nurses. Dozens of communities, school districts, and agencies throughout the County have already learned from and enjoyed the RPTA "Train - the Trainer" workshops on brain physiology and helmet use. Bike Rodeo Tool Kits would complement those sessions by providing props and instruction for holding hands-on learning events. RPTA will pair the "Train - the Trainer" helmet safety training with the Bike Rodeo Tool Kit training in two series of workshops per year, one in winter to prepare for Bike Month and another series in late summer to address "back to school" bike safety.

With more schools participating in the Safe Routes to School programs, RPTA will target training and distribution to all MAG member jurisdictions, all Maricopa County School Districts, the RPTA Transportation Enhancement grant pilot schools, all ADOT Cycle 1 & 2 Safe Routes to School recipients, and all schools working with their local jurisdictions to deliver Safe Routes to School programs. RPTA will also encourage adult-oriented bike rodeos by working with senior centers and other community groups.

In addition, RPTA will create a bike and pedestrian safety awareness campaign to tie in with the FY 2009 & FY 2010 MAG project for the April Bike Month campaign, and, as RPTA did in the 2008 MAG agreement, will take advantage of leveraging possibilities with other community partnerships.

**Task 1.0: FY 2009 & FY 2010 Bike Rodeo Tool Kit & Helmet Your Head “Train - the Trainer” Workshops**

Working with MAG staff, the MAG Regional Bicycle Task Force, and Maricopa County based cycling groups and clubs, RPTA will continue to offer two series of “Train - the Trainer” workshops per year (4-5 geographically distributed) and add two series of Bike Rodeo training workshops per year (4-5 geographically distributed) on how to conduct successful Bike Rodeos and use of the Bike Rodeo Tool Kits. RPTA anticipates the recipients creating dynamic, memorable Bike Rodeos that educate youth and adults alike on bike safety techniques and equipment.

**Task 2.0: FY 2009 & FY 2010 Bike Safety Education & Awareness Campaigns**

In cooperation with MAG staff, the MAG Regional Bicycle Task Force, and Maricopa County based cycling groups and clubs, RPTA will create an annual safety education and awareness message/theme, complete with collateral educational and promotional materials.

These materials will be distributed to MAG jurisdictions for use in their bicycle education and Safe Routes to School bike-related programming. Promotional items, such as safety message T-shirts, collectible safety message posters, reflectors, safety message slap bracelets, pant guards, brain erasers, etc., will be purchased to be made available to MAG member agencies in support of the bike safety programs and events.

Utilizing Adobe Acrobat software made available to RPTA through the FY 2008 MAG agreement, RPTA will customize a portion of the Bike Safety message posters for employers and schools to assist them in promoting their individual bike safety efforts, such as Bike to Work Day or Bike Safety Rodeos.

In addition, informational materials will be distributed at or to bicycle rides, charity walks, bicycle retailers, libraries, parks, PTAs, ADOT Motor Vehicle Division, utility bill inserts, and/or large stores that sell sports equipment for publication,

posting on web sites, and/or for redistribution.

### **Task 3.0: FY 2009 & FY 2010 Program Evaluation**

Several different mechanisms will be considered to evaluate the effectiveness of the Bike Safety Awareness Campaign, helmet use, and Bike Rodeo training. In FY 2009 & FY 2010, RPTA will be designing web-based evaluation tools under *The Regional Safe Routes to School Support Center* grant and will aid in the evaluation of the Bike Safety program. These tools will include:

*Surveys* – An online survey of school age kids (3<sup>rd</sup> – 8<sup>th</sup> grade) will be used to determine helmet use, safe cycling practices, and pre and post training programs.

*Evaluation forms* for attendees of the helmet use and Bike Rodeo training workshops will measure what teachers, public safety officials, hospitals, and community trainers think about the curriculums and tools provided to them.

In addition, RPTA will track distribution of bike rodeo kits, helmets, and bike safety awareness materials, including safety message T-shirts, posters, and giveaway promotional items.

## **II. DELIVERABLES**

RPTA will deliver to MAG one copy each of the Bike Rodeo Tool Kit, Helmet Your Head - "Train - the Trainer", and Bike Rodeo Tool Kit training workshop notices and attendance lists. A list of distributed bicycle safety message T-shirts, posters and promotional materials used in the 2009 & 2010 MAG Regional Bike Safety Education Campaigns will be provided to MAG. Survey and evaluations results will be tabulated and reported to each year to

## **III. SCHEDULE**

It is anticipated that the project will begin December 1, 2008 and is scheduled to be complete by June 30, 2010.

| <b>TASK</b> | <b>ACTIVITY</b>  | <b>DUE DATE</b>                      |
|-------------|--|--------------------------------------|
| TASK 1      | Bike Rodeo Tool Kit & Helmet Use<br>"Train- the Trainer" Workshops | FY 2009: 6/30/09<br>FY 2010: 6/30/10 |
| TASK 2      | Bike Safety Education &<br>Awareness Campaigns                     | FY 2009: 6/30/09<br>FY 2010: 6/30/10 |
| TASK 3      | Program Evaluations  | FY 2009: 6/30/09<br>FY 2010: 6/30/10 |

#### **IV. PROJECT TEAM**

The project will be undertaken by RPTA staff member Suzanne Day along with SUBCONSULTANTS hired by RPTA to carry out the needed tasks. A portion of the salary for Suzanne Day, Business Services Account Executive at RPTA is included in the Labor Cost Allocation Budget.

#### **V. BUDGET**

The budget for the project by task is as follows:

| <u>Task</u> | <u>Task Description</u>                     | <u>Budget</u>      |
|-------------|---|--------------------|
| Task 1.0    | Bike Rodeo Tool Kit & Helmet Workshops      | \$95,441.95        |
| Task 2.0    | Bike Safety Education & Awareness Campaigns | \$ 69,522.67       |
| Task 3.0    | Program Evaluations                         | <u>\$ 9,035.38</u> |
| TOTAL       |   | \$174,000.00       |

A project task cost breakdown is included on the next page.

LABOR COST ALLOCATION BUDGET

| Regional Bike Safety Education Campaign<br>Regional Public Transportation Authority (RPTA)<br>Original Budget |   |   |   |   |   |        |           |                |            |
|---|---|---|---|---|---|--------|-----------|----------------|------------|
| Hours by Personnel and Task Description   |   |   |   |   |   |        |           |                |            |
| PRIME CONSULTANT  | Raw Direct<br>Hourly<br>Rate                                  | Task 1  |   | Task 2  |   | Task 3 |           | Total<br>Hours | Total Cost |
|   |   | Helmet Use & Bike Rodeo Workshops<br>FY09 & FY10            | Bike Safety Education & Awareness<br>Campaigns<br>FY09 & FY10 | Bike Safety Education & Awareness<br>Campaigns<br>FY09 & FY10 | Bike Safety Education & Awareness<br>Program<br>FY09 & FY10 |        |           |                |            |
| Suzanne Day FY09  | \$ 31,2500  | 164.00  | 164.00  | 36.00   | 984.00  | \$     | 11,375.00 |                |            |
| Suzanne Day FY10  | \$ 32,4500  | 281.00  | 281.00  | 62.00   | 624.00  | \$     | 20,248.80 |                |            |
| Total Task Hours  |   | 445.00  | 445.00  | 98.00   | 988.00  |        |           |                |            |
| Total Task Cost   | \$ 0.95580  | 14,243.45   | 14,243.45   | 3,136.90  | 31,623.90   | \$     |           |                |            |
| ERE or Fringe Rate  |   | 5,067.82  | 5,067.82  | 1,116.11  | 11,251.75   | \$     |           |                |            |
| Total Labor with Fringe   |   | 19,311.27   | 19,311.27   | 4,253.01  | 42,875.55   | \$     |           |                |            |
| Overhead Rate   | 0.42340000  | 6,030.68  | 6,030.68  | 1,328.16  | 13,389.52   | \$     |           |                |            |
| Total Labor With Fringe and Overhead  |   | 25,341.95   | 25,341.95   | 5,581.17  | 56,265.07   | \$     |           |                |            |
| PRIME CONSULTANT  |   |   |   |   |   |        |           |                |            |
| Directly Reimbursable Expenses  |   |   |   |   |   |        |           |                |            |
| Reimbursable Expenses   |   | Task 1  | Task 2  | Task 3  | Total Cost  |        |           |                |            |
| Postage   | \$  | 100.00  | 100.00  |   | 200.00  | \$     |           |                |            |
| Copying / Printing  | \$  |   |   |   |   | \$     |           |                |            |
| Helmets   | \$  | 35,000.00   | 10,000.00   |   | 45,000.00   | \$     |           |                |            |
| Miscellaneous Expenses  | \$  |   |   |   |   | \$     |           |                |            |
| Adjustments (MAG)   | \$  |   |   |   |   | \$     |           |                |            |
| Total Prime Reimbursable Expenses   | \$  | 35,100.00   | 10,100.00   |   | 45,200.00   | \$     |           |                |            |
| SUBCONSULTANTS  |   |   |   |   |   |        |           |                |            |
| Hours by Personnel and Reimbursables  |   |   |   |   |   |        |           |                |            |
| R & R Partners  | Loaded  | Task 1  | Task 2  | Task 3  | Total   |        |           |                |            |
| Total Subconsultant Reimbursable Expenses   | \$  |   |   |   |   | \$     |           |                |            |
| Flat Fee Charges  |   |   |   |   |   |        |           |                |            |
| Flat Fee Amount   |   | \$35,000.00   | \$30,626.52   |   | 65,626.52   | \$     |           |                |            |
| R & R Partners  | Total Costs   | \$35,000.00   | \$30,626.52   | \$0.00  | 65,626.52   | \$     |           |                |            |
| Website - IMP and/or Rideshark  | Loaded  |   |   |   |   |        |           |                |            |
| Website - IMP and/or Rideshark  | Hourly  | 0.00  | 0.00  | 0.00  | 0.00  |        |           |                |            |
| Total Task Hours  |   | 0.00  | 0.00  | 0.00  | 0.00  |        |           |                |            |
| Total Loaded Labor Costs  | \$  |   |   |   |   | \$     |           |                |            |
| Total Subconsultant Reimbursable Expenses   | \$  |   |   |   |   | \$     |           |                |            |
| Flat Fee Charges  |   |   |   |   |   |        |           |                |            |
| Flat Fee Amount   |   |   |   |   |   |        |           |                |            |
| Website - IMP and/or Rideshark  | Total Costs   | \$0.00  | \$3,454.20  | \$3,454.21  | 6,908.41  | \$     |           |                |            |
| R & R Partners  | Total Costs   | \$0.00  | \$3,454.20  | \$3,454.21  | 6,908.41  | \$     |           |                |            |
| Website - IMP and/or Rideshark  | Total Costs   | \$0.00  | \$3,454.20  | \$3,454.21  | 6,908.41  | \$     |           |                |            |
| Total Subconsultant Costs   | Total Costs   | \$0.00  | \$3,454.20  | \$3,454.21  | 6,908.41  | \$     |           |                |            |
| Subconsultant Costs Summary   |   |   |   |   |   |        |           |                |            |
| R & R Partners  |   | 35,000.00   | 30,626.52   |   | 65,626.52   | \$     |           |                |            |
| Website - IMP and/or Rideshark  |   |   | 3,454.20  |   | 3,454.21  | \$     |           |                |            |
| Total Subconsultant Costs   | Total Costs   | \$35,000.00   | \$34,080.72   |   | 69,080.72   | \$     |           |                |            |
| Total Costs By Task   |   |   |   |   |   |        |           |                |            |
| Task 1  | Task 2  | Task 3  | Total   |   |   |        |           |                |            |
| Helmet Use & Bike Rodeo Workshops<br>FY09 & FY10  | Bike Safety Education & Awareness<br>Campaigns<br>FY09 & FY10 | Bike Safety Education & Awareness<br>Program<br>FY09 & FY10 |   |   |   |        |           |                |            |
| \$  | \$  | \$  | \$  | \$  | \$  | \$     | \$        | \$             | \$         |
| 25,341.95   | 25,341.95   | 5,581.17  | 56,265.07   |   |   |        |           |                |            |
| 35,100.00   | 10,100.00   |   | 45,200.00   |   |   |        |           |                |            |
| 35,000.00   | 34,080.72   |   | 69,080.72   |   |   |        |           |                |            |
| 95,441.95   | 69,522.67   | 9,035.98  | 174,000.00  |   |   |        |           |                |            |
| TOTAL COST SUMMARY  |   |   |   |   |   |        |           |                |            |
| Total Labor With Fringe and Overhead  |   |   |   |   |   |        |           |                |            |
| Total Prime Reimbursable Expenses   |   |   |   |   |   |        |           |                |            |
| Total Subconsultant Costs   |   |   |   |   |   |        |           |                |            |
| GRAND TOTAL   |   |   |   |   |   |        |           |                |            |

**APPENDIX B**

**COMPLIANCE WITH TITLE VI OF THE CIVIL RIGHTS ACT OF 1964  
FOR  
FEDERAL-AID CONTRACTS**

The contractor will comply with Executive Order 11246 entitled Equal Employment Opportunity as amended by Executive Order 11375 and as supplemented in Department of Labor Regulations (41 Code of Federal Regulations Part 60) which are hereby incorporated by reference and made a part of this AGREEMENT.

**APPENDIX C**

**EXECUTIVE ORDER 99-4  
AMENDING 75-5  
REVISED MARCH 1, 1999**

**PROHIBITION OF DISCRIMINATION IN STATE CONTRACT  
NONDISCRIMINATION IN EMPLOYMENT BY GOVERNMENT CONTRACTORS  
AND SUBCONTRACTORS**

I, Jane Dee Hull, under and by virtue of the authority vested in me as Governor of the State of Arizona by the Constitution and Statutes of the State of Arizona do order and direct:

**PART I: NONDISCRIMINATION IN EMPLOYMENT BY GOVERNMENT  
CONTRACTORS AND SUBCONTRACTORS**

All government contracting agencies shall include in every government contract hereinafter entered into the following provisions:

During the performance of this Agreement, the contractor agrees as follows:

- A. The contractor will not discriminate against any employee or applicant for employment because of race, age, color, religion, sex, or national origin. The contractor will take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to their race, age, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, lay-off or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

A continued Executive Order No. 75-5 is hereby amended to permit government contractors and subcontractors that are religious organizations to provide employment preferences based upon religion when dealing with a bona fide occupational qualification reasonably necessary to the operation of the religious organization, in accordance with the requirements of Title 41, chapter 9, article 4, Arizona Revised Statutes.

Executive Order No. 75-5 prohibits all government contractors and subcontractors from discriminating against any employee or applicant for employment because of race, age, color, religions, sex or national origin. Executive Order 75-5 further requires all government contractors and subcontractors to take affirmative action to insure that applicants are employed and employees are treated during employment without regard to their race, age, color, religion, sex or national origin.

Arizona's Civil Rights Act, Title 41, chapter 9, article 4, does not apply to religious organizations with respect to employment of individuals of a particular religion to perform work connected with the activities of the employer. It also provides that religious organizations may provide employment preferences based upon religion when dealing with a bona fide occupational qualification reasonable necessary to the operation of the religious organization. This is consistent with the provisions of the Civil Rights Act of 1964 (42 U.S.C. 2000e, et seq.). In addition, in the Personal Responsibility and Work Opportunity Reconciliation Act, P.L. 104-193, Congress provided that religious organizations are eligible for the receipt of federal funds on the same basis as other private organizations. The contractor will in all solicitations or advertisement for employees placed by or on behalf of the contractor state that all qualified applicants will receive consideration for the employment without regard to race, age, color, religion, sex or national origin.

- B. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding a notice to be provided by the agency contracting officer advising the labor union or workers' representative of the contractor's commitments under the Executive Order and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- C. The contractor will furnish all information and reports required by the contracting agency and will permit access to his books, records, and accounts by the contracting agency and the Civil Rights Division for purposes of investigation to ascertain compliance with such rules, regulations and orders.
- D. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations or orders of the Arizona Civil Rights Division said noncompliance will be considered a material breach of the contract and this contract may be cancelled, terminated or suspended in whole or in part, and the contractor may be declared ineligible for further government contracts until said contractor has been found to be in compliance with the provisions of this order and the rules and regulations of the Arizona Civil Rights Division, and such sanctions may be imposed and remedies invoked as provided in Part II of this order, and the rules and regulations of the Arizona Civil Rights Division.
- E. The contractor will include the provisions of paragraphs A through E in every subcontractor purchase order so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect in the subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the State of Arizona to enter into such litigation to protect the interest of the State of Arizona.

- F. Each contractor having a contract containing the provisions prescribed in this section shall file and shall cause each of his subcontractors to file compliance reports with the contracting agency or the Civil Rights Division, as may be directed. Compliance reports shall be filed within such times and shall contain such information as the practices, policies, programs and employment policies, programs and employment statistics of the contractor and each subcontract and shall be in such form as the Arizona Civil Rights Division may prescribe.
- G. Bidders or prospective contractors or subcontractors shall be required to state whether they have participated in any previous contract subject to the provisions of this order or any preceding similar Executive Order and in that event to submit on behalf of themselves and the proposed subcontractors compliance reports prior to, or as an initial part of negotiation of a contract.
- H. Whenever the contractor or subcontractor has a collective bargaining agreement or other contract or understanding with a labor union or an agency referring workers or providing or supervising apprenticeship or training for such workers, the compliance report shall include such information from such labor unions or agency practices and policies affecting compliance as the contracting agency or Civil Rights Division may prescribe; provided that, to the extent such information is within the exclusive possession of a labor union or an agency referring workers or providing or supervising apprenticeship or training and such labor union or agency shall refuse to furnish such information to the contractor, the contractor shall so certify the contracting agency as part of its compliance report and shall set forth what efforts he has made to obtain such information.
- I. The contracting agency or the Civil Rights Division shall require that the bidder or prospective contractor or subcontractor shall submit as part of his compliance report a statement in writing signed by an authorized officer or agent on behalf of any labor union or any agency referring workers or providing or supervising apprenticeship or other training with which the bidder or prospective contractor deals with supporting information to the effect that the signer's practices and policies do not discriminate on the grounds of race, color, religion, sex or national origin, and that the signer either will affirmatively cooperate in the implementation of the policy and provisions of this order or that it consents and agrees that recruitment employment and the terms and conditions of employment under the proposed contract shall be in accordance with the purpose and provisions of this order. In event that the union or the agency shall refuse to execute such statement, the compliance shall so certify and set forth what efforts have been made to secure such a statement and such additional factual material as the contracting agency or the Civil Rights Division may require.

## **PART II: ENFORCEMENT**

- A. Each contracting agency shall be primarily responsible for obtaining compliance with this Executive Order with respect to contracts entered into by such agency or its contractors. All contracting agencies shall comply with the rules of the Civil Rights Division in discharging their primary responsibility for securing compliance with the provisions of contracts and otherwise with the terms of this order and the rules and regulations and orders of the Civil Rights Division issued pursuant to this order. They are directed to cooperate with the Civil Rights Division and to furnish the Division such information and assistance as it may require in the performance and assistance as it may require in the performance of the Division's functions under this order. They are further directed to appoint or designate from among the agency personnel compliance officers. It shall be the duty of such officers to first seek compliance with the objective of this order by conference, conciliation, mediation or persuasion.
- B. The Civil Rights Division may investigate the employment practices of any government contractor or subcontractor or initiate such investigation by the appropriate contracting agency or determine whether or not the contractual provisions specified in this order have been violated. Such investigations shall be conducted in accordance with the procedures established by the Civil Rights Division and the investigating agencies shall report to the Civil Rights Division any action taken or recommended. The Civil Rights Division may receive and investigate or cause to be investigated complaints by employees or prospective employees of a government contractor or subcontractor which allege discrimination contrary to the contractual provisions specified in Part I of this order. If the investigation is conducted for the Civil Rights Division by a contracting agency that agency shall report to the Civil Rights Division what action has been taken or its recommended with regard to such complaint.
- C. The Civil Rights Division shall use its best efforts directly and through contracting agencies, other interested state and local agencies, contractors and all other available instrumentalities to cause any labor union engaged in work under government contracts or any agency referring workers or providing or supervising apprenticeship or training for or in the course of such work or cooperate in the implementation of the purpose of this order.
- D. The Civil Rights Division or any agency, officer or employee in the executive branch of the government designated by rule, regulation or order of the Civil Rights Division may hold such hearings, public or private as the Division may deem advisable for the compliance, enforcement of educational purposes. The Civil Rights Division may hold or cause to be held hearings in accordance with rules and regulations issued by the Civil Rights Division prior to imposing, ordering or recommending the imposition of penalties and sanctions under this order.
- E. No order for debarment of any contractor from further government contracts under this order shall be made without affording the contractor an opportunity for a hearing.
- F. Sanctions and Penalties. In accordance with such rules, regulations or orders as the Civil Rights Division may issue or adopt, the Civil Rights Division or the appropriate contracting

agency may publish or cause to be published the names of contractors or unions which it has concluded have complied or have failed to comply with the provisions of this order and with the rules, regulations and orders of the Civil Rights Division.

1. Contracts may be cancelled in whole or in part, terminated, or suspended absolutely, or continuation of contracts may be conditioned upon a program for future compliance approved by the contracting agency or the Civil Rights Division; provided that any contracting agency shall refrain from entering into further contracts, extensions or other modifications of existing contract with any noncomplying contractor until such contractor has established and will carry out personnel and employment policies in compliance with the provisions of this order.
2. Under rules and regulations prescribed by the Civil Rights Division, each contracting agency shall make reasonable efforts within a reasonable time limitation to secure compliance with the contract provisions of this order by methods of conference, conciliation, mediation and persuasion before proceedings shall be instituted under this order or before a contract shall be cancelled or terminated in whole or in part under this order for failure of a contractor or subcontractor to comply with the contract provision of this order.

G. This Executive Order shall become effective within sixty (60) days of its issuance.

**IN WITNESS WHEREOF**, I have hereunto set my hand and caused to be affixed the Great Seal of the State of Arizona

DONE at the Capitol in Phoenix this First day of March in the year of Our Lord One Thousand Nine Hundred and Ninety-Nine and of the Independence of the United States of America the Two Hundred and Twenty-third.

Signed by  
Jane Dee Hull  
GOVERNOR

In order to carry out the provisions of Executive Order 99-4 Amending 75-5, the consultant shall comply with the requirements of:

1. Standard Federal Equal Employment Opportunity Construction Contract Specifications, July 1, 1978, Revised November 3, 1980, Revised April 15, 1981, and
2. Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity, July 1, 1978, Revised November 3, 1980, Revised April 15, 1981.

**APPENDIX D**

**MISCELLANEOUS NON-DISCRIMINATION ACTS**

RPTA shall comply with Title VII of the Civil Rights Act of 1964, as amended, the Age Discrimination in Employment Act of 1975, and State Executive Order No. 99-4 Amending 75-5 which mandates that all persons, regardless of race, color, religion, sex, age, national origin or political affiliation, shall have equal access to employment opportunities. RPTA shall comply with section 503 of the Rehabilitation Act of 1973, as amended, which prohibits discrimination in the employment or advancement in employment of qualified persons because of physical or mental handicap. RPTA shall comply with the requirements of Section 504 of the Rehabilitation Act of 1973, as amended, which prohibits discrimination on the basis of handicap, in delivering contract services.

## APPENDIX E

ENVIRONMENTAL, RESOURCE, ENERGY PROTECTION, AND  
CONSERVATION REQUIREMENTS

- A. Environmental Policy. The National Environmental Policy Act of 1969, as amended, 42 U.S.C. §§ 1601 et seq.; the Council on Environmental Quality regulations, 40 C.F.R. Part 1500 et seq.; and the FHWA/FTA regulation, "Environmental Impact and Related Procedures," 23 C.F.R. Part 771, as amended, are applicable to the Project.
- B. Compliance with Environmental Standards. RPTA shall comply with the provisions of the Clean Air Act, as amended, 42 U.S.C. §§ 1857 et seq.; the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§ 1251 et seq.; and implementing regulations, in the facilities that are involved in the Project for which Federal assistance is given. RPTA shall ensure that the facilities under ownership, lease or supervision, whether directly or under contract, that will be utilized in the accomplishment of the Project are not listed on the Environmental Protection Agency (EPA) List of Violating Facilities. Contracts, subcontracts, and subgrants of amounts in excess of \$100,000 shall contain a provision requiring compliance with all applicable standards, orders, or requirements issued pursuant to Federal statute or regulation. RPTA shall be responsible for reporting any violations to the FHWA and to the EPA Assistant Administrator for Enforcement. In addition, RPTA shall notify the FHWA of the receipt of any communication from the Director of the EPA Office of Federal Activities indicating that a facility to be utilized in the Project is under consideration for listing by EPA.
- C. Air Pollution. No facilities or equipment shall be acquired, constructed, or improved as a part of the Project unless RPTA obtains satisfactory assurances that they are (or will be) designed and equipped to limit air pollution as provided in accordance with the following EPA regulations: "Control of Air Pollution from Motor Vehicles and Motor Vehicle Engines," 40 C.F.R. Part 85; "Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines: Test Procedures for Light-Duty Vehicles and Light-Duty Trucks and Selective Enforcement Auditing of New Light-Duty Vehicles, Light-Duty Trucks and Heavy-Duty Engines," 40 C.F.R. Part 86; and "Fuel Economy of Motor Vehicles," 40 C.F.R. Part 600; in accordance with applicable federally-approved State Implementation Plan(s) (in particular, the Transportation Control Measures); and in accordance with appropriate FAA directives and all other applicable standards.
- D. Use of Public Lands. No publicly owned land from a park, recreation area, or wildlife or waterfowl refuge of national, State or local significance as determined by the Federal, State or local officials having jurisdiction thereof, or any land from an historic site of national, State, or local significance may be used for the Project unless specific findings required under 49 U.S.C. § 303 are made by the Department of Transportation.
- E. Historic Preservation. RPTA shall assist the Government (FHWA) to comply with Section 106 of the national Historic Preservation Act involving historic and archaeological preservation by:

1. Consulting the State Historic Preservation Officer on the conduct of investigations, in accordance with Advisory Council on Historic Preservation regulations, "Protection of Historic and Cultural Properties", 36 C.F.R. Part 800, to identify properties and resources listed in or eligible for inclusion in the National Register of Historic Places that may be affected by the Project, and notifying the Government (FHWA) of the existence of any such properties; and
  2. Complying with all Federal requirements to avoid or mitigate adverse effects upon such properties.
- F. Energy Conservation. RPTA shall comply with mandatory standards and policies relating to energy efficiency that are contained in applicable State energy conservation plans issued in compliance with the Energy Policy and Conservation Act, 42 U.S.C. §§ 6321 et seq.
- G. Mitigation of Adverse Environmental Effects. Should the proposed Project cause adverse environmental effects, RPTA shall take all reasonable steps to minimize such effects pursuant to 49 U.S.C. app. § 1610, other applicable statutes, and the procedures set forth in 23 C.F.R. Part 771. RPTA shall undertake all environmental mitigation measures that may be identified as commitments in applicable environmental documents (such as environmental assessments, environmental impact statements, memoranda of contracts, and statements required by 49 U.S.C. § 303) and with any conditions imposed by the Government as part of a finding of no significant impact or a record of decision; all such mitigation measures are incorporated in and made part of this agreement by reference. In the event that some or all mitigation measures are deferred, once such measures are agreed upon by MAG and RPTA, those mitigation methods subsequently determined will be incorporated into this agreement. Such mitigation measures may not be modified or withdrawn without the express written approval of MAG.
- H. Use of Fly Ash in Cement and Concrete. In carrying out the Project, RPTA shall make all appropriate efforts to foster the use of fly ash, substantially in compliance with EPA regulations "Guideline for Federal Procurement of Cement and Concrete Containing Fly Ash", 40 C.F.R. Part 249. Should RPTA make a determination that the use of fly ash is inappropriate in a particular procurement of cement or concrete, RPTA shall provide FHWA a written justification to support that decision.

# **Appendix I**



## MARICOPA ASSOCIATION OF GOVERNMENTS

MAG Agreement No. 264

### AGREEMENT FOR REGIONAL RIDESHARE PROGRAM SERVICES

This AGREEMENT entered into as of the 1<sup>st</sup> day of October, 2004, by and between the Maricopa Association of Governments hereinafter called MAG, and Regional Public Transportation Authority, a political subdivision of the State of Arizona, hereinafter referred to as RPTA.

#### RECITALS

**WHEREAS, MAG** is the recipient of Federal Highway Administration Congestion Mitigation and Air Quality (CMAQ) Funds as described in the 2000 agreement between MAG and the Arizona Department of Transportation.

**WHEREAS, MAG** desires to have prepared by the most efficient and effective means possible, Regional Rideshare Program services;

#### **NOW THEREFORE,**

It is hereby agreed:

#### **I. SCOPE OF WORK**

The scope of work to be accomplished by the parties pursuant to this AGREEMENT shall be set forth annually by MAG in the Unified Planning Work Program (Work Program). Each year, for the development of the Work Program, RPTA shall submit to MAG, the work elements, funding and outcome-based performance measurements for the MAG federally funded Regional Rideshare Program. Annually, following approval of the Work Program by the MAG Regional Council, RPTA is required to develop a detailed budget and scope of services for approval by MAG, in accordance with the adopted Work Program. Annually, on or before September 30, MAG shall

provide to RPTA, the work elements and funding from the Work Program, and the budget and scope of services to be conducted by RPTA. For FY 2005, the funding and work elements, and detailed budget and scope of services are included in Appendix A-1 and Appendix A-2 and made a part of this AGREEMENT.

## II. PROJECT COSTS AND BILLING PROCEDURES

- A. Invoices will be submitted monthly, documenting services by each work task, the hours and hourly rate of each person, and other direct expenses. All costs incurred in preparing invoices and progress reports shall be included in the general and administrative expenses or the overhead. A billing format shall be provided to RPTA by MAG.
- B. The basis for payment to RPTA for services rendered hereunder shall be reimbursement for costs in conformance with the budget described in Appendix A-1 and Appendix A-2 and pursuant to the cost breakdown furnished by RPTA, the detailed budget and scope of services approved by MAG, in accordance with the adopted Work Program. RPTA may make adjustments within the tasks of the approved budget as needed to accomplish the requirements of the Scope of Services. No adjustment shall exceed 10 percent of the task budget without prior written approval from the MAG Executive Director.
- C. RPTA shall maintain cost records in accordance with Article III, Records and Audit Rights, of this AGREEMENT. Costs shall be available for verification audit by the authorized representatives of MAG, the Federal Highway Administration and the Comptroller General of the United States. MAG agrees to make progress payments that are commensurate with work completed. Partial payment shall be made to RPTA upon receipt of monthly report of work accomplished and invoices, but not more often than once each month. Final payment of any balance due RPTA will be made upon completion and acceptance of work and services to be completed hereunder.
- D. RPTA agrees to make quarterly in-kind contributions in the form of office space, furniture and furnishings, office equipment, office support and overhead costs as required by the applicable federal grantor as described in the Work Program.
- E. RPTA agrees to make semiannual reports for the outcome-based performance measurements for the RPTA Regional Rideshare Program.

### III. RECORDS AND AUDIT RIGHTS

RPTA's work and accounting records (hard copy, as well as computer readable data), and any other supporting evidence deemed necessary by MAG to substantiate charges and claims related to this AGREEMENT shall be open to inspection and subject to audit and/or reproduction by authorized representatives of MAG, the Federal Highway Administration, and the Comptroller General of the United States ("Auditors") to the extent necessary to adequately permit evaluation and verification of the performance and cost of the work, and any invoices, change orders, payments or claims submitted by RPTA or any of its payees pursuant to the execution of the AGREEMENT. The Auditors shall be afforded access, at reasonable times and places, to all of RPTA's records and personnel pursuant to the provisions of this Section throughout the term of this AGREEMENT and for a period of five (5) years after last or final payment.

If an audit in accordance with this Section discloses overcharges, of any nature, by RPTA to MAG in excess of five percent (5%) of the total AGREEMENT billings, the actual cost of the Auditor's audit shall be reimbursed to the auditing organization by RPTA. Any adjustments and/or payments which must be made as a result of any such audit or inspection of RPTA's invoices and/or records shall be made within a reasonable amount of time (not to exceed 90 days) from presentation of the Auditor's findings to RPTA.

### IV. COSTS

Costs of RPTA include all direct labor costs, all direct non-labor costs and all overhead costs. OMB Circular A-87 will be used to determine allowable costs.

- A. Direct labor cost is defined as the actual salaries and salaries cost burden of all employees of RPTA used for the time directly chargeable to work to be performed hereunder including time involved in travel.
- B. Direct non-salary costs shall include any actual expenditures required directly in performance of services hereunder other than actual direct labor costs and include such items as the following:
  - 1. Travel expense of RPTA in connection with the work hereunder. RPTA allowance for mileage and per diem for lodging, meals and miscellaneous costs shall be reimbursed according to the adopted rate of the State of Arizona.

2. Communication such as long distance telephone, telegraph and cable expenses applicable to service hereunder.
  3. Costs of special services, RPTA services and applicable equipment rental.
  4. Any other related actual costs such as meeting rooms, reproduction, graphics, and research materials.
- C. RPTA's overhead is defined as the costs which are not directly allocable to the project as a direct labor cost or direct non-salary cost as defined above. RPTA shall maintain records setting forth the actual overhead as computed from the annual financial statement(s) applicable to the work period under this AGREEMENT and these are to be kept available for inspection for a period of five (5) years after final payment.

**V. KEY PERSONNEL**

In the event that any of the key personnel of RPTA set forth in Appendix A-2 becomes unavailable, RPTA will notify MAG and substitute other personnel to insure proper performance and continuity.

**VI. ASSIGNMENT AND SUBCONTRACTING**

RPTA shall not assign or subcontract any part of this AGREEMENT or the work to be performed hereunder without written approval by MAG except as identified in the Work Program and identified in Appendix A-2, Scope of Services.

**VII. ADMINISTRATIVE RULES AND REGULATIONS AND APPLICABLE LAW**

RPTA shall become and remain informed of all applicable Federal, State and local laws, ordinances, rules, regulations, and all orders and decrees of bodies or tribunals having any jurisdiction or authority which may in any manner affect the completion of the project under this AGREEMENT. RPTA shall observe and comply with all such laws, ordinances, rules, regulations, orders, and decrees and obtain all permits that are applicable to the performance of services outlined. Appendices B, C and D describe additional provisions required to comply with Title VI and Title VII of the Civil Rights Act of 1964; and Appendix E describes environmental, resource,

energy protection, and conservation requirements. These Appendices are considered part of the AGREEMENT.

**VIII. SUBRECIPIENT AUDITS**

RPTA, which is a political subdivision of the State, and is defined as a "subrecipient" pursuant to 31 U.S.C. §7501, that expends \$300,000 or more in federal awards in its fiscal year shall comply with the audit and reporting requirements set forth in 31 U.S.C. Subpart A--General, Section.105, Definitions.

In compliance with the Federal Single Audit Act of 1996 (P.L. 104-156), Contractors designated as subrecipients expending federal funds from all sources totaling \$300,000 or more shall have a yearly audit conducted in accordance with the audit and reporting standards as prescribed in OMB Circular A-133 (Audits of State, Local Governments, and Non-Profit Organizations). The audit shall include separate reports on the financial statements, internal controls, compliance, the Supplementary Schedule of Expenditures of Federal Awards and the Schedule of Findings and Questioned Costs. MAG's contract number(s), applicable task number(s) and the award amount(s) shall be included in a separate schedule if not included on the Supplementary Schedule of Expenditures of Federal Awards. RPTA's annual audit report and an action plan for the resolution of any findings and/or questioned costs shall be submitted to MAG within 9 months of RPTA's fiscal year end.

RPTA is subject to the programmatic and fiscal monitoring requirements of each MAG program to ensure accountability of the delivery of all goods and services, as required under the Federal Single Audit Act. A minimum fiscal requirement for all Contractors, designated as subrecipients, is an annual financial audit, which includes MAG's contract number(s), applicable task number(s) and the award amount(s). The audit shall be submitted to the MAG location, as specified in the reporting requirements of the agreement between RPTA and MAG. MAG may, at its discretion, periodically request additional information from RPTA.

**IX. WRITTEN ORDERS REQUIRED FOR CHANGES**

No changes in the scope, character, or complexity of work shall be made by RPTA without first receiving a written approval by MAG's Executive Director properly defining and limiting any such change. It is distinctly understood and agreed that no claim for payment for extra work done or materials furnished by RPTA shall be paid by MAG except as hereinabove provided; nor shall

RPTA do any work or furnish any materials not covered by this AGREEMENT unless a written order is first received from MAG's Executive Director. Any such work or materials furnished by RPTA without such written order shall be at the risk, cost, and expense of RPTA, and no claim for compensation for any such work or materials shall be made.

**X. TERMINATION, ABANDONMENT OR POSTPONEMENT**

The right is reserved by MAG to terminate or abandon this study and this AGREEMENT may be terminated by giving written notice to RPTA at least fifteen (15) days prior to the effective date of termination. In the event of such termination, MAG shall be liable to RPTA for acceptable work performed to the date of termination only, computed as provided in Section II, Project Costs and Billing Procedures, and Section IV, Costs, of this AGREEMENT. The right is also reserved by MAG to indefinitely postpone work on this study by giving twenty-four (24) hour written notice.

**XI. FISCAL LIMITATIONS**

In the event that the funds required for performance of this AGREEMENT are withdrawn or are not available for funding hereunder, this AGREEMENT without penalty to either party may be immediately terminated. MAG shall be liable to RPTA for acceptable work performed to the date of termination only, computed as provided in Section II and Section IV of this AGREEMENT.

**XII. RELATIONSHIP OF MAG AND RPTA; EXERCISE OF MAG'S POWERS**

It is understood and agreed that RPTA is an "independent authority" and that no relationship of agency, master-servant, or employer-employee shall be created or exist between RPTA and MAG as a result of the execution of this AGREEMENT; and RPTA shall not exercise any powers of MAG nor make any AGREEMENT, obligation, or commitment on behalf of MAG nor in any other way represent any of RPTA or its employees as agents of MAG.

**XIII. INDEMNIFICATION**

Each party to this AGREEMENT agrees to defend, indemnify, save and hold harmless the other (and each of their respective directors, officers, agents, and employees) from and against all liabilities, suits, obligations, claims, demands, damages, fines, costs and expenses (including reasonable attorney's fees) arising under this AGREEMENT to the extent that such are attributable, directly or indirectly, to the indemnifying party's negligence, error omission or

intentional act. An indemnifying party's negligence, error, omission or intentional act, as that phrase is used herein, includes the negligence, error, omission or intentional act of its officers, agents, employees, and contractors.

#### XIV. **INSURANCE**

RPTA shall maintain during the term of this AGREEMENT, the following insurance with forms and insurers acceptable to MAG as provided below:

- A. If applicable, Workmen's Compensation insurance to cover obligations imposed by Federal and State statutes having jurisdiction of its employees engaged in the performance of the services, and Employers' Liability insurance with a minimum limit of not less than \$500,000 for each accident, \$500,000 disease for each employee and \$1,000,000 disease policy limit.
- B. If applicable, Architects and Engineers Professional Liability insurance in the amount of \$1,000,000 each claim and \$2,000,000 all claims. In the event the insurance policy is written on a "claims made" basis, coverage shall extend for three (3) years past completion and acceptance of the work or services, and RPTA shall submit certificates of insurance evidencing proper coverage is in effect as required herein.
- C. Comprehensive General Liability Insurance with an unimpaired limit of less than \$1,000,000 for each occurrence, \$2,000,000 Products and Completed Operations Annual Aggregate, and a \$2,000,000 General Aggregate Limit. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, contractors protective, products and completed operations. The policy shall contain a severability of interest clause.
- D. Business Automobile Liability insurance with a limit of \$1,000,000 each occurrence on RPTA's owned, hired, and non-owned vehicles assigned to or used in the performance of RPTA's work or services under this AGREEMENT. To the fullest extent allowed by law, for claims arising out of the performance of this AGREEMENT, MAG, its agents, representatives, officers, directors, officials and employees shall be cited as an Additional Insured under Insurance Service Offices, Inc. Business Auto policy Designated Insured Endorsement form CA 20 48 or equivalent. If any Excess insurance is utilized to fulfill the

requirements of this paragraph, such Excess insurance shall be "follow form" equal or broader in coverage scope than underlying.

- E. Valuable Papers insurance in an amount sufficient to assure the restoration of any documents, memoranda, reports or other similar data relating to the work of RPTA used in the completion of this AGREEMENT.
- F. The policies required by this AGREEMENT shall be endorsed to include MAG, its agents, officials and employees as additional insureds and shall stipulate that the insurance afforded RPTA shall be primary insurance and that any insurance carried by MAG, its agents, officials or employees shall be excess and not contributory insurance to that provided by RPTA.
- G. A certificate of insurance acceptable to MAG shall be issued to MAG prior to commencement of the AGREEMENT as evidence that policies providing the required coverages, conditions and limits are in full force and effect. Such certificate shall contain provisions that coverage afforded under the policies will not be cancelled, terminated or materially altered until at least 30 days prior written notice has been given to MAG.

**XV. ACCURACY OF WORK**

RPTA shall be responsible for the accuracy of the work and shall promptly make all necessary revisions or corrections resulting from errors on the part of RPTA without additional compensation.

**XVI. REVIEWS OF RPTA'S WORK**

Work performed by RPTA shall be subject to periodic reviews and partial acceptance at various stages. MAG reserves the right to make such reviews and pass upon the acceptability of RPTA's work on behalf of itself, the State, and other affected public agencies. No partial acceptance shall relieve RPTA's obligation to make reasonable efforts to correct, without charge, any errors in the work.

**XVII. OWNERSHIP OF INFORMATION**

RPTA agrees that all reports, estimates, maps, computations and computer databases, programs and procedures prepared for MAG under the terms of this AGREEMENT shall be delivered to,

become and remain the property of MAG upon termination or completion of this AGREEMENT and MAG shall have the right to their use without restriction or limitation and without additional compensation to RPTA. Major promotional items will indicate that the program is sponsored in part by MAG and include the MAG logo when possible.

**XVIII. PATENT RIGHTS**

If any invention, improvement, or discovery of RPTA is conceived or first actually reduced to practice in the course of or under this project, which invention, improvement, or discovery may be patentable under the laws of the United States of America or any foreign country, RPTA shall immediately notify the Federal Highway Administration and provide a detailed report. The rights and responsibilities of MAG, RPTA and the Federal Highway Administration with respect to such invention, improvement, or discovery will be determined in accordance with applicable Federal laws, regulations, policies, and any waiver thereof.

**XIX. CONTINUING OBLIGATION**

RPTA agrees that if, because of death or any other occurrence, it becomes impossible for any key employee of RPTA to render the services required under this AGREEMENT, RPTA shall not be relieved of any obligation to render complete performance. However, in such event, MAG may terminate this AGREEMENT if it considers the absence of such principal or employee to be a loss of such magnitude as to affect RPTA's ability to satisfactorily complete the performance of this AGREEMENT. In the event that MAG so chooses to terminate this AGREEMENT, payment liability for accepted work shall be as specified in Section II and Section IV of this AGREEMENT.

**XX. CONFLICT OF INTEREST, CANCELLATION**

This AGREEMENT is subject to cancellation for conflict of interest without penalty or further obligation as provided by A. R. S. § 38-511.

**XXI. GENERAL PROVISIONS**

**A. ENTIRE AGREEMENT**

This AGREEMENT constitutes the entire understanding of the parties and supersedes all previous representations, written or oral, with respect to the services specified herein. This

AGREEMENT may not be modified or amended except by a written document, signed by authorized representatives of each party.

B. ARIZONA LAW

In the event of litigation between RPTA and MAG involving this AGREEMENT, the laws and decisions of the State of Arizona shall apply and any such litigation shall be commenced and prosecuted in the appropriate court of competent jurisdiction within the geographical boundaries of the State of Arizona.

C. MODIFICATIONS

Any amendment, modification or variation from the terms of this AGREEMENT shall be in writing and shall be effective only after approval of all parties signing the original AGREEMENT.

D. SUCCESSORS AND ASSIGNS

This AGREEMENT shall extend to and be binding upon RPTA, its successors and assigns, including any individual, company, partnership or other entity with or into which RPTA shall merge, consolidate or be liquidated, or any person, corporation, partnership or other entity to which RPTA shall sell its assets.

E. ATTORNEY'S FEES

In the event either party brings any action for any relief, declaratory or otherwise, arising out of this AGREEMENT, or on account of any breach or default hereof, the prevailing party shall be entitled to receive from the other party reasonable attorneys' fees and reasonable costs and expenses, determined by the court sitting without a jury, which shall be deemed to have accrued on the commencement of such action and shall be enforceable whether or not such action is prosecuted to judgment.

F. NOTICES

All notices or demands required to be given pursuant to the terms of this AGREEMENT shall be given to the other party in writing, delivered in person, sent by facsimile

transmission, deposited in the United States mail, postage prepaid, registered or certified mail, return receipt requested, or deposited with any commercial air courier or express service at the addresses set forth below, or to such other address as the parties may substitute by written notice given in the manner prescribed in this paragraph.

For RPTA:

G. Kenneth Driggs  
Executive Director  
Regional Public Transportation Authority  
302 North First Avenue, Suite 700  
Phoenix, Arizona 85003  
(602) 262-7242  
FAX (602) 495-2002

For MAG:

Dennis Smith  
Executive Director  
Maricopa Association of Governments  
302 North 1st Avenue, Suite 300  
Phoenix, Arizona 85003  
(602) 254-6300  
FAX (602) 254-6490

Notices shall be deemed received on date delivered, if delivered by hand, on the day it is sent by facsimile transmission, on the second day after its deposit with any commercial air courier or express services or, if mailed, ten (10) days after the notice is deposited in the United States mail as above provided, and on the delivery date indicated on receipt if delivered by certified or registered mail. Any time period stated in a notice shall be computed from the time the notice is deemed received. Notices sent by facsimile transmission shall also be sent by regular mail to the recipient at the above address. This requirement for duplicate notice is not intended to change the effective date of the notice sent by facsimile transmission.

G. FORCE MAJEURE

Neither party shall be responsible for delays or failures in performance resulting from acts beyond their control. Such acts shall include, but not be limited to, acts of God, riots, acts of war, epidemics, governmental regulations imposed after the fact, fire, communication line failures, power failures, or earthquakes.

H. ADVERTISING

No advertising or publicity concerning MAG using RPTA's services shall be undertaken without prior written approval of such advertising or publicity by MAG's Executive Director.

I. COUNTERPARTS

This AGREEMENT may be executed in one or more counterparts, and each originally executed duplicate counterpart of this AGREEMENT shall be deemed to possess the full force and effect of the original.

J. CAPTIONS

The captions used in this AGREEMENT are solely for the convenience of the parties, do not constitute a part of this AGREEMENT and are not to be used to construe or interpret this AGREEMENT.

K. SEVERABILITY

If any term or provision of this AGREEMENT shall be found to be illegal or unenforceable, then notwithstanding such illegality or unenforceability, this AGREEMENT shall remain in full force and effect and such term or provision shall be deemed to be deleted.

L. AUTHORITY

Each party hereby warrants and represents that it has full power and authority to enter into and perform this AGREEMENT, and that the person signing on behalf of each has been

properly authorized and empowered to enter this AGREEMENT. Each party further acknowledges that it has read this AGREEMENT, understands it, and agrees to be bound by it.

**XXII. YEAR 2000 COMPLIANCE**

**A. DEFINITIONS**

"Year 2000 Compliant" means having the capability to: (a) accurately and consistently process date information before, during and after January 1, 2000 (including the Year 2000 as a leap year), including but not limited to accepting date input, providing date output on dates or portions of dates, date calculations, logical functions, program branching, format conversion, edits and validations, and the use of dates in comparisons, sorting, sequencing, merging, retrieving, searching and indexing; (b) function accurately and without interruption before, during and after January 1, 2000 (including the Year 2000 as a leap year), without any change in operations associated with the advent of the new century; (c) respond to two-digit input in a way that resolves any ambiguity as to century in a disclosed, defined and predetermined manner; and (d) store and provide output of date, including displaying information in ways that are unambiguous as to century.

"Information Technology Product" means all computerized and auxiliary automated information processing, telecommunications and related technology, including hardware, software, firmware, vendor support and related services, and equipment (including without limitation, computers date processing, microprocessors, calculators, programmable systems and other electronic devices).

**B. REPRESENTATIONS AND WARRANTIES**

RPTA represents and warrants that any and all Information Technology Product[s] that the RPTA will deliver under this AGREEMENT will:

1. Be "Year 2000 Compliant" as defined above.
2. Lose no functionality or performance with respect to the introduction of records or data containing dates falling on or after January 1, 2000, and will be interoperable with other software used by MAG which interacts with the

Information Technology Product[s] or which may deliver records or data to the Information Technology Product[s] , including but not limited to back-up and archive data.

Notwithstanding any other limitation of warranty or warranties in this AGREEMENT, the above Year 2000 warranty shall extend into the Year 2000, and the remedies available to MAG under such Year 2000 warranty shall also include, but not be limited to, repair or replacement of any or all Information Technology Product[s] whose non-compliance are discovered and made known to the RPTA by MAG.

Nothing in this warranty shall be construed to limit any rights or remedies MAG may otherwise have under this AGREEMENT with respect to RPTA's noncompliance with its obligations other than Year 2000 performance.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed by their duly authorized officers.

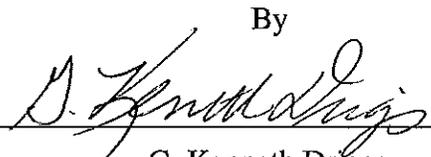
MARICOPA ASSOCIATION OF GOVERNMENTS

10/08/04  
\_\_\_\_\_  
Date

By  
  
\_\_\_\_\_  
Dennis Smith  
MAG Executive Director

REGIONAL PUBLIC TRANSPORTATION AUTHORITY

Oct 7, 2004  
\_\_\_\_\_  
Date

By  
  
\_\_\_\_\_  
G. Kenneth Driggs  
Executive Director

Reviewed as to form:

By

  
\_\_\_\_\_  
MAG General Counsel

9/23/2004  
\_\_\_\_\_  
Date

By

  
\_\_\_\_\_  
RPTA General Counsel

10/06/04  
\_\_\_\_\_  
Date

**CERTIFICATION OF MAG**

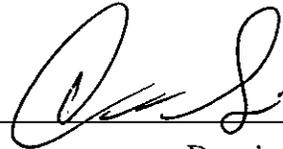
I hereby certify that I am the MAG Executive Director and that RPTA or its representative has not been required, directly or indirectly as an expressed or implied condition in connection with obtaining or carrying out this AGREEMENT to:

- A. Employ or retain, or agree to employ or retain, any firm or person; or
- B. Pay, or agree to pay, to any firm or person or organization, any fee, contribution, donation, or consideration of any kind.

I acknowledge that this certificate is to be furnished to the Federal Highway Administration and is subject to applicable State and Federal laws, both criminal and civil.

10/08/04

Date



Dennis Smith

MAG Executive Director

**CERTIFICATION OF RPTA**

I hereby certify to the best of my knowledge and belief that the Regional Public Transportation Authority, whose address is 302 N. First Avenue, Suite 700, Phoenix, Arizona, and I, as the Executive Director:

- A. Have not employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me or the above firm) to solicit or secure this AGREEMENT;
- B. Have not agreed, as an expressed or implied condition for obtaining the AGREEMENT, to employ or retain the services of any firm or person in connection with carrying out the AGREEMENT;
- C. Have not paid, or agreed to pay, to any firm, organization, or person (other than a bona fide employee working solely for me or the above firm) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the AGREEMENT;
- D. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency, and are not prohibited from working on Federally assisted projects;
- E. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or AGREEMENT under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- F. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commissions of any of the offenses enumerated in paragraph (E) of this certification; and
- G. Have not within a three-year period preceding this application/proposal had one or more public transaction (Federal, State or local) terminated for cause or default.

Where RPTA is unable to certify to any of the statements in this certification, it shall attach an explanation.

I acknowledge that this certificate is to be furnished to MAG and the Federal Highway Administration and is subject to applicable State and Federal laws, both criminal and civil.

By

REGIONAL PUBLIC TRANSPORTATION  
AUTHORITY

Oct 7, 2004  
Date

G. Kenneth Driggs  
G. Kenneth Driggs  
Executive Director

**CERTIFICATION LIMITING LOBBYING ACTIVITIES**

G. Kenneth Driggs, acting as agent for RPTA certifies, to the best of his knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of RPTA to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, RPTA shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.

(3) RPTA shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subgrants, and contracts and subcontracts under grants, subgrants, loans, and cooperative agreements), which exceed \$100,000, and that all such subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

G. Kenneth Driggs  
Name

Executive Director  
Title

  
Signature

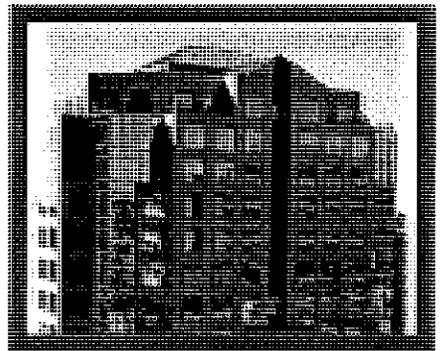
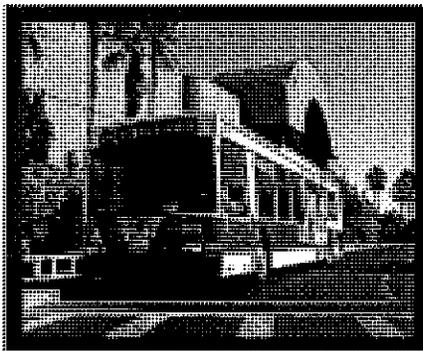
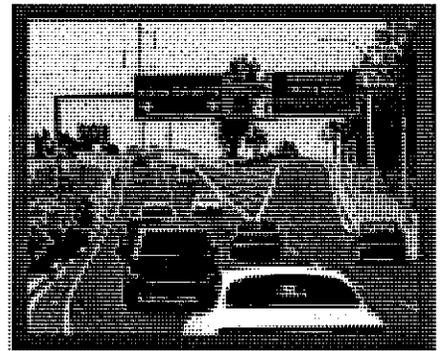
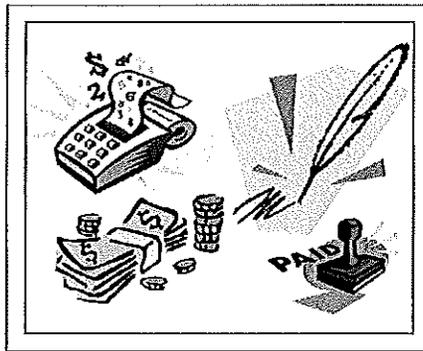
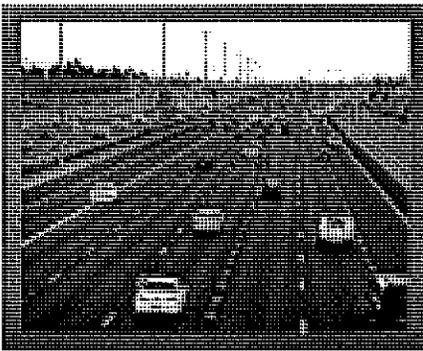
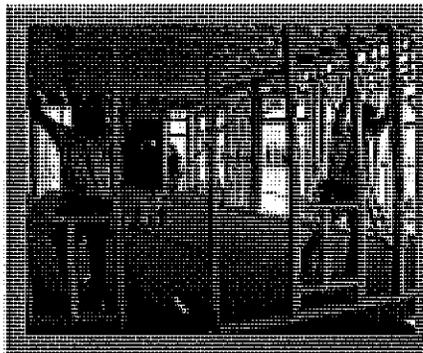
Oct 7, 2004  
Date

**APPENDIX A-1**

**FY 2005 UNIFIED PLANNING WORK PROGRAM**

# FY 2005 Unified Planning Work Program & Annual Budget

Approved 5-26-04



302 North 1st Avenue, Ste 300, Phoenix, Arizona 85003



## Demand Management

### Program Description

Demand Management refers to distinct programs that collectively provide coordination with employers, local jurisdictions, and the general public, encourage the use of alternative transportation options to the single occupant vehicle, and educate on ways to improve air quality.



Maricopa County administers the Trip Reduction Program (TRP) to all major employers and schools with 50 or more employees or students for each site based on the Trip Reduction Ordinance. The Travel Reduction Programs Office for the State of Arizona encourages state employees in Maricopa County to use alternative modes of transportation through education, promotion, and incentives. The Regional Public Transportation Authority (RPTA) offers a free ridematching service to commuters interested in carpooling, vanpooling, and bicycling to work; manages and subsidizes a vanpool program; and conducts the Clean Air Campaign under the Regional Ride-share Program.

Maricopa County contracts with RPTA to assist employers affected by the Trip Reduction Program to provide technical and promotional service support.

The RPTA also conducts the Telework and Ozone Outreach Program to encourage employers and employees to start telework and telecommuting programs. This Program continues to promote telework as a viable trip reduction option and important alternate mode to the single occupant vehicle commute. Telecommuting, or the more broadly defined telework, is a way to work remotely while reducing vehicle miles traveled. The Telework and Ozone Outreach Program encourages employers and the public to use alternative modes of travel or alternative work schedules during Summer Ozone High Pollution Advisory days.

### Did You Know?

According to the 2003 Travel Demand Management (TDM) Annual Survey, nearly three in seven (42 percent) residents rated the magnitude of the Valley's air pollution problem as "big" in 2003, down from 64 percent in 2000.

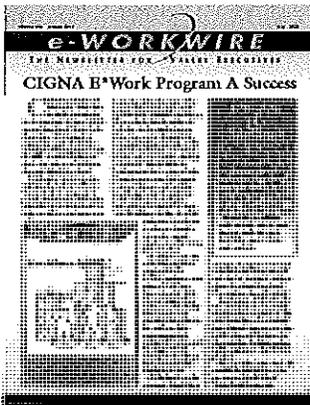
### Mission Statement

*The mission of Demand Management is to provide outstanding services, programs, and materials that inspire citizen involvement and action to reduce air pollution and traffic congestion.*

### 2003-2004 Accomplishments

- ▲ Seventy-six percent of Valley residents had seen or heard an advertisement for the Clean Air Campaign or a news story/public service announcement about ways to help reduce air pollution in the Valley.
- ▲ Overall public perception measuring favorability of the Clean Air Campaign is currently at 78 percent.
- ▲ More than one-half (53 percent) of residents who had seen or heard something about the Clean Air Campaign indicated they have taken some action to try to reduce air pollution as a result of the information. This is up from 50 percent in 2002.

- ▲ Nearly 6 million vehicle miles (about 17 percent of the total possible “commute” vehicle miles) were saved or not driven daily in 2003. Employee use of alternative modes of transportation, telework, or those working a compressed work schedule contributed to an estimated reduction of 153,600 pounds (or 77 tons) of pollution each day in 2003.
- ▲ The number of alternate mode users has increased by 157,700 or 45 percent since 1993, while the number of non-home based employed people in Maricopa County has increased by 42 percent.
- ▲ RPTA representatives provided over 12,650 technical assistance contacts to TRP employers, including 5,417 phone contacts (21 percent increase from 2002) and 961 on-site visits (36 percent increase from 2002).
- ▲ RPTA representatives facilitated 36 employee-oriented presentations and events reaching 6,913 people.
- ▲ The Travel Reduction Programs Office data continues to show increases in participation. FY 2003 ended with a 25 percent increase in the number of State employees registered as carpoolers with a parking permit. Thus far in FY 2004, the largest mode increase is in the area of bus ridership. The number of State employees commuting by bus is 22 percent higher than the same period last year and the number of actual rides taken has increased 20 percent. Nearly 6,400 State employees currently have a bus card, which is an all-time high.
- ▲ More than 1.4 million vehicle miles are saved each day due to teleworkers. On a daily basis, 11 percent of employed commuters are working from home in Maricopa County, which is up from 2 percent in 1993.
- ▲ An e-workwire newsletter about telework and its benefits was developed, produced and distributed, along with two separate direct mail pieces defining the benefits and business advantages of telework.
- ▲ The Telework Outreach Program, known as the Valley Telework Project, encouraged Maricopa County employers to apply for telework implementation and connectivity assistance. As a result, five employers received pilot program assistance and ten received help with program elements such as: selling management on telework or developing training and policies.
- ▲ In the Fall of 2003, the vast majority of Valley residents (88 percent) indicated they are familiar with high pollution advisories (HPAs). This compares with 86 percent who indicated familiarity with HPAs in the Spring of 2003.
- ▲ In 2003, Valley residents were slightly more likely to report taking an action in response to the ozone advisory than in previous years. Residents were most likely to stay inside (30 percent) and/or drive less often (20 percent). Approximately one in eight residents (13 percent) indicated they used some type of alternate mode on high pollution advisory days.



## 500-0210 Trip Reduction Program



Assist employers in achieving their trip reduction goals by providing quality training, services, and programs.

### Follow-up on FY 2004 Outcome Measures

- Measure:** Increase the number of alternate Vehicle Miles Traveled by TRP participants by three percent from the level achieved in FY 2003.
  - ✓ **Result:** *Based on six months of TRP data, total alternative vehicle miles traveled by TRP participants increased by 0.5 percent over the same period in FY 2003.*
- Measure:** Increase the “tons of pollution saved” by three percent for those commuters using an alternate mode of travel to get to their workplace.
  - ✓ **Result:** *Based on six months of TRP data, the “tons of pollution saved” for commuter using an alternate mode of travel increased by 0.5 percent over the same period in FY 2003.*
- Measure:** Increase the annual commuter use of alternative modes to 40 percent—one or more days per week—from the level achieved in FY 2003 based on the Trip Reduction Program survey.
  - ✓ **Result:** *Based on the TRP survey, commuter use of alternative modes for one or more days per week decreased from 35.4 percent to 34.6 percent. The percentage of commuters may vary widely from year to year because of new TRP participants entering the program.*
- Measure:** Increase the annual number of employers who subsidized the bus for employee commuter programs from the number achieved in FY 2003 by ten.
  - ✓ **Result:** *The number of employers who subsidized the bus for employee commuter programs decreased from 582 to 556.*
- Measure:** Increase the annual number of subsidized vanpools for employee commuter programs from the number achieved in FY 2003 by ten.
  - ✓ **Result:** *The number of employers that are subsidizing vanpools decreased from 79 to 72.*
- Measure:** Increase the annual number of employers starting telecommuting programs from the number achieved in FY 2003 by fifteen.
  - ✓ **Result:** *The number of employers that have a telecommuting program increased from 428 to 471.*
- Measure:** Increase the annual number of employers starting compressed work week programs from the number achieved in FY 2003 by ten.
  - ✓ **Result:** *It is estimated that the number of employers that started compressed work week programs decreased from 797 to 757.*

### FY 2005 Objectives

- ▲ Encourage employers to conduct rideshare promotions for carpool, vanpool, bus, bike, and walk.
- ▲ Provide ongoing support and training to TRP employers via site visits and telephone to assist in all aspects of the trip reduction program requirements



(conducting surveys, writing and implementing a TRP plan, marketing alternative modes).

- ▲▲ Conduct presentations on transportation demand management, telecommuting, and compressed work schedules to employer management and TRP organization committees.
- ▲▲ Facilitate Transportation Management Association meetings, promote Clean Air Campaign events, and assist with employer events (transportation fairs, etc.).
- ▲▲ Encourage employers to implement TRP strategies in order to promote alternative mode use such as subsidized commutes, preferential parking, and guaranteed ride home.
- ▲▲ Promote and increase the number of TRP employers that subsidize bus fares, subsidize vanpool fares, offer or expand telecommuting, and offer or expand compressed work weeks.
- ▲▲ Use brochures, presentations, and training to promote telecommuting and compressed work schedules.
- ▲▲ Encourage and assist employers in establishing a “commuter choice tax benefit” program through education, workshop, and outreach.

### **FY 2005 Outcome Measures**

- An increase of three percent in the number of alternate Vehicle Miles Traveled by TRP participants from the level achieved in FY 2004.
- An increase of three percent in the “tons of pollution saved” for those commuters using an alternate mode of travel to get to their workplace.
- An increase to 40 percent in the annual commuter use of alternative modes— one or more days per week— from the level achieved in FY 2004 based on the Trip Reduction Program survey.
- An increase of ten in the annual number of employers who subsidized the bus for employee commuter programs from the number achieved in FY 2004.
- An increase of ten in the annual number of subsidized vanpools for employee commuter programs from the number achieved in FY 2004.
- An increase of ten in the annual number of employers that start telecommuting programs from the number achieved in FY 2004.
- An increase of ten in the annual number of employers that start compressed work week programs from the number achieved in FY 2004.

## 500-0211 Travel Reduction Program



(formerly Capitol Rideshare Program)

Reduce state employees' commute travel in single occupancy vehicles.

### Follow-up on FY 2004 Outcome Measures

- Measure:** Increase the number of State employees in Maricopa County who are actively telecommuting to 3,400.
- ✓ **Result:** *The State currently has 3,270 State employees who are actively telecommuting.*
  
- Measure:** Achieve an 87 percent response rate on the fifteenth annual travel reduction survey.
- ✓ **Result:** *Survey results for this fiscal year will not be available until the end of April, 2004.*
  
- Measure:** Expand the marketing and promotion of travel reduction programs by individually assisting at least 770 employees at information tables.
- ✓ **Result:** *The State is well on its way to meeting this measure; all monthly goals for this measure have been met.*
  
- Measure:** Increase the number of State employees who are using an alternate mode at least twice a week, and are registered with our office, to 5,400.
- ✓ **Result:** *The State is on target for meeting this measure. Currently, 3,909 employees are registered as alternate mode users.*
  
- Measure:** Increase bus ridership by two percent.
- ✓ **Result:** *The State is greatly exceeding this measure; ridership is up 20 percent in the first two months of this fiscal year.*

### FY 2005 Objectives

- ▲ Increase to 16 percent the participation rate among State employees in the State of Arizona Telework Program.
- ▲ Administer the sixteenth annual travel reduction survey by April 10, 2005, and achieve at least a two percentage point overall reduction in the rates of single-occupancy vehicle (SOV) trips or SOV miles traveled at the 63 official survey sites.
- ▲ Present a unified message through coordination of messages and programs with other air quality stakeholders.
- ▲ Promote Bus Card Plus to employees.
- ▲ Promote and expand membership of the Capitol Rideshare Commuter Club by three percent by June 30, 2005.



### **FY 2005 Outcome Measures**

- An increase in the number of State employees in Maricopa County who are actively telecommuting to 3,400.
- Achievement of an 87 percent response rate on the sixteenth annual travel reduction survey.
- An expansion of the marketing and promotion of travel reduction programs by individually assisting at least 1,150 employees at information tables.
- An increase in the number of State employees who are using an alternate mode at least twice a week, and are registered with our office, to 5,560.
- An increase of bus ridership by two percent.

## 500-0212 Regional Rideshare Program



Support public and private policies, amenities and facilities that enhance the use of commute alternatives and develop high quality communication messages and materials that promote increased use of alternative transportation modes.

### Follow-up on FY 2004 Outcome Measures

- Measure:** Achieve an annual campaign awareness level of at least 89 percent for FY 2004.
- ✓ **Result:** *Survey results from the TDM Annual Survey will not be available until June 2004. However, the awareness level for the annual campaign according to the 2003 TDM Survey was at 76 percent.*
- Measure:** Achieve an annual Clean Air Campaign favorability of at least 86 percent for FY 2004.
- ✓ **Result:** *Survey results from the TDM Annual Survey will not be available until June 2004. However, the favorability of the annual Clean Air Campaign is at 78 percent according to the 2003 TDM Survey.*
- Measure:** Achieve an annual 36 percent of commuters who use alternative modes or schedules for one or more days a week in FY 2004.
- ✓ **Result:** *Survey results from the TDM Annual Survey will not be available until June 2004. However, according to the 2003 TDM Annual Survey the number of alternate mode users is at 37 percent.*
- Measure:** Increase the percentage of daily trips made by alternate modes and schedules to at least 26 percent.
- ✓ **Result:** *Survey results from the TDM Annual Survey will not be available until June 2004. However, according to the 2003 TDM Survey, 22 percent of commuters use alternative modes or schedules per day on average.*

### FY 2005 Objectives

- ▲ Deliver quality commuter services and programs to customers in order to increase the use of alternative transportation modes.
- ▲ Maintain an up-to-date, online rideshare matching system and provide matchlists to applicants in a timely manner (who do not have internet access), as those with internet have instantaneous match capability.
- ▲ Utilize paid TV, radio, and print (PSA) media to convey rideshare messages to the public.
- ▲ Present a unified message through coordination of messages and programs with other air quality stakeholders.
- ▲ Develop public/media relations campaign and special events that focus attention on the positive impacts and increased use of alternative modes and work options.



- ▲ Develop quality information and promotional materials for customers (employers, commuters, and the general public) that promote public acceptance and understanding of the need for travel demand strategies and encourage the increased use of alternative modes and work options.
- ▲ Promote the adoption of transit, telecommuting, bicycle, and pedestrian-friendly amenities, infrastructure and facilities that will encourage increased use of transit, carpooling, bicycling, and walking.

### **FY 2005 Outcome Measures**

- Achievement of an annual campaign awareness level of at least 77 percent for FY 2005.
- Achievement of an annual Clean Air Campaign favorability of at least 79 percent for FY 2005.
- Achievement of an annual 38 percent of commuters who use alternative modes or schedules for one or more days a week in FY 2005.
- An increase in the percent of daily trips made by alternate modes and schedules to at least 23 percent in FY 2005.



## 500-0214 Telework and Ozone Outreach Program



Administer and implement the telework program to reduce travel, relieve congestion, and reduce air pollution. In FY 2005, ozone education will continue to assist the Maricopa County nonattainment area in meeting the federal eight-hour ozone standard during Summer 2005.

### Follow-up on FY 2004 Outcome Measures

- Measure:** Increase the number of regular telecommuters, as reported by the 2002 TDM Annual Survey (106,900) in the Valley by six percent (6,414) for a total of 113,314 teleworkers who work remotely once per week or more.
- ✓ **Result:** *Survey results from the TDM Annual Survey will not be available until June 2004. However, according to the 2003 TDM Annual Survey, the number of telecommuters working remotely once per week or more increased to 150,100, which is a 40 percent increase from 2002.*
- Measure:** Assist at least another five employers with implementing telework pilots or expanding and formalizing existing programs.
- ✓ **Result:** *During FY 2003, five organizations were assisted with implementing telework pilots or expanding and formalizing existing programs. Outreach did occur with more than 10 additional organizations receiving management briefings and specific follow-up telework assistance.*
- Measure:** Increase the number of participating employers in the High Pollution Advisory Program to 250 (up from 217 for a new year-round High Pollution Advisory Program in 2002).
- ✓ **Result:** *More than 550 employers are actively participating in the High Pollution Advisory Program for 2003/2004, which is a 153 percent increase over 2002.*
- Measure:** Attain a general public awareness of High Pollution Advisories of 80 percent.
- ✓ **Result:** *According to the post ozone campaign research in 2003, 88 percent of Valley residents indicated they are familiar with high pollution advisories. This compares with 86 percent who indicated familiarity with HPAs before this campaign began in the Spring of 2003.*

### FY 2005 Objectives

- ▲ Provide ongoing communications with target audiences about the benefits of telework to strengthen the telework outreach program.
- ▲ Assist an additional five employers in setting up or expanding telework programs.
- ▲ Provide effective training, management briefings, and assistance with telework program elements to local employers, especially those concerned with trip reduction efforts.
- ▲ Maintain the Valley Metro web site and online communications to provide up-to-date telework information.
- ▲ Recruit and train employers for the High Pollution Advisory Program to increase employer participation.



- ▲ Monitor results of the Ozone Education Program to ensure Program effectiveness.
- ▲ Develop and implement public program to increase awareness and participation of the Ozone Education Program and High Pollution Advisories.
- ▲ Educate Valley residents about the new eight-hour ozone standard and the Ozone Education Program to increase awareness and participation.

### **FY 2005 Outcome Measures**

- An increase in the number of regular telecommuters, as reported by the 2003 TDM Annual Survey (150,100) in the Valley by five percent (7,505) for a total of 157,605 teleworkers who work remotely once per week or more.
- Achievement of assisting at least another five employers with implementing telework pilots or expanding and formalizing existing programs.
- An increase in the number of participating employers in the High Pollution Advisory Program by 5 percent to 577 (up from 550 for a year-round High Pollution Advisory Program in 2003).
- Attainment of a general public awareness of High Pollution Advisories of 90 percent.



## 500: Program Implementation

**Program Implementation Consultants and Pass Through**

| Task Number  | FY 2005 Carryover Consultants By Activity | Federal | State            | Local | Other | Total            |
|--------------|---|---------|------------------|-------|-------|------------------|
| 500-0195-05  | Safety Management System Consultant       |         | 350,000          |       |       | 350,000          |
| <b>Total</b> | <b>Program Implementation Programs</b>    | -       | <b>\$350,000</b> | -     | -     | <b>\$350,000</b> |

| Task Number  | FY 2004 Carryover Consultants By Activity | Federal          | State | Local | Other | Total            |
|--------------|---|------------------|-------|-------|-------|------------------|
| 500-0140-05  | Regional Traffic Signal Assistance        | 50,000           |       |       |       | 50,000           |
| 500-0160-05  | ITS Training Consultant                   | 50,000           |       |       |       | 50,000           |
| 500-0165-05  | ITS Data Collection Consultant            | 50,000           |       |       |       | 50,000           |
| 500-0170-05  | ITS Evaluation Consultant                 | 60,000           |       |       |       | 60,000           |
| 500-0180-05  | ITS - Planning Consultant                 | 20,000           |       |       |       | 20,000           |
| 500-0190-05  | ITS Outreach Consultant                   | 20,000           |       |       |       | 20,000           |
| <b>Total</b> | <b>Program Implementation Programs</b>    | <b>\$250,000</b> | -     | -     | -     | <b>\$250,000</b> |

| Task Number  | FY 2005 Pass Through Agreements by Activity | Federal            | State | Local            | Other | Total              |
|--------------|---|--------------------|-------|------------------|-------|--------------------|
| 500-0210-05  | Trip Reduction Program                      | 910,000            |       |                  |       | 910,000            |
| 500-0211-05  | Capital Rideshare Program                   | 135,000            |       |                  |       | 135,000            |
| 500-0212-05  | Regional Rideshare                          | 594,000            |       |                  |       | 594,000            |
| 500-0214-05  | Telework and Ozone Outreach                 | 300,000            |       |                  |       | 300,000            |
| 500-0310-05  | Emergency 9-1-1                             |                    |       | 105,885          |       | 105,885            |
| 500-0420-05  | Purchase PM-10 Certified Street Sweepers    | 1,920,000          |       |                  |       | 1,920,000          |
| <b>Total</b> | <b>Program Implementation Programs</b>      | <b>\$3,859,000</b> | -     | <b>\$105,885</b> | -     | <b>\$3,964,885</b> |

| Task Number  | FY 2004 Carry Over Pass Through Agreements by Activity | Federal            | State | Local | Other              | Total              |
|--------------|--|--------------------|-------|-------|--------------------|--------------------|
| 500-0120-05  | Park and Ride Implementation - Member Agencies         | 943,000            |       |       |                    | 943,000            |
| 500-0210-05  | Trip Reduction Program                                 | 250,000            |       |       |                    | 250,000            |
| 500-0211-05  | Capital Rideshare Program                              | 45,000             |       |       |                    | 45,000             |
| 500-0212-05  | Regional Rideshare                                     | 150,000            |       |       |                    | 150,000            |
| 500-0214-05  | Telework and Ozone Outreach                            | 200,000            |       |       |                    | 200,000            |
| 500-0350-05  | Pass-Thru to City of Phoenix                           |                    |       |       | 2,731,221          | 2,731,221          |
| 500-0420-05  | Purchase PM-10 Certified Street Sweepers (FY 2004)     | 2,543,923          |       |       |                    | 2,543,923          |
| <b>Total</b> | <b>Program Implementation Programs</b>                 | <b>\$4,131,923</b> | -     | -     | <b>\$2,731,221</b> | <b>\$6,863,144</b> |

**APPENDIX A-2**

**SCOPE OF SERVICES**

## SCOPE OF WORK

### FY 2005 REGIONAL RIDESHARE PROGRAM

#### **Task 1: Regional Rideshare Program and Coordination**

Maintain and enhance the online rideshare matching system. The online matching system, ShareTheRide.com was installed in December of 2001. The system provides both online and call-in matching services to commuters for carpooling, vanpooling and bicycle partner opportunities. Enhancements to the online matching system will be provided by a consultant. A users' group of other rideshare agencies help identify needs and enhancements. As a result, if we adopt enhancements that have already been done for other rideshare agencies we do not pay the full cost of the design and development of the enhancement.

Maintain and enhance the Rideshare section of the Valley Metro website including the development of online contests, transportation coordinator features, and rideshare and event related information. Staff and consultant time will be used in this effort.

Coordinate the Clean Air Campaign Awards lunch usually held in October to honor outstanding TDM programs, services and leaders. Coordinate the second year of promoting the EPA's Best Workplaces for Commuters program with TRP companies.

Coordinate with other organizations and internal Valley Metro staff on measures that may impact the potential for ridesharing including HOV facilities, new development, transit, upcoming LRT, BRT, and parking or zoning issues.

Provide input on the integration of MAG plans, including issues such as air quality; high occupancy vehicle HOV issues and facilities; bicycle and pedestrian facilities; traffic management; telecommunications and travel demand management strategies.

Conduct periodic surveys of Employer transportation coordinator opinions on Valley Metro Rideshare services, materials and programs online and throughout the year via the website. These online surveys are being enhanced so staff can create the surveys throughout the year. This will provide the ability to administer them and place them online for TCs at the end of each campaign or event and responses will be more timely.

Another use of this online survey tool will be to place a follow up survey on the update emails that are sent out to applicants of the [www.SharetheRide.com](http://www.SharetheRide.com) rideshare matching system to ask if they had success in forming a car or vanpool, and if the system was easy to use.

Work with the advertising agency to develop all advertising and public relations components for the Clean Air Campaign including events i.e., Valley Bike Week, Rideshare Week, the Fall/Winter Campaign and Summer Ozone Campaign.

**Task 2: Regional Rideshare Program Marketing**

Market alternative modes of transportation and work schedules to commuters and employers by providing an online information and matching service, printed information brochures and promotions.

Provide the sales and marketing of vanpool services to the general public and employers. Provide staff coordination between vanpool operations and TDM marketing.

Develop collateral pieces and newsletters that are part of the promotional kits for employers at a minimum of three times per year that promote alternative modes of transportation and work schedules to their employees and provides helpful information to them on air quality and transportation issues. Produce any appropriate materials to promote the EPA's Best Workplaces for Commuters program.

Produce brochures and informational materials as necessary to promote alternative modes, (e.g. rideshare matching services, Park & Ride, bicycling, payroll stuffers, posters etc...); provide faxing and email services for employer notices and information.

**Task 3: Clean Air Campaign Advertising, Public Relations and Events**

Conduct a year round Clean Air Campaign to educate the public about air pollution and its causes and to encourage the use of or participation at least once a week in alternative modes, alternative work schedules, and other solutions through paid advertising, public and media relations, public affairs, and events.

Develop creative concepts for advertising elements that may include radio and television advertisements, outdoor billboards, print advertising, advertising on buses, movie slides and other mediums as appropriate and cost effective to reach target audiences. Major promotional items will be made available, in a timely manner, for MAG review and will include the MAG logo as appropriate.

Develop promotional kits for employers at least three times per year that promote alternative modes and work schedules to their employees and provides helpful information to them on air quality and transportation issues. The kits include poster and other employee-oriented materials and information for the employer that is helpful in promoting to their employees. This usually includes a contest flyer about the upcoming online Rideshare Week, Valley Bike Week or Ozone contest, a sample giveaway item available to them in larger quantities and a newsletter.

Purchase media for placement. Leverage public service added value benefit as part of the media buy through various partnerships and media vendors' added value programs.

Develop public relations plan that includes, at a minimum:

- meetings with television and radio broadcast management, assignment desk editors, and meteorologists

- public affairs program interviews on radio and television
- an e-mail system to issue High Pollution Advisories, weekly Transportation Coordinator briefs or the electronic newsletter "Blue Notes," and other pertinent event or promotional information to employers and/or the general public

Develop and implement media events that help educate the public about the pollution problems and transportation and work schedule alternative solutions including rideshare week, and Valley Bike Week, Ozone and Telework events. Issue press releases on newsworthy information as it becomes available.

Conduct meetings of the Clean Air Working Group to elicit input and feedback on the marketing program.

**Task 4:      Transportation Demand Management Annual Survey**

Consultant will conduct an annual survey that measures commuter mode shifts, and examines residents' opinions on transit, rideshare, air quality and traffic issues to determine marketing strategies and measure awareness and effectiveness of programs and services.

Establish an advisory group to provide input on the survey instrument.

Design and modify the Annual Survey instrument.

Conduct the Annual Survey in March 2005 and tabulate results for the draft report.

Conclude Transportation Demand Management Annual Survey with a final report by June 2005.

**Task 5:      Reporting**

Deliver (12) monthly progress reports and invoices to the MAG in the prescribed format documenting work performed in each task.

Deliver two (2) semiannual reports regarding achievement of Outcome Measures to MAG, in the prescribed format, 45 days following the end of each 6 month period (e.g., first semiannual report for the period October 1, 2004 through March 31, 2005 is due May 15, 2005). At a minimum, the semiannual reports will include documentation regarding the following:

- Accomplishments.
- Methods used to achieve outcome measures.
- Comparison of status in achieving the outcome measures for FY05 versus FY 04.
- Methodology used to quantify outcome measures and status of achieving outcome measures.

- Estimated program effectiveness including dollars per trip reduced.
- Comparison of similar programs being implemented in other urban areas.
- Impact of program on characteristics of peak commute travel in Maricopa County.

Deliver the final Semiannual Regional Rideshare Program Report by November 15, 2005.

**Schedule (FY 2005):**

|  |   |
|--|---|
| Start public relations program                           | October 2004                            |
| Conduct media briefings                                  | Ongoing                                 |
| Send out Fall/Winter kit                                 | Oct 1, 2004                             |
| Telework Promotion / Public Relations only               | October 2004                            |
| Secure public affairs interviews                         | Ongoing                                 |
| Clean Air Campaign Awards Luncheon                       | October 27, 2004                        |
| Rideshare Week   | November 14--20, 2004                   |
| Send mid Winter kit                                      | January, 2005                           |
| Design methodology for evaluation of program             | January/February 2005                   |
| Develop creative concepts for spring/summer employer kit | February 2005                           |
| Conduct surveys/general public                           | March 2005                              |
| Valley Bike Week   | April 2005                              |
| Write evaluation report/market research results          | May 2005                                |
| Submit Semiannual Report to MAG                          | May 15, 2005                            |
| Develop creative concepts for fall employer kit          | August 2005                             |
| Submit monthly reports to MAG                            | Monthly<br>(15 days after end of month) |
| Submit Semiannual Program Report                         | November 15, 2005                       |

**Regional Rideshare FY 2005**  
**October 1, 2004 through September 30, 2005**

| Labor                                    | Raw Direct       | Task 1              | Task 2             | Task 3              | Task 4             | Task 5        | Total           | Total               |
|--|------------------|---------------------|--------------------|---------------------|--------------------|---------------|-----------------|---------------------|
|  | Labor            |                     |                    |                     |                    |               |                 |                     |
|  | Hourly Rate      |                     |                    |                     |                    |               |                 |                     |
| Bryan Jungwirth                          | \$45.84          | 312.00              |                    |                     |                    |               | 312.00          | \$14,302.08         |
| Randi Alcott                             | \$40.38          | 644.83              |                    |                     |                    |               | 644.83          | \$26,039.61         |
| Lillian Duarte                           | \$22.38          | 311.93              |                    |                     |                    |               | 311.93          | \$6,979.51          |
| Beth Haldane                             | \$19.82          | 208.03              |                    |                     |                    |               | 208.03          | \$4,123.78          |
| Alex Potter                              | \$18.27          | 207.99              |                    |                     |                    |               | 207.99          | \$3,799.82          |
| Suzanne Kingsley-Day                     | \$22.79          | 312.06              |                    |                     |                    |               | 312.06          | \$7,113.29          |
| Jeff Reid                                | \$15.55          | 686.46              |                    |                     |                    |               | 686.46          | \$10,675.40         |
| Angela Sockwell                          | \$14.69          | 686.53              |                    |                     |                    |               | 686.53          | \$10,087.10         |
| Susan Tierney                            | \$26.27          | 520.00              |                    |                     |                    |               | 520.00          | \$13,660.27         |
| Arlene Ross                              | \$22.12          | 207.96              |                    |                     |                    |               | 207.96          | \$4,599.12          |
| Betty Turner                             | \$24.19          | 207.96              |                    |                     |                    |               | 207.96          | \$5,029.62          |
| <b>Total Hours</b>                       |                  | <b>4,305.75</b>     |                    |                     |                    |               | <b>4,305.75</b> |                     |
| <b>Total Hourly Cost</b>                 |                  |                     |                    |                     |                    |               |                 | <b>\$106,409.58</b> |
| <b>Fringe Benefit Rate</b>               | <b>39.15768%</b> |                     |                    |                     |                    |               |                 | <b>\$41,667.52</b>  |
| <b>Total Labor with Fringe</b>           |                  |                     |                    |                     |                    |               |                 | <b>\$148,077.10</b> |
| <b>Reimbursable Exp.</b>                 |                  | <b>Task 1</b>       | <b>Task 2</b>      | <b>Task 3</b>       | <b>Task 4</b>      | <b>Task 5</b> |                 |                     |
| Postage                                  |                  | \$8,000.00          |                    |                     |                    |               |                 | \$8,000.00          |
| Photocopy                                |                  | \$1,000.00          |                    |                     |                    |               |                 | \$1,000.00          |
| Printing/Promotional                     |                  |                     | \$15,000.00        |                     |                    |               |                 | \$15,000.00         |
| Miscellaneous                            |                  |                     |                    |                     |                    |               |                 | \$0.00              |
| <b>Total Reimbursable</b>                |                  | <b>\$9,000.00</b>   | <b>\$15,000.00</b> |                     |                    |               |                 | <b>\$24,000.00</b>  |
| <b>Subcontractors</b>                    |                  | <b>Task 1</b>       | <b>Task 2</b>      | <b>Task 3</b>       | <b>Task 4</b>      | <b>Task 5</b> |                 |                     |
| R&R Partners                             |                  |                     |                    | \$335,605.06        |                    |               |                 | \$335,605.06        |
| WestGroup Research                       |                  |                     |                    |                     | \$19,000.00        |               |                 | \$19,000.00         |
| Logical (hosting/Main. SharetheRide.com) |                  | \$15,000.00         |                    |                     |                    |               |                 | \$15,000.00         |
| Logical or STG (enhancements)            |                  | \$15,000.00         |                    |                     |                    |               |                 | \$15,000.00         |
| <b>Total Hours</b>                       |                  |                     |                    |                     |                    |               |                 |                     |
| <b>Total Subcontractors Cost</b>         |                  | <b>\$30,000.00</b>  | <b>\$0.00</b>      | <b>\$335,605.06</b> | <b>\$19,000.00</b> |               |                 | <b>\$384,605.06</b> |
| Hours Inception to Date                  |                  | 0.00                | 0.00               | 0.00                | 0.00               | 0.00          |                 |                     |
| <b>Grand Total</b>                       |                  | <b>Task 1</b>       | <b>Task 2</b>      | <b>Task 3</b>       | <b>Task 4</b>      | <b>Task 5</b> |                 |                     |
| <b>Total Labor w/ Fringe</b>             |                  | <b>\$148,077.10</b> |                    |                     |                    |               |                 | <b>\$148,077.10</b> |
| <b>Overhead</b>                          | <b>35.07%</b>    | <b>\$37,317.84</b>  |                    |                     |                    |               |                 | <b>\$37,317.84</b>  |
| <b>Reimbursable Exp.</b>                 |                  | <b>\$9,000.00</b>   | <b>\$15,000.00</b> |                     |                    |               |                 | <b>\$24,000.00</b>  |
| <b>Subcontractors</b>                    |                  | <b>\$30,000.00</b>  |                    | <b>\$335,605.06</b> | <b>\$19,000.00</b> |               |                 | <b>\$384,605.06</b> |
| <b>Grand Total</b>                       |                  | <b>\$224,394.94</b> | <b>\$15,000.00</b> | <b>\$335,605.06</b> | <b>\$19,000.00</b> |               |                 | <b>\$594,000.00</b> |

See attached Progress Report for actual work completed.

Line Item Amounts can be adjusted by 10 percent among tasks without prior written approval from MAG Executive Director.

**APPENDIX B**

**COMPLIANCE WITH TITLE VI OF THE CIVIL RIGHTS ACT OF 1964  
FOR  
FEDERAL-AID CONTRACTS**

The contractor will comply with Executive Order 11246 entitled Equal Employment Opportunity as amended by Executive Order 11375 and as supplemented in Department of Labor Regulations (41 Code of Federal Regulations Part 60) which are hereby incorporated by reference and made a part of this AGREEMENT.

**APPENDIX C**

**EXECUTIVE ORDER 99-4  
AMENDING 75-5  
REVISED MARCH 1, 1999**

**PROHIBITION OF DISCRIMINATION IN STATE CONTRACT  
NONDISCRIMINATION IN EMPLOYMENT BY GOVERNMENT CONTRACTORS  
AND SUBCONTRACTORS**

I, Jane Dee Hull, under and by virtue of the authority vested in me as Governor of the State of Arizona by the Constitution and Statutes of the State of Arizona do order and direct:

**PART I: NONDISCRIMINATION IN EMPLOYMENT BY GOVERNMENT  
CONTRACTORS AND SUBCONTRACTORS**

All government contracting agencies shall include in every government contract hereinafter entered into the following provisions:

During the performance of this Agreement, the contractor agrees as follows:

- A. The contractor will not discriminate against any employee or applicant for employment because of race, age, color, religion, sex, or national origin. The contractor will take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to their race, age, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, lay-off or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

A continued Executive Order No. 75-5 is hereby amended to permit government contractors and subcontractors that are religious organizations to provide employment preferences based upon religion when dealing with a bona fide occupational qualification reasonably necessary

to the operation of the religious organization, in accordance with the requirements of Title 41, chapter 9, article 4, Arizona Revised Statutes.

Executive Order No. 75-5 prohibits all government contractors and subcontractors from discriminating against any employee or applicant for employment because of race, age, color, religions, sex or national origin. Executive Order 75-5 further requires all government contractors and subcontractors to take affirmative action to insure that applicants are employed and employees are treated during employment without regard to their race, age, color, religion, sex or national origin.

Arizona's Civil Rights Act, Title 41, chapter 9, article 4, does not apply to religious organizations with respect to employment of individuals of a particular religion to perform work connected with the activities of the employer. It also provides that religious organizations may provide employment preferences based upon religion when dealing with a bona fide occupational qualification reasonable necessary to the operation of the religious organization. This is consistent with the provisions of the Civil Rights Act of 1964 (42 U.S.C. 2000e, et seq.). In addition, in the Personal Responsibility and Work Opportunity Reconciliation Act, P.L. 104-193, Congress provided that religious organizations are eligible for the receipt of federal funds on the same basis as other private organizations. The contractor will in all solicitations or advertisement for employees placed by or on behalf of the contractor state that all qualified applicants will receive consideration for the employment without regard to race, age, color, religion, sex or national origin.

- B. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding a notice to be provided by the agency contracting officer advising the labor union or workers' representative of the contractor's commitments under the Executive Order and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- C. The contractor will furnish all information and reports required by the contracting agency and will permit access to his books, records, and accounts by the contracting agency and the Civil Rights Division for purposes of investigation to ascertain compliance with such rules, regulations and orders.
- D. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations or orders of the Arizona Civil Rights Division

said noncompliance will be considered a material breach of the contract and this contract may be cancelled, terminated or suspended in whole or in part, and the contractor may be declared ineligible for further government contracts until said contractor has been found to be in compliance with the provisions of this order and the rules and regulations of the Arizona Civil Rights Division, and such sanctions may be imposed and remedies invoked as provided in Part II of this order, and the rules and regulations of the Arizona Civil Rights Division.

- E. The contractor will include the provisions of paragraphs A through E in every subcontractor purchase order so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect in the subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the State of Arizona to enter into such litigation to protect the interest of the State of Arizona.
  
- F. Each contractor having a contract containing the provisions prescribed in this section shall file and shall cause each of his subcontractors to file compliance reports with the contracting agency or the Civil Rights Division, as may be directed. Compliance reports shall be filed within such times and shall contain such information as the practices, policies, programs and employment policies, programs and employment statistics of the contractor and each subcontract and shall be in such form as the Arizona Civil Rights Division may prescribe.
  
- G. Bidders or prospective contractors or subcontractors shall be required to state whether they have participated in any previous contract subject to the provisions of this order or any preceding similar Executive Order and in that event to submit on behalf of themselves and the proposed subcontractors compliance reports prior to, or as an initial part of negotiation of a contract.
  
- H. Whenever the contractor or subcontractor has a collective bargaining agreement or other contract or understanding with a labor union or an agency referring workers or providing or supervising apprenticeship or training for such workers, the compliance report shall include such information from such labor unions or agency practices and policies affecting compliance as the contracting agency or Civil Rights Division may prescribe; provided that, to the extent such information is within the exclusive possession of a labor union or an agency referring workers or providing or supervising apprenticeship or training and such labor union or agency

shall refuse to furnish such information to the contractor, the contractor shall so certify the contracting agency as part of its compliance report and shall set forth what efforts he has made to obtain such information.

- I. The contracting agency or the Civil Rights Division shall require that the bidder or prospective contractor or subcontractor shall submit as part of his compliance report a statement in writing signed by an authorized officer or agent on behalf of any labor union or any agency referring workers or providing or supervising apprenticeship or other training with which the bidder or prospective contractor deals with supporting information to the effect that the signer's practices and policies do not discriminate on the grounds of race, color, religion, sex or national origin, and that the signer either will affirmatively cooperate in the implementation of the policy and provisions of this order or that it consents and agrees that recruitment employment and the terms and conditions of employment under the proposed contract shall be in accordance with the purpose and provisions of this order. In event that the union or the agency shall refuse to execute such statement, the compliance shall so certify and set forth what efforts have been made to secure such a statement and such additional factual material as the contracting agency or the Civil Rights Division may require.

## **PART II: ENFORCEMENT**

- A. Each contracting agency shall be primarily responsible for obtaining compliance with this Executive Order with respect to contracts entered into by such agency or its contractors. All contracting agencies shall comply with the rules of the Civil Rights Division in discharging their primary responsibility for securing compliance with the provisions of contracts and otherwise with the terms of this order and the rules and regulations and orders of the Civil Rights Division issued pursuant to this order. They are directed to cooperate with the Civil Rights Division and to furnish the Division such information and assistance as it may require in the performance and assistance as it may require in the performance of the Division's functions under this order. They are further directed to appoint or designate from among the agency personnel compliance officers. It shall be the duty of such officers to first seek compliance with the objective of this order by conference, conciliation, mediation or persuasion.
- B. The Civil Rights Division may investigate the employment practices of any government contractor or subcontractor of initiate such investigation by the appropriate contracting agency or determine whether or not the contractual provisions specified in this order have been violated. Such

investigations shall be conducted in accordance with the procedures establishment by the Civil Rights Division and the investigating agencies shall report to the Civil Rights Division any action taken or recommended. The Civil Rights Division may receive and investigate or cause to be investigated complaints by employees or prospective employees of a government contractor or subcontractor which allege discrimination contrary to the contractual provisions specified in Part I of this order. If the investigation is conducted for the Civil Rights Division by a contracting agency that agency shall report to the Civil Rights Division what action has been taken or its recommended with regard to such complaint.

- C. The Civil Rights Division shall use its best efforts directly and through contracting agencies, other interested state and local agencies, contractors and all other available instrumentalities to cause any labor union engaged in work under government contracts or any agency referring workers or providing or supervising apprenticeship or training for or in the course of such work or cooperate in the implementation of the purpose of this order.
- D. The Civil Rights Division or any agency, officer or employee in the executive branch of the government designated by rule, regulation or order of the Civil Rights Division may hold such hearings, public or private as the Division may deem advisable for the compliance, enforcement of educational purposes. The Civil Rights Division may hold or cause to be held hearings in accordance with rules and regulations issued by the Civil Rights Division prior to imposing, ordering or recommending the imposition of penalties and sanctions under this order.
- E. No order for debarment of any contractor from further government contracts under this order shall be made without affording the contractor an opportunity for a hearing.
- F. Sanctions and Penalties. In accordance with such rules, regulations or orders as the Civil Rights Division may issue or adopt, the Civil Rights Division or the appropriate contracting agency may publish or cause to be published the names of contractors or unions which it has concluded have complied or have failed to comply with the provisions of this order and with the rules, regulations and orders of the Civil Rights Division.
  - 1. Contracts may be cancelled in whole or in part, terminated, or suspended absolutely, or continuation of contracts may be conditioned upon a program for future compliance approved by the contracting agency or the Civil Rights Division; provided that any contracting agency shall refrain from entering into further contracts, extensions or other modifications of existing

contract with any noncomplying contractor until such contractor has established and will carry out personnel and employment policies in compliance with the provisions of this order.

2. Under rules and regulations prescribed by the Civil Rights Division, each contracting agency shall make reasonable efforts within a reasonable time limitation to secure compliance with the contract provisions of this order by methods of conference, conciliation, mediation and persuasion before proceedings shall be instituted under this order or before a contract shall be cancelled or terminated in whole or in part under this order for failure of a contractor or subcontractor to comply with the contract provision of this order.

G. This Executive Order shall become effective within sixty (60) days of its issuance.

**IN WITNESS WHEREOF**, I have hereunto set my hand and caused to be affixed the Great Seal of the State of Arizona

DONE at the Capitol in Phoenix this First day of March in the year of Our Lord One Thousand Nine Hundred and Ninety-Nine and of the Independence of the United States of America the Two Hundred and Twenty-third.

Signed by  
Jane Dee Hull  
GOVERNOR

In order to carry out the provisions of Executive Order 99-4 Amending 75-5, the consultant shall comply with the requirements of:

1. Standard Federal Equal Employment Opportunity Construction Contract Specifications, July 1, 1978, Revised November 3, 1980, Revised April 15, 1981, and
2. Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity, July 1, 1978, Revised November 3, 1980, Revised April 15, 1981.

**APPENDIX D**

**MISCELLANEOUS NON-DISCRIMINATION ACTS**

The contractor shall comply with Title VII of the Civil Rights Act of 1964, as amended, the Age Discrimination in Employment Act of 1975, and State Executive Order No. 99-4 Amending 75-5 which mandates that all persons, regardless of race, color, religion, sex, age, national origin or political affiliation, shall have equal access to employment opportunities. RPTA shall comply with section 503 of the Rehabilitation Act of 1973, as amended, which prohibits discrimination in the employment or advancement in employment of qualified persons because of physical or mental handicap. RPTA shall comply with the requirements of Section 504 of the Rehabilitation Act of 1973, as amended, which prohibits discrimination on the basis of handicap, in delivering contract services.

## APPENDIX E

ENVIRONMENTAL, RESOURCE, ENERGY PROTECTION, AND  
CONSERVATION REQUIREMENTS

- A. Environmental Policy. The National Environmental Policy Act of 1969, as amended, 42 U.S.C. §§ 1601 et seq.; the Council on Environmental Quality regulations, 40 C.F.R. Part 1500 et seq.; and the FHWA/FTA regulation, "Environmental Impact and Related Procedures," 23 C.F.R. Part 771, as amended, are applicable to the Project.
- B. Compliance with Environmental Standards. RPTA shall comply with the provisions of the Clean Air Act, as amended, 42 U.S.C. §§ 1857 et seq.; the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§ 1251 et seq.; and implementing regulations, in the facilities that are involved in the Project for which Federal assistance is given. RPTA shall ensure that the facilities under ownership, lease or supervision, whether directly or under contract, that will be utilized in the accomplishment of the Project are not listed on the Environmental Protection Agency (EPA) List of Violating Facilities. Contracts, subcontracts, and subgrants of amounts in excess of \$100,000 shall contain a provision requiring compliance with all applicable standards, orders, or requirements issued pursuant to Federal statute or regulation. RPTA shall be responsible for reporting any violations to the FHWA and to the EPA Assistant Administrator for Enforcement. In addition, RPTA shall notify the FHWA of the receipt of any communication from the Director of the EPA Office of Federal Activities indicating that a facility to be utilized in the Project is under consideration for listing by EPA.
- C. Air Pollution. No facilities or equipment shall be acquired, constructed, or improved as a part of the Project unless RPTA obtains satisfactory assurances that they are (or will be) designed and equipped to limit air pollution as provided in accordance with the following EPA regulations: "Control of Air Pollution from Motor Vehicles and Motor Vehicle Engines," 40 C.F.R. Part 85; "Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines: Test Procedures for Light-Duty Vehicles and Light-Duty Trucks and Selective Enforcement Auditing of New Light-Duty Vehicles, Light-Duty Trucks and Heavy-Duty Engines," 40 C.F.R. Part 86; and "Fuel Economy of Motor Vehicles," 40 C.F.R. Part 600; in accordance with applicable federally-approved State Implementation Plan(s) (in particular, the Transportation Control Measures); and in accordance with appropriate FAA directives and all other applicable standards.

- D. Use of Public Lands. No publicly owned land from a park, recreation area, or wildlife or waterfowl refuge of national, State or local significance as determined by the Federal, State or local officials having jurisdiction thereof, or any land from an historic site of national, State, or local significance may be used for the Project unless specific findings required under 49 U.S.C. § 303 are made by the Department of Transportation.
- E. Historic Preservation. RPTA shall assist the Government (the Federal Highway Administration) to comply with Section 106 of the national Historic Preservation Act involving historic and archaeological preservation by:
1. Consulting the State Historic Preservation Officer on the conduct of investigations, in accordance with Advisory Council on Historic Preservation regulations, "Protection of Historic and Cultural Properties", 36 C.F.R. Part 800, to identify properties and resources listed in or eligible for inclusion in the National Register of Historic Places that may be affected by the Project, and notifying the Government (*FHWA*) of the existence of any such properties; and
  2. Complying with all Federal requirements to avoid or mitigate adverse effects upon such properties.
- F. Energy Conservation. RPTA shall comply with mandatory standards and policies relating to energy efficiency that are contained in applicable State energy conservation plans issued in compliance with the Energy Policy and Conservation Act, 42 U.S.C. §§ 6321 *et seq.*
- G. Mitigation of Adverse Environmental Effects. Should the proposed Project cause adverse environmental effects, RPTA shall take all reasonable steps to minimize such effects pursuant to 49 U.S.C. app. § 1610, other applicable statutes, and the procedures set forth in 23 C.F.R. Part 771. RPTA shall undertake all environmental mitigation measures that may be identified as commitments in applicable environmental documents (such as environmental assessments, environmental impact statements, memoranda of contracts, and statements required by 49 U.S. C. § 303) and with any conditions imposed by the Government as part of a finding of no significant impact or a record of decision; all such mitigation measures are incorporated in and made part of this agreement by reference. In the event that some or all mitigation measures are deferred, once such measures are agreed upon by MAG and RPTA, those mitigation methods subsequently determined will be incorporated into this agreement. Such mitigation measures may not be modified or withdrawn without the express written approval of MAG.

- H. Use of Fly Ash in Cement and Concrete. In carrying out the Project, RPTA shall make all appropriate efforts to foster the use of fly ash, substantially in compliance with EPA regulations "Guideline for Federal Procurement of Cement and Concrete Containing Fly Ash", 40 C.F.R. Part 249. Should RPTA make a determination that the use of fly ash is inappropriate in a particular procurement of cement or concrete, RPTA shall provide FHWA a written justification to support that decision.

## **Addendum**

### **ENVIRONMENTAL REGULATIONS AND POLICIES**

This project will demonstrate compliance with all applicable federal, state and local regulations, including but not limited to the following environmental regulations and any related subsequent guidance or regulations:

#### **Federal**

National Environmental Policy Act of 1969

36 CFR 800 - Protection of Historic Properties

23 CFR 771 - Environmental Impact and Related Procedures

FHPM 7-7-3 - Procedures for the Abatement of Highway Traffic and Construction Noise

FHPM 7-79 - Air Quality Guidelines

Endangered Species Act of 1973, and supplements

Executive Order 11990 (Protection of Wetlands)

Executive Order 11988 (Floodplain Management)

National Historic Preservation Act of 1966

Section 4(f) of the Department of Transportation Act

Wild and Scenic Rivers Act of 1969

Section 402 (NPDES) and Section 404 of the Clean Water Act

Federal Farmlands Protection Policy Act of 1981

FHWA Technical Advisory T6640.8, "Guidance Material for the Preparation of Environmental Documents"

Section 1424 of the Safe Drinking Water Act (Sole Source Aquifer Review)

36 CFR 60 - Determinations of Eligibility for Inclusion in the National Register of Historic Places

Public Law 91-646 - Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970

Wilderness Act of 1964, Public Law 88-577

Arizona Desert Wilderness Act of 1990, Public Law 101-628

Resource Conservation and Recovery Act (RCRA)

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA)

Superfunded Amendments and Reauthorization Act (SARA)

United States Forest Service, Project Implementation Process for Integrated Resource Management (3<sup>rd</sup> Edition), August 1990

**State**

Arizona Native Plant Law

Arizona Historic Preservation Law

State Water Quality Law

ADOT Action Plan (and subsequent updates)

ADOT Highways Division Policy and Implementation Memorandum 89-05, "Preservation of Arizona's Wetlands", August 1, 1989

**ADOT**

Noise Abatement Policy

State of Arizona Water Control Policy

Arizona Environmental Quality Act (EQA)

Hazardous Waste Management Act (HWMA)

Underground Storage Tank Act of 1986

ADOT Relocation and Assistance Program

**LOCAL**

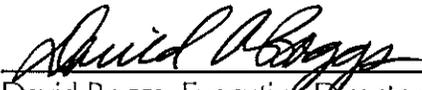
Local codes and ordinances relating to air quality, noise, dust abatement, light, etc.



Attachment Two

MAG Agreement 264, Amendment 7  
FY 2009 Unified Planning Work Program

Apart from the changes specified above in the revised Budget, all other terms and conditions of MAG Agreement 264 shall remain intact under this Seventh Amendment. Furthermore, by signing below, the Regional Public Transportation Authority agrees that all certification statements made by the Regional Public Transportation Authority in the October 1, 2004 AGREEMENT remain valid.

  
\_\_\_\_\_  
David Boggs, Executive Director  
Regional Public Transportation Authority

  
\_\_\_\_\_  
Dennis Smith, Executive Director  
Maricopa Association of Governments

6/19/09  
\_\_\_\_\_  
DATE

06/19/09  
\_\_\_\_\_  
DATE

Attachment One

Amendment 7 to MAG Agreement 264

This AGREEMENT between the Maricopa Association of Governments and the Regional Public Transportation Authority which was entered into as of the 1<sup>st</sup> day of October, 2004, is hereby amended as follows:

Reference Appendix A-2 (Revised FY 2009 Scope of Services)

Appendix A-2

Revised FY 2009 Scope of Services

## SCOPE OF WORK

### FY 2009 REGIONAL RIDESHARE PROGRAM

#### Task 1: Regional Rideshare Program and Coordination

Maintain and enhance the online rideshare matching system. The online matching system, ShareTheRide.com was installed in December of 2001. The system provides both online and call-in matching services to commuters for carpooling, vanpooling and bicycle partner opportunities. Due to the expiration of the existing ridematching service agreement, it is anticipated that Valley Metro RPTA will go out for bid on a new ridematching system for a contract period of 5 years. The new system is expected to provide many usability enhancements over the current system at approximately the same cost. MAG will pay no more than \$15,000 for the hosting and maintenance fees. The system will cover online matching requests for residents living or working in Maricopa County only.

Develop online contests that encourage commuters to register in the online matching system and/or form new carpools or vanpools. Enhance employer online resources at ValleyMetro.org which will enable them to build rideshare programs that are sustainable and effective. Staff and consultant time will be used in this effort.

Maintain and enhance the Business Services section of the Valley Metro Website including the development of online contests, transportation coordinator features, and rideshare and event related information. Staff and consultant time will be used in this effort. Enhancements charged to Task 1 will be for the MAG region only.

Coordinate the Clean Air Campaign Awards lunch to be held in October to honor outstanding clean air and rideshare programs, services and leaders.

Coordinate with other organizations and internal Valley Metro staff on measures that may impact the potential for ridesharing including HOV facilities, new development, transit, upcoming LRT, BRT, carsharing programs and parking or zoning issues.

Provide input on the integration of MAG plans, including issues such as air quality; high occupancy vehicle (HOV) issues and facilities; bicycle and pedestrian facilities; traffic management; telecommunications and travel demand management strategies.

Seek input from employer transportation coordinators to ascertain opinions on Valley Metro Rideshare services, materials and programs online and throughout the year via briefings and input sessions in person and/or through online surveys on the website.

An online survey to rideshare matching applicants provides an evaluation of the system on the ease of use, success in forming a car or vanpool, and other measurements. This survey will continue to be used for evaluation purposes on the Share the Ride system.

Work with the internal marketing department and advertising agency to develop all advertising and public relations components for the Clean Air Campaign including events i.e., Valley Bike Month, Rideshare Week, the Fall/Winter Campaign and Summer Ozone Campaign will be coordinated by staff.

**Task 2: Regional Rideshare Program Marketing**

Market alternative modes of transportation and work schedules to commuters and employers by providing an online information and matching service, brochures and promotions.

Provide the sales and marketing of vanpool services to the general public and employers. Provide staff coordination between vanpool operations and marketing.

Develop promotional kits for employers – and associated collateral pieces - at least three and up to four times per year that promote alternative modes and work schedules to their employees and provides helpful information to them on air quality and transportation issues. The kits include poster and other employee-oriented materials and information for the employer that is helpful in promoting alternative modes to their employees. This usually includes a contest flyer about an upcoming online rideshare promotion.

Produce brochures and informational materials as necessary to promote alternative modes, as well as the services provided by the Valley Metro and its Business Services group, e.g. rideshare matching services, Park & Ride, bicycling, multi-modal transit options, and new service options. Provide faxing and email services for employer notices and information on air quality and transportation alternatives.

Provide incentives for contests and/or promotions that encourage commuters to register in [www.ShareTheRide.com](http://www.ShareTheRide.com), to form carpools and vanpools.

Provide collateral material for the Clean Air Campaign Awards luncheon that may include: invitations, the program, certificates for finalists and nomination packets. Also produce and provide materials and incidentals for the Valley Bike Month and the Great Bike Chase event that could include: bike vouchers/claim checks, security at the parking garage, first aid services from Phoenix Fire, event signage/banners, collateral for contents of participant package (such as the "passports" used in 2008), and coning (to secure the bike lane between the riders and cars).

### **Task 3: Clean Air Campaign Advertising, Public Relations and Events**

Conduct a year round Clean Air Campaign to educate the public about air pollution and its causes and to encourage (at least) weekly use of alternative modes, alternative work schedules, and other transportation solutions through paid advertising, public and media relations, public affairs, and events.

Develop creative concepts for advertising elements that may include radio and television advertisements, outdoor billboards, print advertising, advertising on buses, freeway message signs, online ads, movie slides and other mediums as appropriate and cost effective, to reach target audiences. Major promotional campaigns and items will be made available in a timely manner for MAG review, and will include MAG logo as appropriate.

Purchase media for placement. Leverage public service added value benefit as part of the media buy through various partnerships and media vendors' added value programs.

Develop public relations plan that includes, at a minimum:

- meetings with television and radio broadcast management, assignment desk editors, and meteorologists
- public affairs program interviews on radio and television
- an email system to issue High Pollution Advisories, weekly Transportation Coordinator briefs or the electronic newsletter "Blue Notes," and other pertinent event or promotional information to employers and/or the general public.

Develop and implement media events that help educate the public about the pollution problems and transportation and work schedule alternative solutions including Rideshare Week, and Valley Bike Month, Ozone and Telework events. Issue press releases on newsworthy information as it becomes available.

Elicit input and feedback on the marketing program from funders, transportation coordinators, and staff.

### **Task 4: Transportation Demand Management Annual Survey**

Consultants will conduct an annual survey that measures commuter mode shifts, and examines residents' opinions on transit, rideshare, air quality and traffic issues to determine marketing strategies and measure awareness and effectiveness of programs and services. Target audience for the survey will be full-time employed Valley residents between the ages of 18 and 55 years of age.

Design and modify the annual survey instrument. Conduct the annual survey in March 2009 and tabulate results for the draft report. Publish a final report on the results and conclusions of the Transportation Demand Management Annual Survey by June, 2009.

**Task 5: Reporting**

Deliver (12) monthly progress reports and invoices to MAG in the prescribed format documenting work performed in each task.

Deliver two (2) semiannual reports regarding achievement of Outcome Measures to MAG, in the prescribed format, 45 days following the end of the first 6 month period (e.g., first semiannual report for the period October 1, 2008 through March 31, 2009 is due May 15, 2009). At a minimum, the semiannual reports will include documentation regarding the following:

- Accomplishments.
- Methods used to achieve outcome measures.
- Comparison of status in achieving the outcome measures for FY09 versus FY 08.
- Methodology used to quantify outcome measures and the status of achieving outcome measures.
- Estimated program effectiveness including dollars per trip reduced.
- Comparison of similar programs being implemented in other urban areas.
- Impact of program on characteristics of peak travel in Maricopa County.

Deliver the final Semiannual Regional Rideshare Program Report by November 15, 2009.

**Schedule (FY 2009):**

|  |                       |
|--|-----------------------|
| Start public relations program                           | October 2008          |
| Conduct media briefings                                  | Ongoing               |
| Secure public affairs interviews                         | Ongoing               |
| Clean Air Campaign Awards Luncheon                       | October 2008          |
| Rideshare Week   | January 2009          |
| Send Winter kit (optional)                               | January 2009          |
| Design methodology for TDM survey instrument             | January/February 2009 |
| Develop creative concepts for spring/summer employer kit | February 2009         |
| Conduct surveys/general public                           | March 2009            |
| Valley Bike Month  | April 2009            |

|   |   |
|---|---|
| Write evaluation report/market research results | May 2009                                |
| Submit Semiannual Report to MAG                 | May 15, 2009                            |
| Develop creative concepts for fall employer kit | July/August 2009                        |
| Submit monthly reports to MAG                   | Monthly<br>(15 days after end of month) |
| Submit Semiannual Program Report                | November 15, 2009                       |

**2009 Outcome Measures**

**Measure:** *To achieve an annual Clean Air Campaign awareness level of at least 75 percent for FY 2009.*

**Measure:** *To achieve an annual Clean Air Campaign favorability level of at least 85 percent for FY 2009.*

**Measure:** *To achieve an annual 45 percent rate of commuters who use alternative modes or schedules for one or more days a week in FY 2009.*

**Measure:** *To increase the percentage of daily trips made by alternative modes and schedules to at least 28 percent in FY 2009.*

Regional Rideshare FY 2009 Amendment #7  
 PERIOD: October 1, 2008 - September 30, 2009

**COSTS AND HOURS BY TASK**

| LABOR<br>Personnel             | Raw Direct Labc<br>Hourly Rate | HOURS BY PERSONNEL AND TASK |                       |                              |                    |                | Total<br>Cost |
|--------------------------------|--------------------------------|-----------------------------|-----------------------|------------------------------|--------------------|----------------|---------------|
|                                |                                | 1<br>RS Prgrm &<br>Coord.   | 2<br>RS Prgrm<br>Mktg | 3<br>CAC Adv, PR &<br>Events | 4<br>TDM<br>Survey | 5<br>Reporting |               |
| Tony Bowman                    | 36% \$42.78850                 | 748.80                      |                       |                              |                    |                | \$32,040.03   |
|                                |                                | 102.00                      |                       |                              |                    |                | \$4,364.42    |
|                                | \$44.50000                     | 1,049.24                    |                       |                              |                    |                | \$46,691.18   |
| Day, Suzanne                   | 25% \$29.43987                 | 520.00                      |                       |                              |                    |                | \$15,308.73   |
|                                | \$29.44000                     | 415.81                      |                       |                              |                    |                | \$12,241.46   |
| Reid, Jeff                     | 50% \$22.13660                 | 1,040.00                    |                       |                              |                    |                | \$23,022.06   |
|                                | \$22.13600                     | 1,231.02                    |                       |                              |                    |                | \$27,249.86   |
|                                | \$33.20400                     | 8.00                        |                       |                              |                    |                | \$266.63      |
| Lee Ann Jones                  | 50% \$21.30000                 | 1,040.00                    |                       |                              |                    |                | \$22,152.00   |
|                                |                                | 228.00                      |                       |                              |                    |                | \$4,856.40    |
|                                | \$22.15200                     | 1,142.68                    |                       |                              |                    |                | \$25,312.65   |
| CJ Gustafson                   | 25% \$24.55000                 | 520.00                      |                       |                              |                    |                | \$12,766.00   |
|                                | \$24.56288                     | 80.00                       |                       |                              |                    |                | \$1,964.23    |
|                                | \$24.56290                     | 533.37                      |                       |                              |                    |                | \$13,095.78   |
| Kris Sullivan                  | 25% \$28.60000                 | 520.00                      |                       |                              |                    |                | \$14,872.00   |
|                                |                                | 579.05                      |                       |                              |                    |                | \$16,560.83   |
| Lillian Duarte                 | 25% \$29.46000                 | 520.00                      |                       |                              |                    |                | \$15,319.20   |
|                                | \$29.46350                     | 584.76                      |                       |                              |                    |                | \$17,229.08   |
| Margaret Perez                 | 25% \$28.44000                 | 520.00                      |                       |                              |                    |                | \$13,748.80   |
|                                |                                | 672.33                      |                       |                              |                    |                | \$17,776.41   |
| <b>Total Hours</b>             |                                | 6,428.80                    |                       |                              |                    |                |               |
|                                |                                | 6,626.26                    |                       |                              |                    |                |               |
| <b>Total Hourly Cost</b>       |                                | 149,228.82                  |                       |                              |                    |                | \$149,228.82  |
|                                |                                | 187,607.92                  |                       |                              |                    |                | \$187,607.92  |
| <b>Rounding Adjustments</b>    |                                | 0.00                        |                       |                              |                    |                | \$0.00        |
|                                |                                | 0.20                        |                       |                              |                    |                | \$0.20        |
| <b>Fringe Benefit Rate @</b>   | 0.27                           | 49,291.78                   |                       |                              |                    |                | \$49,291.78   |
|                                | 0.3500                         | 65,662.77                   |                       |                              |                    |                | \$65,662.77   |
| <b>Total Labor with Fringe</b> |                                | \$189,520.60                | \$0.00                | \$0.00                       | \$0.00             | \$0.00         | \$189,520.60  |
|                                |                                | \$253,270.89                |                       |                              |                    |                | \$253,270.89  |

| REIMBURSABLE EXPENSES<br>Description | EXPENSES BY TASK          |                       |                              |                    |                | Total<br>Cost      |
|--------------------------------------|---------------------------|-----------------------|------------------------------|--------------------|----------------|--------------------|
|                                      | 1<br>RS Prgrm &<br>Coord. | 2<br>RS Prgrm<br>Mktg | 3<br>CAC Adv, PR &<br>Events | 4<br>TDM<br>Survey | 5<br>Reporting |                    |
| Postage                              | \$5,500.00                | \$6,000.00            |                              |                    |                | \$11,500.00        |
| Photocopy                            | \$1,800.00                |                       |                              |                    |                | \$1,800.00         |
| Printing/Promotional                 |                           | \$30,000.00           |                              | \$99.85            |                | \$30,099.85        |
| Miscellaneous                        | \$400.00                  | \$6,000.00            |                              |                    |                | \$6,400.00         |
| <b>Total Reimbursable Expenses</b>   | <b>\$7,700.00</b>         | <b>\$42,000.00</b>    | <b>\$0.00</b>                | <b>\$99.85</b>     | <b>\$0.00</b>  | <b>\$49,799.85</b> |

| SUBCONTRACTORS<br>Person         | TASK               |               |                     |                    |               | Total<br>Cost       |
|----------------------------------|--------------------|---------------|---------------------|--------------------|---------------|---------------------|
|                                  | 1                  | 2             | 3                   | 4                  | 5             |                     |
| R & R Partners/Other Vendors     |                    |               | \$186,496.07        |                    |               | \$186,496.07        |
| ASU (CBS Sports)                 |                    |               | \$50,000.00         |                    |               | \$50,000.00         |
| WestGroup Research               |                    |               |                     | \$25,000.00        |               | \$25,000.00         |
| Ridematching Vendor              | \$ 15,000.00       |               |                     |                    |               | \$15,000.00         |
| Web Consultant                   | \$ 15,000.00       |               |                     |                    |               | \$15,000.00         |
| <b>Total Subcontractors Cost</b> | <b>\$30,000.00</b> | <b>\$0.00</b> | <b>\$236,496.07</b> | <b>\$25,000.00</b> | <b>\$0.00</b> | <b>\$291,496.07</b> |

| GRAND TOTAL<br>Description | Rate   | TOTAL COSTS BY TASK |                    |                     |                    |               | Total<br>Cost       |
|----------------------------|--------|---------------------|--------------------|---------------------|--------------------|---------------|---------------------|
|                            |        | 1                   | 2                  | 3                   | 4                  | 5             |                     |
| Total Labor with Fringe    |        | \$189,520.60        | \$0.00             | \$0.00              | \$0.00             | \$0.00        | \$189,520.60        |
|                            |        | \$253,270.89        |                    |                     |                    |               | \$253,270.89        |
| Overhead Rate @            | 42.34% | \$63,183.48         | \$0.00             | \$0.00              | \$0.00             | \$0.00        | \$63,183.48         |
|                            |        | \$79,433.19         |                    |                     |                    |               | \$79,433.19         |
| Reimbursable Expenses      |        | \$7,700.00          | \$42,000.00        | \$0.00              | \$99.85            | \$0.00        | \$49,799.85         |
| Subcontractors             |        | \$30,000.00         | \$0.00             | \$236,496.07        | \$25,000.00        | \$0.00        | \$291,496.07        |
| <b>GRAND TOTAL</b>         |        | <b>\$290,404.08</b> | <b>\$42,000.00</b> | <b>\$236,496.07</b> | <b>\$25,099.85</b> | <b>\$0.00</b> | <b>\$594,000.00</b> |
|                            |        | \$370,404.08        |                    |                     |                    |               | \$674,000.00        |

See attached Progress Report for actual work completed.

Line Item Amounts can be adjusted by 10 percent among tasks without prior written approval from MAG Executive Director.

Note: the Fringe and overhead rates may vary from month to month.

Note: contract amount not to exceed \$594,000.00 \$674,000.00.

# **Appendix J**

**MARICOPA ASSOCIATION OF GOVERNMENTS**  
**AGREEMENT FOR**  
**LIGHT RAIL TRANSIT PLANNING SERVICES**

This AGREEMENT entered into as of the 10<sup>th</sup> day of July 2007 to be effective as of July 1, 2007, by and between the Maricopa Association of Governments hereinafter called MAG, and Valley Metro Rail, Inc., an Arizona Nonprofit Corporation, hereinafter referred to as VMR.

**RECITALS**

**WHEREAS, MAG** is the recipient of Federal Transit Administration Funds for Section 5303 - Transit Planning as described in the FY 2008 MAG Unified Planning Work Program and as described in the 2005 agreement between MAG and the Arizona Department of Transportation.

**WHEREAS, MAG** desires to have prepared by the most efficient and effective means possible, planning work that is necessary to study, plan, design, and construct a light rail transit system as approved in the MAG Regional Transportation Plan (the "Light Rail Planning Services").

**WHEREAS, VMR** was created to plan, design, construct, and operate the Light Rail system for the region and therefore is uniquely qualified to provide the Light Rail Planning Services.

**WHEREAS,** in the event that funding is available in future years for additional Light Rail Planning Services, MAG may wish to engage VMR to perform such Planning Services pursuant to the terms of this Agreement.

**NOW THEREFORE,** in consideration of the mutual promises set forth in this Agreement, the parties agree as follows:

**I. SCOPE OF WORK**

The scope of work to be accomplished by the parties pursuant to this AGREEMENT shall be set forth annually by MAG in the Unified Planning Work Program (Work Program). Each year, for the development of the Work Program, VMR shall submit to MAG, the work elements and funding for the MAG federally funded Light Rail Planning Services. Annually, following approval of the Work Program by the MAG Regional Council, VMR is required to develop a detailed budget and scope of services for approval by MAG, in accordance with the adopted Work Program. On or before June 20<sup>th</sup> of each year, MAG shall provide to VMR, the work elements and funding from the Work Program, and the budget and scope of services to be conducted by VMR. For FY 2008, the funding and work elements, and detailed budget and scope of services are included in Appendix A-1 and Appendix A-2 and made a part of this AGREEMENT. If funding is available in future years for additional Light Rail Planning Services and MAG wishes to engage VMR to perform such Planning Services, MAG and VMR shall execute an agreement in the form attached hereto as Appendix F, setting forth the funding and work elements for that fiscal year.

## II. PROJECT COSTS AND BILLING PROCEDURES

- A. Invoices will be submitted monthly, documenting services by each work task, the hours and hourly rate of each person, and other direct expenses. All costs incurred in preparing invoices and progress reports shall be included in the general and administrative expenses or the overhead. A billing format shall be provided to VMR by MAG.
- B. The basis for payment to VMR for services rendered hereunder shall be reimbursement for costs in conformance with the budget described in Appendix A-1 and Appendix A-2 and pursuant to the cost breakdown furnished by VMR, the detailed budget and scope of services approved by MAG, in accordance with the adopted Work Program. VMR may make adjustments within the tasks of the approved budget as needed to accomplish the requirements of the Scope of Services. No adjustment shall exceed 10 percent of the task budget without prior written approval from the MAG Executive Director.
- C. VMR shall maintain cost records in accordance with Article III, Records and Audit Rights, of this AGREEMENT. Costs shall be available for verification audit by the authorized representatives of MAG, the Federal Transit Administration, and the Comptroller General of the United States. MAG agrees to make progress payments that are commensurate with work completed. Partial payment shall be made to VMR upon receipt of monthly report of work accomplished and invoices, but not more often than once each month. Final payment of any balance due VMR will be made upon completion and acceptance of work and services to be completed hereunder.
- D. VMR agrees to make quarterly in-kind contributions in the form of office space, furniture and furnishings, office equipment, office support and overhead costs as required by the applicable federal grantor as described in the Work Program.

## III. RECORDS AND AUDIT RIGHTS

VMR's work and accounting records (hard copy, as well as computer readable data), and any other supporting evidence deemed necessary by MAG to substantiate charges and claims related to this AGREEMENT shall be open to inspection and subject to audit and/or reproduction by authorized representatives of MAG, Federal Transit Administration, and the Comptroller General of the United States ("Auditors") to the extent necessary to adequately permit evaluation and verification of the performance and cost of the work, and any invoices, change orders, payments or claims submitted by VMR or any of its payees pursuant to the execution of the AGREEMENT. The Auditors shall be afforded access, at reasonable times and places, to all of VMR's records and personnel pursuant to the provisions of this Section throughout the term of this AGREEMENT and for a period of five (5) years after last or final payment.

If an audit in accordance with this Section discloses overcharges, of any nature, by VMR to MAG in excess of five percent (5%) of the total AGREEMENT billings, the actual cost of the Auditor's audit shall be reimbursed to the auditing organization by VMR. Any

adjustments and/or payments which must be made as a result of any such audit or inspection of VMR's invoices and/or records shall be made within a reasonable amount of time (not to exceed 90 days) from presentation of the Auditor's findings to VMR.

#### **IV. COSTS**

Costs of VMR include all direct labor costs, all direct non-labor costs and all overhead costs. OMB Circular A-87 will be used to determine allowable costs.

- A. Direct labor cost is defined as the actual salaries and salaries cost burden of all employees of VMR used for the time directly chargeable to work to be performed hereunder including time involved in travel.
- B. Direct non-salary costs shall include any actual expenditures required directly in performance of services hereunder other than actual direct labor costs and include such items as the following:
  - 1. Travel expense of VMR in connection with the work hereunder. VMR allowance for mileage and per diem for lodging, meals and miscellaneous costs shall be reimbursed according to the adopted rate of the State of Arizona.
  - 2. Communication such as long distance telephone, telegraph and cable expenses applicable to service hereunder.
  - 3. Any other related actual costs such as meeting rooms, reproduction, graphics, and research materials.
- C. VMR's overhead is defined as the costs which are not directly allocable to the project as a direct labor cost or direct non-salary cost as defined above. VMR shall maintain records setting forth the actual overhead as computed from the annual financial statement(s) applicable to the work period under this AGREEMENT and these are to be kept available for inspection for a period of five (5) years after final payment.

#### **V. KEY PERSONNEL**

In the event that any of the key personnel of VMR set forth in Appendix A-2 becomes unavailable, VMR will notify MAG and substitute other personnel to ensure proper performance and continuity.

#### **VI. ASSIGNMENT AND SUBCONTRACTING**

VMR shall not assign or subcontract any part of this AGREEMENT or the work to be performed hereunder without written approval by MAG except as identified in the Work Program and identified in Appendix A-2, Scope of Services.

**VII. ADMINISTRATIVE RULES AND REGULATIONS AND APPLICABLE LAW**

VMR shall become and remain informed of all applicable Federal, State and local laws, ordinances, rules, regulations, and all orders and decrees of bodies or tribunals having any jurisdiction or authority which may in any manner affect the completion of the project under this AGREEMENT. VMR shall observe and comply with all such laws, ordinances, rules, regulations, orders, and decrees and obtain all permits that are applicable to the performance of services outlined. Appendices B, C and D describe additional provisions required to comply with Title VI and Title VII of the Civil Rights Act of 1964; and Appendix E describes environmental, resource, energy protection, and conservation requirements. These Appendices are considered part of the AGREEMENT.

**VIII. SUBRECIPIENT AUDITS**

VMR, a "subrecipient" pursuant to 31 U.S.C. §7501, that expends \$300,000 or more in federal awards in its fiscal year shall comply with the audit and reporting requirements set forth in 31 U.S.C. Subpart A--General, Section.105, Definitions.

In compliance with the Federal Single Audit Act of 1996 (P.L. 104-156), Contractors designated as subrecipients expending federal funds from all sources totaling \$300,000 or more shall have a yearly audit conducted in accordance with the audit and reporting standards as prescribed in OMB Circular A-133 (Audits of State, Local Governments, and Non-Profit Organizations). The audit shall include separate reports on the financial statements, internal controls, compliance, the Supplementary Schedule of Expenditures of Federal Awards and the Schedule of Findings and Questioned Costs. MAG's contract number(s), applicable task number(s) and the award amount(s) shall be included in a separate schedule if not included on the Supplementary Schedule of Expenditures of Federal Awards. VMR's annual audit report and an action plan for the resolution of any findings and/or questioned costs shall be submitted to MAG within 9 months of VMR's fiscal year end.

VMR is subject to the programmatic and fiscal monitoring requirements of each MAG program to ensure accountability of the delivery of all goods and services, as required under the Federal Single Audit Act. A minimum fiscal requirement for all Contractors, designated as subrecipients, is an annual financial audit, which includes MAG's contract number(s), applicable task number(s) and the award amount(s). The audit shall be submitted to the MAG location, as specified in the reporting requirements of the agreement between VMR and MAG. MAG may, at its discretion, periodically request additional information from VMR.

**IX. WRITTEN ORDERS REQUIRED FOR CHANGES**

No changes in the scope, character, or complexity of work shall be made by VMR without first receiving a written approval by MAG's Executive Director properly defining and limiting any such change. It is distinctly understood and agreed that no claim for payment for extra work done or materials furnished by VMR shall be paid by MAG except as hereinabove provided; nor shall VMR do any work or furnish any materials not covered by this AGREEMENT unless a written order is first received from MAG's Executive Director. Any such work or materials furnished by VMR without such written order shall be at the

risk, cost, and expense of VMR, and no claim for compensation for any such work or materials shall be made.

**X. TERMINATION, ABANDONMENT OR POSTPONEMENT**

The right is reserved by MAG to terminate or abandon this study and this AGREEMENT may be terminated by giving written notice to VMR at least fifteen (15) days prior to the effective date of termination. In the event of such termination, MAG shall be liable to VMR for acceptable work performed to the date of termination only, computed as provided in Section II, Project Costs and Billing Procedures, and Section IV, Costs, of this AGREEMENT. The right is also reserved by MAG to indefinitely postpone work on this study by giving twenty-four (24) hour written notice.

**XI. FISCAL LIMITATIONS**

In the event that the funds required for performance of this AGREEMENT are withdrawn or are not available for funding hereunder, this AGREEMENT without penalty to either party may be immediately terminated. MAG shall be liable to VMR for acceptable work performed to the date of termination only, computed as provided in Section II and Section IV of this AGREEMENT.

**XII. RELATIONSHIP OF MAG AND VMR; EXERCISE OF MAG'S POWERS**

It is understood and agreed that VMR is an "independent authority" and that no relationship of agency, master-servant, or employer-employee shall be created or exist between VMR and MAG as a result of the execution of this AGREEMENT; and VMR shall not exercise any powers of MAG nor make any AGREEMENT, obligation, or commitment on behalf of MAG nor in any other way represent any of VMR or its employees as agents of MAG.

**XIII. INDEMNIFICATION**

Each party to this AGREEMENT agrees to defend, indemnify, save and hold harmless the other (and each of their respective directors, officers, agents, and employees) from and against all liabilities, suits, obligations, claims, demands, damages, fines, costs and expenses (including reasonable attorney's fees) arising under this AGREEMENT to the extent that such are attributable, directly or indirectly, to the indemnifying party's negligence, error omission or intentional act. An indemnifying party's negligence, error, omission or intentional act, as that phrase is used herein, includes the negligence, error, omission or intentional act of its officers, agents, employees, and contractors.

**XIV. INSURANCE**

VMR shall maintain during the term of this AGREEMENT, the following insurance with forms and insurers acceptable to MAG as provided below:

- A. If applicable, Workmen's Compensation insurance to cover obligations imposed by Federal and State statutes having jurisdiction of its employees engaged in the

performance of the services, and Employers' Liability insurance with a minimum limit of not less than \$500,000 for each accident, \$500,000 disease for each employee and \$1,000,000 disease policy limit.

- B. If applicable, Architects and Engineers Professional Liability insurance shall be maintained, or caused to be obtained in the amount of \$1,000,000 each claim and \$2,000,000 all claims. In the event the insurance policy is written on a "claims made" basis, coverage shall extend for three (3) years past completion and acceptance of the work or services, and VMR shall submit certificates of insurance evidencing proper coverage is in effect as required herein.
- C. Commercial General Liability Insurance with an unimpaired limit of less than \$1,000,000 for each occurrence, \$2,000,000 Products and Completed Operations Annual Aggregate, and a \$2,000,000 General Aggregate Limit. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, contractors protective, products and completed operations. The policy shall contain a severability of interest clause.
- D. Business Automobile Liability insurance with a limit of \$1,000,000 each accident on VMR's owned, hired, and non-owned vehicles assigned to or used in the performance of VMR's work or services under this AGREEMENT. To the fullest extent allowed by law, for claims arising out of the performance of this AGREEMENT, MAG, its agents, representatives, officers, directors, officials and employees shall be cited as an Additional Insured under Insurance Service Offices, Inc. Business Auto policy Designated Insured Endorsement form CA 20 48 or equivalent. If any Excess insurance is utilized to fulfill the requirements of this paragraph, such Excess insurance shall be "follow form" equal or broader in coverage scope than underlying.
- E. Valuable Papers insurance in an amount sufficient to assure the restoration of any documents, memoranda, reports or other similar data relating to the work of VMR used in the completion of this AGREEMENT.
- F. The policies required by this AGREEMENT shall be endorsed to include MAG, its agents, officials and employees as additional insureds and shall stipulate that the insurance afforded VMR shall be primary insurance and that any insurance carried by MAG, its agents, officials or employees shall be excess and not contributory insurance to that provided by VMR.
- G. A certificate of insurance acceptable to MAG shall be issued to MAG prior to commencement of the AGREEMENT as evidence that policies providing the required coverages, conditions and limits are in full force and effect. Such certificate shall contain provisions that coverage afforded under the policies will not be cancelled, terminated or materially altered until at least 30 days prior written notice has been given to MAG.

## **XV. ACCURACY OF WORK**

VMR shall be responsible for the accuracy of the work and shall promptly make all necessary revisions or corrections resulting from errors on the part of VMR without additional compensation.

**XVI. REVIEWS OF VMR'S WORK**

Work performed by VMR shall be subject to periodic reviews and partial acceptance at various stages. MAG reserves the right to make such reviews and pass upon the acceptability of VMR's work on behalf of itself, the State, and other affected public agencies. No partial acceptance shall relieve VMR's obligation to make reasonable efforts to correct, without charge, any errors in the work.

**XVII. OWNERSHIP OF INFORMATION**

VMR agrees that all reports, estimates, maps, computations and computer databases, programs and procedures prepared for MAG under the terms of this AGREEMENT shall be delivered to, become and remain the property of MAG upon termination or completion of this AGREEMENT and MAG shall have the right to their use without restriction or limitation and without additional compensation to VMR. Major promotional items will indicate that the program is sponsored in part by MAG and include the MAG logo when possible.

**XVIII. PATENT RIGHTS**

If any invention, improvement, or discovery of VMR is conceived or first actually reduced to practice in the course of or under this project, which invention, improvement, or discovery may be patentable under the laws of the United States of America or any foreign country, VMR shall immediately notify the Federal Transit Administration and provide a detailed report. The rights and responsibilities of MAG, VMR and the Federal Transit Administration with respect to such invention, improvement, or discovery will be determined in accordance with applicable Federal laws, regulations, policies, and any waiver thereof.

**XIX. CONTINUING OBLIGATION**

VMR agrees that if, because of death or any other occurrence, it becomes impossible for any key employee of VMR to render the services required under this AGREEMENT, VMR shall not be relieved of any obligation to render complete performance. However, in such event, MAG may terminate this AGREEMENT if it considers the absence of such principal or employee to be a loss of such magnitude as to affect VMR's ability to satisfactorily complete the performance of this AGREEMENT. In the event that MAG so chooses to terminate this AGREEMENT, payment for accepted work shall be made as specified in Section II and Section IV of this AGREEMENT.

**XX. CONFLICT OF INTEREST, CANCELLATION**

This AGREEMENT is subject to cancellation for conflict of interest without penalty or further obligation as provided by A. R. S. § 38-511.

**XXI. GENERAL PROVISIONS**

**A. ENTIRE AGREEMENT**

This AGREEMENT constitutes the entire understanding of the parties and supersedes all previous representations, written or oral, with respect to the services specified herein. This AGREEMENT may not be modified or amended except by a written document, signed by authorized representatives of each party.

**B. ARIZONA LAW**

In the event of litigation between VMR and MAG involving this AGREEMENT, the laws and decisions of the State of Arizona shall apply and any such litigation shall be commenced and prosecuted in the appropriate court of competent jurisdiction within the geographical boundaries of the State of Arizona.

**C. MODIFICATIONS**

Any amendment, modification or variation from the terms of this AGREEMENT shall be in writing and shall be effective only after approval of all parties signing the original AGREEMENT.

**D. SUCCESSORS AND ASSIGNS**

This AGREEMENT shall extend to and be binding upon VMR, its successors and assigns, including any individual, company, partnership or other entity with or into which VMR shall merge, consolidate or be liquidated, or any person, corporation, partnership or other entity to which VMR shall sell its assets.

**E. ATTORNEY'S FEES**

In the event either party brings any action for any relief, declaratory or otherwise, arising out of this AGREEMENT, or on account of any breach or default hereof, the prevailing party shall be entitled to receive from the other party reasonable attorneys' fees and reasonable costs and expenses, determined by the court sitting without a jury, which shall be deemed to have accrued on the commencement of such action and shall be enforceable whether or not such action is prosecuted to judgment.

**F. NOTICES**

All notices or demands required to be given pursuant to the terms of this AGREEMENT shall be given to the other party in writing, delivered in person, sent by facsimile transmission, deposited in the United States mail, postage prepaid, registered or certified mail, return receipt requested, or deposited with any commercial air courier or express service at the addresses set forth below, or to such other address as the parties may substitute by written notice given in the manner prescribed in this paragraph.

For VMR:

Mr. Rick Simonetta  
Valley Metro Rail, Inc.  
101 North First Avenue, Suite 1300,  
Phoenix, Arizona 85003  
(602) 495-8214  
FAX (602) 262-2682

For MAG:

Dennis Smith  
Executive Director  
Maricopa Association of Governments  
302 North 1st Avenue, Suite 300  
Phoenix, Arizona 85003  
(602) 254-6300  
FAX (602) 254-6490

Notices shall be deemed received on date delivered, if delivered by hand, on the day it is sent by facsimile transmission, on the second day after its deposit with any commercial air courier or express services or, if mailed, ten (10) days after the notice is deposited in the United States mail as above provided, and on the delivery date indicated on receipt if delivered by certified or registered mail. Any time period stated in a notice shall be computed from the time the notice is deemed received. Notices sent by facsimile transmission shall also be sent by regular mail to the recipient at the above address. This requirement for duplicate notice is not intended to change the effective date of the notice sent by facsimile transmission.

G. FORCE MAJEURE

Neither party shall be responsible for delays or failures in performance resulting from acts beyond their control. Such acts shall include, but not be limited to, acts of God, riots, acts of war, epidemics, governmental regulations imposed after the fact, fire, communication line failures, power failures, or earthquakes.

H. ADVERTISING

No advertising or publicity concerning MAG using VMR's services shall be undertaken without prior written approval of such advertising or publicity by MAG's Executive Director.

I. COUNTERPARTS

This AGREEMENT may be executed in one or more counterparts, and each originally executed duplicate counterpart of this AGREEMENT shall be deemed to possess the full force and effect of the original.

**J. CAPTIONS**

The captions used in this AGREEMENT are solely for the convenience of the parties, do not constitute a part of this AGREEMENT and are not to be used to construe or interpret this AGREEMENT.

**K. SEVERABILITY**

If any term or provision of this AGREEMENT shall be found to be illegal or unenforceable, then notwithstanding such illegality or unenforceability, this AGREEMENT shall remain in full force and effect and such term or provision shall be deemed to be deleted.

**L. AUTHORITY**

Each party hereby warrants and represents that it has full power and authority to enter into and perform this AGREEMENT, and that the person signing on behalf of each has been properly authorized and empowered to enter this AGREEMENT. Each party further acknowledges that it has read this AGREEMENT, understands it, and agrees to be bound by it.

**XXII. YEAR 2000 COMPLIANCE**

**A. DEFINITIONS**

"Year 2000 Compliant" means having the capability to: (a) accurately and consistently process date information before, during and after January 1, 2000 (including the Year 2000 as a leap year), including but not limited to accepting date input, providing date output on dates or portions of dates, date calculations, logical functions, program branching, format conversion, edits and validations, and the use of dates in comparisons, sorting, sequencing, merging, retrieving, searching and indexing; (b) function accurately and without interruption before, during and after January 1, 2000 (including the Year 2000 as a leap year), without any change in operations associated with the advent of the new century; (c) respond to two-digit input in a way that resolves any ambiguity as to century in a disclosed, defined and predetermined manner; and (d) store and provide output of date, including displaying information in ways that are unambiguous as to century.

"Information Technology Product" means all computerized and auxiliary automated information processing, telecommunications and related technology, including hardware, software, firmware, vendor support and related services, and equipment (including without limitation, computers date processing, microprocessors, calculators, programmable systems and other electronic devices).

**B. REPRESENTATIONS AND WARRANTIES**

VMR represents and warrants that any and all Information Technology Product[s]

that the VMR will deliver under this AGREEMENT will:

1. Be "Year 2000 Compliant" as defined above.
2. Lose no functionality or performance with respect to the introduction of records or data containing dates falling on or after January 1, 2000, and will be interoperable with other software used by MAG which interacts with the Information Technology Product[s] or which may deliver records or data to the Information Technology Product[s], including but not limited to back-up and archive data.

Notwithstanding any other limitation of warranty or warranties in this AGREEMENT, the above Year 2000 warranty shall extend into the Year 2000, and the remedies available to MAG under such Year 2000 warranty shall also include, but not be limited to, repair or replacement of any or all Information Technology Product[s] whose non-compliance are discovered and made known to the VMR by MAG.

Nothing in this warranty shall be construed to limit any rights or remedies MAG may otherwise have under this AGREEMENT with respect to VMR's noncompliance with its obligations other than Year 2000 performance.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed by their duly authorized officers.

MARICOPA ASSOCIATION OF  
GOVERNMENTS

By

7/10/07  
Date

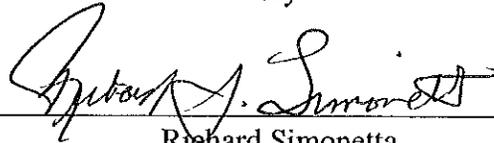
  
\_\_\_\_\_

Dennis Smith  
MAG Executive Director

VALLEY METRO RAIL, INC.

By

7-9-07  
Date

  
\_\_\_\_\_

Richard Simonetta  
Chief Executive Officer

Reviewed as to form:

By

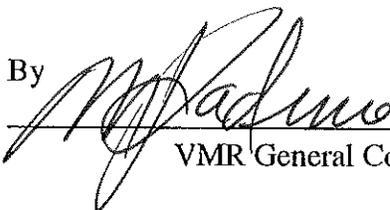
  
\_\_\_\_\_

MAG General Counsel

\_\_\_\_\_

Date

By

  
\_\_\_\_\_

VMR General Counsel

7/9/07  
Date

**CERTIFICATION OF MAG**

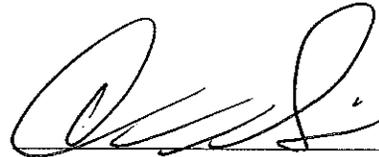
I hereby certify that I am the MAG Executive Director and that VMR or its representative has not been required, directly or indirectly as an expressed or implied condition in connection with obtaining or carrying out this AGREEMENT to:

- A. Employ or retain, or agree to employ or retain, any firm or person; or
- B. Pay, or agree to pay, to any firm or person or organization, any fee, contribution, donation, or consideration of any kind.

I acknowledge that this certificate is to be furnished to the Federal Transit Administration and is subject to applicable State and Federal laws, both criminal and civil.

7/10/07

Date



Dennis Smith  
MAG Executive Director

**CERTIFICATION OF VMR**

I hereby certify to the best of my knowledge and belief that the Valley Metro Rail, whose address is 101 North First Avenue, Suite 1300, Phoenix, Arizona, and I, as the Chief Executive Officer:

- A. Have not employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me or the above firm) to solicit or secure this AGREEMENT;
- B. Have not agreed, as an expressed or implied condition for obtaining the AGREEMENT, to employ or retain the services of any firm or person in connection with carrying out the AGREEMENT;
- C. Have not paid, or agreed to pay, to any firm, organization, or person (other than a bona fide employee working solely for me or the above firm) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the AGREEMENT;
- D. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency, and are not prohibited from working on Federally assisted projects;
- E. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or AGREEMENT under a public transaction: violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- F. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commissions of any of the offenses enumerated in paragraph (E) of this certification; and
- G. Have not within a three-year period preceding this application/proposal had one or more public transaction (Federal, State or local) terminated for cause or default.

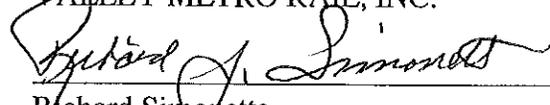
Where VMR is unable to certify to any of the statements in this certification, it shall attach an explanation.

I acknowledge that this certificate is to be furnished to MAG and the Federal Transit Administration and is subject to applicable State and Federal laws, both criminal and civil.

7-9-07

Date

By  
VALLEY METRO RAIL, INC.



Richard Simonetta  
Chief Executive Officer

**CERTIFICATION LIMITING LOBBYING ACTIVITIES**

Richard Simonetta, acting as agent for VMR certifies, to the best of his/her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of VMR to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, VMR shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.

(3) VMR shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subgrants, and contracts and subcontracts under grants, subgrants, loans, and cooperative agreements), which exceed \$100,000, and that all such subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Richard Simonetta  
Name

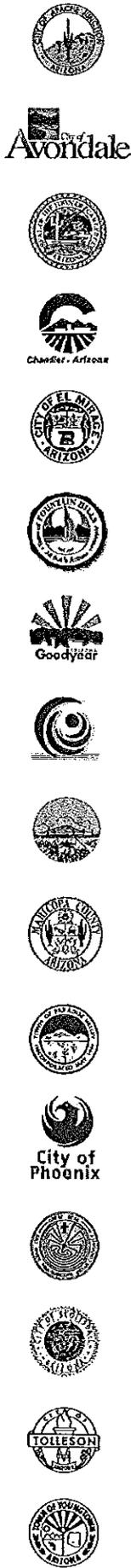
  
Signature

Chief Executive Officer  
Title

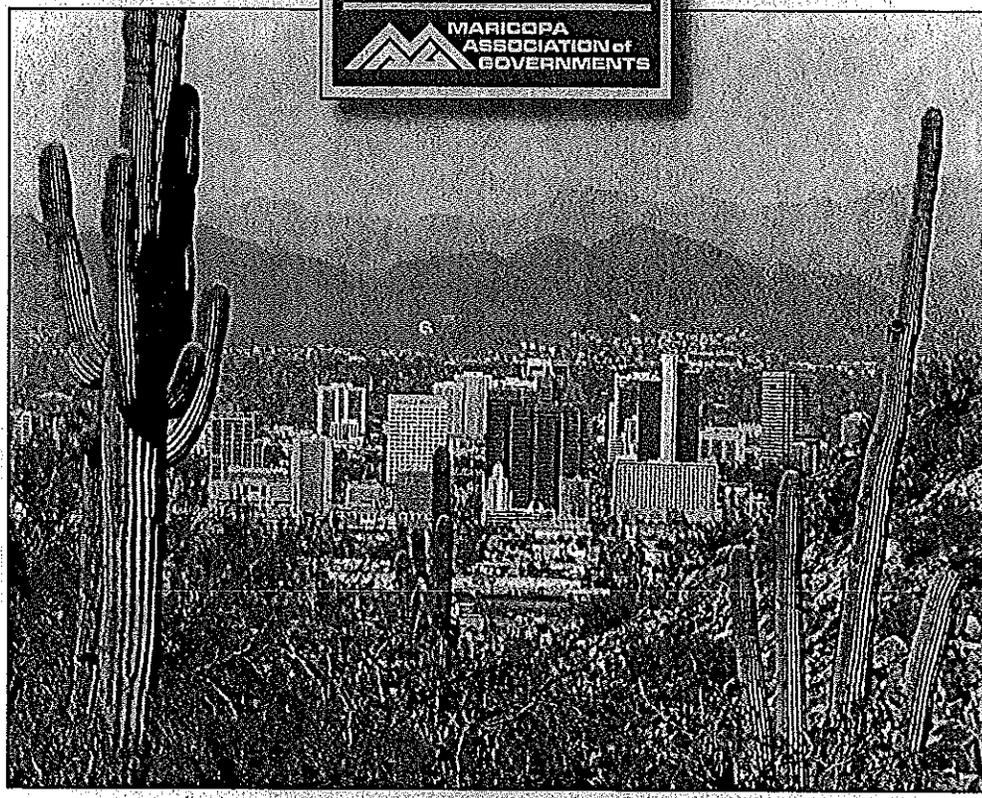
7-9-07  
Date

**APPENDIX A-1**

**FY 2008 UNIFIED PLANNING WORK PROGRAM**



# FY 2008 Unified Planning Work Program & Annual Budget



May 2007



Maricopa Association of Governments  
302 North 1st Avenue, Suite 300, Phoenix, Arizona 85003



## Regional Transit Planning

600-0150

Develop strategies to promote mobility, as well as the social and economic well-being of the community, by providing an efficient and effective regional transit system that addresses the travel needs of the public.

### Follow-up on FY 2007 Outcome Measures

- **Measure:** Develop transit facility plans to support existing and future transit services in Maricopa County. Coordinate efforts with ADOT, member agencies, and developers to identify and evaluate transit facility options.

*Result: RPTA undertook a Regional Park-and-Ride Reprioritization Study to determine when the 13 regionally funded park-and-rides identified in the Regional Transportation Plan (RTP) need to be completed to support planned express bus investments. This study will be followed in FY 2008 by a similar study to determine the implementation priority for the 13 regional transit centers identified in the RTP.*

- **Measure:** Continued refinement of the Transit Life Cycle Program, which is a requirement of Proposition 400, that shows that the transit program is in fiscal balance and that the transit projects are scheduled in accordance with the RTP.

*Result: RPTA retained the services of the firm HDR/SR Beard to perform an audit of the financial, operating, and capital assumptions that provide the basis for the Transit Life Cycle Program (TLCP). The audit included recommendations to guide the implementation of the TLCP.*

- **Measure:** Update of the Long Range Transit Plan, which serves as a component of the RTP.

*Result: MAG updated the transit element of the RTP with input from RPTA and METRO. RPTA undertook an update of the financial element of the TLCP to reflect changes in the half-cent sales tax revenue forecast. An update of the Long Range Transit Plan is included in the FY 2008 planning program.*

- **Measure:** Coordinate development of the annual update of the transit element of the TIP.

*Result: RPTA coordinated the regional transit*



*element of the MAG Transportation Improvement Program (TIP) and assisted agencies in identifying capital needs and developing project submittals.*

- **Measure:** Written response to agencies requesting comments on environmental and design concept studies, as appropriate; to make sure appropriate transit components are considered during the study process.

*Result: RPTA staff provided comments on environmental studies and design concept reports undertaken by ADOT in FY 2007. Staff also provided comments on the draft Small Area Transportation Studies (SATS) undertaken by the Town of Queen Creek and Pinal County. Staff also provided comments on master development project applications and rezoning applications submitted by various local jurisdictions in Maricopa County.*

- **Measure:** A corridor planning study for the Arizona Avenue Bus Rapid Transit (BRT) line. This route is one of a series of arterial street BRT lines identified in the RTP and funded through Proposition 400.

*Result: The Arizona Avenue BRT corridor planning study has been deferred to FY 2008.*

- **Measure:** An analysis of current and future transit needs in Southeast Maricopa/Northern Pinal Counties. This area is experiencing rapid growth that will quickly outstrip available and planned roadway capacity. This study will evaluate various transit options that could address some of the projected travel demand within the study area.

*Result: The Southeast Maricopa/Northern Pinal County study has been tentatively deferred to FY 2008 subject to definition of funding partners for portions of the study area outside Maricopa County.*

- **Measure:** In cooperation with transportation and public safety stakeholders, development of a plan that defines roles and responsibilities in the implementation of the countywide Transportation Emergency Support Function (ESF - 1). RPTA is the designated lead agency for ESF-1.

*Result: Initial study work undertaken in-house by RPTA planning staff with input from agency stakeholders. A decision was subsequently made to procure consultant services to support development of a comprehensive planning study. RPTA has subsequently recruited a Regional Safety and Security Manager who will assist in the development of the ESF-1. Consultant procurement has been deferred to FY 2008.*

- **Measure:** A model Transit Oriented Development (TOD) ordinance that can be adopted by RPTA and MAG member agencies to help communities promote transit friendly development around regional and local transit centers.

*Result: Valley Metro Rail has completed development of a TOD ordinance for use along the planned LRT 20 mile starter line connecting Phoenix, Mesa, and Tempe. The ordinance's TOD focus is on promoting and guiding development adjacent to planned LRT stations. RPTA will be undertaking a parallel effort to develop a model TOD ordinance to guide development along fixed route bus corridors and around transit centers.*

- **Measure:** An alternative fuels analysis that will enable RPTA and its member jurisdictions to make informed decisions regarding transit bus fuel technologies and infrastructure.

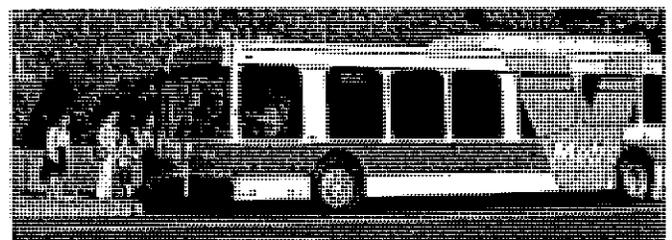
*Result: Project dropped from FY 2007 planning program due to lack of funding.*

- **Measure:** An implementation plan for commuter rail services in the MAG region.

*Result: In coordination with the Commuter Rail Stakeholders Group, staff developed a scope of work to develop the Commuter Rail Strategic Plan. The MAG Executive Committee awarded the contract in October and the project was started in early 2007.*

## FY 2008 Objectives

- ▲ Develop transit facility plans to support existing and future transit services in Maricopa County as well as services that address emerging inter-county work trips. Coordinate efforts with ADOT, municipalities, and developers to identify and evaluate transit facility options.
- ▲ Assist with planning, design, and environmental efforts to implement the Initial Operating Segment of the LRT system and in corridor planning for future high capacity transit corridors as identified in the RTP.
- ▲ Provide planning support to assist in the integration of the Regional Freeway Program and the Arterial Street Program with the transit components of the RTP.
- ▲ Develop and refine criteria that will allow for the evaluation of the performance of implemented transit investments.
- ▲ Assist with planning and design to implement the transit recommendations identified in the MAG RTP.
- ▲ Work with local member agencies in the development of local transit plans and small area transit studies.
- ▲ Coordinate development of interagency emergency transportation protocols as part of large area evacuation planning.
- ▲ Continue planning efforts to improve the efficiency, effectiveness, and integration of the region's demand response transit services to meet community needs.
- ▲ Complete the Commuter Rail Strategic Plan.
- ▲ Develop scope of work and project contract to complete the Commuter Rail Corridor Development Plan.
- ▲ Initiate the planning process to frame how commuter rail service will be implemented for a specific corridor in the MAG region.

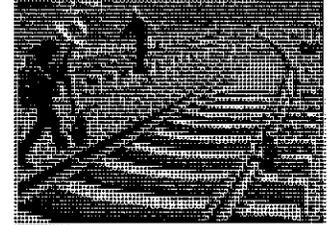


**FY 2008 Outcome Measures**

- Complete transit facility plans to support existing and future transit services in Maricopa County.
- Refine the Transit Life Cycle Program, which is a requirement of Proposition 400, that shows that the transit program is in fiscal balance and that the transit projects are scheduled in accordance with the RTP.
- Update of the Long Range Transit Plan, which serves as a component of the RTP.
- Update of the transit element of the TIP.
- Provide written responses to agencies requesting comments on environmental and design concept studies, as appropriate, to make sure appropriate transit components are considered during the study process.
- Conduct a corridor planning study for the Arizona Avenue Bus Rapid Transit (BRT) line. This route is one of a series of arterial street BRT lines identified in the RTP and funded through Proposition 400.
- Create a plan, in cooperation with transportation public safety stakeholders, that defines roles and responsibilities in the implementation of the countywide Transportation Emergency Support Function (ESF-1). RPTA is the designated lead agency for ESF-1.
- Develop a model Transit Oriented Development ordinance that can be adopted by RPTA and MAG member agencies to help communities promote bus transit friendly development around regional and local transit centers.
- Increase member agency and stakeholder awareness of the strength, weaknesses, opportunities, and threats associated with commuter rail service in the MAG region.
- Finalize the Commuter Rail Strategic Plan presented for adoption by the MAG Regional Council.
- Recommend a preferred commuter rail corridor from the highest rated corridors in the Commuter Rail Strategic Plan.
- Develop a draft scope for the Commuter Rail Corridor Development Plan.

**Light Rail System Study****600-0900**

The 20 mile initial light rail segment is now under construction. The Regional Transportation Plan includes another 37 miles of extensions. With the funding provided by Proposition 400 now in place, a system configuration and systems study is needed to understand how the full system will operate and the appropriate staging of the various extensions. Issues such as what operating lines will be in operation, how the various lines will interface with one another, requirements for maintenance and power capacity, and confirmation of the corridors for the extensions need to be examined.

**Follow-up on FY 2007 Outcome Measure**

- **Measure:** A Light Rail Transit System Operating Plan that will provide the blueprint for how the light rail system will be operated as it is built to its full system as defined in the Regional Transportation Plan.

*Result: A Draft (LRT System) Transit System Configuration Study report was completed in November 2006 that described a number of operating alternatives for the 57-mile system. Further technical reports will evaluate opportunities and constraints of the alternatives.*

**FY 2008 Objectives**

- ▲ Completion of the Configuration Study (Phase II).
- ▲ Identify which light rail corridors may require greater service frequencies.
- ▲ Identify options for interlinking future corridors.

**FY 2008 Outcome Measures**

- A Configuration Study (Phase II) that provides an operating scenario for the future 57-mile light rail system.

### Light Rail Design Standard Study

600-0910

### VMR Planning Support

600-0920

To provide consistency of the engineering, design and construction of extensions to the light rail transit system, a set of standard design specifications is being produced. The design standards will be based on the review of the designs used for the 20-mile initial operating segment and updated based on information gathered during construction.

#### Follow-up on FY 2007 Outcome Measure

- **Measure:** A set of standard details and specifications for light rail transit in the region that will be used to design the rest of the system, which should result in a more efficient design process and consistent design of key elements of the light rail transit system.

*Result: A pre-final draft Design Criteria Manual was completed in November 2007. The final draft is expected in the third quarter of FY 2007.*

Provide ongoing planning support and coordination to ensure the future light rail system will address the travel needs of the public.

#### FY 2008 Objectives

- Develop plans and strategies to support future light rail transit service. Coordinate efforts with MAG, Valley Metro/RPTA, ADOT, and municipalities.
- Coordinate with Valley Metro/RPTA and municipalities to implement future high capacity transit corridors as identified in the RTP.

#### FY 2008 Outcome Measures

- Coordinate with MAG, Valley Metro/RPTA, ADOT, and municipalities in developing light rail plans and strategies.
- Coordinate with Valley Metro/RPTA and municipalities in developing plans for future high capacity transit corridors identified in the RTP.



**Transportation Consultants Carry Forward and Pass-Through Agreements**

| Task Number                          | FY 2008 Carry Forward Consultants By Activity                    | Federal            | State | Local | Other              | Total              |
|--------------------------------------|--|--------------------|-------|-------|--------------------|--------------------|
| 600-0110-08                          | 2007 Context Sensitive Design                                    | \$20,000           |       |       |                    | \$20,000           |
| 600-0110-08                          | 2007 Access Management   |                    |       |       | \$10,000           | \$10,000           |
| 600-0110-08                          | 2007 Regional System Planning                                    |                    |       |       | \$422,932          | \$422,932          |
| 600-0110-08                          | 2007 Regional System Planning - GIS Database                     | \$80,000           |       |       |                    | \$80,000           |
| 600-0110-08                          | Transportation Database System - MAG Consultant                  | \$120,000          |       |       |                    | \$120,000          |
| 600-0125-08                          | 2007 SW Valley/West Pinal (Hidden Valley) Transportation Study   | \$200,000          |       |       | \$570,000          | \$770,000          |
| 600-0130-08                          | 2007 Bicycle Design Assistance Program-Avondale                  | \$75,000           |       |       |                    | \$75,000           |
| 600-0130-08                          | 2007 Bicycle Design Assistance Program-Gilbert                   | \$75,000           |       |       |                    | \$75,000           |
| 600-0130-08                          | 2007 Bicycle Design Assistance Program-Mesa                      | \$75,000           |       |       |                    | \$75,000           |
| 600-0130-08                          | 2007 Regional Bicycle Map  | \$30,000           |       |       |                    | \$30,000           |
| 600-0130-08                          | Update and Printing of Regional Bicycle Map-MAG Consultant       | \$5,000            |       |       |                    | \$5,000            |
| 600-0130-08                          | Shared-Use Facility Design Assistance Program-MAG Consultant     | \$330,000          |       |       |                    | \$330,000          |
| 600-0140-08                          | 2007 Pedestrian Design Assistance Program-Buckeye                | \$24,000           |       |       |                    | \$24,000           |
| 600-0140-08                          | 2007 Pedestrian Design Assistance Program -Gilbert               | \$50,000           |       |       |                    | \$50,000           |
| 600-0140-08                          | 2007 Pedestrian Design Assistance Program-Mesa                   | \$35,000           |       |       |                    | \$35,000           |
| 600-0140-08                          | Pedestrian Design Assistance Program - MAG Consultant            | \$20,000           |       |       |                    | \$20,000           |
| 600-0140-08                          | Pedestrian Design Assistance Program - MAG Consultant            | \$69,998           |       |       |                    | \$69,998           |
| 600-0140-08                          | Pedestrian Design Assistance Program - MAG Consultant            | \$50,000           |       |       |                    | \$50,000           |
| 600-0140-08                          | Pedestrian Design Assistance Program - MAG Consultant            | \$25,010           |       |       |                    | \$25,010           |
| 600-0170-08                          | ITS - Planning - MAG Consultant                                  | \$35,076           |       |       |                    | \$35,076           |
| 600-0170-08                          | Update of the Regional ITS Architecture - MAG Consultant         | \$100,000          |       |       |                    | \$100,000          |
| 600-0180-08                          | Transportation Safety Management System                          |                    |       |       | \$300,024          | \$300,024          |
| 600-0180-08                          | School Crossing Training Workshops                               | \$8,518            |       |       |                    | \$8,518            |
| 600-0180-08                          | Safety Analysis Support  | \$15,452           |       |       |                    | \$15,452           |
| 600-0180-08                          | 10-Year Strategic Plan for Elderly Friendly RTP - MAG Consultant | \$250,000          |       |       |                    | \$250,000          |
| 600-0190-08                          | Truck Travel/Freight Analysis - Consultant                       | \$76,150           |       |       |                    | \$76,150           |
| 600-0193-08                          | Interstate 10-Hassayampa Valley Study - Maricopa County          |                    |       |       | \$230,000          | \$230,000          |
| 600-0631-08                          | 2007 MAG Associate Original Contract Total                       | \$25,000           |       |       |                    | \$25,000           |
| 600-0631-08                          | 2007 External Travel Study (Start 2008)                          | \$300,000          |       |       |                    | \$300,000          |
| 600-0631-08                          | 2007 Ramp Metering Strategies for Bottleneck Improvement         | \$95,000           |       |       |                    | \$95,000           |
| 600-0631-08                          | Calibration of EMME/2 - MAG Consultant                           | \$200,000          |       |       |                    | \$200,000          |
| 600-0631-08                          | Freeway Network Usage and Performance - MAG Consultant           | \$300,000          |       |       |                    | \$300,000          |
| 600-0661-08                          | 2007 Update of Congestion Management Process (CMP)               | \$400,000          |       |       |                    | \$400,000          |
| 600-0950-08                          | Statewide Intrastate Mobility Reconnaissance Study               | \$180,000          |       |       | \$120,000          | \$300,000          |
| 600-9900-08                          | Public Involvement - MAG Associate                               | \$19,600           |       |       |                    | \$19,600           |
| 600-9900-08                          | Public Participation Support - Allowable                         | \$20,000           |       |       |                    | \$20,000           |
| <b>Total Transportation Programs</b> |  | <b>\$3,308,804</b> |       |       | <b>\$1,652,955</b> | <b>\$4,961,759</b> |
| Task Number                          | FY 2008 Pass-Through Agreements By Activity                      | Federal            | State | Local | Other              | Total              |
| 600-0920-08                          | Light Rail Transit Planning Support                              | \$500,000          |       |       |                    | \$500,000          |
| <b>Total Transportation Programs</b> |  | <b>\$500,000</b>   |       |       |                    | <b>\$500,000</b>   |
| Task Number                          | FY 2008 Carry Forward Pass-Through Agreements By Activity        | Federal            | State | Local | Other              | Total              |
| 600-0150-08                          | 2007 Transit Planning  | \$224,720          |       |       |                    | \$224,720          |
| 600-0900-08                          | VMR Light Rail System Study                                      | \$1,664,095        |       |       |                    | \$1,664,095        |
| 600-0910-08                          | VMR Light Rail Design Standards Study                            | \$406,091          |       |       |                    | \$406,091          |
| <b>Total Transportation Programs</b> |  | <b>\$2,294,906</b> |       |       |                    | <b>\$2,294,906</b> |

**APPENDIX A-2**  
**SCOPE OF SERVICES AND BUDGET**

**SCOPE OF SERVICES**  
**Valley Metro Rail Project Development Work Program**  
**July 1, 2007 – June 30, 2008**

**I. TASKS TO BE PERFORMED FOR THE PROJECT**

Major tasks to be performed during the period include developing plans and strategies to support light rail transit service and coordinating these efforts with MAG, Valley Metro/RPTA, ADOT, and municipalities.

**TASK 1.0 SYSTEMS STUDY (IMPLEMENT FUTURE HIGH CAPACITY TRANSIT CORRIDORS)**

It is the intent of Valley Metro Rail (METRO) to work with other agencies and member cities in the Glendale Sub-Regional High Capacity Transit Study, the LRT System Configuration Study, Phase II, the LRT Capital Improvement Plan, and other transit studies that may arise.

**1.1 Glendale Sub-Regional High Capacity Transit Study**

METRO staff will coordinate with other agencies on the analysis of high capacity transit corridors in the west/northwest metropolitan area.

**1.2 LRT System Configuration Study, Phase II**

METRO staff will coordinate the efforts of consultants on how the planned 57-mile LRT system will operate. METRO will update other agencies and municipalities on the findings of the study.

**1.3 LRT Capital Improvement Plan**

METRO plans on beginning a LRT Capital Improvement plan during FY 2008. This planning effort will identify the long term maintenance and replacement program for the system. METRO will coordinate with other agencies and municipalities on this planning effort.

**TASK 2.0 DESIGN STANDARDS**

Update the design standards drawings so future corridor designs will utilize a consistent engineering design throughout the light rail transit system.

**2.1 Update Design Standard Drawings**

Oversee the update of the standard drawings.

**TASK 3.0 PROJECT DEVELOPMENT (LIGHT RAIL PLANS AND STRATEGIES)**

It is the intent of Valley Metro Rail (METRO) to work with other agencies and member cities in furthering transit-oriented development activities, travel demand forecasting for transit and developing Geographic Information System planning.

**3.1 Transit-oriented Development**

METRO staff will assist member agencies with information and technical assistance in transit-oriented development. This may include educational, economic development market information, data support, project development research, etc.

**3.2 Travel Demand Forecasting**

METRO staff will provide assistance to MAG with the results of survey data and consultant expertise on current transit ridership that may revise inputs to the travel demand model.

**3.3 Geographic Information System Planning**

METRO staff will work with MAG and RPTA to investigate the development of an integrated GIS application planning system.

**II. SCHEDULE**

The staff coordination of the projects will begin on July 1, 2007 and continue through June 30, 2008.

**TASK 1.0 SYSTEM STUDIES (IMPLEMENT FUTURE HIGH CAPACITY TRANSIT CORRIDORS)**

- |     |   |               |
|-----|---|---------------|
| 1.1 | Glendale Sub-regional High Capacity Transit Study | Jul 07-Jun 08 |
| 1.2 | LRT System Configuration Study, Phase II          | Jul 07-Jun 08 |
| 1.3 | LRT Capital Improvement Plan                      | Jul 07-Jun 08 |

**TASK 2.0 DESIGN STANDARDS**

- |     |                                     |               |
|-----|-------------------------------------|---------------|
| 2.1 | Update the design standard drawings | Jul 07-Jun 08 |
|-----|-------------------------------------|---------------|

**TASK 3.0 PROJECT DEVELOPMENT (LIGHT RAIL PLANS AND STRATEGIES)**

- |     |   |               |
|-----|---|---------------|
| 3.1 | Transit-oriented Development Staff Support          | Jul 07-Jun 08 |
| 3.2 | Travel Demand Forecasting Data Sharing              | Jul 07-Jun 08 |
| 3.3 | Geographic Information System Planning Coordination | Jul 07-Jun 08 |

- END -

GOVERNMENTAL AGREEMENT NUMBER 353  
Valley Metro Light Rail  
Original Contract Budget  
BUDGET PERIOD: July 1, 2007 through June 30, 2008

COSTS AND HOURS BY TASK

| STAFF LABOR  | HOURS BY PERSONNEL AND TASK  |                     |                      |                         |                |                     |
|--|------------------------------|---------------------|----------------------|-------------------------|----------------|---------------------|
|  | Raw Direct Labor Hourly Rate | 1 (System Study)    | 2 (Design Standards) | 3 (Project Development) | Total Hours    | Total Cost          |
| Chief Executive Officer (Rick Simonetta)             | \$112.70480                  | 70.00               | 0.00                 | 70.00                   | 140.00         | \$ 15,778.67        |
| Project Manager (Alvin Livingstone)                  | \$50.47778                   | 0.00                | 207.99               | 0.00                    | 207.99         | \$ 10,498.87        |
| Project Manager (Jim Mathlen)                        | \$53.47692                   | 420.00              | 0.00                 | 440.00                  | 860.00         | \$ 45,990.15        |
| Planner II (Ben Limmer)                              | \$31.22692                   | 210.00              | 0.00                 | 830.00                  | 1040.00        | \$ 32,476.00        |
| Planner I (Abishek Dayal)                            | \$24.98173                   | 450.00              | 0.00                 | 510.00                  | 960.00         | \$ 23,982.46        |
| Executive Assistant (April Gibson)                   | \$25.03413                   | 150.00              | 0.00                 | 150.00                  | 300.00         | \$ 7,510.24         |
| Senior Contract Administrator (Linda McNeff)         | \$40.36009                   | 175.00              | 0.00                 | 0.00                    | 175.00         | \$ 7,063.02         |
| Director, Finance & Admin ( John McCormack)          | \$55.57548                   | 0.00                | 0.00                 | 150.00                  | 150.00         | \$ 8,336.32         |
| Finance & Budget Manager (Bill Buntin)               | \$49.19695                   | 0.00                | 0.00                 | 75.00                   | 75.00          | \$ 3,689.77         |
| Community Relations Director (John Farry)            | \$66.50962                   | 75.00               | 0.00                 | 75.00                   | 150.00         | \$ 9,976.44         |
| Project Manager (Vacant)                             | \$39.03846                   | 250.00              | 0.00                 | 200.00                  | 450.00         | \$ 17,567.31        |
| Rail Engineer (De'Nenka Ward)                        | \$35.40789                   | 140.00              | 274.89               | 420.00                  | 834.89         | \$ 29,561.69        |
| Administrative Assistant (Vacant)                    | \$14.18990                   | 190.00              | 95.00                | 196.00                  | 481.00         | \$ 6,825.34         |
| Contracts & Procurement Specialist (Wendy Sanderson) | \$23.54471                   | 40.00               | 20.00                | 40.00                   | 100.00         | \$ 2,354.47         |
| Administrative Assistant (Cheri McClure)             | \$22.35337                   | 20.00               | 20.00                | 20.00                   | 60.00          | \$ 1,341.20         |
| Senior Contract Administrator (Kunjan Dayal)         | \$40.36009                   | 0.00                | 65.00                | 0.00                    | 65.00          | \$ 2,623.41         |
| Executive Assistant (Gina Frackiewicz)               | \$27.17163                   | 15.00               | 0.00                 | 15.00                   | 30.00          | \$ 815.15           |
| Operations & Maintenance Director (Joe Marie)        | \$78.31154                   | 75.00               | 0.00                 | 0.00                    | 75.00          | \$ 5,873.37         |
| Operations Manager (Jay Harper)                      | \$50.18846                   | 75.00               | 0.00                 | 0.00                    | 75.00          | \$ 3,764.13         |
| Systems Manager (Arkady Bernshteyn)                  | \$55.34327                   | 75.00               | 0.00                 | 0.00                    | 75.00          | \$ 4,150.75         |
| General Counsel (Mike Ladino)                        | \$81.30096                   | 0.00                | 0.00                 | 70.00                   | 70.00          | \$ 5,691.07         |
| Contracts & Procurement Mgr (Joe Ramirez)            | \$53.42404                   | 0.00                | 0.00                 | 40.00                   | 40.00          | \$ 2,136.95         |
| Paralegal (Suzanne Grobe)                            | \$21.63620                   | 0.00                | 0.00                 | 47.00                   | 47.00          | \$ 1,016.90         |
|  | \$0.00000                    | 0.00                | 0.00                 | 0.00                    | 0.00           | \$ -                |
| <b>Total Hours</b>                                   |                              | <b>2430.00</b>      | <b>682.88</b>        | <b>3348.00</b>          | <b>6460.88</b> |                     |
| <b>Total Task Cost FY 08</b>                         |                              | <b>\$96,952.90</b>  | <b>\$25,121.55</b>   | <b>\$126,949.23</b>     |                | <b>\$249,023.68</b> |
| <b>Estimated Fringe Benefits FY 08--40.0%</b>        | <b>0.4000</b>                | <b>\$38,781.16</b>  | <b>\$10,048.62</b>   | <b>\$50,779.69</b>      |                | <b>\$99,609.47</b>  |
| <b>Total Labor with Fringe</b>                       |                              | <b>\$135,734.06</b> | <b>\$35,170.17</b>   | <b>\$177,728.92</b>     |                | <b>\$348,633.15</b> |

| CONTRACT STAFF                   | COST BY TASK      |                    |                    |                    |             |            |                     |
|----------------------------------|-------------------|--------------------|--------------------|--------------------|-------------|------------|---------------------|
|                                  | Company or Person | Est. Hourly Rate   | 1                  | 2                  | 3           | Total Cost | Total Cost          |
| Wulf Grote-City of Phoenix       | N/A               | 54,000.00          | 13,500.00          | 53,984.00          | N/A         | \$         | 121,484.00          |
| <b>Total Task Cost</b>           |                   | <b>54,000.00</b>   | <b>13,500.00</b>   | <b>53,984.00</b>   | <b>0.00</b> |            |                     |
| <b>Total Contract Staff Cost</b> |                   | <b>\$54,000.00</b> | <b>\$13,500.00</b> | <b>\$53,984.00</b> |             |            | <b>\$121,484.00</b> |

| GRAND TOTAL SUMMARY             | TOTAL COSTS BY TASK |                     |                    |                     |                     |
|---------------------------------|---------------------|---------------------|--------------------|---------------------|---------------------|
|                                 | Description         | 1                   | 2                  | 3                   | Total Cost          |
| Total Staff Labor with Fringe   |                     | \$135,734.06        | \$35,170.17        | \$177,728.92        | \$348,633.15        |
| Estimated Overhead FY 08--12.0% | 0.1200              | \$11,834.35         | \$3,014.59         | \$15,233.91         | \$29,882.85         |
| <b>Subtotal</b>                 |                     | <b>\$147,368.41</b> | <b>\$38,184.76</b> | <b>\$192,962.83</b> | <b>\$378,518.00</b> |
| Contract Staff                  |                     | \$54,000.00         | \$13,500.00        | \$53,984.00         | \$121,484.00        |
| <b>GRAND TOTAL</b>              |                     | <b>\$201,368.41</b> | <b>\$51,684.76</b> | <b>\$246,946.83</b> | <b>\$500,000.00</b> |

Line Item Amounts can be adjusted by 10 percent among tasks without prior written approval from MAG Executive Director.

**APPENDIX B**

**COMPLIANCE WITH TITLE VI OF THE CIVIL RIGHTS ACT OF 1964  
FOR  
FEDERAL-AID CONTRACTS**

The contractor will comply with Executive Order 11246 entitled Equal Employment Opportunity as amended by Executive Order 11375 and as supplemented in Department of Labor Regulations (41 Code of Federal Regulations Part 60) which are hereby incorporated by reference and made a part of this AGREEMENT.

**APPENDIX C**

**EXECUTIVE ORDER 99-4  
AMENDING 75-5  
REVISED MARCH 1, 1999**

**PROHIBITION OF DISCRIMINATION IN STATE CONTRACT  
NONDISCRIMINATION IN EMPLOYMENT BY GOVERNMENT CONTRACTORS  
AND SUBCONTRACTORS**

I, Jane Dee Hull, under and by virtue of the authority vested in me as Governor of the State of Arizona by the Constitution and Statutes of the State of Arizona do order and direct:

**PART I: NONDISCRIMINATION IN EMPLOYMENT BY GOVERNMENT  
CONTRACTORS AND SUBCONTRACTORS**

All government contracting agencies shall include in every government contract hereinafter entered into the following provisions:

During the performance of this Agreement, the contractor agrees as follows:

- A. The contractor will not discriminate against any employee or applicant for employment because of race, age, color, religion, sex, or national origin. The contractor will take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to their race, age, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, lay-off or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.

A continued Executive Order No. 75-5 is hereby amended to permit government contractors and subcontractors that are religious organizations to provide employment preferences based upon religion when dealing with a bona fide occupational qualification reasonably necessary to the operation of the religious organization, in accordance with the requirements of Title 41, chapter 9, article 4, Arizona Revised Statutes.

Executive Order No. 75-5 prohibits all government contractors and subcontractors from discriminating against any employee or applicant for employment because of race, age, color, religions, sex or national origin. Executive Order 75-5 further requires all government contractors and subcontractors to take affirmative action to insure that applicants are employed and employees are treated during employment without regard to their race, age, color, religion, sex or national origin.

Arizona's Civil Rights Act, Title 41, chapter 9, article 4, does not apply to religious organizations with respect to employment of individuals of a particular religion to perform

work connected with the activities of the employer. It also provides that religious organizations may provide employment preferences based upon religion when dealing with a bona fide occupational qualification reasonable necessary to the operation of the religious organization. This is consistent with the provisions of the Civil Rights Act of 1964 (42 U.S.C. 2000e, et seq.). In addition, in the Personal Responsibility and Work Opportunity Reconciliation Act, P.L. 104-193, Congress provided that religious organizations are eligible for the receipt of federal funds on the same basis as other private organizations. The contractor will in all solicitations or advertisement for employees placed by or on behalf of the contractor state that all qualified applicants will receive consideration for the employment without regard to race, age, color, religion, sex or national origin.

- B. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding a notice to be provided by the agency contracting officer advising the labor union or workers' representative of the contractor's commitments under the Executive Order and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- C. The contractor will furnish all information and reports required by the contracting agency and will permit access to his books, records, and accounts by the contracting agency and the Civil Rights Division for purposes of investigation to ascertain compliance with such rules, regulations and orders.
- D. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations or orders of the Arizona Civil Rights Division said noncompliance will be considered a material breach of the contract and this contract may be cancelled, terminated or suspended in whole or in part, and the contractor may be declared ineligible for further government contracts until said contractor has been found to be in compliance with the provisions of this order and the rules and regulations of the Arizona Civil Rights Division, and such sanctions may be imposed and remedies invoked as provided in Part II of this order, and the rules and regulations of the Arizona Civil Rights Division.
- E. The contractor will include the provisions of paragraphs A through E in every subcontractor purchase order so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect in the subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the State of Arizona to enter into such litigation to protect the interest of the State of Arizona.
- F. Each contractor having a contract containing the provisions prescribed in this section shall file and shall cause each of his subcontractors to file compliance reports with the contracting agency or the Civil Rights Division, as may be directed. Compliance reports shall be filed within such times and shall contain such information as the practices, policies, programs and employment policies, programs and employment statistics of the contractor and each subcontract and shall be in such form as the Arizona Civil Rights Division may prescribe.

- G. Bidders or prospective contractors or subcontractors shall be required to state whether they have participated in any previous contract subject to the provisions of this order or any preceding similar Executive Order and in that event to submit on behalf of themselves and the proposed subcontractors compliance reports prior to, or as an initial part of negotiation of a contract.
- H. Whenever the contractor or subcontractor has a collective bargaining agreement or other contract or understanding with a labor union or an agency referring workers or providing or supervising apprenticeship or training for such workers, the compliance report shall include such information from such labor unions or agency practices and policies affecting compliance as the contracting agency or Civil Rights Division may prescribe; provided that, to the extent such information is within the exclusive possession of a labor union or an agency referring workers or providing or supervising apprenticeship or training and such labor union or agency shall refuse to furnish such information to the contractor, the contractor shall so certify the contracting agency as part of its compliance report and shall set forth what efforts he has made to obtain such information.
- I. The contracting agency or the Civil Rights Division shall require that the bidder or prospective contractor or subcontractor shall submit as part of his compliance report a statement in writing signed by an authorized officer or agent on behalf of any labor union or any agency referring workers or providing or supervising apprenticeship or other training with which the bidder or prospective contractor deals with supporting information to the effect that the signer's practices and policies do not discriminate on the grounds of race, color, religion, sex or national origin, and that the signer either will affirmatively cooperate in the implementation of the policy and provisions of this order or that it consents and agrees that recruitment employment and the terms and conditions of employment under the proposed contract shall be in accordance with the purpose and provisions of this order. In event that the union or the agency shall refuse to execute such statement, the compliance shall so certify and set forth what efforts have been made to secure such a statement and such additional factual material as the contracting agency or the Civil Rights Division may require.

## **PART II: ENFORCEMENT**

- A. Each contracting agency shall be primarily responsible for obtaining compliance with this Executive Order with respect to contracts entered into by such agency or its contractors. All contracting agencies shall comply with the rules of the Civil Rights Division in discharging their primary responsibility for securing compliance with the provisions of contracts and otherwise with the terms of this order and the rules and regulations and orders of the Civil Rights Division issued pursuant to this order. They are directed to cooperate with the Civil Rights Division and to furnish the Division such information and assistance as it may require in the performance and assistance as it may require in the performance of the Division's functions under this order. They are further directed to appoint or designate from among the agency personnel compliance officers. It shall be the duty of such officers to first seek compliance with the objective of this order by conference, conciliation, mediation or persuasion.

- B. The Civil Rights Division may investigate the employment practices of any government contractor or subcontractor or initiate such investigation by the appropriate contracting agency or determine whether or not the contractual provisions specified in this order have been violated. Such investigations shall be conducted in accordance with the procedures established by the Civil Rights Division and the investigating agencies shall report to the Civil Rights Division any action taken or recommended. The Civil Rights Division may receive and investigate or cause to be investigated complaints by employees or prospective employees of a government contractor or subcontractor which allege discrimination contrary to the contractual provisions specified in Part I of this order. If the investigation is conducted for the Civil Rights Division by a contracting agency that agency shall report to the Civil Rights Division what action has been taken or its recommended with regard to such complaint.
- C. The Civil Rights Division shall use its best efforts directly and through contracting agencies, other interested state and local agencies, contractors and all other available instrumentalities to cause any labor union engaged in work under government contracts or any agency referring workers or providing or supervising apprenticeship or training for or in the course of such work or cooperate in the implementation of the purpose of this order.
- D. The Civil Rights Division or any agency, officer or employee in the executive branch of the government designated by rule, regulation or order of the Civil Rights Division may hold such hearings, public or private as the Division may deem advisable for the compliance, enforcement of educational purposes. The Civil Rights Division may hold or cause to be held hearings in accordance with rules and regulations issued by the Civil Rights Division prior to imposing, ordering or recommending the imposition of penalties and sanctions under this order.
- E. No order for debarment of any contractor from further government contracts under this order shall be made without affording the contractor an opportunity for a hearing.
- F. Sanctions and Penalties. In accordance with such rules, regulations or orders as the Civil Rights Division may issue or adopt, the Civil Rights Division or the appropriate contracting agency may publish or cause to be published the names of contractors or unions which it has concluded have complied or have failed to comply with the provisions of this order and with the rules, regulations and orders of the Civil Rights Division.
1. Contracts may be cancelled in whole or in part, terminated, or suspended absolutely, or continuation of contracts may be conditioned upon a program for future compliance approved by the contracting agency or the Civil Rights Division; provided that any contracting agency shall refrain from entering into further contracts, extensions or other modifications of existing contract with any noncomplying contractor until such contractor has established and will carry out personnel and employment policies in compliance with the provisions of this order.
  2. Under rules and regulations prescribed by the Civil Rights Division, each contracting agency shall make reasonable efforts within a reasonable time limitation to secure compliance with the contract provisions of this order by methods of conference,

conciliation, mediation and persuasion before proceedings shall be instituted under this order or before a contract shall be cancelled or terminated in whole or in part under this order for failure of a contractor or subcontractor to comply with the contract provision of this order.

G. This Executive Order shall become effective within sixty (60) days of its issuance.

**IN WITNESS WHEREOF**, I have hereunto set my hand and caused to be affixed the Great Seal of the State of Arizona

DONE at the Capitol in Phoenix this First day of March in the year of Our Lord One Thousand Nine Hundred and Ninety-Nine and of the Independence of the United States of America the Two Hundred and Twenty-third.

Signed by  
Jane Dee Hull  
GOVERNOR

In order to carry out the provisions of Executive Order 99-4 Amending 75-5, the consultant shall comply with the requirements of:

1. Standard Federal Equal Employment Opportunity Construction Contract Specifications, July 1, 1978, Revised November 3, 1980, Revised April 15, 1981, and
2. Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity, July 1, 1978, Revised November 3, 1980, Revised April 15, 1981.

**APPENDIX D**

**MISCELLANEOUS NON-DISCRIMINATION ACTS**

VMR shall comply with Title VII of the Civil Rights Act of 1964, as amended, the Age Discrimination in Employment Act of 1975, and State Executive Order No. 99-4 Amending 75-5 which mandates that all persons, regardless of race, color, religion, sex, age, national origin or political affiliation, shall have equal access to employment opportunities. VMR shall comply with section 503 of the Rehabilitation Act of 1973, as amended, which prohibits discrimination in the employment or advancement in employment of qualified persons because of physical or mental handicap. VMR shall comply with the requirements of Section 504 of the Rehabilitation Act of 1973, as amended, which prohibits discrimination on the basis of handicap, in delivering contract services.

## APPENDIX E

ENVIRONMENTAL, RESOURCE, ENERGY PROTECTION, AND  
CONSERVATION REQUIREMENTS

- A. Environmental Policy. The National Environmental Policy Act of 1969, as amended, 42 U.S.C. §§ 1601 *et seq.*; the Council on Environmental Quality regulations, 40 C.F.R. Part 1500 *et seq.*; and the FHWA/FTA regulation, "Environmental Impact and Related Procedures," 23 C.F.R. Part 771, as amended, are applicable to the Project.
- B. Compliance with Environmental Standards. VMR shall comply with the provisions of the Clean Air Act, as amended, 42 U.S.C. §§1857 *et seq.*; the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§ 1251 *et seq.*; and implementing regulations, in the facilities that are involved in the Project for which Federal assistance is given. VMR shall ensure that the facilities under ownership, lease or supervision, whether directly or under contract, that will be utilized in the accomplishment of the Project are not listed on the Environmental Protection Agency (EPA) List of Violating Facilities. Contracts, subcontracts, and subgrants of amounts in excess of \$100,000 shall contain a provision requiring compliance with all applicable standards, orders, or requirements issued pursuant to Federal statute or regulation. VMR shall be responsible for reporting any violations to the Federal Transit Administration and to the EPA Assistant Administrator for Enforcement. In addition, VMR shall notify the Federal Transit Administration of the receipt of any communication from the Director of the EPA Office of Federal Activities indicating that a facility to be utilized in the Project is under consideration for listing by EPA.
- C. Air Pollution. No facilities or equipment shall be acquired, constructed, or improved as a part of the Project unless VMR obtains satisfactory assurances that they are (or will be) designed and equipped to limit air pollution as provided in accordance with the following EPA regulations: "Control of Air Pollution from Motor Vehicles and Motor Vehicle Engines," 40 C.F.R. Part 85; "Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines: Test Procedures for Light-Duty Vehicles and Light-Duty Trucks and Selective Enforcement Auditing of New Light-Duty Vehicles, Light-Duty Trucks and Heavy-Duty Engines," 40 C.F.R. Part 86; and "Fuel Economy of Motor Vehicles," 40 C.F.R. Part 600; in accordance with applicable federally-approved State Implementation Plan(s) (in particular, the Transportation Control Measures); and in accordance with appropriate FAA directives and all other applicable standards.
- D. Use of Public Lands. No publicly owned land from a park, recreation area, or wildlife or waterfowl refuge of national, State or local significance as determined by the Federal, State or local officials having jurisdiction thereof, or any land from an historic site of national, State, or local significance may be used for the Project unless specific findings required under 49 U.S.C. § 303 are made by the Department of Transportation.
- E. Historic Preservation. VMR shall assist the Government (Federal Transit Administration) to comply with Section 106 of the national Historic Preservation Act involving historic and archaeological preservation by:

1. Consulting the State Historic Preservation Officer on the conduct of investigations, in accordance with Advisory Council on Historic Preservation regulations, "Protection of Historic and Cultural Properties", 36 C.F.R. Part 800, to identify properties and resources listed in or eligible for inclusion in the National Register of Historic Places that may be affected by the Project, and notifying the Government (Federal Transit Administration) of the existence of any such properties; and
  2. Complying with all Federal requirements to avoid or mitigate adverse effects upon such properties.
- F. Energy Conservation. VMR shall comply with mandatory standards and policies relating to energy efficiency that are contained in applicable State energy conservation plans issued in compliance with the Energy Policy and Conservation Act, 42 U.S.C. §§ 6321 et seq.
- G. Mitigation of Adverse Environmental Effects. Should the proposed Project cause adverse environmental effects, VMR shall take all reasonable steps to minimize such effects pursuant to 49 U.S.C. app. § 1610, other applicable statutes, and the procedures set forth in 23 C.F.R. Part 771. VMR shall undertake all environmental mitigation measures that may be identified as commitments in applicable environmental documents (such as environmental assessments, environmental impact statements, memoranda of contracts, and statements required by 49 U.S.C. § 303) and with any conditions imposed by the Government as part of a finding of no significant impact or a record of decision; all such mitigation measures are incorporated in and made part of this agreement by reference. In the event that some or all mitigation measures are deferred, once such measures are agreed upon by MAG and VMR, those mitigation methods subsequently determined will be incorporated into this agreement. Such mitigation measures may not be modified or withdrawn without the express written approval of MAG.
- H. Use of Fly Ash in Cement and Concrete. In carrying out the Project, VMR shall make all appropriate efforts to foster the use of fly ash, substantially in compliance with EPA regulations "Guideline for Federal Procurement of Cement and Concrete Containing Fly Ash", 40 C.F.R. Part 249. Should VMR make a determination that the use of fly ash is inappropriate in a particular procurement of cement or concrete, VMR shall provide Federal Transit Administration a written justification to support that decision.

APPENDIX F

Attachment Two

MAG Agreement No. 353,  
FY 200X Unified Planning Work Program

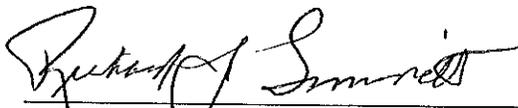
The Agreement entered into by and between the Maricopa Association of Governments and VMR, effective MONTH DATE, YEAR, states that the scope of work to be accomplished by the parties pursuant to the agreement will be set forth annually by MAG in the Unified Planning Work Program and that the element from the Work Program will be conducted by VMR and the basis for payment shall be provided to VMR by MAG.

As required by the Agreement, attached is the funding for the elements to be conducted by VMR from the FY 200X Unified Planning Work Program (July 1, 200X – June 30, 200X). The new Appendix A-1 and Appendix A-2 supersedes the previous Appendix A-1 and Appendix A-2 to MAG Agreement No. 353.

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

VALLEY METRO RAIL

MARICOPA ASSOCIATION OF GOVERNMENTS

  
SIGNATURE

  
SIGNATURE

NAME RICHARD J. SIMONETTA  
NAME PRINTED

Dennis Smith  
NAME PRINTED

TITLE CEO  
TITLE

Executive Director  
TITLE

7-9-07  
DATE

7/10/07  
DATE



Attachment Two

MAG Agreement No. 353, Amendment # 2  
FY 2009 Unified Planning Work Program

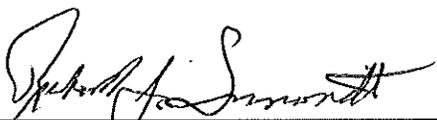
The Agreement entered into by and between the Maricopa Association of Governments and the Valley Metro Rail, Inc., effective July 1, 2007, states that the scope of work to be accomplished by the parties pursuant to the Agreement will be set forth annually by MAG in the Unified Planning Work Program and that the element from the Work Program will be conducted by Valley Metro Rail, Inc. and the basis for payment shall be provided to Valley Metro Rail, Inc. by MAG.

As required by the Agreement, attached is the funding for the elements to be conducted by Valley Metro Rail Inc. from the FY 2009 Unified Planning Work Program (July 30, 2008 - June 30, 2009). The new Appendix A-1 and Appendix A-2 supersedes the previous Appendix A-1 and Appendix A-2 to MAG Agreement No. 353.

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

VALLEY METRO RAIL, INC.

MARICOPA ASSOCIATION OF  
GOVERNMENTS

  
\_\_\_\_\_  
SIGNATURE

  
\_\_\_\_\_  
SIGNATURE

Richard Simonetta  
NAME PRINTED

Dennis Smith  
NAME PRINTED

Chief Executive Officer  
TITLE

Executive Director  
TITLE

8-20-08  
DATE

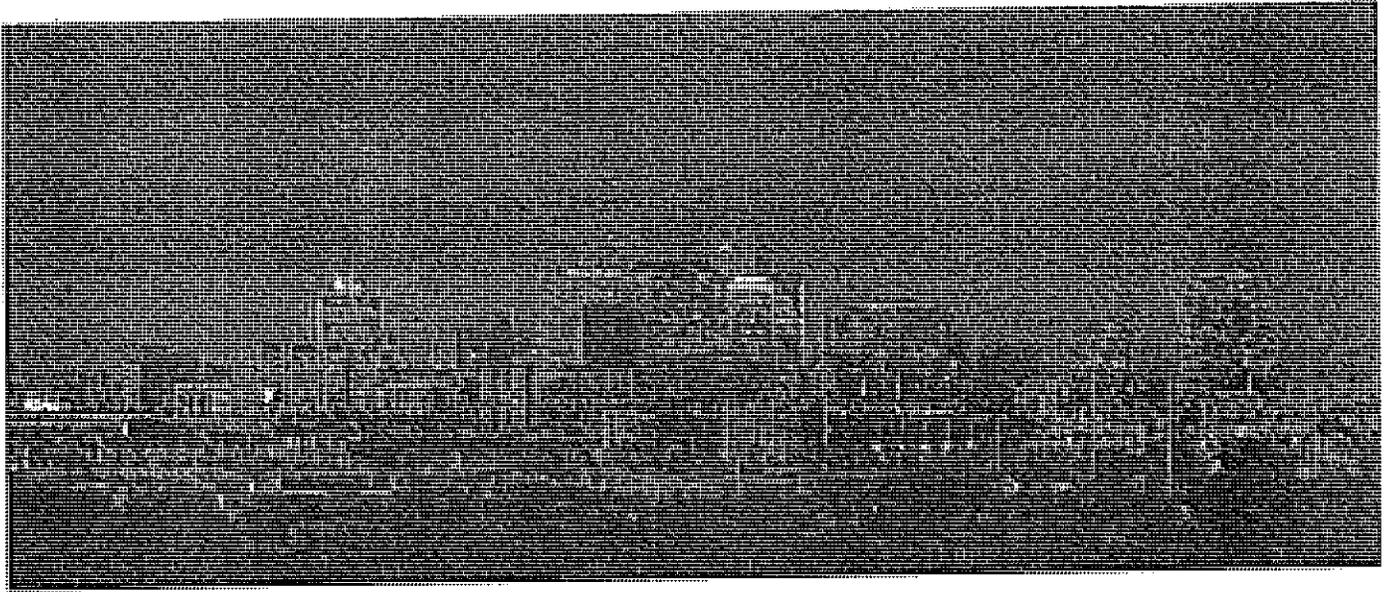
8/20/08  
DATE

Attachment One

Appendix A-1

FY 2009 Unified Planning Work Program

# DRAFT FY 2009 Unified Planning Work Program & Annual Budget



May 2008



Maricopa Association of Governments

302 North 1st Avenue, Suite 300, Phoenix, Arizona 85003

## VMR Planning Support

600-0920

Provide ongoing planning support and coordination to ensure the future light rail system will address the travel needs of the public.



### Follow-up on FY 2008 Outcome Measures

- **Measure:** Coordinate with MAG, Valley Metro/RPTA, ADOT, and municipalities in developing light rail plans and strategies.

**Result:** *Recognized the need to develop a Regional Transit Framework Study to identify unmet transit needs.*

- **Measure:** Coordinate with Valley Metro/RPTA and municipalities to implement future high capacity transit corridors as identified in the RTP.

**Result:** *In the Central Mesa and Tempe South AA/DEIS/Concept Design studies began the analysis of multimodal high capacity solutions.*

### FY 2009 Objectives

- ▲ Develop plans and strategies to support future light rail transit service. Coordinate efforts with MAG, Valley Metro/RPTA, ADOT, and municipalities.
- ▲ Coordinate with Valley Metro/RPTA and municipalities to implement future high capacity transit corridors as identified in the RTP.

### FY 2009 Outcome Measures

- Coordinate with MAG, Valley Metro/RPTA, ADOT, and municipalities in developing light rail plans and strategies.
- Coordinate with Valley Metro/RPTA and municipalities in developing plans for future high capacity transit corridors identified in the RTP.

## Regional Aviation System Planning

600-0160

Maintain an aviation planning program in coordination with federal, state, and local officials in support of local airport master planning activities ensure that the connections to the surface street system are adequately addressed including the impact of possible freight movements.

### Follow-up on FY 2008 Outcome Measures

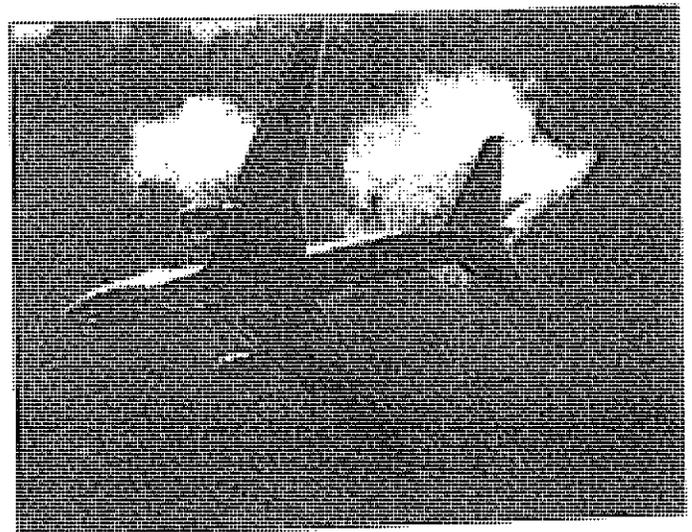
- No FY 2008 aviation outcome measures were included in the FY 2008 UPWP since the completion of the RASP and the dissolution of the MAG RASP Policy Committee.

### FY 2009 Objectives

- ▲ Participate and review airport master plans as requested.

### FY 2009 Outcome Measures

- The review of any airport master plans as requested.



### Transportation Consultants and Pass-Through

| Task Number                          | FY 2009 Consultants By Activity                                | Federal             | State             | Local            | Other            | Total               |
|--------------------------------------|--|---------------------|-------------------|------------------|------------------|---------------------|
| 600-0110-09                          | 2009 Transportation Planning Workshop Series                   |                     | \$ 20,000         |                  |                  | \$ 20,000           |
| 600-0110-09                          | 2009 Assessment of Access Management Practices                 |                     | \$ 35,000         |                  |                  | \$ 35,000           |
| 600-0120-09                          | 2009 MAG Traffic Interchange (TI) Spacing Policy Study         | \$ 75,000           |                   |                  |                  | \$ 75,000           |
| 600-0130-09                          | 2009 MAG Reg Bicycle & Ped Facilities Integration Study        |                     | \$ 75,000         |                  |                  | \$ 75,000           |
| 600-0130-09                          | 2009 Bicycle Design Assistance Program                         | \$ 250,000          |                   |                  |                  | \$ 250,000          |
| 600-0130-09                          | 2009 Pedestrian Design Assistance                              | \$ 150,000          |                   |                  |                  | \$ 150,000          |
| 600-0140-09                          | 2009 Non-Recurring Transportation Congestion Study             | \$ 300,000          |                   |                  |                  | \$ 300,000          |
| 600-0170-09                          | 2009 Non-Eng Strategies for Improving Road Safety On-Call      | \$ 50,000           |                   |                  |                  | \$ 50,000           |
| 600-0180-09                          | 2009 Safety Eval of the MAG Elderly Mobility Sign Proj On-Call | \$ 15,452           |                   |                  | \$ 34,548        | \$ 50,000           |
| 600-0180-09                          | 2009 Evaluation of Roundabout Signage On-Call                  | \$ 50,000           |                   |                  |                  | \$ 50,000           |
| 600-0180-09                          | 2009 MAG Travel Demand Model-Pinal County Review               | \$ 80,000           |                   |                  |                  | \$ 80,000           |
| 600-0631-09                          | 2009 Trans Software Development & Support On Call              |                     | \$ 250,000        |                  |                  | \$ 250,000          |
| 600-0631-09                          | 2009 Dev of MAG Reg Activity-Based Model - Phase II            | \$ 500,000          |                   |                  |                  | \$ 500,000          |
| 600-0631-09                          | 2009 TTI Research of Archived Traffic Data                     | \$ 95,000           |                   |                  |                  | \$ 95,000           |
| 600-0633-09                          | 2009 TTI Urban Transportation Performance Measure Research     |                     | \$ 25,000         |                  |                  | \$ 25,000           |
| 600-0633-09                          | 2009 Public Involvement Disability Outreach Associate          | \$ 20,000           |                   |                  |                  | \$ 20,000           |
| 600-9900-09                          | 2009 Transportation Public Involvement Support                 |                     | \$ 30,000         |                  |                  | \$ 30,000           |
| 600-9900-09                          | 2009 Transportation Public Involvement Support                 |                     | \$ 30,000         |                  |                  | \$ 30,000           |
| <b>Total Transportation Programs</b> |  | <b>\$ 1,685,452</b> | <b>\$ 435,000</b> | <b>\$ 34,548</b> | <b>\$ 34,548</b> | <b>\$ 2,055,000</b> |

| Task Number                          | FY 2009 Carry Forward Consultants By Activity  | Federal             | State             | Local     | Other             | Total               |
|--------------------------------------|--|---------------------|-------------------|-----------|-------------------|---------------------|
| 600-0123-09                          | U.S. 60/Grand Avenue Access Mgmt Study   | \$ 499,503          |                   |           | \$ 38,000         | \$ 537,503          |
| 600-0125-09                          | 2007 SW Valley/West Pinal (Hidden Valley) Trans Study                                |                     |                   |           | \$ 553,582        | \$ 553,582          |
| 600-0130-09                          | 2007 Bicycle Design Assistance Program-Avondale                                      | \$ 43,415           |                   |           |                   | \$ 43,415           |
| 600-0130-09                          | 2007 Bicycle Design Assistance Program-Gilbert                                       | \$ 64,255           |                   |           |                   | \$ 64,255           |
| 600-0130-09                          | 2007 Bicycle Design Assistance Program-Mesa  | \$ 55,710           |                   |           |                   | \$ 55,710           |
| 600-0130-09                          | 2007 Regional Bicycle Map (combine with Update and Printing of Regional Bicycle Map) | \$ 30,000           |                   |           |                   | \$ 30,000           |
| 600-0130-09                          | Update and Printing of Regional Bicycle Map - MAG Consultant (combine with 2007 R)   | \$ 5,000            |                   |           |                   | \$ 5,000            |
| 600-0130-09                          | 2008 City of Scottsdale Pedestrian & Bike Connection                                 | \$ 55,000           |                   |           |                   | \$ 55,000           |
| 600-0130-09                          | 2008 Town Of Gilbert Bike Crossing Demonstration Phase II                            | \$ 90,000           |                   |           |                   | \$ 90,000           |
| 600-0130-09                          | 2008 City of Peoria, New River Underpass   | \$ 125,000          |                   |           |                   | \$ 125,000          |
| 600-0130-09                          | 2008 Bicycle/Shared Use Design Assistance Program                                    | \$ 30,000           |                   |           |                   | \$ 30,000           |
| 600-0130-09                          | 2008 Pedestrian Design Assistance Program - MAG Consultant                           | \$ 10,041           |                   |           |                   | \$ 10,041           |
| 600-0140-09                          | 2008 Pedestrian Design Assistance Program - MAG Consultant                           | \$ 12,176           |                   |           |                   | \$ 12,176           |
| 600-0140-09                          | 2008 Town of Gilbert Pedestrian Safety & Traffic Calming                             | \$ 75,000           |                   |           |                   | \$ 75,000           |
| 600-0140-09                          | 2008 Town of Gilbert Pedestrian Safety & Traffic Calming                             | \$ 27,755           |                   |           |                   | \$ 27,755           |
| 600-0140-09                          | Gilbert Industrial Campus Retrofit   | \$ 27,036           |                   |           |                   | \$ 27,036           |
| 600-0140-09                          | Mesa Adobe Road Pedestrian Design Project  | \$ 125,000          |                   |           |                   | \$ 125,000          |
| 600-0140-09                          | 2008 Pedestrian Design Assistance Program  | \$ 105,367          |                   |           |                   | \$ 105,367          |
| 600-0150-09                          | 2007 Commuter Rail Update (Phase I)  | \$ 600,000          |                   |           |                   | \$ 600,000          |
| 600-0150-09                          | 2008 Commuter Rail Corridor Development Plan (May Change Scope and Name 08)          | \$ 5,076            |                   |           |                   | \$ 5,076            |
| 600-0170-09                          | ITS - Planning - MAG Consultant On-Call (ITS On-Call)                                |                     | \$ 60,000         |           |                   | \$ 60,000           |
| 600-0170-09                          | 2008 ITS & Traffic Mgmt Guidelines for Growing Communities On-Call (ITS On-Call)     | \$ 100,900          |                   |           |                   | \$ 100,900          |
| 600-0170-09                          | Update of the Regional ITS Architecture - MAG Consultant On-Call (2005 ITS On-Call)  |                     | \$ 50,000         |           |                   | \$ 50,000           |
| 600-0170-09                          | 2008 MAG ITS Strategic Plan On-Call (ITS On-Call)                                    |                     | \$ 20,000         |           |                   | \$ 20,000           |
| 600-0170-09                          | 2008 Dymasmat-P Software Purchase and Training                                       |                     | \$ 284,082        |           |                   | \$ 284,082          |
| 600-0180-09                          | Transportation Safety Management System On-Call                                      | \$ 5,034            |                   |           |                   | \$ 5,034            |
| 600-0180-09                          | School Crossing Training Workshops On-Call   | \$ 5,000            |                   |           |                   | \$ 5,000            |
| 600-0180-09                          | 2008 Regional Crossing Guard Training Workshops                                      | \$ 2,000            |                   |           |                   | \$ 2,000            |
| 600-0180-09                          | 2008 Regional Transportation Safety Forum and Workshop                               | \$ 76,150           |                   |           |                   | \$ 76,150           |
| 600-0190-09                          | Truck Travel/Freight Analysis - Consultant   | \$ 980,000          |                   |           |                   | \$ 980,000          |
| 600-0195-09                          | 2008 Regional Transit Framework Study  | \$ 940,000          |                   |           |                   | \$ 940,000          |
| 600-0631-09                          | 2008 Reg Travel Demand Model Improvements On-Call (Changed to On-Call)               | \$ 200,590          |                   |           |                   | \$ 200,590          |
| 600-0631-09                          | 2007 Regional Travel Speed Study   | \$ 300,000          |                   |           |                   | \$ 300,000          |
| 600-0631-09                          | 2007 External Travel Study (Start 2008)  |                     | \$ 150,000        |           |                   | \$ 150,000          |
| 600-0633-09                          | 2008 Traffic Count Retrieval System  | \$ 250,000          |                   |           |                   | \$ 250,000          |
| 600-0633-09                          | 2008 MAG Transportation Database GIS System Phase II                                 | \$ 400,000          | \$ 150,000        |           |                   | \$ 550,000          |
| 600-0661-09                          | 2008 Perf Measurement Framework & Congestion Mgmt Update                             | \$ 72,000           |                   |           |                   | \$ 72,000           |
| 600-0950-09                          | Statewide Intrastate Mobility Reconnaissance Study                                   | \$ 55,000           |                   |           |                   | \$ 55,000           |
| 600-0950-09                          | 08 Statewide Transportation Survey   |                     |                   |           |                   | \$                  |
| <b>Total Transportation Programs</b> |  | <b>\$ 5,371,107</b> | <b>\$ 714,082</b> | <b>\$</b> | <b>\$ 591,582</b> | <b>\$ 6,676,771</b> |

| Task Number                          | FY 2009 Pass-Through Agreements By Activity | Federal           | State             | Local     | Other     | Total             |
|--------------------------------------|---|-------------------|-------------------|-----------|-----------|-------------------|
| 600-0150-09                          | 2009 Valley Metro/RPTA Planning Support     | \$ 224,720        |                   |           |           | \$ 224,720        |
| 600-0920-09                          | 2009 VMR Planning Support                   |                   | \$ 500,000        |           |           | \$ 500,000        |
| <b>Total Transportation Programs</b> |   | <b>\$ 224,720</b> | <b>\$ 500,000</b> | <b>\$</b> | <b>\$</b> | <b>\$ 724,720</b> |

| Task Number                          | FY 2009 Carry Forward Pass-Through Agreements By Activity | Federal           | State     | Local     | Other     | Total             |
|--------------------------------------|---|-------------------|-----------|-----------|-----------|-------------------|
| 600-0900-09                          | VMR LR Design Standards Study                             | \$ 260,000        |           |           |           | \$ 260,000        |
| <b>Total Transportation Programs</b> |   | <b>\$ 260,000</b> | <b>\$</b> | <b>\$</b> | <b>\$</b> | <b>\$ 260,000</b> |

### FY 2009 Other Federal Allocations and Funding Sources

| Task #                 | Task Description                       | DES Planning<br>2009 HHS SSBG | DES Homeless<br>2009 HHS SSBG | 2009 Governor's<br>DV Grant Yr. 3 | ADEQ 2009<br>Water Quality | Budgeted Costs<br>FY 2009 |
|------------------------|--|-------------------------------|-------------------------------|-----------------------------------|----------------------------|---------------------------|
| 100-0210-09            | Regional Water Quality Planning        |                               |                               |                                   | 4,200                      | 4,200                     |
| <b>100</b>             | <b>PROGRAM TOTALS</b>                  | \$ -                          | \$ -                          | \$ -                              | \$ 4,200                   | \$ 4,200                  |
| 300-0110-09            | Human Services Planning                | 220,000                       |                               |                                   |                            | 220,000                   |
| 300-0111-09            | Human Services Transportation Planning | -                             | -                             | -                                 | -                          | -                         |
| 300-0310-09            | Human Services Domestic Violence       | 11,410                        | 6,382                         | 43,824                            |                            | 61,616                    |
| 300-0510-09            | Human Services Homeless                | 18,590                        | 3,618                         |                                   |                            | 22,208                    |
| 300-9900-09            | Human Services Public Involvement      |                               |                               |                                   |                            |                           |
| <b>300</b>             | <b>PROGRAM TOTALS</b>                  | \$ 250,000                    | \$ 10,000                     | \$ 43,824                         | \$ -                       | \$ 303,824                |
| <b>Budgeted Totals</b> |  | \$ 250,000                    | \$ 10,000                     | \$ 43,824                         | \$ 4,200                   | \$ 308,024                |

### FY 2009 State Allocations and Funding Sources

| Task #                 | Task Description   | 2008<br>Sales<br>Tax | 2007<br>Sales<br>Tax | 2006<br>Sales<br>Tax | 2009<br>ADPH<br>Homeless Plan | 2008<br>ADPH<br>Homeless Plan | 2009<br>MAG<br>RTP Funds | 2007 ADOT<br>Contract<br>Agreements | Budgeted<br>Costs<br>FY 2009 |
|------------------------|--|----------------------|----------------------|----------------------|-------------------------------|-------------------------------|--------------------------|-------------------------------------|------------------------------|
| 100-0410-09            | Air Quality Modeling and Analysis                            | 383,913              |                      |                      |                               |                               |                          |                                     | 383,913                      |
| <b>100</b>             | <b>PROGRAM TOTALS</b>  | \$ 383,913           | \$ -                 | \$ -                 | \$ -                          | \$ -                          | \$ -                     | \$ -                                | \$ 383,913                   |
| 300-0510-09            | Human Services Homeless                                      |                      |                      |                      | 35,000                        | 4,053                         |                          |                                     | 39,053                       |
| <b>300</b>             | <b>PROGRAM TOTALS</b>  | \$ -                 | \$ -                 | \$ -                 | \$ 35,000                     | \$ 4,053                      | \$ -                     | \$ -                                | \$ 39,053                    |
| 500-0595-09            | Litter Education   | 300,000              | 446,196              |                      |                               |                               |                          |                                     | 746,196                      |
| 500-0621-09            | Arterial Life Cycle Program Implementation Management        |                      |                      | 198,385              |                               |                               |                          |                                     | 198,385                      |
| 500-0630-09            | MAGVM Bicycle Ed Project                                     | 150,000              |                      |                      |                               |                               |                          |                                     | 150,000                      |
| 500-0641-09            | Regional Transportation Performance Monitoring               |                      |                      | 66,687               |                               |                               |                          |                                     | 66,687                       |
| 500-0651-09            | Traffic Signal Optimization Program                          |                      |                      | 11,843               |                               |                               |                          |                                     | 11,843                       |
| 500-0654-09            | Integrated Corridor Management Systems                       |                      |                      | 99,078               |                               |                               |                          |                                     | 99,078                       |
| <b>500</b>             | <b>PROGRAM TOTALS</b>  | \$ 450,000           | \$ 446,196           | \$ 375,994           | \$ -                          | \$ -                          | \$ -                     | \$ -                                | \$ 1,272,190                 |
| 600-0110-09            | Regional System Planning                                     | 55,000               |                      |                      |                               |                               |                          |                                     | 55,000                       |
| 600-0130-09            | Regional Bicycle Planning                                    | 75,000               |                      |                      |                               |                               |                          |                                     | 75,000                       |
| 600-0150-09            | Regional Transit Planning                                    |                      |                      |                      |                               |                               | 600,000                  |                                     | 600,000                      |
| 600-0170-09            | Intelligent Transportation System Planning                   |                      | 130,000              |                      |                               |                               |                          |                                     | 130,000                      |
| 600-0180-09            | Transportation Safety Planning                               |                      | 2,907                | 117,361              |                               |                               |                          | 284,082                             | 404,349                      |
| 600-0195-09            | 08 Regional Transit Framework Study                          |                      | 2,103                |                      |                               |                               |                          |                                     | 2,103                        |
| 600-0631-09            | Travel Forecasting and Transportation Modeling               | 250,000              |                      |                      |                               |                               |                          |                                     | 250,000                      |
| 600-0633-09            | Transportation Data Collection and Management                | 175,000              | 250,000              |                      |                               |                               |                          |                                     | 425,000                      |
| 600-0661-09            | Transportation Improvement Program                           |                      | 38,323               |                      |                               |                               |                          |                                     | 38,323                       |
| 600-0662-09            | Transportation Programming Process (was TIP Guidance Report) |                      | 5,105                |                      |                               |                               |                          |                                     | 5,105                        |
| 600-0700-09            | Congestion Management  |                      | 150,000              |                      |                               |                               |                          |                                     | 150,000                      |
| 600-0920-09            | VMR Planning Support   | 500,000              |                      |                      |                               |                               |                          |                                     | 500,000                      |
| 600-9900-09            | Transportation Public Involvement                            | 30,000               | 99,011               |                      |                               |                               |                          |                                     | 129,011                      |
| <b>600</b>             | <b>PROGRAM TOTALS</b>  | \$ 1,085,000         | \$ 672,449           | \$ 117,361           | \$ -                          | \$ -                          | \$ 600,000               | \$ 284,082                          | \$ 2,763,891                 |
| 800-0140-09            | Economic Monitoring, Modeling, Projections, and Analysis     |                      | 49,628               |                      |                               |                               |                          |                                     | 49,628                       |
| <b>800</b>             | <b>PROGRAM TOTALS</b>  | \$ -                 | \$ 49,628            | \$ -                 | \$ -                          | \$ -                          | \$ -                     | \$ -                                | \$ 49,628                    |
| <b>Budgeted Totals</b> |  | \$ 1,918,913         | \$ 1,173,272         | \$ 493,355           | \$ 35,000                     | \$ 4,053                      | \$ 600,000               | \$ 284,082                          | \$ 4,508,675                 |



## Appendix A-2

### FY 2009 Scope of Services

#### I. TASKS TO BE PERFORMED FOR THE PROJECT

Major tasks to be performed during the period include developing plans and strategies to support light rail transit service and coordinating these efforts with MAG, Valley Metro/RPTA, ADOT, and municipalities.

#### TASK 1.0 SYSTEMS STUDY (IMPLEMENT FUTURE HIGH CAPACITY TRANSIT CORRIDORS)

It is the intent of Valley Metro Rail (METRO) to work with other agencies and member cities in the LRT System Configuration Study, Phase II and Phase III, the LRT Capital Improvement Plan, other Sub-Regional High Capacity Transit Studies, and other transit studies that may arise.

##### 1.1 LRT System Configuration Study, Phase II and Phase III

METRO staff will coordinate the efforts of consultants on how the planned 57-mile LRT system will function and operate. METRO will update other agencies and municipalities on the findings of the study.

##### 1.2 LRT Capital Improvement Plan

METRO plans on beginning a LRT Capital Improvement plan during late FY 2008 and likely continue into FY 2009. This planning effort will identify the long term maintenance and replacement program for the system. METRO will coordinate with other agencies and municipalities on this planning effort.

##### 1.3 Program Development Agreement

METRO will work with the Federal Transit Administration to enter into a program development agreement on the implementation of future high capacity transit corridors.

##### 1.4 Other Sub-Regional High Capacity Transit Studies

METRO staff will coordinate with other agencies on the analysis of high capacity transit corridors in the metropolitan area that may be undertaken upon request of member cities, e.g. Scottsdale, Peoria, etc.

#### TASK 2.0 DESIGN STANDARDS

Finalize and update the design standards drawings so future corridor designs will utilize a consistent engineering design throughout the light rail transit system.

- 2.1 Update Design Standard Drawings  
Oversee the finalized update of the standard drawings.

TASK 3.0 PROJECT DEVELOPMENT (LIGHT RAIL PLANS AND STRATEGIES)

It is the intent of Valley Metro Rail (METRO) to work with other agencies and member cities in furthering transit-oriented development activities, travel demand forecasting for transit and developing Geographic Information System planning.

- 3.1 Transit-oriented Development  
METRO staff will assist member agencies with information and technical assistance in transit-oriented development. This may include educational, economic development market information, data support, project development research, etc.
- 3.2 Travel Demand Forecasting  
METRO staff will provide assistance to MAG with the results of survey data and consultant expertise on current transit ridership that may revise inputs to the travel demand model.
- 3.3 Geographic Information System Planning  
METRO staff will work with MAG and RPTA to investigate the development of an integrated GIS application planning system. METRO will continue to implement its internal GIS system in preparation for the integrated system.

II. SCHEDULE

The staff coordination of the projects will begin on July 1, 2008 and continue through June 30, 2009.

TASK 1.0 SYSTEM STUDIES (IMPLEMENT FUTURE HIGH CAPACITY TRANSIT CORRIDORS)

- |     |  |               |
|-----|--|---------------|
| 1.1 | LRT System Configuration Study, Phase II & III   | Jul 08-Jun 09 |
| 1.2 | LRT Capital Improvement Plan                     | Jul 08-Jun 09 |
| 1.3 | Program Development Agreement                    | Jul 08-Jun 09 |
| 1.4 | Other Sub-regional High Capacity Transit Studies | Jul 08-Jun 09 |

TASK 2.0 DESIGN STANDARDS

- |     |                                     |               |
|-----|-------------------------------------|---------------|
| 2.1 | Update the design standard drawings | Jul 08-Jun 09 |
|-----|-------------------------------------|---------------|

TASK 3.0 PROJECT DEVELOPMENT (LIGHT RAIL PLANS AND STRATEGIES)

- |     |  |               |
|-----|--|---------------|
| 3.1 | Transit-oriented Development Staff Support | Jul 08-Jun 09 |
|-----|--|---------------|

|     |   |               |
|-----|---|---------------|
| 3.2 | Travel Demand Forecasting Data Sharing              | Jul 08-Jun 09 |
| 3.3 | Geographic Information System Planning Coordination | Jul 08-Jun 09 |

GOVERNMENTAL AGREEMENT NUMBER 353  
Valley Metro Light Rail  
Amendment # 2 Budget  
BUDGET PERIOD: July 1, 2008 through June 30, 2009

COSTS AND HOURS BY TASK

| STAFF LABOR  |                              | HOURS BY PERSONNEL AND TASK |                      |                         |                |                     | Total Cost |
|--|------------------------------|-----------------------------|----------------------|-------------------------|----------------|---------------------|------------|
| Personnel  | Raw Direct Labor Hourly Rate | 1 (System Study)            | 2 (Design Standards) | 3 (Project Development) | Total Hours    |                     |            |
| Chief Executive Officer (Rick Simonetta)             | \$121.90160                  | 104.00                      | 0.00                 | 104.00                  | 208.00         | \$ 25,355.51        |            |
| Project Manager (Alvin Livingstone)                  | \$52.19660                   | 45.00                       | 25.00                | 60.00                   | 130.00         | \$ 6,785.48         |            |
| Project Manager (Jim Mathien)                        | \$53.47688                   | 104.00                      | 0.00                 | 950.00                  | 1054.00        | \$ 56,364.63        |            |
| Planner II (Ben Limmer)                              | \$33.77500                   | 195.00                      | 0.00                 | 625.00                  | 820.00         | \$ 27,695.50        |            |
| Planner II (Abhishek Dayal)                          | \$28.37125                   | 375.00                      | 0.00                 | 500.00                  | 875.00         | \$ 24,824.84        |            |
| Environmental Planner III (Robert Forrest)           | \$43.12500                   | 200.00                      | 0.00                 | 190.00                  | 390.00         | \$ 16,818.75        |            |
| Executive Assistant (April Gibson)                   | \$27.07688                   | 0.00                        | 0.00                 | 475.00                  | 475.00         | \$ 12,881.52        |            |
| Director, Finance & Admin ( John McCormack)          | \$66.12163                   | 0.00                        | 0.00                 | 150.00                  | 150.00         | \$ 9,918.24         |            |
| Finance & Budget Manager (Bill Buntin)               | \$52.19613                   | 0.00                        | 0.00                 | 125.00                  | 125.00         | \$ 6,524.52         |            |
| Community Relations Director (John Farry)            | \$69.17000                   | 0.00                        | 0.00                 | 104.00                  | 104.00         | \$ 7,193.88         |            |
| Rail Engineer (De'Nerika Ward)                       | \$31.25000                   | 125.00                      | 25.00                | 25.00                   | 175.00         | \$ 5,468.75         |            |
| Administrative Assistant (Cooks, LaVita)             | \$21.00000                   | 225.00                      | 20.00                | 405.00                  | 650.00         | \$ 13,650.00        |            |
| Contracts & Procurement Specialist (Wendy Sanderson) | \$26.73878                   | 40.00                       | 0.00                 | 55.00                   | 95.00          | \$ 2,540.18         |            |
| Accounts Payable Technician (Carol Archer)           | \$19.76010                   | 0.00                        | 0.00                 | 102.00                  | 102.00         | \$ 2,015.53         |            |
| Administrative Assistant (Cheri McClure)             | \$23.47097                   | 0.00                        | 0.00                 | 102.00                  | 102.00         | \$ 2,394.04         |            |
| Executive Assistant (Gina Frackiewicz)               | \$30.85825                   | 104.00                      | 0.00                 | 102.00                  | 206.00         | \$ 6,356.80         |            |
| Program Control Specialist (Neela Loganathan)        | \$33.56550                   | 0.00                        | 0.00                 | 35.00                   | 35.00          | \$ 1,174.79         |            |
| Document Control Supervisor (Lisa Alvarado)          | \$27.00825                   | 0.00                        | 0.00                 | 35.00                   | 35.00          | \$ 945.29           |            |
| Accountant I (Tyler Olson)                           | \$23.31730                   | 0.00                        | 0.00                 | 45.00                   | 45.00          | \$ 1,049.28         |            |
| Accountant I (Cheryl Bennett)                        | \$24.03840                   | 0.00                        | 0.00                 | 100.00                  | 100.00         | \$ 2,403.84         |            |
| Accountant II (Jane Boyd)                            | \$44.46400                   | 0.00                        | 0.00                 | 104.00                  | 104.00         | \$ 4,624.26         |            |
| Systems Manager (Arkady Bernshteyn)                  | \$59.12638                   | 0.00                        | 0.00                 | 40.00                   | 40.00          | \$ 2,365.14         |            |
| Director, Safety & Security ( Larry Engleman)        | \$69.19036                   | 0.00                        | 0.00                 | 200.00                  | 200.00         | \$ 13,838.08        |            |
| Administrative Assistant (Tanisha Vaughn)            | \$15.02000                   | 0.00                        | 0.00                 | 45.00                   | 45.00          | \$ 675.90           |            |
| DBE Manager (Melissa Boyles)                         | \$42.62650                   | 80.00                       | 0.00                 | 125.00                  | 205.00         | \$ 8,738.43         |            |
| Paralegal (Suzanne Grobe)                            | \$23.39980                   | 0.00                        | 0.00                 | 104.00                  | 104.00         | \$ 2,433.58         |            |
| General Counsel (Mike Ladino)                        | \$84.55300                   | 0.00                        | 0.00                 | 40.00                   | 40.00          | \$ 3,382.12         |            |
| <b>Total Hours</b>                                   |                              | <b>1597.00</b>              | <b>70.00</b>         | <b>4947.00</b>          | <b>6614.00</b> |                     |            |
| Total Task Cost FY 08-09                             |                              | \$62,758.69                 | \$2,506.16           | \$203,133.84            |                | \$268,398.68        |            |
| Estimated Fringe Benefits FY 08-09--40.0%            | 0.4000                       | \$25,103.48                 | \$1,002.46           | \$81,287.54             |                | \$107,393.48        |            |
| <b>Total Labor with Fringe</b>                       |                              | <b>\$87,862.17</b>          | <b>\$3,508.61</b>    | <b>\$284,421.38</b>     |                | <b>\$375,792.16</b> |            |

| SUBCONTRACTORS                   |                  | COST BY TASK       |               |                    |             | Total Cost         | Total Cost |
|----------------------------------|------------------|--------------------|---------------|--------------------|-------------|--------------------|------------|
| Company or Person                | Est. Hourly Rate | 1                  | 2             | 3                  |             |                    |            |
| Wulf Grote-City of Phoenix       | Amd #7           | 46,000.00          | 0.00          | 46,000.00          | N/A         | \$ 92,000.00       |            |
| Subcontractor 9                  | \$0.00           | 0.00               | 0.00          | 0.00               | 0.00        | \$ -               |            |
| Subcontractor 10                 | \$0.00           | 0.00               | 0.00          | 0.00               | 0.00        | \$ -               |            |
| Subcontractor 11                 | \$0.00           | 0.00               | 0.00          | 0.00               | 0.00        | \$ -               |            |
| Subcontractor 12                 | \$0.00           | 0.00               | 0.00          | 0.00               | 0.00        | \$ -               |            |
| Subcontractor 13                 | \$0.00           | 0.00               | 0.00          | 0.00               | 0.00        | \$ -               |            |
| Subcontractor 14                 | \$0.00           | 0.00               | 0.00          | 0.00               | 0.00        | \$ -               |            |
| Subcontractor 15                 | \$0.00           | 0.00               | 0.00          | 0.00               | 0.00        | \$ -               |            |
| Subcontractor 16                 | \$0.00           | 0.00               | 0.00          | 0.00               | 0.00        | \$ -               |            |
| Subcontractor 17                 | \$0.00           | 0.00               | 0.00          | 0.00               | 0.00        | \$ -               |            |
| Subcontractor 18                 | \$0.00           | 0.00               | 0.00          | 0.00               | 0.00        | \$ -               |            |
| Subcontractor 19                 | \$0.00           | 0.00               | 0.00          | 0.00               | 0.00        | \$ -               |            |
| Subcontractor 20                 | \$0.00           | 0.00               | 0.00          | 0.00               | 0.00        | \$ -               |            |
| <b>Total Task Cost</b>           |                  | <b>46,000.00</b>   | <b>0.00</b>   | <b>46,000.00</b>   | <b>0.00</b> |                    |            |
| <b>Total Subcontractors Cost</b> |                  | <b>\$46,000.00</b> | <b>\$0.00</b> | <b>\$46,000.00</b> |             | <b>\$92,000.00</b> |            |

| GRAND TOTAL SUMMARY                |        | TOTAL COSTS BY TASK |                   |                     | Total Cost          |
|------------------------------------|--------|---------------------|-------------------|---------------------|---------------------|
| Description                        |        | 1                   | 2                 | 3                   |                     |
| Total Consultant Labor             |        | \$87,862.17         | \$3,508.61        | \$284,421.38        | \$375,792.16        |
| Estimated Overhead FY 08-09--12.0% | 0.1200 | \$7,531.04          | \$300.74          | \$24,376.06         | \$32,207.84         |
| <b>Subtotal</b>                    |        | <b>\$95,393.21</b>  | <b>\$3,809.35</b> | <b>\$308,797.44</b> | <b>\$408,000.00</b> |
| Subcontractors                     |        | \$46,000.00         | \$0.00            | \$46,000.00         | \$92,000.00         |
| <b>GRAND TOTAL</b>                 |        | <b>\$141,393.21</b> | <b>\$3,809.35</b> | <b>\$354,797.44</b> | <b>\$500,000.00</b> |

Line Item Amounts can be adjusted by 10 percent among tasks without prior written approval from MAG Executive Director.

**Jennifer Salts**

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**From:** Jennifer Salts  
**Sent:** Wednesday, September 16, 2009 3:31 PM  
**To:** Tracy Graves  
**Cc:** Fiscal Services  
**Subject:** Commitment # 353 Amendment # 3 with Valley Metro Rail

Tracy,

~~Commitment # 353 Amendment # 3 with Valley Metro Rail for the Light Rail Transit Project~~ has been duly signed and executed and should be revised in Project Control and on the MAIN and Consultant plotter pages.

This amendment is a Budget Revision for Additional Funding. An additional \$125,000 was added to the contract which was approved on May 27, 2009 by the Regional Council, is being added to the total contract amount. (The amount added is only 25% of the total approved project amount. Remaining amounts will be added in an amendment once the Regional Council Executive Committee approves in the September 2009 meeting).

The additional funding information is as follows:

~~Task: 600-0920-10 Source: FTA #17 Section 5303 (2009) Activity: 9130 Amount: \$125,000~~

Total REVISED Total Contract Amount is: ~~\$4,125,000.00~~ 125,000

All other terms and conditions remain intact.

Jennifer

9/16/2009

**Governmental Agency Amendment Executive Summary**

PAGE 1: CONTRACT NO 353 AND AMENDMENT NO: 3

| GOVERNMENT AGENCY Amendment  |  | Done  | Y | N              |
|--|--|---|---|----------------|
| <b>A</b>   | <b>DRAFT AMENDMENT AND SEND TO FISCAL SERVICES</b>   |   | ✓ |                |
| Email Amendment to Gary in Fiscal Services for review in electronic format.<br>Template available on S:\Contracts\Boilerplates-Contracts, Associate & RFPs   |  |   |   |                |
| <b>B</b>   | <b>FISCAL SERVICES REVIEW</b>  | <i>John started review on 8-5-09</i>                        | ✓ |                |
| Summary Review Sheet is attached for review notes and tracking by Gary in F. S. After the amendment is reviewed by Gary in F. S., deviations or errors (other than date, approved amount) found will be highlighted and returned to the Project Manager for correction or explanation.   |  |   |   |                |
| <i>Kevin updated the draft to only include 25% of the budget (\$125,000)</i>   |  |   |   |                |
| <b>C</b>   | <b>MAKE CHANGES AND SEND BACK TO FISCAL SERVICES (IF NECESSARY)</b>                          | <i>(Kevin Approved) Changes made</i>                        | ✓ | <i>8-10-09</i> |
| Make any changes outlined and return to Gary in F.S. along with reviewed draft for comparison. <i>Conn's review pending. GS 2 items via pm</i>   |  |   |   |                |
| <b>D</b>   | <b>FINAL REVIEW BY FISCAL SERVICES MANAGER</b>   | <i>Becky approved @ 4:30pm 8-10-09</i>                      |   |                |
| Becky reviews contract and all associated documentation.   |  |   |   |                |
| <b>E</b>   | <b>FISCAL SERVICES SENDS TWO ORIGINALS TO DENNIS FOR REVIEW (INCLUDING SIGNATURE LETTER)</b> | <i>Dennis out on vacation - Signed 8-17-09</i>              |   |                |
| Gary in F.S. will send the two originals to Dennis for review. Gary will include the Amendment Signature Letter from S:\Contracts\Boilerplates-Contracts, Associate & RFPs that the Project Manager has written, for Dennis to sign at this time.  |  |   |   |                |
| <b>F</b>   | <b>SEND TO GOVERNMENT AGENCY FOR SIGNATURE</b>   | <i>Returned to Kevin for VMR's signature 2:15pm 8-17-09</i> |   |                |
| Dennis will return the two reviewed originals with the signed Amendment Signature Letter back to Gary in F.S. and they will be given to the Project Manager to be sent out. Gary will retain all other documentation.  |  |   |   |                |
| <b>* NOTE:</b>   | <i>Returned to MAG 8/26/09</i>   | <i>(Dennis is out) until 8/28</i>                           |   |                |
| <b>* GOVERNMENT AGENCY signs Amendment prior to MAG EXECUTIVE DIRECTOR.</b>  | <i>Dennis signed 8/28/09</i>   |   |   |                |
| <b>G</b>   | <b>RETURN GOVERNMENT AGENCY SIGNED ORIGINALS TO FISCAL SERVICES</b>                          |   |   |                |
| You will receive two originals back from the GOVERNMENT AGENCY. Give them to Gary in F.S.  |  |   |   |                |
| <b>H</b>   | <b>FISCAL SERVICES TAKES AMENDMENT ORIGINALS TO DENNIS FOR HIS SIGNATURE</b>                 | <i>Returned to Kevin / Axium</i>                            |   |                |
| Gary will take the two originals to Dennis for his signature after checking that the required signatures and dates are correct.  |  |   |   |                |
| <b>I</b>   | <b>SIGNED ORIGINAL RETURNED TO PROJECT MANAGER FOR TRANSMITTAL TO GOVERNMENT AGENCY</b>      |   |   |                |
| One signed original will be retained by Gary in F.S. and one signed original will be returned to the Project Manager for forwarding to the GOVERNMENT AGENCY with a Transmittal Letter signed by the Project Manager (sample available: S:\Contracts\Boilerplates-Contracts, Associate & RFPs\Template-Transmittal of signed copy Letter). |  |   |   |                |
| <b>J</b>   | <b>ENTERED IN AXIUM ON:</b>  |   |   |                |

| Page 2   |  | ORIGINAL CONTRACT NUMBER:                                  | Y                                   | N                        |
|--|--|--|-------------------------------------|--------------------------|
| 1  | DATE RECEIVED  | 8-5-09   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2  | ELECTRONIC FORMAT  | Kevin made updates - Changes = 25% of budget               | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3  | PRIMARY MAG CONTACT (Name)   | Kevin  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4  | TRANSMITTAL LETTER FOLLOWS GOVERNMENTAL AGENCY AMENDMENT FORMAT  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5  | ATTACHMENT ONE COVER PAGE  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 6  | APPENDIX A-1 COVER PAGE  | FY 10 UPWP BEING REFERRED TO                               | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7  | FY 10 UPWP COVER PAGE  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 8  | UPWP NARRATIVE PAGES FROM  | 600-14 TO 600-37 INCLUDED                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 9  | UPWP TASK BUDGET PAGES FROM  | A-5 ; A-14 ***Copy and Attach to packet                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 10   | APPENDIX A-2 COVER PAGE FOR FY   | 10 SCOPE OF SERVICES                                       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 11   | SCOPE OF WORK FOR NAME OF PROGRAM  | Light Rail Transit Planning Services                       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 12   | READ FOR CONTENT AND OBVIOUS ERRORS  | (Kevin approved minor punct. changes)                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 13   | CHECK SCHEDULE FOR CONTENT AND OBVIOUS ERRORS  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 14   | CHECK PROJECT BUDGET MATH AND DIRECT RAW LABOR RATES AND HOURS   |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 15   | ATTACHMENT TWO   | Gary checked budget & approved                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 16   | CHECK FILES TO CONFIRM THAT CORRECT AMENDMENT NUMBER HAS BEEN USED   |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 17   | AMENDMENT NUMBER ASSIGNED:   | # 3  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 18   | CORRECT CONTRACT #   | 353 CORRECT AMENDMENT # 3                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 19   | FY 10 UPWP CITED   |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 20   | ORIGINAL CONTRACT ENTER DATE STATED IN FIRST PARAGRAPH   |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 21   | EFFECTIVE DATE MATCHES AMENDMENT   | July 1, 2009   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 22   | GOVERNMENTAL AGENCY NAMED IN TITLE   | VMR  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 23   | FUNDING PAGES CITED FOR FY   | 10 UPWP  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 24   | FUNDING PERIOD FOR FY  | 10 UPWP LISTED CORRECTLY                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 25   | APPENDIX A-1 AND APPENDIX A-2 SUPERSEDES STATEMENT INCLUDED  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 26   | ALL OTHER CONDITIONS STATEMENT INCLUDED  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 27   | Signature fields and related date fields for both MAG EXECUTIVE DIRECTOR and GOVERNMENT AGENCY are correct on contract |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 28   | NOTE: GOVERNMENT AGENCY signs contract prior to MAG EXECUTIVE DIRECTOR   |  | <input type="checkbox"/>            | <input type="checkbox"/> |
| 29   | Reasons for amendment: time extension only, contract amount change, etc.   |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <p>MAG will only issue 25% of approved Funding for FY10.<br/>                     July 1, 2009 - Sept. 30, 2009 \$125,000 budget 500K approved</p> |  |  |                                     |                          |
| 30   | CONTRACT FUNDING:  | Task Number:   | Funding Source:                     | Am                       |
|  | 600-0920-10  | CMAA 10 (25) P010  | \$125,000                           |                          |
| 31   | TOTAL: (Total should add up to contract or amendment amount)   | Amendment is less than approved project in the FY10 budget |                                     |                          |
| 32   | CONTRACT ENTERED IN AXIUM ON:  |  |                                     |                          |

500K approved  
 - OK per Dennis

## Jennifer Salts

---

**From:** Alana Chavez  
**Sent:** Monday, June 08, 2009 12:19 PM  
**To:** Becky Kimbrough  
**Cc:** Jennifer Salts  
**Subject:** Draft Brookings Contract

**Attachments:** Brookings Professional Services.wpd; Getting Into the Game\_Deliverables (2).doc

Becky -

Here is a draft of the Brookings contract -- aimed for execution June 26, 2009 -- Dennis has requested that we provide three payment installments totaling the \$14,902 which is MAG's share of the total \$20,000. CAAG and PAG will be entering into their own agreements with Brookings.

I have indicated that the first payment installment will be provided on the date of the executed contract with the understanding that the first progress report will be due no later than 12/26/09.

Let me know if you have any questions and we can coordinate further.

Alana



Brookings Getting Into the  
Professional ServiceGame\_Delivera...

---

Alana M. Chávez  
Management Analyst III, Administration

Maricopa Association of Governments  
302 N. 1st Avenue, Suite 300  
Phoenix, AZ 85003  
Direct: 602.452.5033  
Fax: 602.254.6309  
Email: [achavez@mag.maricopa.gov](mailto:achavez@mag.maricopa.gov)



302 North 1st Avenue, Suite 300 ▲ Phoenix, Arizona 85003  
Phone (602) 254-6300 ▲ FAX (602) 254-6490  
E-mail: mag@mag.maricopa.gov ▲ Web site: www.mag.maricopa.gov

August 17, 2009

Richard Simonetta, Chief Executive Officer  
Valley Metro Rail  
101 N. 1<sup>st</sup> Avenue, Suite 1300  
Phoenix, AZ 85003

Dear Mr. Simonetta:

In May 2009, the Maricopa Association of Governments' (MAG) Regional Council, approved the FY 2010 Unified Planning Work Program (UPWP) and Annual Budget that included funding Light Rail Transit Planning Services. We are forwarding an amendment for your consideration to provide \$125,000 to your agency for the first quarter (July-September) of FY 2010.

Attachment One contains a new Appendix A-1 for the FY 2010 Work Program element and a new Appendix A-2 for a revised scope of services, schedule, and budget for work to be conducted by Valley Metro Rail, Inc.

To expedite the amendment process, the work element from the UPWP is used to revise the scope of services, schedule and budget for the program. Please sign and return to the MAG office both copies of Attachment Two containing Amendment # 3 to Agreement No. 353. A fully executed amendment will be transmitted to your office.

If you have any questions, please contact Kevin Wallace at (602) 254-6300.

Sincerely,

A handwritten signature in black ink, appearing to read "Dennis Smith", is written over a horizontal line.

Dennis Smith  
Executive Director

Enclosures

A Voluntary Association of Local Governments in Maricopa County

City of Apache Junction ▲ City of Avondale ▲ Town of Buckeye ▲ Town of Carefree ▲ Town of Cave Creek ▲ City of Chandler ▲ City of El Mirage ▲ Fort McDowell Yavapai Nation ▲ Town of Fountain Hills ▲ Town of Gila Bend  
Gila River Indian Community ▲ Town of Gilbert ▲ City of Glendale ▲ City of Goodyear ▲ Town of Guadalupe ▲ City of Litchfield Park ▲ Maricopa County ▲ City of Mesa ▲ Town of Paradise Valley ▲ City of Peoria ▲ City of Phoenix  
Town of Queen Creek ▲ Salt River Pima-Maricopa Indian Community ▲ City of Scottsdale ▲ City of Surprise ▲ City of Tempe ▲ City of Tolleson ▲ Town of Wickenburg ▲ Town of Youngtown ▲ Arizona Department of Transportation



Attachment Two

MAG Agreement No. 353, Amendment # 3  
FY 2010 Unified Planning Work Program

The Agreement entered into by and between the Maricopa Association of Governments and the Valley Metro Rail, Inc., effective July 1, 2007, states that the scope of work to be accomplished by the parties pursuant to the agreement will be set forth annually by MAG in the Unified Planning Work Program and that the element from the Work Program will be conducted by Valley Metro Rail, Inc., and the basis for payment shall be provided to the Valley Metro Rail, Inc., by MAG.

As required by the Agreement, attached is the funding for the elements to be conducted by Valley Metro Rail, Inc., for the first quarter of the FY 2010 Unified Planning Work Program (July 1, 2009 - September 30, 2009). The new Appendix A-1 and Appendix A-2 supersedes the previous Appendix A-1 and Appendix A-2 to MAG Agreement No. 353.

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

VALLEY METRO RAIL, INC.

MARICOPA ASSOCIATION OF GOVERNMENTS

  
SIGNATURE

  
SIGNATURE

Richard Simonetta  
NAME PRINTED

Dennis Smith  
NAME PRINTED

Chief Executive Officer  
TITLE

Executive Director  
TITLE

8/27/09  
DATE

08/08/09  
DATE

Approved as to form:  
  
MICHAEL LADING - METRO

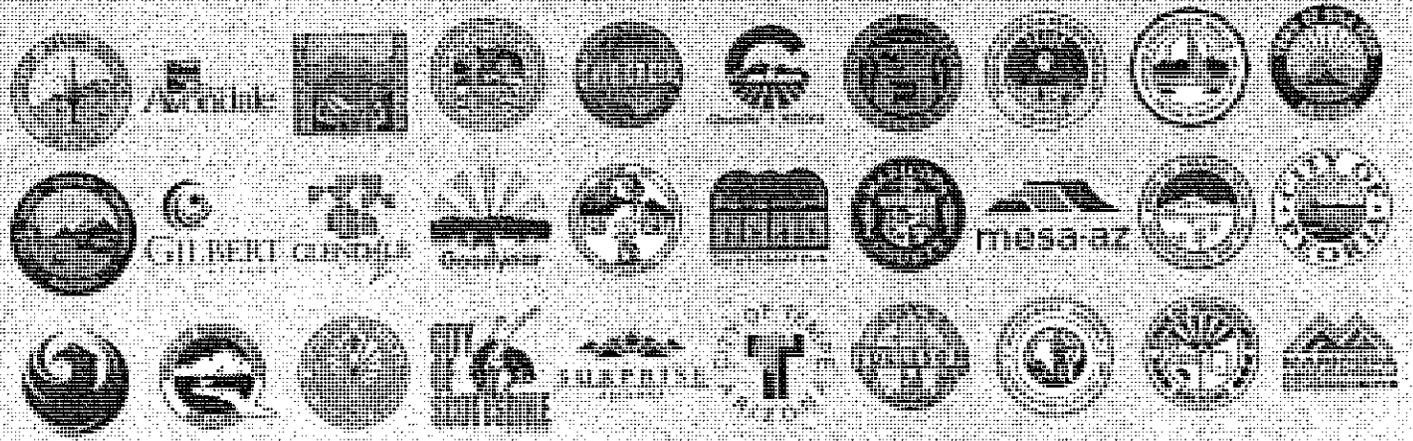
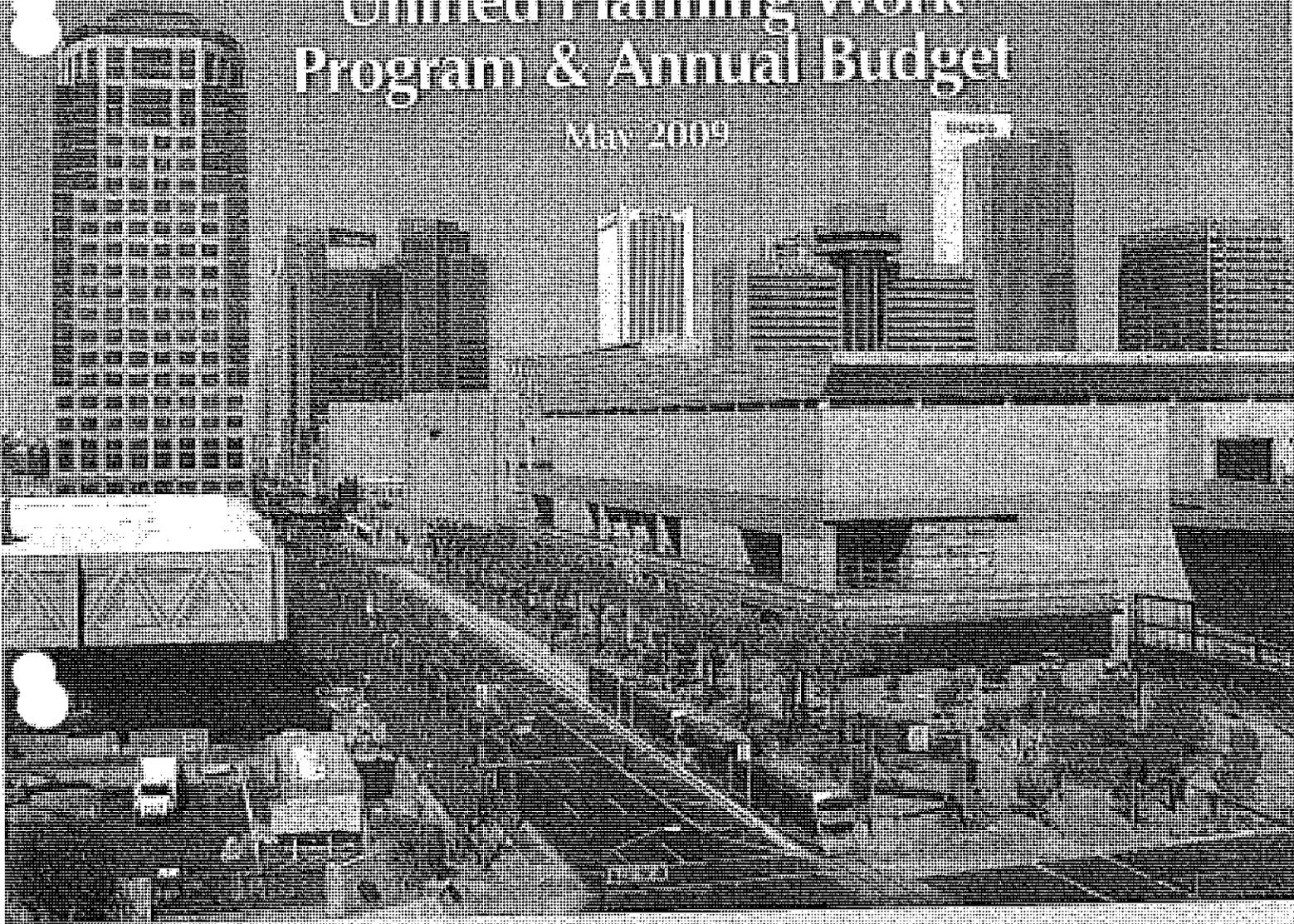
Attachment One

Appendix A-1

FY 2010 Unified Planning Work Program

FY 2010  
**Unified Planning Work  
Program & Annual Budget**

May 2009



**MARICOPA  
ASSOCIATION OF  
GOVERNMENTS**

302 North 1st Avenue, Suite 300, Phoenix, Arizona 85003

## Valley Metro Rail Planning Support

600-0920

Provide ongoing planning support and coordination to ensure the future light rail system will address the travel needs of the public.

### Follow-up on FY 2009 Outcome Measures

- **Measure:** Coordinate with MAG, Regional Public Transportation Authority, ADOT, and municipalities in developing light rail plans and strategies.

*Result: Participated with MAG and Regional Public Transportation Authority in the Regional Transit Framework Study to identify unmet transit needs. Coordinated with ADOT on high capacity transit and vehicular improvements for the I-10 West Corridor.*

- **Measure:** Coordinate with Regional Public Transportation Authority and municipalities in developing plans for future high capacity transit corridors identified in the RTP.

*Result: Identified the Locally Preferred Alternatives for each of the Central Mesa, South Tempe, and I-10 West high capacity transit corridors working with the cities of Mesa, Tempe, and Phoenix as well as the Regional Public Transportation Authority. Participated in Regional Public Transportation Authority planning efforts in the Arizona Avenue and other arterial BRT corridor studies.*

### FY 2010 Objectives

- ⌘ Develop plans and strategies to support future light rail transit service. Coordinate efforts with MAG, Regional Public Transportation Authority, ADOT, and municipalities.
- ⌘ Coordinate with Regional Public Transportation Authority and municipalities in developing plans for future high capacity transit corridors identified in the RTP.

### FY 2010 Outcome Measures

- Coordinate with MAG, Regional Public Transportation Authority, ADOT, and municipalities in developing light rail plans and strategies.
- Coordinate with Regional Public Transportation Authority and municipalities in developing plans for future high capacity transit corridors identified in the RTP.

## Regional Aviation System Planning

600-0160

Maintain an aviation planning program in coordination with federal, state, and local officials in support of local airport master planning activities to ensure that the connections to the surface street system are adequately addressed including the impact of possible freight movements.

### Follow-up on FY 2009 Outcome Measure

- **Measure:** The review of any airport master plans as requested.

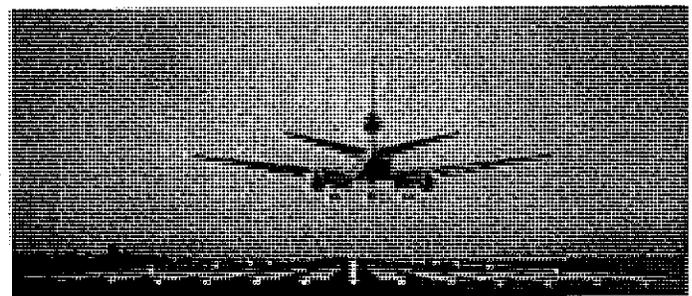
*Result: Reviewed airport master plans, F.A.R. part 150 noise compatibility studies, and participated on State and local agencies technical advisory committees.*

### FY 2010 Objectives

- ⌘ Participate in airport master planning process as requested by local agencies and review associated airport master plans and F.A.R. part 150 noise compatibility studies.
- ⌘ Coordinate with the existing airports in the MAG region, regarding aviation issues and data collection.

### FY 2010 Outcome Measures

- The review of any airport master plans and/or related aviation documents as requested and participation on planning committees in order to analyze any freeway infrastructure change.
- Establish contacts in the aviation community and develop an aviation database that will be updated annually to support the MAG air quality program and MAG member agencies.



**Transportation Consultants and Pass-Through (continued)**

| Task Number                          | FY 2010 Carry Forward Consultants By Activity                         | Federal            | State              | Local | Other           | Total              |
|--------------------------------------|---|--------------------|--------------------|-------|-----------------|--------------------|
| 600-0170-10                          | ITS & Traffic Management Guidelines for Growing Communities On-Call   |                    | \$30,000           |       |                 | \$30,000           |
| 600-0170-10                          | 2008 MAG ITS Strategic Plan On-Call                                   |                    | \$50,000           |       |                 | \$50,000           |
| 600-0170-10                          | 2009 Non-Recurring Transportation Congestion Study                    | \$340,000          |                    |       |                 | \$340,000          |
| 600-0180-10                          | Transportation Safety Management System On-Call                       |                    | \$275,000          |       |                 | \$275,000          |
| 600-0180-10                          | 2009 Non-Eng Strategies for Improving Road Safety On-Call             | \$30,000           |                    |       |                 | \$30,000           |
| 600-0180-10                          | 2009 Evaluation of Roundabout Signage On-Call                         | \$50,000           |                    |       |                 | \$50,000           |
| 600-0180-10                          | 2009 Safety Eval of the MAG Elderly Mobility Sign Project On-Call     |                    |                    |       | \$30,000        | \$30,000           |
| 600-0193-10                          | I10 Hassayampa Valley Roadway Framework Study - Town of Wickenburg    | \$70,000           |                    |       | \$5,000         | \$75,000           |
| 600-0195-10                          | 2008 Regional Transit Framework Study                                 | \$200,000          |                    |       |                 | \$200,000          |
| 600-0631-10                          | 2008 Regional Travel Demand Model Improvements - On Call              | \$473,000          |                    |       |                 | \$473,000          |
| 600-0631-10                          | 2009 Dev of MAG Reg Activity-Based Model - Phase II                   | \$500,000          |                    |       |                 | \$500,000          |
| 600-0631-10                          | 2009 Trans Software Development and Support On-Call                   |                    | \$250,000          |       |                 | \$250,000          |
| 600-0633-10                          | 2008 MAG Transportation Database GIS System Phase II                  |                    | \$190,000          |       |                 | \$190,000          |
| 600-0633-10                          | 2009 TTI Research of Archived Traffic Data                            | \$40,000           |                    |       |                 | \$40,000           |
| 600-0700-10                          | 2008 Performance Measurement Framework & Congestion Management Update |                    | \$150,000          |       |                 | \$150,000          |
| <b>Total Transportation Programs</b> |   | <b>\$2,424,816</b> | <b>\$2,065,000</b> |       | <b>\$35,000</b> | <b>\$4,524,816</b> |
| Task Number                          | FY 2010 Pass-Through Agreements By Activity                           | Federal            | State              | Local | Other           | Total              |
| 600-0150-10                          | * 2010 Valley Metro/RPTA Planning Support                             | \$224,720          |                    |       |                 | \$224,720          |
| 600-0920-10                          | * 2010 VMR Planning Support   | \$500,000          |                    |       |                 | \$500,000          |
| <b>Total Transportation Programs</b> |   | <b>\$724,720</b>   |                    |       |                 | <b>\$724,720</b>   |

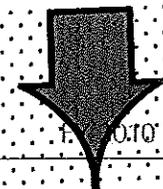
\* Reflects 2009 Funding Amount; 2010 Amount To Be Determined.

### FY 2010 CMAQ Allocations and Funding Sources

| Task #      | Task Description                         | CMAQ<br>2010       | CMAQ<br>2009        | CMAQ<br>2008       | CMAQ<br>2007     | CMAQ<br>2006     | Costs<br>Incurred<br>2010 |
|-------------|--|--------------------|---------------------|--------------------|------------------|------------------|---------------------------|
| 500-0110-10 | Trip Reduction Program                   | \$910,000          | \$253,088           |                    |                  |                  | \$1,163,088               |
| 500-0120-10 | Travel Reduction Program                 | \$135,000          | \$33,750            |                    |                  |                  | \$168,750                 |
| 500-0130-10 | Regional Rideshare Program               | \$660,000          | \$228,500           |                    |                  |                  | \$888,500                 |
| 500-0140-10 | Telework and Ozone Outreach Program      | \$300,000          | \$75,000            |                    |                  |                  | \$375,000                 |
| 500-0160-10 | PM-10 Certified Street Sweepers          | \$1,310,000        | \$1,210,000         | \$2,917,954        | \$927,770        |                  | \$6,365,724               |
| 500-0651-10 | Traffic Signal Optimization Program      | \$321,497          | \$70,000            |                    |                  |                  | \$391,497                 |
| 500-0658-10 | Coordination of Regional Smart Corridors |                    |                     |                    |                  | \$163,989        | \$163,989                 |
| <b>500</b>  | <b>PROGRAM TOTALS</b>                    | <b>\$3,636,497</b> | <b>\$1,870,3380</b> | <b>\$2,917,954</b> | <b>\$927,770</b> | <b>\$163,989</b> | <b>\$9,516,547</b>        |

### FY 2010 FTA Allocations and Funding Sources

| Task #                    | Task Description                               | FTA # 18<br>Sec. 5303<br>2010 | FTA # 17<br>Sec. 5303<br>2009 | FTA # 16<br>Sec. 5303<br>2008 | FTA # 14<br>Sec. 5303<br>2006 | FTA#13<br>Sec.<br>5303<br>2005 | FTA<br>Sec.<br>5317<br>2009 | FTA<br>Sec. 5339<br>2008 | Costs<br>Incurred<br>2010 |
|---------------------------|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|-----------------------------|--------------------------|---------------------------|
| 300-0110-10               | Human Services Planning                        | \$115,688                     | \$4,661                       |                               |                               |                                |                             |                          | \$120,349                 |
| 300-0111-10               | Human Services Transportation Planning         | \$30,000                      | \$113,177                     |                               |                               |                                | \$89,316                    |                          | \$232,493                 |
| <b>300 PROGRAM TOTALS</b> |  | <b>\$145,688</b>              | <b>\$117,838</b>              |                               |                               |                                | <b>\$89,316</b>             |                          | <b>\$352,842</b>          |
| 600-0110-10               | Regional System Planning                       | \$10,111                      | \$30,000                      |                               |                               |                                |                             |                          | \$40,111                  |
| 600-0130-10               | Regional Bicycle Planning                      | \$5,000                       | \$5,000                       | \$250,000                     |                               |                                |                             |                          | \$260,000                 |
| 600-0140-10               | Regional Pedestrian Planning                   | \$5,000                       | \$5,000                       | \$150,000                     |                               | \$3,500                        |                             |                          | \$163,500                 |
| 600-0150-10               | Regional Transit Planning                      | \$50,000                      | \$471,369                     |                               |                               |                                |                             |                          | \$521,369                 |
| 600-0195-10               | 08 Regional Transit Framework Study            | \$15,000                      | \$30,630                      |                               | \$200,000                     |                                |                             |                          | \$245,630                 |
| 600-0197-10               | Central Phoenix Transportation Framework Study | \$5,000                       | \$5,000                       |                               |                               |                                |                             |                          | \$10,000                  |
| 600-0631-10               | Travel Forecasting and Transportation Modeling | \$30,000                      | \$30,000                      |                               |                               |                                |                             | \$240,000                | \$300,000                 |
| 600-0661-10               | Transportation Improvement Program             | \$20,000                      | \$20,000                      |                               |                               |                                |                             |                          | \$40,000                  |
| 600-0920-10               | VMR Planning Support                           |                               | \$500,000                     |                               |                               |                                |                             |                          | \$500,000                 |
| <b>600 PROGRAM TOTALS</b> |  | <b>\$140,111</b>              | <b>\$1,096,999</b>            | <b>\$400,000</b>              | <b>\$200,000</b>              | <b>\$3,500</b>                 |                             | <b>\$240,000</b>         | <b>\$2,080,610</b>        |
| 800-0131-10               | Other Census Products                          |                               |                               | \$20,000                      |                               |                                |                             |                          | \$20,000                  |
| <b>800 PROGRAM TOTALS</b> |  |                               |                               | <b>\$20,000</b>               |                               |                                |                             |                          | <b>\$20,000</b>           |



**Funding for FY 2010 New Consultant and Pass-Through Projects**

**FY 2010 New Consultants**

| Task Number                          | Project Name   | New Project Total   | CMAG 2010           | STP 2010            | FTA # 17 2009 | Total Federal       | Sales Tax 2010      | Sales Tax 2009      | Total Sales         | Emergency 9-1-1 Assessment | 2010 Member Dues | Total Member | Decennial Census Local | Total Other/Service |
|--------------------------------------|--|---------------------|---------------------|---------------------|---------------|---------------------|---------------------|---------------------|---------------------|----------------------------|------------------|--------------|------------------------|---------------------|
| 1004-04-10-10                        | 2010 MAG/ATP Quality Associate                                       | \$ 130,000          | \$ -                | \$ 130,000          | \$ -          | \$ 130,000          | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 500-0585-10                          | 2010 Liter Education   | \$ 300,000          | \$ -                | \$ -                | \$ -          | \$ -                | \$ 300,000          | \$ -                | \$ 300,000          | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 500-0611-10                          | Traffic Signal Optimization Program (2010) On-Call                   | \$ 321,487          | \$ 321,487          | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 500-0110-10                          | 2010 Phase I Inter-Local Traffic Operations Model                    | \$ 500,000          | \$ -                | \$ -                | \$ -          | \$ -                | \$ 500,000          | \$ -                | \$ 500,000          | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 600-0110-10                          | 2010 Support of Transportation Planning Activities (2010)            | \$ 125,000          | \$ -                | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 600-0170-10                          | 2010 Regional ITS Architecture (RA) Phase II Web Application On-Call | \$ 80,000           | \$ -                | \$ 80,000           | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 600-0317-10                          | 2010 Capital Program Transportation Planning Support On-Call         | \$ 600,000          | \$ -                | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 600-0651-10                          | 2010 MAC Regional Activity-Based Needs Development                   | \$ 500,000          | \$ -                | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 600-0652-10                          | 2010 Transportation Scenario Development Support On-Call             | \$ 450,000          | \$ -                | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 600-0653-10                          | 2010 Intersection Data Collection and Analysis On-Call               | \$ 350,000          | \$ -                | \$ -                | \$ -          | \$ -                | \$ 350,000          | \$ -                | \$ 350,000          | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 600-0653-10                          | 2010 Monitoring and Reporting Using New Technologies                 | \$ 195,000          | \$ -                | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 600-0653-10                          | 2010 Urban Transportation Performance Measure Study                  | \$ 25,000           | \$ -                | \$ 25,000           | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 600-0900-10                          | 2010 MAC Associate for Disability Outreach                           | \$ 40,000           | \$ -                | \$ 40,000           | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 800-0110-10                          | Digital Aerial Photography   | \$ 40,000           | \$ -                | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 800-0130-10                          | MAG Associate for Census 2010  | \$ 38,000           | \$ -                | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| 1000-0925-10                         | 2010 MAG Video Outreach Associate                                    | \$ 24,000           | \$ -                | \$ 24,000           | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -         | \$ -                   | \$ -                |
| <b>Total FY 2010 New Consultants</b> |  | <b>\$ 3,958,497</b> | <b>\$ 2,214,371</b> | <b>\$ 1,744,126</b> | <b>\$ -</b>   | <b>\$ 2,214,371</b> | <b>\$ 3,000,000</b> | <b>\$ 9,000,000</b> | <b>\$ 2,700,000</b> | <b>\$ -</b>                | <b>\$ -</b>      | <b>\$ -</b>  | <b>\$ -</b>            | <b>\$ -</b>         |

**FY 2010 New Pass-Through Agreements**

| Task Number  | Project Name                                       | New Project Total   | CMAG 2010           | STP 2010            | FTA # 17 2009 | Total Federal       | Sales Tax 2010      | Sales Tax 2009      | Total Sales         | Emergency 9-1-1 Assessment | 2010 Member Dues | Total Member      | Decennial Census Local | Total Other/Service |
|--|--|---------------------|---------------------|---------------------|---------------|---------------------|---------------------|---------------------|---------------------|----------------------------|------------------|-------------------|------------------------|---------------------|
| 500-0110-10  | Top Reduction Program                              | \$ 910,000          | \$ 135,000          | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -              | \$ -                   | \$ -                |
| 500-0120-10  | Travel Reduction Program                           | \$ 135,000          | \$ 135,000          | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -              | \$ -                   | \$ -                |
| 500-0130-10  | Regional Rideshare Program                         | \$ 584,000          | \$ 584,000          | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -              | \$ -                   | \$ -                |
| 500-0140-10  | Telework and Ozone Outreach Program                | \$ 300,000          | \$ 300,000          | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -              | \$ -                   | \$ -                |
| 500-0160-10  | Purchase Plan 10 Certified Street Sweeps (FY 2010) | \$ 310,000          | \$ -                | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -              | \$ -                   | \$ -                |
| 500-0510-10  | 2010 Emergency 911 Planning                        | \$ 105,885          | \$ -                | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ 71,935                  | \$ 33,950        | \$ 105,885        | \$ -                   | \$ -                |
| 600-0130-10  | 2010 Valley Metro/MTA Planning Support             | \$ 224,720          | \$ -                | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -              | \$ -                   | \$ -                |
| 600-0920-10  | 2010 VWR Planning Support                          | \$ 500,000          | \$ -                | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -              | \$ -                   | \$ -                |
| 600-0930-10  | 2010 Communications Support and Outreach           | \$ 213,408          | \$ -                | \$ -                | \$ -          | \$ -                | \$ -                | \$ -                | \$ -                | \$ -                       | \$ -             | \$ -              | \$ -                   | \$ -                |
| <b>Total FY 2010 New Pass-Through Agreements</b>         |  | <b>\$ 4,224,128</b> | <b>\$ 3,249,000</b> | <b>\$ 975,126</b>   | <b>\$ -</b>   | <b>\$ 3,249,126</b> | <b>\$ -</b>         | <b>\$ -</b>         | <b>\$ -</b>         | <b>\$ 71,935</b>           | <b>\$ 33,950</b> | <b>\$ 105,885</b> | <b>\$ -</b>            | <b>\$ -</b>         |
| <b>Total New Consultants and Pass-Through Agreements</b> |  | <b>\$ 8,182,625</b> | <b>\$ 5,463,371</b> | <b>\$ 2,719,252</b> | <b>\$ -</b>   | <b>\$ 5,463,547</b> | <b>\$ 3,000,000</b> | <b>\$ 9,000,000</b> | <b>\$ 2,700,000</b> | <b>\$ 71,935</b>           | <b>\$ 33,950</b> | <b>\$ 105,885</b> | <b>\$ -</b>            | <b>\$ -</b>         |

\* Reflects 2009 Funding Amount; 2010 Amount To Be Determined\*

Appendix A-2

FY 2010 Scope of Services

## Appendix A-2

### FY 2010 Scope of Services

#### I. TASKS TO BE PERFORMED FOR THE PROJECT

Major tasks to be performed during the period include developing plans and strategies to support light rail transit service and coordinating these efforts with MAG, Valley Metro/RPTA, ADOT, and municipalities. This funding will support only METRO staff efforts in undertaking and managing these endeavors.

##### TASK I.0 LRT SYSTEM STUDY PLANNING

It is the intent of Valley Metro Rail (METRO) to work with other agencies and member cities in the LRT System Configuration Study, Phase II and Phase III, the LRT Renewal and Replacement Plan, LRT System Solar Plan, other Sub-Regional High Capacity Transit Studies, and other transit studies that may arise.

##### I.1 LRT System Configuration Study, Phase II and Phase III

METRO staff will coordinate the efforts of consultants on how the planned 57-mile LRT system will function and operate and will identify supporting facility needs. METRO will update other agencies and municipalities on the findings of the study.

##### I.2 LRT Renewal and Replacement Plan

METRO plans on updating a LRT Capital Improvement plan during FY 2010. This planning effort will update the long and short term renewal and replacement program for the system. METRO will coordinate with other agencies and municipalities on this planning effort.

##### I.3 LRT System Solar Plan

METRO staff, with consultant support, will investigate the feasibility and benefits of solar applications for the LRT system. Potential solar use could be at the Operations and Maintenance facility, park-and-rides, and stations.

##### I.4 Program Development Agreement

METRO will continue to work with the Federal Transit Administration to enter into a program development agreement on the implementation of future high capacity transit corridors.

##### I.5 Other Sub-Regional High Capacity Transit Studies

METRO staff will coordinate with other agencies on the analysis of high capacity transit corridors in the metropolitan area that may be undertaken upon request of member cities, e.g. Glendale – Downtown vs. Westgate.

Task 1 Cost: \$21,741.64

TASK 2.0 DESIGN STANDARDS

Update the design standards drawings so future corridor designs will utilize a consistent engineering design throughout the light rail transit system.

2.1 Update Design Standard Drawings

Oversee the update of the standard drawings. (Consultant costs will not be included in MAG funding.)

Task 2 Cost: \$1,207.03

TASK 3.0 LRT PROJECT DEVELOPMENT ACTIVITIES

It is the intent of Valley Metro Rail (METRO) to work with other agencies and member cities in furthering transit-oriented development activities, travel demand forecasting for transit, developing Geographic Information System planning, bus-rail interface, TLCP and TIP updates, Regional Transportation Planning Coordination, and initiation of an agency sustainability program including EMS and support activities.

3.1 Transit-oriented Development

METRO staff will assist member agencies with information and technical assistance in transit-oriented development. This may include educational, economic development market information, data support, project development research, etc.

3.2 Demand Forecasting

METRO staff will provide assistance to MAG with the results of survey data and consultant expertise on current transit ridership that may revise inputs to the travel demand model. These efforts include those transit analyses not related to a specific corridor study.

3.3 Geographic Information System Planning

METRO staff will work with MAG and RPTA to investigate the development of an integrated GIS application planning system. METRO will continue to implement its internal GIS system in preparation for the integrated system.

3.4 Bus-Rail Interface

METRO staff will work with RPTA and others to continue service coordination planning of the overall transit system.

3.5 Sustainability /EMS Strategic Planning

METRO will initiate the first steps to develop an agency sustainability program which will include an Environmental Management System for the agency.

3.6 Transit Life Cycle Program and TIP Updates

METRO will continue to update annually the rail portion of the Transit Life Cycle Program and forward it to RPTA for inclusion in the TLCP. METRO will continue to provide annually to MAG updates to the TIP.

- 3.7 Regional Transportation Planning Coordination  
METRO will continue to support MAG, RPTA, and others on transit system planning (RTFS and RTP updates), commuter rail, state rail planning, BRT corridor planning, and other studies as appropriate.
- 3.8 Support Activities  
Staff will continue to support METRO in providing peer city research, project planning during engineering, identification of additional funding sources, and input to the Federal Transit Administration on policy change and/or initiation.
- 3.9 High Capacity Transit Corridor Planning Oversight  
METRO management staff will oversee and coordinate the development of HCT planning for Central Mesa, Tempe South, I-10 West, and Glendale. (Corridor staff and consultants will not be included for MAG funding.)

Task 3 Cost: \$102,051.33

## II. SCHEDULE

The staff coordination of the projects will begin on July 1, 2009 and continue through September 30, 2009.

|          |   |                |
|----------|---|----------------|
| TASK 1.0 | <u>LRT SYSTEM STUDY PLANNING</u>                    |                |
| 1.1      | LRT System Configuration Study, Phase II & III      | Jul 09-Sept 09 |
| 1.2      | LRT Capital Renewal & Replacement Plan              | Jul 09-Sept 09 |
| 1.3      | LRT System Solar Plan                               | Jul 09-Sept 09 |
| 1.4      | Program Development Agreement                       | Jul 09-Sept 09 |
| 1.5      | Other Sub-regional High Capacity Transit Studies    | Jul 09-Sept 09 |
| TASK 2.0 | <u>DESIGN STANDARDS</u>                             |                |
| 2.1      | Update the design standard drawings                 | Jul 09-Sept 09 |
| TASK 3.0 | <u>LRT PROJECT DEVELOPMENT ACTIVITIES</u>           |                |
| 3.1      | Transit-oriented Development Staff Support          | Jul 09-Sept 09 |
| 3.2      | Travel Demand Forecasting Data Sharing              | Jul 09-Sept 09 |
| 3.3      | Geographic Information System Planning Coordination | Jul 09-Sept 09 |
| 3.4      | Bus-Rail Interface                                  | Jul 09-Sept 09 |
| 3.5      | Sustainability / EMS Strategic Planning             | Jul 09-Sept 09 |
| 3.6      | Transit Life Cycle Program and TIP Updates          | Jul 09-Sept 09 |
| 3.7      | Regional Transportation Planning Coordination       | Jul 09-Sept 09 |
| 3.8      | Support Activities                                  | Jul 09-Sept 09 |
| 3.9      | High Capacity Transit Corridor Planning Oversight   | Jul 09-Sept 09 |

GOVERNMENTAL AGREEMENT NUMBER 353  
 Valley Metro Light Rail  
 Amendment Budget as of 7/1/09  
 BUDGET PERIOD: July 1, 2009 through September 30, 2009

COSTS AND HOURS BY TASK

| STAFF LABOR                                      |                  | HOURS BY PERSONNEL AND TASK |                   |                     |                |       |                     |  |
|--|------------------|-----------------------------|-------------------|---------------------|----------------|-------|---------------------|--|
| Personnel  | Raw Direct       | 1                           | 2                 | 3                   | Total          | Total |                     |  |
|  | Labor            | (System                     | (Design           | (Project            | Hours          | Cost  |                     |  |
|  | Hourly Rate      | Study)                      | Standards)        | Development)        |                |       |                     |  |
| Chief Executive Officer (Rick Simonetta)         | \$121.90         | 0.00                        | 0.00              | 25.00               | 25.00          | \$    | 3,047.50            |  |
| Project Manager (Alvin Livingstone)              | \$52.20          | 35.00                       | 0.00              | 50.00               | 85.00          | \$    | 4,436.66            |  |
| Project Manager (Jim Mathien)                    | \$53.48          | 20.00                       | 0.00              | 225.00              | 245.00         | \$    | 13,101.84           |  |
| Planner II (Ben Limmer)                          | \$35.46          | 70.00                       | 0.00              | 134.00              | 204.00         | \$    | 7,234.61            |  |
| Planner II (Abishek Dayal)                       | \$28.37          | 70.00                       | 0.00              | 134.00              | 204.00         | \$    | 5,787.74            |  |
| Environmental Planner III (Robert Forrest)       | \$43.13          | 80.00                       | 0.00              | 134.00              | 214.00         | \$    | 9,228.75            |  |
| Executive Assistant (April Gibson)               | \$27.08          | 0.00                        | 0.00              | 134.00              | 134.00         | \$    | 3,628.30            |  |
| Director, Finance & Admin ( John McCormack)      | \$66.12          | 0.00                        | 0.00              | 59.00               | 59.00          | \$    | 3,901.18            |  |
| Finance & Budget Manager (Bill Buntin)           | \$52.20          | 0.00                        | 0.00              | 45.00               | 45.00          | \$    | 2,348.83            |  |
| Community Relations Director (John Farry)        | \$69.17          | 0.00                        | 0.00              | 55.00               | 55.00          | \$    | 3,804.35            |  |
| Rail Engineer (De'Nerika Ward)                   | \$32.19          | 50.00                       | 25.00             | 89.00               | 164.00         | \$    | 5,278.75            |  |
| Administrative Assistant (Cooks, LaVita)         | \$21.00          | 50.00                       | 0.00              | 73.00               | 123.00         | \$    | 2,583.00            |  |
| Accounts Payable Technician (Carol Archer)       | \$19.76          | 20.00                       | 0.00              | 31.00               | 51.00          | \$    | 1,007.77            |  |
| Accountant I (Cheryl Bennett)                    | \$25.00          | 25.00                       | 0.00              | 25.00               | 50.00          | \$    | 1,250.00            |  |
| Accountant II (Jane Boyd)                        | \$44.46          | 0.00                        | 0.00              | 35.00               | 35.00          | \$    | 1,558.24            |  |
| Director, Project Development (Wulf Grote)       | \$74.52          | 0.00                        | 0.00              | 151.00              | 151.00         | \$    | 11,252.39           |  |
| General Counsel (Mike Ladino)                    | \$84.55          | 0.00                        | 0.00              | 46.00               | 46.00          | \$    | 3,889.43            |  |
| <b>Total Hours</b>                               |                  | <b>420.00</b>               | <b>25.00</b>      | <b>1445.00</b>      | <b>1890.00</b> |       |                     |  |
| <b>Total Task Cost 1st Quarter, FY 09-10</b>     |                  | <b>\$14,494.42</b>          | <b>\$804.69</b>   | <b>\$68,038.23</b>  |                |       | <b>\$83,337.34</b>  |  |
| <b>Estimated Fringe Benefits FY 09-10--37.0%</b> | <b>Actual</b>    | <b>\$5,362.94</b>           | <b>\$297.73</b>   | <b>\$25,174.15</b>  |                |       | <b>\$30,834.82</b>  |  |
| <b>Total Labor with Fringe</b>                   |                  | <b>\$19,857.36</b>          | <b>\$1,102.42</b> | <b>\$93,212.38</b>  |                |       | <b>\$114,172.18</b> |  |
|  |                  |                             |                   |                     |                |       |                     |  |
| SUBCONTRACTORS                                   |                  | COST BY TASK                |                   |                     |                |       |                     |  |
| Company or Person                                | Est. Hourly Rate | 1                           | 2                 | 3                   | Total          | Total |                     |  |
|  |                  |                             |                   |                     | Cost           | Cost  |                     |  |
|  |                  | 0.00                        | 0.00              | 0.00                | N/A            | \$    | -                   |  |
| Subcontractor 9                                  | \$0.00           | 0.00                        | 0.00              | 0.00                | 0.00           | \$    | -                   |  |
| Subcontractor 10                                 | \$0.00           | 0.00                        | 0.00              | 0.00                | 0.00           | \$    | -                   |  |
| Subcontractor 11                                 | \$0.00           | 0.00                        | 0.00              | 0.00                | 0.00           | \$    | -                   |  |
| Subcontractor 12                                 | \$0.00           | 0.00                        | 0.00              | 0.00                | 0.00           | \$    | -                   |  |
| Subcontractor 13                                 | \$0.00           | 0.00                        | 0.00              | 0.00                | 0.00           | \$    | -                   |  |
| Subcontractor 14                                 | \$0.00           | 0.00                        | 0.00              | 0.00                | 0.00           | \$    | -                   |  |
| Subcontractor 15                                 | \$0.00           | 0.00                        | 0.00              | 0.00                | 0.00           | \$    | -                   |  |
| Subcontractor 16                                 | \$0.00           | 0.00                        | 0.00              | 0.00                | 0.00           | \$    | -                   |  |
| Subcontractor 17                                 | \$0.00           | 0.00                        | 0.00              | 0.00                | 0.00           | \$    | -                   |  |
| Subcontractor 18                                 | \$0.00           | 0.00                        | 0.00              | 0.00                | 0.00           | \$    | -                   |  |
| Subcontractor 19                                 | \$0.00           | 0.00                        | 0.00              | 0.00                | 0.00           | \$    | -                   |  |
| Subcontractor 20                                 | \$0.00           | 0.00                        | 0.00              | 0.00                | 0.00           | \$    | -                   |  |
| <b>Total Task Cost</b>                           |                  | <b>0.00</b>                 | <b>0.00</b>       | <b>0.00</b>         | <b>0.00</b>    |       |                     |  |
| <b>Total Subcontractors Cost</b>                 |                  | <b>\$0.00</b>               | <b>\$0.00</b>     | <b>\$0.00</b>       |                |       | <b>\$0.00</b>       |  |
|  |                  |                             |                   |                     |                |       |                     |  |
| GRAND TOTAL SUMMARY                              |                  | TOTAL COSTS BY TASK         |                   |                     |                |       |                     |  |
| Description                                      |                  | 1                           | 2                 | 3                   | Total          |       |                     |  |
|  |                  |                             |                   |                     | Cost           | Cost  |                     |  |
| Total Consultant Labor                           |                  | \$19,857.36                 | \$1,102.42        | \$93,212.38         |                |       | \$114,172.16        |  |
| Estimated Overhead FY 09-10--13.0%               | Actual           | \$1,884.28                  | \$104.61          | \$8,838.95          |                |       | \$10,827.84         |  |
| <b>Subtotal</b>                                  |                  | <b>\$21,741.64</b>          | <b>\$1,207.03</b> | <b>\$102,051.33</b> |                |       | <b>\$125,000.00</b> |  |
| Subcontractors                                   |                  | \$0.00                      | \$0.00            | \$0.00              |                |       | \$0.00              |  |
| <b>GRAND TOTAL</b>                               |                  | <b>\$21,741.64</b>          | <b>\$1,207.03</b> | <b>\$102,051.33</b> |                |       | <b>\$125,000.00</b> |  |

Line Item Amounts can be adjusted by 10 percent among tasks without prior written approval from MAG Executive Director.

# **Appendix K**

# Resolution on Metropolitan Transportation Planning and Programming

*In accordance with 23 CFR, Part 450.310(B), the following describes the cooperative procedures for transportation planning.*

Transportation planning in the Maricopa Association of Governments (MAG) region is conducted through a participatory process that is formalized in the MAG committee process. The MAG Transportation Review Committee serves as the primary committee for assembling and recommending the MAG Transportation Improvement Program (TIP). The City of Phoenix, as the central city and Designated Recipient for transit, along with the incorporated cities/towns, Maricopa County, Native American Indian Communities, and the Arizona Department of Transportation, serve on the MAG Transportation Review Committee, MAG Management Committee, Transportation Policy Committee, and the MAG Regional Council. In addition to these MAG committees, the City of Phoenix is an integral member of Valley Metro and METRO.

In November 2004, the Regional Transportation Plan (RTP) was presented to the voters of Maricopa County who approved the extension of the one-half cent sales tax for transportation. This voter approval triggered several statutory provisions, including the development of three 20-year life cycle programs (freeways, transit, and arterial streets). The voter approval of Proposition 400 also triggered statutory provisions for a process on how major plan amendments are made through the MAG planning process. To ensure an inclusive process in transportation decision-making, the federal consultation process was embedded in state statute (ARS 28-6353, subsection B). This consultation process includes all of the MAG member agencies. Cooperation in developing the MAG Transportation Improvement Program, Regional Transportation Plan, and the MAG Unified Planning Work Program and Annual Budget is achieved through several mechanisms. These are described below.

## **Public Participation**

The federal regulations for metropolitan planning under SAFETEA-LU are incorporated within MAG's adopted public involvement structure. Federal law requires that the Metropolitan Planning Organization work cooperatively with the state department of transportation and the regional transit operator to provide citizens, affected public agencies, representatives of transportation agencies, freight shippers, private providers of transportation, representatives of users of public transit, and other interested parties a reasonable opportunity to comment on proposed transportation plans and programs. All MAG public involvement efforts are consistent with Title VI of the Civil Rights Act and the Executive Order on Environmental Justice.

MAG's adopted public involvement process is divided into four phases: Early Phase, Mid-Phase, Final Phase, and Continuous Involvement. During each of these phases, MAG works closely with the Arizona Department of Transportation (ADOT), the Regional Public Transportation Authority (Valley Metro), Valley Metro Rail, Inc. (METRO), and the City of Phoenix Public Transit Department, which serves as the Designated Recipient for transit for the region. These groups co-host many public involvement events, including public hearings and meetings and information booths at a variety of special events throughout the region. The Public Hearing for the TIP and the RTP includes representatives from these agencies. Responses to public comment in the Mid-Phase and Final Phase Public Input Opportunity Reports are coordinated with these agencies.

## **Transportation Improvement Program**

The MAG Transportation Improvement Program (TIP) is developed through a process that is characterized by a highly cooperative project selection process. All projects included in the TIP are from the Regional Transportation Plan (RTP), and specific modal allocations are predominately formula driven. For example, the Transit Life Cycle Program receives 31.7 percent of all Regional Transportation Plan funding. All projects recommended by Valley Metro and METRO are included in the MAG TIP prior to undergoing air quality conformity analysis.

The general outline for TIP development includes the publication of a TIP Guidance Report to assist member agencies in project submission. A stakeholders meeting is held prior to projects being submitted, and additions to the MAG federally funded program are approved by MAG, working cooperatively with the Arizona

Department of Transportation and transit operators. Additions to the State Highway Program are approved by the state working cooperatively with MAG and the transit operators. Transit additions are approved by the transit operators working cooperatively with the state and MAG. As the Designated Recipient for transit, the City of Phoenix Public Transit Department implements the Annual Grant from the Federal Transit Administration (FTA). As a part of this process, the City of Phoenix balances the FTA portion of the transportation annual appropriations bill and provides, to MAG, revisions to the TIP to reconcile the grant and the first year of the TIP. Following this reconciliation, MAG, working cooperatively with the City of Phoenix, determines if the TIP is in agreement with the grant. If agreement is reached, MAG concurs with the reconciliation and informs the FTA.

### **Air Quality Consultation**

In nonattainment areas for air quality standards, the Metropolitan Planning Organization (MPO) is responsible for determining the conformity of the TIP and RTP with the State Implementation Plan (SIP) to achieve air quality standards. The goal is to ensure that transportation plans, programs, and projects do not cause or contribute to violations of the air quality standards.

Conformity consultation in the MAG region is done in accordance with 40 CFR 93.105 (c) and Arizona Administrative Code R18-2-1405 C. Under these requirements, MAG consults with local governments and appropriate federal agencies on the TIP, the RTP, conformity analysis, and the MAG Unified Planning Work Program and Annual Budget. For local government consultation, the MAG Management Committee is the primary contact. This includes the City of Phoenix as the Designated Recipient and includes other cities that provide transit service.

### **Regional Transportation Plan**

A new RTP was adopted by the MAG Regional Council on November 25, 2003. This action was the culmination of a three-year, comprehensive planning effort to develop a new RTP for the MAG area. The RTP is a comprehensive, performance based, multimodal, and coordinated regional plan, covering the period through Fiscal Year (FY) 2026. The RTP replaces the MAG Long Range Transportation Plan and provides a blueprint for future transportation investments in the region for the next several decades.

Federal transportation statutes and regulations address regional transportation planning, and establish a framework for approaching the planning process and determining the contents of the RTP. The RTP, as well as the planning process through which it was developed, has been structured to meet these requirements. The process and the Plan were cooperatively developed with MAG member agencies, ADOT, Valley Metro, METRO, and transit operators, with input from the public and other transportation stakeholders.

The RTP identifies all regionally significant projects from both federal and non-federal sources. Also, local sales tax funding has been applied to regionally significant transit projects identified in the RTP.

Major amendments of the RTP follow the federal process and a consultation process embedded in state law (ARS 28-6353, subsection B). The MAG Transportation Policy Committee (TPC) serves as the primary MAG committee that recommends major amendments to the RTP. The Regional Council, as the MPO policy board, considers major amendments for possible approval. On the TPC, the City of Phoenix has a designated seat as the central city. The next seven largest cities in population also have designated seats. Maricopa County, a Native American Indian Community representative, and a member of the State Transportation Board representing Maricopa County also have designated seats. Five other cities/towns are also included for geographic balance. Six regional business members, appointed by the Speaker of the Arizona House of Representatives and President of the Arizona Senate also have seats on the TPC.

### **Human Services Coordination Transportation Plan**

The FY 2007 MAG Unified Planning Work Program and Annual Budget included the development of a Human Services Coordination Transportation Plan as required by SAFETEA-LU regulations. This plan is being drafted cooperatively by MAG with the City of Phoenix Public Transit Department and other

stakeholders. This activity will result in the identification of coordination strategies to make human services transportation more efficient and seamless, particularly as it pertains to Job Access Reverse Commute (JARC), New Freedom, and Elderly and Persons with Disabilities 5310 projects. The City of Phoenix Public Transit Department will develop and facilitate the application process for JARC and New Freedom. This process will require that applicants demonstrate they are utilizing the coordination strategies identified in the Human Services Coordination Transportation Plan. The plan will be updated by MAG in partnership with the City of Phoenix as needed.

### **MAG Unified Planning Work Program and Annual Budget**

The MAG Unified Planning Work Program (UPWP) and Annual Budget is developed in a collaborative process with federal, state and local agencies and input is sought from the public on the key issues facing the region. Planning for the UPWP is a continuous process. In developing the UPWP, MAG meets with Valley Metro, METRO, the City of Phoenix and ADOT to ensure coordination of projects. Portions of the UPWP are brought incrementally to the MAG Regional Council Executive Committee, serving as the MAG finance committee, and to the MAG Management Committee and MAG Regional Council. Budget presentations are made from January through May each year. The City of Phoenix as the central city and Designated Recipient for transit, along with the incorporated cities/towns, Maricopa County, Native American Indian Communities and the Arizona Department of Transportation serve on the Management Committee and Regional Council, and historically has been a member of the MAG Executive Committee.

In the spring, the draft budget is provided to the local, state and federal agencies for review in anticipation of the Intermodal Planning Group (IPG) meeting where questions and comments are heard and, if necessary, adjustments are made regarding the state and federal agency comments. At the IPG meeting, MAG, Valley Metro, METRO, the City of Phoenix Public Transit Department and ADOT participate in the presentations and the meeting. The final budget is presented to the MAG Regional Council in May and, upon approval, is sent in June to the Arizona Department of Transportation and the Federal Highway Administration.

### **Ongoing Coordination**

Throughout the year, partnering sessions are held with MAG, Valley Metro, METRO, and ADOT to ensure Proposition 400 and the ensuing RTP and TIP are implemented successfully. In addition to partnering meetings, the directors of MAG and the transit agencies meet on a monthly basis to ensure close coordination.



Dennis Smith  
Maricopa Association of Governments  
Executive Director



David A. Boggs  
RPTA  
Executive Director



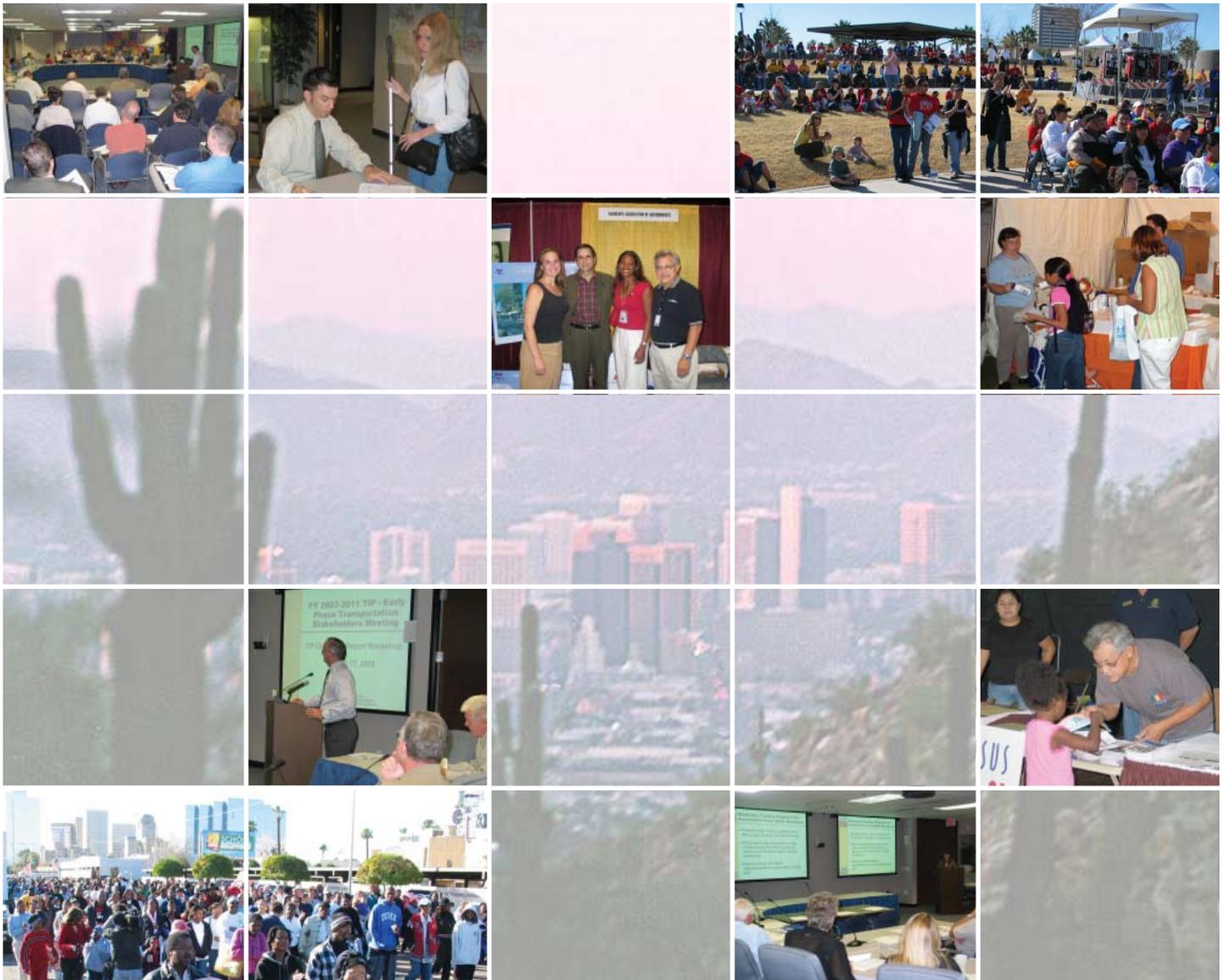
Richard Simonetta  
Valley Metro Rail  
Executive Director



Debbie Cotton  
City of Phoenix  
Public Transit Director

# **Appendix L**

# Public Participation Plan





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# MAG PUBLIC PARTICIPATION PLAN

## INTRODUCTION

The Maricopa Association of Governments (MAG) believes that public participation is a critical and necessary part of the transportation planning process. The involvement of the public helps MAG make better transportation decisions that meet the needs of all people, and to plan transportation facilities that fit more harmoniously into communities. In 1994, MAG adopted a public involvement plan designed to provide complete information on transportation plans, timely public notice, full public access to key decisions, and opportunities for early and continuing involvement in the process for all segments of the region's population, including Title VI and Environmental Justice communities.

This Public Participation Plan updates MAG's public involvement process in response to requirements included in the federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU) legislation, enacted August 10, 2005. The Public Participation Plan requirements are outlined in section 450.316 Interested parties, participation, and consultation. As required under SAFETEA-LU, the purpose of this Public Participation Plan is to define a process for providing citizens, affected public agencies, representatives of public transportation employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, agencies or entities responsible for safety/security operations, providers of nonemergency transportation services receiving financial assistance from a source other than Title 49, United States Code (U.S.C), Chapter 53, and other interested parties with reasonable opportunities to be involved in the transportation metropolitan planning process.

## BACKGROUND

Federal law requires that each state designate a Metropolitan Planning Organization (MPO) for urbanized areas with 50,000 or more population. MAG was designated as the MPO for the Maricopa region in 1973, and undergoes federal certification as outlined in transportation regulations.

MAG is responsible for preparing both short-range and long-range transportation plans, and for seeking citizen input into these plans. For its short-range plan, MAG develops a five-year Transportation Improvement Program (TIP) that includes all transportation projects for the region. All transportation projects must be included, regardless of how they are funded. For its long-range plan, MAG is responsible for preparing a 20-year Regional Transportation Plan. Both plans are typically updated every year, and both must undergo an air quality conformity analysis to ensure that transportation activities do not contribute to violations of the federal air quality standards.





In 1994, the MAG Regional Council, which serves as the organization's governing body, adopted an aggressive public involvement program designed to provide Valley residents with as many opportunities for comment on MAG transportation plans as possible. This program was enhanced in 1998 and has been improved each year through a variety of methods, including consulting with Valley residents on the effectiveness of the process.

MAG's public involvement process currently adheres to all federal requirements related to public involvement. Through the years, MAG has coordinated public involvement processes and activities with the Arizona Department of Transportation (ADOT), the Regional Public Transportation Authority (RPTA/Valley Metro), Valley Metro Rail (METRO) and most recently with the City of Phoenix Public Transit Department. This coordination has helped create an efficient and effective public participation process.

With the passage of SAFETEA-LU, MAG's goal is to continue to improve its public involvement program by incorporating new federal requirements, further ensuring an open and inclusive process for all interested parties.

### MAJOR MILESTONES

Following are a few of the major milestones in the MAG public involvement process.

- The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 requires that metropolitan planning organizations adopt a formal public involvement process that is proactive, encourages broad public participation, and considers and responds to public input.
- In June 1992, the Regional Council approves a 15 minute Call to the Audience for its meetings, with audience members requested to keep their comments under three minutes each.
- The MAG Process for Public Involvement in Transportation Planning is adopted by the Regional Council in September 1994, following a 45-day comment period. The adopted process provides the guiding principles for public involvement to meet the requirements established in ISTEA and subsequently reaffirmed in the Transportation Equity Act for the 21st Century (TEA-21). The process includes four phases: Early Phase, Mid-Phase, Final Phase and Continuous Involvement. The phases allow for early and continuing input and encourage public comment during each step of the planning process. The process calls for Input Opportunity Reports to be completed during each phase detailing the comments received. The reports include staff responses to comments on the Draft Transportation Improvement Program (TIP) and Long-Range Transportation Plan. The 15 minute Call to the Audience is retained for public comment at the beginning of MAG policy committee meetings.
- In February 1996, the Regional Council approves recommendations which re-engineer the MAG policy process. Public comment opportunities are increased for the Regional Council meetings. In addition to the Call to the Audience at the

beginning of the meeting, members of the audience are provided the opportunity to comment on the Approval of the Consent Agenda and to speak on each Action Item, with audience members requested to keep their comments under three minutes for each public comment opportunity.

- In July 1998, the Regional Council recommends that the process for programming federal transportation funds be enhanced. These enhancements include a more proactive community outreach process and the development of early guidelines to help select transportation projects within resource limits. This proactive community outreach process leads to an enhanced public involvement process beginning with the fiscal year 1999 Public Involvement Program. The enhanced public involvement process involves transportation stakeholders as outlined in the 1998 TEA-21 legislation and includes input from Title VI stakeholders (minority populations and low-income populations). The input received during the enhanced input opportunity is incorporated in the development of early guidelines to guide project selection for the Transportation Improvement Program (TIP) and Long-Range Transportation Plan.
- In 2001, MAG hires four Community Outreach Associates to provide targeted outreach to the Hispanic, Native American, African American, and Disability communities as part of its dedicated Title VI outreach. In 2002, these part-time positions evolve into a full-time Community Outreach Specialist position within MAG to allocate more MAG resources to this effort and to allow for the translation of all major MAG materials into Spanish. The Disability Community Associate continues as a part-time position.
- Beginning in 2001 through 2004, MAG embarks on an intensive and unprecedented public involvement effort surrounding the Long-Range Transportation Plan, which is renamed the Regional Transportation Plan (RTP or Plan). Extensive research is conducted, and more than 350 public input opportunities are provided. Expert panel forums are held early in the process featuring topics in demographics and social change, environmental and resource issues, land use and urban development, and transportation and technology. Sixteen subregional focus groups are also held to receive input from transportation stakeholders across the Valley, including focus groups specific to African American and Hispanic communities. A project Web site, [www.LetsKeepMoving.com](http://www.LetsKeepMoving.com), is created to provide information and receive feedback on the Plan. The site, which remains active and is continually updated, includes online surveys, maps, meeting notices, copies of studies and presentations, plan drafts and maps, funding information, feedback links, and calendar listings of public input opportunities.
- In 2005, Congress passes SAFETEA-LU, which requires a documented public participation plan that defines the process for citizen input.



## MAG PUBLIC PARTICIPATION PROCESS

The federal regulations for metropolitan planning under SAFETEA-LU are easily incorporated within MAG’s adopted public involvement structure, and specific strategies for addressing the new regulations are included in the final section of this report. As noted above, MAG’s adopted public involvement process is divided into four phases: Early Phase, Mid-Phase, Final Phase and Continuous Involvement. MAG staff receives comments in a variety of ways, including but not limited to, small group presentations, special events such as large community festivals, public meetings/hearings, telephone and electronic correspondence, and correspondence through the MAG Web site.

The following table details the phases of the public involvement process and the opportunities for input which exist in each phase:

| Phase                  | Public Input Opportunities   |
|------------------------|--|
| Early Phase            | A public process for early input into the transportation programming process is held. At this stage, which generally occurs from late summer through early fall, public input is reviewed and considered by MAG policy committees with specific reference to upcoming issues and work topics. Events during this phase include an Early Phase Stakeholders meeting and comment at MAG meetings. Additional efforts may include open houses, booths at special events, and small group presentations. Comments received are summarized and provided to MAG policy committees for review and consideration in the form of an Early Phase Input Opportunity Report. All meetings are widely advertised with appropriate advanced notice. Because projects are not yet programmed, in many ways, the Early Phase represents the best opportunity for members of the public to suggest projects for inclusion in the TIP or Plan. |
| Mid-Phase              | A variety of public outreach methods are used during this phase, which generally occurs from late winter to early spring, to gather input on the initial plan analysis for the Draft TIP and Draft RTP update. The phase culminates with a joint transportation public hearing co-hosted by MAG, the Arizona Department of Transportation (ADOT) and the Regional Public Transportation Authority (RPTA). Comments are summarized, receive a written response and are provided to MAG policy committees for review and consideration – in the form of the Mid-Phase Input Opportunity Report—prior to taking action. All meetings are widely advertised, including major daily and minority newspapers, with appropriate advanced notice.  |
| Final Phase            | Several forums are used to obtain input during this phase, which generally occurs from early summer to late summer. The phase culminates with a transportation public hearing on the final Draft RTP update and TIP update. The hearing is advertised with a formal public notice and draft reports are also available for 30 days for public review. All comments receive a written response and are provided to MAG policy committees for review and consideration—in the form of a Final Phase Input Opportunity Report—prior to the committee taking action. All meetings are widely advertised, including major daily and minority newspapers, with appropriate advanced notice.  |
| Continuous Involvement | MAG continuously seeks public input and comment beyond the three structured phases above. Outreach is conducted throughout the annual update process and includes activities such as providing presentations to community and civic groups, participating in special events, hosting booths at shopping malls, distributing press releases and newsletters, and coordinating with partnering agencies. MAG provides speakers upon request to make presentations to community and civic groups, within the limits of available resources.   |



## FEDERAL LAW

The role of public involvement in transportation planning and programming was increased with the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. The Transportation Equity Act for the 21st Century (TEA-21), passed in 1998, continued to emphasize public involvement in the metropolitan transportation planning process. TEA-21 required that the metropolitan planning organization (MPO) work cooperatively with the state department of transportation and the regional transit operator to provide citizens, affected public agencies, representatives of transportation agency employees, freight shippers, private providers of transportation and representatives of users of public transit a reasonable opportunity to comment on proposed transportation plans and programs.

The intent of the public involvement provisions in SAFETEA-LU, passed in August 2005, is to continue the legacy of TEA-21 when it comes to increasing public awareness and participation in transportation planning and programming, while developing a documented public participation plan that defines the process for citizen input. On June 9, 2006, the U.S. Department of Transportation proposed rules that incorporate the provisions of SAFETEA-LU.

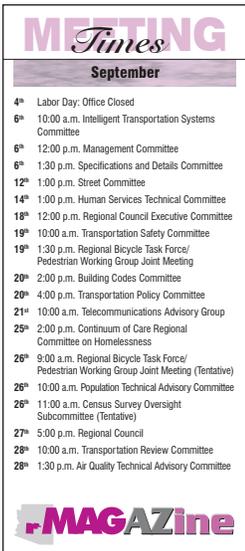
The proposed rules under Section 450.316 require that metropolitan planning organizations develop a public participation plan in consultation with all interested parties and “shall, at a minimum, describe explicit procedures, strategies and desired outcomes for” ten specific provisions. These ten provisions are outlined below, along with MAG’s strategies for meeting these requirements.

## FEDERAL REQUIREMENTS AND MAG PUBLIC PARTICIPATION STRATEGIES

1. **Providing adequate public notice of public participation activities and time for public review and comment at key decision points, including but not limited to reasonable opportunity to comment on the proposed metropolitan transportation plan and the TIP.**



MAG provides timely public notice of public participation activities. All public hearings are announced with a formal public notice, usually 30 days in advance of the hearing, as well as through a display advertisement in the largest circulation newspaper and in minority oriented newspapers two weeks prior to the public hearing. MAG maintains a public involvement mailing list that includes interested citizens, affected public agencies, representatives of transportation agency employees, private providers of transportation, advocates for low-income interests and minority interests, and representatives of community groups with an interest in transportation. This mailing list is used to announce meetings, distribute newsletters, and for other opportunities for public involvement. Interested individuals are added to the mailing list upon request.



In addition, all MAG public meetings and public input opportunities are posted on the MAG Web site at [www.mag.maricopa.gov](http://www.mag.maricopa.gov). A calendar listing major MAG meetings is included on the final page of every issue of MAGAZine, MAG’s quarterly newsletter. MAG public meetings are also posted 24 hours in advance as required under the Open Meeting Law (*see Appendix A*).

MAG also works closely with the news media to help distribute information about MAG activities. Press releases are prepared and distributed to local media in conjunction with periodic news events and public involvement opportunities. Copies of MAG agendas and other materials are sent to major news publications and to any reporters who request to be included on MAG’s mailing lists.

Public comment is allowed at all MAG public meetings (*see MAG Public Comment Process, Appendix B*). MAG’s four-phase public input process specifically provides opportunities for interested parties to comment at key decision points (and throughout) the development of the TIP and Regional Transportation Plan. For example, the Early Phase Stakeholders Meeting provides an opportunity for the public to comment during the initial programming process. The Mid-Phase Public Hearing provides the opportunity for comment prior to Regional Council action to approve the Draft TIP and Plan to undergo an air quality conformity analysis, and the Final Phase public hearing provides an opportunity for comment prior to approval of the conformity analysis, final TIP, and final Plan.

MAG also provides ongoing opportunities for input during its Continuous Involvement activities, such as frequent participation in special events, including hosting booths at large community festivals, and through numerous small group presentations as requested (*see #5 for additional information*).

Where appropriate, information is provided in a bilingual format or other alternative formats such as large print and Braille.

**2. Providing timely notice and reasonable access to information about transportation issues and processes.**

As outlined above, timely notice of MAG activities is provided through a variety of methods, including formal postings, newspaper ads, direct mail, Web site postings, calendar listings, press releases, and other publications and materials. Similarly, MAG provides information about transportation issues and processes through a number of public involvement and communication strategies.

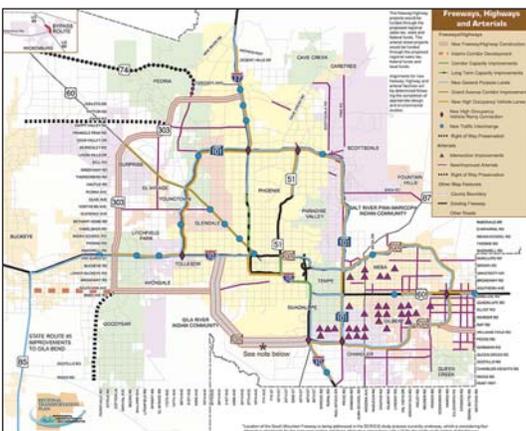
Prior to the final completion of plans or programs, draft documents are made available to the public for review and comment, so that public concerns can be considered and reflected in the final documents. When draft studies, plans, programs and reports are completed they are available for public review and public comments are presented to the Management Committee, Transportation Policy Committee and Regional Council

for review prior to action. Documents are available for review in the MAG library at the MAG Offices, 302 N. 1st Avenue, Suite #300, Phoenix. The TIP, Plan, Conformity Analysis and Input Opportunity Reports are distributed to libraries throughout the region as well as to partnering agencies such as the Federal Highway Administration, Federal Transit Administration, Arizona Department of Environmental Quality, Environmental Protection Agency, Arizona Department of Transportation, Regional Public Transportation Authority, Maricopa County, Pinal County, and the Central Arizona Association of Governments.

MAG also provides information about transportation issues and processes through a variety of publications, including a quarterly newsletter called MAGAZine, a monthly Regional Council Activity Report, a monthly e-newsletter outlining the activities of the Transportation Policy Committee, and project-specific publications such as fliers, brochures, and notices. These publications report information of general interest on events and programs at MAG, as well as on specific items such as the TIP or Regional Transportation Plan.

As noted above, all major documents, including news releases, notices of meetings and events, news stories, agendas, minutes, plans and studies are posted online at [www.mag.maricopa.gov](http://www.mag.maricopa.gov). An interactive calendar listing MAG meetings and events is available on the home page. Historical reference files of all documents are maintained and these reports are also available for public review.

MAG also responds to public inquiries through e-mail, written correspondence, telephone calls, one-on-one meetings, and Web site feedback. Every attempt is made to respond in a timely manner. A public records request form is available for those requesting MAG documents or public records.



### 3. Employing visualization techniques to describe metropolitan transportation plans and TIPs.

With the help of its graphics, Web, and Information Services staff, MAG utilizes many innovative techniques to help residents better understand what transportation investments are included in its transportation plans and TIPs, and to help them visually conceive what the plans will look like when completed. Examples include project-specific maps and graphs, digital photography, high resolution graphic displays, Geographical Information Systems, map overlays, PowerPoint presentations, aerial photography, photo simulations, technical drawings, charts and graphs. Alternative scenarios, including visual depictions of scenarios, are presented to demonstrate differences among solutions or approaches.

4. Making public information (technical information and meeting notices) available in electronically accessible formats and means, such as the World Wide Web.



MAG maintains a Web site [www.mag.maricopa.gov](http://www.mag.maricopa.gov) that provides easy access to information about MAG meetings, agendas, news releases, and electronic publications through timely posting of these materials. The site includes a calendar of events, monthly meeting schedules, committee activities and actions, requests for proposal and employment notices, and electronic versions of nearly 3,000 MAG documents, including plans, reports, agendas, and minutes. The site includes a search function that allows users to link to specific documents or other information using key words. The site includes a Spanish language Web page and has feedback links as well as staff contact information. In addition to the MAG Web site, MAG maintains [www.LetsKeepMoving.com](http://www.LetsKeepMoving.com), which is a

project-specific site designed to provide detailed information about the Regional Transportation Plan.

Along with the extensive availability of documents, technical information, meeting notices and other information on the Web site as described above, MAG often e-mails electronic documents to individuals or agencies upon request.

5. Holding any public meetings at convenient and accessible locations and times.

Understanding that different individuals have different perceptions of “convenient,” MAG strives to hold its public involvement activities at various times to accommodate as many citizens as possible, including during business hours, after work hours, evenings, and weekends. All public events are scheduled in venues that are transit accessible and comply with the provisions of the Americans With Disabilities Act. In addition, Spanish language materials, sign language interpretation, and alternative materials such as large print and Braille, and FM/Infrared Listening Devices, are available on request.

MAG understands that often it is difficult for members of the public to attend formal public meetings. Therefore, MAG makes every attempt to be highly visible and accessible to the broader community by providing information and receiving feedback at well-attended special events. These opportunities include such events as freeway openings, community festivals, trade fairs, minority-oriented events, and booths at heavily populated venues such as shopping malls and the state fair. When possible, MAG coordinates outreach activities with the Arizona Department of Transportation, the Regional Public Transportation Authority (Valley Metro), and Valley Metro Rail, Inc. (METRO), to allow members of the public access to a wide range of information across all transportation modes. In addition to special events, MAG often makes presentations to smaller groups, such as Kiwanis and Rotary clubs, college classes, chambers of commerce, professional associations, businesses, and nonprofit groups.



## **6. Demonstrating explicit consideration and response to public input received during the development of the metropolitan transportation plan and the TIP.**

MAG demonstrates explicit consideration and response to public input received in a variety of ways. Of primary significance is the publication of Input Opportunity Reports during each of the three key public involvement phases (Early Phase, Mid-Phase, and Final Phase). Each report includes a summary of the activities conducted during the phase and a detailed summary of comments received during the phase. The reports also include a list of input opportunities conducted, locations of activities, a description of the MAG public outreach process, copies of publicity materials such as display ads and public notices, and correspondence received since the end of the previous phase. The Mid-Phase and Final Phase public hearings are conducted with a court reporter in attendance. A verbatim transcript of each hearing is included in the Mid-Phase and Final Phase Input Opportunity reports, which also include staff responses to all comments received during the phase. Copies of the reports are distributed to MAG policy committees (including Management Committee, Transportation Policy Committee, and Regional Council) in advance of any plan approvals. In addition, an oral presentation is provided at these meetings summarizing the comments received prior to committee action.

Another way in which MAG demonstrates explicit consideration of public input can be seen in the addition of specific projects that are included in MAG plans as a result of public input.

## **7. Seeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services.**

MAG addresses and considers the needs of underserved populations throughout its planning and programming process, and provides outreach in a variety of ways, including the Title VI Community Outreach Program, GIS mapping, the Human Services division of MAG, and through programs run by the Regional Public Transportation Authority (RPTA) using MAG funds. Through the Community Outreach Program, MAG's Community Outreach Specialist coordinates with minority communities to solicit input and to serve as a liaison between MAG and the communities. In addition to minority communities, MAG targets and solicits input from persons with disabilities. Through RPTA's Complementary Paratransit Plan, the needs of the elderly and people with disabilities are served. In addition, a MAG committee reviews and prioritizes applications for federal assistance under the Elderly Persons with Disabilities Transportation Fund, which provides capital investments to programs serving the elderly and people with disabilities. MAG transportation plans and programs are also submitted to the Human Services Coordinating Committee for review. Additionally, MAG provides multimodal transportation information for review and comment to the Human Services planning process. The needs of elderly persons are further being addressed through the MAG Elderly Mobility Initiative. The Initiative identifies and addresses the changing mobility options that are needed as people age.





**8. Providing an additional opportunity for public comment, if the final metropolitan plan or TIP differs significantly from the version that was initially made available for public comment.**

If the final metropolitan plan or TIP differs significantly from the version initially made available for comment, MAG provides additional opportunities for public comment. MAG prepares a revised draft plan and takes it back through the public involvement and committee approval process.

**9. Coordinating with statewide transportation planning public involvement and consultation processes (as outlined under subpart B of Section 450.316).**

As part of the public involvement process, MAG conducts agency consultation directly with local, state and federal resource agencies. MAG also consults, as appropriate, with agencies and officials responsible for other planning activities within the metropolitan planning area that are affected by transportation. To coordinate the planning functions to the maximum extent practicable, such consultation includes the comparison of the MAG Regional Transportation Plan and TIP, as they are developed, with the plans, maps, inventories, and planning documents developed by other agencies. This consultation includes, as appropriate, consultations with state, local, Indian tribal, and private agencies responsible for planned growth, economic development, environmental protection, airport operations, freight movements, land use management, natural resources, conservation and historic preservation. MAG also seeks input and comment from neighboring counties or contiguous planning areas as appropriate.

Additionally, MAG reaches out to federal, state, tribal, regional, local, and private agencies to consult on environmental and resource issues and concerns. Specific topics of interest include: land use management, wildlife, natural resources, environmental protection, conservation, historic preservation, and potential environmental mitigation activities. An important consideration in the consultation process is the recognition that previously adopted projects in the Plan undergo extensive environmental and resource assessment by the implementing agencies, such as the Arizona Department of Transportation, the Regional Public Transportation Authority, cities, towns and Maricopa County. With these processes already well established, including requirements for input on mitigation and resource issues, the primary goal of the consultation effort is to gain insight regarding concerns that may involve future transportation planning efforts.

To facilitate the agency consultation process and acquisition of resource information, MAG conducts an agency consultation workshop. The purpose of the workshop is to explain the goals of the consultation process, receive input from environmental and resource agencies in attendance, and establish continuing consultation in the regional transportation planning process. In addition, the workshop establishes a beginning point for more in-depth discussions with individual agencies, as may be appropriate. Input is sought on the availability of environmental, cultural and natural resource mapping or

other information sources, as well as comments on potential environmental mitigation measures, resource issues, and land use concerns. Agencies are also invited to provide written input.

**10. Periodically reviewing the effectiveness of the procedures and strategies contained in the participation plan to ensure a full and open participation process.**

MAG continually reviews its public participation efforts as part of its communication planning efforts and makes adjustments as warranted. More formal reviews are conducted during the federal certification process every four years, and as directed by transportation legislation such as ISTEA, TEA-21, and SAFETEA-LU. Additionally, MAG ensures that a minimum public comment period of 45 calendar days is provided before any initial or revised participation plan is adopted, in accordance with federal requirements.

# APPENDIX A

## OPEN MEETINGS

MAG conducts meetings in accordance with the state Open Meeting Law. Meetings of technical committees, working groups, the Management Committee, Transportation Policy Committee, and Regional Council are open to the public. Notices for these meetings are posted at least 24 hours in advance.

The Open Meeting Law is contained in the Arizona Revised Statutes, A.R.S § 38-431.01. The Open Meeting Law also establishes requirements for the taking of minutes. Minutes of MAG meetings are available by request, and are available on the MAG Web site, [www.mag.maricopa.gov](http://www.mag.maricopa.gov).



While MAG makes every attempt to allow for public comment, on rare instances, public comment may be limited based on time availability, based on the discretion of the meeting chair.

In addition to the Open Meeting Law, MAG also adheres to the Arizona Public Records Law, A.R.S. § 39-121. Public records may be obtained through submission of a Public Records Request form, which can be obtained through the MAG office, requested electronically, or downloaded from the MAG Web site.

# APPENDIX B

## PUBLIC COMMENT AT MAG MEETINGS

MAG allows public comment at all of its public meetings. Below is an outline of the rules and procedures relating to the public comment process for MAG meetings.

1. **Submittal of Request to Speak Cards:** There are two colored cards provided for citizens wishing to speak at MAG committee meetings. Blue cards indicate a “Request to Speak on a Non-Agenda Item” and yellow cards indicate a “Request to Speak on a Specific Agenda Item Designated for Action.” The cards contain information about the rules for speaking, as well as spaces for citizens to provide information, including name, address, city, zip code, phone, agenda item number, and date. Yellow cards additionally include boxes at the top of the card that the speaker can check indicating the following: Support; Statement Only; Oppose; Neither.

Rules outlined on both the yellow and blue cards include:

- Please speak from the podium (accommodation will be made for persons with disabilities).
- Please present your comments in three minutes or less.
- Your comments must pertain solely to the agenda item and shall not include any personal attacks on other citizens or persons present at the meeting.
- Please conduct yourself in a professional and appropriate manner.

Citizens are asked to submit the cards to a designated MAG staff member, who will deliver them to the meeting chair.

The yellow cards contain these further statements: The purpose of this opportunity for public comment is to allow citizens to provide additional information on items slated for action. The Committee may ask questions for clarification; however, this comment period is not designed for debate with the audience. The public is encouraged to provide comment to MAG during the committee process, prior to the Regional Council action. The Regional Council will receive information on comments provided to technical and policy committees. Written comments will always be accepted by the Chair.

2. **Time Allotted for Public Comment:** Three opportunities are provided for public comment at MAG meetings, including Call to the Audience, Consent Agenda, and Action Items to be Heard.
  - **Call to the Audience.** Citizens have three minutes to speak on any item of their choosing. Topics may include non-agenda items, or items that are on the agenda but which are not slated for action. This comment period takes place at the beginning of the meeting.

- **Consent Agenda.** Citizens have a total of three minutes to speak on any or all consent agenda items (cumulatively). Citizens may determine whether an item is a consent item by looking on the meeting agenda. Consent items will be marked in the first column by an asterisk (\*). This comment period usually comes near the beginning of the meeting, after the Executive Director’s Report and prior to approval of the consent agenda by the Council.
  - **Action Items.** Citizens are given three minutes to speak on any action item (three minutes per item). Citizens may determine whether an item is an action item by looking on the meeting agenda, under the second column, “Committee Action Requested.” Action items will state “for action” or “for possible action.” This comment period usually is provided just prior to a vote on each action item by the Regional Council.
3. **Speaking Rules and Chairman’s Discretion:** The Chairman or his/her designee has the power to strictly enforce the above rules and to revoke speaking rights if rules are violated. The Chair or his/her designee has the power to accept additional comments and extend the time of the speaker, or limit public comment based on time availability.

The cards include this statement:

Note: The Chairman or his/her designee shall have the power to strictly enforce these rules and to revoke your speaking rights if you violate any of these rules. The Chairman may also revoke your rights to speak at the rest of today’s meeting and/or at future meetings if you twice refuse to be silent after being directed to do so. (If you lose your right to speak, you may still present written comments.)

## **CONTACT MAG**

### **Mailing/Physical Address**

Maricopa Association of Governments  
302 N. 1st Avenue, Suite #300  
Phoenix, AZ 85003

### **E-Mail**

General mailbox: [mag.@mag.maricopa.gov](mailto:mag.@mag.maricopa.gov)  
Public Involvement Planner: [jstephens@mag.maricopa.gov](mailto:jstephens@mag.maricopa.gov)  
Communications Manager: [ktaft@mag.maricopa.gov](mailto:ktaft@mag.maricopa.gov)

### **Web Address**

[www.mag.maricopa.gov](http://www.mag.maricopa.gov)  
Regional Transportation Plan: [www.LetsKeepMoving.com](http://www.LetsKeepMoving.com)

# **Appendix M**

## **MAG Transportation Related Press Releases Since 2004**

*(Note: Does not include numerous other releases in areas of air quality, human services, information services (including Census), or other agency releases)*

**Bottleneck Issues Identified in National Report Addressed in New Regional Transportation Plan** *(February 19, 2004)*

**Making Roads Safer** *(Regional Transportation Safety Forum, March 9, 2004)*

**Partnerships to Receive Regional Honors** *(June 1, 2004)*

**On the Road to Greatness: How Our Region Compares** *(January 20, 2005)*

**Williams Gateway Freeway Potential Corridor Alignments Presented** *(March 18, 2005)*

**Input Sought on Grand Avenue Study** *(July 6, 2005)*

**Preferred Alignment Set for Williams Gateway Freeway** *(July 27, 2005)*

**Forum Seeks Solutions to Rising Construction Costs** *(December 28, 2005)*

**Growth, Transportation Focus of Historic Meeting** *(March 31, 2006)*

**MAG Selects New Officers** *(July 5, 2006)*

**MAG Honored With Transportation Planning Excellence Award** *(July 12, 2006)*

**Forum to Provide Information on West Valley Transit** *(October 10, 2006)*

**Dallas Delegation Visits Phoenix ; Growth, Transportation Among Issues of Interest** *(November 1, 2006)*

**MAG Regional Council Approves “STAN” Package of Accelerated Freeway Projects** *(Dec. 13, 2006)*

**Linking Land Use and Transportation: Providing a Framework for the Hassayampa Valley’s Transportation Needs** *(February 20, 2007)*

**Governor Announces Litter Hot Spots; Reminds Residents, *Don’t Trash Arizona*** *(April 5, 2007)*

**Higley Father Turns Tragedy into Crusade; Urges Motorists to Secure Loads** *(June 13, 2007)*

**Jan Dolan Elected Chair of MAG Management Committee** *(June 20, 2007)*

**MAG Regional Council Elects Officers** *(June 29, 2007)*

**Transportation Study Examines Hassayampa Valley Needs** *(July 10, 2007)*

**Super Bowl Week Message: Don't Trash Arizona! 50,000 Litter Bags Distributed to Visitors at Event and in Rental Cars** *(Jan. 25, 2008)*

**Public Comment Sought on Draft Commuter Rail Plan for Central Arizona** *(February 28, 2008)*

**Maricopa Association of Governments Seeks Public Input on Transit Needs** *(June 20, 2008)*

**Linking Land Use and Transportation: Providing a Framework for the Hidden Valley's Transportation Needs** *(August 5, 2008)*

**Arizonans to Participate in National Household Travel Survey** *(August 18, 2008)*

**Community Workshops to Discuss Hidden Valley Region** *(January 26, 2009)*

**Transportation Plan Receives National Award** *(March 23, 2009)*

**Region Looks to Pave Way for Electric Car Infrastructure; Press Conference Set to Announce Details of Zero Emissions Partnership** *(April 16, 2009)*

**Teens Can Attack Trash in Online *Don't Trash Arizona* Web Game** *(April 22, 2009)*

**Nissan's Plan For Zero-Emissions Vehicles Advances With U.S. Department Of Energy Loan** *(MAG participation mentioned, June 23, 2009)*

**Peggy Neely Selected as New MAG Chair** *(June 28, 2009)*

**Crossing Guards Receive Tips and Tools for Getting Kids to School Safely** *(July 27, 2009)*

**Residents Encouraged to Provide Input on Public Transit** *(June 15, 2009)*

***Don't Trash Arizona* Awarded PRSA's Silver Anvil Award of Excellence; Anti-Litter Campaign Earns National Recognition for Innovation and Creativity** *(June 16, 2009)*

**MAG Selects New Officers** *(June 25, 2009)*

**Residents Encouraged to Provide Input on Regional Transportation Plan** *(June 16, 2009)*

**MAG Seeks Comment on Potential Plan Changes** *(October 6, 2009)*

**MAG Seeks Public Participation in Federal Review Process** *(October 21, 2009)*

# **Appendix N**

# MAG AWARENESS SURVEY



Where would you spend most of your transportation tax dollars? (Rank in order from 1 to 5, with 1 being your highest priority.)

\_\_\_\_ *New/improved freeways*                      My ZIP Code is: \_\_\_\_\_  
\_\_\_\_ *New/improved streets*                      \_\_\_\_\_  
\_\_\_\_ *More bus service*  
\_\_\_\_ *More light rail*  
\_\_\_\_ *More bicycle and pedestrian facilities*

Had you ever heard of the Maricopa Association of Governments (MAG) prior to today? (Circle one)

Yes    No    Not sure

MAG hosts information booths at a variety of special events each year, including freeway openings, community festivals, and the state fair. MAG also hosts formal public meetings and hearings, and provides opportunities for feedback through its Web site. To your knowledge, have you ever provided comment to MAG through any of these (or other) opportunities?

Yes    No    Not sure

What is your overall perception of the Maricopa Association of Governments?

*Excellent*      *Good*      *Fair*      *Poor*      *Not sure*

Primary area of interest: (Circle one)

*Transportation*                      *Air Quality*                      *Human Services*

I would be interested in receiving (check all that apply):

- MAG Newsletter*                       *Information about MAG*
- Notices of MAG public involvement opportunities*
- Transportation Policy Committee E-Update*

**To receive any of the above, please provide:**

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_  
\_\_\_\_\_

Email: (optional) \_\_\_\_\_

Telephone (optional): \_\_\_\_\_

THANK YOU!

# MAG AWARENESS SURVEY



Where would you spend most of your transportation tax dollars? (Rank in order from 1 to 5, with 1 being your highest priority.)

\_\_\_\_ *New/improved freeways*                      My ZIP Code is: \_\_\_\_\_  
\_\_\_\_ *New/improved streets*                      \_\_\_\_\_  
\_\_\_\_ *More bus service*  
\_\_\_\_ *More light rail*  
\_\_\_\_ *More bicycle and pedestrian facilities*

Had you ever heard of the Maricopa Association of Governments (MAG) prior to today? (Circle one)

Yes    No    Not sure

MAG hosts information booths at a variety of special events each year, including freeway openings, community festivals, and the state fair. MAG also hosts formal public meetings and hearings, and provides opportunities for feedback through its Web site. To your knowledge, have you ever provided comment to MAG through any of these (or other) opportunities?

Yes    No    Not sure

What is your overall perception of the Maricopa Association of Governments?

*Excellent*      *Good*      *Fair*      *Poor*      *Not sure*

Primary area of interest: (Circle one)

*Transportation*                      *Air Quality*                      *Human Services*

I would be interested in receiving (check all that apply):

- MAG Newsletter*                       *Information about MAG*
- Notices of MAG public involvement opportunities*
- Transportation Policy Committee E-Update*

**To receive any of the above, please provide:**

Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_  
\_\_\_\_\_

Email: (optional) \_\_\_\_\_

Telephone (optional): \_\_\_\_\_

THANK YOU!

# **Appendix O**





**SOCIOECONOMIC PROJECTIONS  
DOCUMENTATION  
MAY 2007**

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## 1. **PURPOSE**

The purpose of this document is to explain the socioeconomic projections process used to prepare socioeconomic projections by Municipal Planning Areas (MPA), Regional Analysis Zones (RAZs) and Socioeconomic Analysis Zones (SAZs) for population, housing and employment variables.

Executive Order 95-2 requires that the Arizona Department of Economic Security (DES) develop state and county population estimates and projections for 50 years for each city and town with a population greater than 1,000 people. It also authorizes Councils of Governments to prepare subregional estimates and projections using the county population as a control total. In preparing these estimates and projections, MAG is required to follow standards established by DES.

Subregional projections are used:

- By MAG as input into the MAG transportation models to predict automobile traffic
- By MAG as input into the MAG air quality models to predict emissions and concentrations
- By local governments to evaluate infrastructure improvements
- For gauging regional development and land use plans
- By local governments to prepare General Plans
- By developers to identify sites for residential and commercial development
- By human services providers for planning
- By school districts for planning infrastructure

## 2. **BASE DATA**

The development of population and socioeconomic projections requires the collection of a substantial amount of base data. These base data include, but are not limited to, the following:

- Population and Housing: Census Survey 2005
- Group Quarters (Institutional and Non-Institutional): Census Survey 2005
- Employment: Employment July 1, 2005 Base
- Residential Completions: April 1, 2000 to June 30, 2005, submitted and reviewed by MAG member agencies
- Existing Land use: Land use current as of January 2005, reviewed by MAG Population Technical Advisory Committee (POPTAC)
- Future Plans: Future Plans current as of 2006 or later, reviewed by MAG POPTAC
- Development Data: Year 2006 data current as of 2006 or later, reviewed by MAG POPTAC
- SAZ system: SAZ2007
- Post High School Institutions: Inventory of Post High School institutions, reviewed by MAG member agencies in December 2006
- Mobile home and RV Parks: Inventory of mobile home and RV parks, reviewed and updated by MAG member agencies in December 2006

- Airport 2005 and projected enplanements for Sky Harbor and Williams Gateway airports
- Retirement Areas: Age restricted communities reviewed by MAG POPTAC
- Hotels/Motels/Resorts: Inventory of hotels/motels, reviewed and updated by MAG member agencies in December 2006

The method of deriving the base data is discussed in the following sections.

## **2.1 Census Data**

The most recent Census provides a good source of information for developing projections. While the 1995 Special Census and the 2000 Decennial Census were actual population counts, the 2005 Census Survey estimated population and housing units based on a statistical sample. Because the sample was selected to achieve a 95 percent confidence interval plus/minus two percent, it provided a more reliable base than other available data.

The following variables were extracted from the 2005 Census Survey and used as a part of the projections base: resident population in households, resident population in group quarters, total housing units, occupied housing units and vacant housing units. Figure 2-1 shows the population density derived from the Census Survey. Figures 2-2 and 2-3 show the vacancy rates and persons per household respectively.

Because the 2005 Census Survey was conducted on September 1, 2005, it was necessary to adjust the database to July 1, 2005 to provide a mid-year benchmark for the projections series. This adjustment was carried out by deducting the sum of housing units constructed from July 2, 2005 through August 31, 2005 and demolitions during the same time period, from the September 1, 2005 housing unit figure. By applying Census Survey occupancy rates and persons per occupied household to the July 1, 2005 housing stock, a July 1, 2005 population was derived.

While the 2005 Census Survey information was collected by place, the MAG projections needed a 2005 base of housing units and population by SAZ. To derive this base, MAG added to the April 1, 2000 Census housing unit count by SAZ, new residential housing units completed less any demolitions between April 1, 2000 and September 1, 2005. Adjustments were then made to ensure consistency with results of the Census Survey and to allocate population and housing units in the unincorporated portion of the County to the appropriate SAZ.

## **2.2 2005 Employment Database**

Total 2005 employment at the county-level was derived from a population control total developed by the Arizona Department of Economic Security. Total employment includes self-employed as well as wage and salary workers.

Using the 2005 Maricopa County employment control total, 2005 subregional employment estimates were prepared. An employer database for Maricopa County containing approximately 61,000 employers was purchased from Dunn & Bradstreet/Harris InfoSource. This database was merged with other sources of employment data,

verified through a telephone survey of the largest employers, subjected to quality control measures and reviewed by MAG member agencies.

The employment from the employer database was then benchmarked to the Arizona Department of Economic Security Standard Industrial Classification (SIC) county totals. A land use was assigned to each employer record based on industry, industry to land use relationships and Socioeconomic Analysis Zone (SAZ) land use.

Each employer was geocoded and employment then summed by land use classification to Traffic Analysis Zones. These estimates were then adjusted to the county employment control total for employment not captured in the major employer database based on the underlying land use. This resulted in subregional employment estimates which in turn were summed to Regional Analysis Zone (RAZ) and Municipal Planning Area (MPA). Figure 2-4 shows the distribution of employment locations and the number of employees at each site.

### **2.3 Residential Building Completions**

A residential building completion requires a certificate of occupancy for each new residential unit. Since April 1990, MAG has collected residential building completions by unit type from MAG member agencies. The four unit types are single family, condo/townhouse, apartment and mobile home.

After initial collection efforts, the number of residential completions are summed by unit type and forwarded to MAG member agencies for review and verification. Adjustments to the total residential completions by unit type require the submittal of documentation. Each completion is also geocoded, enabling MAG to aggregate new development by MAG geography. Residential completions to June 30, 2005 were used in calculating the base for the 2007 projections. Residential completions from July 1, 2005 to December 31, 2006 were used in calculating the projection numbers by SAZ for the year 2010. Figure 2-5 shows the distribution of residential completions over time.

### **2.4 Existing Land Use**

The existing land use database identifies the current land use pattern in the urban area. MAG maintains a 100+ land use category classification that was established by MAG in concert with its member agencies.

The existing land use database was created by MAG staff based on input from MAG member agencies and then circulated to the agencies for review and verification. Changes were made based on comments provided. Figure 2-6 depicts the existing land use derived from this process.

The existing land use coverage is important to the projections process because it establishes areas that have already been developed or are not suitable for further development. The developed areas become ineligible for the allocation of population and employment growth, except where the area is planned for redevelopment. Nondevelopable areas include open space or environmentally sensitive lands, or areas where the relief makes construction infeasible.

## **2.5 Future Land Use**

The Future Land Use Database is based upon the plans of MAG member agencies and identifies both the type of development that is anticipated to occur in the future and the density of that development. For example, rural residential land use allows for up to 1 unit per acre. In those areas designated rural residential, a maximum is established so that the projections model does not exceed the 1 unit per acre density authorized.

The Future Plan Land Use database also uses the standard MAG land use categories that allows for a direct comparison between existing and planned land use. The difference between the existing and planned land use databases helps determine where development may take place. Figure 2-7 depicts the future land use derived from this process.

## **2.6 Large Scale Developments**

A Large Scale Development Database was developed in conjunction with MAG member agencies. Information is collected on major residential and non-residential developments including number of units or square footage by land use parcel. An estimated date for the initiation of the development is also determined at the same time. Member agencies review the Large Scale Development Database regularly for completeness and accuracy. The Large Scale Development Database was used to calibrate the MAG projections model to ensure that it captured anticipated development. Figure 2-8 depicts the developments derived from this process.

## **2.7 MAG Subregional Geography**

Maricopa County is subdivided into 28 Municipal Planning Areas (MPAs), 148 Regional Analysis Zones (RAZs) and 1955 Socioeconomic Analysis Zones (SAZs). Municipal Planning Areas include the corporate limits of a municipality plus any adjacent areas that are anticipated to become a part of those corporate limits in the future. Regional Analysis Zones are subunits of MPAs, and are the basic unit used by the spatial allocation model to prepare subregional projections. RAZs are further divided into Socioeconomic Analysis Zones. The SAZ is the smallest unit for which MAG prepares projections. Their boundaries are defined using major streets and landmarks. In addition, MAG also includes parts of Pinal County in its transportation modeling area, as transportation needs are partially dictated by the people living and working in Pinal County. The transportation model uses a geography called the Traffic Analysis Zone (TAZ). The TAZ is similar to the SAZ, but is only within the transportation modeling area and its numbering system is sequential.

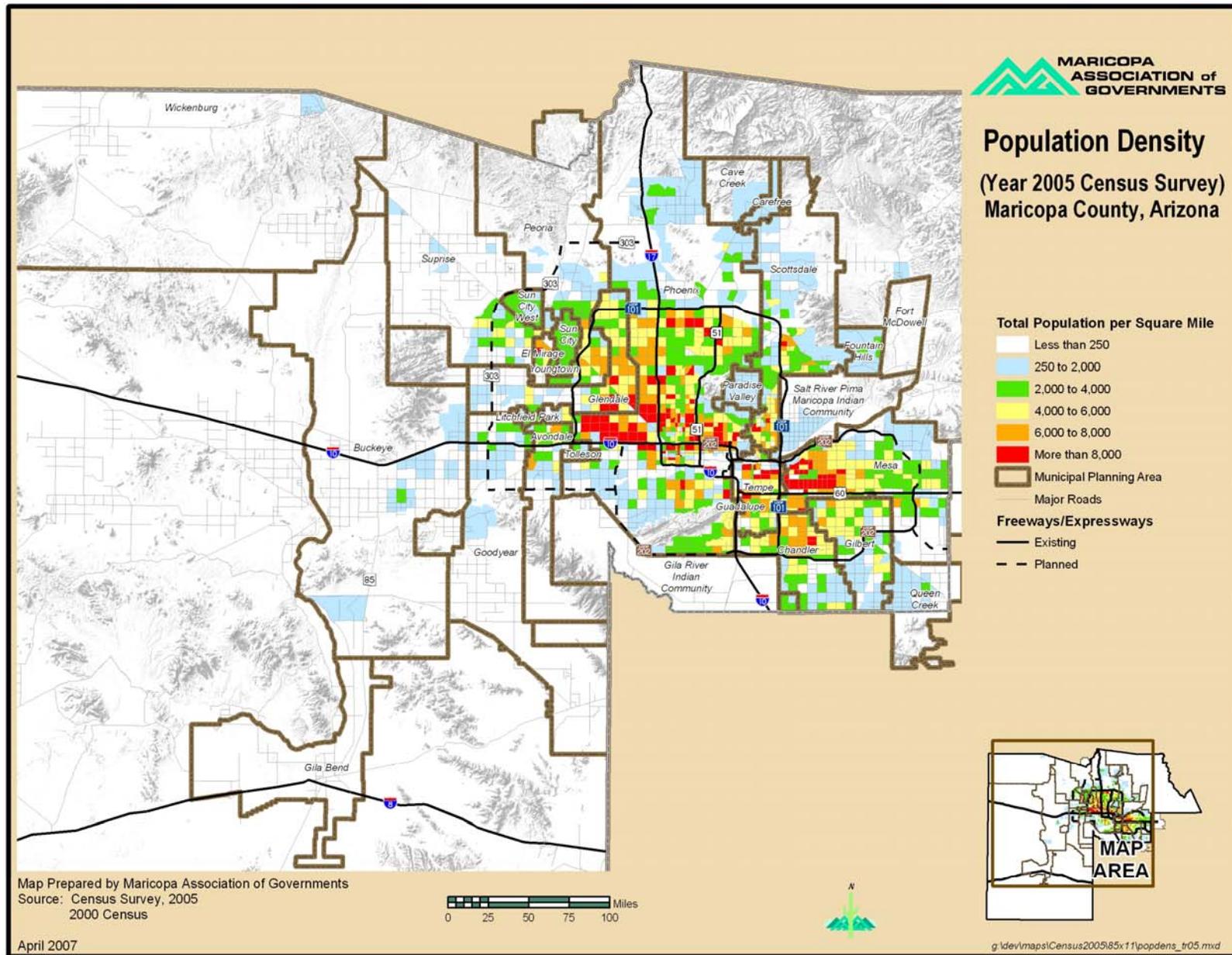
The projections by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ) were prepared to be consistent with the September 1, 2005 Special Census Survey and have been prepared for July 1 of the following years: 2010, 2020 and 2030. The projections by Socioeconomic Analysis Zone (SAZ) and Traffic Analysis Zone (TAZ) were prepared to be consistent with the Socioeconomic Projections by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ). Figure 2-9 shows the MPAs and RAZs in Maricopa County.

## **2.8 Other Data Collection Efforts**

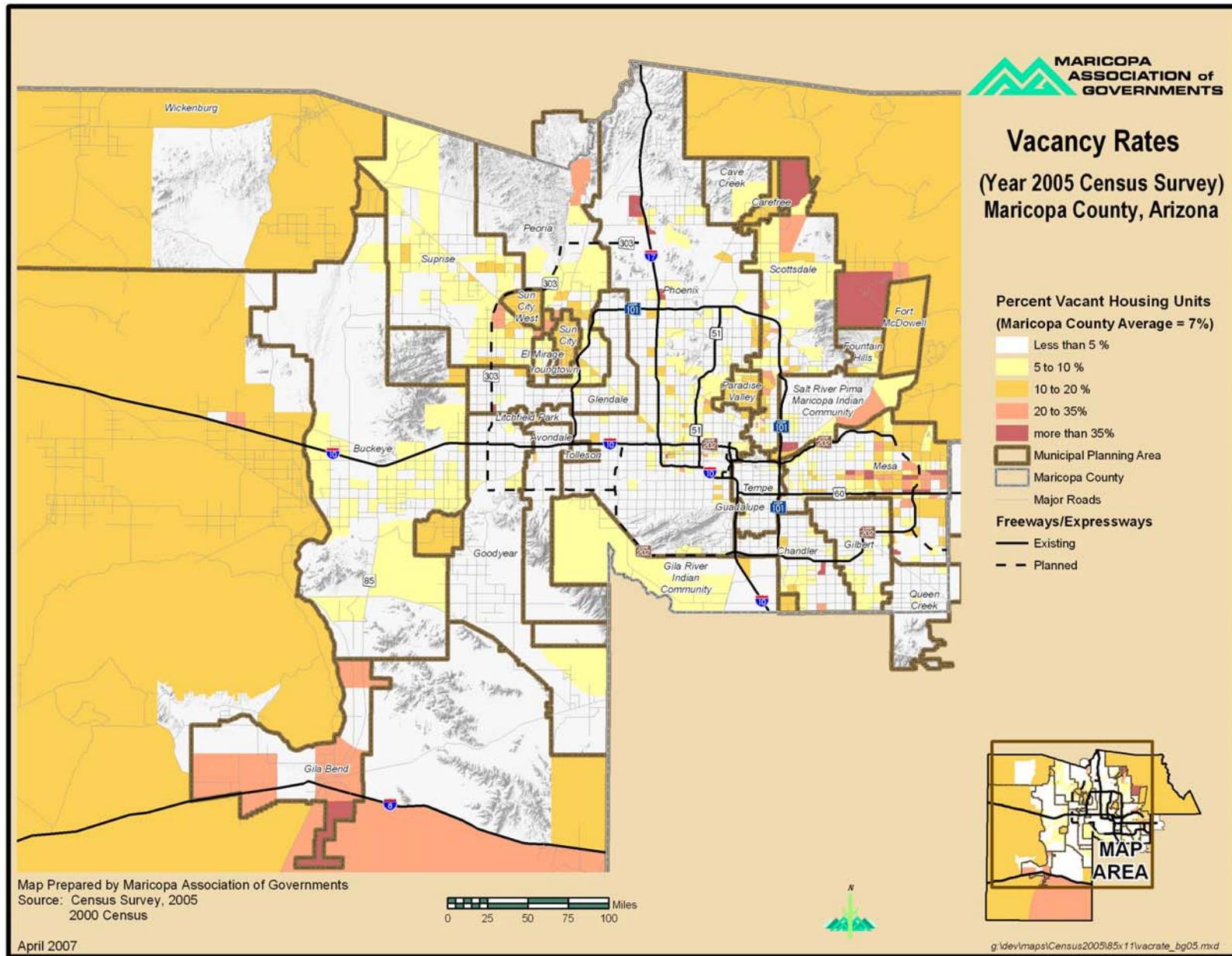
Other data needed by the modeling process include post high school institutions and enrollment, mobile home and recreational vehicle parks and number of residential and non-residential units, current and projected enplanements for Sky Harbor and Williams Gateway airports, current and projected retirement areas, and hotels, motels and resorts and number of beds and employees. The data on recreational vehicle parks, hotels, motels and resorts are used to develop estimates and projections of non-resident population. The MAG Population Technical Advisory Committee (POPTAC) reviewed this information and provided comments. Figures 2-10 to 2-13 show some of the databases derived from this process.

## **2.9 Glossary of Terms**

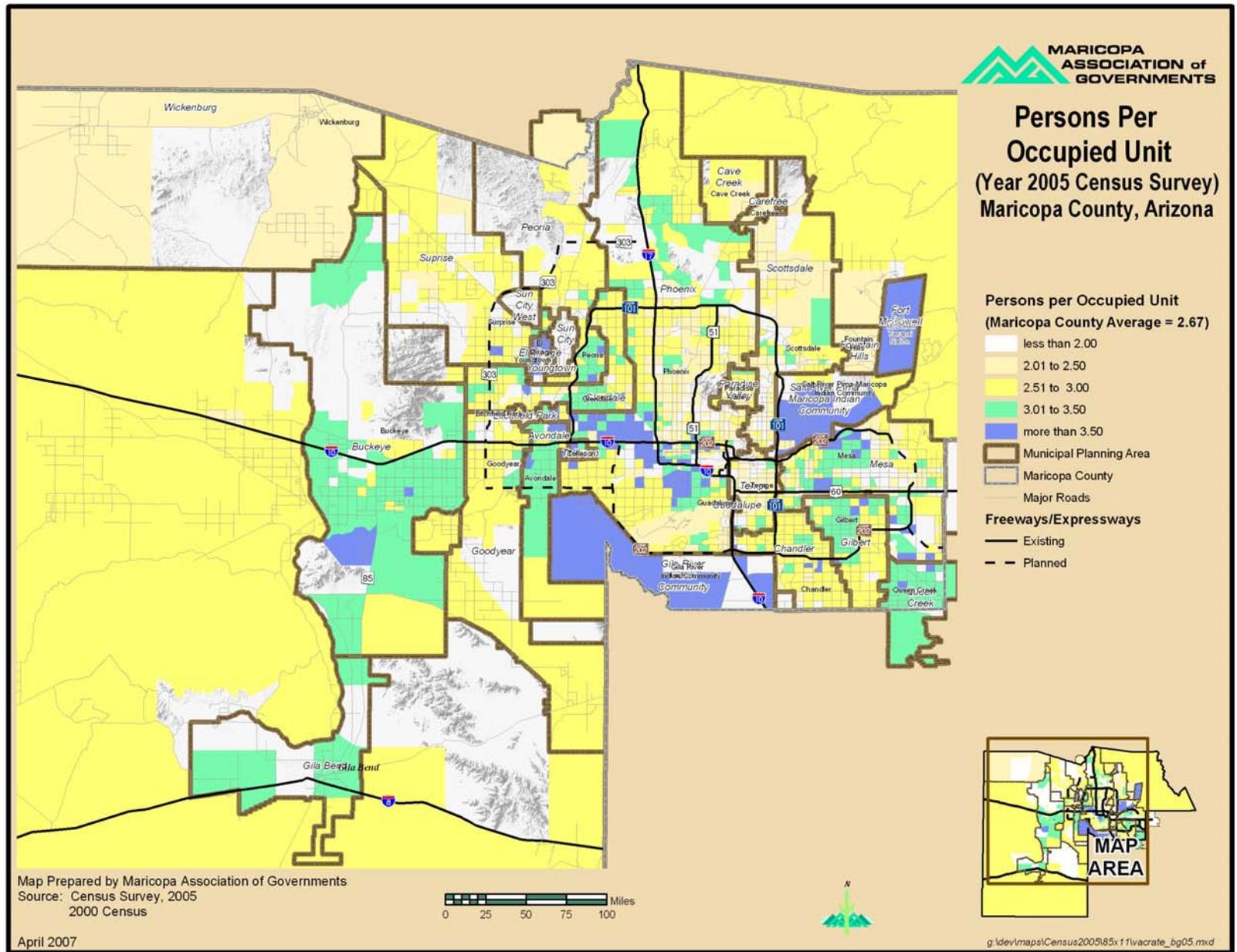
Paper 7, Glossary of Terms, defines the terms used in this document to describe the socioeconomic data collection, update and enhancement and the modeling activities.



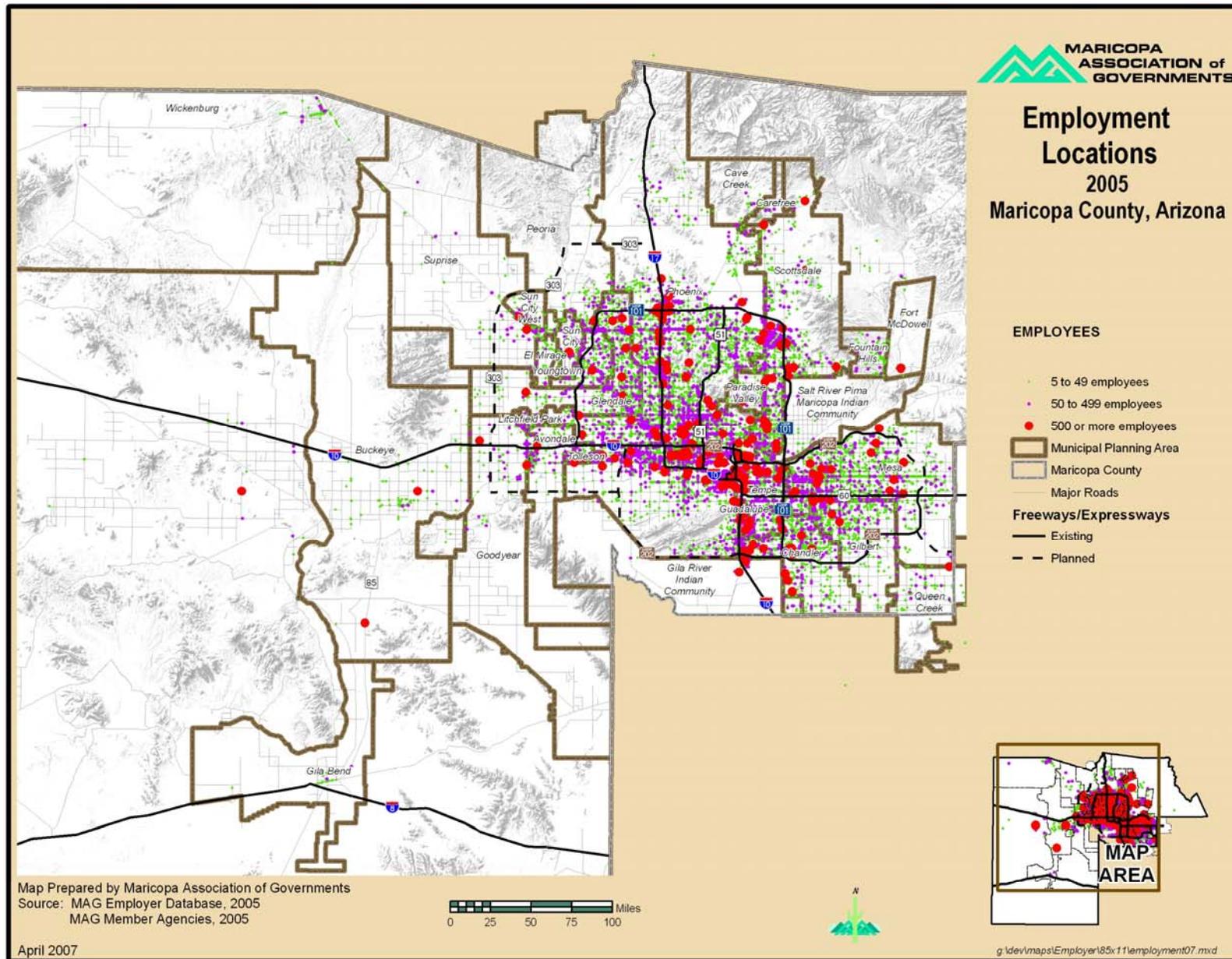
**Figure 2-1: Population Density, 2005**



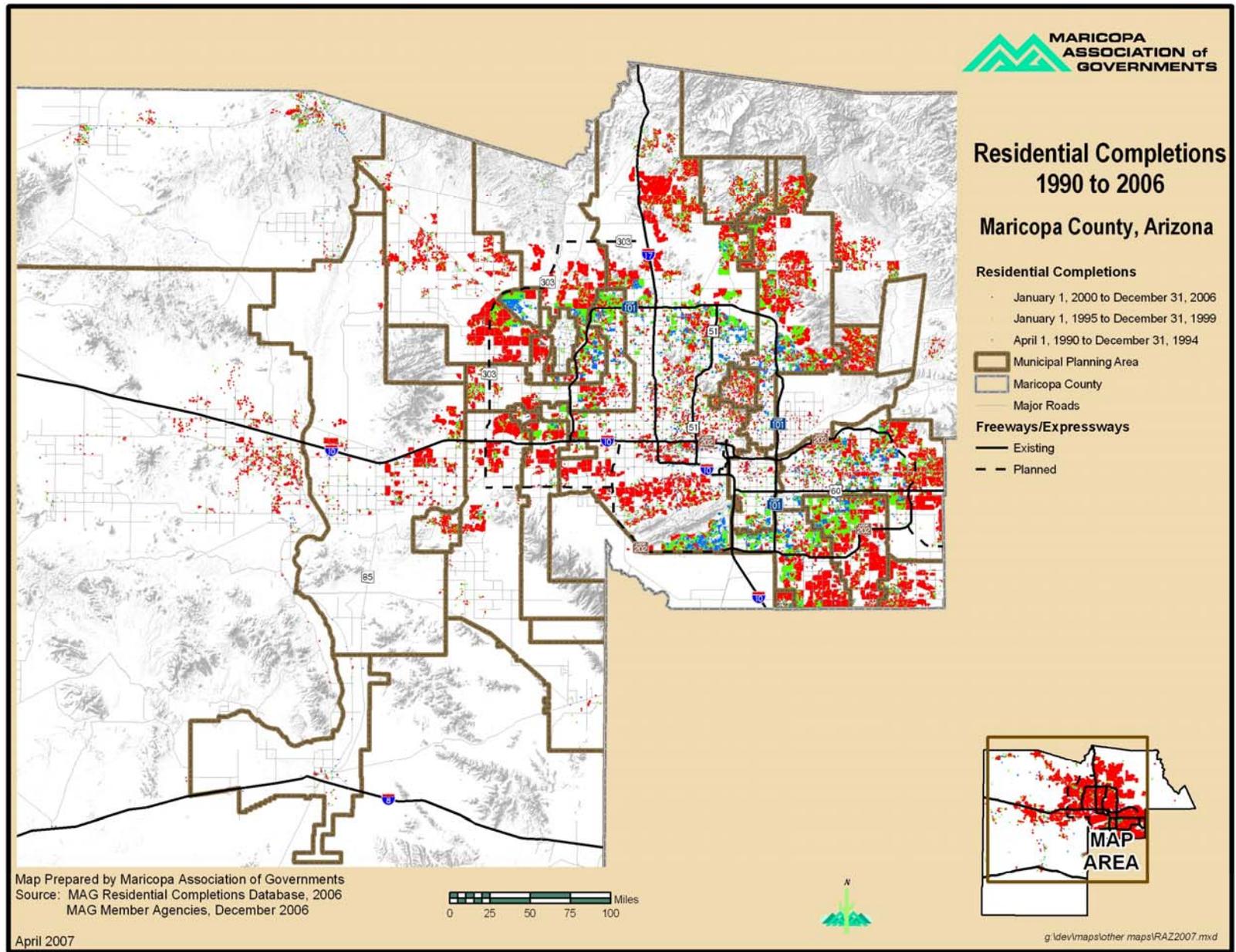
**Figure 2-2: Vacancy Rates, 2005**



**Figure 2-3: Persons Per Household, 2005**



**Figure 2-4: Employment Locations, 2005**



**Figure 2-5: Residential Completions**

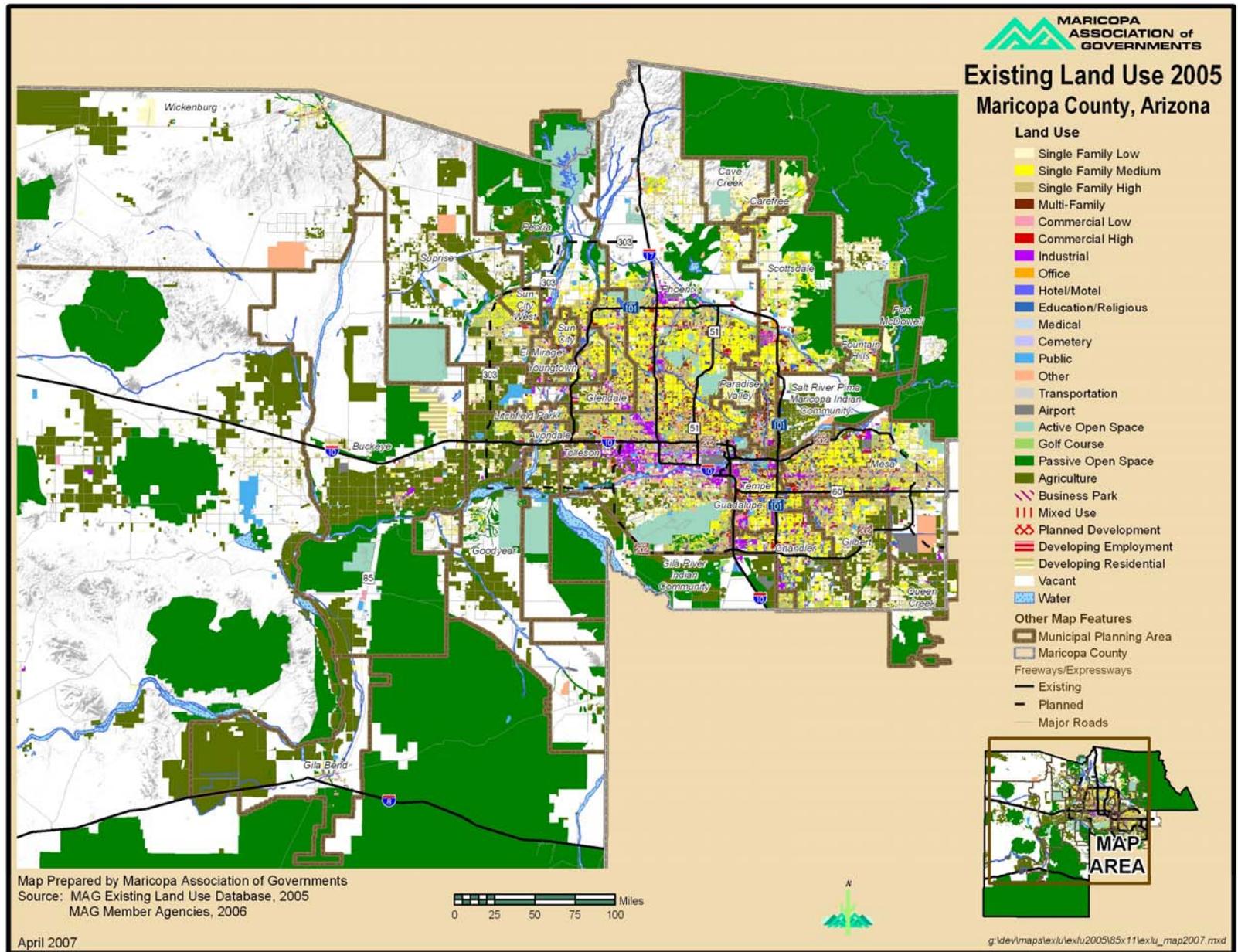


Figure 2-6: Existing Land Use, 2005

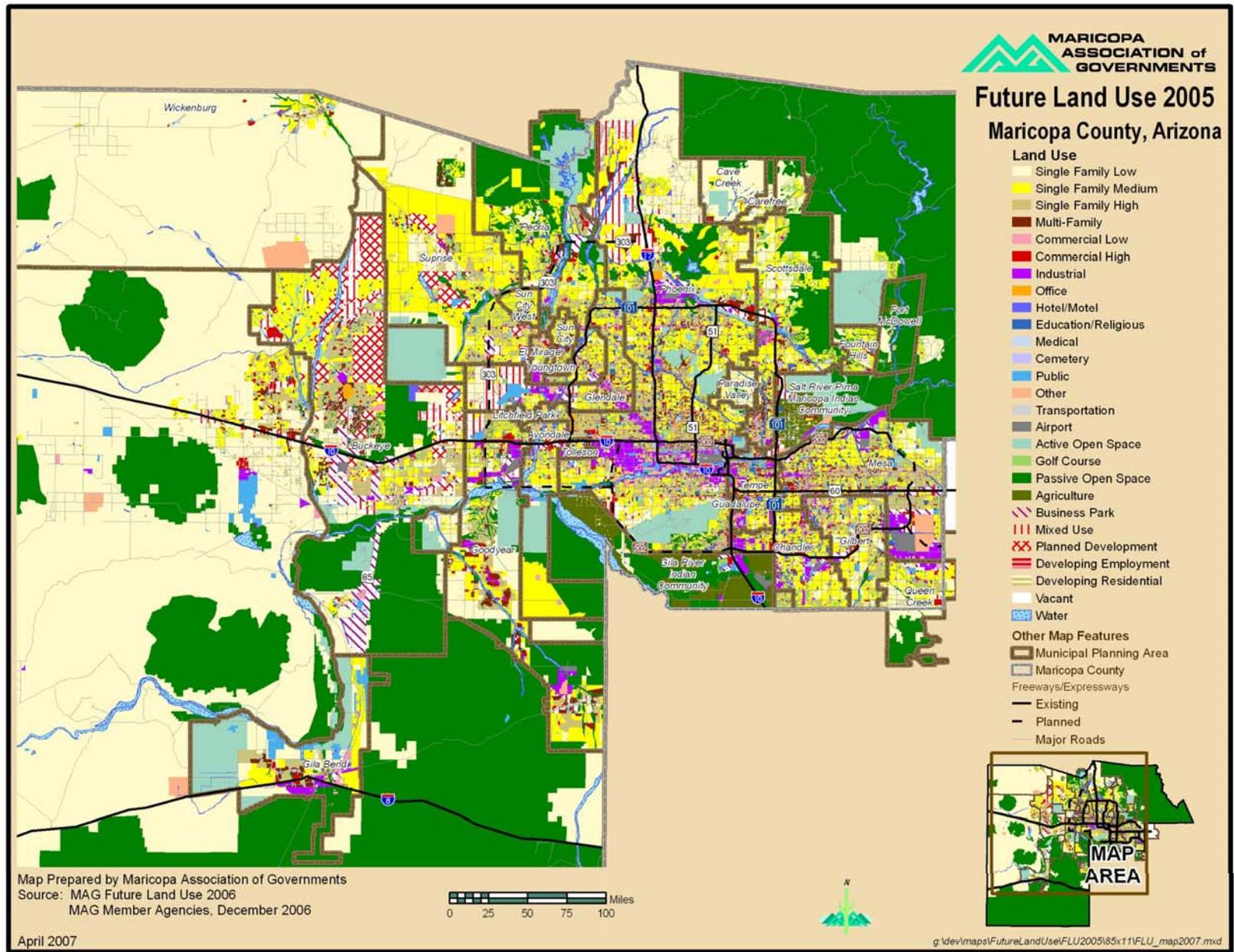
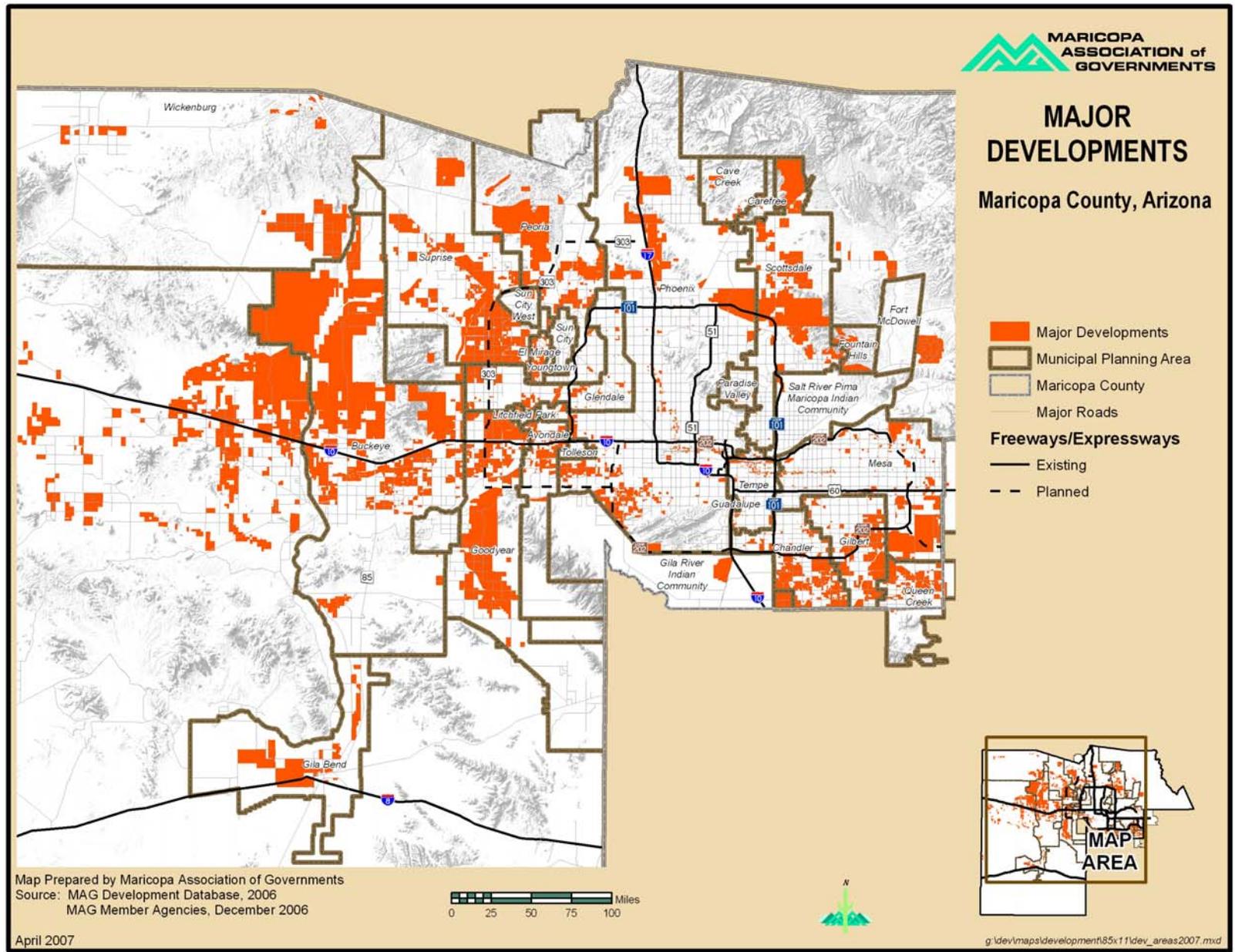
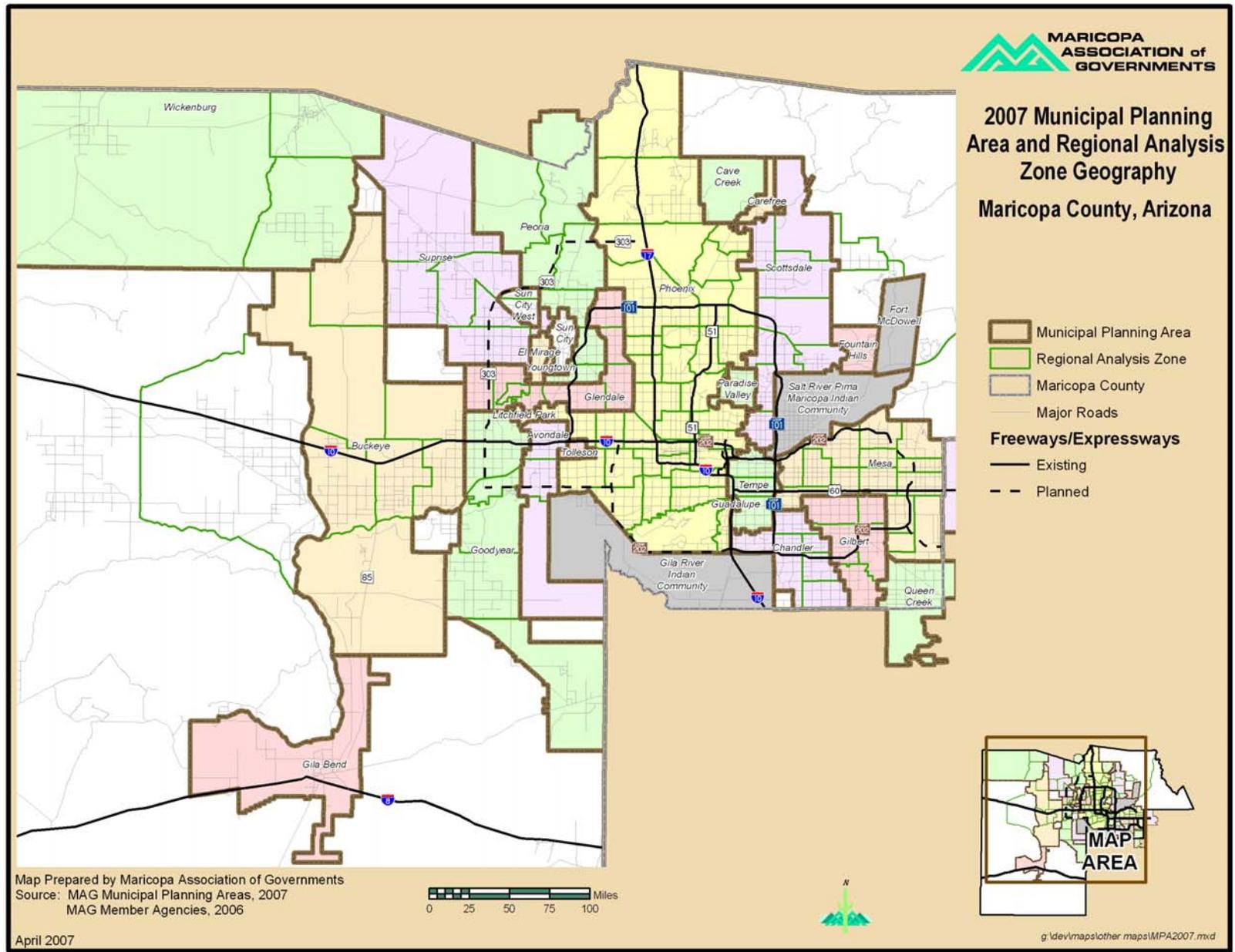


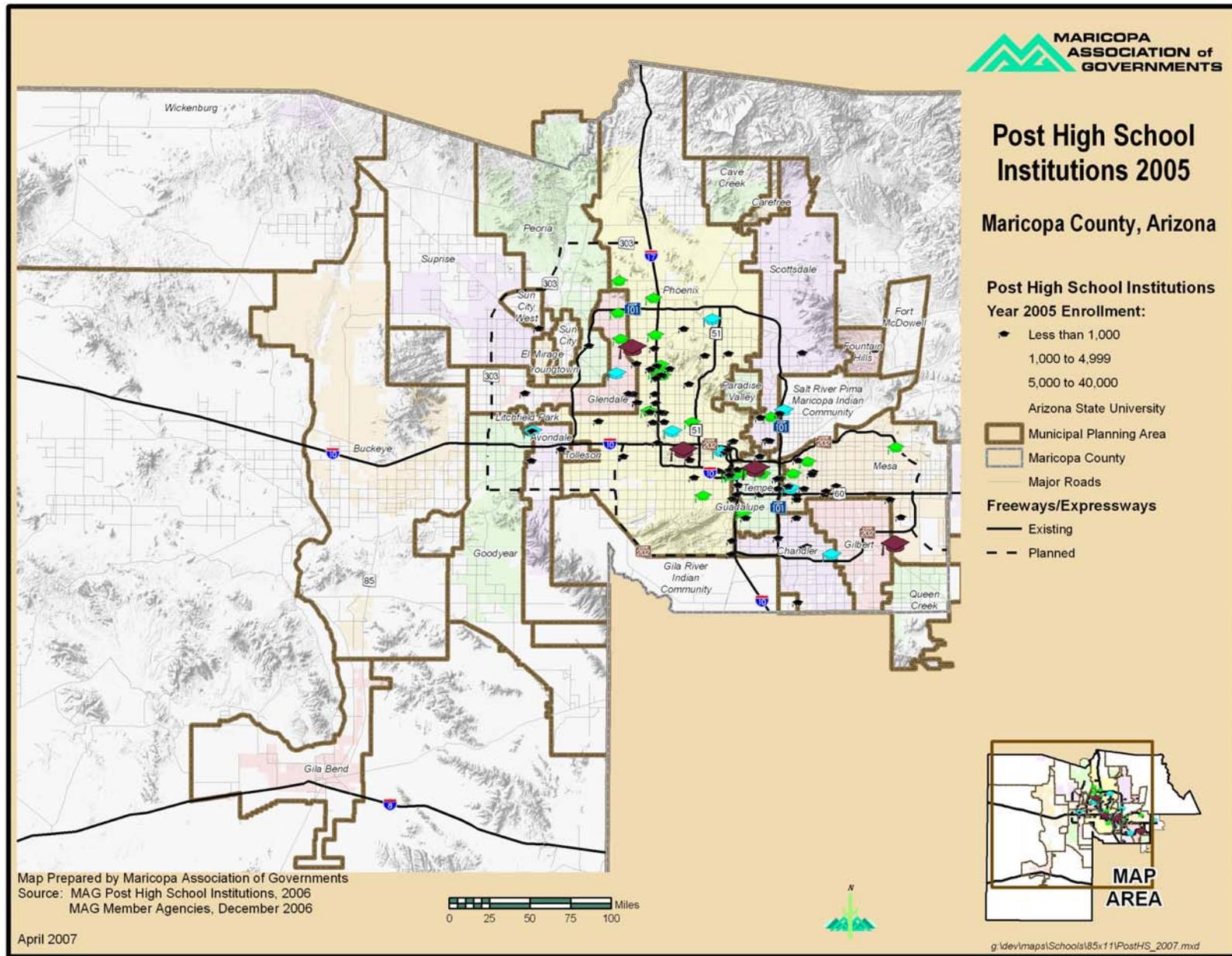
Figure 2-7: Future Land Use



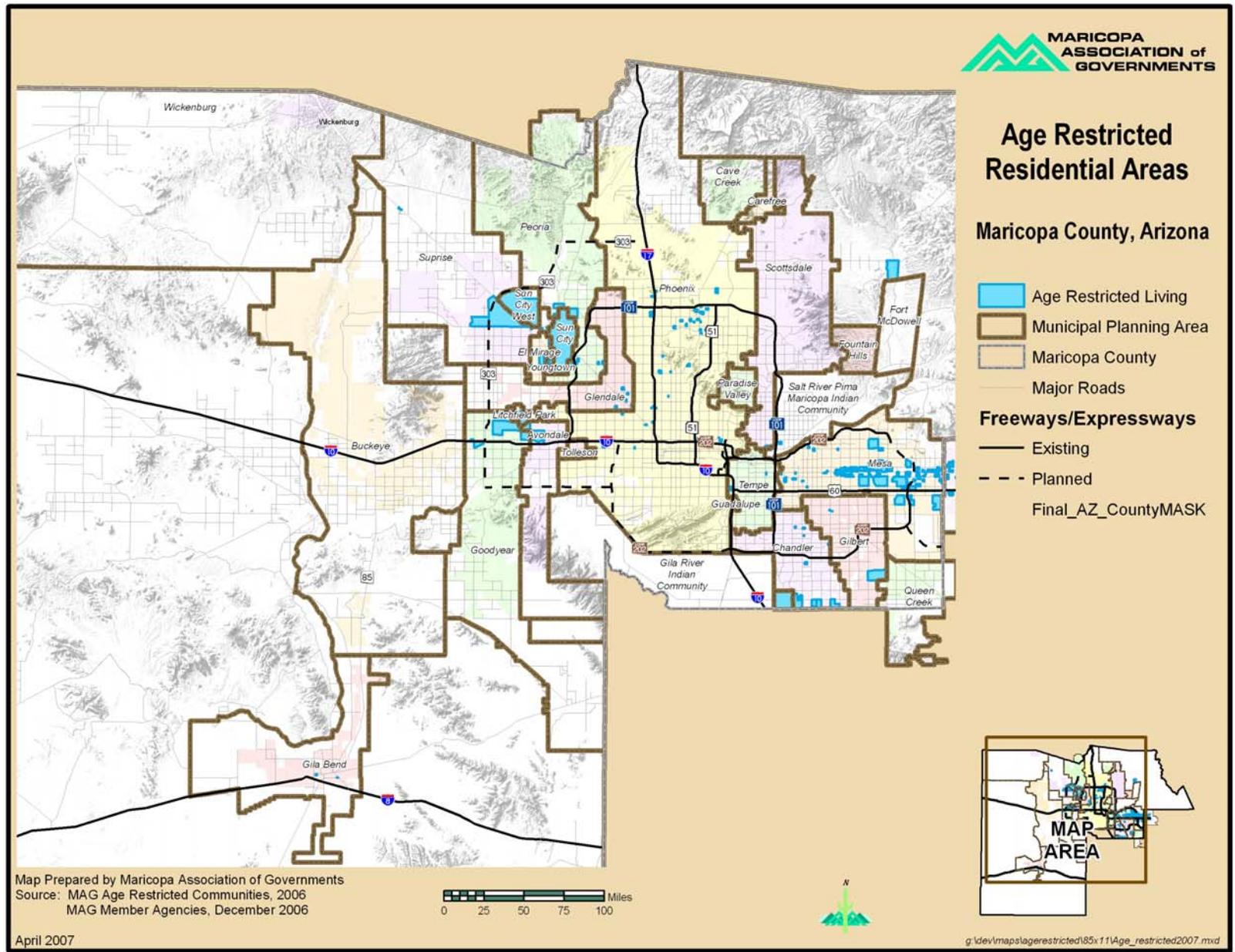
**Figure 2-8: Large Scale Developments**



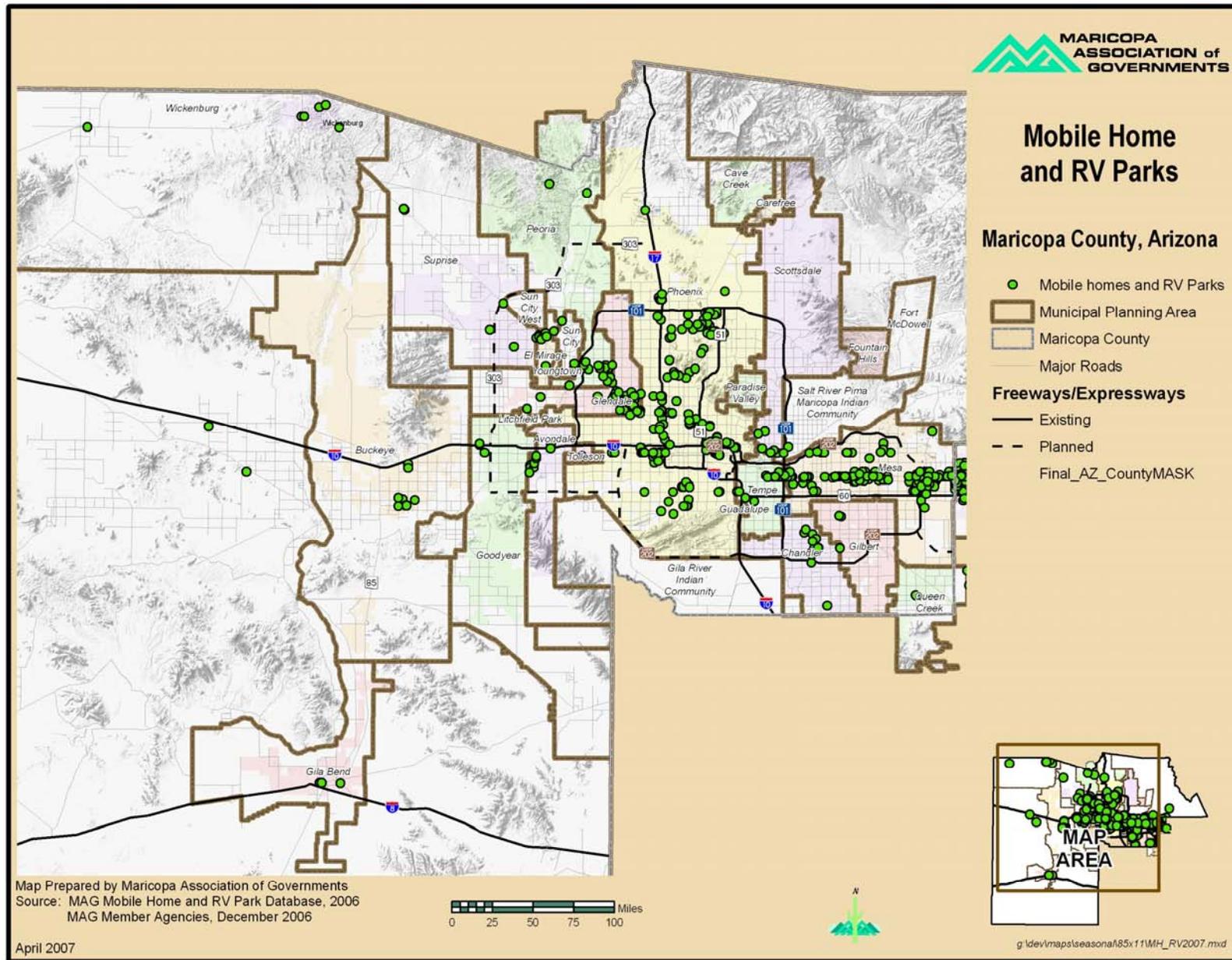
**Figure 2-9: Municipal Planning Area and Regional Analysis Zone Geography**



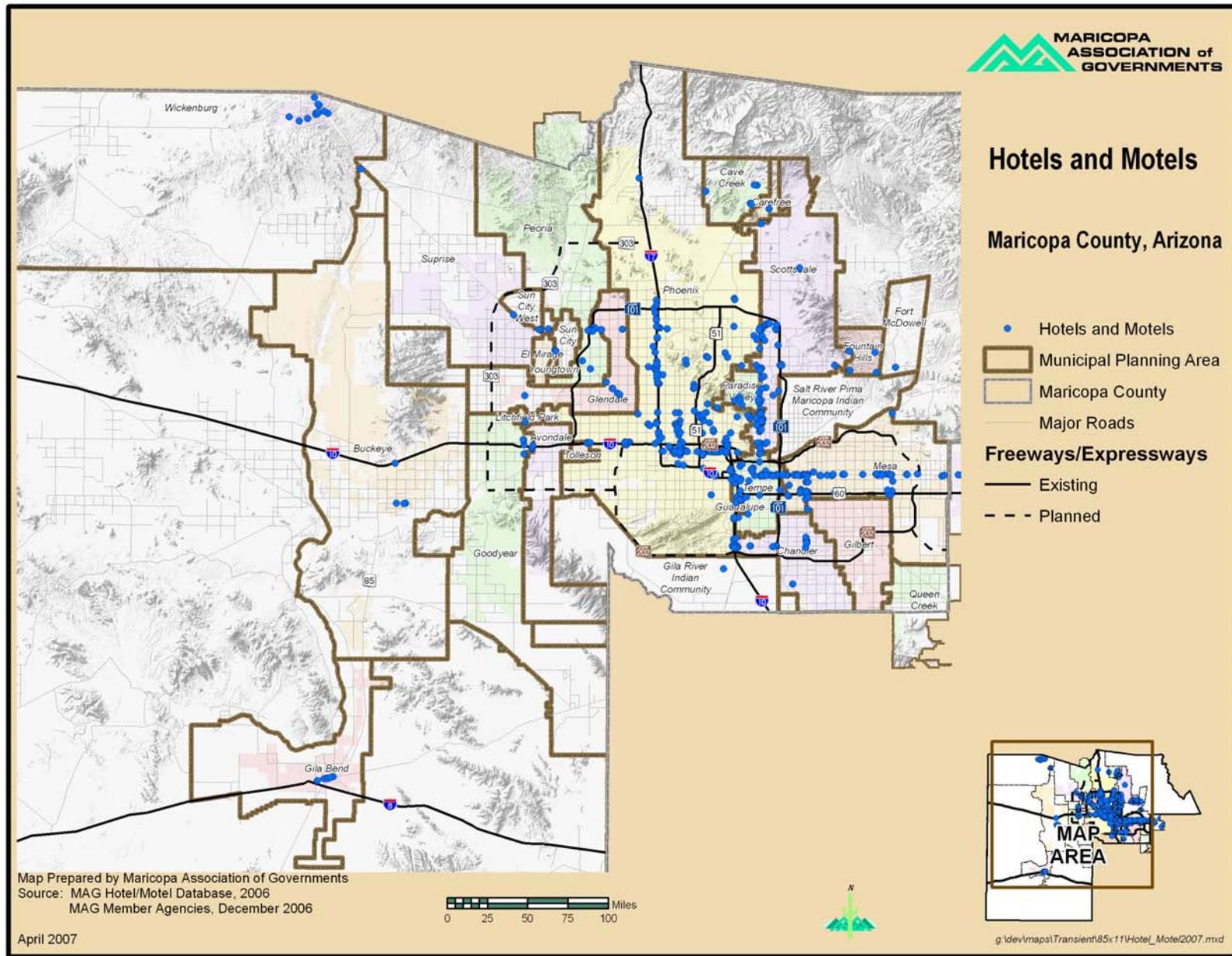
**Figure 2-10: Post High School Institutions**



**Figure 2-11: Age Restricted Residential Areas**



**Figure 2-12: Mobile Home and RV Parks**



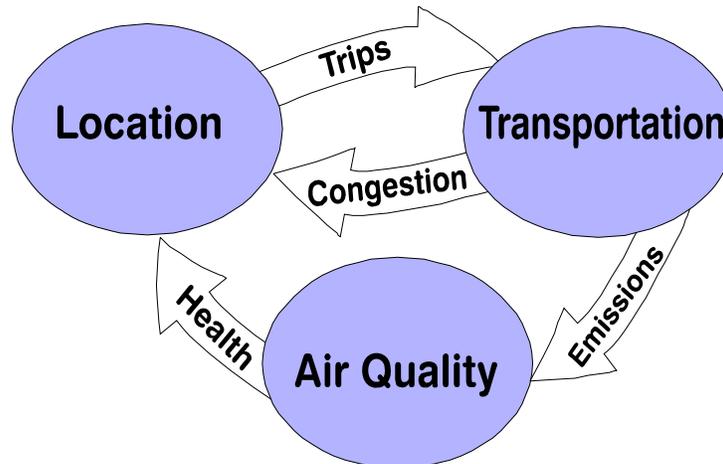
**Figure 2-13: Hotels and Motels**

### 3. MODELS & MODELING PROCESS

The primary purpose of the population and socioeconomic projections developed by MAG is for input into the MAG transportation and air quality models. However, they are also used for a wide variety of regional planning programs such as human services, regional development and by MAG member agencies in developing their plans.

Important objectives of the modeling process are to:

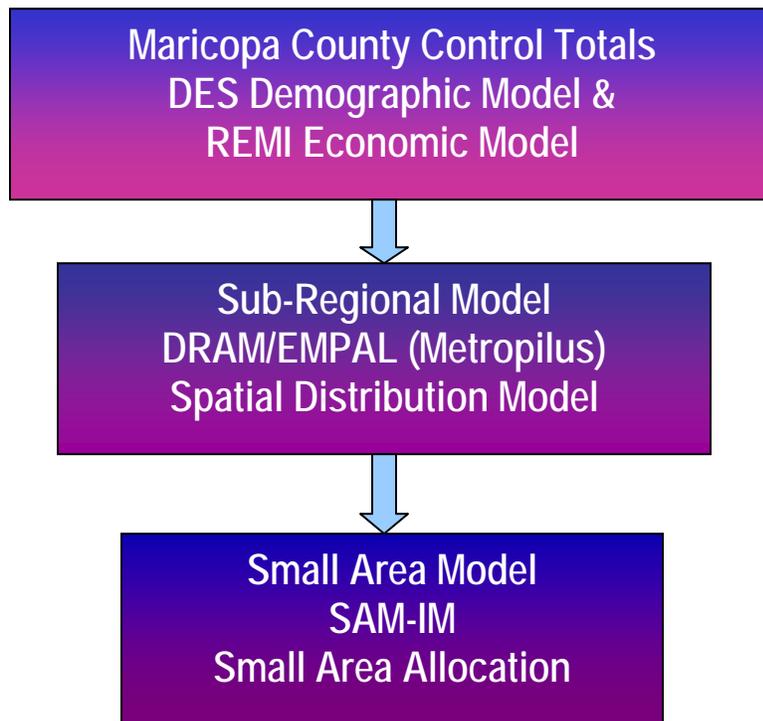
- Establish a linkage between transportation, land use and air quality models. This linkage is depicted in Figure 3-1.
- Test various policy alternatives and land use scenarios.
- Incorporate a Geographic Information System (GIS) into the process for better data sharing and review with member agencies and for maintaining an innovative approach to land use planning.



**Figure 3-1: Modeling Relationships**

#### 3.1 Methodology for Preparing Projections

The land use, population and socioeconomic modeling is based on a three-tier modeling process as shown in Figure 3-2. The first tier is a demographic model that is used to produce county control totals. The second tier involves using a spatial interaction model to allocate the county control total population and employment to subregions. The third tier allows for the allocation of the subregional population to smaller areas drawing upon GIS representation of land use plans and local policies of MAG member agencies.



**Figure 3-2: Three-Tier Modeling Process**

### **3.2 County-level Model**

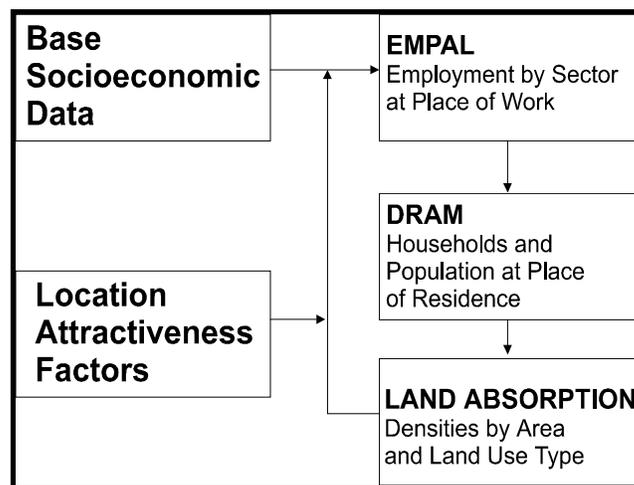
The first tier model is a county-level model. In accordance with Executive Order 95-2, the preparation of county and state level population projections is the responsibility of the Arizona Department of Economic Security (DES). This model is a demographic model, projecting births, deaths and net migration in each county for a fifty-year time horizon. This model incorporates population by age and sex, birth rates, death rates and net migration trends. The model takes into account short-term economic conditions, but not long-range employment trends. The Arizona Department of Employment Security (AZ-DES) created a population data series, including age distributions, to be consistent with the results of the 2005 Census Survey.

Since the MAG transportation models require employment projections, the total labor force participation was calculated by using econometric forecasted participation rates applied to the AZ-DES population by age, taking into account the projected unemployment rates and historic multiple job holding rates. These regional employment projections by industry were then transformed into employment by land use categories.

### 3.3 The Sub-Regional Model

For the second tier process, MAG is using METROPILUS (DRAM/EMPAL). DRAM and EMPAL are registered trademarks of S.H. Putman Associates. The two models, DRAM (Disaggregated Residential Allocation Model) and EMPAL (EMPloyment Allocation Model), forecast household location, and employment location. These models are being used by a number of major metropolitan areas.

DRAM/EMPAL projects the spatial patterns of households and employment in the MAG region. The forecasting procedure starts with regional trends, transportation facility descriptions and data on the current location of employment by sector. This information is then used to project the future location of households. Figure 3-3 displays this process. The projections are done for five-year intervals.



**Figure 3-3: DRAM/EMPAL Spatial Distribution Model**

Each five-year step begins with the EMPAL model to project employment by sector by zone. DRAM modeling to project households by income category follows the EMPAL run for that time period. The specific data that were input into the DRAM/EMPAL models are as follows:

#### **EMPAL**

- Employment by sector by zone for the previous time period
- Population by income category by zone for the previous time period
- Total area of each zone
- PM peak hour travel times from each zone to every other zone
- Regional employment forecasts by sector for the time period

#### **DRAM**

- Population by income category by zone for the previous time period
- Land used for residential purposes in each zone for the previous time period
- The percentage of developable land in each zone which is already developed
- Vacant developable land in each zone
- PM peak hour travel times from each zone to every other zone

- Employment by sector by zone for this time period
- Regional population forecasts by sector for the time period

Land consumption in each zone is performed after the DRAM model is run. Land consumption in this version of DRAM/EMPAL is derived from zone specific densities of housing and employment.

### **3.4 The Subarea Allocation Model (SAM-IM)**

The third tier Subarea Allocation Model- Information Manager (SAM-IM) allocates population and employment from RAZs to one-acre grids that are then aggregated to SAZs.

The method for ranking one acre grids (220 feet on each side) which receive development are based on a number of factors:

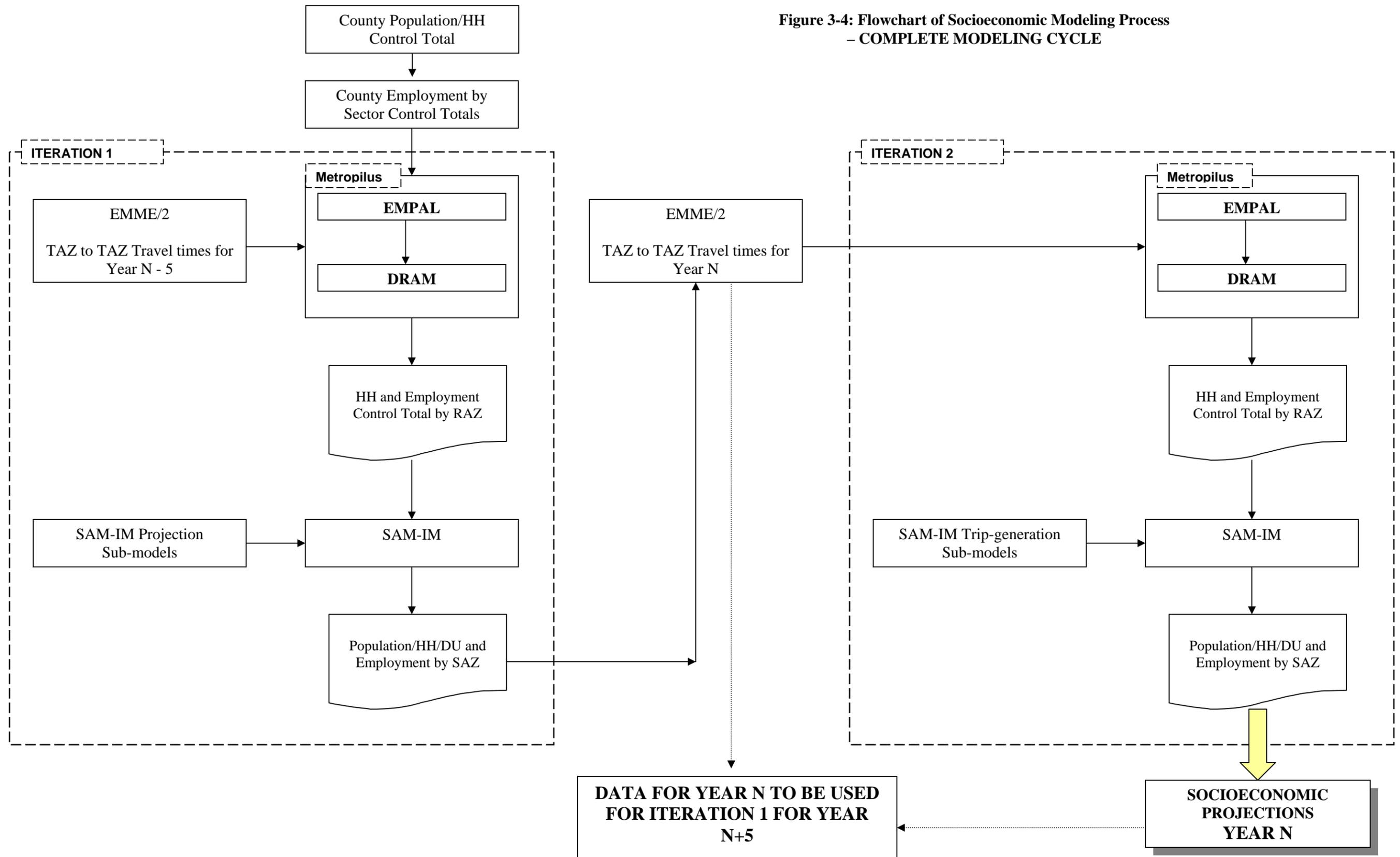
- Land use, to insure that the grid is vacant and eligible to receive either employment or population;
- Active and planned development, to include development underway, or anticipated initiation of development;
- Urbanization, to indicate the extent to which development occurs close to existing development;
- Highway access, to identify proximity to the nearest arterial; and
- Infill, to determine the extent to which a grid is surrounded by development.

The composite score derived from this ranking process is then used to determine the allocation of population and employment from each RAZ. Land uses are allocated separately, and buildouts, floor area ratios and square feet per employee are all used to determine the final allocation to grids and then to SAZ.

### **3.5 Modeling Process**

The following four figures (Figures 3-4 to 3-7) depict schematically the MAG socioeconomic modeling process.

**Figure 3-4: Flowchart of Socioeconomic Modeling Process  
– COMPLETE MODELING CYCLE**



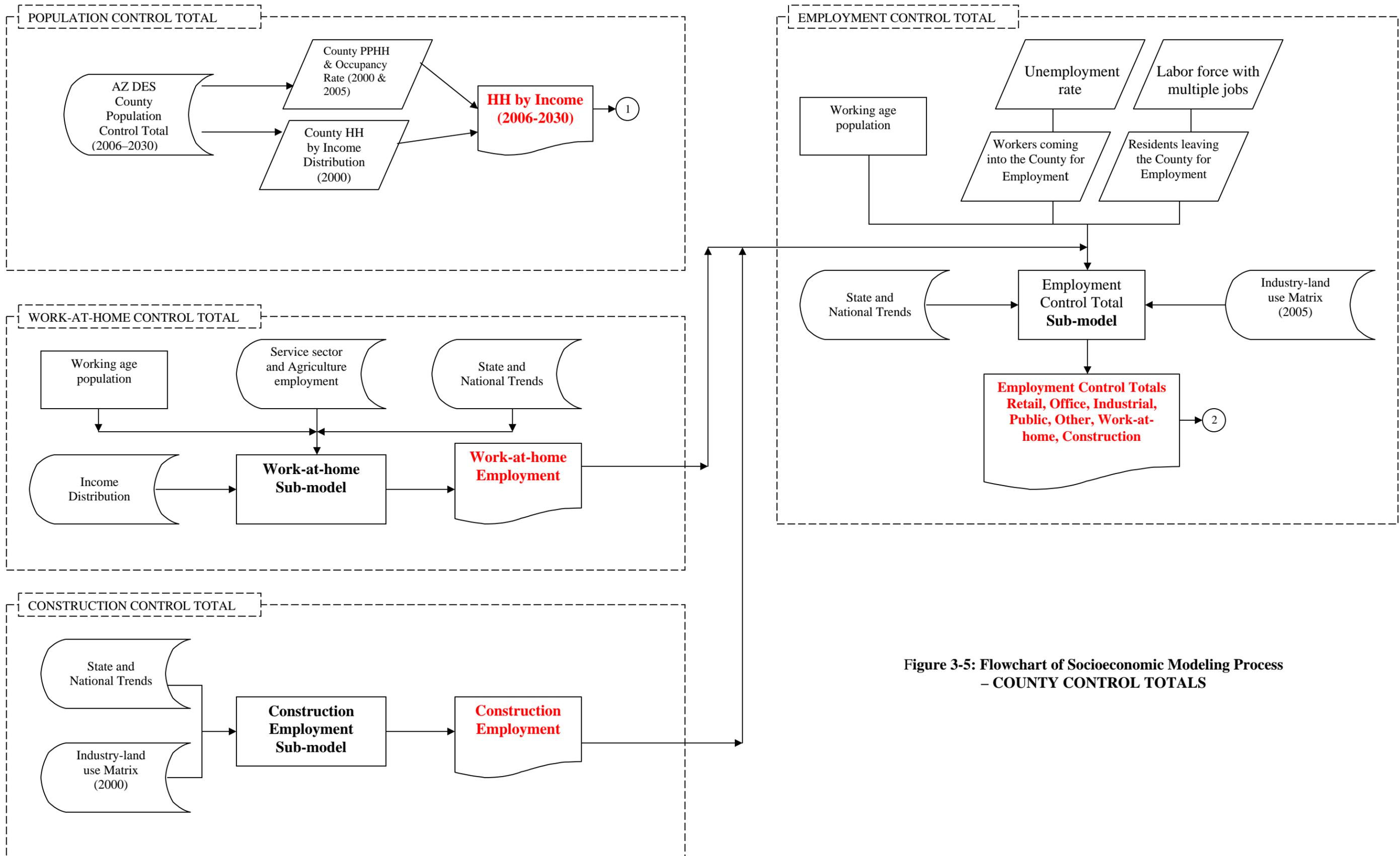
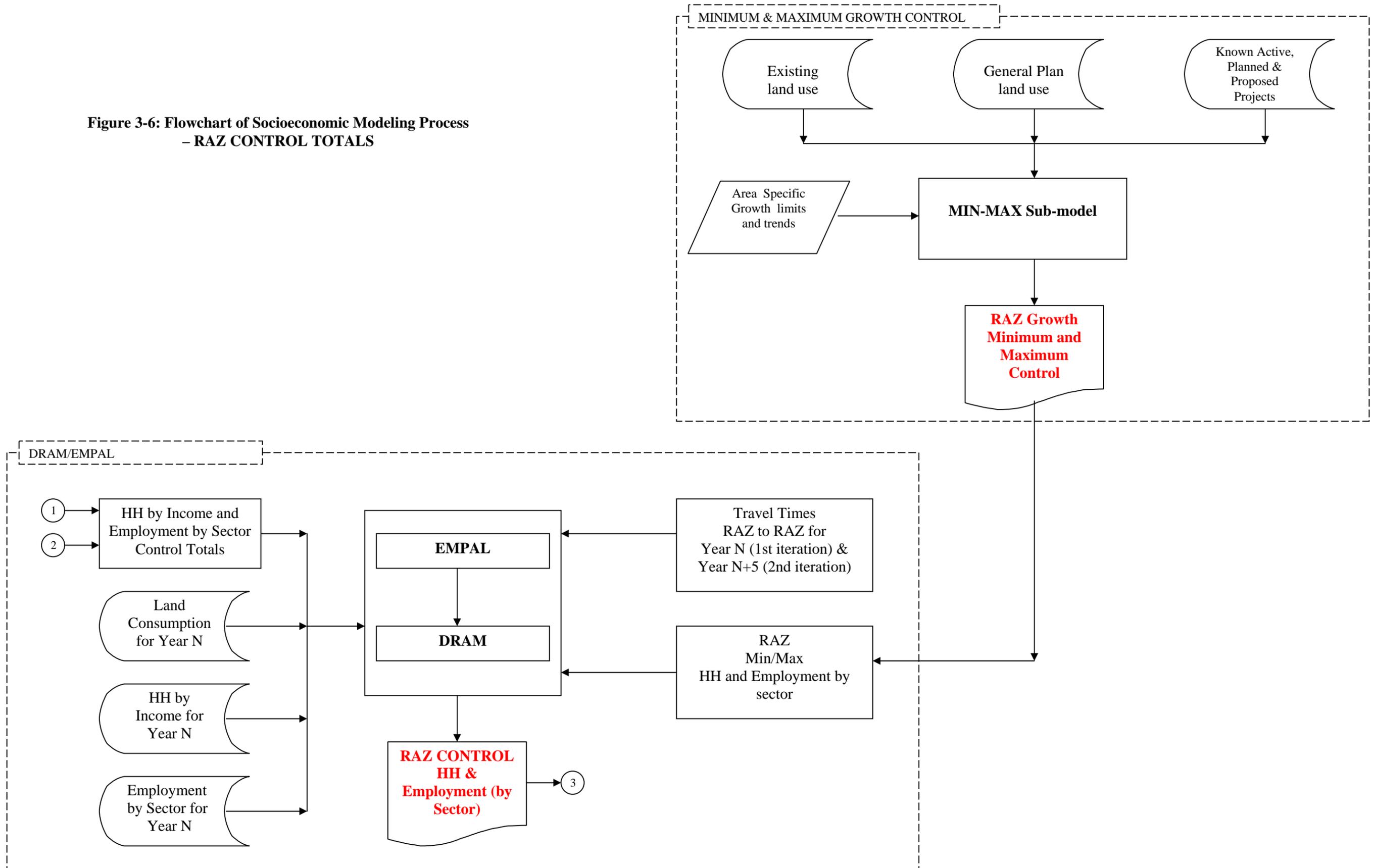
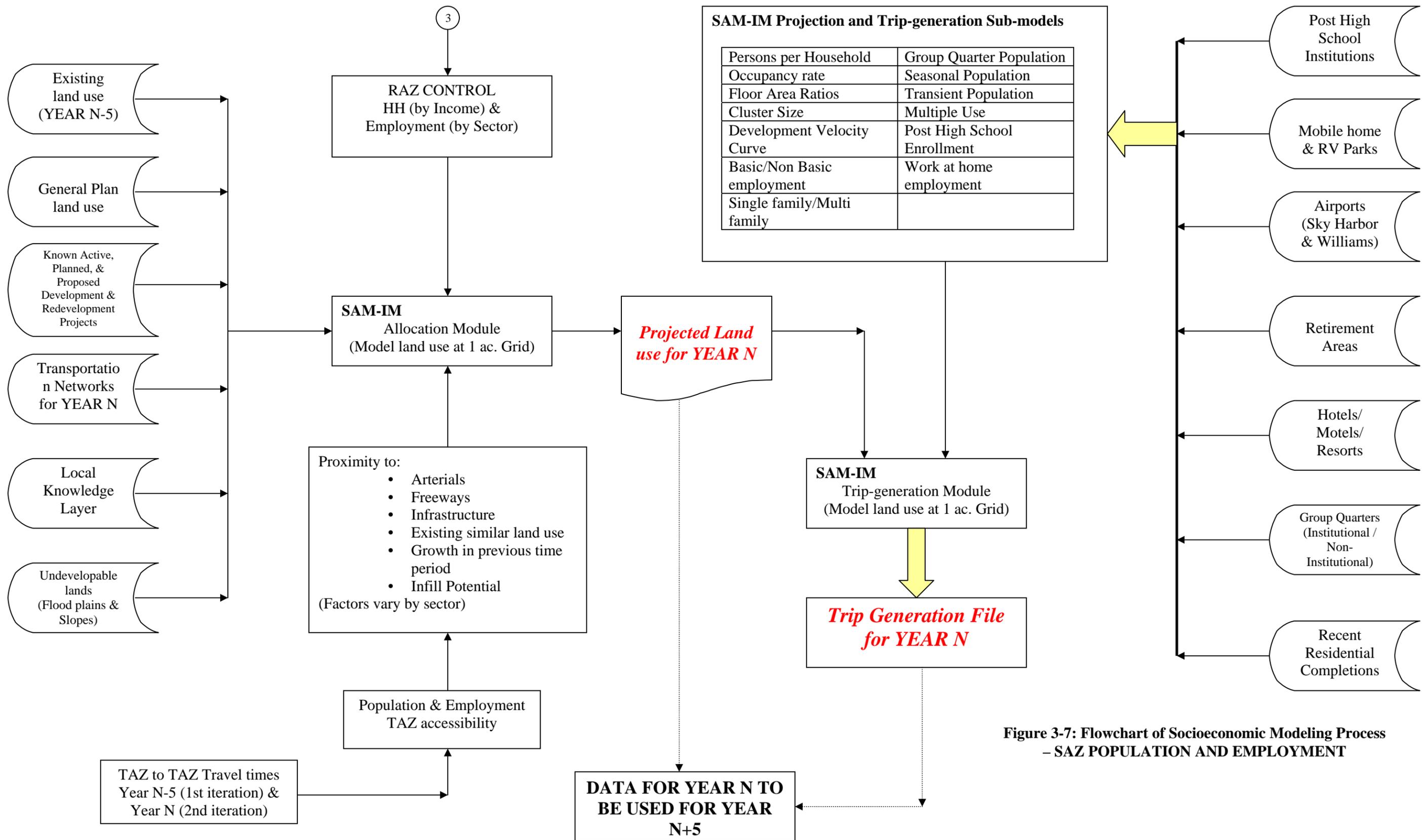


Figure 3-5: Flowchart of Socioeconomic Modeling Process  
 – COUNTY CONTROL TOTALS

**Figure 3-6: Flowchart of Socioeconomic Modeling Process  
– RAZ CONTROL TOTALS**





**Figure 3-7: Flowchart of Socioeconomic Modeling Process – SAZ POPULATION AND EMPLOYMENT**

#### **4. ASSUMPTIONS & METHODS**

The following is a list of assumptions and methods approved by the MAG Population Technical Advisory Committee (POPTAC).

##### **4.1 MAG Geography**

- Maricopa County is subdivided into 29 Municipal Planning Areas (MPAs), 148 Regional Analysis Zones (RAZs), 1955 Socioeconomic Analysis Zones (SAZs) or Traffic Analysis Zones (TAZs).
- The following process is used to define MPA boundaries:
  - Prior to the development of a new set of socioeconomic projections, MAG reviews the MPA boundaries with each member agency through the MAG Population Technical Advisory Committee (POPTAC). Maps are distributed showing the MPA boundaries from the last set of projections and input is requested.
  - Any area that has been annexed by a jurisdiction which falls outside the current MPA is automatically added to the MPA. Areas which have been deannexed are removed.
  - Where a jurisdiction requests a change to its MPA, MAG sets up a meeting with the parties involved. Normally this meeting would include the jurisdiction requesting the MPA boundary enlargement, and affected other member agencies if involved and possibly adjoining jurisdictions. The County is always invited to participate.
  - If there are no objections from the other entities involved, the change to the MPA is made.
  - If there are objections to the expansion of the MPA, and no consensus compromise is reached by the jurisdictions, MAG will leave the MPA boundaries as they existed in the last set of projections. Ultimately, whichever jurisdiction annexes the territory, will have it included in its MPA.
  - A jurisdiction is responsible for reviewing and providing input on land use, base data, surveys, assumptions and draft socioeconomic projections for the entire MPA.
- Traffic Analysis Zones (TAZs) are required for transportation planning and are set by the MAG Street Committee with input from the MAG POPTAC. The TAZ is only within the transportation modeling area and its numbering system is sequential.
- Socioeconomic Analysis Zones (SAZs) are consistent with TAZs for the same projection year.
- Each projection series requires a reevaluation of SAZs. If a SAZ is not split, the number remains the same in all projection series. If a SAZ is split, the old number is discarded and new unique numbers are assigned. This avoids invalid comparisons of new data to old data.
- SAZs are modified as expected growth in a 30-year horizon expands geographically or densities in existing SAZs warrant SAZ splits.
- Each municipality has its own Municipal Planning Area (MPA), which delineates the area of planning concern for each jurisdiction. SAZs and Regional Analysis

Zones (RAZs) fall completely within only one MPA, as SAZs add up to RAZs, and RAZs add up to MPAs.

- SAZs used for the 2007 projections will be identified as SAZ2007.

#### **4.2 Base July 1, 2005 Population and Housing Variables**

- The MAG socioeconomic models require a July 1, 2005 base population, housing and households by SAZ2007 from which to begin the modeling process.
- The MAG transportation models use number of households (occupied housing units) by SAZ as the base for trip-generation.
- With the completion of Census Survey 2005, the following data are available:
  - 2005 Census Survey data by jurisdiction for September 1, 2005 housing units, occupied housing units and population in households and group quarters.
  - Census 2000 data for April 1, 2000 with detailed population and housing data by unit type accumulated from Census geographies to SAZ2007.
  - Residential Completions for April 1, 2000 to July 1, 2005 submitted by each member agency.
- Use the following method to create July 1, 2005 totals consistent with the 2005 Census Survey:
  - Using residential completions between July 1, 2005 and September 1, 2005 and results of Census Survey 2005 create July 1, 2005 housing units, occupied housing units, and population by jurisdictions.
- Use the following method to create base housing and population information by MPA:
  - Proportionally distribute the population and housing in unincorporated county parts for each MPA based on its individual proportion of Census 2000 data augmented by residential completions between April 1, 2000 and July 1, 2005.
  - Cumulate housing units from Census 2000 and residential completions (between April 1, 2000 and July 1, 2005) to MPA2007. Stratify the data by incorporated and unincorporated portions of each MPA.
  - Derive overall vacancy rates and persons per household for the incorporated part of the MPA from the jurisdiction level rates from the 2005 Census Survey.
  - Derive overall vacancy rates and persons per household for the unincorporated parts of the MPA by adjusting the 2000 unincorporated SAZ data to match the balance of county from the 2005 Census Survey.
  - Factor housing units by MPA where needed to ensure a match on households and population in households with the 2005 Census Survey. It is assumed that these areas may have been miscounted by the 2000 Census.
  - Cumulate the housing units, households, and population for the incorporated and unincorporated areas to derive total housing and population data by MPA.

- Use the following method to create base housing and population information by SAZ2007:
  - Cumulate housing units by type (single and multi family) from Census 2000 and residential completions between April 1, 2000 and July 1, 2005 to SAZ2007.
  - Factor the housing unit data by SAZ2007 where needed to ensure consistency with the 2005 Census Survey. It is assumed that these areas may have been miscounted by the 2000 Census.
  - Calculate the SAZ level vacancy rates and persons per household by unit type from Census 2000.
  - Create vacancy rates and persons per household by unit type by SAZ2007 by keeping the same relationship as the Census 2000 vacancy rates and persons per household, but matching the MPA level rates derived from Census 2005.
  - Calculate occupied households and population in households by unit type by applying the corresponding vacancy rates and persons per household.

*POPTAC Recommendation:*

- Use the method as described above for cumulating the base July 1, 2005 population and housing data to SAZ2007.

### **4.3 Base July 1, 2005 Employment by Sector**

- The MAG transportation models require employment projections by 5 land use types, namely, Retail, Office, Public, Industrial, and Other, and 2 non-land use types, Work at Home and Construction.
- For effective transportation modeling, the employment by sector must be identified by land use sector and not by SIC categories. Thus, if an office is in a retail center, and the underlying land use is “Retail,” then the office employees are in a Retail sector. Care must thus be taken to ensure proper interpretation of the results.
- The MAG socioeconomic models, therefore, require a base July 1, 2005 employment by the same 5 land use types, namely, Retail, Office, Public, Industrial, and Other, and 2 non-land use types, Work at Home and Construction, from which to begin its modeling process.
- For the July 1, 2005 employment base, a database of employment of 3 or more employees at any one site was collected by MAG. This database included, among other items, the name, address, SIC code and number of employees at the site. This database was updated with the 2005 Maricopa County Trip Reduction data and reviewed by MAG member agencies.
- A coverage of existing land use as of January 2005 was collected by MAG and was reviewed by each MAG member agency. This coverage was based on land use categories approved by POPTAC prior to beginning the creation of the coverage. Changes and updates were made to the coverage as identified by the member agencies.
- The employment locations are address matched, compared to a database of employment-based buildings, and assigned to the underlying land use sector as identified in the existing land use database.

- Where employment appears incompatible with land use sectors, such as open space, the land use code as derived from the NAICS code is used. This will account for possible issues with small parcels of employment-based land use not identified on the existing land use database.
- Where employment appears in a multiple use land use sector, such as Business Park, the underlying base employment is derived from the NAICS code.
- After all of the known employment is allocated, the residual employment is assumed to be the employees per site that are not collected in the MAG Employment Database. This employment is allocated to the employment-based land use sectors identified on the existing land use coverage with limited or no employment. A database of employment-based buildings is also used. Floor Area Ratios and Employment Density factors are used to allocate this remaining employment at the appropriate densities.
- The majority of construction employment is not located at the corporate offices of the company, but at construction sites across the region. Therefore, construction employment is assigned spatially to locations where new construction was identified in the prior years, using both the Residential Completions database and the Development database. This employment is considered to be in the Other Sector and follows new construction.
- Work-at-Home employment was derived separately using the Census 2000 data on home employment factored using the 2005 total employment. This was prorated to SAZ using Census 2000 data and new residential development.
- Non-Basic employment was derived separately as identified in 5 below.

*POPTAC Recommendation:*

- Use the method as described above for cumulating base July 1, 2005 employment by sector to SAZ2007.

#### **4.4 Population and Employment Control Totals**

- MAG member agencies contracted with the U.S. Census Bureau to perform the 2005 Census Survey for Maricopa County.
- Arizona Department of Employment Security (AZ-DES) created a population data series to be consistent with the results of the 2005 Census Survey.
- MAG develops its subregional resident population projections to be consistent with population control totals for Maricopa County developed by the Arizona Department of Employment Security (AZ-DES).
- AZ-DES Population Projections have prescribed age distributions, which affect household formation and size and labor force control totals.
- AZ-DES does not produce employment projections for counties beyond 2007, and for Arizona beyond 2010.
- The MAG socioeconomic projections and transportation models require detailed information about households and employment.
- Other available forecasts for counties in Arizona have varied population levels and age distributions for the projection periods associated with their employment and fiscal forecasts.
- Residents and firms located in Maricopa and Pinal counties are increasingly reflecting economic, social, and behavioral choices of a metropolitan area.

- Research and observations from other metropolitan areas show location and timing patterns of development integrating both counties into a single market area.
- Most current forecasts do not explicitly link the counties of the Phoenix-Mesa-Scottsdale Metropolitan Area within their forecasts.
- Pinal County is part of the Central Arizona Association of Governments, which along with the county and municipalities maintain and produce development information about Pinal County.

Key assumptions and methods for producing 2007 socioeconomic control totals are identified below:

a. Households and Housing Units

- Using existing group quarter characteristics (from U.S. Census Bureau information), maintain population share of group quarter residents (excluded are military and inmate population in Maricopa County).
- Based on current U.S. Census data, calculate the number of households for the primary population groups, total housing units, and owner-occupied units.

b. Labor Force and Employment of Residents

- Calculate total labor force participation by using econometric forecasted participation rates applied to the AZ-DES population by age.
- Calculate employed persons by county of residence using econometric forecasted unemployment rates.
- Using historic multiple job holding rates for the nation and Arizona, calculate the number of additional jobs and total jobs held by residents.

c. Total Jobs, Non-Farm Employment, and Other Employment Activities

- Using existing patterns and forecasted changes in employment and population relationships, calculate adjusted employment levels to meet employment and service requirements of the AZ-DES resident population for the metropolitan area.
- Adjust forecasted employment levels for other employment activities (agriculture, military, and other) by related change in employment levels.
- Calculate sole proprietorship and self-employment totals by maintaining existing employment patterns within the metropolitan area.

d. Employment by Industry and County Employment Totals

- Based on econometric forecasted industry change patterns, recalculate employment by industry to match adjusted total employment levels. Additionally, produce final employment levels for other employment activities.

POPTAC Recommendation:

- Produce total employment control totals for Maricopa County and the metropolitan area for each five-year period between 2010 and 2035.
- Use the AZ DES population projections for 2010 through 2035 that are consistent with the U.S. Census 2005 Special Survey results for Maricopa County and the official AZ DES 2005 estimation for the remainder of the metropolitan area.
- Use Moody's Economy.Com economic forecast for detailed labor force and employment information as needed for the MAG socioeconomic projections.

- Adjust the labor force and employment outcomes of the Economy.com forecast to be consistent with the population total and detailed characteristics of the AZ DES projection.
- Adjust the labor force and employment outcomes to maintain demographic and economic relationships within the Economy.Com econometric forecast, consistent with the DES forecast.
- Reflect an employment development pattern in the metropolitan area representing an increased economic interdependence of emerging areas.

#### **4.5 County-level Employment Projections by Land Use Classification Sector**

- The MAG transportation models require employment projections by 5 land use types, namely, Retail, Office, Public, Industrial, and Other, and 2 non-land use types, Work at Home and Construction.
- For effective transportation modeling, the employment by industry sector must be identified by land use sector and not by NAICS categories. Thus, if a professional services office is in a retail center, and the underlying land use is “Retail,” then these employees are in a Retail sector.
- Arizona Department of Employment Security (AZ-DES) created a population data series to be consistent with the results of the 2005 Census Survey.
- AZ-DES Population Projections have prescribed age distributions, which affect household formation and size and labor force control totals.
- Calculate total labor force participation by using econometric forecasted participation rates applied to the AZ-DES population by age.
- Calculate employed persons by county of residence using econometric forecasted unemployment rates.
- Using historic multiple job holding rates for the nation and Arizona, calculate the number of additional jobs and total jobs held by residents.
- Based on the current patterns of firm location patterns by industry within each land use category, the regional employment projections by industry were transformed into employment by land use categories.
- Based on econometric forecasted industry change patterns, recalculate employment by industry to match adjusted total employment levels. Additionally, produce final employment levels for other employment activities.

##### *POPTAC Recommendation:*

- Use the method as described above for calculating regional employment projections and distributing then into the identified land use categories for each five years to 2035.

#### **4.6 Basic/Non-Basic Employment**

- The MAG Socioeconomic model assigns employment to areas based on land use designations in MAG Member Agency General Plans.
- Since the General Plans are general in nature, many large tracts of residential land use will have some non-basic retail, public and other employment associated with them and should have some retail, public and other employment assigned to them as population growth occurs.

- Based on an analysis of non-basic employment in larger tracts of existing land use, it appears that in future years 10% of retail employment, 5% of public employment and 10% of other employment should be held back for non-basic employment. This non-basic employment should be assigned to the Socioeconomic Analysis Zones where large tracts of residential development exist and where population growth has occurred.

POPTAC Recommendation:

- Use the method as described above for assigning non basic employment to large tracts of residential land.

#### **4.7 Buildout Population and Housing Variables**

- The MAG socioeconomic models require a buildout population, housing and households to identify the population and housing potential in an area for its modeling process.
- The buildout analysis was performed for minimum, target and maximum densities as described in the accompanying paper (Paper 1), “Buildout Procedure for Population and Housing Variables.”

*See also, attached paper (Paper 1) on Buildout Procedure for Population and Housing Variables*

POPTAC Recommendation:

- Use the method for projecting and cumulating buildout population and housing data to SAZ2007 as identified in the accompanying paper (Paper 1), “Buildout Procedure for Population and Housing Variables” for target population and housing.

#### **4.8 Buildout Employment Variables**

- The MAG socioeconomic models require a buildout employment by land use sector to identify the employment potential in an area for its modeling process.
- The buildout analysis was performed for minimum, target and maximum densities as described in the accompanying paper (Paper 2), “Buildout Procedure for Employment Variables.”

*See also, attached paper (Paper 2) on Buildout Procedure for Employment Variables*

POPTAC Recommendation:

- Use the method for projecting and cumulating buildout employment data to SAZ2007 as identified in the accompanying paper (Paper 2), “Buildout Procedure for Employment Variables” for target employment.

#### **4.9 Vacancy and Occupancy Rates**

- Census Survey 2005 provided data on total occupancy rates for all housing units by jurisdiction only.
- Occupancy rates by unit type by SAZ are needed by the socioeconomic models.
- Occupancy rates will be derived in part from the 2000 Census by dividing the total number of occupied housing units (by unit type single family or multi-family) by the total number of housing units (by unit type).
- Total housing units (by unit type) and total occupied housing units (by unit type) by block will be allocated to SAZ, which in turn will be summed to Regional Analysis Zones and Municipal Planning Areas.
- When there is not enough information at the SAZ zone level for projecting occupancy rates, the next level of geography (RAZ) is used.
- When there is not enough information at the RAZ zone level for projecting occupancy rates, the next level of geography (MPA) is used.
- The sum of occupied housing units by jurisdiction are made consistent with Census Survey 2005 results by adjusting the SAZ level occupancy rates.
- MAG member agencies will be asked for input to identify areas where changes in occupancy rates are expected over time.

##### *POPTAC Recommendation:*

- Use the method described above to develop occupancy rates consistent with Census Survey 2005 for single family and multi-family units by SAZ2007.
- Maintain the derived occupancy rates over time with necessary modifications, as identified by MAG member agencies.

#### **4.10 Persons per Household**

- Census Survey 2005 provided data on persons per household for all housing units by jurisdiction only.
- Persons per household by unit type by SAZ are needed by the socioeconomic models.
- Persons per household will be derived in part from the 2000 Census by dividing the total population in households (by unit type single family or multi-family) by the total number of occupied housing units (by unit type).
- Population in households (by unit type) and total occupied housing units (by unit type) by block will be allocated to SAZ, which in turn will be summed to Regional Analysis Zones and Municipal Planning Areas.
- When there is not enough information at the SAZ zone level for projecting persons per household, the next level of geography (RAZ) is used.
- When there is not enough information at the RAZ zone level for projecting persons per household, the next level of geography (MPA) is used.
- The sum of population in households by jurisdiction is made consistent with Census Survey 2005 results by adjusting the SAZ level persons per household.
- MAG member agencies will be asked for input to identify areas where changes in persons per household are expected over time.

*POPTAC Recommendation:*

- Use the method described above to develop persons per household consistent with Census Survey 2005 for single family and multi-family units by SAZ2007.
- Maintain the derived persons per household rates over time with necessary modifications, as identified by MAG member agencies.

#### **4.11 Multiple Use Definitions by Geographic Location**

- The MAG projections are consistent with member agency General Plans and Planned Area Developments.
- Many of these plans, however, have areas defined as multiple use areas that can generate various types and densities of housing or employment.
- In order to use these designations in socioeconomic modeling, the multiple use categories must ultimately be converted to one or more of the standard land use categories.
- The MAG socioeconomic models have been enhanced to accommodate such multiple use categories. The models are flexible enough to allow for each individual area to have different proportions of standard land use categories.
- Default categories are consistent with past local multiple use development but can be modified, area by area, by the member agencies.
- The default categories and areas are defined in the accompanying papers: Paper 1, “Buildout Procedure for Population and Housing Variables” and Paper 2, “Buildout Procedure for Employment Variables.”

*See also, attached Paper 1 on Buildout Procedure for Population and Housing Variables and Paper 2 on Buildout Procedure for Employment Variables.*

*POPTAC Recommendation:*

- Accept default land use proportions by area category, which may be modified by individual member agencies.
- Accept default land use proportions by MPA, which may be modified by individual member agencies.
- Maintain all land use proportions over time, unless modified by individual member agencies.

#### **4.12 Single Family / Multi-family Split for Maricopa County by Time**

- The MAG projections are consistent with member agency General Plans and Planned Area Developments.
- The data is then used in MAG transportation models to project future transportation behavior.
- The current version of the model requires long-term projections of the distribution of future housing units into single family and multifamily types.
- MAG socioeconomic models can determine the distribution of housing provided a county-wide control total is known.
- Census 2000 and Residential Completions from April 1, 2000 to June 30, 2005 data provide unit type information for the 2005 Base.
- This is consistent with the split identified for 2005 in attached Paper 3 on Single Family / Multi-family Split.

- General Plans give good future projections of land for single family and multi-family units.
- A split between single family and multi-family units over time at the county-level should be identified.

*See also, attached paper (Paper 3) on Single Family / Multi-family Split.*

*POPTAC Recommendation:*

- Use single family/multi-family split over time as identified in the accompanying paper (Paper 3), “Single Family / Multi-family Split.”

#### **4.13 Cluster Size, Floor Area Ratios (FAR) and Employment Density**

- The MAG transportation models require employment projections by 5 land use types, namely, Retail, Office, Public, Industrial, and Other.
- Cluster Size represents the average parcel size of employment land use.
- FAR represents the ratio of the square footage of the building to the square footage of the parcel of land.
- Employment Density represents the floor space required by employees. This is calculated as Employees per 1000 square feet of floor space.
- The MAG models convert a parcel of land to the square feet of employment space and then to the number of employees on that parcel. This requires an understanding of average employment areas.
- Cluster Size, FAR and Employment Density differ for each non-residential land use type.
- Although there appear to be no adequate surveys and methods for projecting Cluster Size for Employment over time, it is likely that Cluster Size, FAR and Employment Density will not change appreciably over time.

*See also, attached paper (Paper 4) on Cluster Size, FAR and Employment Density*

*POPTAC Recommendation:*

- Accept the Cluster Size, FAR and Employment Density values by land use type as identified in Table 1 of the accompanying paper (Paper 4), “Cluster Size, FAR and Employment Density.”
- Maintain Cluster Size, FAR and Employment Density values over time for the employment projections.

#### **4.14 Residential Development Density, Cluster Size and Velocity Curves**

- In developing SAZ population projections, the MAG socioeconomic models project residential dwelling units from parcels identified for residential uses in the General Plans or areas anticipated to be residential in the Development database. Households and Population by SAZ are subsequently calculated from the dwelling unit projections.
- Three General Plan Residential Density figures (dwelling units/acre) have been collected from the member agencies. These include the minimum, maximum and target residential density anticipated for each residential land use type in the General Plan. The models use Target Density as the base for new residential

growth. The Maximum density set by the MPA caps the residential density. These densities may be changed, polygon-by-polygon by the member agencies if desired.

- Areas covered by the Development database have the number of dwelling units being built/planned and thus do not need to use the densities identified in the General Plan.
- Cluster Size represents the average parcel size of residential land use.
- Residential Density and Cluster Size differ for each residential land use type.
- Although there appear to be no adequate surveys or methods for projecting Density and Cluster Size for residential uses over time, it is likely that Residential Density and Cluster Size will not change appreciably over time.
- Development Velocity Curves represent the life cycle of residential development projects. These are used to estimate the development trends of residential units coming into the market.
- The Development Velocity Curves are based upon an analysis of the life cycles of all completed projects in Maricopa County over the 1979 to 1999 time period.
- The size of the development project (total number of units to be built) decides the development Velocity Curve to be used for the particular project. The percent of built units constructed is used as an indicator of the stage the development project is on the Velocity Curve. The total number of units built during a five-year time period shall not exceed the number indicated by the velocity curve by more than 10%.

*See also, attached papers (Papers 5 & 6) on Residential Cluster Size and Residential Velocity Curves*

*POPTAC Recommendation:*

- Accept the residential density methodology as identified above.
- Accept the Cluster Size and Development Velocity Curves as identified in Table 1 of the accompanying paper (Paper 5), “Residential Cluster Sizes” and Figure 1 of the accompanying paper (Paper 6), “Residential Development Velocity Curves” respectively.
- Maintain the Residential Density, Cluster Size and Velocity Curve values over time for population projections.

#### **4.15 Group Quarters**

- All residents not living in households are classified as living in group quarters. Population in group quarters is a part of the socioeconomic projections required by MAG transportation models.
- Methods for projecting the different components of population in group quarters (military quarters, prisons and jails, college dormitories, nursing homes, and other group quarters) have been identified by MAG Consultants as part of the GIS and Database Enhancement Project produced in 2000.
- The group quarter population by SAZ shall be based upon the results of the 2005 Census Survey and the group quarter inventory prepared for the full count prior to the 2005 Census Survey.

- The group quarters projections are calculated as follows:
  - Military quarters = held constant at the current population of Luke Air Force base.
  - Prisons and jails = 1.128 percent of the Maricopa County population age 20 through 44.
  - College dormitories = 8.951 percent of the Maricopa County population age 18 to 19.
  - Nursing homes = 5.433 percent of the Maricopa County population age 75 or older.
  - Other group quarters = 0.417 percent of the entire Maricopa County population.

*POPTAC Recommendation:*

- Use the methodology for group quarter population as identified above.

#### **4.16 Households by Age of Householder and Housing Units by Age of Unit**

- The MAG transportation models require projections for the age of the head of householder by Socioeconomic Analysis Zone (SAZ).
- If such data is not available, the MAG transportation models require projections for the number of housing units in each SAZ by four categories of housing unit age (less than 10, 10 to 19, 20 to 29, and 30 or more years old).
- A survey of the large-population Metropolitan Planning Organizations revealed that forecasts of the age of head of householder are not common. Possible projection methods for age of head of householder will be reviewed in the next update of MAG socioeconomic models.
- Building age data from Maricopa County Assessors Residential Master database was analyzed to identify units for demolition.
- The current MAG methodology for calculating housing unit age - ages the existing housing stock, adds the change in residential construction projected by SAM-IM, and rebuilds demolished units.

*POPTAC Recommendation:*

- Use the method as described above for calculating housing units by age of unit in each SAZ by four age categories.

#### **4.17 Households by Income**

- The MAG transportation models require projections for the number of households in each SAZ by five income quintiles.
- The data for 2000 was collected as part of the Census long form and was aggregated to RAZs and SAZs as the base dataset for households by income group.
- The current MAG methodology projects households by income groups by RAZ using Metropilus, the latest version of DRAM/EMPAL. The projected change in income distribution is assigned to each SAZ within the RAZ using the base year income distribution, future development characteristics, and the age of existing development.

*POPTAC Recommendation:*

- Use the method as described above for calculating households in each SAZ by five income quintiles.

#### **4.18 Seasonal Population**

- Seasonal population is defined as residents of the area for two weeks to six months and is a part of the socioeconomic projections required by the MAG transportation models.
- An inventory of mobile home parks and RV parks was created to gather information on location and characteristics of the parks, expansion plans, as well as the number and types of residents during peak and low seasons.
- The inventory of mobile home and RV parks was last reviewed and updated by MAG member agencies in December 2006.
- Seasonal residents are divided into two categories for projections, namely those residing in RV and mobile home parks and those residing in permanent housing units.
- The RV and mobile home parks component of seasonal population projection by SAZ is based on existing inventory and known expansion plans.
- The permanent housing component of seasonal population is based on the ratio of 2000 “non-park mobile home” seasonal housing units by SAZ to the 2000 total housing units by SAZ.
- This ratio is assumed to be constant over time since no evidence is available on which to quantify any systematic change.
- Seasonal population is projected by multiplying the seasonal units with the 2000 estimate of seasonal persons per household. This estimate of seasonal persons per households is held constant over time.
- The seasonal population used for MAG Transportation models is the average of the high season and the low season projections.
- When there is not enough information at the SAZ zone level for projecting permanent housing component of seasonal population, the next level of geography (RAZ) is used.
- When there is not enough information at the RAZ zone level for projecting permanent housing component of seasonal population, the next level of geography (MPA) is used.

*POPTAC Recommendation:*

- Accept the seasonal population projection methodology as identified above.

#### **4.19 Transient Population**

- Transient population, defined as residents of the area for two weeks or less, is a part of the socioeconomic projections required by MAG transportation models.
- To estimate transient population, an inventory of hotels, motels, and resorts was created to gather information on their location, number of rooms, occupancy, expansion plans and information on new facilities.
- The inventory of hotels/motels was last reviewed and updated by MAG member agencies in December 2006.

- Transient population numbers for winter and summer seasons by SAZ were derived from the inventory and its corresponding data.
- Separate methodologies were developed to produce projections of the transient population traveling to the Phoenix area for business reasons and the transient population coming for non-business reasons.
- Current data on visitor statistics was obtained from the Arizona Office of Tourism and the Greater Phoenix Convention & Visitors Bureau Statistical Reports
- Transient population projections at the county-level are distributed to SAZ zone level using the existing Hotel/Motel room share by SAZ, augmented by known future plans.
- The transient population used for MAG Transportation models is the average of the high and low transient population projections.

*POPTAC Recommendation:*

- Accept the transient population projection methodology as described.

#### **4.20 Age Restricted Communities**

- MAG transportation models require SAZs to have identifiers for Age Restricted Areas.
- A survey of the existing age restricted communities was conducted and a GIS coverage of the communities was created.
- All developments are reviewed with member agencies to identify additional age restricted communities.
- SAZs with fifty percent or more of their residential land area under communities with deed restrictions on age of residents are flagged as Age Restricted SAZs.

*POPTAC Recommendation:*

- Accept the method as described for identifying Age Restricted SAZs.

#### **4.21 Post Secondary Enrollment**

- Post secondary enrollment projections are a component of socioeconomic projections required by the MAG transportation models.
- An inventory of post high school institutions was created to gather information on their location, current enrollment, expansion plans, and projected enrollment.
- Post high school institutions were classified into three categories for this analysis: community colleges, public universities (ASU), and private colleges.
- This dataset was updated in 2006 with a phone and internet survey of post secondary education providers to gather information on current enrollment and expansion plans.
- The updated inventory of Post High School institutions was reviewed by MAG member agencies in December 2006.
- Participation rates for the three institution types were calculated using data from 2000 Census and age cohort data on enrollment by campus.

- Using county age-by-year distribution of population from Arizona Department of Economic Security (AZDES) and average participation rates by institution type the total enrollment for each institution type was calculated.
- Allocate the projected enrollment to individual campus based on known future expansion plans, capacity, and institutional projections if available.

*POPTAC Recommendation:*

- Use the post secondary enrollment projection methodology as identified above.

## **5. THE MAG REVIEW PROCESS**

Preparation for the socioeconomic modeling needed to produce MAG projections has been very extensive. MAG staff reviewed each step of the process. In addition, the MAG Population Technical Advisory Committee (POPTAC) and MAG POPTAC Ad Hoc Subcommittee reviewed all data and GIS coverages, recommended specific assumptions to be incorporated into the models, and reviewed the results of the data modeling efforts. Figure 5-1 depicts the socioeconomic data and modeling review process.

After a 16-month review of base data, GIS coverages and assumptions, the MAG POPTAC reviewed the implications of the data collection efforts, in particular the base year 2005 population and employment and the buildout population and employment. Following a review of the base and buildout population and employment, test model runs were performed for the early projection years, and MAG POPTAC reviewed and commented on these runs. The input received on these test runs were used to develop a more refined draft.

In early 2007 three draft runs were performed. Comments on each of the drafts were solicited from member agency staff and incorporated into revisions as necessary. During this period to ensure an opportunity for thorough review, MAG staff met with member agencies 27 times, conducted 2 workshops, and made 21 presentations to MAG committees. and other local agencies. Groups such as the MAG Planners Stakeholders were kept informed of the progress of the projections process and encouraged to participate in the review process.

In addition to conveying the draft projections to member agencies through traditional means (spreadsheets and hard copy reports) MAG, if requested, also provided the POPTAC with thematic maps depicting the projections series. GIS data was also provided to POPTAC members as needed.

The results of the 2007 Projections may be seen in Figures 5-2 to 5-5 for population concentrations in years 2005, 2010, 2020, and 2030. Similarly Figures 5-6 to 5-9 depict employment concentrations for the same years.

### **5.1 MAG Staff**

MAG staff is charged with preparing subregional population projections by Municipal Planning Area, Regional Analysis Zone and smaller areas known as Socioeconomic Analysis Zones (SAZs). Staff also provides support to the Chairs of the MAG Population Technical Advisory Committee, and Ad Hoc Subcommittee, disseminates information to POPTAC members and representatives of member agencies on socioeconomic information, manages consultant contracts and represents the interests of MAG on the State Population Technical Advisory Committee.

## **5.2 MAG POPTAC**

The MAG Population Technical Advisory Committee was created to provide technical input in the development of socioeconomic information for the region, including, Census, socioeconomic databases, GIS coverages, resident population estimates, and socioeconomic projections. The MAG POPTAC was also designated by the MAG Regional Council as the lead committee for coordinating preparations for the Census in Maricopa County.

The Committee is comprised of representatives of MAG's 25 cities and towns, three Indian Communities and Maricopa County. However, because of limited staff resources, some member agencies have chosen not to send an official representative to the meetings.

The MAG POPTAC meetings are held generally held on a monthly basis. Members may participate in the meetings either by attending in person, or via audio or videoconference. An agenda, minutes and attachments for the MAG POPTAC are generally sent out in electronic format via e-mail a week prior to the meeting. The meeting agenda and minutes are also posted on the MAG Website at <http://www.mag.maricopa.gov> under MAG POPTAC. On April 24, 2007, the MAG POPTAC recommended approval of the 2007 Projections for July 1, 2010, 2020, and 2030 by MPA and RAZ.

## **5.3 MAG POPTAC Ad Hoc Subcommittee**

The MAG POPTAC Ad Hoc Subcommittee was created to provide more in depth input on the development of socioeconomic information and to make technical recommendations to the members of the MAG POPTAC. Membership on the Subcommittee is open to all MAG member agencies, but generally the participants include the largest MAG member agencies with the greatest technical resources. This includes Phoenix, Mesa, Glendale, Scottsdale, Maricopa County, Chandler and Peoria. The MAG POPTAC Ad Hoc Subcommittee generally meets just prior to the scheduled meeting of the MAG POPTAC.

## **5.4 MAG Management Committee**

The MAG Management Committee is comprised of the highest administrative officials of each of the member agencies as well as the Regional Public Transportation Authority and Arizona Department of Transportation. Recommendations made by the MAG POPTAC on estimates and projections are forwarded to members of the Management Committee for consideration. The Management Committee will review the proposed estimates and projections and make a recommendation to the Regional Council for their approval. The Management Committee generally meets monthly. Meeting agendas and minutes are posted on the MAG Website. On May 9, 2007, the MAG Management Committee recommended approval of the 2007 Projections for July 1, 2010, 2020, and 2030 by Municipal Planning Area and Regional Analysis Zone.

## **5.5 MAG Regional Council**

The MAG Regional Council is comprised of the elected official of each of MAG's member agencies as well as representatives from the Arizona Department of

Transportation and the Citizens Transportation Oversight Committee. The elected official is usually a Mayor, but may be a Councilmember. The Regional Council establishes MAG policy and direction and must approve MAG socioeconomic estimates and projections before they can be considered officially approved by MAG. The Regional Council generally meets monthly. Meeting agendas and minutes are posted on the MAG Website. The MAG Regional Council approved the 2007 Projections for July 1, 2010, 2020, and 2030 by Municipal Planning Area and Regional Analysis Zone on May 23, 2007.

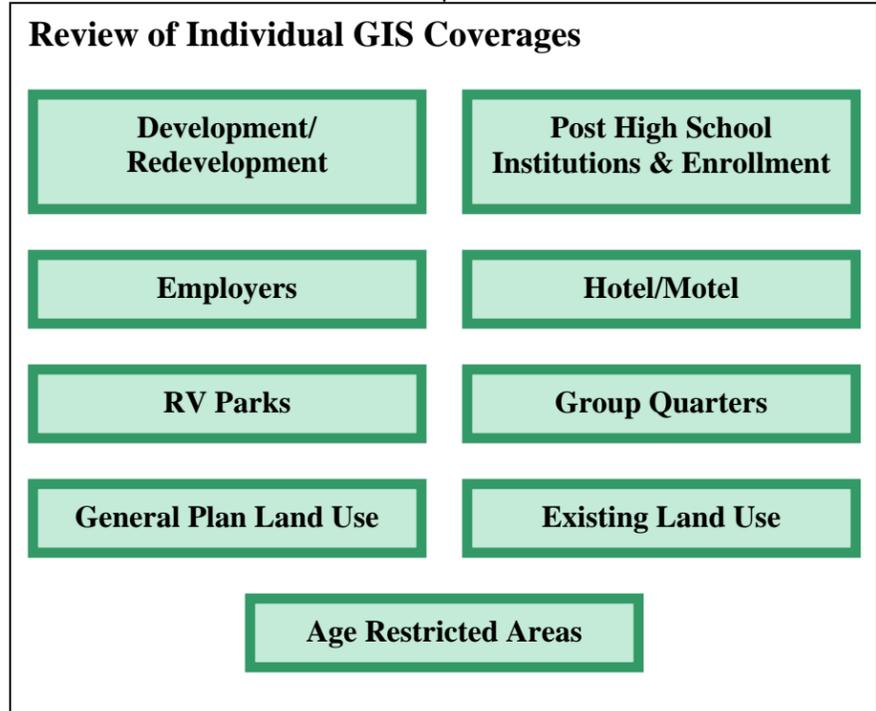
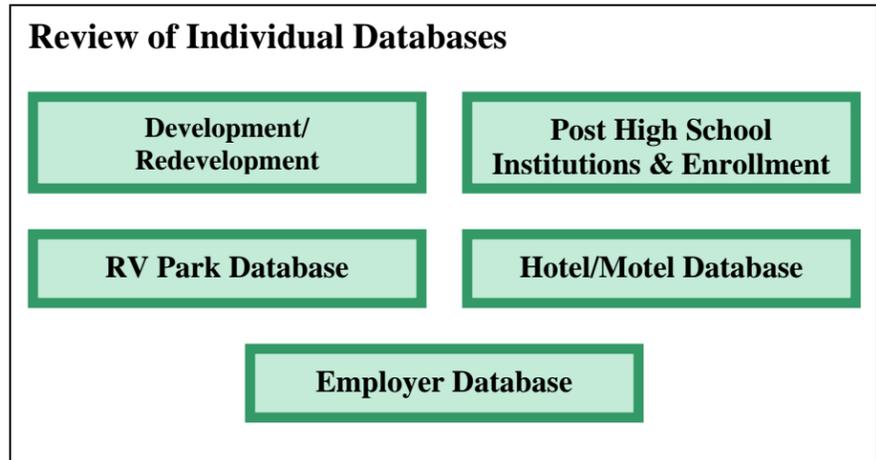
## **5.6 State Population Technical Advisory Committee**

The State Population Technical Advisory Committee was originally established in 1977 by a Governor's Executive Order to review and approve the official population projections for Arizona. In 1988, the Executive Order was revised. The revisions resulted in changes in the Committee membership, expansion of the committee's responsibilities to include both population estimates and projections, and a review and advisory recommendation on both population estimates and projections to the DES Director.

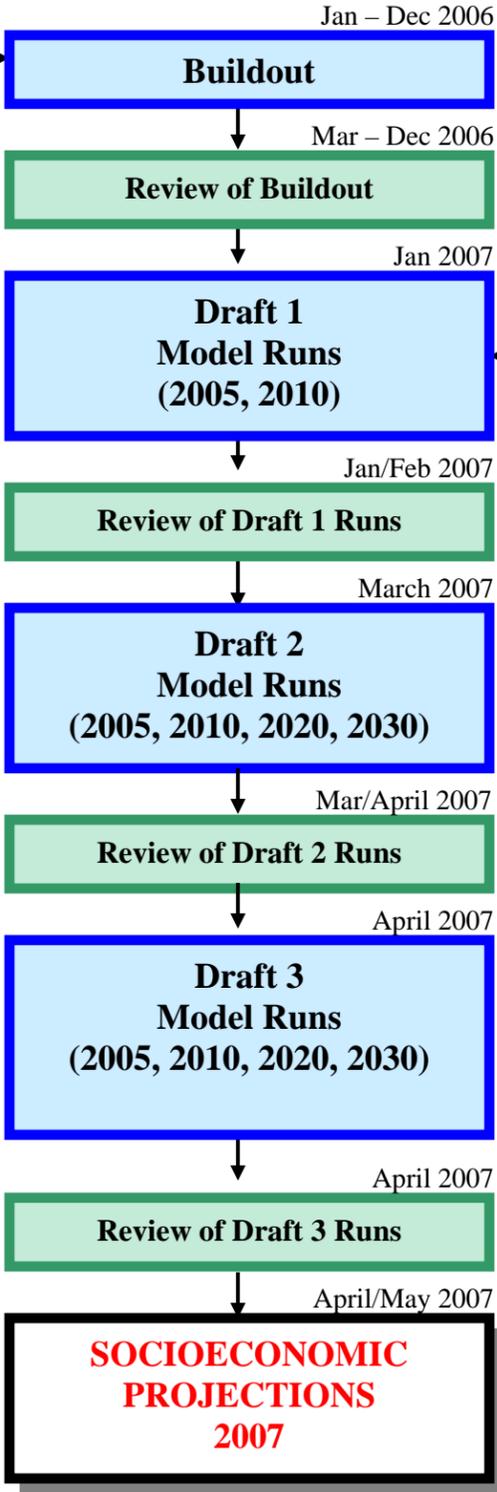
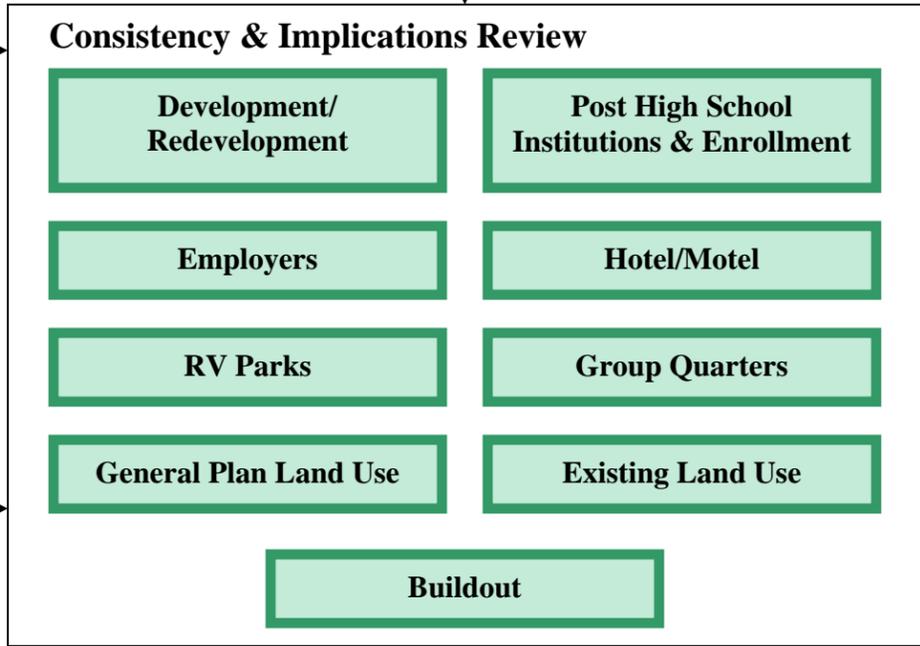
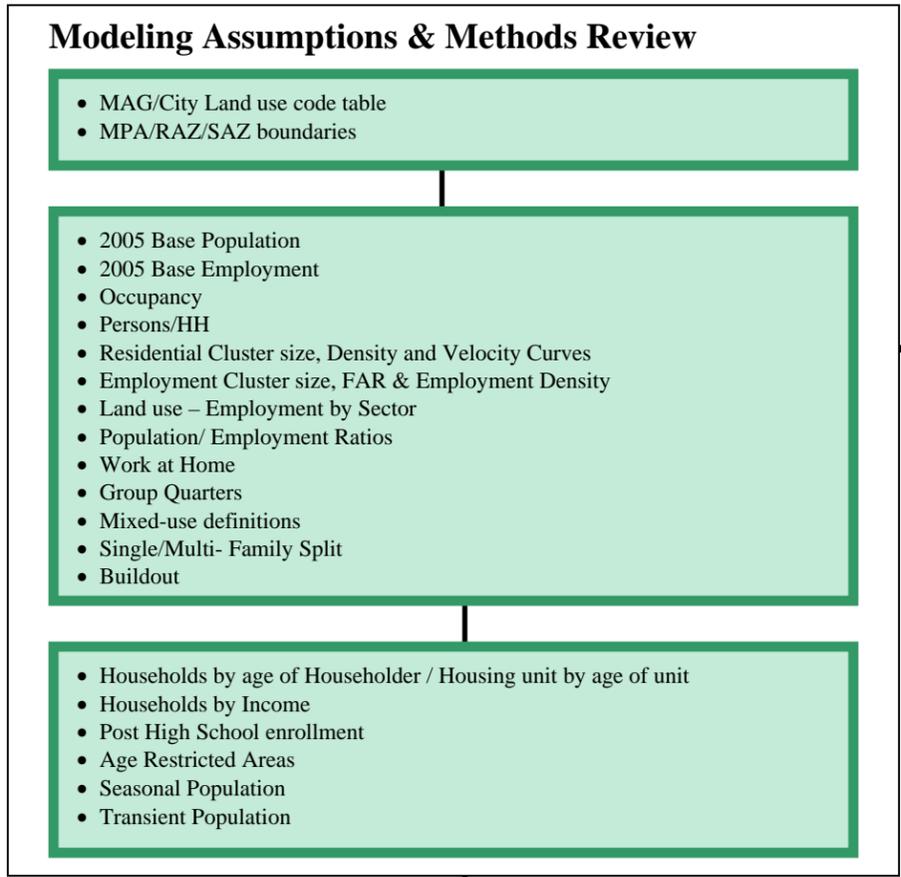
In 1995, the Executive Order was revised to the current version, Executive Order 95-2. The current Executive Order also changed the frequency of the preparation of official projections from an annual schedule to twice per decade: once after the Decennial Census and once after the mid-decade census. Meetings are held approximately six to eight times per year.

**Preparation for Socioeconomic Modeling (December 2005 – March 2007)**

**Socioeconomic Modeling (January 2006 – May 2007)**



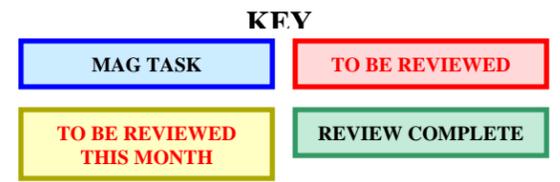
**CENSUS 2000 & CENSUS SURVEY 2005**

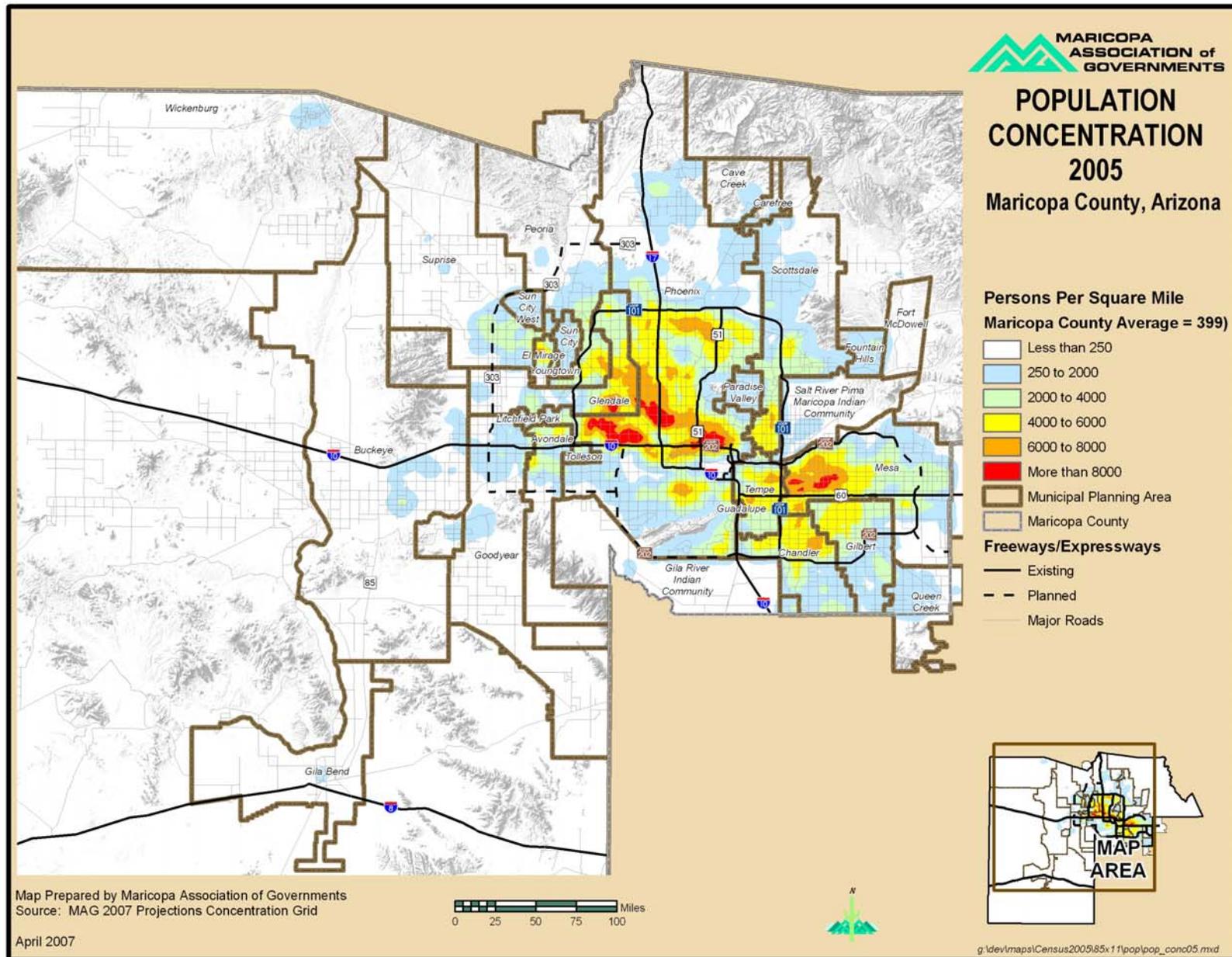


**AZ DES County Control Totals**

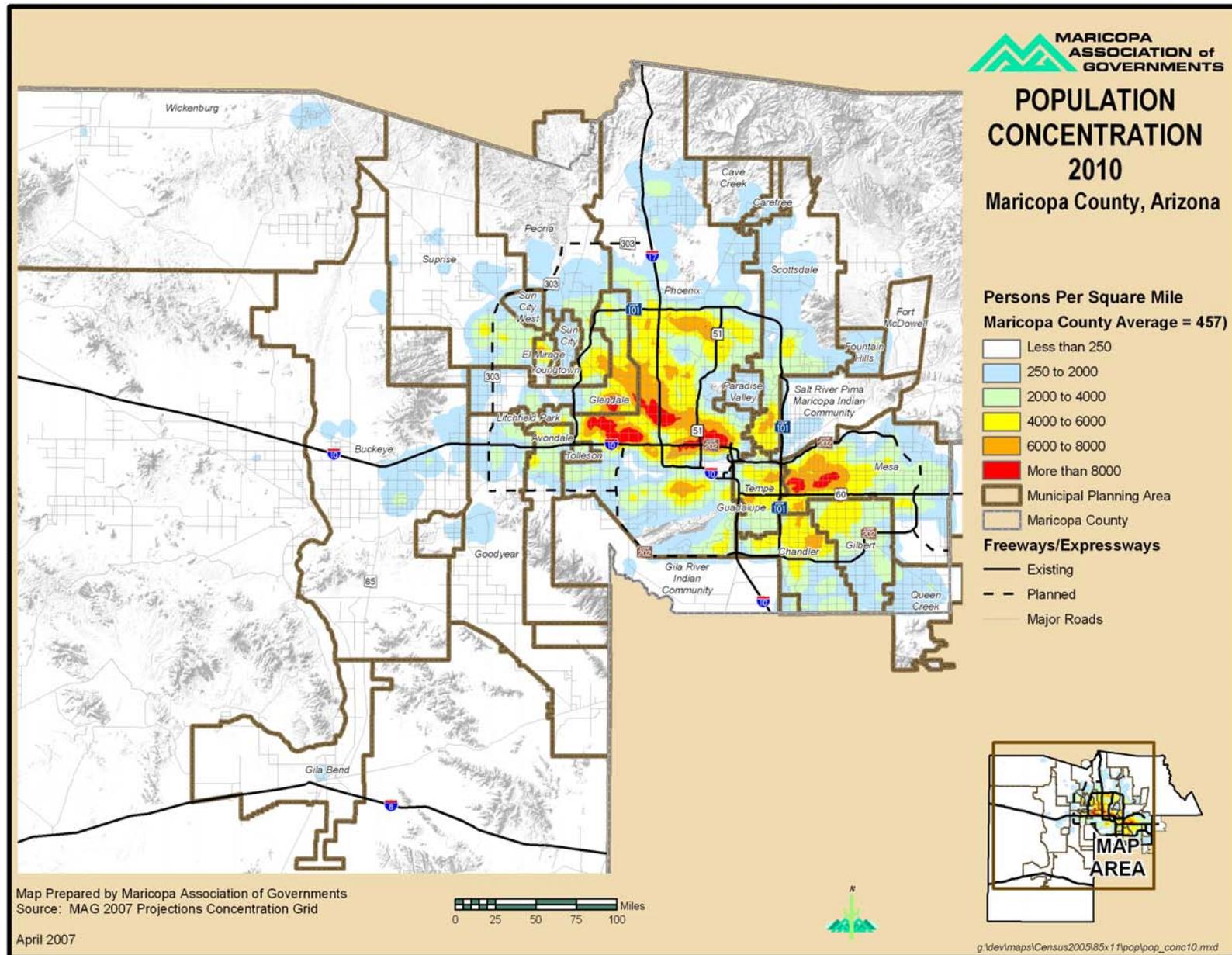


**SOCIOECONOMIC DATA & MODELING REVIEW PROCESS**  
 FOR PREPARATION OF 2007 SCOCIOECONOMIC PROJECTIONS BY THE MARICOPA ASSOCIATION OF GOVERNMENTS

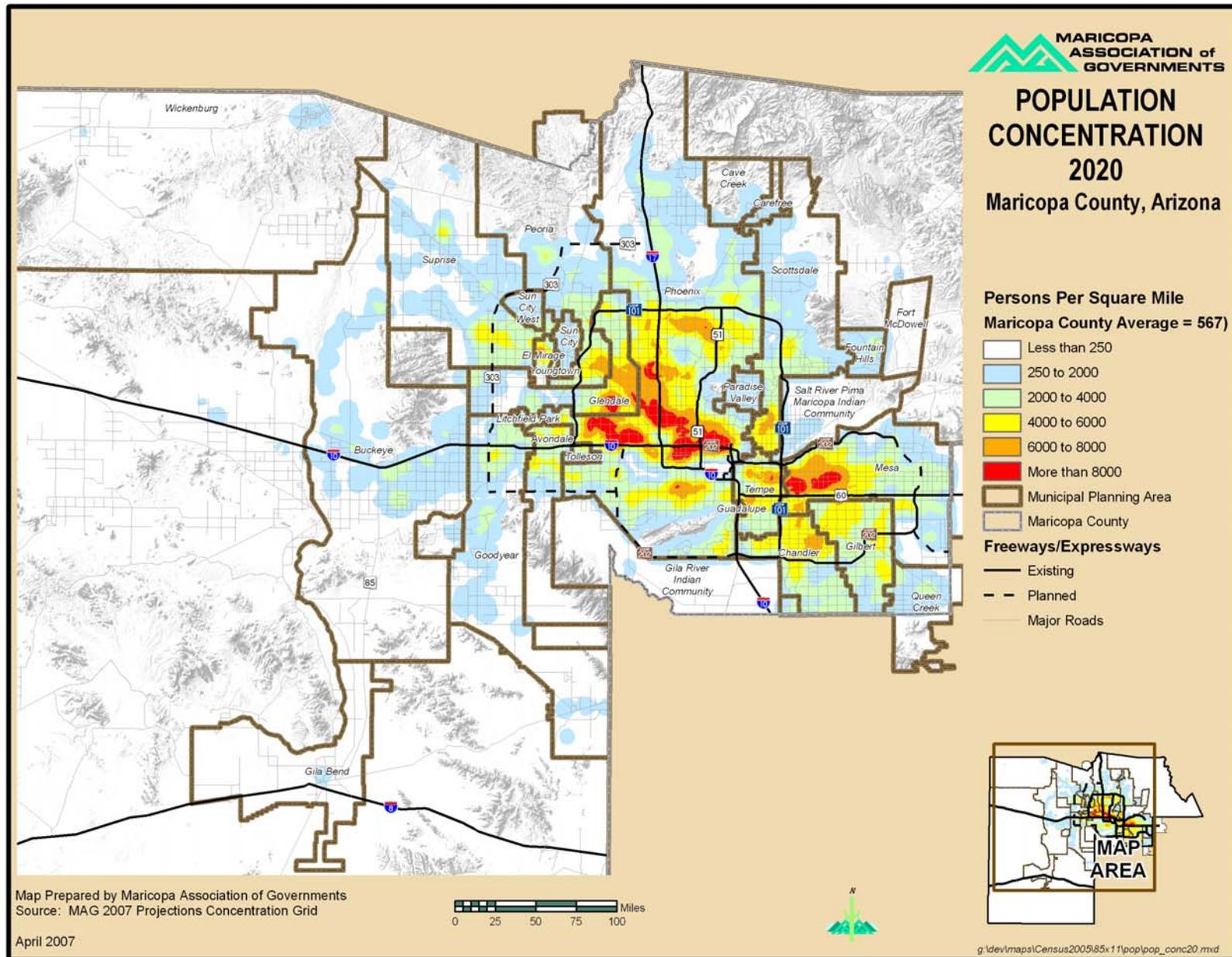




**Figure 5-2: Population Concentration 2005**



**Figure 5-3: Population Concentration 2010**



**Figure 5-4: Population Concentration 2020**

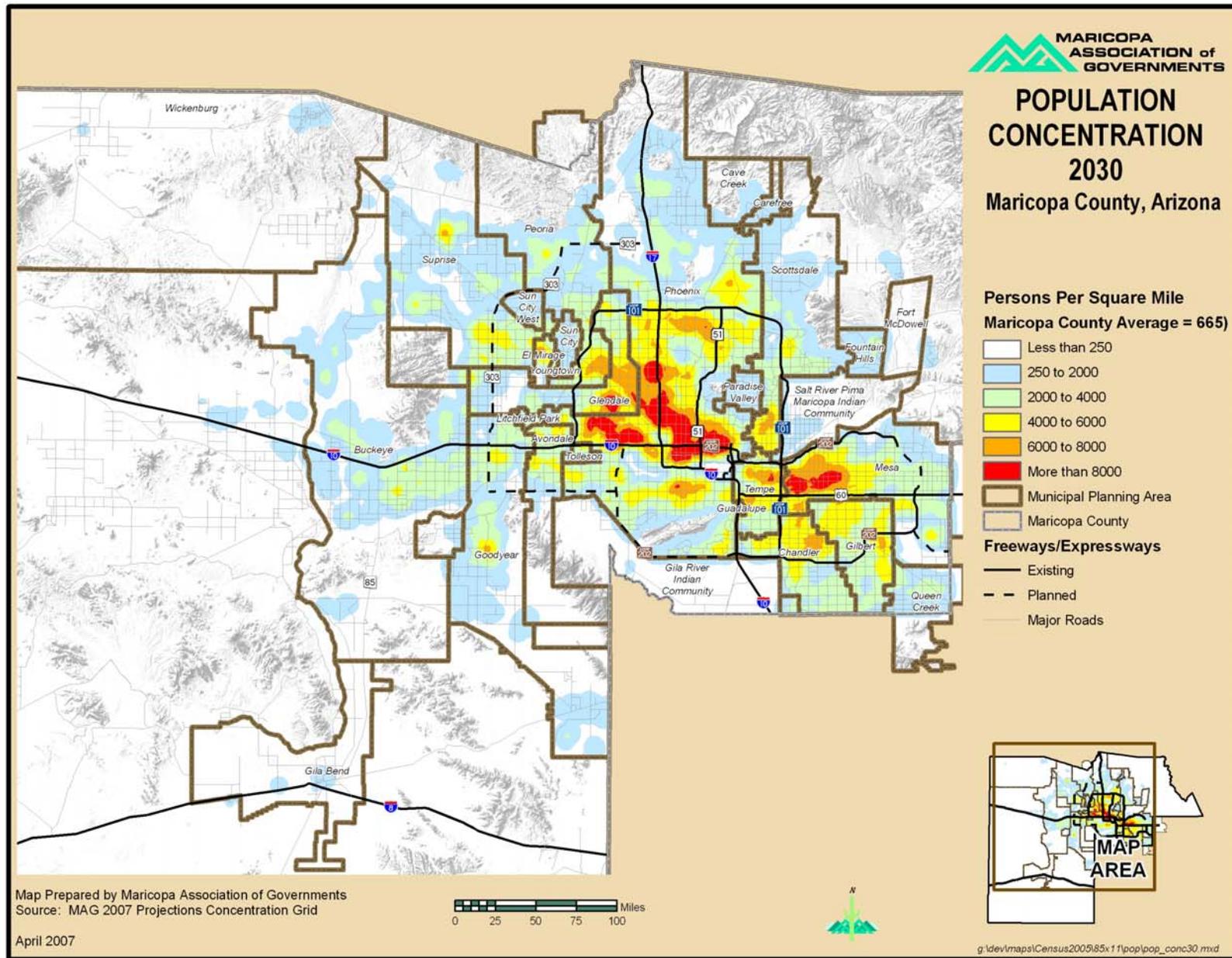


Figure 5-5: Population Concentration 2030

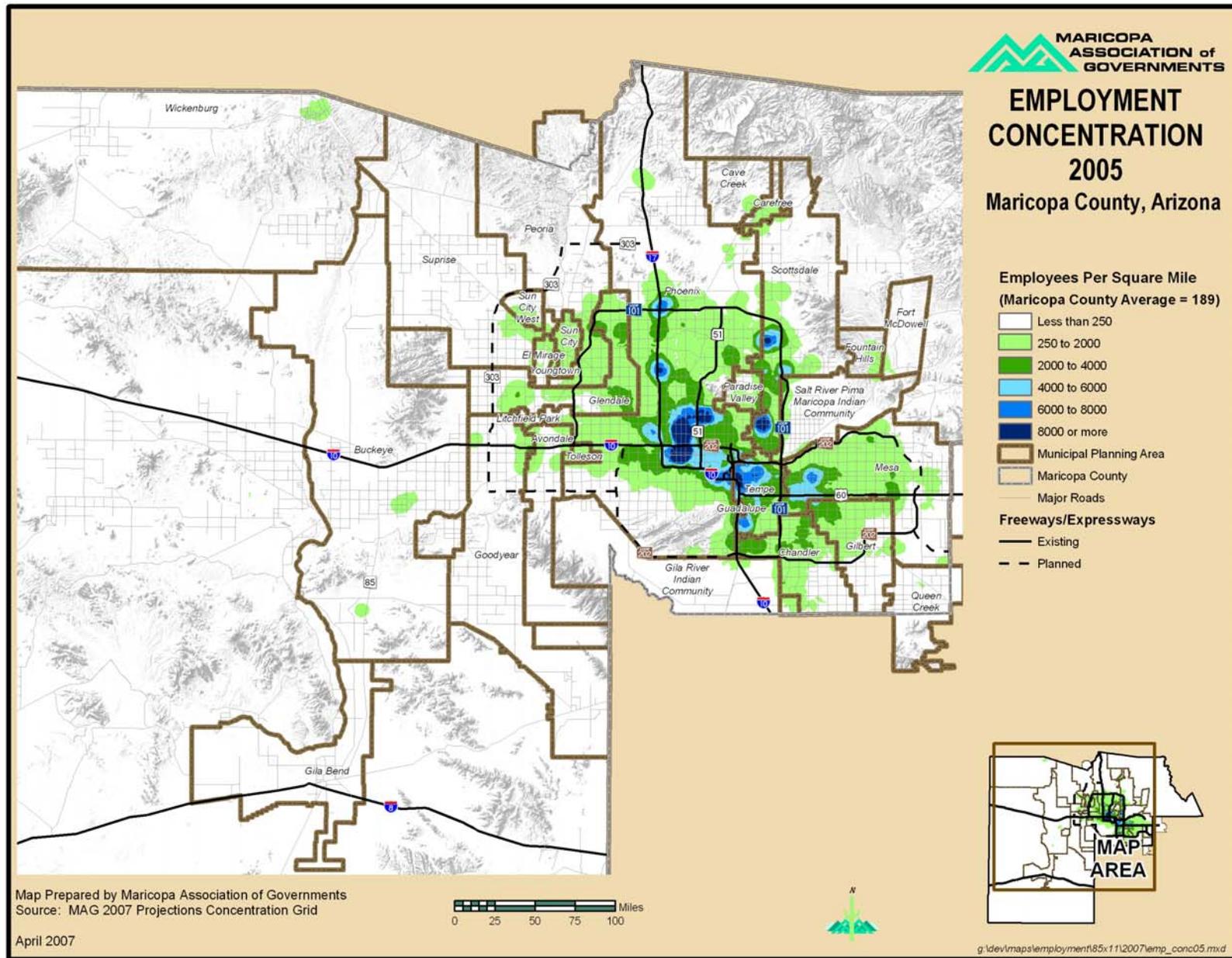


Figure 5-6: Employment Concentration 2005

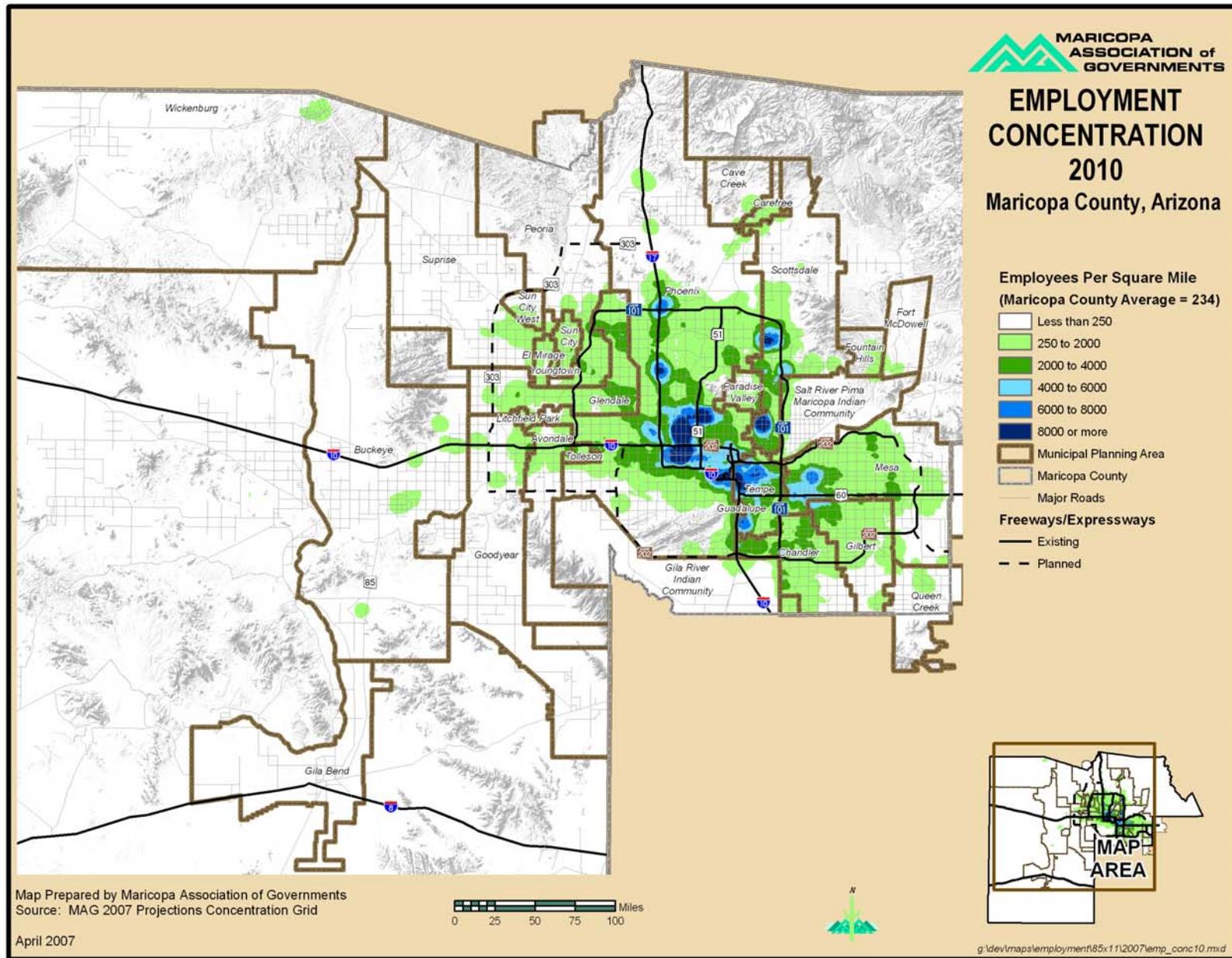


Figure 5-7: Employment Concentration 2010

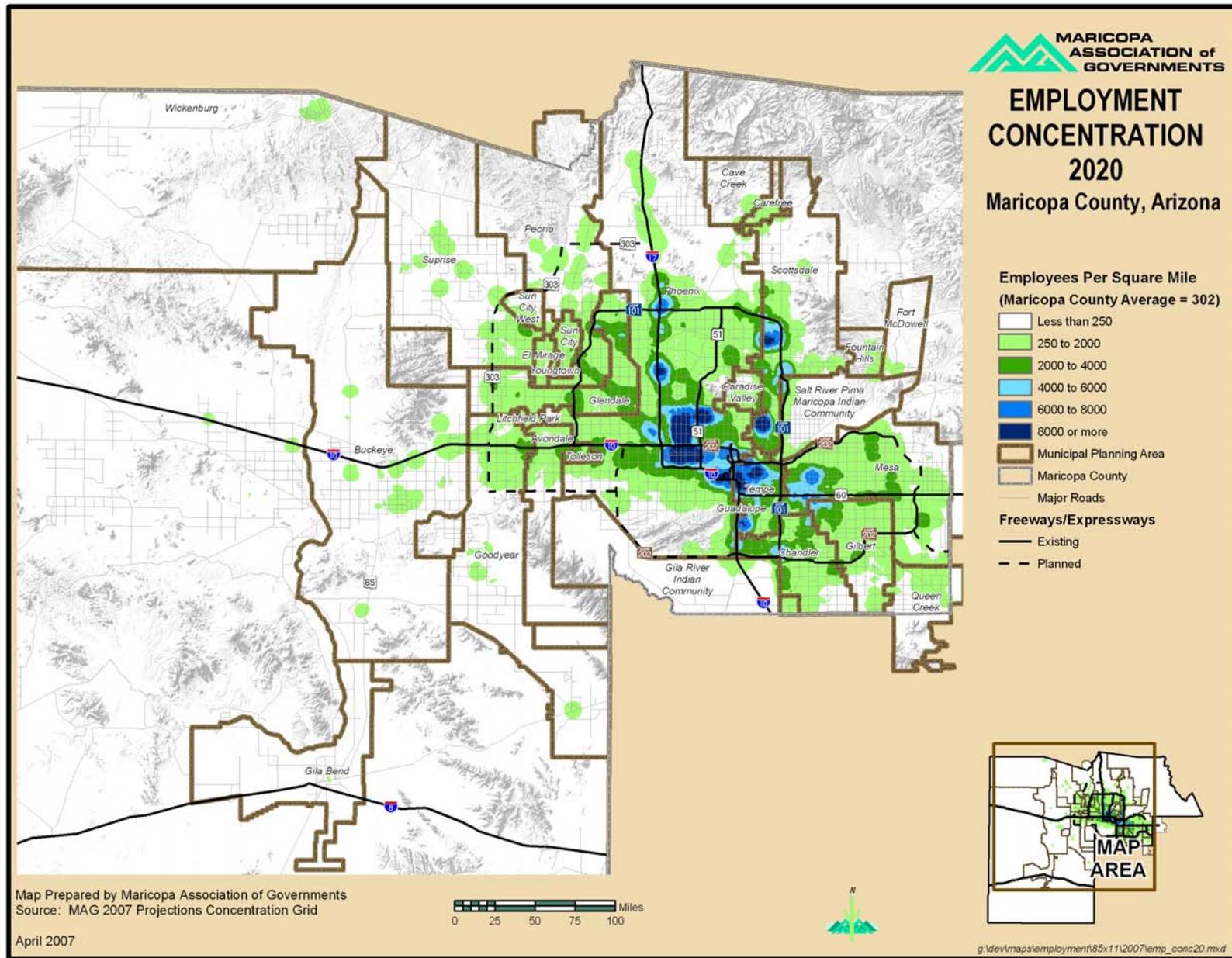


Figure 5-7: Employment Concentration 2020

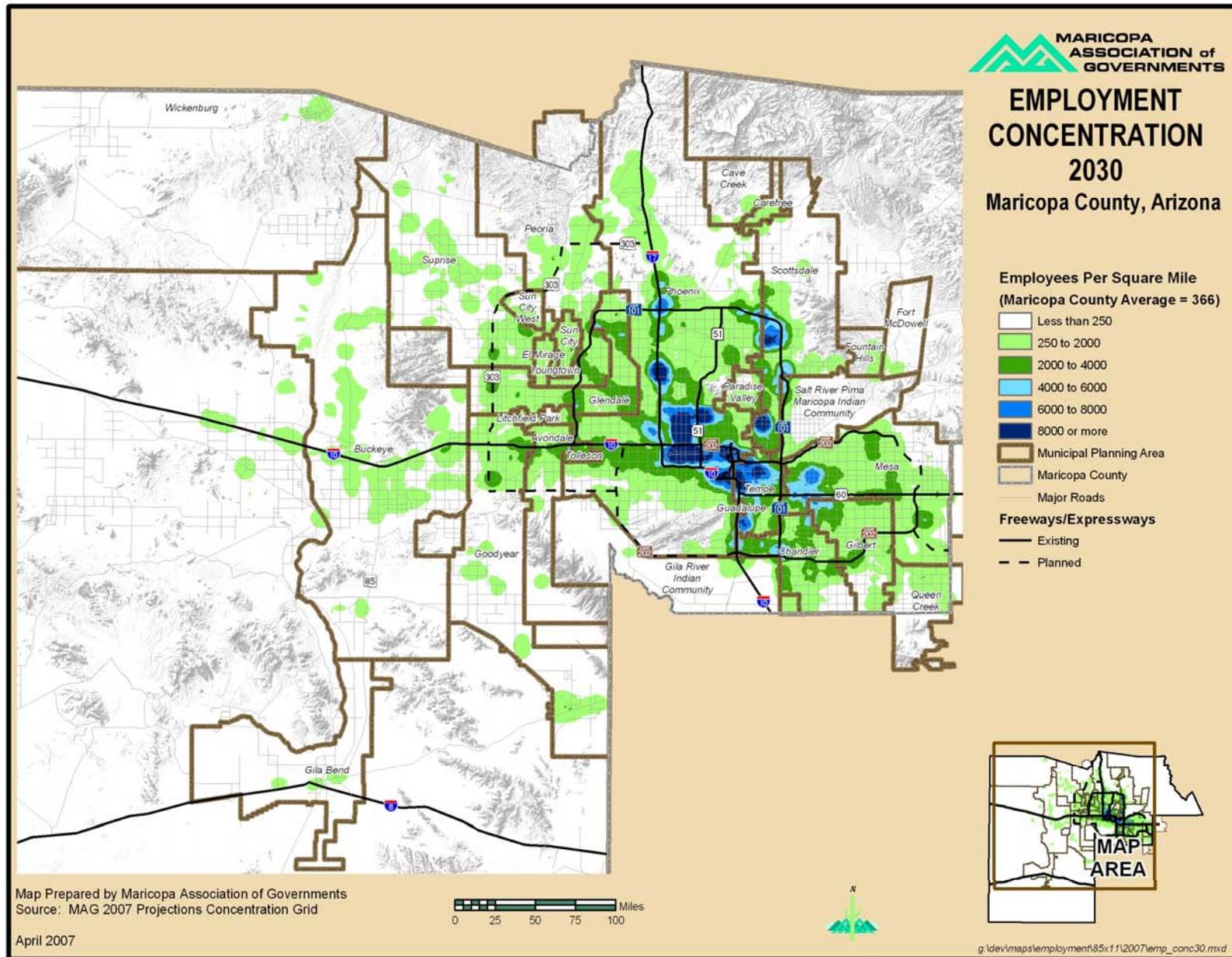


Figure 5-8: Employment Concentration 2030

## **6. NOTES AND CAVEATS FOR 2007 PROJECTIONS**

1. The projections by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ) were prepared to be consistent with the September 1, 2005 Census Survey and have been prepared for July 1<sup>st</sup> of base 2005 and projected for July 1<sup>st</sup> of 2010, 2020, and 2030.
2. The population projections are for resident population only and do not include nonresident seasonal or transient population.
3. The projections are required to use the latest Census as the base. The 2005 Census Survey was released in June 2006. Subsequent to the release, DES prepared a new set of Maricopa County projections consistent with the 2005 Census Survey. These County projections were recommended for approval by the MAG Population Technical Advisory Committee (POPTAC) in October 2006 and the Management Committee in November 2006. The projections were approved by the Regional Council in December 2006.
4. The MAG projections by MPA and RAZ were recommended for approval by the MAG POPTAC on April 24, 2007 and by the MAG Management Committee on May 9, 2007. The projections were approved by MAG Regional Council on May 23, 2007.
5. The projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only. Although Apache Junction is a MAG member agency, currently only 275 of its residents are within Maricopa County. Because almost all of its population lies within Pinal County, no projections have been included in this report.
6. The projections were based upon the latest version of each member agency's land use plan. These plans are subject to change.
7. The databases and assumptions upon which the projections are based have been reviewed by MAG member agencies, revised by MAG staff based on input received and approved by members of the MAG POPTAC.
8. The projections are based upon previous review and local insight by members of the MAG POPTAC.
9. The "other" employment category includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.
10. The projections should be used with caution. They are subject to change as a result of fluctuation in economic and development conditions, local development policies and updated data.

## PAPER 1

### **BUILDOUT PROCEDURE FOR POPULATION AND HOUSING VARIABLES**

#### **PURPOSE**

To prepare minimum, target and maximum buildout numbers by Socioeconomic Analysis Zone for population and housing variables to be used to evaluate the population and housing potential for the next set of socioeconomic projections.

#### **BASE DATA**

- Population: Census Survey 2005
- Residential Completions: April 1, 2000 to June 30, 2005, submitted and reviewed by MAG member agencies
- Existing Land use: Land use current as of January 2005, reviewed by MAG POPTAC
- Future Plans: Future Plans current as of 2006 or later, reviewed by MAG POPTAC
- Development Data: Year 2006 data current as 2006 or later, reviewed by MAG POPTAC
- SAZ system: SAZ2007

#### **MODEL**

SAM-IM version 3.1 was used for this buildout analysis. The analysis was conducted with a grid cell size of 220 feet on each side.

#### **ASSUMPTIONS**

**Minimum, Target and Maximum Densities:** In developing SAZ buildout projections, the MAG socioeconomic models project residential dwelling units from parcels identified as residential in the General Plans or areas anticipated to be residential in the Development database. Households and Population by SAZ are subsequently calculated from the dwelling unit projections.

Three General Plan Residential Density figures (dwelling units/acre) are collected from the member agencies, the minimum, maximum and target residential density anticipated for each residential land use type in the General Plan. Thus, three buildout scenarios may be generated for the Minimum, Target, and Maximum densities. These densities may be changed, polygon-by-polygon by the member agencies if desired.

Those areas covered by the Development database that have the number of dwelling units being built/planned and thus do not need to use the densities identified in the General Plan.

**Net Density:** The density figures mentioned above for the residential areas in the General Plans have been assumed to be indicating the Gross residential density. As part of the MAG GIS and Database Enhancement Project, Arizona State University collected information on the gross

acres and net acres of different land use types. This buildout analysis uses the net residential density for General Plan residential areas. Net density adjustment is not required in areas covered by the development areas since the total number of units is known. Table 1 indicates the gross and net acres by land use type used in the buildout analysis.

| LUCODE | Land Use                           | Description                                 | Gross Acres | Net Acres |
|--------|------------------------------------|---|-------------|-----------|
| 110    | Rural Residential                  | <= 1/5 du per acre                          | 50          | 50        |
| 120    | Estate Residential                 | 1/5 du per acre to 1 du per acre            | 46          | 46        |
| 130    | Large Lot Residential (SF)         | 1 du per acre to 2 du per acre              | 45          | 45        |
| 140    | Medium Lot Residential (SF)        | 2-4 du per acre                             | 25          | 19        |
| 150    | Small Lot Residential (SF)         | 4-6 du per acre                             | 20          | 15        |
| 160    | Very Small Lot Residential (SF)    | >6 du per acre (includes mobile home parks) | 20          | 15        |
| 170    | Medium Density Residential (MF)    | 5-10 du per acre                            | 26          | 20        |
| 180    | High Density Residential (MF)      | 10-15 du per acre                           | 17          | 14        |
| 190    | Very High Density Residential (MF) | > 15 du per acre                            | 18          | 13        |

**TABLE 1  
NET RESIDENTIAL DENSITY**

Source: Arizona State University, 2001  
MAG GIS and Database Enhancement Project

**Persons per Household:** Persons per household was derived from the 2005 Census Survey by dividing the population in households by the number of occupied housing units. Total housing units, total occupied housing units and population in households was identified by Census block. These variables were then allocated to Socioeconomic Analysis Zones using the data from Census 2000, which was then adjusted to match the Census Survey 2005 results.

MAG derives persons per household at the lowest level of geography possible. For deriving a projection data set for the transportation models, MAG cumulates information to the Socioeconomic Analysis Zone (SAZ). For this purpose, persons per household are refined as follows:

- For SAZs where the existing development in 2005 is less than fifty percent of buildout, persons per household from the Regional Analysis Zone (RAZ) level will be utilized. This is essential since figures resulting from a sparsely developed SAZ may not adequately reflect future trends in the SAZ.
- Similarly, for RAZs where the existing development in 2005 is less than fifty percent of buildout, persons per household from the Municipal Planning Area (MPA) will be used.
- A maximum persons per household at buildout will be set at 5.0 persons per household.

It is important to note that the Census Bureau defines population as those people who are residents of the jurisdiction. If the individual reports himself/herself as usually housed elsewhere, the Census Bureau will not count the population at that unit and will designate the unit as a vacant unit even though people reside in the unit. These individuals would be included in the MAG nonresident population projections.

**Occupancy Rate:** Buildout has been defined as the potential of the area. For buildout analysis use occupancy rate by SAZ developed for use in the projections series. This buildout is more indicative of the maximum for socioeconomic modeling.

**Mixed Use:** This buildout analysis is consistent with member agency General Plans and Planned Area Developments. Many of these plans, however, have areas defined as multiple use areas that can generate various types and densities of housing or employment. In order to use these designations in socioeconomic modeling, the multiple use categories must ultimately be converted to one or more of the standard land use categories. The MAG socioeconomic models have been enhanced to accommodate such multiple use categories. The MAG GIS and Database Enhancement Project has identified default categories for member agencies to use that are consistent with past local multiple use development.

Some of the factors found to have the strongest influence on the type of development were regional planning issues/factors that are not adequately delineated by MPA boundaries. For these areas, a set of recommended land use proportions were developed based on the proximity of a property to urban core areas (downtowns), railroads, freeways and airports. The criteria used for these assignments were: location within a developed downtown area (currently Phoenix, Mesa, Tempe, Scottsdale, Glendale, and Chandler); location within approximately one mile of a freeway; location within approximately one mile of a rail line; location within approximately two miles of a commercial airport. Table 2 indicates the mixed-use proportions used for the four areas in order of dominance.

A priority system is used for areas that fell within more than one of the location types. The location types were therefore evaluated in the following order:

- 1 - Downtown
- 2 - Proximity to Railroad Corridors
- 3 - Proximity to Airports
- 4 - Proximity to Freeways

For those areas that did not fall within one of the defined special areas, the recommended land use proportions by MPA and General Plan land use category were used. These recommendations were derived from base data from field surveys, discussions with city planners, and further modifications to improve reasonableness for areas with a lack of data. These recommendations were then reviewed and modified by MAG POPTAC. Table 3 indicates the results of this analysis.

**TABLE 2**  
**LAND USE PROPORTIONS BY AREA CATEGORY**

| Area Category | Structure<br>Code | Land Use         | Acres | Percent of<br>Area |
|---------------|-------------------|------------------|-------|--------------------|
| Downtown Area | AP                | Multifamily      | 3     | 18%                |
|               | OF                | Office           | 7     | 43%                |
|               | RH                | Resort/Hotel     | 1     | 6%                 |
|               | RT                | Retail           | 5     | 33%                |
|               |                   |                  | 16    | 100%               |
| Freeway Area  | AP                | Multifamily      | 114   | 7%                 |
|               | IN                | Industrial       | 873   | 54%                |
|               | OF                | Office           | 257   | 16%                |
|               | PB                | Public buildings | 6     | 0%                 |
|               | RH                | Resort/Hotel     | 44    | 3%                 |
|               | RT                | Retail           | 309   | 19%                |
|               |                   |                  | 1,602 | 100%               |
| Airport Area  | AP                | Multifamily      | 9     | 1%                 |
|               | IN                | Industrial       | 466   | 46%                |
|               | OF                | Office           | 452   | 45%                |
|               | RH                | Resort/Hotel     | 15    | 1%                 |
|               | RT                | Retail           | 72    | 7%                 |
|               |                   |                  | 1,014 | 100%               |
| Railroad Area | IN                | Industrial       | 1,332 | 97%                |
|               | OF                | Office           | 17    | 1%                 |
|               | PB                | Public buildings | 20    | 1%                 |
|               | RH                | Resort/Hotel     | 1     | 0%                 |
|               | RT                | Retail           | 9     | 1%                 |
|               |                   |                  | 1,379 | 100%               |

Source: Applied Economics, 2001.

**TABLE 3  
LAND USE PROPORTIONS BY MPA**

| <b>MPA</b>                   | <b>Generic Category</b> | <b>General Plan Category</b>        | <b>Land Use</b> | <b>Percentage</b> |
|------------------------------|-------------------------|-------------------------------------|-----------------|-------------------|
| <b><u>Avondale</u></b>       | Business Park           | Business Park                       | Retail          | 10                |
|                              |                         |                                     | Office          | 20                |
|                              |                         |                                     | Industrial      | 70                |
|                              | Mixed Use               | Mixed Use                           | Multifamily     | 30                |
|                              |                         |                                     | Retail          | 35                |
|                              |                         |                                     | Office          | 35                |
| <b><u>Buckeye</u></b>        | Business Park           | Business Park                       | Retail          | 10                |
|                              |                         |                                     | Office          | 10                |
|                              |                         |                                     | Industrial      | 80                |
|                              | Mixed Use               | Mixed Use                           | Multifamily     | 30                |
|                              |                         |                                     | Retail          | 35                |
|                              |                         |                                     | Office          | 35                |
| <b><u>Carefree</u></b>       | Business Park           | Business Park                       | Retail          | 10                |
|                              |                         |                                     | Office          | 30                |
|                              |                         |                                     | Industrial      | 60                |
|                              | Mixed Use               | Mixed Use                           | Multifamily     | 20                |
|                              |                         |                                     | Retail          | 35                |
|                              |                         |                                     | Office          | 45                |
| <b><u>Cave Creek</u></b>     | Business Park           | Business Park                       | Retail          | 10                |
|                              |                         |                                     | Office          | 30                |
|                              |                         |                                     | Industrial      | 60                |
|                              | Mixed Use               | Mixed Use                           | Multifamily     | 20                |
|                              |                         |                                     | Retail          | 35                |
|                              |                         |                                     | Office          | 45                |
| <b><u>Chandler</u></b>       | Business Park           | Commercial/Office/<br>Business Park | Retail          | 10                |
|                              |                         |                                     | Office          | 20                |
|                              |                         |                                     | Industrial      | 70                |
|                              | Mixed Use               | Employment                          | Multifamily     | 10                |
|                              |                         |                                     | Retail          | 5                 |
|                              |                         |                                     | Office          | 20                |
|                              |                         |                                     | Industrial      | 65                |
| <b><u>El Mirage</u></b>      | Business Park           | Business Park                       | Retail          | 10                |
|                              |                         |                                     | Office          | 20                |
|                              |                         |                                     | Industrial      | 70                |
|                              | Mixed Use               | Mixed Use                           | Multifamily     | 30                |
|                              |                         |                                     | Retail          | 35                |
|                              |                         |                                     | Office          | 35                |
| <b><u>Fountain Hills</u></b> | Business Park           | Business Park                       | Retail          | 10                |
|                              |                         |                                     | Office          | 20                |
|                              |                         |                                     | Industrial      | 70                |
|                              | Mixed Use               | Mixed Use                           | Multifamily     | 30                |
|                              |                         |                                     | Retail          | 35                |
|                              |                         |                                     | Office          | 35                |
| <b><u>Gila Bend</u></b>      | Business Park           | Business Park                       | Retail          | 10                |
|                              |                         |                                     | Office          | 10                |
|                              |                         |                                     | Industrial      | 80                |
|                              | Mixed Use               | Mixed Use                           | Multifamily     | 30                |
|                              |                         |                                     | Retail          | 35                |
|                              |                         |                                     | Office          | 35                |

**TABLE 3  
LAND USE PROPORTIONS BY MPA**

| <b>MPA</b>                    | <b>Generic Category</b> | <b>General Plan Category</b> | <b>Land Use</b> | <b>Percentage</b> |
|-------------------------------|-------------------------|------------------------------|-----------------|-------------------|
| <b><u>Gila River</u></b>      | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 10                |
|                               |                         |                              | Industrial      | 80                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 30                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 35                |
| <b><u>Gilbert</u></b>         | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 20                |
|                               |                         |                              | Industrial      | 70                |
|                               | Business Park           | Regional Commercial          | Hotel           | 5                 |
|                               |                         |                              | Retail          | 80                |
|                               |                         |                              | Office          | 15                |
|                               | Mixed Use               | Village Center               | Multifamily     | 15                |
|                               |                         |                              | Hotel           | 10                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 40                |
| <b><u>Glendale</u></b>        | Business Park           | Business Park                | Retail          | 5                 |
|                               |                         |                              | Office          | 15                |
|                               |                         |                              | Industrial      | 80                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 20                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 45                |
| <b><u>Goodyear</u></b>        | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 20                |
|                               |                         |                              | Industrial      | 70                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 20                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 45                |
| <b><u>Guadalupe</u></b>       | Business Park           | Commercial Mixed Use         | Office          | 15                |
|                               |                         |                              | Industrial      | 80                |
|                               |                         |                              | Public          | 5                 |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 35                |
|                               |                         |                              | Retail          | 40                |
|                               |                         |                              | Office          | 25                |
| <b><u>Litchfield Park</u></b> | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 20                |
|                               |                         |                              | Industrial      | 70                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 20                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 45                |
| <b><u>Maricopa County</u></b> | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 20                |
|                               |                         |                              | Industrial      | 70                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 25                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 40                |

**TABLE 3  
LAND USE PROPORTIONS BY MPA**

| <b>MPA</b>                    | <b>Generic Category</b> | <b>General Plan Category</b> | <b>Land Use</b> | <b>Percentage</b> |
|-------------------------------|-------------------------|------------------------------|-----------------|-------------------|
| <b><u>Mesa</u></b>            | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 20                |
|                               |                         |                              | Industrial      | 70                |
|                               | Mixed Use               | Mixed Use/Employment         | Multifamily     | 20                |
|                               |                         |                              | Retail          | 25                |
|                               |                         |                              | Office          | 30                |
|                               |                         |                              | Industrial      | 25                |
| <b><u>Paradise Valley</u></b> | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 70                |
|                               |                         |                              | Industrial      | 20                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 10                |
|                               |                         |                              | Retail          | 40                |
|                               |                         |                              | Office          | 50                |
| <b><u>Peoria</u></b>          | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 15                |
|                               |                         |                              | Industrial      | 75                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 20                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 45                |
| <b><u>Phoenix</u></b>         | Business Park           | Commerce Park                | Retail          | 25                |
|                               |                         |                              | Office          | 25                |
|                               |                         |                              | Industrial      | 50                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 20                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 45                |
| <b><u>Queen Creek</u></b>     | Business Park           | Employment - Type B          | Office          | 20                |
|                               |                         |                              | Industrial      | 80                |
|                               | Mixed Use               | Town Center                  | Multifamily     | 15                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 40                |
|                               |                         |                              | Public          | 10                |
| <b><u>Scottsdale</u></b>      | Business Park           | General Employment (34)      | Office          | 25                |
|                               |                         |                              | Industrial      | 75                |
|                               | Business Park           | Minor Employment (33)        | Office          | 20                |
|                               |                         |                              | Industrial      | 80                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 30                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 35                |

**TABLE 3  
LAND USE PROPORTIONS BY MPA**

| <b>MPA</b>               | <b>Generic Category</b> | <b>General Plan Category</b> | <b>Land Use</b> | <b>Percentage</b> |
|--------------------------|-------------------------|------------------------------|-----------------|-------------------|
| <b><u>Surprise</u></b>   | Business Park           | Employment                   | Office          | 50                |
|                          |                         |                              | Manufacturing   | 38                |
|                          |                         |                              | Hotel           | 12                |
|                          | Mixed Use               | Mixed Use Gateway            | Single Family   | 5                 |
|                          |                         |                              | Townhouse       | 5                 |
|                          |                         |                              | Multifamily     | 20                |
|                          |                         |                              | Retail          | 30                |
|                          |                         |                              | Office          | 25                |
|                          |                         |                              | Industrial      | 5                 |
|                          |                         |                              | Public          | 10                |
|                          | Mixed Use               | Surprise Center              | Single Family   | 5                 |
|                          |                         |                              | Townhouse       | 5                 |
|                          |                         |                              | Multifamily     | 10                |
|                          |                         |                              | Retail          | 30                |
|                          |                         |                              | Office          | 40                |
|                          |                         |                              | Public          | 10                |
| <b><u>Tempe</u></b>      | Business Park           | Business Park                | Retail          | 10                |
|                          |                         |                              | Office          | 20                |
|                          |                         |                              | Industrial      | 70                |
|                          | Mixed Use               | Mixed Use                    | Multifamily     | 35                |
|                          |                         |                              | Retail          | 35                |
|                          |                         |                              | Office          | 30                |
| <b><u>Tolleson</u></b>   | Business Park           | Business Park                | Retail          | 10                |
|                          |                         |                              | Office          | 10                |
|                          |                         |                              | Industrial      | 80                |
|                          | Mixed Use               | Mixed Use                    | Multifamily     | 35                |
|                          |                         |                              | Retail          | 35                |
|                          |                         |                              | Office          | 30                |
| <b><u>Wickenburg</u></b> | Business Park           | Business Park                | Retail          | 10                |
|                          |                         |                              | Office          | 10                |
|                          |                         |                              | Industrial      | 80                |
|                          | Mixed Use               | Mixed Use                    | Mixed Use       | 30                |
|                          |                         |                              | Retail          | 45                |
|                          |                         |                              | Office          | 25                |
| <b><u>Youngtown</u></b>  | Business Park           | Business Park                | Retail          | 10                |
|                          |                         |                              | Office          | 20                |
|                          |                         |                              | Industrial      | 70                |
|                          | Mixed Use               | Mixed Use                    | Multifamily     | 35                |
|                          |                         |                              | Retail          | 40                |
|                          |                         |                              | Office          | 25                |

Source: Applied Economics, 2001.

Maricopa Association of Governments GIS and Database Enhancement Project

## METHOD

1. Use the SAZ allocation of housing units and population for July 1, 2005 as the base (existing) data.
2. If the land is not identified as a Planned Area Development, determine additional housing units and population from the General Plan. Calculate developable residential acres by land use category (*land use codes 100 – 199, 820 and 830*) by SAZ. For this scenario, acreage is considered developable residential if it meets all of the following criteria:
  - a) The 2005 land use was either agriculture or vacant.
  - b) The land use was not in a flood plain as defined by the MAG Desert Spaces Plan.
  - c) The General Plan land use was residential or mixed use - land use codes 100-199, 820 and 830. In the case of mixed use, apply the percentages identified previously.

Calculate additional housing units by land use category as developable residential acres \* net density (minimum/target/maximum) for the residential category. Sum categorized residential housing units to obtain total additional housing units by SAZ.

3. If the area is identified as a Planned Area Development, then allocate the new residential units from the development database to the parcel. Apply the mixed-use proportions in cases where the development is mixed use. Sum categorized residential housing units to obtain total additional housing units by SAZ.
4. Using SAZ persons per occupied housing unit from the 2005 Census, calculate additional population by SAZ as total additional housing units \* SAZ occupancy rate \* SAZ persons per occupied unit.
5. Add additional housing units and population to the 2005 base housing units and population to obtain total buildout figures.
6. Although control totals for group quarter population will be generated for projection years, it is not possible to generate group quarter population control totals for buildout. Buildout population in group quarters by SAZ was determined by keeping the 2005 proportion of Group Quarter population to the resident population in households constant by SAZ except for:
  - a) Military: The population was held constant at base levels based upon recommendations from Arizona State University as part of the MAG GIS and Database Enhancement Project.
  - b) Prisons: The total group quarter population in prisons was determined by keeping the proportion of the prison population in 2000 to the total population in households constant by SAZ. This is constrained by the capacity of the land use acres of existing facilities.

## PAPER 2

### **BUILDOUT PROCEDURE FOR EMPLOYMENT VARIABLES**

#### **PURPOSE**

To prepare minimum, target and maximum buildout numbers by Socioeconomic Analysis Zone for employment variables to be used to evaluate the employment potential for the next set of socioeconomic projections.

#### **BASE DATA**

- Employment: Employment July 1, 2005 Base
- Existing Land use: Land use current as of Jan. 2005, reviewed by MAG POPTAC
- Future Plans: Future Plans current as of 2006 or later, reviewed by MAG POPTAC
- Development Data: Year 2006 data current as 2006 or later, reviewed by MAG POPTAC
- SAZ system: SAZ2007

#### **MODEL**

SAM-IM version 3.1 was used for this buildout analysis. The analysis was conducted with a Grid Cell size of 220 feet on each side.

#### **ASSUMPTIONS**

**Employment Densities:** In developing SAZ buildout projections, the MAG socioeconomic models project employment from parcels identified as employment-based in the General Plans or areas anticipated to be non-residential in the Development database.

As part of the GIS and Database Enhancement Project, Floor Area Ratios (FAR) and Employment Density (employees per 1000 square feet) factors were developed by Arizona State University (Table 1). Thus:

Total square feet of employment space = FAR \* Area of polygon in square feet

Number of employees = Total square feet of employment space \* Employees per 1000 square feet

Generally, areas covered by the Development database have the square feet of employment areas being built or planned. Thus to derive the employment only the Employees per 1000 square feet value need to be used. In cases where the planned square footage was not available, the FAR factors for the particular land use is used.

**TABLE 1**  
**FLOOR AREA RATIOS AND EMPLOYEES PER 1000 SQUARE FEET**  
**2000**

| DESCRIPTION               | FAR  | EMPLOYEES/1000 SQFT |
|---------------------------|------|---------------------|
| <b>RETAIL</b>             |      |                     |
| Neighborhood              | 0.23 | 1.18                |
| Community                 | 0.23 | .72                 |
| Regional                  | 0.27 | 1.24                |
| Strip                     | 0.25 | 1.30                |
| <b>OFFICE</b>             |      |                     |
| Small                     | 0.78 | 3.13                |
| Large                     | 3.36 | 3.08                |
| <b>INDUSTRIAL</b>         |      |                     |
| Warehouse                 | 0.37 | 2.54                |
| Manufacturing             | 0.34 | 2.82                |
| <b>PUBLIC</b>             |      |                     |
| Schools                   | 0.21 | 1.21                |
| Government                | 0.33 | 3.98                |
| <b>HOTEL/MOTEL/RESORT</b> |      |                     |
| Hotel/motel               | 0.70 | 0.68                |
| Resorts                   | 0.62 | 0.45                |

**Net Acres:** The figures mentioned above for the employment areas indicate the gross density. In order to determine employment, a net density figure must be derived. This is due to the fact that the MAG existing land use database includes non-developable land, such as roadways and right-of-ways. Therefore, an analysis was conducted to account for the percentage of the land use that is likely not to be developed in the future. The target future densities assumed this percentage continues in the future. The minimum densities assume the percentage is 25% higher in future development, and the maximum densities assume the percentage is only that area necessary for transportation needs. These results are shown in Table 2, which identifies net acres as a percentage of total acres for each of the major land use categories.

**TABLE 2**  
**NET ACRES AS PERCENT OF TOTAL ACRES**  
**FOR MINIMUM, TARGET AND MAXIMUM EMPLOYMENT BUILDOUT**

| Code | Definition       | Minimum | Target | Maximum |
|------|------------------|---------|--------|---------|
| 200s | Commercial       | 50%     | 60%    | 90%     |
| 300s | Industrial       | 50%     | 60%    | 90%     |
| 400s | Office           | 50%     | 60%    | 90%     |
| 500s | General & Public | 60%     | 70%    | 95%     |

**Spatial Multiplier Factor:** To understand the variation of employment density spatially, an analysis was conducted on the existing employment and land uses in the entire metro area, as well as the following:

- a. Downtowns – Phoenix, Tempe, Scottsdale, Mesa, Glendale, Chandler
- b. Freeway corridors – 1 mile buffer around the freeways
- c. Airports – 2 mile buffer around the airports
- d. Rail roads – 1 mile buffer around the railroads
- e. None of the above (all other areas)

Table 3 summarizes the findings of the analysis. It was found that more than 70% of the total employment is located within these identified areas. Also the density variation indicates that the employment density on Retail, Office and Public land uses in downtown areas is generally double than other areas.

**TABLE 3**  
**SPATIAL MULTIPLIER FACTORS**  
**FOR EMPLOYMENT SECTORS**

| Sector     | Metro | Downtown | Freeway | Airport | Railroad | Other |
|------------|-------|----------|---------|---------|----------|-------|
| Retail     | 1.0   | 2.0      | 1.0     | 1.0     | 1.0      | 1.0   |
| Office     | 1.0   | 2.0      | 1.0     | 0.5     | 0.75     | 1.0   |
| Industrial | 1.0   | 1.0      | 1.0     | 1.0     | 1.0      | 0.5   |
| Public     | 1.0   | 2.0      | 1.0     | 0.5     | 0.75     | 1.0   |
| Other      | 1.0   | 2.0      | 2.0     | 1.5     | 1.5      | 0.5   |

**Mixed Use:** This buildout analysis is consistent with member agency General Plans and Planned Area Developments. Many of these plans, however, have areas defined as multiple use areas that can generate various types and densities of housing or employment. In order to use these designations in socioeconomic modeling, the multiple use categories must ultimately be converted to one or more of the standard land use categories. The MAG socioeconomic models have been enhanced to accommodate such multiple use categories. The MAG GIS and Database

Enhancement Project has identified default categories for member agencies to use that are consistent with past local multiple use development.

Some of the factors found to have the strongest influence on the type of development were regional planning issues/factors that are not adequately delineated by MPA boundaries. For these areas, a set of recommended land use proportions were developed based on the proximity of a property to urban core areas (downtowns), railroads, freeways and airports. The criteria used for these assignments were: location within a developed downtown area (currently Phoenix, Mesa, Tempe, and Scottsdale); location within approximately one mile of a freeway; location within approximately one mile of a rail line; location within approximately two miles of a commercial airport. Table 4 indicates the mixed-use proportions used for the four areas in order of dominance.

A priority system is used for areas that fell within more than one of the location types. The location types were therefore evaluated in the following order:

- 1 - Downtown
- 2 - Proximity to Railroad Corridors
- 3 - Proximity to Airports
- 4 - Proximity to Freeways

For those areas that did not fall within one of the defined special areas, the recommended land use proportions by MPA and General Plan land use category were used. These recommendations were derived from base data from field surveys, discussions with city planners, and further modifications to improve reasonableness for areas with a lack of data. Table 5 indicates the results of this analysis.

**TABLE 4**  
**LAND USE PROPORTIONS BY AREA CATEGORY**

| Area Category | Structure<br>Code | Land Use         | Acres | Percent of<br>Area |
|---------------|-------------------|------------------|-------|--------------------|
| Downtown Area | AP                | Multifamily      | 3     | 18%                |
|               | OF                | Office           | 7     | 43%                |
|               | RH                | Resort/Hotel     | 1     | 6%                 |
|               | RT                | Retail           | 5     | 33%                |
|               |                   |                  | 16    | 100%               |
| Freeway Area  | AP                | Multifamily      | 114   | 7%                 |
|               | IN                | Industrial       | 873   | 54%                |
|               | OF                | Office           | 257   | 16%                |
|               | PB                | Public buildings | 6     | 0%                 |
|               | RH                | Resort/Hotel     | 44    | 3%                 |
|               | RT                | Retail           | 309   | 19%                |
|               |                   |                  | 1,602 | 100%               |
| Airport Area  | AP                | Multifamily      | 9     | 1%                 |
|               | IN                | Industrial       | 466   | 46%                |
|               | OF                | Office           | 452   | 45%                |
|               | RH                | Resort/Hotel     | 15    | 1%                 |
|               | RT                | Retail           | 72    | 7%                 |
|               |                   |                  | 1,014 | 100%               |
| Railroad Area | IN                | Industrial       | 1,332 | 97%                |
|               | OF                | Office           | 17    | 1%                 |
|               | PB                | Public buildings | 20    | 1%                 |
|               | RH                | Resort/Hotel     | 1     | 0%                 |
|               | RT                | Retail           | 9     | 1%                 |
|               |                   |                  | 1,379 | 100%               |

Source: Applied Economics, 2001.

**TABLE 5  
LAND USE PROPORTIONS BY MPA**

| <b>MPA</b>                   | <b>Generic Category</b> | <b>General Plan Category</b>        | <b>Land Use</b> | <b>Percentage</b> |
|------------------------------|-------------------------|-------------------------------------|-----------------|-------------------|
| <b><u>Avondale</u></b>       | Business Park           | Business Park                       | Retail          | 10                |
|                              |                         |                                     | Office          | 20                |
|                              |                         |                                     | Industrial      | 70                |
|                              | Mixed Use               | Mixed Use                           | Multifamily     | 30                |
|                              |                         |                                     | Retail          | 35                |
|                              |                         |                                     | Office          | 35                |
| <b><u>Buckeye</u></b>        | Business Park           | Business Park                       | Retail          | 10                |
|                              |                         |                                     | Office          | 10                |
|                              |                         |                                     | Industrial      | 80                |
|                              | Mixed Use               | Mixed Use                           | Multifamily     | 30                |
|                              |                         |                                     | Retail          | 35                |
|                              |                         |                                     | Office          | 35                |
| <b><u>Carefree</u></b>       | Business Park           | Business Park                       | Retail          | 10                |
|                              |                         |                                     | Office          | 30                |
|                              |                         |                                     | Industrial      | 60                |
|                              | Mixed Use               | Mixed Use                           | Multifamily     | 20                |
|                              |                         |                                     | Retail          | 35                |
|                              |                         |                                     | Office          | 45                |
| <b><u>Cave Creek</u></b>     | Business Park           | Business Park                       | Retail          | 10                |
|                              |                         |                                     | Office          | 30                |
|                              |                         |                                     | Industrial      | 60                |
|                              | Mixed Use               | Mixed Use                           | Multifamily     | 20                |
|                              |                         |                                     | Retail          | 35                |
|                              |                         |                                     | Office          | 45                |
| <b><u>Chandler</u></b>       | Business Park           | Commercial/Office/<br>Business Park | Retail          | 10                |
|                              |                         |                                     | Office          | 20                |
|                              |                         |                                     | Industrial      | 70                |
|                              | Mixed Use               | Employment                          | Multifamily     | 10                |
|                              |                         |                                     | Retail          | 5                 |
|                              |                         |                                     | Office          | 20                |
|                              |                         |                                     | Industrial      | 65                |
| <b><u>El Mirage</u></b>      | Business Park           | Business Park                       | Retail          | 10                |
|                              |                         |                                     | Office          | 20                |
|                              |                         |                                     | Industrial      | 70                |
|                              | Mixed Use               | Mixed Use                           | Multifamily     | 30                |
|                              |                         |                                     | Retail          | 35                |
|                              |                         |                                     | Office          | 35                |
| <b><u>Fountain Hills</u></b> | Business Park           | Business Park                       | Retail          | 10                |
|                              |                         |                                     | Office          | 20                |
|                              |                         |                                     | Industrial      | 70                |
|                              | Mixed Use               | Mixed Use                           | Multifamily     | 30                |
|                              |                         |                                     | Retail          | 35                |
|                              |                         |                                     | Office          | 35                |

**TABLE 5  
LAND USE PROPORTIONS BY MPA**

| <b>MPA</b>                    | <b>Generic Category</b> | <b>General Plan Category</b> | <b>Land Use</b> | <b>Percentage</b> |
|-------------------------------|-------------------------|------------------------------|-----------------|-------------------|
| <b><u>Gila River</u></b>      | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 10                |
|                               |                         |                              | Industrial      | 80                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 30                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 35                |
| <b><u>Gilbert</u></b>         | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 20                |
|                               |                         |                              | Industrial      | 70                |
|                               | Business Park           | Regional Commercial          | Hotel           | 5                 |
|                               |                         |                              | Retail          | 80                |
|                               |                         |                              | Office          | 15                |
|                               | Mixed Use               | Village Center               | Multifamily     | 15                |
|                               |                         |                              | Hotel           | 10                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 40                |
| <b><u>Glendale</u></b>        | Business Park           | Business Park                | Retail          | 5                 |
|                               |                         |                              | Office          | 15                |
|                               |                         |                              | Industrial      | 80                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 20                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 45                |
| <b><u>Goodyear</u></b>        | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 20                |
|                               |                         |                              | Industrial      | 70                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 20                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 45                |
| <b><u>Guadalupe</u></b>       | Business Park           | Commercial Mixed Use         | Office          | 15                |
|                               |                         |                              | Industrial      | 80                |
|                               |                         |                              | Public          | 5                 |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 35                |
|                               |                         |                              | Retail          | 40                |
|                               |                         |                              | Office          | 25                |
| <b><u>Litchfield Park</u></b> | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 20                |
|                               |                         |                              | Industrial      | 70                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 20                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 45                |
| <b><u>Maricopa County</u></b> | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 20                |
|                               |                         |                              | Industrial      | 70                |

**TABLE 5  
LAND USE PROPORTIONS BY MPA**

| <b>MPA</b>                    | <b>Generic Category</b> | <b>General Plan Category</b> | <b>Land Use</b> | <b>Percentage</b> |
|-------------------------------|-------------------------|------------------------------|-----------------|-------------------|
| <b><u>Mesa</u></b>            | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 20                |
|                               |                         |                              | Industrial      | 70                |
|                               | Mixed Use               | Mixed Use/Employment         | Multifamily     | 20                |
|                               |                         |                              | Retail          | 25                |
|                               |                         |                              | Office          | 30                |
|                               |                         |                              | Industrial      | 25                |
| <b><u>Paradise Valley</u></b> | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 70                |
|                               |                         |                              | Industrial      | 20                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 10                |
|                               |                         |                              | Retail          | 40                |
|                               |                         |                              | Office          | 50                |
| <b><u>Peoria</u></b>          | Business Park           | Business Park                | Retail          | 10                |
|                               |                         |                              | Office          | 15                |
|                               |                         |                              | Industrial      | 75                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 20                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 45                |
| <b><u>Phoenix</u></b>         | Business Park           | Commerce Park                | Retail          | 25                |
|                               |                         |                              | Office          | 25                |
|                               |                         |                              | Industrial      | 50                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 20                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 45                |
| <b><u>Queen Creek</u></b>     | Business Park           | Employment - Type B          | Office          | 20                |
|                               |                         |                              | Industrial      | 80                |
|                               | Mixed Use               | Town Center                  | Multifamily     | 15                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 40                |
|                               |                         |                              | Public          | 10                |
| <b><u>Scottsdale</u></b>      | Business Park           | General Employment           | Office          | 25                |
|                               |                         |                              | Industrial      | 75                |
|                               | Business Park           | Minor Employment             | Office          | 20                |
|                               |                         |                              | Industrial      | 80                |
|                               | Mixed Use               | Mixed Use                    | Multifamily     | 30                |
|                               |                         |                              | Retail          | 35                |
|                               |                         |                              | Office          | 35                |

**TABLE 5  
LAND USE PROPORTIONS BY MPA**

| <b>MPA</b>               | <b>Generic Category</b> | <b>General Plan Category</b> | <b>Land Use</b> | <b>Percentage</b> |
|--------------------------|-------------------------|------------------------------|-----------------|-------------------|
| <b><u>Surprise</u></b>   | Business Park           | Employment                   | Office          | 50                |
|                          |                         |                              | Manufacturing   | 38                |
|                          |                         |                              | Hotel           | 12                |
|                          | Mixed Use               | Mixed Use Gateway            | Single Family   | 5                 |
|                          |                         |                              | Townhouse       | 5                 |
|                          |                         |                              | Multifamily     | 20                |
|                          |                         |                              | Retail          | 30                |
|                          |                         |                              | Office          | 25                |
|                          |                         |                              | Industrial      | 5                 |
|                          |                         |                              | Public          | 10                |
|                          | Mixed Use               | Surprise Center              | Single Family   | 5                 |
|                          |                         |                              | Townhouse       | 5                 |
|                          |                         |                              | Multifamily     | 10                |
|                          |                         |                              | Retail          | 30                |
|                          |                         |                              | Office          | 40                |
|                          |                         |                              | Public          | 10                |
| <b><u>Tempe</u></b>      | Business Park           | Business Park                | Retail          | 10                |
|                          |                         |                              | Office          | 20                |
|                          |                         |                              | Industrial      | 70                |
|                          | Mixed Use               | Mixed Use                    | Multifamily     | 35                |
|                          |                         |                              | Retail          | 35                |
|                          |                         |                              | Office          | 30                |
| <b><u>Tolleson</u></b>   | Business Park           | Business Park                | Retail          | 10                |
|                          |                         |                              | Office          | 10                |
|                          |                         |                              | Industrial      | 80                |
|                          | Mixed Use               | Mixed Use                    | Multifamily     | 35                |
|                          |                         |                              | Retail          | 35                |
|                          |                         |                              | Office          | 30                |
| <b><u>Wickenburg</u></b> | Business Park           | Business Park                | Retail          | 10                |
|                          |                         |                              | Office          | 10                |
|                          |                         |                              | Industrial      | 80                |
|                          | Mixed Use               | Mixed Use                    | Mixed Use       | 30                |
|                          |                         |                              | Retail          | 45                |
|                          |                         |                              | Office          | 25                |
| <b><u>Youngtown</u></b>  | Business Park           | Business Park                | Retail          | 10                |
|                          |                         |                              | Office          | 20                |
|                          |                         |                              | Industrial      | 70                |
|                          | Mixed Use               | Mixed Use                    | Multifamily     | 35                |
|                          |                         |                              | Retail          | 40                |
|                          |                         |                              | Office          | 25                |

Source: Applied Economics, 2001.

Maricopa Association of Governments GIS and Database Enhancement Project

## **METHOD**

1. Use the SAZ allocation of July 1, 2005 employment by land use sector as the base (existing) data.
2. Determine additional employment from the General Plan and Development database. Calculate developable employment-based acres by land use category (*land use codes 200 - 830*) by SAZ. For these scenarios, acreage is considered developable for employment if it meets all of the following criteria:
  - c) The 2005 land use was either agriculture or vacant.
  - d) The land use was not in a flood plain as defined by the MAG Desert Spaces Plan.
  - e) The General Plan land use was employment use or mixed use - land use codes 200 – 830. In the case of mixed use, apply the percentages identified previously.

Calculate additional employment by land use category as developable employment use acres \* net density factors (identified above) \* Floor Area Ratio \* Employment per 1000 square feet for the appropriate employment land use. Sum employment by sector by SAZ.

3. Add additional employment by sector to the 2005 base employment by sector to obtain total buildout figures.

## PAPER 3

### SINGLE FAMILY / MULTI-FAMILY SPLIT

The MAG projections are consistent with member agency General Plans and Planned Area Developments. The data is then used in MAG transportation models to project future transportation behavior. The latest version of the model requires long-term projections of the distribution of future housing units into single family and multifamily types. MAG socioeconomic models can determine the distribution of housing provided a county-wide control total is known. This paper recommends a split between single family and multi-family units over time.

Before beginning to explore how residential units may be split between single family and multifamily types in the future, it is useful to understand how this distribution has changed in the relatively recent past. In order to analyze past trends, housing inventory information from several previous Censuses were compiled, along with estimates for 2000.

The results of the data collection for the historic inventory breakdown by unit type are shown in Table 1, below. Over the past thirty years the total housing inventory in Maricopa County has increased by 281 percent, from about 317,000 housing units in 1970 to more than 1.2 million units in 2000. Despite this incredible increase in housing inventory, the overall change in the breakdown of housing units by type has changed relatively little. In 1970 nearly 80 percent of the inventory was comprised of single family units, compared with about 73 percent in 2000. While these figures reflect a modest decrease in the single family share of housing inventory, the decline has been relatively small compared with the amount of urbanization that has taken place.

**TABLE 1**  
**RESIDENTIAL INVENTORY BY UNIT TYPE**  
**MARICOPA COUNTY: 1970 – 2000**

| Year | Units         |              | Single Family Share |                   |
|------|---------------|--------------|---------------------|-------------------|
|      | Single Family | Multi-family | Percent of Total    | Percent of Change |
| 2000 | 883,380       | 325,122      | 73.10%              | 78.48%            |
| 1995 | 733,366       | 283,976      | 72.09%              | 97.37%            |
| 1990 | 669,781       | 282,260      | 70.35%              | 60.60%            |
| 1985 | 549,917       | 204,344      | 72.91%              | 64.27%            |
| 1980 | 450,591       | 149,135      | 75.13%              | 69.74%            |
| 1970 | 253,428       | 63,580       | 79.94%              |                   |

Sources:

1970, 1980, 1990, 1995: U.S. Bureau of the Census.

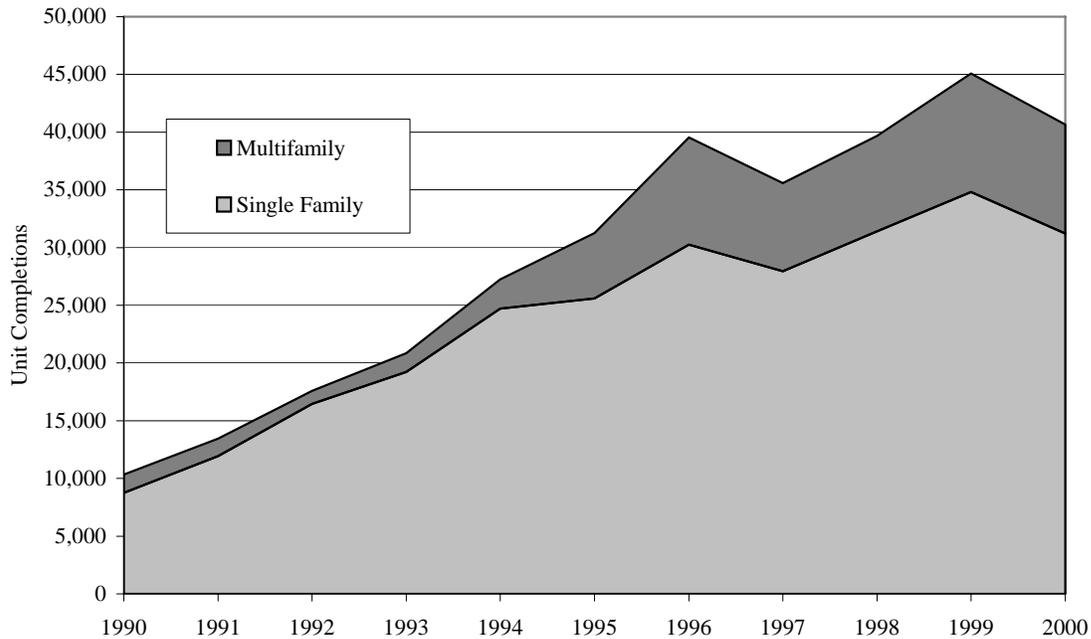
1985: Estimate based on occupied units by type.

2000: Estimate based on 1995 Census plus building completions.

The current year estimate of housing units by type was based on 1995 Census inventory data, supplemented with MAG Building Permit Completion data for 1995 through 1999. The Building Permit Completion data supplied by MAG provided individual records of new single family and

multifamily units, from 1990 through 2000. The total number of units by type by year is shown in Figure 1 below.

**FIGURE 1  
UNIT TYPE BREAKDOWN OF RECENT HOUSING ADDITIONS**



Source: Maricopa Association of Governments, Building Permit Completions Database.

The housing unit completion information is added to the 1995 Census baseline housing unit information to estimate year 2000 housing inventory. This resulted in 733,366 single family units in 1995, representing 72.1% of the housing stock, 150,014 new units from 1995 to 1999, representing 78.5%, for a total of 883,380 units, or 73.1% of the total housing stock.

Based on the consistency of the 1995 Census unit-type split data with estimates developed based on existing land use data, and the reasonable and consistent share of single family units in the General Plan land use data, it is reasonable to construct a time-series for the breakdown of units by type by interpolating between the current (2000) and future (General Plan) levels. Table 2 shows the county-level results of performing this interpolation. Under that scenario, the single family share of housing inventory would fall from 73.1 percent currently, to 70.6 percent at 2050, a change of only 2.5 percent.

**TABLE 2**  
**SINGLE FAMILY SHARE OF INVENTORY BY**  
**MARICOPA COUNTY: 1995 - 2050**

| Year      | Single Family Share of Inventory |
|-----------|----------------------------------|
| 1995      | 72.1%                            |
| 2000      | 73.1%                            |
| 2005      | 72.8%                            |
| 2010      | 72.6%                            |
| 2015      | 72.3%                            |
| 2020      | 72.1%                            |
| 2025      | 71.8%                            |
| 2030      | 71.6%                            |
| 2035      | 71.3%                            |
| 2040      | 71.1%                            |
| 2045      | 70.8%                            |
| 2050      | 70.6%                            |
| Build-out | 70.6%                            |

Sources:

1995: U.S. Bureau of the Census.

2000: Estimate based on 1995 Census plus building completions.

2005 - 2050: Projection based on General Plan Land Use interpolation.

## PAPER 4

### **CLUSTER SIZE, FLOOR AREA RATIOS, AND EMPLOYMENT DENSITY**

The MAG transportation models require projections of the number of employees in 5 different land use categories. The MAG socioeconomic models are land-use based and identify development by acres. It is therefore necessary to identify the number of acres in a typical development parcel (cluster size); the size of typical building on the parcel of land (floor area ratio) and the number of employees generated from the typical building (employees per 1000 square feet of building, or employment density). Table 1 presents the results of the most recent survey on cluster size, floor area ratio, employment density and compares the results to the previous survey in 1989.

**Cluster Size:** Cluster sizes are estimated in Table 1. Most cluster sizes have expanded due to larger buildings being built, especially in the retail sector. In the office sector, the cluster size grew more due to the concept of the phasing of new buildings. Phasing would allow the developer to buy a large parcel and build one building with a plan to add others as the market allows. The cluster size for the hotel/motel sector has declined because most of the present development has focused on the smaller motel with no amenities such as restaurants and conference centers. Thus, the buildings are smaller and the land need is less.

**Floor Area Ratio (FAR):** This concept represents the relationship between the structure and the land. Acquiring the land accounts for one of the largest costs associated with commercial development, frequently representing 25 to 30 percent of the final cost. Although the ratio measures the relation of the building to the land with a fairly typical ratio being about 25 percent, the building is not the only improvement on the land. The FAR does not include such land uses as the parking lot, landscaping, land use regulations creating open space between structures, and outlying structures such as PADs and parking structures in the determination of building square feet.

Table 1 indicates the Floor Area Ratios (FAR) for the various land use types and compares it to 1989 surveys. The greatest change was in large offices, which moved from 0.75 to 3.36. Some of this change is due to the fact that the larger buildings are frequently built on parking garages. But also, many of the sites examined for 1989 have added new buildings with no additional land. For example, there are now four buildings on the Esplanade site instead of two. The average FAR for a 1-story building is 0.40, .77 for 2-story building and 7.03 for 10 or more stories. Changing FARs represent differing intensity of land usage, which can be dictated by a wide-range of factors including market conditions, tenant requirements, land use regulations and market characteristics of the area.

**Employment Density:** In a very competitive economic environment, most companies are trying to improve the “bottom-line” by increasing the productivity of employees and space utilization. In order to enhance employee productivity, there is a greater use of technology and work scheduling. Thus, in the retail market the employment density has decreased, while in the office building market and the industrial market the employment density has increased. Table 1 indicates the employment per 1000 square feet that have been identified by the consultant for 2000.

## FACTORS INFLUENCING CHANGE

FARs and employment densities are changing as firms work to gain efficiencies to improve their profitability. The following identify some of the forces that are changing the structure of commercial development.

**Work schedule.** Until the last ten years, it was fairly typical that most people worked 8 to 5 Monday thru Friday. In order to better serve customers and/or reduce personnel costs, companies are moving to different work schedules such as extended hours (6 AM to midnight for the entire week) or a 24/7 schedule. Thus, a company might employ three hundred people but they are spread through the week and over the day. For example, a typical Walgreens drug store employs 25 people at each store but a 24-hour drug store has nearly 40 people. Another example is the U.S. Air reservations center in Tempe. The employment density is 18.7 people per 1,000 square feet due to the 24/7 schedules and the use of part-time people.

**Part time versus full time.** In the past, most jobs were full-time (typically 40 hours with benefits). Now more jobs are considered part time (under 20 hours with limited benefits) and can be found in most areas of employment, especially retailing and services. For example, only 4-6 people in a Walgreens out of a total workforce of 25-40 people are full-time and practically all of the 250 people at a Wal-Mart are part-time. The use of part-time people is frequently associated with changing concepts of the work schedule.

**Services offered.** The number of people employed at a site can be greatly influenced by the services being offered. For example, a grocery store typically employs fewer than 100 people but if a pharmacy is added then typically 6 people are added to the employment base. The number of services being offered also may increase the size of the store. Fry's stores frequently have pharmacies and banks and so are larger than Bashas, which frequently do not offer these services

**Work location.** People used to go to a site to work. Now, there are more options such as work-at-home, at the employer's site or at a client's site. Many supermarkets had on-site butchers, but now many are working from a central site and transporting the cut meat to the site. This reduces the number and expense of on-site butchers. It is also difficult to identify the true employee density for such operations as delivery or construction workers.

**Use of technology.** Technology has a tremendous impact on location. For example, many grocery stores are introducing self-checkouts to reduce the number and/or hours worked of human checkers. The most typical use of technology is the increasing ability to work at home and communicate with the office site and/or clients.

**Land use management.** Many cities are implementing regulations that will influence FARs and employee densities. For example, cities are recommending more mixed-use projects that will draw residential and commercial usages to a single site.

**Land usage.** The drive to heighten efficiencies increases FARs as developers try to make the

greatest economical use of a site. More and more stores are trying to combine uses. For example, Wal-Mart superstores combine a supermarket with a discount operation; developers are making more use of PADs where a restaurant such as McDonalds can share the land with the shopping center. Thus, FARS may continue to increase but not at the rate evident in the last few years. Further, tenants will try to enhance the efficiency of their space to ensure that most of the space is allocated to revenue generation. For example, the inclusion of a bank within a grocery store gains both market attraction (both uses bring customers) and space efficiencies.

**Economy.** Prior to the 2001 economic downturn, several firm such as Wells Fargo, American Express, and Charles Schwab were considering the development of corporate campuses, similar to the USAA campus in north Phoenix, which is over 700 acres. The idea of such a campus is to bring all workers to a single location with a set of office buildings and other features such as restaurants, day-care, and recreation facilities. The purpose was to create a corporate identity and a desirable place that would attract the needed skilled workers. However, as the economy slowed, many of the plans were shelved, and whether the concept will come back is largely unknown.

**Table 1**  
**FAR, Employment densities and Cluster**  
**1989 and 2000**

| Description               | 1989 |                    | 1989         |      | 2000               |              |
|---------------------------|------|--------------------|--------------|------|--------------------|--------------|
|                           | 1989 | Employees per 1000 | Cluster Size | 2000 | Employees per 1000 | Cluster Size |
|                           | FAR  | SqFt               | (Acres)      | FAR  | SqFt               | (Acres)      |
| <b>RETAIL</b>             |      |                    |              |      |                    |              |
| Neighborhood              | 0.23 | 1.43               | 16           | 0.23 | 1.18               | 21           |
| Community                 | 0.23 | 1.84               | 48           | 0.23 | .72                | 49           |
| Regional                  | 0.25 | 2.26               | 92           | 0.27 | 1.24               | 144          |
| Strip                     | 0.23 | 1.86               | 4            | 0.25 | 1.30               | 5            |
| <b>OFFICE</b>             |      |                    |              |      |                    |              |
| Small                     | 0.25 | 3.21               | 1.3          | 0.78 | 3.13               | 4.9          |
| Large                     | 0.75 | 2.50               | 3.3          | 3.36 | 3.08               | 4.8          |
| <b>INDUSTRIAL</b>         |      |                    |              |      |                    |              |
| Warehouse                 | 0.27 | 1.37               | 2.1          | 0.37 | 2.54               | 2.8          |
| Manufacturing             | 0.27 | 2.23               | 6.1          | 0.34 | 2.82               | 10.7         |
| <b>PUBLIC</b>             |      |                    |              |      |                    |              |
| Schools                   | 0.25 | 1.44               | 8.3          | 0.21 | 1.21               | 20.3         |
| Government                | 0.25 | 2.50               | NA           | 0.33 | 3.98               | NA           |
| <b>HOTEL/MOTEL/RESORT</b> |      |                    |              |      |                    |              |
| Hotel/motel               | 0.25 | 2.61               | 6.2          | 0.70 | 0.68               | 3.9          |
| Resorts                   | 0.25 | 1.96               | 18           | 0.62 | 0.45               | NA           |

NA=sample too small—data not available

## PAPER 5

### RESIDENTIAL CLUSTER SIZES

#### **Introduction**

In analyzing subdivisions, the average size of subdivisions prior to 1985 was 280 lots. Since then, the average subdivision size has steadily declined from 129 during the 1985-89 time period to 103 lots in the 1990-94 time period to the current 98 lots. There are many reasons for the decline in size. Now, most subdivisions are part of a master planned community, which might encompass thousands of lots such as McDowell Mountain Ranch. Further, many subdivisions within a community might be started at the same time by different builders and for different market segments. Thus, the smaller size allows builders to adjudge market acceptance of specific plans. Land costs within a master planned community can be quite high in order to sustain the front costs of the amenity features such as lakes, golf courses and jogging trails. Thus, to keep capital costs low relative to expected returns, a builder might buy smaller parcels.

An additional reason is the local homebuilding industry has become dominated by national builders such as Pulte and KB Homes. These companies are basically production builders. They need to sustain a level of construction to support their corporate infrastructure and capital needs. Thus, they tend to build at all times, even in weak markets, with the idea of being able to attract a buyer through attractive financing, pricing arrangements or other marketing concessions. Given the large scale of these companies, local speculative products do not typically represent a large share of their national production. But to minimize risk, national builders do keep their current exposure low by building small subdivisions, which allow them to more quickly adjust to changing market conditions. Thus there is really no reason to expect a sudden increase in subdivision sizes above the typical 100-lot subdivision.

The average lot size has not changed appreciably, with the average being 7,475 square feet for pre-1985; 7,525 for 1985-89; 7,984 for 1990-94; and 7,690 currently. The difference in that range of sizes appears to have become greater with more subdivisions moving into the 5,500 sq.ft. range or lower with cluster style housing. Thus, many builders, in order to maintain affordability of housing with higher land prices, are trying to get more homes in a subdivision by lowering lot sizes.

Based on average lot sizes, the typical subdivision has allocated 16 acres (net acres) for housing. The issue then becomes how much is being allocated for other uses such as streets and open space. Typically, about 25 percent of a subdivision is allocated for streets and other public access, although some subdivisions are allocating another 10 to 15 percent for public open space such as trails and/or parks. This is especially evident where subdivisions are using a small lot concept.

Larger lots, with 2 units or fewer per acre, do not have a decrease in acres for usable acres. Similarly, the highest density units typically have about three acres of non-developable space.

Based on an analysis of the development database and the Greater Phoenix Housing Study, Table 1 details the cluster sizes by residential land use type.

**Table 1**  
**Residential Cluster Sizes**

| <b>Land Use Code</b>               | <b>Density</b>      | <b>Gross Acres</b> | <b>Net Acres*</b> |
|------------------------------------|---------------------|--------------------|-------------------|
| Rural Residential (Limited Sample) | Under 1 DU/Acre     | 50                 | 50                |
| Estate Residential                 | DU/Acre             | 46                 | 46                |
| Large Lot Residential              | 1-2 DU/Acre         | 45                 | 45                |
| Medium Lot Residential             | 2-4 DU/Acre         | 25                 | 19                |
| Small Lot Residential              | 4-6 DU/Acre         | 20                 | 15                |
| Medium Density Residential         | 4-10 DU/Acre        | 26                 | 20                |
| High Density Residential           | 10-15 DU/Acre       | 17                 | 14                |
| Very High Density Residential      | More than 15DU/Acre | 18                 | 13                |

\*Net acres based on the assumption that the proposed subdivision would lose a certain percentage of its gross acreage for streets right-of ways, etc.

## PAPER 6

### RESIDENTIAL DEVELOPMENT VELOCITY CURVES

#### **Introduction**

In forecasting residential activity, it is important to understand the development trends of units that come to market. Typically, growth is fairly slow in the beginning of a project. But beyond a certain point the growth accelerates until it reaches another point where it begins to decrease as it approaches buildout. Hence the curve typically takes on a “S” shape and is frequently referred to as Life Cycle Analysis.

A typical life cycle of a small area can be described as an “S-Curve” indicating that development of an area will start slowly, speeds up velocity and stops when all homes are absorbed. Based on an analysis of the Greater Phoenix Housing Study (The Meyers Group, Landiscor), a series of S-curves were developed and are presented in FIGURE 1. Subdivision sales activity is analyzed over the 1979 to 1999 time period.

#### **Factors impacting Development Velocity:**

**Size of Subdivisions:** On the metropolitan (Metro) level, over 90 percent of starts were sold by the end of year 5. Except for the 500+ housing units subdivisions, most subdivisions approached sell-out by the end of year 6. Most of the activity occurred in the first few years with the remaining activity being focused on probably less desirable lots and models. The 500+ projects tend to be very consistent over time with half of the project being started by the end of year 7. This scale of projects has always been relatively rare in the area and typically associated with active adult communities such as Sun City or Sun Lakes. Currently, most active adult communities are smaller subdivisions within master planned communities.

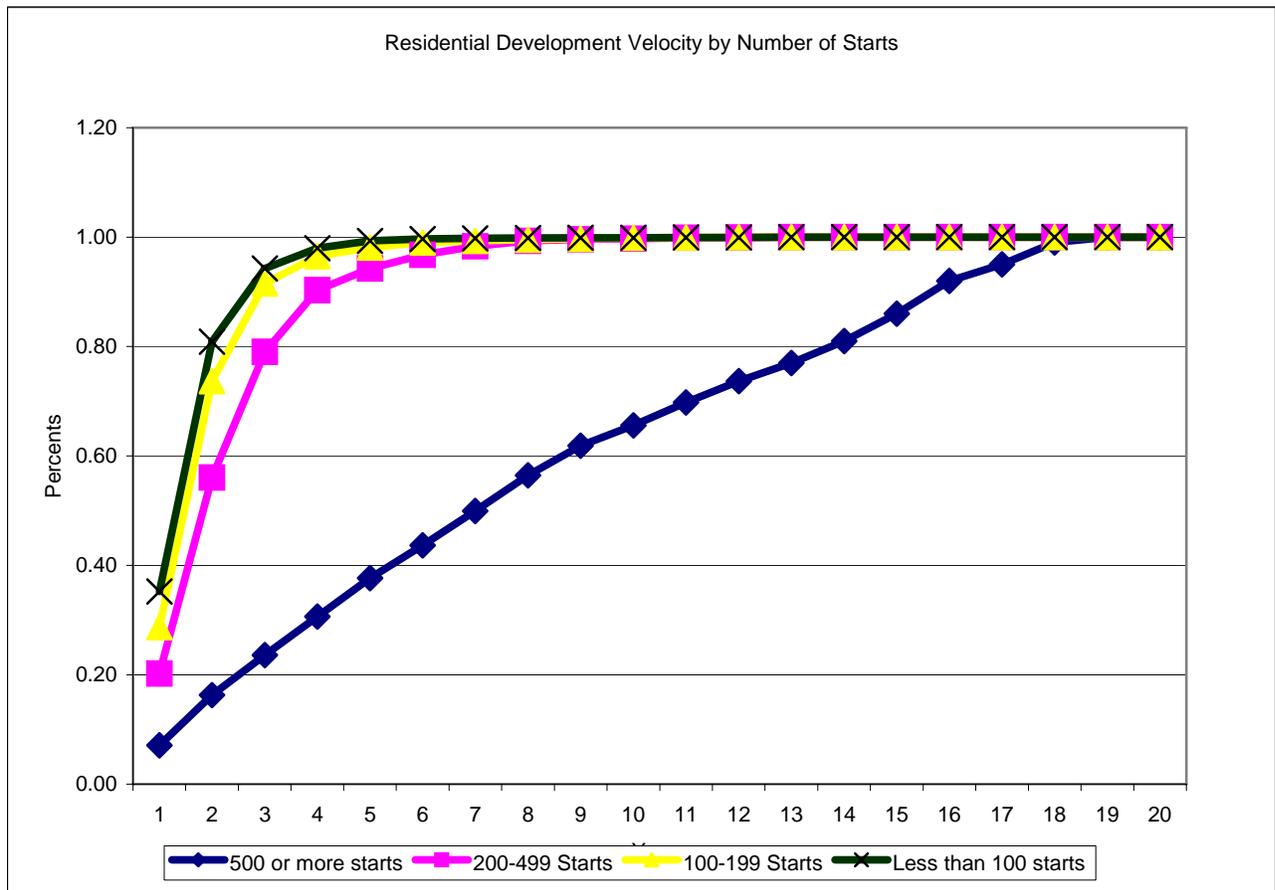
**Time Dimension:** The time dimension seems to show the greatest differences. In the 1980s, subdivisions tended to take longer time to sell out with nearly 20 percent of the lots remaining by year 12. The 1995-1999 time period is much quicker with a subdivision typically being sold out by the end of year 4. There are probably two key reasons for the difference. In the 1980s, subdivisions tended to be larger, which historically have longer sell-out periods. The other is the robust housing market of the 1990s, with low interest rates that drove sales at record paces.

**Lot Size:** Another dimension of sales activity is lot size. Basically, as lots get larger, which could well denote more expensive homes, the sales rate slows. This is especially evident in the early years, but all categories of lot sizes have over 90 percent of the homes sold at the end of year 4.

**Market Conditions:** Although the health of the housing market seems to be important, it is still true that the vast majority of developments sell out within five years and have less than 200 units.

Based on the analysis of the above parameters, it is recommended that the development velocity associated with 100-199 starts be used for projects with up to 200 units. FIGURE 1 details the velocity curves for various sized developments.

**FIGURE 1: RESIDENTIAL VELOCITY CURVES**



## PAPER 7

### GLOSSARY OF TERMS

**Absorption:** The amount of undeveloped land that is developed during a given period of time.

**Area:** The total size (land and water) of a specified geographical unit, usually in square miles or acres.

**Average Annual Household Income:** Total money received in a calendar year by all household members 15 years old and over.

**Base Population:** Population base for the current estimate, usually the last Decennial Census or a special census or census survey taken since then.

**Birth Rate (crude):** The number of births in a calendar year divided by the mid-year total population (B/P x 1000).

**Census Transportation Planning Package:** A special tabulation of a Census of the population for Maricopa County by the Traffic Analysis Zone system.

**Cohort:** A group of persons with a common characteristic such as age group.

**Cohort Survivors:** Number of survivors at the end of a specific period as the cohort passes through time (ages).

**Components of Population Change:** Births, deaths, in-migration and out-migration.

**Comprehensive Plan:** A planning document that is developed for an area that provides guidelines and policy statements for the direction, character, magnitude and timing of development that is expected to take place.

**Construction Employment:** Employment associated with construction sites across the region but not with a specific land use. This is included in the Other Employment category. Because construction employment follows development, employment projections may show declines in future years.

**Council of Governments (COG):** A public organization encompassing a multi-jurisdictional regional community. A COG serves the local governments and the citizens in the region by dealing with issues and needs that cross city, town, county and even state boundaries.

**Death Rate (crude):** The number of deaths in a calendar year divided by the mid-year total population (D/P x 1000).

**Demography:** The study of characteristics of human population, size, growth, density, distribution, and vital statistics.

**Developed Employment-Related Area:** The amount of developed employment-related land in an area based on current comprehensive plans of jurisdictions, input from the local planning community and knowledge about the area.

**Developed Residential Area:** The amount of developed residential land in an area based on current comprehensive plans of jurisdictions, input from the local planning community and knowledge about the area.

**Employment:** The total number of jobs of persons receiving wage or salary to work in a given industry. This measure of employment only includes persons over the age of 16 and does not include working within the home without outside wage or volunteering. An employee works in the designated weekly time period at least one hour.

**Employment Concentration:** Measures the average employment density within a given radius, usually a 1-mile radius. This helps in smoothing out differences in geographies and identifying underlying spatial patterns in the data.

**Employment Density:** Derived by dividing total employment within an area by the size of the area in square miles.

**Employment Saturation:** The percentage of total employment capacity that is developed based upon the buildout densities.

**Estimate:** Indirect measure of the number of persons inhabiting a specific geographic area for a current or past time period. Actual data sensitive to changes in the population are used to derive the numbers. The data are incorporated into various formulas to produce estimates of population change or components of this change.

**Fertility:** Index relating the number of births to the number of women of childbearing age normally 15-44 years old:  $(B/P (15-44) \times 1000)$ .

**General Plan:** An official document containing goals and objectives for future development and policies designed to reach these goals and objectives. Sometimes called "comprehensive plan."

**Group Quarters:** Group quarters are places where people live or stay other than the usual house, apartment, or mobile home. Two general types of group quarters are recognized: institutional, i.e. nursing homes, mental hospitals or wards, hospitals or wards for chronically ill patients, hospices, and prison wards; and noninstitutional, i.e. college or university dormitories, military barracks, group homes, shelters, and missions. Group quarters may have housing units on the premises for staff or guests.

**Household:** An occupied housing unit.

**Housing Unit:** A dwelling unit that could be single family, multi-family, mobile home or other type of unit.

**Industrial Employment:** Employment in areas designated for industrial land use.

**Job/Housing Balance:** The ratio of the number of jobs to the number of housing units in a geographical area.

**Jobs Per 100 People:** The number of jobs for every 100 people in a geographical area.

**Land Use:** The predominant activity that is occurring in a geographic area.

**Land Use Controls:** Regulations governing how land is to be used in order to implement the General Plan. The major controls are subdivision regulation and zoning.

**Land Use Planning:** Urban planning that focuses on physical development.

**Large-Firm Employment:** That employment associated with firms employing 100 or more persons at one site.

**Municipality:** A political unit incorporated as a city or town.

**Municipal Planning Area (MPA):** An MPA represents the area of planning concern for a municipality and is based upon its anticipated future corporate limits.

**Natural Change:** The number of births minus deaths during a specific period. If there is an excess of births over deaths, the change is called natural increase; if deaths are larger, it is referred to as natural decrease.

**Net Migration:** The net effect of persons moving into an area (in-migration) minus persons moving out of the area (out-migration).

**Nonresident:** Any person whose principal place of residence is not within Maricopa County.

**North American Industry Classification System (NAICS):** An industry classification system that groups establishments into industries based on the activities in which they are principally engaged.

**Occupied Housing Unit:** A housing unit is considered occupied if a resident person or persons are living in it or if the occupant is only away from the unit temporarily, e.g., away on vacation.

**Occupancy Rate:** The number of occupied housing units divided by the total number of housing units in a geographical area.

**Office Employment:** Employment that is located in areas designated for office land use.

**Open Space:** Land or water free of urban development, including land or water used for the production of food or fiber or for the conservation of natural or scenic resources.

**Other Employment:** A residual of total employment minus employment in areas designated for industrial, office, public and retail land uses. It includes, but is not limited to, medical,

postal, transportation, utilities, communication, hotel/motel, and construction.

**Plat:** A map or a subdivision.

**Population Concentration:** Measures the average population density within a given radius, usually a one mile radius. This helps in smoothing out differences in geographies and identifying underlying spatial patterns in the data.

**Population in Households:** The population in occupied housing units.

**Persons Per Occupied Unit:** The total population residing in occupied housing units divided by the total occupied housing units.

**Population Saturation:** The percentage of total population capacity that is developed, based upon the buildout densities.

**Projection:** Numerical outcome of a set of assumptions (based on past trends) relating to future trends. The numbers are conditional upon these assumptions being fulfilled.

**Public Employment:** Employment located on land designated for public use.

**Regional Analysis Zone (RAZ):** An area within an MPA. RAZs can be either coterminous with or may be aggregated to form an MPA.

**Resident:** a resident of a geographical area is a person who reports that his or her regular place of residence is within that geographical area.

**Resident Housing Unit Density:** The total number of resident housing units in a geographic area divided by area in square miles.

**Resident Population:** Resident population is defined as the people who live in a specific area more than six months a year. Resident population may live in housing units or in group quarters.

**Resident Population Density:** The total resident population in a geographic area divided by area in square miles.

**Retail Employment:** Employment that is located in areas designated for retail land use.

**Sample Survey:** Scientifically designed sampling to obtain characteristics of the population.

**Saturation Ratio:** The ratio of total developed land to total developable land.

**Seasonal Population:** The number of nonresidents who reside within the area at certain times of the year for more than two weeks.

**Socioeconomic Analysis Zone (SAZ):** Represents subareas within a Regional Analysis Zone and is the smallest geographic unit for which variables are forecast for socioeconomic

planning purposes.

**Subdivision:** The division of a parcel of land into two or more lots for the purposes of sale or development. The former single piece as a whole is then known as a subdivision. Subdivisions may be residential or commercial.

**Symptomatic Indicators:** Data series that are reflective of population change; can be used in developing current population estimates.

**Top-down Allocation:** An allocation procedure that begins at the highest level of geography and then allocates the variables to the next level of geography. The totals developed at each level serve as control totals for the allocation to the next level. For example, allocation of population from county-level to the RAZ level, then from the RAZ level to the SAZ level represents top-down allocation.

**Total Nonresident Population:** The combination of seasonal and transient populations.

**Total Resident Housing Units:** The combination of occupied and vacant resident housing units.

**Total Resident Population:** Includes those residents living in housing units and group quarters.

**Traffic Analysis Zone (TAZ):** Represents a subarea within a Regional Analysis Zone and is the smallest geographic unit for which variables are forecast for transportation planning purposes.

**Transient Population:** The number of nonresidents that reside in the area for less than two weeks, often in hotel, motel, or RV housing units.

**Travel Time:** The time, in minutes, that it takes to travel from one point to another. The travel times represent peak-hour traffic conditions.

**Undevelopable Area:** The amount of undevelopable land in an area based on the analysis of land use information and planning documents from the various jurisdictions. Undevelopable area includes land in flood plains, land covered with water, land with slopes or other topographic features that make development not feasible, and areas that have been designated for parks and other open space use.

**Undeveloped Employment-Related Area:** The amount of undeveloped employment related land in an area based on current comprehensive plans of jurisdictions, input from the local planning community, and knowledge about the area.

**Undeveloped Residential Area:** The amount of undeveloped residential land in an area based on current comprehensive plans of jurisdictions, input from the local planning community, and knowledge about the area.

**Urban Edge:** The furthest spatial edge of the predominantly developed portion of the MAG region. The identification of these areas of the region was done primarily through aerial photography analysis and supplemented with Maricopa County Assessor data and data from MAG member agencies.

**Vacancy Rate:** The ratio of the total number of vacant housing units divided by the total number of housing units.

**Vacant Housing Unit:** A unit in which no resident lives.

**Vital Statistics:** Births and deaths data reported by either place of residence or occurrence

**Work-at-Home Employment:** Employment where the primary place of work is at home.

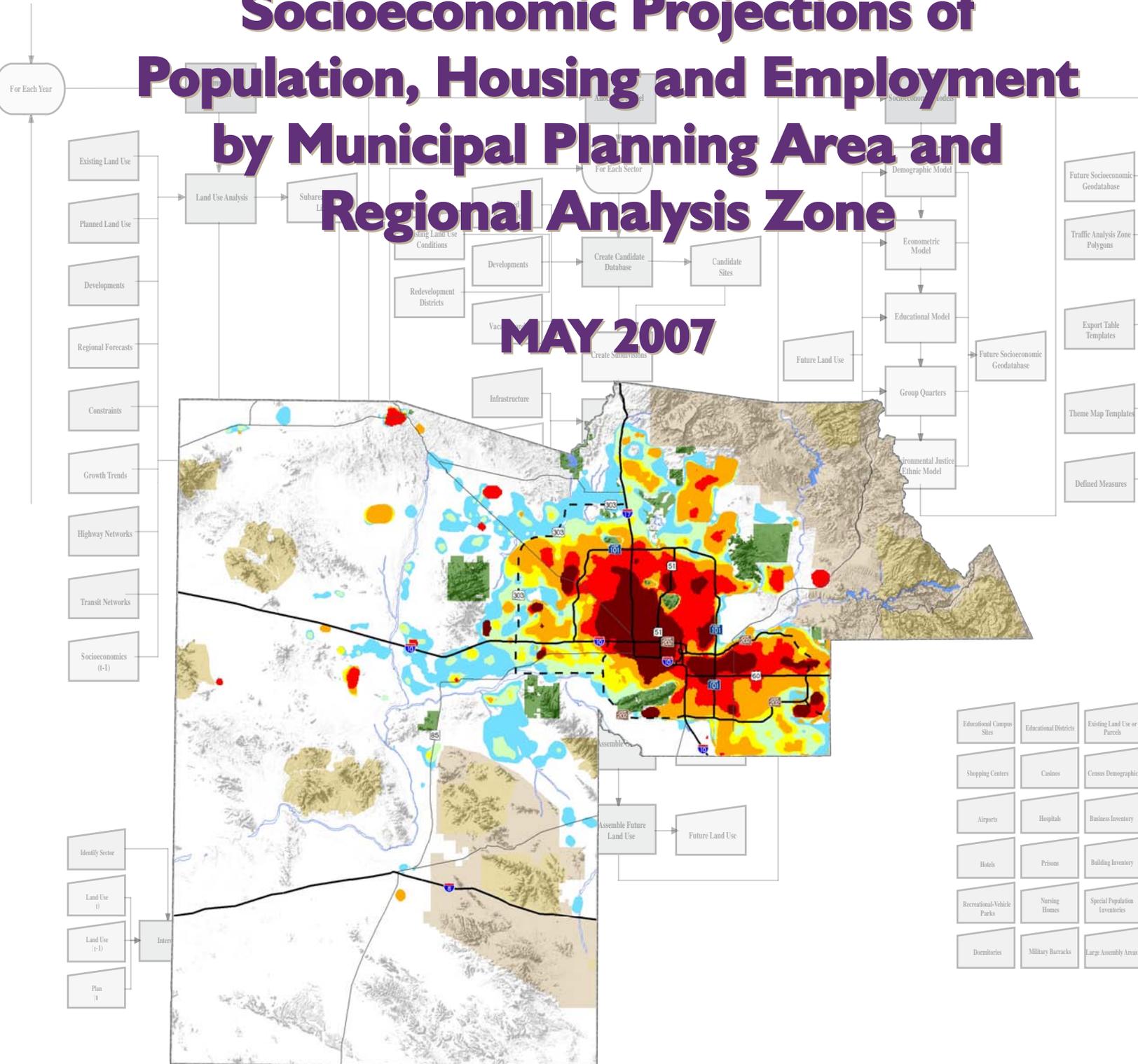
**Zip Codes:** Administrative entities of the U.S. Postal Service which generally do not coincide with the Census Bureau's geographic or political areas, and change according to postal requirements. Most zip codes do not have specific boundaries, and their implied boundaries do not necessarily follow clearly identifiable physical features.

**Zoning:** The division of a city or county into districts for the purpose of regulating the use of land, the size of structures, and the density of population. Accomplished through the passage of a zoning ordinance.

# **Appendix P**

# Socioeconomic Projections of Population, Housing and Employment by Municipal Planning Area and Regional Analysis Zone

**MAY 2007**



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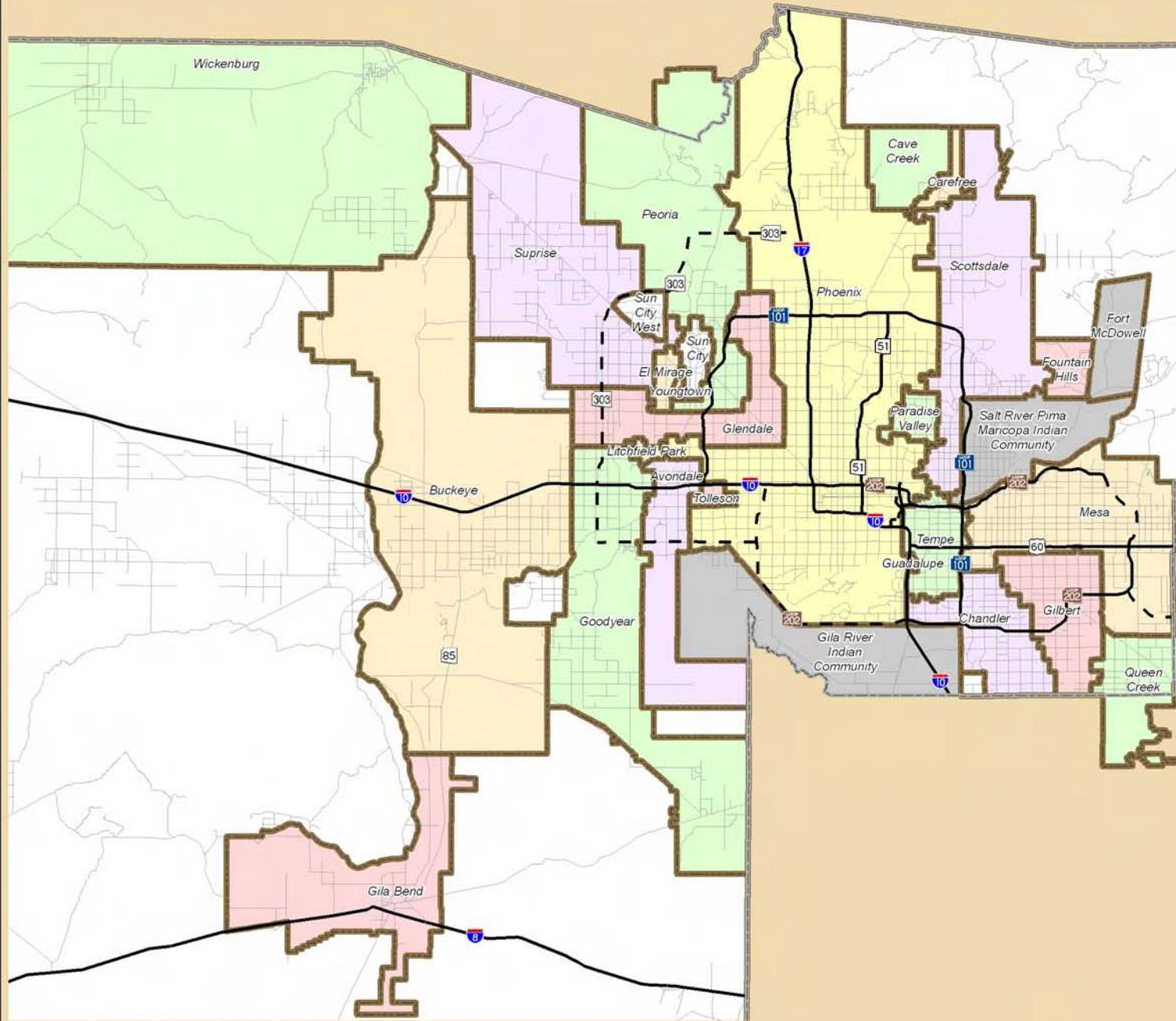
### **Socioeconomic Projections of Population, Housing and Employment by Municipal Planning Area and Regional Analysis Zone**

**May 2007**

1. Municipal Planning Areas, 2007 (1 page map)
2. Total Resident Population by Municipal Planning Area, Maricopa County, July 1, 2005 and Projections July 1, 2010, 2020 and 2030 (1 page summary table)
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# 2007 Municipal Planning Area

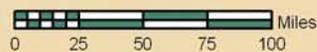
Maricopa County, Arizona



-  Municipal Planning Area
-  Maricopa County
-  Major Roads
- Freeways/Expressways**
-  Existing
-  Planned



Map Prepared by Maricopa Association of Governments  
 Source: MAG Municipal Planning Areas, 2007  
 MAG Member Agencies, 2006



**Maricopa Association of Governments**  
**Total Resident Population by Municipal Planning Area, Maricopa County**  
**July 1, 2005 and Projections July 1, 2010 to July 1, 2030**

| <b>Total Resident Population</b> |                  |                  |                  |                  |
|----------------------------------|------------------|------------------|------------------|------------------|
| <b>MPA</b>                       | <b>2005</b>      | <b>2010</b>      | <b>2020</b>      | <b>2030</b>      |
| Avondale                         | 70,160           | 83,856           | 105,989          | 123,265          |
| Buckeye                          | 32,735           | 74,906           | 218,591          | 419,146          |
| Carefree                         | 3,654            | 4,418            | 5,816            | 6,097            |
| Cave Creek                       | 4,845            | 5,781            | 7,815            | 9,656            |
| Chandler                         | 236,073          | 265,107          | 282,991          | 283,792          |
| County Areas                     | 80,661           | 87,434           | 107,441          | 159,312          |
| El Mirage                        | 31,935           | 34,819           | 38,620           | 38,717           |
| Fountain Hills                   | 24,347           | 27,166           | 33,331           | 33,810           |
| Fort McDowell                    | 824              | 839              | 1,037            | 1,239            |
| Gila Bend                        | 2,118            | 2,575            | 3,950            | 9,074            |
| Gila River                       | 2,742            | 2,790            | 2,941            | 3,410            |
| Gilbert                          | 178,708          | 218,009          | 285,819          | 300,295          |
| Glendale                         | 257,891          | 279,807          | 315,055          | 322,062          |
| Goodyear                         | 47,520           | 71,354           | 174,521          | 299,397          |
| Guadalupe                        | 5,555            | 5,790            | 5,982            | 5,983            |
| Litchfield Park                  | 6,787            | 8,587            | 10,305           | 10,510           |
| Mesa                             | 486,296          | 518,944          | 565,693          | 584,866          |
| Paradise Valley                  | 14,136           | 14,790           | 15,224           | 15,352           |
| Peoria                           | 141,441          | 172,793          | 236,154          | 306,070          |
| Phoenix                          | 1,510,177        | 1,695,549        | 1,990,450        | 2,201,843        |
| Queen Creek                      | 19,879           | 34,506           | 55,529           | 72,947           |
| Salt River                       | 6,822            | 7,087            | 7,308            | 7,425            |
| Scottsdale                       | 234,515          | 249,341          | 269,266          | 286,020          |
| Surprise                         | 93,356           | 146,890          | 268,359          | 401,458          |
| Tempe                            | 165,740          | 177,771          | 191,881          | 197,970          |
| Tolleson                         | 6,491            | 7,748            | 9,646            | 10,193           |
| Wickenburg                       | 9,606            | 11,022           | 13,311           | 17,732           |
| Youngtown                        | 6,011            | 6,820            | 7,275            | 7,359            |
| <b>County Total</b>              | <b>3,681,025</b> | <b>4,216,499</b> | <b>5,230,300</b> | <b>6,135,000</b> |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.



**Maricopa Association of Governments**  
**Total Housing Units by Municipal Planning Area, Maricopa County**  
**July 1, 2005 and Projections July 1, 2010 to July 1, 2030**

| <b>Total Housing Units</b> |                  |                  |                  |                  |
|----------------------------|------------------|------------------|------------------|------------------|
| <b>MPA</b>                 | <b>2005</b>      | <b>2010</b>      | <b>2020</b>      | <b>2030</b>      |
| Avondale                   | 22,433           | 29,620           | 38,403           | 45,346           |
| Buckeye                    | 9,470            | 25,895           | 81,485           | 163,523          |
| Carefree                   | 2,162            | 2,484            | 3,209            | 3,347            |
| Cave Creek                 | 2,231            | 2,681            | 3,659            | 4,522            |
| Chandler                   | 91,098           | 104,492          | 112,400          | 112,618          |
| County Areas               | 58,940           | 62,405           | 71,666           | 96,201           |
| El Mirage                  | 10,152           | 11,274           | 12,680           | 12,709           |
| Fountain Hills             | 11,851           | 13,412           | 16,301           | 16,516           |
| Fort McDowell              | 275              | 280              | 349              | 424              |
| Gila Bend                  | 944              | 1,046            | 1,612            | 4,002            |
| Gila River                 | 695              | 711              | 753              | 887              |
| Gilbert                    | 60,455           | 77,498           | 105,777          | 113,101          |
| Glendale                   | 92,704           | 100,420          | 114,025          | 116,406          |
| Goodyear                   | 16,517           | 26,119           | 66,454           | 118,418          |
| Guadalupe                  | 1,229            | 1,279            | 1,329            | 1,329            |
| Litchfield Park            | 3,529            | 4,483            | 5,131            | 5,240            |
| Mesa                       | 221,356          | 232,198          | 253,573          | 262,217          |
| Paradise Valley            | 6,045            | 6,364            | 6,600            | 6,659            |
| Peoria                     | 55,525           | 68,580           | 96,691           | 128,765          |
| Phoenix                    | 564,771          | 626,137          | 744,450          | 840,916          |
| Queen Creek                | 6,138            | 11,789           | 19,165           | 25,855           |
| Salt River                 | 2,657            | 2,753            | 2,858            | 2,913            |
| Scottsdale                 | 116,406          | 123,799          | 133,828          | 141,704          |
| Surprise                   | 42,430           | 64,039           | 117,815          | 179,081          |
| Tempe                      | 70,248           | 74,541           | 81,395           | 83,889           |
| Tolleson                   | 1,980            | 2,318            | 2,945            | 3,107            |
| Wickenburg                 | 4,879            | 5,510            | 6,692            | 9,148            |
| Youngtown                  | 2,647            | 3,007            | 3,195            | 3,197            |
| <b>County Total</b>        | <b>1,479,767</b> | <b>1,685,134</b> | <b>2,104,440</b> | <b>2,502,040</b> |

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.

May, 2007



**Maricopa Association of Governments**  
**Total Employment by Municipal Planning Area, Maricopa County**  
**July 1, 2005 and Projections July 1, 2010 to July 1, 2030**

| <b>MPA</b>          | <b>Total Employment</b> |                  |                  |                  |
|---------------------|-------------------------|------------------|------------------|------------------|
|                     | <b>2005</b>             | <b>2010</b>      | <b>2020</b>      | <b>2030</b>      |
| Avondale            | 12,315                  | 20,599           | 37,776           | 53,083           |
| Buckeye             | 8,672                   | 22,400           | 57,297           | 147,851          |
| Carefree            | 2,669                   | 3,270            | 3,992            | 4,329            |
| Cave Creek          | 2,602                   | 3,564            | 4,666            | 6,066            |
| Chandler            | 86,732                  | 128,244          | 168,141          | 178,116          |
| County Areas        | 24,051                  | 27,353           | 39,281           | 70,428           |
| El Mirage           | 2,858                   | 5,001            | 9,276            | 11,528           |
| Fountain Hills      | 7,492                   | 9,954            | 11,569           | 11,573           |
| Fort McDowell       | 1,228                   | 1,323            | 1,647            | 1,959            |
| Gila Bend           | 1,077                   | 1,691            | 2,760            | 6,824            |
| Gila River          | 4,334                   | 5,422            | 7,612            | 14,448           |
| Gilbert             | 56,292                  | 81,852           | 117,984          | 128,792          |
| Glendale            | 88,172                  | 117,110          | 156,508          | 171,498          |
| Goodyear            | 15,794                  | 28,167           | 73,622           | 130,336          |
| Guadalupe           | 1,033                   | 1,387            | 1,467            | 1,481            |
| Litchfield Park     | 1,710                   | 2,405            | 3,200            | 4,280            |
| Mesa                | 174,909                 | 218,085          | 275,236          | 306,030          |
| Paradise Valley     | 5,769                   | 6,717            | 7,707            | 8,734            |
| Peoria              | 34,631                  | 53,397           | 87,968           | 117,861          |
| Phoenix             | 811,513                 | 937,182          | 1,108,031        | 1,246,527        |
| Queen Creek         | 4,021                   | 9,652            | 22,213           | 35,145           |
| Salt River          | 5,977                   | 11,131           | 25,587           | 49,905           |
| Scottsdale          | 181,652                 | 208,073          | 232,832          | 252,015          |
| Surprise            | 16,289                  | 31,105           | 81,423           | 147,703          |
| Tempe               | 176,688                 | 198,243          | 219,543          | 235,616          |
| Tolleson            | 12,340                  | 15,808           | 19,854           | 22,314           |
| Wickenburg          | 5,055                   | 6,622            | 8,921            | 12,316           |
| Youngtown           | 1,657                   | 1,667            | 1,988            | 2,042            |
| <b>County Total</b> | <b>1,747,532</b>        | <b>2,157,424</b> | <b>2,788,101</b> | <b>3,378,800</b> |

Note: Because construction employment follows development, employment projections may show declines in future years.

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.

May, 2007



**Maricopa Association of Governments**  
**Resident Population and Housing by Municipal Planning Area, Maricopa County**  
**July 1, 2005 and Projections July 1, 2010 to July 1, 2030**

| <b>Municipal<br/>Planning<br/>Area<br/>(MPA)</b> | <b>Year</b> | <b>Total Resident Population</b> |                          | <b>Total Housing Units</b> |                 |
|--|-------------|----------------------------------|--------------------------|----------------------------|-----------------|
|  |             | <b>Total</b>                     | <b>In<br/>Households</b> | <b>Total</b>               | <b>Occupied</b> |
| <i>Avondale</i>                                  | <i>2005</i> | 70,160                           | 69,986                   | 22,433                     | 21,738          |
|  | <i>2010</i> | 83,856                           | 83,653                   | 29,620                     | 28,326          |
|  | <i>2020</i> | 105,989                          | 105,741                  | 38,403                     | 36,928          |
|  | <i>2030</i> | 123,265                          | 122,975                  | 45,346                     | 43,749          |
| <i>Buckeye</i>                                   | <i>2005</i> | 32,735                           | 27,882                   | 9,470                      | 8,821           |
|  | <i>2010</i> | 74,906                           | 69,023                   | 25,895                     | 23,783          |
|  | <i>2020</i> | 218,591                          | 211,403                  | 81,485                     | 75,593          |
|  | <i>2030</i> | 419,146                          | 410,752                  | 163,523                    | 152,359         |
| <i>Carefree</i>                                  | <i>2005</i> | 3,654                            | 3,654                    | 2,162                      | 1,709           |
|  | <i>2010</i> | 4,418                            | 4,418                    | 2,484                      | 2,035           |
|  | <i>2020</i> | 5,816                            | 5,816                    | 3,209                      | 2,656           |
|  | <i>2030</i> | 6,097                            | 6,097                    | 3,347                      | 2,770           |
| <i>Cave Creek</i>                                | <i>2005</i> | 4,845                            | 4,840                    | 2,231                      | 2,055           |
|  | <i>2010</i> | 5,781                            | 5,754                    | 2,681                      | 2,489           |
|  | <i>2020</i> | 7,815                            | 7,782                    | 3,659                      | 3,426           |
|  | <i>2030</i> | 9,656                            | 9,617                    | 4,522                      | 4,244           |
| <i>Chandler</i>                                  | <i>2005</i> | 236,073                          | 234,510                  | 91,098                     | 86,058          |
|  | <i>2010</i> | 265,107                          | 263,290                  | 104,492                    | 99,341          |
|  | <i>2020</i> | 282,991                          | 280,772                  | 112,400                    | 107,499         |
|  | <i>2030</i> | 283,792                          | 281,200                  | 112,618                    | 107,700         |
| <i>County Areas</i>                              | <i>2005</i> | 80,661                           | 79,372                   | 58,940                     | 45,667          |
|  | <i>2010</i> | 87,434                           | 86,134                   | 62,405                     | 49,159          |
|  | <i>2020</i> | 107,441                          | 105,852                  | 71,666                     | 57,708          |
|  | <i>2030</i> | 159,312                          | 157,456                  | 96,201                     | 80,317          |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.

May, 2007

| Municipal<br>Planning<br>Area<br>(MPA) | Year        | Total Resident Population |                  | Total Housing Units |          |
|--|-------------|---------------------------|------------------|---------------------|----------|
|  |             | Total                     | In<br>Households | Total               | Occupied |
| <i>El Mirage</i>                       | <i>2005</i> | 31,935                    | 31,862           | 10,152              | 9,442    |
|  | <i>2010</i> | 34,819                    | 34,734           | 11,274              | 10,543   |
|  | <i>2020</i> | 38,620                    | 38,516           | 12,680              | 11,963   |
|  | <i>2030</i> | 38,717                    | 38,596           | 12,709              | 11,991   |
| <i>Fort McDowell</i>                   | <i>2005</i> | 824                       | 824              | 275                 | 231      |
|  | <i>2010</i> | 839                       | 839              | 280                 | 239      |
|  | <i>2020</i> | 1,037                     | 1,037            | 349                 | 300      |
|  | <i>2030</i> | 1,239                     | 1,239            | 424                 | 365      |
| <i>Fountain Hills</i>                  | <i>2005</i> | 24,347                    | 24,176           | 11,851              | 10,713   |
|  | <i>2010</i> | 27,166                    | 26,977           | 13,412              | 12,087   |
|  | <i>2020</i> | 33,331                    | 33,100           | 16,301              | 14,960   |
|  | <i>2030</i> | 33,810                    | 33,539           | 16,516              | 15,170   |
| <i>Gila Bend</i>                       | <i>2005</i> | 2,118                     | 2,118            | 944                 | 684      |
|  | <i>2010</i> | 2,575                     | 2,575            | 1,046               | 848      |
|  | <i>2020</i> | 3,950                     | 3,950            | 1,612               | 1,340    |
|  | <i>2030</i> | 9,074                     | 9,074            | 4,002               | 3,311    |
| <i>Gila River</i>                      | <i>2005</i> | 2,742                     | 2,697            | 695                 | 639      |
|  | <i>2010</i> | 2,790                     | 2,745            | 711                 | 660      |
|  | <i>2020</i> | 2,941                     | 2,886            | 753                 | 707      |
|  | <i>2030</i> | 3,410                     | 3,346            | 887                 | 834      |
| <i>Gilbert</i>                         | <i>2005</i> | 178,708                   | 178,451          | 60,455              | 58,501   |
|  | <i>2010</i> | 218,009                   | 217,656          | 77,498              | 74,676   |
|  | <i>2020</i> | 285,819                   | 285,388          | 105,777             | 101,534  |
|  | <i>2030</i> | 300,295                   | 299,791          | 113,101             | 108,470  |
| <i>Glendale</i>                        | <i>2005</i> | 257,891                   | 253,904          | 92,704              | 89,459   |
|  | <i>2010</i> | 279,807                   | 275,675          | 100,420             | 97,523   |
|  | <i>2020</i> | 315,055                   | 310,192          | 114,025             | 111,363  |
|  | <i>2030</i> | 322,062                   | 316,520          | 116,406             | 113,728  |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.

May, 2007

| <b>Municipal<br/>Planning<br/>Area<br/>(MPA)</b> | <b>Year</b> | <b>Total Resident Population</b> |                          | <b>Total Housing Units</b> |                 |
|--|-------------|----------------------------------|--------------------------|----------------------------|-----------------|
|  |             | <b>Total</b>                     | <b>In<br/>Households</b> | <b>Total</b>               | <b>Occupied</b> |
| <b>Goodyear</b>                                  | <b>2005</b> | 47,520                           | 44,449                   | 16,517                     | 15,714          |
|  | <b>2010</b> | 71,354                           | 67,813                   | 26,119                     | 24,743          |
|  | <b>2020</b> | 174,521                          | 170,194                  | 66,454                     | 63,789          |
|  | <b>2030</b> | 299,397                          | 294,344                  | 118,418                    | 114,144         |
| <b>Guadalupe</b>                                 | <b>2005</b> | 5,555                            | 5,552                    | 1,229                      | 1,174           |
|  | <b>2010</b> | 5,790                            | 5,787                    | 1,279                      | 1,234           |
|  | <b>2020</b> | 5,982                            | 5,978                    | 1,329                      | 1,294           |
|  | <b>2030</b> | 5,983                            | 5,978                    | 1,329                      | 1,294           |
| <b>Litchfield Park</b>                           | <b>2005</b> | 6,787                            | 6,720                    | 3,529                      | 3,134           |
|  | <b>2010</b> | 8,587                            | 8,518                    | 4,483                      | 3,991           |
|  | <b>2020</b> | 10,305                           | 10,221                   | 5,131                      | 4,599           |
|  | <b>2030</b> | 10,510                           | 10,412                   | 5,240                      | 4,698           |
| <b>Mesa</b>                                      | <b>2005</b> | 486,296                          | 480,246                  | 221,356                    | 182,272         |
|  | <b>2010</b> | 518,944                          | 512,370                  | 232,198                    | 195,393         |
|  | <b>2020</b> | 565,693                          | 557,661                  | 253,573                    | 215,740         |
|  | <b>2030</b> | 584,866                          | 575,481                  | 262,217                    | 223,163         |
| <b>Paradise Valley</b>                           | <b>2005</b> | 14,136                           | 14,082                   | 6,045                      | 5,193           |
|  | <b>2010</b> | 14,790                           | 14,735                   | 6,364                      | 5,517           |
|  | <b>2020</b> | 15,224                           | 15,156                   | 6,600                      | 5,778           |
|  | <b>2030</b> | 15,352                           | 15,272                   | 6,659                      | 5,829           |
| <b>Peoria</b>                                    | <b>2005</b> | 141,441                          | 138,561                  | 55,525                     | 50,109          |
|  | <b>2010</b> | 172,793                          | 169,708                  | 68,580                     | 62,578          |
|  | <b>2020</b> | 236,154                          | 232,385                  | 96,691                     | 89,049          |
|  | <b>2030</b> | 306,070                          | 301,668                  | 128,765                    | 118,800         |
| <b>Phoenix</b>                                   | <b>2005</b> | 1,510,177                        | 1,480,742                | 564,771                    | 534,803         |
|  | <b>2010</b> | 1,695,549                        | 1,662,993                | 626,137                    | 598,610         |
|  | <b>2020</b> | 1,990,450                        | 1,950,663                | 744,450                    | 716,752         |
|  | <b>2030</b> | 2,201,843                        | 2,155,364                | 840,916                    | 808,321         |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.



| Municipal<br>Planning<br>Area<br>(MPA) | Year        | Total Resident Population |                  | Total Housing Units |          |
|--|-------------|---------------------------|------------------|---------------------|----------|
|  |             | Total                     | In<br>Households | Total               | Occupied |
| <i>Queen Creek</i>                     | <i>2005</i> | 19,879                    | 19,639           | 6,138               | 5,798    |
|  | <i>2010</i> | 34,506                    | 34,259           | 11,789              | 10,976   |
|  | <i>2020</i> | 55,529                    | 55,227           | 19,165              | 18,178   |
|  | <i>2030</i> | 72,947                    | 72,594           | 25,855              | 24,504   |
| <i>Salt River</i>                      | <i>2005</i> | 6,822                     | 6,742            | 2,657               | 2,056    |
|  | <i>2010</i> | 7,087                     | 7,007            | 2,753               | 2,173    |
|  | <i>2020</i> | 7,308                     | 7,210            | 2,858               | 2,280    |
|  | <i>2030</i> | 7,425                     | 7,310            | 2,913               | 2,331    |
| <i>Scottsdale</i>                      | <i>2005</i> | 234,515                   | 232,219          | 116,406             | 105,110  |
|  | <i>2010</i> | 249,341                   | 246,975          | 123,799             | 111,102  |
|  | <i>2020</i> | 269,266                   | 266,375          | 133,828             | 119,960  |
|  | <i>2030</i> | 286,020                   | 282,640          | 141,704             | 126,992  |
| <i>Surprise</i>                        | <i>2005</i> | 93,356                    | 92,866           | 42,430              | 35,446   |
|  | <i>2010</i> | 146,890                   | 146,264          | 64,039              | 56,163   |
|  | <i>2020</i> | 268,359                   | 267,593          | 117,815             | 104,798  |
|  | <i>2030</i> | 401,458                   | 400,564          | 179,081             | 160,369  |
| <i>Tempe</i>                           | <i>2005</i> | 165,740                   | 159,056          | 70,248              | 67,861   |
|  | <i>2010</i> | 177,771                   | 167,549          | 74,541              | 72,597   |
|  | <i>2020</i> | 191,881                   | 179,395          | 81,395              | 79,268   |
|  | <i>2030</i> | 197,970                   | 183,388          | 83,889              | 81,649   |
| <i>Tolleson</i>                        | <i>2005</i> | 6,491                     | 6,484            | 1,980               | 1,918    |
|  | <i>2010</i> | 7,748                     | 7,737            | 2,318               | 2,267    |
|  | <i>2020</i> | 9,646                     | 9,633            | 2,945               | 2,890    |
|  | <i>2030</i> | 10,193                    | 10,178           | 3,107               | 3,048    |
| <i>Wickenburg</i>                      | <i>2005</i> | 9,606                     | 9,386            | 4,879               | 4,153    |
|  | <i>2010</i> | 11,022                    | 10,777           | 5,510               | 4,777    |
|  | <i>2020</i> | 13,311                    | 13,011           | 6,692               | 5,863    |
|  | <i>2030</i> | 17,732                    | 17,381           | 9,148               | 8,033    |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.

May, 2007

| <b>Municipal<br/>Planning<br/>Area<br/>(MPA)</b> | <b>Year</b> | <b>Total Resident Population</b> |                          | <b>Total Housing Units</b> |                  |
|--|-------------|----------------------------------|--------------------------|----------------------------|------------------|
|  |             | <b>Total</b>                     | <b>In<br/>Households</b> | <b>Total</b>               | <b>Occupied</b>  |
| <i>Youngtown</i>                                 | <i>2005</i> | 6,011                            | 5,670                    | 2,647                      | 2,509            |
|  | <i>2010</i> | 6,820                            | 6,436                    | 3,007                      | 2,876            |
|  | <i>2020</i> | 7,275                            | 6,806                    | 3,195                      | 3,085            |
|  | <i>2030</i> | 7,359                            | 6,811                    | 3,197                      | 3,087            |
| <i>County Total</i>                              | <i>2005</i> | <b>3,681,025</b>                 | <b>3,616,690</b>         | <b>1,479,767</b>           | <b>1,352,967</b> |
|  | <i>2010</i> | <b>4,216,499</b>                 | <b>4,142,401</b>         | <b>1,685,134</b>           | <b>1,556,706</b> |
|  | <i>2020</i> | <b>5,230,300</b>                 | <b>5,139,943</b>         | <b>2,104,440</b>           | <b>1,959,300</b> |
|  | <i>2030</i> | <b>6,135,000</b>                 | <b>6,029,587</b>         | <b>2,502,040</b>           | <b>2,331,270</b> |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.

May, 2007

**Maricopa Association of Governments  
Employment by Municipal Planning Area, Maricopa County  
July 1, 2005 and Projections July 1, 2010 to July 1, 2030**

| <b>Municipal<br/>Planning<br/>Area<br/>(MPA)</b> | <b>Year</b> | <b>Total<br/>Employment</b> | <b>Components of Employment (*)</b> |               |                   |               |              |
|--|-------------|-----------------------------|-------------------------------------|---------------|-------------------|---------------|--------------|
|  |             |                             | <b>Retail</b>                       | <b>Office</b> | <b>Industrial</b> | <b>Public</b> | <b>Other</b> |
| <i>Avondale</i>                                  | <i>2005</i> | 12,315                      | 5,656                               | 312           | 537               | 3,371         | 2,439        |
|  | <i>2010</i> | 20,599                      | 7,800                               | 2,291         | 1,836             | 4,628         | 4,044        |
|  | <i>2020</i> | 37,776                      | 13,568                              | 6,856         | 4,324             | 6,283         | 6,745        |
|  | <i>2030</i> | 53,083                      | 19,353                              | 11,027        | 6,107             | 8,063         | 8,533        |
| <i>Buckeye</i>                                   | <i>2005</i> | 8,672                       | 1,124                               | 78            | 1,259             | 2,537         | 3,674        |
|  | <i>2010</i> | 22,400                      | 4,538                               | 755           | 3,106             | 5,612         | 8,389        |
|  | <i>2020</i> | 57,297                      | 14,153                              | 3,251         | 4,975             | 12,950        | 21,968       |
|  | <i>2030</i> | 147,851                     | 52,134                              | 11,222        | 9,365             | 22,801        | 52,329       |
| <i>Carefree</i>                                  | <i>2005</i> | 2,669                       | 1,567                               | 409           | 49                | 28            | 616          |
|  | <i>2010</i> | 3,270                       | 1,918                               | 504           | 49                | 104           | 695          |
|  | <i>2020</i> | 3,992                       | 2,159                               | 728           | 49                | 212           | 844          |
|  | <i>2030</i> | 4,329                       | 2,189                               | 1,042         | 49                | 233           | 816          |
| <i>Cave Creek</i>                                | <i>2005</i> | 2,602                       | 1,626                               | 60            | 142               | 419           | 355          |
|  | <i>2010</i> | 3,564                       | 2,219                               | 90            | 142               | 500           | 613          |
|  | <i>2020</i> | 4,666                       | 2,793                               | 264           | 142               | 578           | 889          |
|  | <i>2030</i> | 6,066                       | 3,661                               | 339           | 142               | 619           | 1,305        |
| <i>Chandler</i>                                  | <i>2005</i> | 86,732                      | 23,798                              | 7,924         | 32,572            | 9,807         | 12,631       |
|  | <i>2010</i> | 128,244                     | 33,346                              | 19,231        | 44,015            | 12,495        | 19,157       |
|  | <i>2020</i> | 168,141                     | 42,479                              | 39,315        | 52,754            | 14,375        | 19,218       |
|  | <i>2030</i> | 178,116                     | 43,224                              | 47,301        | 57,174            | 14,795        | 15,622       |

(\*) Note: Other employment includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.

| <b>Municipal<br/>Planning<br/>Area<br/>(MPA)</b> | <b>Year</b> | <b>Total<br/>Employment</b> | <b>Components of Employment (*)</b> |               |                   |               |              |
|--|-------------|-----------------------------|-------------------------------------|---------------|-------------------|---------------|--------------|
|  |             |                             | <b>Retail</b>                       | <b>Office</b> | <b>Industrial</b> | <b>Public</b> | <b>Other</b> |
| <b>County Areas</b>                              | <b>2005</b> | 24,051                      | 7,465                               | 1,045         | 1,060             | 3,249         | 11,232       |
|  | <b>2010</b> | 27,353                      | 8,736                               | 1,315         | 1,210             | 4,156         | 11,936       |
|  | <b>2020</b> | 39,281                      | 14,150                              | 1,845         | 1,620             | 6,310         | 15,356       |
|  | <b>2030</b> | 70,428                      | 29,915                              | 2,871         | 2,269             | 11,600        | 23,773       |
| <b>El Mirage</b>                                 | <b>2005</b> | 2,858                       | 358                                 | 9             | 818               | 1,062         | 611          |
|  | <b>2010</b> | 5,001                       | 911                                 | 53            | 1,492             | 1,622         | 923          |
|  | <b>2020</b> | 9,276                       | 2,038                               | 53            | 3,679             | 2,012         | 1,494        |
|  | <b>2030</b> | 11,528                      | 2,709                               | 53            | 5,001             | 2,508         | 1,257        |
| <b>Fort McDowell</b>                             | <b>2005</b> | 1,228                       | 762                                 | 0             | 20                | 49            | 397          |
|  | <b>2010</b> | 1,323                       | 794                                 | 0             | 20                | 49            | 460          |
|  | <b>2020</b> | 1,647                       | 997                                 | 0             | 20                | 49            | 581          |
|  | <b>2030</b> | 1,959                       | 1,286                               | 0             | 20                | 49            | 604          |
| <b>Fountain Hills</b>                            | <b>2005</b> | 7,492                       | 3,884                               | 297           | 504               | 855           | 1,952        |
|  | <b>2010</b> | 9,954                       | 4,703                               | 546           | 709               | 1,442         | 2,554        |
|  | <b>2020</b> | 11,569                      | 5,204                               | 726           | 709               | 1,929         | 3,001        |
|  | <b>2030</b> | 11,573                      | 5,232                               | 726           | 741               | 1,985         | 2,889        |
| <b>Gila Bend</b>                                 | <b>2005</b> | 1,077                       | 388                                 | 0             | 231               | 319           | 139          |
|  | <b>2010</b> | 1,691                       | 591                                 | 32            | 331               | 461           | 276          |
|  | <b>2020</b> | 2,760                       | 832                                 | 115           | 481               | 612           | 720          |
|  | <b>2030</b> | 6,824                       | 2,638                               | 212           | 801               | 854           | 2,319        |
| <b>Gila River</b>                                | <b>2005</b> | 4,334                       | 884                                 | 0             | 2,077             | 109           | 1,264        |
|  | <b>2010</b> | 5,422                       | 1,082                               | 0             | 2,311             | 159           | 1,870        |
|  | <b>2020</b> | 7,612                       | 1,885                               | 450           | 2,933             | 220           | 2,124        |
|  | <b>2030</b> | 14,448                      | 5,624                               | 916           | 3,244             | 288           | 4,376        |

(\*) Note: Other employment includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.

| Municipal<br>Planning<br>Area<br>(MPA) | Year        | Total<br>Employment | Components of Employment (*) |        |            |        |        |
|--|-------------|---------------------|------------------------------|--------|------------|--------|--------|
|  |             |                     | Retail                       | Office | Industrial | Public | Other  |
| <i>Gilbert</i>                         | <i>2005</i> | 56,292              | 22,668                       | 2,129  | 12,740     | 9,281  | 9,474  |
|  | <i>2010</i> | 81,852              | 33,265                       | 6,394  | 16,658     | 11,719 | 13,816 |
|  | <i>2020</i> | 117,984             | 44,326                       | 17,114 | 22,299     | 15,380 | 18,865 |
|  | <i>2030</i> | 128,792             | 45,680                       | 24,213 | 25,999     | 17,548 | 15,352 |
| <i>Glendale</i>                        | <i>2005</i> | 88,172              | 30,516                       | 4,614  | 13,160     | 22,559 | 17,323 |
|  | <i>2010</i> | 117,110             | 36,802                       | 13,288 | 21,074     | 25,542 | 20,404 |
|  | <i>2020</i> | 156,508             | 46,705                       | 26,274 | 30,273     | 28,464 | 24,792 |
|  | <i>2030</i> | 171,498             | 48,917                       | 34,199 | 35,240     | 30,985 | 22,157 |
| <i>Goodyear</i>                        | <i>2005</i> | 15,794              | 4,029                        | 233    | 3,838      | 3,497  | 4,197  |
|  | <i>2010</i> | 28,167              | 8,560                        | 890    | 6,505      | 5,723  | 6,489  |
|  | <i>2020</i> | 73,622              | 28,023                       | 2,411  | 13,309     | 11,517 | 18,362 |
|  | <i>2030</i> | 130,336             | 48,187                       | 6,419  | 24,130     | 18,094 | 33,506 |
| <i>Guadalupe</i>                       | <i>2005</i> | 1,033               | 467                          | 3      | 170        | 208    | 185    |
|  | <i>2010</i> | 1,387               | 611                          | 15     | 270        | 228    | 263    |
|  | <i>2020</i> | 1,467               | 611                          | 15     | 355        | 258    | 228    |
|  | <i>2030</i> | 1,481               | 611                          | 15     | 380        | 262    | 213    |
| <i>Litchfield Park</i>                 | <i>2005</i> | 1,710               | 257                          | 34     | 4          | 466    | 949    |
|  | <i>2010</i> | 2,405               | 537                          | 81     | 4          | 582    | 1,201  |
|  | <i>2020</i> | 3,200               | 920                          | 81     | 4          | 619    | 1,576  |
|  | <i>2030</i> | 4,280               | 1,081                        | 81     | 4          | 624    | 2,490  |
| <i>Mesa</i>                            | <i>2005</i> | 174,909             | 69,540                       | 19,755 | 23,252     | 31,065 | 31,297 |
|  | <i>2010</i> | 218,085             | 82,478                       | 29,403 | 32,345     | 36,135 | 37,724 |
|  | <i>2020</i> | 275,236             | 99,617                       | 47,982 | 44,763     | 40,454 | 42,420 |
|  | <i>2030</i> | 306,030             | 101,843                      | 68,837 | 50,885     | 44,336 | 40,129 |

(\*) Note: Other employment includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.

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For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.

| Municipal<br>Planning<br>Area<br>(MPA) | Year        | Total<br>Employment | Components of Employment (*) |         |            |         |         |
|--|-------------|---------------------|------------------------------|---------|------------|---------|---------|
|  |             |                     | Retail                       | Office  | Industrial | Public  | Other   |
| <i>Paradise Valley</i>                 | <i>2005</i> | 5,769               | 197                          | 3       | 78         | 1,460   | 4,031   |
|  | <i>2010</i> | 6,717               | 386                          | 3       | 78         | 1,509   | 4,741   |
|  | <i>2020</i> | 7,707               | 495                          | 3       | 78         | 1,521   | 5,610   |
|  | <i>2030</i> | 8,734               | 511                          | 3       | 78         | 1,527   | 6,615   |
| <i>Peoria</i>                          | <i>2005</i> | 34,631              | 15,009                       | 510     | 4,010      | 6,117   | 8,985   |
|  | <i>2010</i> | 53,397              | 20,934                       | 4,277   | 6,827      | 9,172   | 12,187  |
|  | <i>2020</i> | 87,968              | 32,750                       | 11,852  | 10,090     | 13,640  | 19,636  |
|  | <i>2030</i> | 117,861             | 40,890                       | 19,915  | 14,803     | 17,988  | 24,265  |
| <i>Phoenix</i>                         | <i>2005</i> | 811,513             | 168,457                      | 241,904 | 169,419    | 106,852 | 124,881 |
|  | <i>2010</i> | 937,182             | 200,642                      | 268,050 | 199,146    | 124,125 | 145,219 |
|  | <i>2020</i> | 1,108,031           | 253,147                      | 316,254 | 221,070    | 144,946 | 172,614 |
|  | <i>2030</i> | 1,246,527           | 276,934                      | 383,140 | 238,111    | 162,364 | 185,978 |
| <i>Queen Creek</i>                     | <i>2005</i> | 4,021               | 945                          | 63      | 404        | 873     | 1,736   |
|  | <i>2010</i> | 9,652               | 3,048                        | 451     | 908        | 2,098   | 3,147   |
|  | <i>2020</i> | 22,213              | 7,319                        | 3,330   | 3,560      | 3,502   | 4,502   |
|  | <i>2030</i> | 35,145              | 11,965                       | 7,000   | 6,284      | 4,828   | 5,068   |
| <i>Salt River</i>                      | <i>2005</i> | 5,977               | 2,223                        | 571     | 693        | 847     | 1,643   |
|  | <i>2010</i> | 11,131              | 2,613                        | 4,147   | 1,278      | 1,066   | 2,027   |
|  | <i>2020</i> | 25,587              | 5,946                        | 11,582  | 1,948      | 1,181   | 4,930   |
|  | <i>2030</i> | 49,905              | 11,451                       | 23,183  | 6,190      | 1,314   | 7,767   |
| <i>Scottsdale</i>                      | <i>2005</i> | 181,652             | 56,600                       | 60,423  | 19,665     | 11,903  | 33,061  |
|  | <i>2010</i> | 208,073             | 61,963                       | 71,785  | 21,659     | 15,112  | 37,554  |
|  | <i>2020</i> | 232,832             | 67,215                       | 83,935  | 23,477     | 16,613  | 41,592  |
|  | <i>2030</i> | 252,015             | 68,578                       | 93,834  | 25,207     | 18,330  | 46,066  |

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For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.

| <b>Municipal<br/>Planning<br/>Area<br/>(MPA)</b> | <b>Year</b> | <b>Total<br/>Employment</b> | <b>Components of Employment (*)</b> |                |                   |                |                |
|--|-------------|-----------------------------|-------------------------------------|----------------|-------------------|----------------|----------------|
|  |             |                             | <b>Retail</b>                       | <b>Office</b>  | <b>Industrial</b> | <b>Public</b>  | <b>Other</b>   |
| <i>Surprise</i>                                  | <i>2005</i> | 16,289                      | 5,185                               | 719            | 796               | 2,524          | 7,065          |
|  | <i>2010</i> | 31,105                      | 10,709                              | 2,401          | 2,237             | 5,629          | 10,129         |
|  | <i>2020</i> | 81,423                      | 28,831                              | 8,583          | 7,593             | 11,976         | 24,440         |
|  | <i>2030</i> | 147,703                     | 53,198                              | 19,445         | 14,306            | 22,396         | 38,358         |
| <i>Tempe</i>                                     | <i>2005</i> | 176,688                     | 38,686                              | 43,362         | 61,529            | 22,586         | 10,525         |
|  | <i>2010</i> | 198,243                     | 42,662                              | 50,735         | 66,996            | 24,889         | 12,961         |
|  | <i>2020</i> | 219,543                     | 44,456                              | 61,897         | 69,629            | 29,820         | 13,741         |
|  | <i>2030</i> | 235,616                     | 44,604                              | 72,900         | 71,077            | 34,032         | 13,003         |
| <i>Tolleson</i>                                  | <i>2005</i> | 12,340                      | 1,520                               | 53             | 8,302             | 1,707          | 758            |
|  | <i>2010</i> | 15,808                      | 1,998                               | 53             | 10,971            | 1,994          | 792            |
|  | <i>2020</i> | 19,854                      | 2,972                               | 53             | 14,006            | 1,994          | 829            |
|  | <i>2030</i> | 22,314                      | 3,836                               | 53             | 15,725            | 1,994          | 706            |
| <i>Wickenburg</i>                                | <i>2005</i> | 5,055                       | 1,948                               | 68             | 351               | 590            | 2,098          |
|  | <i>2010</i> | 6,622                       | 2,362                               | 136            | 612               | 779            | 2,733          |
|  | <i>2020</i> | 8,921                       | 3,202                               | 253            | 947               | 1,007          | 3,512          |
|  | <i>2030</i> | 12,316                      | 4,484                               | 412            | 1,267             | 1,304          | 4,849          |
| <i>Youngtown</i>                                 | <i>2005</i> | 1,657                       | 733                                 | 56             | 32                | 91             | 745            |
|  | <i>2010</i> | 1,667                       | 748                                 | 56             | 32                | 91             | 740            |
|  | <i>2020</i> | 1,988                       | 970                                 | 56             | 32                | 91             | 839            |
|  | <i>2030</i> | 2,042                       | 1,054                               | 56             | 32                | 91             | 809            |
| <b>County Total</b>                              | <i>2005</i> | <b>1,747,532</b>            | <b>466,492</b>                      | <b>384,634</b> | <b>357,712</b>    | <b>244,431</b> | <b>294,263</b> |
|  | <i>2010</i> | <b>2,157,424</b>            | <b>576,956</b>                      | <b>476,982</b> | <b>442,821</b>    | <b>297,621</b> | <b>363,044</b> |
|  | <i>2020</i> | <b>2,788,101</b>            | <b>767,763</b>                      | <b>645,278</b> | <b>535,119</b>    | <b>368,513</b> | <b>471,428</b> |
|  | <i>2030</i> | <b>3,378,800</b>            | <b>931,789</b>                      | <b>829,414</b> | <b>614,631</b>    | <b>441,812</b> | <b>561,154</b> |

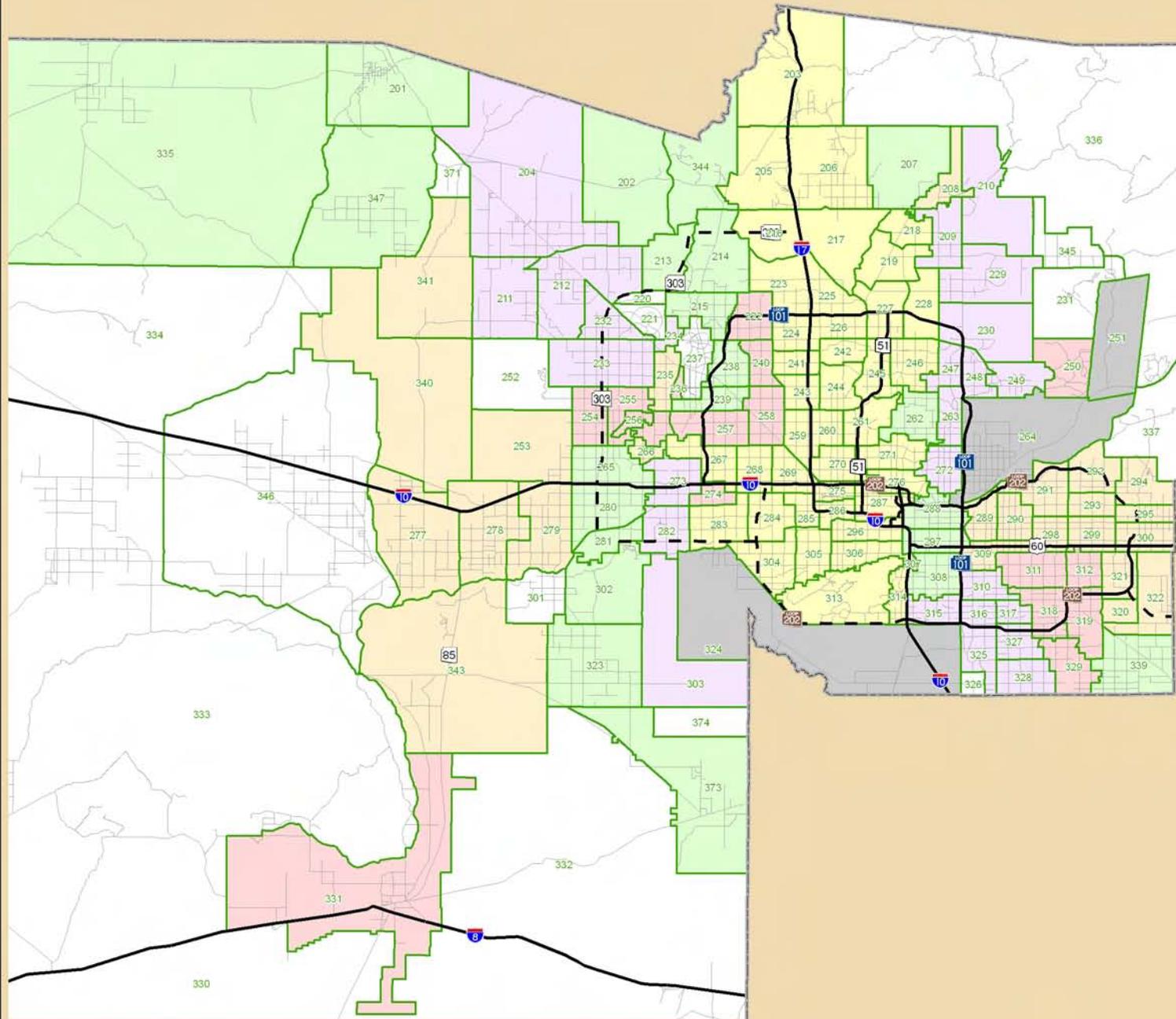
(\*) Note: Other employment includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.

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For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.

# 2007 Regional Analysis Zone (RAZ)

## Maricopa County, Arizona



- Regional Analysis Zone
- Maricopa County
- Major Roads
- Freeways/Expressways**
- Existing
- Planned



Map Prepared by Maricopa Association of Governments  
 Source: MAG Regional Analysis Zone (RAZ), 2007  
 MAG Member Agencies, 2006



**Maricopa Association of Governments**  
**Resident Population and Housing by Regional Analysis Zone, Maricopa County**  
**July 1, 2005 and Projections July 1, 2010 to July 1, 2030**

| Municipal Planning Area (MPA) | Regional Analysis Zone (RAZ) | Year        | Total Resident Population |                | Total Housing Units |               |
|-------------------------------|------------------------------|-------------|---------------------------|----------------|---------------------|---------------|
|                               |                              |             | Total                     | In Households  | Total               | Occupied      |
| <b>Avondale</b>               |                              |             |                           |                |                     |               |
|                               | 273                          | 2005        | 48,642                    | 48,482         | 15,637              | 15,123        |
|                               |                              | 2010        | 58,880                    | 58,691         | 20,575              | 19,724        |
|                               |                              | 2020        | 65,440                    | 65,209         | 23,462              | 22,597        |
|                               |                              | 2030        | 65,511                    | 65,241         | 23,475              | 22,610        |
|                               | 282                          | 2005        | 21,423                    | 21,409         | 6,764               | 6,584         |
|                               |                              | 2010        | 24,875                    | 24,861         | 9,008               | 8,567         |
|                               |                              | 2020        | 36,099                    | 36,082         | 13,360              | 12,770        |
|                               |                              | 2030        | 40,542                    | 40,522         | 15,286              | 14,591        |
|                               | 303                          | 2005        | 95                        | 95             | 32                  | 31            |
|                               |                              | 2010        | 101                       | 101            | 37                  | 35            |
|                               |                              | 2020        | 4,450                     | 4,450          | 1,581               | 1,561         |
|                               |                              | 2030        | 17,212                    | 17,212         | 6,585               | 6,548         |
| <b>Avondale</b>               |                              | <b>2005</b> | <b>70,160</b>             | <b>69,986</b>  | <b>22,433</b>       | <b>21,738</b> |
| <b>Total</b>                  |                              | <b>2010</b> | <b>83,856</b>             | <b>83,653</b>  | <b>29,620</b>       | <b>28,326</b> |
|                               |                              | <b>2020</b> | <b>105,989</b>            | <b>105,741</b> | <b>38,403</b>       | <b>36,928</b> |
|                               |                              | <b>2030</b> | <b>123,265</b>            | <b>122,975</b> | <b>45,346</b>       | <b>43,749</b> |
| <b>Buckeye</b>                |                              |             |                           |                |                     |               |
|                               | 253                          | 2005        | 4,223                     | 4,223          | 1,407               | 1,312         |
|                               |                              | 2010        | 8,192                     | 8,192          | 3,038               | 2,818         |
|                               |                              | 2020        | 19,437                    | 19,437         | 7,542               | 7,090         |
|                               |                              | 2030        | 42,815                    | 42,815         | 17,029              | 15,974        |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |          |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied |
| <b>Buckeye</b>                         |                                       |      |                           |                  |                     |          |
| 277                                    |                                       | 2005 | 2,362                     | 2,362            | 784                 | 733      |
|  |                                       | 2010 | 4,331                     | 4,331            | 1,538               | 1,425    |
|  |                                       | 2020 | 20,983                    | 20,983           | 8,043               | 7,572    |
|  |                                       | 2030 | 57,296                    | 57,296           | 22,677              | 21,443   |
| 278                                    |                                       | 2005 | 16,449                    | 16,414           | 5,648               | 5,256    |
|  |                                       | 2010 | 34,498                    | 34,462           | 12,821              | 11,755   |
|  |                                       | 2020 | 67,056                    | 67,012           | 25,614              | 23,608   |
|  |                                       | 2030 | 104,605                   | 104,553          | 41,092              | 38,024   |
| 279                                    |                                       | 2005 | 4,442                     | 4,442            | 1,485               | 1,383    |
|  |                                       | 2010 | 13,983                    | 13,983           | 5,170               | 4,812    |
|  |                                       | 2020 | 40,108                    | 40,108           | 15,113              | 14,224   |
|  |                                       | 2030 | 76,513                    | 76,513           | 30,036              | 28,209   |
| 340                                    |                                       | 2005 | 49                        | 49               | 16                  | 15       |
|  |                                       | 2010 | 4,204                     | 4,204            | 1,866               | 1,638    |
|  |                                       | 2020 | 41,909                    | 41,909           | 16,729              | 15,308   |
|  |                                       | 2030 | 85,360                    | 85,360           | 35,151              | 32,424   |
| 341                                    |                                       | 2005 | 257                       | 257              | 85                  | 80       |
|  |                                       | 2010 | 3,704                     | 3,704            | 1,413               | 1,289    |
|  |                                       | 2020 | 21,282                    | 21,282           | 8,205               | 7,575    |
|  |                                       | 2030 | 34,255                    | 34,255           | 13,533              | 12,555   |
| 343                                    |                                       | 2005 | 4,953                     | 135              | 45                  | 42       |
|  |                                       | 2010 | 5,994                     | 147              | 49                  | 46       |
|  |                                       | 2020 | 7,816                     | 672              | 239                 | 216      |
|  |                                       | 2030 | 18,302                    | 9,960            | 4,005               | 3,730    |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year        | Total Resident Population |                  | Total Housing Units |                |
|--|---------------------------------------|-------------|---------------------------|------------------|---------------------|----------------|
|  |                                       |             | Total                     | In<br>Households | Total               | Occupied       |
| <b>Buckeye</b>                         |                                       |             |                           |                  |                     |                |
| <b>Buckeye</b>                         |                                       | <b>2005</b> | <b>32,735</b>             | <b>27,882</b>    | <b>9,470</b>        | <b>8,821</b>   |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>74,906</b>             | <b>69,023</b>    | <b>25,895</b>       | <b>23,783</b>  |
|  |                                       | <b>2020</b> | <b>218,591</b>            | <b>211,403</b>   | <b>81,485</b>       | <b>75,593</b>  |
|  |                                       | <b>2030</b> | <b>419,146</b>            | <b>410,752</b>   | <b>163,523</b>      | <b>152,359</b> |
| <b>Carefree</b>                        |                                       |             |                           |                  |                     |                |
|  | <b>208</b>                            | <b>2005</b> | <b>3,654</b>              | <b>3,654</b>     | <b>2,162</b>        | <b>1,709</b>   |
|  |                                       | <b>2010</b> | <b>4,418</b>              | <b>4,418</b>     | <b>2,484</b>        | <b>2,035</b>   |
|  |                                       | <b>2020</b> | <b>5,816</b>              | <b>5,816</b>     | <b>3,209</b>        | <b>2,656</b>   |
|  |                                       | <b>2030</b> | <b>6,097</b>              | <b>6,097</b>     | <b>3,347</b>        | <b>2,770</b>   |
| <b>Carefree</b>                        |                                       | <b>2005</b> | <b>3,654</b>              | <b>3,654</b>     | <b>2,162</b>        | <b>1,709</b>   |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>4,418</b>              | <b>4,418</b>     | <b>2,484</b>        | <b>2,035</b>   |
|  |                                       | <b>2020</b> | <b>5,816</b>              | <b>5,816</b>     | <b>3,209</b>        | <b>2,656</b>   |
|  |                                       | <b>2030</b> | <b>6,097</b>              | <b>6,097</b>     | <b>3,347</b>        | <b>2,770</b>   |
| <b>Cave Creek</b>                      |                                       |             |                           |                  |                     |                |
|  | <b>207</b>                            | <b>2005</b> | <b>4,845</b>              | <b>4,840</b>     | <b>2,231</b>        | <b>2,055</b>   |
|  |                                       | <b>2010</b> | <b>5,781</b>              | <b>5,754</b>     | <b>2,681</b>        | <b>2,489</b>   |
|  |                                       | <b>2020</b> | <b>7,815</b>              | <b>7,782</b>     | <b>3,659</b>        | <b>3,426</b>   |
|  |                                       | <b>2030</b> | <b>9,656</b>              | <b>9,617</b>     | <b>4,522</b>        | <b>4,244</b>   |
| <b>Cave Creek</b>                      |                                       | <b>2005</b> | <b>4,845</b>              | <b>4,840</b>     | <b>2,231</b>        | <b>2,055</b>   |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>5,781</b>              | <b>5,754</b>     | <b>2,681</b>        | <b>2,489</b>   |
|  |                                       | <b>2020</b> | <b>7,815</b>              | <b>7,782</b>     | <b>3,659</b>        | <b>3,426</b>   |
|  |                                       | <b>2030</b> | <b>9,656</b>              | <b>9,617</b>     | <b>4,522</b>        | <b>4,244</b>   |
| <b>Chandler</b>                        |                                       |             |                           |                  |                     |                |
|  | <b>310</b>                            | <b>2005</b> | <b>52,825</b>             | <b>52,372</b>    | <b>20,462</b>       | <b>19,766</b>  |
|  |                                       | <b>2010</b> | <b>54,235</b>             | <b>53,722</b>    | <b>21,314</b>       | <b>20,684</b>  |
|  |                                       | <b>2020</b> | <b>54,854</b>             | <b>54,227</b>    | <b>21,571</b>       | <b>20,990</b>  |
|  |                                       | <b>2030</b> | <b>54,960</b>             | <b>54,227</b>    | <b>21,571</b>       | <b>20,990</b>  |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |          |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied |
| <b>Chandler</b>                        |                                       |      |                           |                  |                     |          |
| 315                                    |                                       | 2005 | 39,659                    | 39,604           | 15,040              | 14,672   |
|  |                                       | 2010 | 40,538                    | 40,471           | 15,549              | 15,196   |
|  |                                       | 2020 | 40,748                    | 40,667           | 15,712              | 15,392   |
|  |                                       | 2030 | 40,762                    | 40,667           | 15,712              | 15,392   |
| 316                                    |                                       | 2005 | 36,110                    | 35,235           | 14,015              | 12,867   |
|  |                                       | 2010 | 38,220                    | 37,274           | 15,175              | 14,067   |
|  |                                       | 2020 | 39,839                    | 38,684           | 15,837              | 14,782   |
|  |                                       | 2030 | 40,251                    | 38,902           | 15,959              | 14,892   |
| 317                                    |                                       | 2005 | 33,027                    | 32,889           | 11,305              | 10,730   |
|  |                                       | 2010 | 34,350                    | 34,179           | 11,892              | 11,391   |
|  |                                       | 2020 | 34,879                    | 34,669           | 12,135              | 11,722   |
|  |                                       | 2030 | 34,914                    | 34,669           | 12,135              | 11,722   |
| 325                                    |                                       | 2005 | 33,108                    | 33,086           | 14,054              | 12,952   |
|  |                                       | 2010 | 39,843                    | 39,779           | 17,229              | 16,053   |
|  |                                       | 2020 | 43,457                    | 43,379           | 19,003              | 17,845   |
|  |                                       | 2030 | 43,470                    | 43,379           | 19,003              | 17,845   |
| 327                                    |                                       | 2005 | 11,201                    | 11,190           | 4,039               | 3,886    |
|  |                                       | 2010 | 18,487                    | 18,442           | 7,024               | 6,787    |
|  |                                       | 2020 | 23,575                    | 23,520           | 9,189               | 8,944    |
|  |                                       | 2030 | 23,598                    | 23,534           | 9,195               | 8,950    |
| 328                                    |                                       | 2005 | 30,143                    | 30,134           | 12,183              | 11,185   |
|  |                                       | 2010 | 39,434                    | 39,423           | 16,309              | 15,163   |
|  |                                       | 2020 | 45,639                    | 45,626           | 18,953              | 17,824   |
|  |                                       | 2030 | 45,837                    | 45,822           | 19,043              | 17,909   |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |          |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied |
| <b>Chandler</b>                        |                                       |      |                           |                  |                     |          |
| <i>Chandler</i>                        |                                       | 2005 | 236,073                   | 234,510          | 91,098              | 86,058   |
| <i>Total</i>                           |                                       | 2010 | 265,107                   | 263,290          | 104,492             | 99,341   |
|  |                                       | 2020 | 282,991                   | 280,772          | 112,400             | 107,499  |
|  |                                       | 2030 | 283,792                   | 281,200          | 112,618             | 107,700  |
| <b>County Areas</b>                    |                                       |      |                           |                  |                     |          |
|  | 220                                   | 2005 | 6,373                     | 6,361            | 3,842               | 3,084    |
|  |                                       | 2010 | 8,206                     | 8,191            | 4,998               | 4,055    |
|  |                                       | 2020 | 10,647                    | 10,629           | 6,354               | 5,221    |
|  |                                       | 2030 | 10,650                    | 10,629           | 6,354               | 5,221    |
|  | 221                                   | 2005 | 18,797                    | 18,329           | 14,116              | 11,014   |
|  |                                       | 2010 | 18,840                    | 18,369           | 14,136              | 11,151   |
|  |                                       | 2020 | 19,135                    | 18,560           | 14,295              | 11,388   |
|  |                                       | 2030 | 19,231                    | 18,560           | 14,295              | 11,388   |
|  | 231                                   | 2005 | 1,386                     | 1,386            | 1,297               | 768      |
|  |                                       | 2010 | 1,515                     | 1,515            | 1,389               | 865      |
|  |                                       | 2020 | 1,786                     | 1,786            | 1,615               | 1,017    |
|  |                                       | 2030 | 1,843                     | 1,843            | 1,668               | 1,053    |
|  | 237                                   | 2005 | 34,140                    | 33,331           | 28,022              | 21,513   |
|  |                                       | 2010 | 34,169                    | 33,355           | 28,022              | 21,745   |
|  |                                       | 2020 | 34,549                    | 33,553           | 28,184              | 22,095   |
|  |                                       | 2030 | 35,066                    | 33,902           | 28,491              | 22,342   |
|  | 252                                   | 2005 | 58                        | 58               | 25                  | 21       |
|  |                                       | 2010 | 565                       | 565              | 222                 | 206      |
|  |                                       | 2020 | 3,894                     | 3,894            | 1,642               | 1,514    |
|  |                                       | 2030 | 9,776                     | 9,776            | 4,052               | 3,924    |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |          |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied |
| <b>County Areas</b>                    |                                       |      |                           |                  |                     |          |
| 301                                    |                                       | 2005 | 2,133                     | 2,133            | 937                 | 778      |
|  |                                       | 2010 | 2,469                     | 2,469            | 1,088               | 925      |
|  |                                       | 2020 | 3,596                     | 3,596            | 1,594               | 1,368    |
|  |                                       | 2030 | 5,764                     | 5,764            | 2,586               | 2,279    |
| 326                                    |                                       | 2005 | 9,265                     | 9,265            | 6,934               | 5,380    |
|  |                                       | 2010 | 9,823                     | 9,823            | 7,388               | 5,795    |
|  |                                       | 2020 | 9,975                     | 9,975            | 7,489               | 5,940    |
|  |                                       | 2030 | 9,981                     | 9,981            | 7,493               | 5,943    |
| 330                                    |                                       | 2005 | 154                       | 154              | 76                  | 56       |
|  |                                       | 2010 | 154                       | 154              | 76                  | 56       |
|  |                                       | 2020 | 490                       | 490              | 220                 | 182      |
|  |                                       | 2030 | 1,259                     | 1,259            | 560                 | 498      |
| 332                                    |                                       | 2005 | 34                        | 34               | 14                  | 12       |
|  |                                       | 2010 | 34                        | 34               | 14                  | 12       |
|  |                                       | 2020 | 349                       | 349              | 155                 | 132      |
|  |                                       | 2030 | 2,513                     | 2,513            | 1,155               | 1,042    |
| 333                                    |                                       | 2005 | 920                       | 920              | 414                 | 337      |
|  |                                       | 2010 | 1,028                     | 1,028            | 456                 | 382      |
|  |                                       | 2020 | 2,379                     | 2,379            | 1,039               | 897      |
|  |                                       | 2030 | 5,291                     | 5,291            | 2,332               | 2,111    |
| 334                                    |                                       | 2005 | 110                       | 110              | 50                  | 41       |
|  |                                       | 2010 | 110                       | 110              | 50                  | 41       |
|  |                                       | 2020 | 1,098                     | 1,098            | 495                 | 419      |
|  |                                       | 2030 | 2,716                     | 2,716            | 1,275               | 1,122    |
| 336                                    |                                       | 2005 | 595                       | 595              | 268                 | 220      |
|  |                                       | 2010 | 758                       | 758              | 337                 | 286      |
|  |                                       | 2020 | 1,557                     | 1,557            | 672                 | 591      |
|  |                                       | 2030 | 5,224                     | 5,224            | 2,257               | 2,114    |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |               |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|---------------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied      |
| <b>County Areas</b>                    |                                       |      |                           |                  |                     |               |
|  | 337                                   | 2005 | 104                       | 104              | 49                  | 41            |
|  |                                       | 2010 | 107                       | 107              | 51                  | 43            |
|  |                                       | 2020 | 404                       | 404              | 184                 | 157           |
|  |                                       | 2030 | 727                       | 727              | 333                 | 293           |
|  | 345                                   | 2005 | 1,859                     | 1,859            | 815                 | 677           |
|  |                                       | 2010 | 2,676                     | 2,676            | 1,150               | 995           |
|  |                                       | 2020 | 3,648                     | 3,648            | 1,580               | 1,380         |
|  |                                       | 2030 | 10,958                    | 10,958           | 4,848               | 4,436         |
|  | 346                                   | 2005 | 4,402                     | 4,402            | 1,935               | 1,604         |
|  |                                       | 2010 | 6,622                     | 6,622            | 2,869               | 2,468         |
|  |                                       | 2020 | 13,484                    | 13,484           | 5,930               | 5,223         |
|  |                                       | 2030 | 33,464                    | 33,464           | 16,234              | 14,499        |
|  | 371                                   | 2005 | 331                       | 331              | 146                 | 121           |
|  |                                       | 2010 | 358                       | 358              | 159                 | 134           |
|  |                                       | 2020 | 385                       | 385              | 172                 | 147           |
|  |                                       | 2030 | 4,716                     | 4,716            | 2,172               | 1,972         |
|  | 374                                   | 2005 | 0                         | 0                | 0                   | 0             |
|  |                                       | 2010 | 0                         | 0                | 0                   | 0             |
|  |                                       | 2020 | 65                        | 65               | 46                  | 37            |
|  |                                       | 2030 | 133                       | 133              | 96                  | 80            |
| <b>County Areas</b>                    |                                       | 2005 | <b>80,661</b>             | <b>79,372</b>    | <b>58,940</b>       | <b>45,667</b> |
| <b>Total</b>                           |                                       | 2010 | <b>87,434</b>             | <b>86,134</b>    | <b>62,405</b>       | <b>49,159</b> |
|  |                                       | 2020 | <b>107,441</b>            | <b>105,852</b>   | <b>71,666</b>       | <b>57,708</b> |
|  |                                       | 2030 | <b>159,312</b>            | <b>157,456</b>   | <b>96,201</b>       | <b>80,317</b> |

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| Municipal Planning Area (MPA) | Regional Analysis Zone (RAZ) | Year | Total Resident Population |               | Total Housing Units |               |
|-------------------------------|------------------------------|------|---------------------------|---------------|---------------------|---------------|
|                               |                              |      | Total                     | In Households | Total               | Occupied      |
| <b><i>El Mirage</i></b>       |                              |      |                           |               |                     |               |
|                               | 235                          | 2005 | 31,935                    | 31,862        | 10,152              | 9,442         |
|                               |                              | 2010 | 34,819                    | 34,734        | 11,274              | 10,543        |
|                               |                              | 2020 | 38,620                    | 38,516        | 12,680              | 11,963        |
|                               |                              | 2030 | 38,717                    | 38,596        | 12,709              | 11,991        |
| <b><i>El Mirage</i></b>       |                              | 2005 | <b>31,935</b>             | <b>31,862</b> | <b>10,152</b>       | <b>9,442</b>  |
| <b><i>Total</i></b>           |                              | 2010 | <b>34,819</b>             | <b>34,734</b> | <b>11,274</b>       | <b>10,543</b> |
|                               |                              | 2020 | <b>38,620</b>             | <b>38,516</b> | <b>12,680</b>       | <b>11,963</b> |
|                               |                              | 2030 | <b>38,717</b>             | <b>38,596</b> | <b>12,709</b>       | <b>11,991</b> |
| <b><i>Fort McDowell</i></b>   |                              |      |                           |               |                     |               |
|                               | 251                          | 2005 | 824                       | 824           | 275                 | 231           |
|                               |                              | 2010 | 839                       | 839           | 280                 | 239           |
|                               |                              | 2020 | 1,037                     | 1,037         | 349                 | 300           |
|                               |                              | 2030 | 1,239                     | 1,239         | 424                 | 365           |
| <b><i>Fort McDowell</i></b>   |                              | 2005 | <b>824</b>                | <b>824</b>    | <b>275</b>          | <b>231</b>    |
| <b><i>Total</i></b>           |                              | 2010 | <b>839</b>                | <b>839</b>    | <b>280</b>          | <b>239</b>    |
|                               |                              | 2020 | <b>1,037</b>              | <b>1,037</b>  | <b>349</b>          | <b>300</b>    |
|                               |                              | 2030 | <b>1,239</b>              | <b>1,239</b>  | <b>424</b>          | <b>365</b>    |
| <b><i>Fountain Hills</i></b>  |                              |      |                           |               |                     |               |
|                               | 250                          | 2005 | 24,347                    | 24,176        | 11,851              | 10,713        |
|                               |                              | 2010 | 27,166                    | 26,977        | 13,412              | 12,087        |
|                               |                              | 2020 | 33,331                    | 33,100        | 16,301              | 14,960        |
|                               |                              | 2030 | 33,810                    | 33,539        | 16,516              | 15,170        |
| <b><i>Fountain Hills</i></b>  |                              | 2005 | <b>24,347</b>             | <b>24,176</b> | <b>11,851</b>       | <b>10,713</b> |
| <b><i>Total</i></b>           |                              | 2010 | <b>27,166</b>             | <b>26,977</b> | <b>13,412</b>       | <b>12,087</b> |
|                               |                              | 2020 | <b>33,331</b>             | <b>33,100</b> | <b>16,301</b>       | <b>14,960</b> |
|                               |                              | 2030 | <b>33,810</b>             | <b>33,539</b> | <b>16,516</b>       | <b>15,170</b> |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only. For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.



| Municipal Planning Area (MPA) | Regional Analysis Zone (RAZ) | Year        | Total Resident Population |               | Total Housing Units |              |
|-------------------------------|------------------------------|-------------|---------------------------|---------------|---------------------|--------------|
|                               |                              |             | Total                     | In Households | Total               | Occupied     |
| <b>Gila Bend</b>              |                              |             |                           |               |                     |              |
|                               | 331                          | 2005        | 2,118                     | 2,118         | 944                 | 684          |
|                               |                              | 2010        | 2,575                     | 2,575         | 1,046               | 848          |
|                               |                              | 2020        | 3,950                     | 3,950         | 1,612               | 1,340        |
|                               |                              | 2030        | 9,074                     | 9,074         | 4,002               | 3,311        |
| <b>Gila Bend</b>              |                              | <b>2005</b> | <b>2,118</b>              | <b>2,118</b>  | <b>944</b>          | <b>684</b>   |
| <b>Total</b>                  |                              | <b>2010</b> | <b>2,575</b>              | <b>2,575</b>  | <b>1,046</b>        | <b>848</b>   |
|                               |                              | <b>2020</b> | <b>3,950</b>              | <b>3,950</b>  | <b>1,612</b>        | <b>1,340</b> |
|                               |                              | <b>2030</b> | <b>9,074</b>              | <b>9,074</b>  | <b>4,002</b>        | <b>3,311</b> |
| <b>Gila River</b>             |                              |             |                           |               |                     |              |
|                               | 324                          | 2005        | 2,742                     | 2,697         | 695                 | 639          |
|                               |                              | 2010        | 2,790                     | 2,745         | 711                 | 660          |
|                               |                              | 2020        | 2,941                     | 2,886         | 753                 | 707          |
|                               |                              | 2030        | 3,410                     | 3,346         | 887                 | 834          |
| <b>Gila River</b>             |                              | <b>2005</b> | <b>2,742</b>              | <b>2,697</b>  | <b>695</b>          | <b>639</b>   |
| <b>Total</b>                  |                              | <b>2010</b> | <b>2,790</b>              | <b>2,745</b>  | <b>711</b>          | <b>660</b>   |
|                               |                              | <b>2020</b> | <b>2,941</b>              | <b>2,886</b>  | <b>753</b>          | <b>707</b>   |
|                               |                              | <b>2030</b> | <b>3,410</b>              | <b>3,346</b>  | <b>887</b>          | <b>834</b>   |
| <b>Gilbert</b>                |                              |             |                           |               |                     |              |
|                               | 311                          | 2005        | 77,387                    | 77,208        | 25,628              | 25,103       |
|                               |                              | 2010        | 78,544                    | 78,323        | 26,216              | 25,792       |
|                               |                              | 2020        | 79,589                    | 79,319        | 26,572              | 26,130       |
|                               |                              | 2030        | 79,832                    | 79,516        | 26,678              | 26,231       |
|                               | 312                          | 2005        | 21,097                    | 21,057        | 6,807               | 6,628        |
|                               |                              | 2010        | 26,949                    | 26,875        | 9,366               | 9,034        |
|                               |                              | 2020        | 36,760                    | 36,669        | 13,264              | 12,755       |
|                               |                              | 2030        | 37,201                    | 37,095        | 13,507              | 12,978       |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year        | Total Resident Population |                  | Total Housing Units |                |
|--|---------------------------------------|-------------|---------------------------|------------------|---------------------|----------------|
|  |                                       |             | Total                     | In<br>Households | Total               | Occupied       |
| <b>Gilbert</b>                         |                                       |             |                           |                  |                     |                |
| 318                                    | 2005                                  | 2005        | 38,370                    | 38,362           | 12,387              | 12,108         |
|  |                                       | 2010        | 42,795                    | 42,780           | 14,505              | 14,111         |
|  |                                       | 2020        | 49,414                    | 49,396           | 17,635              | 17,091         |
|  |                                       | 2030        | 50,073                    | 50,052           | 18,009              | 17,463         |
| 319                                    | 2005                                  | 2005        | 32,584                    | 32,569           | 12,173              | 11,431         |
|  |                                       | 2010        | 48,915                    | 48,900           | 19,488              | 18,291         |
|  |                                       | 2020        | 80,978                    | 80,960           | 33,211              | 31,326         |
|  |                                       | 2030        | 87,766                    | 87,745           | 37,131              | 35,032         |
| 329                                    | 2005                                  | 2005        | 9,270                     | 9,255            | 3,460               | 3,231          |
|  |                                       | 2010        | 20,806                    | 20,778           | 7,923               | 7,448          |
|  |                                       | 2020        | 39,078                    | 39,044           | 15,095              | 14,232         |
|  |                                       | 2030        | 45,423                    | 45,383           | 17,776              | 16,766         |
| <b>Gilbert</b>                         |                                       | <b>2005</b> | <b>178,708</b>            | <b>178,451</b>   | <b>60,455</b>       | <b>58,501</b>  |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>218,009</b>            | <b>217,656</b>   | <b>77,498</b>       | <b>74,676</b>  |
|  |                                       | <b>2020</b> | <b>285,819</b>            | <b>285,388</b>   | <b>105,777</b>      | <b>101,534</b> |
|  |                                       | <b>2030</b> | <b>300,295</b>            | <b>299,791</b>   | <b>113,101</b>      | <b>108,470</b> |
| <b>Glendale</b>                        |                                       |             |                           |                  |                     |                |
| 222                                    | 2005                                  | 2005        | 50,433                    | 49,920           | 18,417              | 17,620         |
|  |                                       | 2010        | 51,307                    | 50,758           | 18,895              | 18,148         |
|  |                                       | 2020        | 52,998                    | 52,328           | 19,623              | 18,917         |
|  |                                       | 2030        | 53,201                    | 52,418           | 19,658              | 18,952         |
| 240                                    | 2005                                  | 2005        | 46,030                    | 45,029           | 16,510              | 16,213         |
|  |                                       | 2010        | 46,882                    | 45,854           | 16,939              | 16,686         |
|  |                                       | 2020        | 48,103                    | 46,847           | 17,371              | 17,202         |
|  |                                       | 2030        | 48,558                    | 47,089           | 17,475              | 17,305         |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year        | Total Resident Population |                  | Total Housing Units |                |
|--|---------------------------------------|-------------|---------------------------|------------------|---------------------|----------------|
|  |                                       |             | Total                     | In<br>Households | Total               | Occupied       |
| <b>Glendale</b>                        |                                       |             |                           |                  |                     |                |
| 254                                    |                                       | 2005        | 3,761                     | 3,741            | 1,241               | 1,229          |
|  |                                       | 2010        | 10,478                    | 10,457           | 3,366               | 3,343          |
|  |                                       | 2020        | 22,832                    | 22,806           | 7,773               | 7,700          |
|  |                                       | 2030        | 23,375                    | 23,345           | 8,037               | 7,956          |
| 255                                    |                                       | 2005        | 11,225                    | 11,225           | 4,253               | 4,171          |
|  |                                       | 2010        | 14,793                    | 14,793           | 5,231               | 5,175          |
|  |                                       | 2020        | 18,254                    | 18,254           | 6,545               | 6,489          |
|  |                                       | 2030        | 21,252                    | 21,252           | 7,663               | 7,604          |
| 256                                    |                                       | 2005        | 4,058                     | 3,213            | 870                 | 864            |
|  |                                       | 2010        | 4,059                     | 3,214            | 870                 | 864            |
|  |                                       | 2020        | 4,060                     | 3,214            | 870                 | 864            |
|  |                                       | 2030        | 4,061                     | 3,214            | 870                 | 864            |
| 257                                    |                                       | 2005        | 41,944                    | 41,638           | 13,336              | 12,970         |
|  |                                       | 2010        | 49,777                    | 49,429           | 16,156              | 15,802         |
|  |                                       | 2020        | 62,376                    | 61,950           | 21,073              | 20,683         |
|  |                                       | 2030        | 64,906                    | 64,409           | 21,933              | 21,539         |
| 258                                    |                                       | 2005        | 100,440                   | 99,138           | 38,077              | 36,392         |
|  |                                       | 2010        | 102,511                   | 101,170          | 38,963              | 37,505         |
|  |                                       | 2020        | 106,432                   | 104,793          | 40,770              | 39,508         |
|  |                                       | 2030        | 106,709                   | 104,793          | 40,770              | 39,508         |
| <b>Glendale</b>                        |                                       | <b>2005</b> | <b>257,891</b>            | <b>253,904</b>   | <b>92,704</b>       | <b>89,459</b>  |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>279,807</b>            | <b>275,675</b>   | <b>100,420</b>      | <b>97,523</b>  |
|  |                                       | <b>2020</b> | <b>315,055</b>            | <b>310,192</b>   | <b>114,025</b>      | <b>111,363</b> |
|  |                                       | <b>2030</b> | <b>322,062</b>            | <b>316,520</b>   | <b>116,406</b>      | <b>113,728</b> |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |          |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied |
| <i>Goodyear</i>                        |                                       |      |                           |                  |                     |          |
| 265                                    |                                       | 2005 | 18,225                    | 15,240           | 6,152               | 5,791    |
|  |                                       | 2010 | 28,582                    | 25,301           | 10,307              | 9,692    |
|  |                                       | 2020 | 40,060                    | 36,051           | 14,520              | 13,843   |
|  |                                       | 2030 | 45,051                    | 40,370           | 16,219              | 15,518   |
| 280                                    |                                       | 2005 | 20,584                    | 20,498           | 7,234               | 6,938    |
|  |                                       | 2010 | 29,781                    | 29,521           | 10,971              | 10,466   |
|  |                                       | 2020 | 52,543                    | 52,225           | 20,402              | 19,686   |
|  |                                       | 2030 | 66,939                    | 66,567           | 26,696              | 25,764   |
| 281                                    |                                       | 2005 | 142                       | 142              | 49                  | 46       |
|  |                                       | 2010 | 240                       | 240              | 99                  | 92       |
|  |                                       | 2020 | 6,608                     | 6,608            | 2,599               | 2,512    |
|  |                                       | 2030 | 14,428                    | 14,428           | 5,878               | 5,698    |
| 302                                    |                                       | 2005 | 8,049                     | 8,049            | 2,893               | 2,759    |
|  |                                       | 2010 | 11,435                    | 11,435           | 4,269               | 4,036    |
|  |                                       | 2020 | 39,652                    | 39,652           | 15,167              | 14,494   |
|  |                                       | 2030 | 74,535                    | 74,535           | 29,280              | 28,276   |
| 323                                    |                                       | 2005 | 325                       | 325              | 116                 | 111      |
|  |                                       | 2010 | 519                       | 519              | 193                 | 182      |
|  |                                       | 2020 | 23,640                    | 23,640           | 9,326               | 8,940    |
|  |                                       | 2030 | 58,520                    | 58,520           | 24,253              | 23,293   |
| 373                                    |                                       | 2005 | 195                       | 195              | 73                  | 69       |
|  |                                       | 2010 | 797                       | 797              | 280                 | 275      |
|  |                                       | 2020 | 12,018                    | 12,018           | 4,440               | 4,314    |
|  |                                       | 2030 | 39,924                    | 39,924           | 16,092              | 15,595   |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year        | Total Resident Population |                  | Total Housing Units |                |
|--|---------------------------------------|-------------|---------------------------|------------------|---------------------|----------------|
|  |                                       |             | Total                     | In<br>Households | Total               | Occupied       |
| <b>Goodyear</b>                        |                                       |             |                           |                  |                     |                |
| <b>Goodyear</b>                        |                                       | <b>2005</b> | <b>47,520</b>             | <b>44,449</b>    | <b>16,517</b>       | <b>15,714</b>  |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>71,354</b>             | <b>67,813</b>    | <b>26,119</b>       | <b>24,743</b>  |
|  |                                       | <b>2020</b> | <b>174,521</b>            | <b>170,194</b>   | <b>66,454</b>       | <b>63,789</b>  |
|  |                                       | <b>2030</b> | <b>299,397</b>            | <b>294,344</b>   | <b>118,418</b>      | <b>114,144</b> |
| <b>Guadalupe</b>                       |                                       |             |                           |                  |                     |                |
|  | <b>307</b>                            | <b>2005</b> | <b>5,555</b>              | <b>5,552</b>     | <b>1,229</b>        | <b>1,174</b>   |
|  |                                       | <b>2010</b> | <b>5,790</b>              | <b>5,787</b>     | <b>1,279</b>        | <b>1,234</b>   |
|  |                                       | <b>2020</b> | <b>5,982</b>              | <b>5,978</b>     | <b>1,329</b>        | <b>1,294</b>   |
|  |                                       | <b>2030</b> | <b>5,983</b>              | <b>5,978</b>     | <b>1,329</b>        | <b>1,294</b>   |
| <b>Guadalupe</b>                       |                                       | <b>2005</b> | <b>5,555</b>              | <b>5,552</b>     | <b>1,229</b>        | <b>1,174</b>   |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>5,790</b>              | <b>5,787</b>     | <b>1,279</b>        | <b>1,234</b>   |
|  |                                       | <b>2020</b> | <b>5,982</b>              | <b>5,978</b>     | <b>1,329</b>        | <b>1,294</b>   |
|  |                                       | <b>2030</b> | <b>5,983</b>              | <b>5,978</b>     | <b>1,329</b>        | <b>1,294</b>   |
| <b>Litchfield Park</b>                 |                                       |             |                           |                  |                     |                |
|  | <b>266</b>                            | <b>2005</b> | <b>6,787</b>              | <b>6,720</b>     | <b>3,529</b>        | <b>3,134</b>   |
|  |                                       | <b>2010</b> | <b>8,587</b>              | <b>8,518</b>     | <b>4,483</b>        | <b>3,991</b>   |
|  |                                       | <b>2020</b> | <b>10,305</b>             | <b>10,221</b>    | <b>5,131</b>        | <b>4,599</b>   |
|  |                                       | <b>2030</b> | <b>10,510</b>             | <b>10,412</b>    | <b>5,240</b>        | <b>4,698</b>   |
| <b>Litchfield Park</b>                 |                                       | <b>2005</b> | <b>6,787</b>              | <b>6,720</b>     | <b>3,529</b>        | <b>3,134</b>   |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>8,587</b>              | <b>8,518</b>     | <b>4,483</b>        | <b>3,991</b>   |
|  |                                       | <b>2020</b> | <b>10,305</b>             | <b>10,221</b>    | <b>5,131</b>        | <b>4,599</b>   |
|  |                                       | <b>2030</b> | <b>10,510</b>             | <b>10,412</b>    | <b>5,240</b>        | <b>4,698</b>   |
| <b>Mesa</b>                            |                                       |             |                           |                  |                     |                |
|  | <b>289</b>                            | <b>2005</b> | <b>66,342</b>             | <b>65,374</b>    | <b>26,952</b>       | <b>25,236</b>  |
|  |                                       | <b>2010</b> | <b>68,343</b>             | <b>67,352</b>    | <b>27,243</b>       | <b>25,998</b>  |
|  |                                       | <b>2020</b> | <b>72,270</b>             | <b>71,060</b>    | <b>29,077</b>       | <b>27,952</b>  |
|  |                                       | <b>2030</b> | <b>73,683</b>             | <b>72,270</b>    | <b>29,691</b>       | <b>28,544</b>  |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |          |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied |
| <i>Mesa</i>                            |                                       |      |                           |                  |                     |          |
| 290                                    |                                       | 2005 | 83,365                    | 81,910           | 28,154              | 26,782   |
|  |                                       | 2010 | 85,326                    | 83,814           | 28,423              | 27,433   |
|  |                                       | 2020 | 90,250                    | 88,404           | 30,332              | 29,408   |
|  |                                       | 2030 | 91,831                    | 89,675           | 30,771              | 29,841   |
| 291                                    |                                       | 2005 | 48,901                    | 48,487           | 15,631              | 14,931   |
|  |                                       | 2010 | 50,856                    | 50,422           | 16,044              | 15,576   |
|  |                                       | 2020 | 56,729                    | 56,199           | 18,158              | 17,763   |
|  |                                       | 2030 | 57,304                    | 56,686           | 18,365              | 17,969   |
| 292                                    |                                       | 2005 | 19,931                    | 19,868           | 10,977              | 8,684    |
|  |                                       | 2010 | 22,714                    | 22,605           | 12,113              | 9,849    |
|  |                                       | 2020 | 23,226                    | 23,092           | 12,395              | 10,198   |
|  |                                       | 2030 | 23,567                    | 23,410           | 12,571              | 10,351   |
| 293                                    |                                       | 2005 | 29,634                    | 29,446           | 12,623              | 11,323   |
|  |                                       | 2010 | 30,732                    | 30,541           | 12,780              | 11,719   |
|  |                                       | 2020 | 31,828                    | 31,595           | 13,241              | 12,277   |
|  |                                       | 2030 | 32,415                    | 32,142           | 13,450              | 12,482   |
| 294                                    |                                       | 2005 | 5,808                     | 5,790            | 2,770               | 2,239    |
|  |                                       | 2010 | 7,366                     | 7,321            | 3,428               | 2,827    |
|  |                                       | 2020 | 9,355                     | 9,300            | 4,389               | 3,646    |
|  |                                       | 2030 | 9,565                     | 9,501            | 4,494               | 3,732    |
| 295                                    |                                       | 2005 | 21,080                    | 21,062           | 11,675              | 7,998    |
|  |                                       | 2010 | 22,828                    | 22,809           | 12,300              | 8,687    |
|  |                                       | 2020 | 25,535                    | 25,512           | 13,853              | 9,919    |
|  |                                       | 2030 | 26,256                    | 26,229           | 14,212              | 10,206   |
| 298                                    |                                       | 2005 | 52,041                    | 51,768           | 27,001              | 20,478   |
|  |                                       | 2010 | 54,595                    | 54,299           | 27,648              | 21,447   |
|  |                                       | 2020 | 56,065                    | 55,704           | 28,461              | 22,347   |
|  |                                       | 2030 | 56,271                    | 55,849           | 28,514              | 22,397   |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |          |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied |
| <i>Mesa</i>                            |                                       |      |                           |                  |                     |          |
| 299                                    |                                       | 2005 | 36,120                    | 34,714           | 26,399              | 18,211   |
|  |                                       | 2010 | 39,944                    | 38,494           | 28,093              | 20,218   |
|  |                                       | 2020 | 41,300                    | 39,528           | 28,844              | 21,056   |
|  |                                       | 2030 | 41,860                    | 39,790           | 29,019              | 21,205   |
| 300                                    |                                       | 2005 | 34,792                    | 34,600           | 22,668              | 14,660   |
|  |                                       | 2010 | 39,794                    | 39,514           | 24,620              | 16,774   |
|  |                                       | 2020 | 42,160                    | 41,818           | 25,765              | 17,998   |
|  |                                       | 2030 | 42,520                    | 42,119           | 25,940              | 18,153   |
| 309                                    |                                       | 2005 | 49,932                    | 49,688           | 18,592              | 17,519   |
|  |                                       | 2010 | 51,600                    | 51,201           | 19,040              | 18,162   |
|  |                                       | 2020 | 52,159                    | 51,669           | 19,266              | 18,458   |
|  |                                       | 2030 | 52,591                    | 52,016           | 19,391              | 18,569   |
| 320                                    |                                       | 2005 | 1,670                     | 929              | 756                 | 324      |
|  |                                       | 2010 | 1,931                     | 1,169            | 843                 | 421      |
|  |                                       | 2020 | 2,129                     | 1,198            | 867                 | 434      |
|  |                                       | 2030 | 2,288                     | 1,201            | 870                 | 435      |
| 321                                    |                                       | 2005 | 19,679                    | 19,624           | 9,246               | 7,596    |
|  |                                       | 2010 | 21,503                    | 21,433           | 9,897               | 8,339    |
|  |                                       | 2020 | 24,334                    | 24,249           | 11,359              | 9,633    |
|  |                                       | 2030 | 24,837                    | 24,738           | 11,625              | 9,839    |
| 322                                    |                                       | 2005 | 17,001                    | 16,986           | 7,912               | 6,291    |
|  |                                       | 2010 | 21,412                    | 21,396           | 9,726               | 7,943    |
|  |                                       | 2020 | 38,353                    | 38,333           | 17,566              | 14,651   |
|  |                                       | 2030 | 49,878                    | 49,855           | 23,304              | 19,440   |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year        | Total Resident Population |                  | Total Housing Units |                |
|--|---------------------------------------|-------------|---------------------------|------------------|---------------------|----------------|
|  |                                       |             | Total                     | In<br>Households | Total               | Occupied       |
| <b>Mesa</b>                            |                                       |             |                           |                  |                     |                |
| <b>Mesa</b>                            |                                       | <b>2005</b> | <b>486,296</b>            | <b>480,246</b>   | <b>221,356</b>      | <b>182,272</b> |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>518,944</b>            | <b>512,370</b>   | <b>232,198</b>      | <b>195,393</b> |
|  |                                       | <b>2020</b> | <b>565,693</b>            | <b>557,661</b>   | <b>253,573</b>      | <b>215,740</b> |
|  |                                       | <b>2030</b> | <b>584,866</b>            | <b>575,481</b>   | <b>262,217</b>      | <b>223,163</b> |
| <b>Paradise Valley</b>                 |                                       |             |                           |                  |                     |                |
|  | <b>262</b>                            | <b>2005</b> | 14,136                    | 14,082           | 6,045               | 5,193          |
|  |                                       | <b>2010</b> | 14,790                    | 14,735           | 6,364               | 5,517          |
|  |                                       | <b>2020</b> | 15,224                    | 15,156           | 6,600               | 5,778          |
|  |                                       | <b>2030</b> | 15,352                    | 15,272           | 6,659               | 5,829          |
| <b>Paradise Valley</b>                 |                                       | <b>2005</b> | <b>14,136</b>             | <b>14,082</b>    | <b>6,045</b>        | <b>5,193</b>   |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>14,790</b>             | <b>14,735</b>    | <b>6,364</b>        | <b>5,517</b>   |
|  |                                       | <b>2020</b> | <b>15,224</b>             | <b>15,156</b>    | <b>6,600</b>        | <b>5,778</b>   |
|  |                                       | <b>2030</b> | <b>15,352</b>             | <b>15,272</b>    | <b>6,659</b>        | <b>5,829</b>   |
| <b>Peoria</b>                          |                                       |             |                           |                  |                     |                |
|  | <b>202</b>                            | <b>2005</b> | 0                         | 0                | 0                   | 0              |
|  |                                       | <b>2010</b> | 1,214                     | 1,214            | 501                 | 469            |
|  |                                       | <b>2020</b> | 5,841                     | 5,841            | 2,640               | 2,421          |
|  |                                       | <b>2030</b> | 17,683                    | 17,683           | 8,023               | 7,420          |
|  | <b>213</b>                            | <b>2005</b> | 2,136                     | 2,136            | 817                 | 735            |
|  |                                       | <b>2010</b> | 11,572                    | 11,572           | 4,500               | 4,221          |
|  |                                       | <b>2020</b> | 29,883                    | 29,883           | 12,630              | 11,750         |
|  |                                       | <b>2030</b> | 45,867                    | 45,867           | 20,250              | 18,849         |
|  | <b>214</b>                            | <b>2005</b> | 11,371                    | 11,323           | 4,326               | 3,897          |
|  |                                       | <b>2010</b> | 19,592                    | 19,535           | 7,543               | 6,984          |
|  |                                       | <b>2020</b> | 41,411                    | 41,341           | 16,674              | 15,549         |
|  |                                       | <b>2030</b> | 61,331                    | 61,249           | 25,691              | 23,988         |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |                |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied       |
| <i>Peoria</i>                          |                                       |      |                           |                  |                     |                |
| 215                                    |                                       | 2005 | 38,572                    | 37,901           | 18,301              | 15,844         |
|  |                                       | 2010 | 44,436                    | 43,688           | 21,033              | 18,422         |
|  |                                       | 2020 | 54,026                    | 53,113           | 25,618              | 22,770         |
|  |                                       | 2030 | 55,755                    | 54,689           | 26,542              | 23,538         |
| 238                                    |                                       | 2005 | 54,417                    | 52,687           | 19,246              | 17,780         |
|  |                                       | 2010 | 57,589                    | 55,756           | 20,712              | 19,202         |
|  |                                       | 2020 | 61,436                    | 59,196           | 22,393              | 20,924         |
|  |                                       | 2030 | 62,288                    | 59,671           | 22,594              | 21,114         |
| 239                                    |                                       | 2005 | 34,614                    | 34,183           | 12,637              | 11,712         |
|  |                                       | 2010 | 38,059                    | 37,612           | 14,093              | 13,138         |
|  |                                       | 2020 | 42,558                    | 42,012           | 16,237              | 15,219         |
|  |                                       | 2030 | 47,271                    | 46,634           | 18,617              | 17,422         |
| 344                                    |                                       | 2005 | 331                       | 331              | 198                 | 141            |
|  |                                       | 2010 | 331                       | 331              | 198                 | 142            |
|  |                                       | 2020 | 999                       | 999              | 499                 | 416            |
|  |                                       | 2030 | 15,875                    | 15,875           | 7,048               | 6,469          |
| <i>Peoria</i>                          |                                       | 2005 | <b>141,441</b>            | <b>138,561</b>   | <b>55,525</b>       | <b>50,109</b>  |
| <i>Total</i>                           |                                       | 2010 | <b>172,793</b>            | <b>169,708</b>   | <b>68,580</b>       | <b>62,578</b>  |
|  |                                       | 2020 | <b>236,154</b>            | <b>232,385</b>   | <b>96,691</b>       | <b>89,049</b>  |
|  |                                       | 2030 | <b>306,070</b>            | <b>301,668</b>   | <b>128,765</b>      | <b>118,800</b> |
| <i>Phoenix</i>                         |                                       |      |                           |                  |                     |                |
| 203                                    |                                       | 2005 | 2,596                     | 2,531            | 956                 | 903            |
|  |                                       | 2010 | 3,234                     | 3,167            | 1,161               | 1,112          |
|  |                                       | 2020 | 8,800                     | 8,718            | 3,192               | 3,100          |
|  |                                       | 2030 | 13,959                    | 13,863           | 5,221               | 5,079          |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |          |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied |
| <i>Phoenix</i>                         |                                       |      |                           |                  |                     |          |
| 205                                    |                                       | 2005 | 2,900                     | 1,520            | 944                 | 626      |
|  |                                       | 2010 | 7,228                     | 5,773            | 2,455               | 2,096    |
|  |                                       | 2020 | 13,653                    | 11,875           | 4,973               | 4,496    |
|  |                                       | 2030 | 20,843                    | 18,767           | 8,097               | 7,370    |
| 206                                    |                                       | 2005 | 34,104                    | 34,069           | 12,864              | 12,121   |
|  |                                       | 2010 | 45,395                    | 45,281           | 16,933              | 16,101   |
|  |                                       | 2020 | 52,336                    | 52,196           | 19,902              | 19,084   |
|  |                                       | 2030 | 60,960                    | 60,797           | 23,731              | 22,732   |
| 216                                    |                                       | 2005 | 9                         | 9                | 3                   | 3        |
|  |                                       | 2010 | 9                         | 9                | 3                   | 3        |
|  |                                       | 2020 | 1,416                     | 1,416            | 485                 | 483      |
|  |                                       | 2030 | 7,507                     | 7,507            | 3,013               | 2,940    |
| 217                                    |                                       | 2005 | 3,457                     | 3,446            | 1,194               | 1,131    |
|  |                                       | 2010 | 15,360                    | 15,346           | 5,495               | 5,292    |
|  |                                       | 2020 | 40,156                    | 40,139           | 15,038              | 14,548   |
|  |                                       | 2030 | 49,830                    | 49,810           | 19,133              | 18,485   |
| 218                                    |                                       | 2005 | 13,392                    | 13,392           | 5,038               | 4,771    |
|  |                                       | 2010 | 15,420                    | 15,420           | 5,730               | 5,474    |
|  |                                       | 2020 | 19,613                    | 19,613           | 7,415               | 7,151    |
|  |                                       | 2030 | 21,900                    | 21,900           | 8,294               | 8,001    |
| 219                                    |                                       | 2005 | 11,586                    | 11,572           | 4,302               | 4,012    |
|  |                                       | 2010 | 12,263                    | 12,247           | 4,470               | 4,218    |
|  |                                       | 2020 | 25,117                    | 25,098           | 9,051               | 8,749    |
|  |                                       | 2030 | 42,754                    | 42,732           | 16,053              | 15,426   |
| 223                                    |                                       | 2005 | 41,334                    | 40,840           | 14,930              | 14,280   |
|  |                                       | 2010 | 49,939                    | 49,438           | 17,896              | 17,266   |
|  |                                       | 2020 | 59,233                    | 58,621           | 21,595              | 21,001   |
|  |                                       | 2030 | 59,388                    | 58,672           | 21,622              | 21,026   |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |          |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied |
| <i>Phoenix</i>                         |                                       |      |                           |                  |                     |          |
| 224                                    |                                       | 2005 | 48,896                    | 48,619           | 18,988              | 18,123   |
|  |                                       | 2010 | 50,861                    | 50,561           | 19,643              | 18,879   |
|  |                                       | 2020 | 51,322                    | 50,955           | 19,811              | 19,165   |
|  |                                       | 2030 | 51,403                    | 50,974           | 19,818              | 19,172   |
| 225                                    |                                       | 2005 | 13,214                    | 13,193           | 5,515               | 4,979    |
|  |                                       | 2010 | 18,474                    | 18,452           | 7,610               | 6,940    |
|  |                                       | 2020 | 24,001                    | 23,974           | 10,027              | 9,272    |
|  |                                       | 2030 | 25,028                    | 24,996           | 10,599              | 9,793    |
| 226                                    |                                       | 2005 | 65,945                    | 65,796           | 27,714              | 26,483   |
|  |                                       | 2010 | 71,313                    | 71,052           | 29,746              | 28,642   |
|  |                                       | 2020 | 72,964                    | 72,645           | 30,498              | 29,574   |
|  |                                       | 2030 | 73,241                    | 72,868           | 30,591              | 29,666   |
| 227                                    |                                       | 2005 | 39,912                    | 39,729           | 16,153              | 15,541   |
|  |                                       | 2010 | 47,609                    | 47,421           | 19,008              | 18,420   |
|  |                                       | 2020 | 66,288                    | 66,058           | 26,980              | 26,221   |
|  |                                       | 2030 | 78,359                    | 78,089           | 32,423              | 31,480   |
| 228                                    |                                       | 2005 | 9,711                     | 9,649            | 3,742               | 3,543    |
|  |                                       | 2010 | 17,140                    | 17,075           | 7,214               | 6,717    |
|  |                                       | 2020 | 43,702                    | 43,622           | 17,846              | 16,988   |
|  |                                       | 2030 | 62,257                    | 62,163           | 26,646              | 25,272   |
| 241                                    |                                       | 2005 | 44,206                    | 43,702           | 17,307              | 16,294   |
|  |                                       | 2010 | 44,801                    | 44,284           | 17,346              | 16,460   |
|  |                                       | 2020 | 45,506                    | 44,875           | 17,767              | 16,895   |
|  |                                       | 2030 | 45,614                    | 44,875           | 17,767              | 16,895   |
| 242                                    |                                       | 2005 | 29,280                    | 29,013           | 13,008              | 12,312   |
|  |                                       | 2010 | 30,033                    | 29,748           | 13,206              | 12,607   |
|  |                                       | 2020 | 30,883                    | 30,536           | 13,836              | 13,254   |
|  |                                       | 2030 | 31,163                    | 30,757           | 13,932              | 13,350   |

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|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied |
| <i>Phoenix</i>                         |                                       |      |                           |                  |                     |          |
| 243                                    |                                       | 2005 | 59,280                    | 58,677           | 24,850              | 23,349   |
|  |                                       | 2010 | 61,326                    | 60,705           | 24,959              | 24,206   |
|  |                                       | 2020 | 72,963                    | 72,204           | 30,512              | 29,871   |
|  |                                       | 2030 | 93,996                    | 93,108           | 41,550              | 40,731   |
| 244                                    |                                       | 2005 | 55,535                    | 54,588           | 23,322              | 21,889   |
|  |                                       | 2010 | 57,205                    | 56,218           | 23,700              | 22,461   |
|  |                                       | 2020 | 60,306                    | 59,099           | 24,831              | 23,720   |
|  |                                       | 2030 | 60,509                    | 59,099           | 24,831              | 23,720   |
| 245                                    |                                       | 2005 | 57,202                    | 56,595           | 22,431              | 21,595   |
|  |                                       | 2010 | 58,310                    | 57,686           | 22,617              | 21,926   |
|  |                                       | 2020 | 59,725                    | 58,963           | 23,249              | 22,612   |
|  |                                       | 2030 | 59,852                    | 58,963           | 23,249              | 22,612   |
| 246                                    |                                       | 2005 | 60,340                    | 59,440           | 25,598              | 24,179   |
|  |                                       | 2010 | 61,481                    | 60,541           | 25,957              | 24,629   |
|  |                                       | 2020 | 61,815                    | 60,666           | 26,029              | 24,807   |
|  |                                       | 2030 | 62,008                    | 60,666           | 26,029              | 24,807   |
| 259                                    |                                       | 2005 | 73,003                    | 72,354           | 25,595              | 24,256   |
|  |                                       | 2010 | 74,467                    | 73,793           | 25,878              | 24,703   |
|  |                                       | 2020 | 76,519                    | 75,697           | 26,776              | 25,722   |
|  |                                       | 2030 | 76,668                    | 75,709           | 26,780              | 25,726   |
| 260                                    |                                       | 2005 | 56,031                    | 54,603           | 23,783              | 22,043   |
|  |                                       | 2010 | 57,876                    | 56,397           | 24,166              | 22,761   |
|  |                                       | 2020 | 61,089                    | 59,280           | 25,516              | 24,172   |
|  |                                       | 2030 | 75,740                    | 73,628           | 33,474              | 31,518   |
| 261                                    |                                       | 2005 | 31,910                    | 31,584           | 18,610              | 16,975   |
|  |                                       | 2010 | 33,199                    | 32,864           | 19,203              | 17,675   |
|  |                                       | 2020 | 33,390                    | 32,980           | 19,293              | 17,902   |
|  |                                       | 2030 | 33,460                    | 32,980           | 19,293              | 17,902   |

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|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied |
| <i>Phoenix</i>                         |                                       |      |                           |                  |                     |          |
| 267                                    |                                       | 2005 | 65,053                    | 64,968           | 19,651              | 18,781   |
|  |                                       | 2010 | 74,160                    | 73,949           | 22,796              | 21,938   |
|  |                                       | 2020 | 83,905                    | 83,647           | 26,319              | 25,542   |
|  |                                       | 2030 | 85,461                    | 85,160           | 26,913              | 26,117   |
| 268                                    |                                       | 2005 | 93,685                    | 93,559           | 27,250              | 25,870   |
|  |                                       | 2010 | 98,189                    | 98,035           | 28,224              | 27,067   |
|  |                                       | 2020 | 100,854                   | 100,666          | 29,289              | 28,313   |
|  |                                       | 2030 | 101,551                   | 101,330          | 29,544              | 28,563   |
| 269                                    |                                       | 2005 | 69,248                    | 68,667           | 18,484              | 17,612   |
|  |                                       | 2010 | 70,889                    | 70,298           | 18,678              | 17,977   |
|  |                                       | 2020 | 71,688                    | 70,967           | 18,969              | 18,407   |
|  |                                       | 2030 | 71,809                    | 70,967           | 18,969              | 18,407   |
| 270                                    |                                       | 2005 | 75,303                    | 72,946           | 31,698              | 29,174   |
|  |                                       | 2010 | 78,128                    | 75,706           | 32,561              | 30,327   |
|  |                                       | 2020 | 89,683                    | 86,722           | 38,113              | 35,774   |
|  |                                       | 2030 | 112,925                   | 109,466          | 50,820              | 47,373   |
| 271                                    |                                       | 2005 | 63,419                    | 62,757           | 30,431              | 28,830   |
|  |                                       | 2010 | 65,629                    | 64,905           | 31,271              | 29,883   |
|  |                                       | 2020 | 65,950                    | 65,064           | 31,398              | 30,248   |
|  |                                       | 2030 | 66,106                    | 65,070           | 31,401              | 30,251   |
| 275                                    |                                       | 2005 | 34,384                    | 28,976           | 11,061              | 10,131   |
|  |                                       | 2010 | 39,269                    | 32,201           | 12,264              | 11,352   |
|  |                                       | 2020 | 60,239                    | 51,600           | 21,839              | 20,360   |
|  |                                       | 2030 | 69,752                    | 59,662           | 26,580              | 24,731   |
| 276                                    |                                       | 2005 | 47,623                    | 46,935           | 18,848              | 17,898   |
|  |                                       | 2010 | 51,521                    | 50,768           | 19,843              | 19,062   |
|  |                                       | 2020 | 54,236                    | 53,316           | 20,890              | 20,239   |
|  |                                       | 2030 | 54,391                    | 53,316           | 20,890              | 20,239   |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |          |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied |
| <i>Phoenix</i>                         |                                       |      |                           |                  |                     |          |
| 283                                    |                                       | 2005 | 17,218                    | 17,205           | 5,797               | 5,757    |
|  |                                       | 2010 | 38,634                    | 38,447           | 12,865              | 12,690   |
|  |                                       | 2020 | 58,009                    | 57,781           | 19,888              | 19,701   |
|  |                                       | 2030 | 64,507                    | 64,241           | 22,308              | 22,097   |
| 284                                    |                                       | 2005 | 8,209                     | 7,920            | 2,729               | 2,696    |
|  |                                       | 2010 | 13,600                    | 13,311           | 4,754               | 4,638    |
|  |                                       | 2020 | 26,081                    | 25,729           | 9,668               | 9,436    |
|  |                                       | 2030 | 31,798                    | 31,387           | 12,486              | 12,119   |
| 285                                    |                                       | 2005 | 19,252                    | 12,771           | 3,381               | 3,144    |
|  |                                       | 2010 | 19,901                    | 13,233           | 3,454               | 3,245    |
|  |                                       | 2020 | 21,489                    | 13,342           | 3,514               | 3,333    |
|  |                                       | 2030 | 22,856                    | 13,342           | 3,514               | 3,333    |
| 286                                    |                                       | 2005 | 17,934                    | 17,579           | 5,270               | 5,005    |
|  |                                       | 2010 | 20,749                    | 20,384           | 6,088               | 5,846    |
|  |                                       | 2020 | 24,040                    | 23,593           | 7,330               | 7,101    |
|  |                                       | 2030 | 29,781                    | 29,259           | 9,830               | 9,533    |
| 287                                    |                                       | 2005 | 27,777                    | 25,646           | 7,863               | 7,186    |
|  |                                       | 2010 | 28,702                    | 26,604           | 8,128               | 7,479    |
|  |                                       | 2020 | 35,438                    | 32,875           | 11,005              | 10,255   |
|  |                                       | 2030 | 45,057                    | 42,063           | 15,856              | 14,699   |
| 296                                    |                                       | 2005 | 38,798                    | 38,447           | 11,036              | 10,705   |
|  |                                       | 2010 | 42,702                    | 42,322           | 12,200              | 11,894   |
|  |                                       | 2020 | 48,246                    | 47,781           | 14,378              | 14,037   |
|  |                                       | 2030 | 50,151                    | 49,608           | 15,140              | 14,765   |
| 304                                    |                                       | 2005 | 18,998                    | 18,990           | 5,995               | 5,958    |
|  |                                       | 2010 | 44,358                    | 44,261           | 14,933              | 14,601   |
|  |                                       | 2020 | 69,953                    | 69,834           | 24,758              | 24,287   |
|  |                                       | 2030 | 87,638                    | 87,499           | 31,507              | 30,919   |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.  
For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.



| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year        | Total Resident Population |                  | Total Housing Units |                |
|--|---------------------------------------|-------------|---------------------------|------------------|---------------------|----------------|
|  |                                       |             | Total                     | In<br>Households | Total               | Occupied       |
| <b>Phoenix</b>                         |                                       |             |                           |                  |                     |                |
| 305                                    | 2005                                  | 2005        | 26,885                    | 26,869           | 8,749               | 8,623          |
|  |                                       | 2010        | 37,208                    | 37,120           | 12,117              | 11,906         |
|  |                                       | 2020        | 52,377                    | 52,270           | 17,517              | 17,325         |
|  |                                       | 2030        | 52,972                    | 52,847           | 17,734              | 17,541         |
| 306                                    | 2005                                  | 2005        | 52,856                    | 52,201           | 16,987              | 16,457         |
|  |                                       | 2010        | 56,781                    | 56,105           | 18,142              | 17,677         |
|  |                                       | 2020        | 62,602                    | 61,775           | 20,229              | 19,800         |
|  |                                       | 2030        | 63,720                    | 62,753           | 20,554              | 20,124         |
| 313                                    | 2005                                  | 2005        | 44,025                    | 44,023           | 16,097              | 15,639         |
|  |                                       | 2010        | 45,727                    | 45,724           | 16,587              | 16,182         |
|  |                                       | 2020        | 47,922                    | 47,918           | 17,626              | 17,211         |
|  |                                       | 2030        | 47,923                    | 47,918           | 17,626              | 17,211         |
| 314                                    | 2005                                  | 2005        | 35,667                    | 35,362           | 16,597              | 15,929         |
|  |                                       | 2010        | 36,459                    | 36,142           | 16,836              | 16,258         |
|  |                                       | 2020        | 36,941                    | 36,553           | 17,098              | 16,596         |
|  |                                       | 2030        | 37,006                    | 36,553           | 17,098              | 16,596         |
| <b>Phoenix</b>                         |                                       | <b>2005</b> | <b>1,510,177</b>          | <b>1,480,742</b> | <b>564,771</b>      | <b>534,803</b> |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>1,695,549</b>          | <b>1,662,993</b> | <b>626,137</b>      | <b>598,610</b> |
|  |                                       | <b>2020</b> | <b>1,990,450</b>          | <b>1,950,663</b> | <b>744,450</b>      | <b>716,752</b> |
|  |                                       | <b>2030</b> | <b>2,201,843</b>          | <b>2,155,364</b> | <b>840,916</b>      | <b>808,321</b> |
| <b>Queen Creek</b>                     |                                       |             |                           |                  |                     |                |
| 339                                    | 2005                                  | 2005        | 19,879                    | 19,639           | 6,138               | 5,798          |
|  |                                       | 2010        | 34,506                    | 34,259           | 11,789              | 10,976         |
|  |                                       | 2020        | 55,529                    | 55,227           | 19,165              | 18,178         |
|  |                                       | 2030        | 72,947                    | 72,594           | 25,855              | 24,504         |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.  
For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.



| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |          |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied |
| <b>Queen Creek</b>                     |                                       |      |                           |                  |                     |          |
| <i>Queen Creek</i>                     |                                       | 2005 | 19,879                    | 19,639           | 6,138               | 5,798    |
| <i>Total</i>                           |                                       | 2010 | 34,506                    | 34,259           | 11,789              | 10,976   |
|  |                                       | 2020 | 55,529                    | 55,227           | 19,165              | 18,178   |
|  |                                       | 2030 | 72,947                    | 72,594           | 25,855              | 24,504   |
| <b>Salt River</b>                      |                                       |      |                           |                  |                     |          |
|  | 264                                   | 2005 | 6,822                     | 6,742            | 2,657               | 2,056    |
|  |                                       | 2010 | 7,087                     | 7,007            | 2,753               | 2,173    |
|  |                                       | 2020 | 7,308                     | 7,210            | 2,858               | 2,280    |
|  |                                       | 2030 | 7,425                     | 7,310            | 2,913               | 2,331    |
| <i>Salt River</i>                      |                                       | 2005 | 6,822                     | 6,742            | 2,657               | 2,056    |
| <i>Total</i>                           |                                       | 2010 | 7,087                     | 7,007            | 2,753               | 2,173    |
|  |                                       | 2020 | 7,308                     | 7,210            | 2,858               | 2,280    |
|  |                                       | 2030 | 7,425                     | 7,310            | 2,913               | 2,331    |
| <b>Scottsdale</b>                      |                                       |      |                           |                  |                     |          |
|  | 209                                   | 2005 | 10,659                    | 10,642           | 5,288               | 4,596    |
|  |                                       | 2010 | 11,869                    | 11,851           | 5,720               | 4,914    |
|  |                                       | 2020 | 15,254                    | 15,232           | 7,272               | 6,288    |
|  |                                       | 2030 | 20,467                    | 20,441           | 9,783               | 8,539    |
|  | 210                                   | 2005 | 2,932                     | 2,932            | 2,346               | 1,443    |
|  |                                       | 2010 | 3,783                     | 3,783            | 2,950               | 1,783    |
|  |                                       | 2020 | 4,610                     | 4,610            | 3,486               | 2,176    |
|  |                                       | 2030 | 5,287                     | 5,287            | 3,961               | 2,521    |
|  | 229                                   | 2005 | 18,034                    | 18,028           | 8,389               | 7,573    |
|  |                                       | 2010 | 18,964                    | 18,958           | 8,823               | 7,873    |
|  |                                       | 2020 | 23,762                    | 23,755           | 11,162              | 9,949    |
|  |                                       | 2030 | 29,895                    | 29,887           | 14,150              | 12,634   |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.  
For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.

| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |          |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|----------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied |
| <b>Scottsdale</b>                      |                                       |      |                           |                  |                     |          |
| 230                                    |                                       | 2005 | 25,119                    | 25,027           | 11,594              | 10,604   |
|  |                                       | 2010 | 29,779                    | 29,680           | 13,658              | 12,330   |
|  |                                       | 2020 | 35,670                    | 35,549           | 16,833              | 15,092   |
|  |                                       | 2030 | 37,268                    | 37,127           | 17,636              | 15,813   |
| 247                                    |                                       | 2005 | 12,975                    | 12,614           | 5,603               | 5,171    |
|  |                                       | 2010 | 13,569                    | 13,199           | 6,005               | 5,454    |
|  |                                       | 2020 | 14,007                    | 13,555           | 6,256               | 5,676    |
|  |                                       | 2030 | 14,083                    | 13,555           | 6,256               | 5,676    |
| 248                                    |                                       | 2005 | 38,888                    | 38,212           | 19,421              | 17,353   |
|  |                                       | 2010 | 39,612                    | 38,925           | 19,682              | 17,619   |
|  |                                       | 2020 | 41,120                    | 40,279           | 20,434              | 18,285   |
|  |                                       | 2030 | 41,329                    | 40,346           | 20,463              | 18,313   |
| 249                                    |                                       | 2005 | 22,579                    | 22,543           | 9,344               | 8,942    |
|  |                                       | 2010 | 24,180                    | 24,137           | 9,851               | 9,361    |
|  |                                       | 2020 | 26,257                    | 26,205           | 10,795              | 10,207   |
|  |                                       | 2030 | 28,868                    | 28,807           | 11,865              | 11,209   |
| 263                                    |                                       | 2005 | 36,004                    | 35,910           | 19,842              | 17,630   |
|  |                                       | 2010 | 36,261                    | 36,165           | 19,863              | 17,685   |
|  |                                       | 2020 | 36,390                    | 36,272           | 20,014              | 17,835   |
|  |                                       | 2030 | 36,410                    | 36,272           | 20,014              | 17,835   |
| 272                                    |                                       | 2005 | 67,325                    | 66,311           | 34,579              | 31,798   |
|  |                                       | 2010 | 71,324                    | 70,277           | 37,247              | 34,083   |
|  |                                       | 2020 | 72,196                    | 70,918           | 37,576              | 34,452   |
|  |                                       | 2030 | 72,413                    | 70,918           | 37,576              | 34,452   |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.  
For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.



| Municipal Planning Area (MPA) | Regional Analysis Zone (RAZ) | Year        | Total Resident Population |                | Total Housing Units |                |
|-------------------------------|------------------------------|-------------|---------------------------|----------------|---------------------|----------------|
|                               |                              |             | Total                     | In Households  | Total               | Occupied       |
| <b>Scottsdale</b>             |                              |             |                           |                |                     |                |
| <b>Scottsdale</b>             |                              | <b>2005</b> | <b>234,515</b>            | <b>232,219</b> | <b>116,406</b>      | <b>105,110</b> |
| <b>Total</b>                  |                              | <b>2010</b> | <b>249,341</b>            | <b>246,975</b> | <b>123,799</b>      | <b>111,102</b> |
|                               |                              | <b>2020</b> | <b>269,266</b>            | <b>266,375</b> | <b>133,828</b>      | <b>119,960</b> |
|                               |                              | <b>2030</b> | <b>286,020</b>            | <b>282,640</b> | <b>141,704</b>      | <b>126,992</b> |
| <b>Surprise</b>               |                              |             |                           |                |                     |                |
|                               | <b>204</b>                   | <b>2005</b> | 4,657                     | 4,657          | 1,954               | 1,721          |
|                               |                              | <b>2010</b> | 8,484                     | 8,484          | 3,489               | 3,169          |
|                               |                              | <b>2020</b> | 53,897                    | 53,897         | 23,929              | 21,491         |
|                               |                              | <b>2030</b> | 106,734                   | 106,734        | 49,108              | 44,048         |
|                               | <b>211</b>                   | <b>2005</b> | 596                       | 596            | 248                 | 220            |
|                               |                              | <b>2010</b> | 1,760                     | 1,760          | 723                 | 658            |
|                               |                              | <b>2020</b> | 16,740                    | 16,740         | 6,946               | 6,321          |
|                               |                              | <b>2030</b> | 51,293                    | 51,293         | 22,235              | 20,235         |
|                               | <b>212</b>                   | <b>2005</b> | 2,830                     | 2,830          | 1,190               | 1,045          |
|                               |                              | <b>2010</b> | 11,919                    | 11,919         | 4,804               | 4,404          |
|                               |                              | <b>2020</b> | 37,710                    | 37,710         | 15,905              | 14,446         |
|                               |                              | <b>2030</b> | 68,344                    | 68,344         | 29,308              | 26,853         |
|                               | <b>232</b>                   | <b>2005</b> | 34,021                    | 33,965         | 17,273              | 14,179         |
|                               |                              | <b>2010</b> | 37,673                    | 37,553         | 18,846              | 15,727         |
|                               |                              | <b>2020</b> | 42,669                    | 42,522         | 21,298              | 18,158         |
|                               |                              | <b>2030</b> | 43,583                    | 43,412         | 21,782              | 18,625         |
|                               | <b>233</b>                   | <b>2005</b> | 41,695                    | 41,338         | 17,422              | 15,359         |
|                               |                              | <b>2010</b> | 75,830                    | 75,436         | 31,197              | 28,626         |
|                               |                              | <b>2020</b> | 102,885                   | 102,403        | 43,432              | 39,757         |
|                               |                              | <b>2030</b> | 116,743                   | 116,180        | 50,219              | 45,889         |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year        | Total Resident Population |                  | Total Housing Units |                |
|--|---------------------------------------|-------------|---------------------------|------------------|---------------------|----------------|
|  |                                       |             | Total                     | In<br>Households | Total               | Occupied       |
| <b>Surprise</b>                        |                                       |             |                           |                  |                     |                |
|  | 234                                   | 2005        | 9,557                     | 9,480            | 4,343               | 2,922          |
|  |                                       | 2010        | 11,224                    | 11,112           | 4,980               | 3,579          |
|  |                                       | 2020        | 14,458                    | 14,321           | 6,305               | 4,625          |
|  |                                       | 2030        | 14,761                    | 14,601           | 6,429               | 4,719          |
| <b>Surprise</b>                        |                                       | <b>2005</b> | <b>93,356</b>             | <b>92,866</b>    | <b>42,430</b>       | <b>35,446</b>  |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>146,890</b>            | <b>146,264</b>   | <b>64,039</b>       | <b>56,163</b>  |
|  |                                       | <b>2020</b> | <b>268,359</b>            | <b>267,593</b>   | <b>117,815</b>      | <b>104,798</b> |
|  |                                       | <b>2030</b> | <b>401,458</b>            | <b>400,564</b>   | <b>179,081</b>      | <b>160,369</b> |
| <b>Tempe</b>                           |                                       |             |                           |                  |                     |                |
|  | 288                                   | 2005        | 58,746                    | 52,735           | 24,975              | 23,954         |
|  |                                       | 2010        | 68,676                    | 59,174           | 28,284              | 27,430         |
|  |                                       | 2020        | 80,881                    | 69,273           | 34,003              | 33,027         |
|  |                                       | 2030        | 86,530                    | 72,975           | 36,301              | 35,227         |
|  | 297                                   | 2005        | 50,852                    | 50,567           | 22,445              | 21,709         |
|  |                                       | 2010        | 51,808                    | 51,508           | 22,885              | 22,294         |
|  |                                       | 2020        | 52,336                    | 51,970           | 23,175              | 22,600         |
|  |                                       | 2030        | 52,398                    | 51,970           | 23,175              | 22,600         |
|  | 308                                   | 2005        | 56,142                    | 55,754           | 22,828              | 22,198         |
|  |                                       | 2010        | 57,287                    | 56,867           | 23,372              | 22,873         |
|  |                                       | 2020        | 58,664                    | 58,152           | 24,217              | 23,641         |
|  |                                       | 2030        | 59,042                    | 58,443           | 24,413              | 23,822         |
| <b>Tempe</b>                           |                                       | <b>2005</b> | <b>165,740</b>            | <b>159,056</b>   | <b>70,248</b>       | <b>67,861</b>  |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>177,771</b>            | <b>167,549</b>   | <b>74,541</b>       | <b>72,597</b>  |
|  |                                       | <b>2020</b> | <b>191,881</b>            | <b>179,395</b>   | <b>81,395</b>       | <b>79,268</b>  |
|  |                                       | <b>2030</b> | <b>197,970</b>            | <b>183,388</b>   | <b>83,889</b>       | <b>81,649</b>  |

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For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.



| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total Resident Population |                  | Total Housing Units |              |
|--|---------------------------------------|------|---------------------------|------------------|---------------------|--------------|
|  |                                       |      | Total                     | In<br>Households | Total               | Occupied     |
| <b>Tolleson</b>                        |                                       |      |                           |                  |                     |              |
|  | 274                                   | 2005 | 6,491                     | 6,484            | 1,980               | 1,918        |
|  |                                       | 2010 | 7,748                     | 7,737            | 2,318               | 2,267        |
|  |                                       | 2020 | 9,646                     | 9,633            | 2,945               | 2,890        |
|  |                                       | 2030 | 10,193                    | 10,178           | 3,107               | 3,048        |
| <b>Tolleson</b>                        |                                       | 2005 | <b>6,491</b>              | <b>6,484</b>     | <b>1,980</b>        | <b>1,918</b> |
| <b>Total</b>                           |                                       | 2010 | <b>7,748</b>              | <b>7,737</b>     | <b>2,318</b>        | <b>2,267</b> |
|  |                                       | 2020 | <b>9,646</b>              | <b>9,633</b>     | <b>2,945</b>        | <b>2,890</b> |
|  |                                       | 2030 | <b>10,193</b>             | <b>10,178</b>    | <b>3,107</b>        | <b>3,048</b> |
| <b>Wickenburg</b>                      |                                       |      |                           |                  |                     |              |
|  | 201                                   | 2005 | 8,250                     | 8,030            | 4,183               | 3,569        |
|  |                                       | 2010 | 9,048                     | 8,803            | 4,540               | 3,938        |
|  |                                       | 2020 | 10,932                    | 10,632           | 5,519               | 4,837        |
|  |                                       | 2030 | 13,562                    | 13,211           | 7,015               | 6,150        |
|  | 335                                   | 2005 | 1,047                     | 1,047            | 542                 | 452          |
|  |                                       | 2010 | 1,480                     | 1,480            | 733                 | 632          |
|  |                                       | 2020 | 1,803                     | 1,803            | 895                 | 782          |
|  |                                       | 2030 | 2,352                     | 2,352            | 1,195               | 1,051        |
|  | 347                                   | 2005 | 309                       | 309              | 154                 | 132          |
|  |                                       | 2010 | 494                       | 494              | 237                 | 207          |
|  |                                       | 2020 | 576                       | 576              | 278                 | 244          |
|  |                                       | 2030 | 1,818                     | 1,818            | 938                 | 832          |
| <b>Wickenburg</b>                      |                                       | 2005 | <b>9,606</b>              | <b>9,386</b>     | <b>4,879</b>        | <b>4,153</b> |
| <b>Total</b>                           |                                       | 2010 | <b>11,022</b>             | <b>10,777</b>    | <b>5,510</b>        | <b>4,777</b> |
|  |                                       | 2020 | <b>13,311</b>             | <b>13,011</b>    | <b>6,692</b>        | <b>5,863</b> |
|  |                                       | 2030 | <b>17,732</b>             | <b>17,381</b>    | <b>9,148</b>        | <b>8,033</b> |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only. For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.



| <b>Municipal<br/>Planning<br/>Area<br/>(MPA)</b> | <b>Regional<br/>Analysis<br/>Zone<br/>(RAZ)</b> | <b>Year</b> | <b>Total Resident Population</b> |                          | <b>Total Housing Units</b> |                 |
|--|---|-------------|----------------------------------|--------------------------|----------------------------|-----------------|
|  |   |             | <b>Total</b>                     | <b>In<br/>Households</b> | <b>Total</b>               | <b>Occupied</b> |
| <i>Youngtown</i>                                 |   |             |                                  |                          |                            |                 |
|  | 236   | 2005        | 6,011                            | 5,670                    | 2,647                      | 2,509           |
|  |   | 2010        | 6,820                            | 6,436                    | 3,007                      | 2,876           |
|  |   | 2020        | 7,275                            | 6,806                    | 3,195                      | 3,085           |
|  |   | 2030        | 7,359                            | 6,811                    | 3,197                      | 3,087           |
| <hr/>  |   |             |                                  |                          |                            |                 |
| <i>Youngtown</i>                                 |   | 2005        | 6,011                            | 5,670                    | 2,647                      | 2,509           |
| <i>Total</i>                                     |   | 2010        | 6,820                            | 6,436                    | 3,007                      | 2,876           |
|  |   | 2020        | 7,275                            | 6,806                    | 3,195                      | 3,085           |
|  |   | 2030        | 7,359                            | 6,811                    | 3,197                      | 3,087           |
| <hr/>  |   |             |                                  |                          |                            |                 |
| <i>County Total</i>                              |   | 2005        | 3,681,025                        | 3,616,690                | 1,479,767                  | 1,352,967       |
|  |   | 2010        | 4,216,499                        | 4,142,401                | 1,685,134                  | 1,556,706       |
|  |   | 2020        | 5,230,300                        | 5,139,943                | 2,104,440                  | 1,959,300       |
|  |   | 2030        | 6,135,000                        | 6,029,587                | 2,502,040                  | 2,331,270       |

Note: Total resident population includes resident population in households and resident population in group quarters (dorms, nursing homes, prisons and military establishments)

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only. For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.



**Maricopa Association of Governments  
Employment by Regional Analysis Zone, Maricopa County  
July 1, 2005 and Projections July 1, 2010 to July 1, 2030**

| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |               |              |              |              |
|--|---------------------------------------|------|---------------------|------------------------------|---------------|--------------|--------------|--------------|
|  |                                       |      |                     | Retail                       | Office        | Industrial   | Public       | Other        |
| <b>Avondale</b>                        |                                       |      |                     |                              |               |              |              |              |
|  | 273                                   | 2005 | 9,988               | 4,984                        | 312           | 302          | 2,502        | 1,888        |
|  |                                       | 2010 | 16,448              | 6,834                        | 2,036         | 1,385        | 3,181        | 3,012        |
|  |                                       | 2020 | 27,274              | 10,623                       | 5,335         | 2,888        | 4,108        | 4,320        |
|  |                                       | 2030 | 37,157              | 14,106                       | 9,336         | 3,846        | 5,071        | 4,798        |
|  | 282                                   | 2005 | 2,315               | 672                          | 0             | 235          | 869          | 539          |
|  |                                       | 2010 | 4,142               | 966                          | 255           | 451          | 1,447        | 1,023        |
|  |                                       | 2020 | 8,521               | 2,220                        | 1,521         | 984          | 2,021        | 1,775        |
|  |                                       | 2030 | 9,053               | 2,318                        | 1,691         | 1,251        | 2,198        | 1,595        |
|  | 303                                   | 2005 | 12                  | 0                            | 0             | 0            | 0            | 12           |
|  |                                       | 2010 | 9                   | 0                            | 0             | 0            | 0            | 9            |
|  |                                       | 2020 | 1,981               | 725                          | 0             | 452          | 154          | 650          |
|  |                                       | 2030 | 6,873               | 2,929                        | 0             | 1,010        | 794          | 2,140        |
| <b>Avondale<br/>Total</b>              |                                       | 2005 | <b>12,315</b>       | <b>5,656</b>                 | <b>312</b>    | <b>537</b>   | <b>3,371</b> | <b>2,439</b> |
|  |                                       | 2010 | <b>20,599</b>       | <b>7,800</b>                 | <b>2,291</b>  | <b>1,836</b> | <b>4,628</b> | <b>4,044</b> |
|  |                                       | 2020 | <b>37,776</b>       | <b>13,568</b>                | <b>6,856</b>  | <b>4,324</b> | <b>6,283</b> | <b>6,745</b> |
|  |                                       | 2030 | <b>53,083</b>       | <b>19,353</b>                | <b>11,027</b> | <b>6,107</b> | <b>8,063</b> | <b>8,533</b> |
| <b>Buckeye</b>                         |                                       |      |                     |                              |               |              |              |              |
|  | 253                                   | 2005 | 959                 | 351                          | 52            | 9            | 0            | 547          |
|  |                                       | 2010 | 3,298               | 752                          | 187           | 454          | 706          | 1,199        |
|  |                                       | 2020 | 6,737               | 1,715                        | 432           | 499          | 1,189        | 2,902        |
|  |                                       | 2030 | 16,531              | 6,769                        | 1,695         | 582          | 1,699        | 5,786        |
|  | 277                                   | 2005 | 417                 | 0                            | 0             | 14           | 30           | 373          |
|  |                                       | 2010 | 1,871               | 113                          | 212           | 670          | 30           | 846          |
|  |                                       | 2020 | 8,959               | 3,081                        | 713           | 1,001        | 894          | 3,270        |
|  |                                       | 2030 | 27,401              | 9,770                        | 2,213         | 2,172        | 2,508        | 10,738       |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year        | Total<br>Employment | Components of Employment (*) |               |              |               |               |
|--|---------------------------------------|-------------|---------------------|------------------------------|---------------|--------------|---------------|---------------|
|  |                                       |             |                     | Retail                       | Office        | Industrial   | Public        | Other         |
| <b>Buckeye</b>                         |                                       |             |                     |                              |               |              |               |               |
|  | <b>278</b>                            | <b>2005</b> | 4,264               | 583                          | 26            | 769          | 961           | 1,925         |
|  |                                       | <b>2010</b> | 9,446               | 2,282                        | 238           | 1,053        | 2,303         | 3,570         |
|  |                                       | <b>2020</b> | 16,163              | 3,989                        | 965           | 1,634        | 3,993         | 5,582         |
|  |                                       | <b>2030</b> | 27,063              | 8,637                        | 2,559         | 2,132        | 5,198         | 8,537         |
|  | <b>279</b>                            | <b>2005</b> | 1,557               | 190                          | 0             | 463          | 137           | 767           |
|  |                                       | <b>2010</b> | 4,508               | 1,052                        | 118           | 905          | 455           | 1,978         |
|  |                                       | <b>2020</b> | 11,995              | 3,317                        | 576           | 1,777        | 1,809         | 4,516         |
|  |                                       | <b>2030</b> | 26,011              | 9,804                        | 1,945         | 2,311        | 3,592         | 8,359         |
|  | <b>340</b>                            | <b>2005</b> | 9                   | 0                            | 0             | 0            | 0             | 9             |
|  |                                       | <b>2010</b> | 1,050               | 197                          | 0             | 0            | 469           | 384           |
|  |                                       | <b>2020</b> | 8,409               | 1,503                        | 565           | 0            | 2,421         | 3,920         |
|  |                                       | <b>2030</b> | 29,944              | 9,400                        | 2,006         | 1,444        | 4,623         | 12,471        |
|  | <b>341</b>                            | <b>2005</b> | 7                   | 0                            | 0             | 0            | 0             | 7             |
|  |                                       | <b>2010</b> | 424                 | 100                          | 0             | 0            | 0             | 324           |
|  |                                       | <b>2020</b> | 2,715               | 486                          | 0             | 0            | 614           | 1,615         |
|  |                                       | <b>2030</b> | 14,371              | 6,115                        | 704           | 640          | 2,843         | 4,069         |
|  | <b>343</b>                            | <b>2005</b> | 1,459               | 0                            | 0             | 4            | 1,409         | 46            |
|  |                                       | <b>2010</b> | 1,803               | 42                           | 0             | 24           | 1,649         | 88            |
|  |                                       | <b>2020</b> | 2,319               | 62                           | 0             | 64           | 2,030         | 163           |
|  |                                       | <b>2030</b> | 6,530               | 1,639                        | 100           | 84           | 2,338         | 2,369         |
| <b>Buckeye</b>                         |                                       | <b>2005</b> | <b>8,672</b>        | <b>1,124</b>                 | <b>78</b>     | <b>1,259</b> | <b>2,537</b>  | <b>3,674</b>  |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>22,400</b>       | <b>4,538</b>                 | <b>755</b>    | <b>3,106</b> | <b>5,612</b>  | <b>8,389</b>  |
|  |                                       | <b>2020</b> | <b>57,297</b>       | <b>14,153</b>                | <b>3,251</b>  | <b>4,975</b> | <b>12,950</b> | <b>21,968</b> |
|  |                                       | <b>2030</b> | <b>147,851</b>      | <b>52,134</b>                | <b>11,222</b> | <b>9,365</b> | <b>22,801</b> | <b>52,329</b> |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year        | Total<br>Employment | Components of Employment (*) |              |            |            |              |
|--|---------------------------------------|-------------|---------------------|------------------------------|--------------|------------|------------|--------------|
|  |                                       |             |                     | Retail                       | Office       | Industrial | Public     | Other        |
| <b>Carefree</b>                        |                                       |             |                     |                              |              |            |            |              |
|  | 208                                   | 2005        | 2,669               | 1,567                        | 409          | 49         | 28         | 616          |
|  |                                       | 2010        | 3,270               | 1,918                        | 504          | 49         | 104        | 695          |
|  |                                       | 2020        | 3,992               | 2,159                        | 728          | 49         | 212        | 844          |
|  |                                       | 2030        | 4,329               | 2,189                        | 1,042        | 49         | 233        | 816          |
| <b>Carefree<br/>Total</b>              |                                       | <b>2005</b> | <b>2,669</b>        | <b>1,567</b>                 | <b>409</b>   | <b>49</b>  | <b>28</b>  | <b>616</b>   |
|  |                                       | <b>2010</b> | <b>3,270</b>        | <b>1,918</b>                 | <b>504</b>   | <b>49</b>  | <b>104</b> | <b>695</b>   |
|  |                                       | <b>2020</b> | <b>3,992</b>        | <b>2,159</b>                 | <b>728</b>   | <b>49</b>  | <b>212</b> | <b>844</b>   |
|  |                                       | <b>2030</b> | <b>4,329</b>        | <b>2,189</b>                 | <b>1,042</b> | <b>49</b>  | <b>233</b> | <b>816</b>   |
| <b>Cave Creek</b>                      |                                       |             |                     |                              |              |            |            |              |
|  | 207                                   | 2005        | 2,602               | 1,626                        | 60           | 142        | 419        | 355          |
|  |                                       | 2010        | 3,564               | 2,219                        | 90           | 142        | 500        | 613          |
|  |                                       | 2020        | 4,666               | 2,793                        | 264          | 142        | 578        | 889          |
|  |                                       | 2030        | 6,066               | 3,661                        | 339          | 142        | 619        | 1,305        |
| <b>Cave Creek<br/>Total</b>            |                                       | <b>2005</b> | <b>2,602</b>        | <b>1,626</b>                 | <b>60</b>    | <b>142</b> | <b>419</b> | <b>355</b>   |
|  |                                       | <b>2010</b> | <b>3,564</b>        | <b>2,219</b>                 | <b>90</b>    | <b>142</b> | <b>500</b> | <b>613</b>   |
|  |                                       | <b>2020</b> | <b>4,666</b>        | <b>2,793</b>                 | <b>264</b>   | <b>142</b> | <b>578</b> | <b>889</b>   |
|  |                                       | <b>2030</b> | <b>6,066</b>        | <b>3,661</b>                 | <b>339</b>   | <b>142</b> | <b>619</b> | <b>1,305</b> |
| <b>Chandler</b>                        |                                       |             |                     |                              |              |            |            |              |
|  | 310                                   | 2005        | 18,376              | 6,862                        | 1,665        | 5,838      | 1,362      | 2,649        |
|  |                                       | 2010        | 22,392              | 7,229                        | 3,296        | 7,465      | 1,444      | 2,958        |
|  |                                       | 2020        | 24,081              | 7,520                        | 3,296        | 9,280      | 1,444      | 2,541        |
|  |                                       | 2030        | 24,787              | 7,543                        | 3,296        | 10,119     | 1,444      | 2,385        |
|  | 315                                   | 2005        | 28,055              | 6,664                        | 2,159        | 16,429     | 1,043      | 1,760        |
|  |                                       | 2010        | 35,610              | 8,619                        | 3,699        | 18,681     | 1,616      | 2,995        |
|  |                                       | 2020        | 46,388              | 11,896                       | 8,058        | 20,857     | 2,347      | 3,230        |
|  |                                       | 2030        | 48,787              | 12,147                       | 9,962        | 21,944     | 2,438      | 2,296        |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |               |               |               |               |
|--|---------------------------------------|------|---------------------|------------------------------|---------------|---------------|---------------|---------------|
|  |                                       |      |                     | Retail                       | Office        | Industrial    | Public        | Other         |
| <b>Chandler</b>                        |                                       |      |                     |                              |               |               |               |               |
| 316                                    | 2005                                  | 2005 | 13,363              | 5,366                        | 1,184         | 2,349         | 1,475         | 2,989         |
|  |                                       | 2010 | 20,521              | 6,356                        | 4,492         | 3,914         | 1,569         | 4,190         |
|  |                                       | 2020 | 24,095              | 6,570                        | 8,048         | 4,017         | 1,789         | 3,671         |
|  |                                       | 2030 | 24,046              | 6,587                        | 8,189         | 4,232         | 1,817         | 3,221         |
| 317                                    | 2005                                  | 2005 | 6,279               | 1,319                        | 292           | 360           | 3,665         | 643           |
|  |                                       | 2010 | 10,033              | 2,203                        | 1,544         | 878           | 4,260         | 1,148         |
|  |                                       | 2020 | 9,557               | 2,203                        | 1,544         | 878           | 4,322         | 610           |
|  |                                       | 2030 | 9,533               | 2,203                        | 1,544         | 878           | 4,330         | 578           |
| 325                                    | 2005                                  | 2005 | 14,294              | 2,201                        | 2,624         | 6,537         | 1,157         | 1,775         |
|  |                                       | 2010 | 24,065              | 4,215                        | 5,439         | 9,243         | 1,716         | 3,452         |
|  |                                       | 2020 | 35,859              | 6,380                        | 13,053        | 10,628        | 1,890         | 3,908         |
|  |                                       | 2030 | 35,519              | 6,547                        | 13,053        | 11,321        | 1,930         | 2,668         |
| 327                                    | 2005                                  | 2005 | 3,283               | 961                          | 0             | 540           | 290           | 1,492         |
|  |                                       | 2010 | 8,503               | 3,008                        | 385           | 2,123         | 578           | 2,409         |
|  |                                       | 2020 | 20,006              | 6,041                        | 4,940         | 4,262         | 1,126         | 3,637         |
|  |                                       | 2030 | 27,227              | 6,328                        | 10,881        | 5,455         | 1,356         | 3,207         |
| 328                                    | 2005                                  | 2005 | 3,082               | 425                          | 0             | 519           | 815           | 1,323         |
|  |                                       | 2010 | 7,120               | 1,716                        | 376           | 1,711         | 1,312         | 2,005         |
|  |                                       | 2020 | 8,155               | 1,869                        | 376           | 2,832         | 1,457         | 1,621         |
|  |                                       | 2030 | 8,217               | 1,869                        | 376           | 3,225         | 1,480         | 1,267         |
| <b>Chandler<br/>Total</b>              |                                       | 2005 | <b>86,732</b>       | <b>23,798</b>                | <b>7,924</b>  | <b>32,572</b> | <b>9,807</b>  | <b>12,631</b> |
|  |                                       | 2010 | <b>128,244</b>      | <b>33,346</b>                | <b>19,231</b> | <b>44,015</b> | <b>12,495</b> | <b>19,157</b> |
|  |                                       | 2020 | <b>168,141</b>      | <b>42,479</b>                | <b>39,315</b> | <b>52,754</b> | <b>14,375</b> | <b>19,218</b> |
|  |                                       | 2030 | <b>178,116</b>      | <b>43,224</b>                | <b>47,301</b> | <b>57,174</b> | <b>14,795</b> | <b>15,622</b> |

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|--|---------------------------------------|------|---------------------|------------------------------|--------|------------|--------|-------|
|  |                                       |      |                     | Retail                       | Office | Industrial | Public | Other |
| <b>County Areas</b>                    |                                       |      |                     |                              |        |            |        |       |
| 220                                    |                                       | 2005 | 558                 | 0                            | 0      | 0          | 100    | 458   |
|  |                                       | 2010 | 1,269               | 473                          | 0      | 0          | 323    | 473   |
|  |                                       | 2020 | 2,319               | 969                          | 0      | 0          | 508    | 842   |
|  |                                       | 2030 | 2,173               | 969                          | 0      | 0          | 508    | 696   |
| 221                                    |                                       | 2005 | 6,391               | 1,806                        | 792    | 0          | 15     | 3,778 |
|  |                                       | 2010 | 6,672               | 1,877                        | 792    | 0          | 15     | 3,988 |
|  |                                       | 2020 | 6,699               | 1,886                        | 826    | 0          | 18     | 3,969 |
|  |                                       | 2030 | 6,759               | 1,886                        | 826    | 73         | 18     | 3,956 |
| 231                                    |                                       | 2005 | 462                 | 0                            | 67     | 109        | 29     | 257   |
|  |                                       | 2010 | 529                 | 39                           | 67     | 109        | 48     | 266   |
|  |                                       | 2020 | 718                 | 134                          | 67     | 109        | 80     | 328   |
|  |                                       | 2030 | 727                 | 147                          | 67     | 109        | 87     | 317   |
| 237                                    |                                       | 2005 | 10,438              | 4,115                        | 186    | 356        | 444    | 5,337 |
|  |                                       | 2010 | 10,329              | 4,135                        | 186    | 356        | 482    | 5,170 |
|  |                                       | 2020 | 10,367              | 4,143                        | 186    | 356        | 485    | 5,197 |
|  |                                       | 2030 | 10,392              | 4,143                        | 186    | 356        | 485    | 5,222 |
| 252                                    |                                       | 2005 | 7                   | 0                            | 0      | 0          | 0      | 7     |
|  |                                       | 2010 | 262                 | 128                          | 0      | 0          | 40     | 94    |
|  |                                       | 2020 | 1,758               | 777                          | 0      | 0          | 300    | 681   |
|  |                                       | 2030 | 3,191               | 1,313                        | 0      | 0          | 624    | 1,254 |
| 301                                    |                                       | 2005 | 250                 | 0                            | 0      | 0          | 127    | 123   |
|  |                                       | 2010 | 405                 | 99                           | 0      | 0          | 154    | 152   |
|  |                                       | 2020 | 902                 | 331                          | 0      | 0          | 236    | 335   |
|  |                                       | 2030 | 1,474               | 544                          | 0      | 0          | 360    | 570   |
| 326                                    |                                       | 2005 | 1,467               | 744                          | 0      | 89         | 0      | 634   |
|  |                                       | 2010 | 1,554               | 794                          | 104    | 89         | 2      | 565   |
|  |                                       | 2020 | 1,606               | 804                          | 208    | 89         | 6      | 499   |
|  |                                       | 2030 | 1,583               | 804                          | 208    | 89         | 6      | 476   |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |        |            |        |       |
|--|---------------------------------------|------|---------------------|------------------------------|--------|------------|--------|-------|
|  |                                       |      |                     | Retail                       | Office | Industrial | Public | Other |
| <b>County Areas</b>                    |                                       |      |                     |                              |        |            |        |       |
| 330                                    |                                       | 2005 | 212                 | 0                            | 0      | 0          | 200    | 12    |
|  |                                       | 2010 | 211                 | 0                            | 0      | 0          | 200    | 11    |
|  |                                       | 2020 | 361                 | 63                           | 0      | 0          | 224    | 74    |
|  |                                       | 2030 | 566                 | 138                          | 0      | 0          | 268    | 160   |
| 332                                    |                                       | 2005 | 1                   | 0                            | 0      | 0          | 0      | 1     |
|  |                                       | 2010 | 1                   | 0                            | 0      | 0          | 0      | 1     |
|  |                                       | 2020 | 145                 | 61                           | 0      | 0          | 23     | 61    |
|  |                                       | 2030 | 775                 | 280                          | 0      | 0          | 152    | 343   |
| 333                                    |                                       | 2005 | 40                  | 0                            | 0      | 0          | 9      | 31    |
|  |                                       | 2010 | 160                 | 16                           | 0      | 0          | 88     | 56    |
|  |                                       | 2020 | 970                 | 272                          | 0      | 185        | 198    | 315   |
|  |                                       | 2030 | 1,825               | 555                          | 0      | 278        | 365    | 627   |
| 334                                    |                                       | 2005 | 4                   | 0                            | 0      | 0          | 0      | 4     |
|  |                                       | 2010 | 33                  | 0                            | 0      | 0          | 0      | 33    |
|  |                                       | 2020 | 485                 | 193                          | 0      | 0          | 73     | 219   |
|  |                                       | 2030 | 939                 | 365                          | 0      | 0          | 173    | 401   |
| 336                                    |                                       | 2005 | 147                 | 121                          | 0      | 0          | 0      | 26    |
|  |                                       | 2010 | 372                 | 155                          | 0      | 0          | 144    | 73    |
|  |                                       | 2020 | 884                 | 316                          | 0      | 0          | 362    | 206   |
|  |                                       | 2030 | 1,882               | 665                          | 0      | 0          | 587    | 630   |
| 337                                    |                                       | 2005 | 141                 | 122                          | 0      | 0          | 0      | 19    |
|  |                                       | 2010 | 272                 | 122                          | 0      | 0          | 0      | 150   |
|  |                                       | 2020 | 696                 | 461                          | 0      | 0          | 6      | 229   |
|  |                                       | 2030 | 699                 | 486                          | 0      | 0          | 6      | 207   |
| 345                                    |                                       | 2005 | 450                 | 50                           | 0      | 108        | 0      | 292   |
|  |                                       | 2010 | 712                 | 196                          | 0      | 108        | 68     | 340   |
|  |                                       | 2020 | 1,152               | 430                          | 0      | 108        | 139    | 475   |
|  |                                       | 2030 | 3,218               | 1,152                        | 0      | 108        | 559    | 1,399 |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year        | Total<br>Employment | Components of Employment (*) |              |              |               |               |
|--|---------------------------------------|-------------|---------------------|------------------------------|--------------|--------------|---------------|---------------|
|  |                                       |             |                     | Retail                       | Office       | Industrial   | Public        | Other         |
| <b>County Areas</b>                    |                                       |             |                     |                              |              |              |               |               |
|  | <b>346</b>                            | <b>2005</b> | 3,478               | 507                          | 0            | 398          | 2,325         | 248           |
|  |                                       | <b>2010</b> | 4,555               | 697                          | 166          | 548          | 2,589         | 555           |
|  |                                       | <b>2020</b> | 10,148              | 3,282                        | 558          | 773          | 3,640         | 1,895         |
|  |                                       | <b>2030</b> | 32,838              | 15,990                       | 1,584        | 1,256        | 7,127         | 6,881         |
|  | <b>371</b>                            | <b>2005</b> | 5                   | 0                            | 0            | 0            | 0             | 5             |
|  |                                       | <b>2010</b> | 17                  | 5                            | 0            | 0            | 3             | 9             |
|  |                                       | <b>2020</b> | 29                  | 10                           | 0            | 0            | 6             | 13            |
|  |                                       | <b>2030</b> | 1,319               | 449                          | 0            | 0            | 263           | 607           |
|  | <b>374</b>                            | <b>2005</b> | 0                   | 0                            | 0            | 0            | 0             | 0             |
|  |                                       | <b>2010</b> | 0                   | 0                            | 0            | 0            | 0             | 0             |
|  |                                       | <b>2020</b> | 42                  | 18                           | 0            | 0            | 6             | 18            |
|  |                                       | <b>2030</b> | 68                  | 29                           | 0            | 0            | 12            | 27            |
| <b>County Areas</b>                    |                                       | <b>2005</b> | <b>24,051</b>       | <b>7,465</b>                 | <b>1,045</b> | <b>1,060</b> | <b>3,249</b>  | <b>11,232</b> |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>27,353</b>       | <b>8,736</b>                 | <b>1,315</b> | <b>1,210</b> | <b>4,156</b>  | <b>11,936</b> |
|  |                                       | <b>2020</b> | <b>39,281</b>       | <b>14,150</b>                | <b>1,845</b> | <b>1,620</b> | <b>6,310</b>  | <b>15,356</b> |
|  |                                       | <b>2030</b> | <b>70,428</b>       | <b>29,915</b>                | <b>2,871</b> | <b>2,269</b> | <b>11,600</b> | <b>23,773</b> |
| <b>El Mirage</b>                       |                                       |             |                     |                              |              |              |               |               |
|  | <b>235</b>                            | <b>2005</b> | 2,858               | 358                          | 9            | 818          | 1,062         | 611           |
|  |                                       | <b>2010</b> | 5,001               | 911                          | 53           | 1,492        | 1,622         | 923           |
|  |                                       | <b>2020</b> | 9,276               | 2,038                        | 53           | 3,679        | 2,012         | 1,494         |
|  |                                       | <b>2030</b> | 11,528              | 2,709                        | 53           | 5,001        | 2,508         | 1,257         |
| <b>El Mirage</b>                       |                                       | <b>2005</b> | <b>2,858</b>        | <b>358</b>                   | <b>9</b>     | <b>818</b>   | <b>1,062</b>  | <b>611</b>    |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>5,001</b>        | <b>911</b>                   | <b>53</b>    | <b>1,492</b> | <b>1,622</b>  | <b>923</b>    |
|  |                                       | <b>2020</b> | <b>9,276</b>        | <b>2,038</b>                 | <b>53</b>    | <b>3,679</b> | <b>2,012</b>  | <b>1,494</b>  |
|  |                                       | <b>2030</b> | <b>11,528</b>       | <b>2,709</b>                 | <b>53</b>    | <b>5,001</b> | <b>2,508</b>  | <b>1,257</b>  |

(\*) Note: Other employment includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year        | Total<br>Employment | Components of Employment (*) |            |            |              |              |
|--|---------------------------------------|-------------|---------------------|------------------------------|------------|------------|--------------|--------------|
|  |                                       |             |                     | Retail                       | Office     | Industrial | Public       | Other        |
| <b>Fort McDowell</b>                   |                                       |             |                     |                              |            |            |              |              |
|  | 251                                   | 2005        | 1,228               | 762                          | 0          | 20         | 49           | 397          |
|  |                                       | 2010        | 1,323               | 794                          | 0          | 20         | 49           | 460          |
|  |                                       | 2020        | 1,647               | 997                          | 0          | 20         | 49           | 581          |
|  |                                       | 2030        | 1,959               | 1,286                        | 0          | 20         | 49           | 604          |
| <b>Fort McDowell</b>                   |                                       | <b>2005</b> | <b>1,228</b>        | <b>762</b>                   | <b>0</b>   | <b>20</b>  | <b>49</b>    | <b>397</b>   |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>1,323</b>        | <b>794</b>                   | <b>0</b>   | <b>20</b>  | <b>49</b>    | <b>460</b>   |
|  |                                       | <b>2020</b> | <b>1,647</b>        | <b>997</b>                   | <b>0</b>   | <b>20</b>  | <b>49</b>    | <b>581</b>   |
|  |                                       | <b>2030</b> | <b>1,959</b>        | <b>1,286</b>                 | <b>0</b>   | <b>20</b>  | <b>49</b>    | <b>604</b>   |
| <b>Fountain Hills</b>                  |                                       |             |                     |                              |            |            |              |              |
|  | 250                                   | 2005        | 7,492               | 3,884                        | 297        | 504        | 855          | 1,952        |
|  |                                       | 2010        | 9,954               | 4,703                        | 546        | 709        | 1,442        | 2,554        |
|  |                                       | 2020        | 11,569              | 5,204                        | 726        | 709        | 1,929        | 3,001        |
|  |                                       | 2030        | 11,573              | 5,232                        | 726        | 741        | 1,985        | 2,889        |
| <b>Fountain Hills</b>                  |                                       | <b>2005</b> | <b>7,492</b>        | <b>3,884</b>                 | <b>297</b> | <b>504</b> | <b>855</b>   | <b>1,952</b> |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>9,954</b>        | <b>4,703</b>                 | <b>546</b> | <b>709</b> | <b>1,442</b> | <b>2,554</b> |
|  |                                       | <b>2020</b> | <b>11,569</b>       | <b>5,204</b>                 | <b>726</b> | <b>709</b> | <b>1,929</b> | <b>3,001</b> |
|  |                                       | <b>2030</b> | <b>11,573</b>       | <b>5,232</b>                 | <b>726</b> | <b>741</b> | <b>1,985</b> | <b>2,889</b> |
| <b>Gila Bend</b>                       |                                       |             |                     |                              |            |            |              |              |
|  | 331                                   | 2005        | 1,077               | 388                          | 0          | 231        | 319          | 139          |
|  |                                       | 2010        | 1,691               | 591                          | 32         | 331        | 461          | 276          |
|  |                                       | 2020        | 2,760               | 832                          | 115        | 481        | 612          | 720          |
|  |                                       | 2030        | 6,824               | 2,638                        | 212        | 801        | 854          | 2,319        |
| <b>Gila Bend</b>                       |                                       | <b>2005</b> | <b>1,077</b>        | <b>388</b>                   | <b>0</b>   | <b>231</b> | <b>319</b>   | <b>139</b>   |
| <b>Total</b>                           |                                       | <b>2010</b> | <b>1,691</b>        | <b>591</b>                   | <b>32</b>  | <b>331</b> | <b>461</b>   | <b>276</b>   |
|  |                                       | <b>2020</b> | <b>2,760</b>        | <b>832</b>                   | <b>115</b> | <b>481</b> | <b>612</b>   | <b>720</b>   |
|  |                                       | <b>2030</b> | <b>6,824</b>        | <b>2,638</b>                 | <b>212</b> | <b>801</b> | <b>854</b>   | <b>2,319</b> |

(\*) Note: Other employment includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |            |              |            |              |
|--|---------------------------------------|------|---------------------|------------------------------|------------|--------------|------------|--------------|
|  |                                       |      |                     | Retail                       | Office     | Industrial   | Public     | Other        |
| <b>Gila River</b>                      |                                       |      |                     |                              |            |              |            |              |
|  | 324                                   | 2005 | 4,334               | 884                          | 0          | 2,077        | 109        | 1,264        |
|  |                                       | 2010 | 5,422               | 1,082                        | 0          | 2,311        | 159        | 1,870        |
|  |                                       | 2020 | 7,612               | 1,885                        | 450        | 2,933        | 220        | 2,124        |
|  |                                       | 2030 | 14,448              | 5,624                        | 916        | 3,244        | 288        | 4,376        |
| Gila River<br>Total                    |                                       | 2005 | <b>4,334</b>        | <b>884</b>                   | <b>0</b>   | <b>2,077</b> | <b>109</b> | <b>1,264</b> |
|  |                                       | 2010 | <b>5,422</b>        | <b>1,082</b>                 | <b>0</b>   | <b>2,311</b> | <b>159</b> | <b>1,870</b> |
|  |                                       | 2020 | <b>7,612</b>        | <b>1,885</b>                 | <b>450</b> | <b>2,933</b> | <b>220</b> | <b>2,124</b> |
|  |                                       | 2030 | <b>14,448</b>       | <b>5,624</b>                 | <b>916</b> | <b>3,244</b> | <b>288</b> | <b>4,376</b> |
| <b>Gilbert</b>                         |                                       |      |                     |                              |            |              |            |              |
|  | 311                                   | 2005 | 35,573              | 14,066                       | 1,771      | 11,235       | 5,618      | 2,883        |
|  |                                       | 2010 | 41,142              | 15,538                       | 2,672      | 13,778       | 5,656      | 3,498        |
|  |                                       | 2020 | 47,104              | 15,999                       | 4,396      | 16,627       | 6,707      | 3,375        |
|  |                                       | 2030 | 49,591              | 16,036                       | 5,381      | 18,053       | 7,200      | 2,921        |
|  | 312                                   | 2005 | 4,748               | 1,412                        | 218        | 537          | 1,317      | 1,264        |
|  |                                       | 2010 | 8,674               | 3,196                        | 815        | 886          | 1,489      | 2,288        |
|  |                                       | 2020 | 13,038              | 4,620                        | 1,956      | 1,311        | 1,631      | 3,520        |
|  |                                       | 2030 | 14,279              | 4,847                        | 2,636      | 2,045        | 1,760      | 2,991        |
|  | 318                                   | 2005 | 9,335               | 5,584                        | 70         | 455          | 1,222      | 2,004        |
|  |                                       | 2010 | 18,707              | 9,883                        | 2,610      | 997          | 1,795      | 3,422        |
|  |                                       | 2020 | 34,510              | 15,698                       | 8,505      | 2,310        | 3,011      | 4,986        |
|  |                                       | 2030 | 41,215              | 16,446                       | 13,220     | 3,273        | 4,264      | 4,012        |
|  | 319                                   | 2005 | 4,925               | 1,527                        | 13         | 357          | 997        | 2,031        |
|  |                                       | 2010 | 8,348               | 2,770                        | 240        | 841          | 1,832      | 2,665        |
|  |                                       | 2020 | 15,729              | 4,712                        | 2,200      | 1,895        | 2,554      | 4,368        |
|  |                                       | 2030 | 16,159              | 4,880                        | 2,919      | 2,472        | 2,743      | 3,145        |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |        |            |        |        |
|--|---------------------------------------|------|---------------------|------------------------------|--------|------------|--------|--------|
|  |                                       |      |                     | Retail                       | Office | Industrial | Public | Other  |
| <b>Gilbert</b>                         |                                       |      |                     |                              |        |            |        |        |
|  | 329                                   | 2005 | 1,711               | 79                           | 57     | 156        | 127    | 1,292  |
|  |                                       | 2010 | 4,981               | 1,878                        | 57     | 156        | 947    | 1,943  |
|  |                                       | 2020 | 7,603               | 3,297                        | 57     | 156        | 1,477  | 2,616  |
|  |                                       | 2030 | 7,548               | 3,471                        | 57     | 156        | 1,581  | 2,283  |
| Gilbert<br>Total                       |                                       | 2005 | 56,292              | 22,668                       | 2,129  | 12,740     | 9,281  | 9,474  |
|  |                                       | 2010 | 81,852              | 33,265                       | 6,394  | 16,658     | 11,719 | 13,816 |
|  |                                       | 2020 | 117,984             | 44,326                       | 17,114 | 22,299     | 15,380 | 18,865 |
|  |                                       | 2030 | 128,792             | 45,680                       | 24,213 | 25,999     | 17,548 | 15,352 |
| <b>Glendale</b>                        |                                       |      |                     |                              |        |            |        |        |
|  | 222                                   | 2005 | 18,598              | 10,532                       | 791    | 812        | 3,122  | 3,341  |
|  |                                       | 2010 | 22,961              | 11,392                       | 2,553  | 1,108      | 3,632  | 4,276  |
|  |                                       | 2020 | 24,554              | 11,485                       | 4,167  | 1,207      | 3,748  | 3,947  |
|  |                                       | 2030 | 24,303              | 11,494                       | 4,167  | 1,207      | 3,764  | 3,671  |
|  | 240                                   | 2005 | 16,834              | 5,427                        | 2,211  | 1,881      | 2,876  | 4,439  |
|  |                                       | 2010 | 21,586              | 5,904                        | 3,891  | 3,672      | 3,008  | 5,111  |
|  |                                       | 2020 | 22,147              | 5,904                        | 4,746  | 3,898      | 3,008  | 4,591  |
|  |                                       | 2030 | 22,002              | 5,904                        | 4,746  | 3,898      | 3,008  | 4,446  |
|  | 254                                   | 2005 | 440                 | 51                           | 0      | 3          | 0      | 386    |
|  |                                       | 2010 | 3,620               | 632                          | 0      | 646        | 641    | 1,701  |
|  |                                       | 2020 | 15,704              | 4,517                        | 3,756  | 1,459      | 1,368  | 4,604  |
|  |                                       | 2030 | 21,250              | 6,205                        | 7,270  | 1,733      | 2,056  | 3,986  |
|  | 255                                   | 2005 | 1,904               | 532                          | 12     | 218        | 527    | 615    |
|  |                                       | 2010 | 2,874               | 773                          | 34     | 580        | 643    | 844    |
|  |                                       | 2020 | 7,918               | 2,168                        | 65     | 3,572      | 693    | 1,420  |
|  |                                       | 2030 | 9,619               | 2,287                        | 65     | 5,297      | 754    | 1,216  |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |               |               |               |               |
|--|---------------------------------------|------|---------------------|------------------------------|---------------|---------------|---------------|---------------|
|  |                                       |      |                     | Retail                       | Office        | Industrial    | Public        | Other         |
| <b>Glendale</b>                        |                                       |      |                     |                              |               |               |               |               |
|  | 256                                   | 2005 | 8,707               | 0                            | 0             | 0             | 8,612         | 95            |
|  |                                       | 2010 | 8,705               | 0                            | 0             | 51            | 8,612         | 42            |
|  |                                       | 2020 | 8,697               | 0                            | 0             | 51            | 8,612         | 34            |
|  |                                       | 2030 | 8,713               | 0                            | 0             | 65            | 8,612         | 36            |
|  | 257                                   | 2005 | 12,039              | 2,026                        | 110           | 3,143         | 1,411         | 5,349         |
|  |                                       | 2010 | 19,155              | 4,285                        | 3,451         | 5,142         | 1,907         | 4,370         |
|  |                                       | 2020 | 36,817              | 8,572                        | 10,181        | 8,825         | 2,414         | 6,825         |
|  |                                       | 2030 | 43,250              | 8,902                        | 14,592        | 11,084        | 2,936         | 5,736         |
|  | 258                                   | 2005 | 29,650              | 11,948                       | 1,490         | 7,103         | 6,011         | 3,098         |
|  |                                       | 2010 | 38,209              | 13,816                       | 3,359         | 9,875         | 7,099         | 4,060         |
|  |                                       | 2020 | 40,671              | 14,059                       | 3,359         | 11,261        | 8,621         | 3,371         |
|  |                                       | 2030 | 42,361              | 14,125                       | 3,359         | 11,956        | 9,855         | 3,066         |
| <b>Glendale<br/>Total</b>              |                                       | 2005 | <b>88,172</b>       | <b>30,516</b>                | <b>4,614</b>  | <b>13,160</b> | <b>22,559</b> | <b>17,323</b> |
|  |                                       | 2010 | <b>117,110</b>      | <b>36,802</b>                | <b>13,288</b> | <b>21,074</b> | <b>25,542</b> | <b>20,404</b> |
|  |                                       | 2020 | <b>156,508</b>      | <b>46,705</b>                | <b>26,274</b> | <b>30,273</b> | <b>28,464</b> | <b>24,792</b> |
|  |                                       | 2030 | <b>171,498</b>      | <b>48,917</b>                | <b>34,199</b> | <b>35,240</b> | <b>30,985</b> | <b>22,157</b> |
| <b>Goodyear</b>                        |                                       |      |                     |                              |               |               |               |               |
|  | 265                                   | 2005 | 6,760               | 2,496                        | 90            | 479           | 1,330         | 2,365         |
|  |                                       | 2010 | 11,053              | 4,759                        | 226           | 903           | 2,060         | 3,105         |
|  |                                       | 2020 | 19,968              | 10,420                       | 226           | 2,209         | 2,488         | 4,625         |
|  |                                       | 2030 | 24,466              | 12,616                       | 226           | 4,858         | 2,543         | 4,223         |
|  | 280                                   | 2005 | 7,209               | 1,500                        | 143           | 2,693         | 1,526         | 1,347         |
|  |                                       | 2010 | 10,337              | 2,353                        | 246           | 3,664         | 2,244         | 1,830         |
|  |                                       | 2020 | 23,348              | 6,753                        | 1,226         | 6,449         | 4,275         | 4,645         |
|  |                                       | 2030 | 35,875              | 9,535                        | 2,044         | 11,749        | 4,834         | 7,713         |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |              |               |               |               |
|--|---------------------------------------|------|---------------------|------------------------------|--------------|---------------|---------------|---------------|
|  |                                       |      |                     | Retail                       | Office       | Industrial    | Public        | Other         |
| <i>Goodyear</i>                        |                                       |      |                     |                              |              |               |               |               |
| 281                                    |                                       | 2005 | 700                 | 0                            | 0            | 661           | 0             | 39            |
|  |                                       | 2010 | 2,627               | 0                            | 418          | 1,883         | 13            | 313           |
|  |                                       | 2020 | 6,395               | 75                           | 879          | 4,321         | 175           | 945           |
|  |                                       | 2030 | 12,369              | 549                          | 1,296        | 7,055         | 405           | 3,064         |
| 302                                    |                                       | 2005 | 1,108               | 33                           | 0            | 5             | 641           | 429           |
|  |                                       | 2010 | 3,669               | 1,253                        | 0            | 5             | 1,330         | 1,081         |
|  |                                       | 2020 | 9,894               | 4,264                        | 0            | 105           | 2,104         | 3,421         |
|  |                                       | 2030 | 12,807              | 5,122                        | 0            | 155           | 2,600         | 4,930         |
| 323                                    |                                       | 2005 | 12                  | 0                            | 0            | 0             | 0             | 12            |
|  |                                       | 2010 | 155                 | 80                           | 0            | 0             | 25            | 50            |
|  |                                       | 2020 | 8,590               | 4,743                        | 0            | 50            | 842           | 2,955         |
|  |                                       | 2030 | 15,211              | 8,546                        | 0            | 75            | 1,530         | 5,060         |
| 373                                    |                                       | 2005 | 5                   | 0                            | 0            | 0             | 0             | 5             |
|  |                                       | 2010 | 326                 | 115                          | 0            | 50            | 51            | 110           |
|  |                                       | 2020 | 5,427               | 1,768                        | 80           | 175           | 1,633         | 1,771         |
|  |                                       | 2030 | 29,608              | 11,819                       | 2,853        | 238           | 6,182         | 8,516         |
| <b>Goodyear<br/>Total</b>              |                                       | 2005 | <b>15,794</b>       | <b>4,029</b>                 | <b>233</b>   | <b>3,838</b>  | <b>3,497</b>  | <b>4,197</b>  |
|  |                                       | 2010 | <b>28,167</b>       | <b>8,560</b>                 | <b>890</b>   | <b>6,505</b>  | <b>5,723</b>  | <b>6,489</b>  |
|  |                                       | 2020 | <b>73,622</b>       | <b>28,023</b>                | <b>2,411</b> | <b>13,309</b> | <b>11,517</b> | <b>18,362</b> |
|  |                                       | 2030 | <b>130,336</b>      | <b>48,187</b>                | <b>6,419</b> | <b>24,130</b> | <b>18,094</b> | <b>33,506</b> |
| <i>Guadalupe</i>                       |                                       |      |                     |                              |              |               |               |               |
| 307                                    |                                       | 2005 | 1,033               | 467                          | 3            | 170           | 208           | 185           |
|  |                                       | 2010 | 1,387               | 611                          | 15           | 270           | 228           | 263           |
|  |                                       | 2020 | 1,467               | 611                          | 15           | 355           | 258           | 228           |
|  |                                       | 2030 | 1,481               | 611                          | 15           | 380           | 262           | 213           |

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May, 2007

| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |        |            |        |       |
|--|---------------------------------------|------|---------------------|------------------------------|--------|------------|--------|-------|
|  |                                       |      |                     | Retail                       | Office | Industrial | Public | Other |
| <b>Guadalupe</b>                       |                                       |      |                     |                              |        |            |        |       |
| Guadalupe<br>Total                     |                                       | 2005 | 1,033               | 467                          | 3      | 170        | 208    | 185   |
|  |                                       | 2010 | 1,387               | 611                          | 15     | 270        | 228    | 263   |
|  |                                       | 2020 | 1,467               | 611                          | 15     | 355        | 258    | 228   |
|  |                                       | 2030 | 1,481               | 611                          | 15     | 380        | 262    | 213   |
| <b>Litchfield Park</b>                 |                                       |      |                     |                              |        |            |        |       |
|  | 266                                   | 2005 | 1,710               | 257                          | 34     | 4          | 466    | 949   |
|  |                                       | 2010 | 2,405               | 537                          | 81     | 4          | 582    | 1,201 |
|  |                                       | 2020 | 3,200               | 920                          | 81     | 4          | 619    | 1,576 |
|  |                                       | 2030 | 4,280               | 1,081                        | 81     | 4          | 624    | 2,490 |
| Litchfield Park<br>Total               |                                       | 2005 | 1,710               | 257                          | 34     | 4          | 466    | 949   |
|  |                                       | 2010 | 2,405               | 537                          | 81     | 4          | 582    | 1,201 |
|  |                                       | 2020 | 3,200               | 920                          | 81     | 4          | 619    | 1,576 |
|  |                                       | 2030 | 4,280               | 1,081                        | 81     | 4          | 624    | 2,490 |
| <b>Mesa</b>                            |                                       |      |                     |                              |        |            |        |       |
|  | 289                                   | 2005 | 22,747              | 9,841                        | 243    | 5,708      | 3,497  | 3,458 |
|  |                                       | 2010 | 28,758              | 12,738                       | 835    | 6,616      | 4,167  | 4,402 |
|  |                                       | 2020 | 32,873              | 14,583                       | 2,339  | 6,616      | 4,345  | 4,990 |
|  |                                       | 2030 | 33,713              | 14,671                       | 3,075  | 6,652      | 4,506  | 4,809 |
|  | 290                                   | 2005 | 32,170              | 12,970                       | 4,630  | 1,997      | 9,206  | 3,367 |
|  |                                       | 2010 | 34,691              | 13,709                       | 5,179  | 2,094      | 9,899  | 3,810 |
|  |                                       | 2020 | 38,852              | 14,568                       | 7,498  | 2,094      | 10,484 | 4,208 |
|  |                                       | 2030 | 39,199              | 14,802                       | 7,827  | 2,094      | 10,676 | 3,800 |
|  | 291                                   | 2005 | 10,263              | 3,050                        | 692    | 1,234      | 3,292  | 1,995 |
|  |                                       | 2010 | 12,704              | 3,765                        | 898    | 2,219      | 3,442  | 2,380 |
|  |                                       | 2020 | 17,131              | 4,444                        | 2,257  | 3,633      | 3,776  | 3,021 |
|  |                                       | 2030 | 20,806              | 4,503                        | 4,966  | 4,340      | 4,121  | 2,876 |

(\*) Note: Other employment includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.



| Municipal Planning Area (MPA) | Regional Analysis Zone (RAZ) | Year | Total Employment | Components of Employment (*) |        |            |        |       |
|-------------------------------|------------------------------|------|------------------|------------------------------|--------|------------|--------|-------|
|                               |                              |      |                  | Retail                       | Office | Industrial | Public | Other |
| <b>Mesa</b>                   |                              |      |                  |                              |        |            |        |       |
| 292                           | 2005                         | 2005 | 12,375           | 1,862                        | 442    | 6,112      | 1,101  | 2,858 |
|                               |                              | 2010 | 16,949           | 2,333                        | 821    | 8,358      | 1,771  | 3,666 |
|                               |                              | 2020 | 20,264           | 2,954                        | 1,947  | 9,981      | 2,188  | 3,194 |
|                               |                              | 2030 | 22,154           | 3,007                        | 2,907  | 10,794     | 2,419  | 3,027 |
| 293                           | 2005                         | 2005 | 9,154            | 3,268                        | 932    | 847        | 2,835  | 1,272 |
|                               |                              | 2010 | 12,220           | 3,988                        | 1,059  | 1,993      | 3,448  | 1,732 |
|                               |                              | 2020 | 12,974           | 4,480                        | 1,059  | 2,366      | 3,682  | 1,387 |
|                               |                              | 2030 | 13,074           | 4,518                        | 1,059  | 2,407      | 3,814  | 1,276 |
| 294                           | 2005                         | 2005 | 740              | 182                          | 0      | 12         | 166    | 380   |
|                               |                              | 2010 | 2,064            | 468                          | 102    | 12         | 796    | 686   |
|                               |                              | 2020 | 2,610            | 803                          | 102    | 12         | 1,016  | 677   |
|                               |                              | 2030 | 2,579            | 828                          | 102    | 12         | 1,044  | 593   |
| 295                           | 2005                         | 2005 | 2,216            | 1,102                        | 2      | 41         | 650    | 421   |
|                               |                              | 2010 | 2,793            | 1,369                        | 37     | 41         | 713    | 633   |
|                               |                              | 2020 | 3,833            | 1,756                        | 363    | 41         | 825    | 848   |
|                               |                              | 2030 | 3,904            | 1,764                        | 554    | 41         | 826    | 719   |
| 298                           | 2005                         | 2005 | 10,806           | 6,533                        | 1,188  | 321        | 1,291  | 1,473 |
|                               |                              | 2010 | 13,625           | 7,914                        | 1,774  | 423        | 1,792  | 1,722 |
|                               |                              | 2020 | 14,329           | 7,937                        | 2,344  | 623        | 1,983  | 1,442 |
|                               |                              | 2030 | 14,353           | 7,955                        | 2,422  | 623        | 2,072  | 1,281 |
| 299                           | 2005                         | 2005 | 21,788           | 11,829                       | 1,806  | 973        | 1,353  | 5,827 |
|                               |                              | 2010 | 27,331           | 13,238                       | 4,243  | 1,816      | 1,353  | 6,681 |
|                               |                              | 2020 | 30,483           | 14,019                       | 6,251  | 2,244      | 1,581  | 6,388 |
|                               |                              | 2030 | 33,347           | 14,082                       | 8,381  | 2,884      | 1,694  | 6,306 |
| 300                           | 2005                         | 2005 | 3,665            | 1,501                        | 2      | 127        | 812    | 1,223 |
|                               |                              | 2010 | 8,982            | 2,774                        | 2,107  | 917        | 932    | 2,252 |
|                               |                              | 2020 | 15,273           | 4,914                        | 4,534  | 1,667      | 1,356  | 2,802 |
|                               |                              | 2030 | 20,182           | 5,080                        | 8,535  | 2,042      | 1,825  | 2,700 |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |               |               |               |               |
|--|---------------------------------------|------|---------------------|------------------------------|---------------|---------------|---------------|---------------|
|  |                                       |      |                     | Retail                       | Office        | Industrial    | Public        | Other         |
| <b>Mesa</b>                            |                                       |      |                     |                              |               |               |               |               |
|  | 309                                   | 2005 | 40,943              | 16,055                       | 9,279         | 4,356         | 5,237         | 6,016         |
|  |                                       | 2010 | 45,960              | 17,177                       | 10,898        | 5,154         | 5,696         | 7,035         |
|  |                                       | 2020 | 47,061              | 17,995                       | 11,071        | 5,733         | 5,806         | 6,456         |
|  |                                       | 2030 | 46,998              | 18,058                       | 11,071        | 5,748         | 5,820         | 6,301         |
|  | 320                                   | 2005 | 1,651               | 0                            | 0             | 261           | 635           | 755           |
|  |                                       | 2010 | 1,997               | 50                           | 260           | 277           | 974           | 436           |
|  |                                       | 2020 | 3,344               | 141                          | 260           | 1,285         | 1,205         | 453           |
|  |                                       | 2030 | 3,814               | 160                          | 260           | 1,789         | 1,235         | 370           |
|  | 321                                   | 2005 | 2,883               | 851                          | 288           | 56            | 505           | 1,183         |
|  |                                       | 2010 | 4,571               | 1,852                        | 499           | 510           | 548           | 1,162         |
|  |                                       | 2020 | 16,300              | 6,873                        | 3,973         | 1,487         | 1,361         | 2,606         |
|  |                                       | 2030 | 20,827              | 7,259                        | 7,411         | 1,975         | 2,190         | 1,992         |
|  | 322                                   | 2005 | 3,508               | 496                          | 251           | 1,207         | 485           | 1,069         |
|  |                                       | 2010 | 5,440               | 1,103                        | 691           | 1,915         | 604           | 1,127         |
|  |                                       | 2020 | 19,909              | 4,150                        | 3,984         | 6,981         | 846           | 3,948         |
|  |                                       | 2030 | 31,080              | 5,156                        | 10,267        | 9,484         | 2,094         | 4,079         |
| <b>Mesa<br/>Total</b>                  |                                       | 2005 | <b>174,909</b>      | <b>69,540</b>                | <b>19,755</b> | <b>23,252</b> | <b>31,065</b> | <b>31,297</b> |
|  |                                       | 2010 | <b>218,085</b>      | <b>82,478</b>                | <b>29,403</b> | <b>32,345</b> | <b>36,135</b> | <b>37,724</b> |
|  |                                       | 2020 | <b>275,236</b>      | <b>99,617</b>                | <b>47,982</b> | <b>44,763</b> | <b>40,454</b> | <b>42,420</b> |
|  |                                       | 2030 | <b>306,030</b>      | <b>101,843</b>               | <b>68,837</b> | <b>50,885</b> | <b>44,336</b> | <b>40,129</b> |
| <b>Paradise Valley</b>                 |                                       |      |                     |                              |               |               |               |               |
|  | 262                                   | 2005 | 5,769               | 197                          | 3             | 78            | 1,460         | 4,031         |
|  |                                       | 2010 | 6,717               | 386                          | 3             | 78            | 1,509         | 4,741         |
|  |                                       | 2020 | 7,707               | 495                          | 3             | 78            | 1,521         | 5,610         |
|  |                                       | 2030 | 8,734               | 511                          | 3             | 78            | 1,527         | 6,615         |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |        |            |        |       |
|--|---------------------------------------|------|---------------------|------------------------------|--------|------------|--------|-------|
|  |                                       |      |                     | Retail                       | Office | Industrial | Public | Other |
| <b>Paradise Valley</b>                 |                                       |      |                     |                              |        |            |        |       |
| Paradise Valley<br>Total               |                                       | 2005 | 5,769               | 197                          | 3      | 78         | 1,460  | 4,031 |
|  |                                       | 2010 | 6,717               | 386                          | 3      | 78         | 1,509  | 4,741 |
|  |                                       | 2020 | 7,707               | 495                          | 3      | 78         | 1,521  | 5,610 |
|  |                                       | 2030 | 8,734               | 511                          | 3      | 78         | 1,527  | 6,615 |
| <b>Peoria</b>                          |                                       |      |                     |                              |        |            |        |       |
|  | 202                                   | 2005 | 0                   | 0                            | 0      | 0          | 0      | 0     |
|  |                                       | 2010 | 1,174               | 411                          | 297    | 0          | 155    | 311   |
|  |                                       | 2020 | 3,219               | 1,129                        | 366    | 0          | 702    | 1,022 |
|  |                                       | 2030 | 8,084               | 2,926                        | 1,366  | 200        | 1,282  | 2,310 |
|  | 213                                   | 2005 | 915                 | 0                            | 12     | 5          | 0      | 898   |
|  |                                       | 2010 | 2,858               | 544                          | 648    | 58         | 426    | 1,182 |
|  |                                       | 2020 | 11,474              | 3,716                        | 2,618  | 243        | 1,311  | 3,586 |
|  |                                       | 2030 | 18,806              | 4,779                        | 4,818  | 2,836      | 2,328  | 4,045 |
|  | 214                                   | 2005 | 1,524               | 225                          | 0      | 4          | 298    | 997   |
|  |                                       | 2010 | 5,834               | 1,818                        | 436    | 322        | 1,373  | 1,885 |
|  |                                       | 2020 | 16,525              | 5,994                        | 2,784  | 386        | 2,686  | 4,675 |
|  |                                       | 2030 | 24,654              | 8,308                        | 5,784  | 969        | 3,908  | 5,685 |
|  | 215                                   | 2005 | 6,436               | 2,800                        | 171    | 440        | 1,052  | 1,973 |
|  |                                       | 2010 | 9,178               | 4,400                        | 171    | 440        | 1,551  | 2,616 |
|  |                                       | 2020 | 9,649               | 4,667                        | 252    | 472        | 1,558  | 2,700 |
|  |                                       | 2030 | 9,447               | 4,697                        | 333    | 504        | 1,584  | 2,329 |
|  | 238                                   | 2005 | 16,477              | 9,183                        | 265    | 470        | 2,380  | 4,179 |
|  |                                       | 2010 | 19,940              | 9,586                        | 1,327  | 1,929      | 2,661  | 4,437 |
|  |                                       | 2020 | 25,181              | 10,903                       | 2,902  | 2,917      | 3,730  | 4,729 |
|  |                                       | 2030 | 25,001              | 11,006                       | 2,902  | 3,127      | 3,864  | 4,102 |

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| Municipal Planning Area (MPA) | Regional Analysis Zone (RAZ) | Year        | Total Employment | Components of Employment (*) |               |               |               |               |
|-------------------------------|------------------------------|-------------|------------------|------------------------------|---------------|---------------|---------------|---------------|
|                               |                              |             |                  | Retail                       | Office        | Industrial    | Public        | Other         |
| <b>Peoria</b>                 |                              |             |                  |                              |               |               |               |               |
|                               | 239                          | 2005        | 9,189            | 2,771                        | 62            | 3,091         | 2,340         | 925           |
|                               |                              | 2010        | 14,194           | 4,144                        | 1,398         | 4,078         | 2,957         | 1,617         |
|                               |                              | 2020        | 19,469           | 5,170                        | 2,930         | 5,963         | 3,571         | 1,835         |
|                               |                              | 2030        | 23,202           | 5,250                        | 4,612         | 7,055         | 4,420         | 1,865         |
|                               | 344                          | 2005        | 90               | 30                           | 0             | 0             | 47            | 13            |
|                               |                              | 2010        | 219              | 31                           | 0             | 0             | 49            | 139           |
|                               |                              | 2020        | 2,451            | 1,171                        | 0             | 109           | 82            | 1,089         |
|                               |                              | 2030        | 8,667            | 3,924                        | 100           | 112           | 602           | 3,929         |
| <b>Peoria Total</b>           |                              | <b>2005</b> | <b>34,631</b>    | <b>15,009</b>                | <b>510</b>    | <b>4,010</b>  | <b>6,117</b>  | <b>8,985</b>  |
|                               |                              | <b>2010</b> | <b>53,397</b>    | <b>20,934</b>                | <b>4,277</b>  | <b>6,827</b>  | <b>9,172</b>  | <b>12,187</b> |
|                               |                              | <b>2020</b> | <b>87,968</b>    | <b>32,750</b>                | <b>11,852</b> | <b>10,090</b> | <b>13,640</b> | <b>19,636</b> |
|                               |                              | <b>2030</b> | <b>117,861</b>   | <b>40,890</b>                | <b>19,915</b> | <b>14,803</b> | <b>17,988</b> | <b>24,265</b> |
| <b>Phoenix</b>                |                              |             |                  |                              |               |               |               |               |
|                               | 203                          | 2005        | 338              | 41                           | 55            | 0             | 87            | 155           |
|                               |                              | 2010        | 567              | 117                          | 55            | 23            | 130           | 242           |
|                               |                              | 2020        | 2,205            | 980                          | 55            | 65            | 282           | 823           |
|                               |                              | 2030        | 3,352            | 1,501                        | 155           | 136           | 444           | 1,116         |
|                               | 205                          | 2005        | 2,095            | 1,216                        | 27            | 116           | 401           | 335           |
|                               |                              | 2010        | 3,152            | 1,555                        | 192           | 316           | 471           | 618           |
|                               |                              | 2020        | 7,830            | 4,279                        | 749           | 808           | 734           | 1,260         |
|                               |                              | 2030        | 26,581           | 14,266                       | 2,049         | 2,541         | 1,016         | 6,709         |
|                               | 206                          | 2005        | 4,915            | 810                          | 798           | 349           | 960           | 1,998         |
|                               |                              | 2010        | 6,829            | 1,611                        | 1,116         | 349           | 1,383         | 2,370         |
|                               |                              | 2020        | 10,049           | 3,420                        | 1,891         | 349           | 1,514         | 2,875         |
|                               |                              | 2030        | 13,488           | 4,041                        | 3,391         | 349           | 1,799         | 3,908         |

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| Municipal Planning Area (MPA) | Regional Analysis Zone (RAZ) | Year   | Total Employment | Components of Employment (*) |        |            |        |       |
|-------------------------------|------------------------------|--------|------------------|------------------------------|--------|------------|--------|-------|
|                               |                              |        |                  | Retail                       | Office | Industrial | Public | Other |
| <i>Phoenix</i>                |                              |        |                  |                              |        |            |        |       |
| 216                           | 2005                         | 0      | 0                | 0                            | 0      | 0          | 0      | 0     |
|                               | 2010                         | 0      | 0                | 0                            | 0      | 0          | 0      | 0     |
|                               | 2020                         | 3,270  | 2,530            | 0                            | 0      | 128        | 612    |       |
|                               | 2030                         | 12,291 | 7,499            | 1,000                        | 500    | 260        | 3,032  |       |
| 217                           | 2005                         | 1,353  | 296              | 0                            | 298    | 0          | 759    |       |
|                               | 2010                         | 4,227  | 1,453            | 260                          | 322    | 209        | 1,983  |       |
|                               | 2020                         | 11,907 | 5,362            | 1,822                        | 413    | 483        | 3,827  |       |
|                               | 2030                         | 14,741 | 5,814            | 3,603                        | 859    | 735        | 3,730  |       |
| 218                           | 2005                         | 2,861  | 1,141            | 266                          | 427    | 324        | 703    |       |
|                               | 2010                         | 3,479  | 1,370            | 266                          | 457    | 437        | 949    |       |
|                               | 2020                         | 4,504  | 1,841            | 266                          | 457    | 604        | 1,336  |       |
|                               | 2030                         | 4,879  | 2,025            | 266                          | 457    | 711        | 1,420  |       |
| 219                           | 2005                         | 1,798  | 618              | 63                           | 460    | 216        | 441    |       |
|                               | 2010                         | 2,011  | 709              | 104                          | 468    | 250        | 480    |       |
|                               | 2020                         | 6,394  | 2,965            | 104                          | 468    | 728        | 2,129  |       |
|                               | 2030                         | 10,551 | 4,822            | 104                          | 468    | 1,519      | 3,638  |       |
| 223                           | 2005                         | 9,820  | 680              | 3,861                        | 1,409  | 2,523      | 1,347  |       |
|                               | 2010                         | 14,083 | 1,304            | 4,204                        | 2,572  | 3,529      | 2,474  |       |
|                               | 2020                         | 16,107 | 1,806            | 4,456                        | 3,154  | 4,442      | 2,249  |       |
|                               | 2030                         | 16,885 | 1,841            | 4,456                        | 3,514  | 5,308      | 1,766  |       |
| 224                           | 2005                         | 19,816 | 5,817            | 8,214                        | 1,632  | 1,671      | 2,482  |       |
|                               | 2010                         | 19,888 | 5,855            | 8,271                        | 1,803  | 1,671      | 2,288  |       |
|                               | 2020                         | 19,841 | 5,870            | 8,271                        | 1,803  | 1,671      | 2,226  |       |
|                               | 2030                         | 19,824 | 5,871            | 8,271                        | 1,803  | 1,671      | 2,208  |       |
| 225                           | 2005                         | 30,157 | 1,082            | 9,438                        | 17,711 | 761        | 1,165  |       |
|                               | 2010                         | 41,816 | 2,642            | 12,984                       | 20,701 | 1,030      | 4,459  |       |
|                               | 2020                         | 48,176 | 3,935            | 16,634                       | 23,570 | 1,132      | 2,905  |       |
|                               | 2030                         | 55,429 | 4,073            | 20,634                       | 26,504 | 1,241      | 2,977  |       |

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| Municipal Planning Area (MPA) | Regional Analysis Zone (RAZ) | Year | Total Employment | Components of Employment (*) |        |            |        |        |
|-------------------------------|------------------------------|------|------------------|------------------------------|--------|------------|--------|--------|
|                               |                              |      |                  | Retail                       | Office | Industrial | Public | Other  |
| <i>Phoenix</i>                |                              |      |                  |                              |        |            |        |        |
| 226                           |                              | 2005 | 18,392           | 6,349                        | 2,388  | 4,892      | 2,864  | 1,899  |
|                               |                              | 2010 | 20,787           | 6,740                        | 2,952  | 5,968      | 3,158  | 1,969  |
|                               |                              | 2020 | 22,773           | 6,869                        | 4,113  | 6,706      | 3,269  | 1,816  |
|                               |                              | 2030 | 23,681           | 6,881                        | 4,966  | 6,822      | 3,369  | 1,643  |
| 227                           |                              | 2005 | 6,698            | 1,752                        | 6      | 204        | 3,421  | 1,315  |
|                               |                              | 2010 | 12,938           | 3,528                        | 1,196  | 418        | 4,166  | 3,630  |
|                               |                              | 2020 | 16,077           | 4,588                        | 1,731  | 825        | 4,514  | 4,419  |
|                               |                              | 2030 | 18,036           | 5,077                        | 1,731  | 1,710      | 4,798  | 4,720  |
| 228                           |                              | 2005 | 7,828            | 2,212                        | 1,261  | 448        | 115    | 3,792  |
|                               |                              | 2010 | 15,513           | 4,145                        | 3,581  | 1,447      | 630    | 5,710  |
|                               |                              | 2020 | 33,621           | 11,195                       | 9,317  | 2,313      | 1,419  | 9,377  |
|                               |                              | 2030 | 42,763           | 12,985                       | 14,315 | 3,175      | 2,152  | 10,136 |
| 241                           |                              | 2005 | 11,412           | 4,678                        | 1,520  | 276        | 3,694  | 1,244  |
|                               |                              | 2010 | 12,192           | 4,878                        | 1,520  | 302        | 4,194  | 1,298  |
|                               |                              | 2020 | 12,802           | 4,920                        | 1,520  | 302        | 4,764  | 1,296  |
|                               |                              | 2030 | 13,051           | 4,923                        | 1,520  | 302        | 5,085  | 1,221  |
| 242                           |                              | 2005 | 9,009            | 5,151                        | 769    | 670        | 857    | 1,562  |
|                               |                              | 2010 | 9,185            | 5,333                        | 769    | 687        | 857    | 1,539  |
|                               |                              | 2020 | 9,341            | 5,418                        | 769    | 696        | 857    | 1,601  |
|                               |                              | 2030 | 9,284            | 5,425                        | 769    | 696        | 857    | 1,537  |
| 243                           |                              | 2005 | 43,025           | 9,470                        | 17,929 | 8,079      | 4,498  | 3,049  |
|                               |                              | 2010 | 47,355           | 10,759                       | 19,036 | 8,395      | 5,323  | 3,842  |
|                               |                              | 2020 | 52,268           | 11,749                       | 21,263 | 8,395      | 5,637  | 5,224  |
|                               |                              | 2030 | 71,341           | 11,826                       | 36,408 | 8,395      | 6,824  | 7,888  |
| 244                           |                              | 2005 | 15,963           | 6,747                        | 2,436  | 1,309      | 1,433  | 4,038  |
|                               |                              | 2010 | 16,313           | 6,986                        | 2,436  | 1,406      | 1,433  | 4,052  |
|                               |                              | 2020 | 16,551           | 7,095                        | 2,436  | 1,406      | 1,433  | 4,181  |
|                               |                              | 2030 | 16,428           | 7,105                        | 2,436  | 1,406      | 1,433  | 4,048  |

(\*) Note: Other employment includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |        |            |        |        |
|--|---------------------------------------|------|---------------------|------------------------------|--------|------------|--------|--------|
|  |                                       |      |                     | Retail                       | Office | Industrial | Public | Other  |
| <i>Phoenix</i>                         |                                       |      |                     |                              |        |            |        |        |
| 245                                    |                                       | 2005 | 16,911              | 7,693                        | 3,698  | 114        | 2,425  | 2,981  |
|  |                                       | 2010 | 17,140              | 7,901                        | 3,698  | 114        | 2,442  | 2,985  |
|  |                                       | 2020 | 17,221              | 7,925                        | 3,698  | 114        | 2,443  | 3,041  |
|  |                                       | 2030 | 17,152              | 7,927                        | 3,698  | 114        | 2,443  | 2,970  |
| 246                                    |                                       | 2005 | 30,791              | 14,579                       | 7,762  | 97         | 2,946  | 5,407  |
|  |                                       | 2010 | 31,933              | 14,749                       | 8,778  | 97         | 2,947  | 5,362  |
|  |                                       | 2020 | 31,742              | 14,749                       | 8,778  | 97         | 2,947  | 5,171  |
|  |                                       | 2030 | 31,757              | 14,770                       | 8,778  | 97         | 2,947  | 5,165  |
| 259                                    |                                       | 2005 | 17,183              | 6,448                        | 1,997  | 3,144      | 3,990  | 1,604  |
|  |                                       | 2010 | 18,180              | 6,848                        | 1,997  | 3,667      | 4,037  | 1,631  |
|  |                                       | 2020 | 18,168              | 6,848                        | 1,997  | 3,683      | 4,037  | 1,603  |
|  |                                       | 2030 | 18,069              | 6,848                        | 1,997  | 3,683      | 4,037  | 1,504  |
| 260                                    |                                       | 2005 | 24,811              | 7,221                        | 9,113  | 435        | 1,837  | 6,205  |
|  |                                       | 2010 | 27,902              | 8,783                        | 9,204  | 435        | 1,952  | 7,528  |
|  |                                       | 2020 | 39,927              | 11,784                       | 11,040 | 435        | 3,941  | 12,727 |
|  |                                       | 2030 | 48,280              | 12,100                       | 14,039 | 435        | 7,596  | 14,110 |
| 261                                    |                                       | 2005 | 35,451              | 8,365                        | 21,309 | 399        | 1,806  | 3,572  |
|  |                                       | 2010 | 35,662              | 8,382                        | 21,656 | 399        | 1,847  | 3,378  |
|  |                                       | 2020 | 35,618              | 8,402                        | 21,656 | 399        | 1,852  | 3,309  |
|  |                                       | 2030 | 35,610              | 8,403                        | 21,656 | 399        | 1,852  | 3,300  |
| 267                                    |                                       | 2005 | 8,846               | 4,808                        | 11     | 450        | 1,558  | 2,019  |
|  |                                       | 2010 | 13,902              | 6,389                        | 311    | 1,526      | 2,403  | 3,273  |
|  |                                       | 2020 | 21,047              | 10,443                       | 1,163  | 2,308      | 3,038  | 4,095  |
|  |                                       | 2030 | 26,320              | 10,756                       | 4,774  | 3,262      | 3,732  | 3,796  |
| 268                                    |                                       | 2005 | 14,646              | 5,744                        | 755    | 2,463      | 3,415  | 2,269  |
|  |                                       | 2010 | 17,775              | 6,925                        | 755    | 4,025      | 3,474  | 2,596  |
|  |                                       | 2020 | 19,026              | 7,151                        | 755    | 5,183      | 3,474  | 2,463  |
|  |                                       | 2030 | 19,696              | 7,169                        | 755    | 5,963      | 3,474  | 2,335  |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |        |            |        |        |
|--|---------------------------------------|------|---------------------|------------------------------|--------|------------|--------|--------|
|  |                                       |      |                     | Retail                       | Office | Industrial | Public | Other  |
| <i>Phoenix</i>                         |                                       |      |                     |                              |        |            |        |        |
| 269                                    |                                       | 2005 | 35,216              | 5,885                        | 258    | 25,265     | 2,780  | 1,028  |
|  |                                       | 2010 | 38,607              | 6,386                        | 261    | 27,206     | 3,212  | 1,542  |
|  |                                       | 2020 | 39,585              | 6,416                        | 392    | 28,183     | 3,376  | 1,218  |
|  |                                       | 2030 | 40,151              | 6,419                        | 392    | 28,821     | 3,397  | 1,122  |
| 270                                    |                                       | 2005 | 84,273              | 11,027                       | 48,746 | 1,712      | 7,306  | 15,482 |
|  |                                       | 2010 | 89,046              | 12,237                       | 51,761 | 1,813      | 7,469  | 15,766 |
|  |                                       | 2020 | 107,042             | 17,753                       | 58,715 | 1,868      | 8,292  | 20,414 |
|  |                                       | 2030 | 117,712             | 18,394                       | 65,198 | 1,868      | 10,649 | 21,603 |
| 271                                    |                                       | 2005 | 49,565              | 10,097                       | 29,374 | 685        | 2,980  | 6,429  |
|  |                                       | 2010 | 51,137              | 10,192                       | 30,931 | 685        | 2,980  | 6,349  |
|  |                                       | 2020 | 50,862              | 10,192                       | 30,931 | 685        | 2,980  | 6,074  |
|  |                                       | 2030 | 50,850              | 10,192                       | 30,931 | 685        | 2,980  | 6,062  |
| 275                                    |                                       | 2005 | 82,552              | 5,819                        | 24,683 | 8,568      | 25,354 | 18,128 |
|  |                                       | 2010 | 89,381              | 6,904                        | 27,301 | 9,853      | 30,263 | 15,060 |
|  |                                       | 2020 | 117,111             | 9,306                        | 40,457 | 10,066     | 39,103 | 18,179 |
|  |                                       | 2030 | 120,047             | 9,490                        | 44,013 | 10,173     | 40,350 | 16,021 |
| 276                                    |                                       | 2005 | 21,055              | 5,494                        | 8,645  | 2,682      | 2,348  | 1,886  |
|  |                                       | 2010 | 25,222              | 6,088                        | 9,934  | 4,233      | 2,553  | 2,414  |
|  |                                       | 2020 | 26,422              | 6,113                        | 10,766 | 4,483      | 2,926  | 2,134  |
|  |                                       | 2030 | 27,288              | 6,166                        | 11,646 | 4,483      | 3,015  | 1,978  |
| 283                                    |                                       | 2005 | 6,100               | 538                          | 0      | 3,506      | 261    | 1,795  |
|  |                                       | 2010 | 11,991              | 2,905                        | 0      | 4,359      | 1,348  | 3,379  |
|  |                                       | 2020 | 17,840              | 5,210                        | 350    | 6,236      | 1,937  | 4,107  |
|  |                                       | 2030 | 20,844              | 5,502                        | 1,525  | 7,175      | 2,577  | 4,065  |
| 284                                    |                                       | 2005 | 19,753              | 1,503                        | 161    | 17,318     | 215    | 556    |
|  |                                       | 2010 | 24,534              | 2,197                        | 209    | 20,335     | 620    | 1,173  |
|  |                                       | 2020 | 28,154              | 2,498                        | 421    | 22,768     | 775    | 1,692  |
|  |                                       | 2030 | 31,355              | 2,522                        | 1,527  | 24,485     | 1,027  | 1,794  |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |        |            |        |        |
|--|---------------------------------------|------|---------------------|------------------------------|--------|------------|--------|--------|
|  |                                       |      |                     | Retail                       | Office | Industrial | Public | Other  |
| <i>Phoenix</i>                         |                                       |      |                     |                              |        |            |        |        |
| 285                                    | 2005                                  | 2005 | 17,318              | 2,345                        | 49     | 7,641      | 6,894  | 389    |
|  |                                       | 2010 | 19,957              | 2,423                        | 49     | 9,658      | 7,212  | 615    |
|  |                                       | 2020 | 21,478              | 2,487                        | 49     | 11,327     | 7,212  | 403    |
|  |                                       | 2030 | 22,611              | 2,492                        | 49     | 12,511     | 7,212  | 347    |
| 286                                    | 2005                                  | 2005 | 14,937              | 2,427                        | 1,008  | 8,618      | 1,895  | 989    |
|  |                                       | 2010 | 19,596              | 3,320                        | 2,027  | 10,516     | 2,128  | 1,605  |
|  |                                       | 2020 | 21,000              | 3,320                        | 2,027  | 12,214     | 2,128  | 1,311  |
|  |                                       | 2030 | 21,455              | 3,320                        | 2,027  | 12,907     | 2,128  | 1,073  |
| 287                                    | 2005                                  | 2005 | 61,862              | 4,088                        | 19,093 | 17,225     | 5,176  | 16,280 |
|  |                                       | 2010 | 69,390              | 5,275                        | 20,589 | 19,667     | 6,430  | 17,429 |
|  |                                       | 2020 | 82,722              | 9,574                        | 23,907 | 21,827     | 7,635  | 19,779 |
|  |                                       | 2030 | 96,393              | 9,907                        | 33,106 | 23,107     | 9,698  | 20,575 |
| 296                                    | 2005                                  | 2005 | 44,166              | 4,425                        | 8,097  | 27,336     | 2,860  | 1,448  |
|  |                                       | 2010 | 52,489              | 5,427                        | 11,361 | 29,709     | 3,377  | 2,615  |
|  |                                       | 2020 | 56,709              | 5,630                        | 13,095 | 32,158     | 3,574  | 2,252  |
|  |                                       | 2030 | 59,106              | 5,648                        | 14,748 | 32,962     | 3,787  | 1,961  |
| 304                                    | 2005                                  | 2005 | 3,196               | 479                          | 0      | 120        | 829    | 1,768  |
|  |                                       | 2010 | 8,216               | 3,093                        | 0      | 322        | 1,586  | 3,215  |
|  |                                       | 2020 | 13,113              | 5,159                        | 1,027  | 398        | 2,238  | 4,291  |
|  |                                       | 2030 | 17,118              | 5,430                        | 3,568  | 436        | 2,545  | 5,139  |
| 305                                    | 2005                                  | 2005 | 3,037               | 837                          | 0      | 516        | 745    | 939    |
|  |                                       | 2010 | 5,811               | 2,102                        | 0      | 1,025      | 1,204  | 1,480  |
|  |                                       | 2020 | 7,283               | 2,732                        | 101    | 1,040      | 1,427  | 1,983  |
|  |                                       | 2030 | 6,815               | 2,764                        | 164    | 1,040      | 1,441  | 1,406  |
| 306                                    | 2005                                  | 2005 | 12,327              | 2,654                        | 2,867  | 1,867      | 1,503  | 3,436  |
|  |                                       | 2010 | 14,754              | 4,212                        | 3,039  | 2,142      | 1,615  | 3,746  |
|  |                                       | 2020 | 16,236              | 5,032                        | 3,382  | 2,142      | 1,769  | 3,911  |
|  |                                       | 2030 | 18,045              | 5,101                        | 5,055  | 2,142      | 1,916  | 3,831  |

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| Municipal Planning Area (MPA) | Regional Analysis Zone (RAZ) | Year | Total Employment | Components of Employment (*) |                |                |                |                |
|-------------------------------|------------------------------|------|------------------|------------------------------|----------------|----------------|----------------|----------------|
|                               |                              |      |                  | Retail                       | Office         | Industrial     | Public         | Other          |
| <b>Phoenix</b>                |                              |      |                  |                              |                |                |                |                |
|                               | 313                          | 2005 | 7,146            | 1,856                        | 283            | 27             | 2,772          | 2,208          |
|                               |                              | 2010 | 8,013            | 2,392                        | 283            | 27             | 3,007          | 2,304          |
|                               |                              | 2020 | 8,782            | 2,951                        | 283            | 27             | 3,077          | 2,444          |
|                               |                              | 2030 | 8,661            | 2,979                        | 283            | 27             | 3,077          | 2,295          |
|                               | 314                          | 2005 | 14,891           | 6,065                        | 4,964          | 951            | 1,132          | 1,779          |
|                               |                              | 2010 | 16,209           | 6,527                        | 4,964          | 1,699          | 1,148          | 1,871          |
|                               |                              | 2020 | 17,227           | 6,650                        | 5,867          | 1,699          | 1,154          | 1,857          |
|                               |                              | 2030 | 18,587           | 6,660                        | 7,137          | 1,699          | 1,262          | 1,829          |
| <b>Phoenix Total</b>          |                              | 2005 | <b>811,513</b>   | <b>168,457</b>               | <b>241,904</b> | <b>169,419</b> | <b>106,852</b> | <b>124,881</b> |
|                               |                              | 2010 | <b>937,182</b>   | <b>200,642</b>               | <b>268,050</b> | <b>199,146</b> | <b>124,125</b> | <b>145,219</b> |
|                               |                              | 2020 | <b>1,108,031</b> | <b>253,147</b>               | <b>316,254</b> | <b>221,070</b> | <b>144,946</b> | <b>172,614</b> |
|                               |                              | 2030 | <b>1,246,527</b> | <b>276,934</b>               | <b>383,140</b> | <b>238,111</b> | <b>162,364</b> | <b>185,978</b> |
| <b>Queen Creek</b>            |                              |      |                  |                              |                |                |                |                |
|                               | 339                          | 2005 | 4,021            | 945                          | 63             | 404            | 873            | 1,736          |
|                               |                              | 2010 | 9,652            | 3,048                        | 451            | 908            | 2,098          | 3,147          |
|                               |                              | 2020 | 22,213           | 7,319                        | 3,330          | 3,560          | 3,502          | 4,502          |
|                               |                              | 2030 | 35,145           | 11,965                       | 7,000          | 6,284          | 4,828          | 5,068          |
| <b>Queen Creek Total</b>      |                              | 2005 | <b>4,021</b>     | <b>945</b>                   | <b>63</b>      | <b>404</b>     | <b>873</b>     | <b>1,736</b>   |
|                               |                              | 2010 | <b>9,652</b>     | <b>3,048</b>                 | <b>451</b>     | <b>908</b>     | <b>2,098</b>   | <b>3,147</b>   |
|                               |                              | 2020 | <b>22,213</b>    | <b>7,319</b>                 | <b>3,330</b>   | <b>3,560</b>   | <b>3,502</b>   | <b>4,502</b>   |
|                               |                              | 2030 | <b>35,145</b>    | <b>11,965</b>                | <b>7,000</b>   | <b>6,284</b>   | <b>4,828</b>   | <b>5,068</b>   |
| <b>Salt River</b>             |                              |      |                  |                              |                |                |                |                |
|                               | 264                          | 2005 | 5,977            | 2,223                        | 571            | 693            | 847            | 1,643          |
|                               |                              | 2010 | 11,131           | 2,613                        | 4,147          | 1,278          | 1,066          | 2,027          |
|                               |                              | 2020 | 25,587           | 5,946                        | 11,582         | 1,948          | 1,181          | 4,930          |
|                               |                              | 2030 | 49,905           | 11,451                       | 23,183         | 6,190          | 1,314          | 7,767          |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |        |            |        |       |
|--|---------------------------------------|------|---------------------|------------------------------|--------|------------|--------|-------|
|  |                                       |      |                     | Retail                       | Office | Industrial | Public | Other |
| <b>Salt River</b>                      |                                       |      |                     |                              |        |            |        |       |
| Salt River<br>Total                    |                                       | 2005 | 5,977               | 2,223                        | 571    | 693        | 847    | 1,643 |
|  |                                       | 2010 | 11,131              | 2,613                        | 4,147  | 1,278      | 1,066  | 2,027 |
|  |                                       | 2020 | 25,587              | 5,946                        | 11,582 | 1,948      | 1,181  | 4,930 |
|  |                                       | 2030 | 49,905              | 11,451                       | 23,183 | 6,190      | 1,314  | 7,767 |
| <b>Scottsdale</b>                      |                                       |      |                     |                              |        |            |        |       |
|  | 209                                   | 2005 | 4,017               | 1,494                        | 182    | 86         | 972    | 1,283 |
|  |                                       | 2010 | 4,707               | 1,576                        | 182    | 86         | 1,526  | 1,337 |
|  |                                       | 2020 | 5,450               | 1,913                        | 182    | 86         | 1,693  | 1,576 |
|  |                                       | 2030 | 6,483               | 2,272                        | 182    | 86         | 1,908  | 2,035 |
|  | 210                                   | 2005 | 1,763               | 0                            | 863    | 0          | 0      | 900   |
|  |                                       | 2010 | 2,088               | 128                          | 1,034  | 30         | 34     | 862   |
|  |                                       | 2020 | 2,853               | 337                          | 1,398  | 90         | 97     | 931   |
|  |                                       | 2030 | 3,049               | 444                          | 1,398  | 90         | 158    | 959   |
|  | 229                                   | 2005 | 7,805               | 3,749                        | 1,511  | 31         | 481    | 2,033 |
|  |                                       | 2010 | 10,626              | 4,801                        | 2,511  | 31         | 667    | 2,616 |
|  |                                       | 2020 | 14,579              | 5,361                        | 5,185  | 31         | 885    | 3,117 |
|  |                                       | 2030 | 16,506              | 5,844                        | 5,935  | 31         | 1,170  | 3,526 |
|  | 230                                   | 2005 | 12,213              | 2,045                        | 5,281  | 360        | 635    | 3,892 |
|  |                                       | 2010 | 21,838              | 4,000                        | 8,138  | 2,173      | 1,528  | 5,999 |
|  |                                       | 2020 | 36,850              | 7,574                        | 15,143 | 3,726      | 2,465  | 7,942 |
|  |                                       | 2030 | 49,197              | 7,791                        | 24,219 | 5,380      | 3,510  | 8,297 |
|  | 247                                   | 2005 | 42,724              | 13,508                       | 13,311 | 13,030     | 983    | 1,892 |
|  |                                       | 2010 | 46,197              | 14,388                       | 15,265 | 13,105     | 1,067  | 2,372 |
|  |                                       | 2020 | 48,204              | 14,404                       | 15,786 | 13,255     | 1,068  | 3,691 |
|  |                                       | 2030 | 50,778              | 14,406                       | 15,859 | 13,331     | 1,068  | 6,114 |

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| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |               |               |               |               |
|--|---------------------------------------|------|---------------------|------------------------------|---------------|---------------|---------------|---------------|
|  |                                       |      |                     | Retail                       | Office        | Industrial    | Public        | Other         |
| <b>Scottsdale</b>                      |                                       |      |                     |                              |               |               |               |               |
|  | 248                                   | 2005 | 22,946              | 5,584                        | 7,403         | 419           | 2,187         | 7,353         |
|  |                                       | 2010 | 26,551              | 5,909                        | 9,673         | 447           | 2,653         | 7,869         |
|  |                                       | 2020 | 27,822              | 6,048                        | 10,572        | 502           | 2,697         | 8,003         |
|  |                                       | 2030 | 28,456              | 6,054                        | 10,572        | 502           | 2,700         | 8,628         |
|  | 249                                   | 2005 | 5,970               | 1,273                        | 330           | 5             | 1,101         | 3,261         |
|  |                                       | 2010 | 8,035               | 1,426                        | 1,406         | 5             | 1,405         | 3,793         |
|  |                                       | 2020 | 8,687               | 1,664                        | 1,554         | 5             | 1,474         | 3,990         |
|  |                                       | 2030 | 9,250               | 1,853                        | 1,554         | 5             | 1,582         | 4,256         |
|  | 263                                   | 2005 | 30,369              | 7,298                        | 16,943        | 196           | 1,566         | 4,366         |
|  |                                       | 2010 | 31,574              | 7,304                        | 17,871        | 196           | 1,683         | 4,520         |
|  |                                       | 2020 | 31,399              | 7,309                        | 17,871        | 196           | 1,685         | 4,338         |
|  |                                       | 2030 | 31,383              | 7,309                        | 17,871        | 196           | 1,685         | 4,322         |
|  | 272                                   | 2005 | 53,845              | 21,649                       | 14,599        | 5,538         | 3,978         | 8,081         |
|  |                                       | 2010 | 56,457              | 22,431                       | 15,705        | 5,586         | 4,549         | 8,186         |
|  |                                       | 2020 | 56,988              | 22,605                       | 16,244        | 5,586         | 4,549         | 8,004         |
|  |                                       | 2030 | 56,913              | 22,605                       | 16,244        | 5,586         | 4,549         | 7,929         |
| <b>Scottsdale<br/>Total</b>            |                                       | 2005 | <b>181,652</b>      | <b>56,600</b>                | <b>60,423</b> | <b>19,665</b> | <b>11,903</b> | <b>33,061</b> |
|  |                                       | 2010 | <b>208,073</b>      | <b>61,963</b>                | <b>71,785</b> | <b>21,659</b> | <b>15,112</b> | <b>37,554</b> |
|  |                                       | 2020 | <b>232,832</b>      | <b>67,215</b>                | <b>83,935</b> | <b>23,477</b> | <b>16,613</b> | <b>41,592</b> |
|  |                                       | 2030 | <b>252,015</b>      | <b>68,578</b>                | <b>93,834</b> | <b>25,207</b> | <b>18,330</b> | <b>46,066</b> |
| <b>Surprise</b>                        |                                       |      |                     |                              |               |               |               |               |
|  | 204                                   | 2005 | 691                 | 6                            | 0             | 84            | 213           | 388           |
|  |                                       | 2010 | 2,283               | 508                          | 0             | 175           | 619           | 981           |
|  |                                       | 2020 | 18,882              | 6,360                        | 1,218         | 1,757         | 3,148         | 6,399         |
|  |                                       | 2030 | 45,623              | 14,948                       | 4,798         | 4,371         | 8,612         | 12,894        |

(\*) Note: Other employment includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.

May, 2007

Employment by RAZ Page 25 of 29



| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |               |               |               |               |
|--|---------------------------------------|------|---------------------|------------------------------|---------------|---------------|---------------|---------------|
|  |                                       |      |                     | Retail                       | Office        | Industrial    | Public        | Other         |
| <i>Surprise</i>                        |                                       |      |                     |                              |               |               |               |               |
| 211                                    | 2005                                  | 2005 | 38                  | 0                            | 0             | 0             | 0             | 38            |
|  |                                       | 2010 | 592                 | 204                          | 0             | 0             | 177           | 211           |
|  |                                       | 2020 | 7,761               | 2,510                        | 923           | 377           | 983           | 2,968         |
|  |                                       | 2030 | 18,809              | 6,413                        | 2,585         | 769           | 2,225         | 6,817         |
| 212                                    | 2005                                  | 2005 | 530                 | 88                           | 0             | 60            | 108           | 274           |
|  |                                       | 2010 | 2,223               | 633                          | 0             | 160           | 390           | 1,040         |
|  |                                       | 2020 | 12,280              | 4,308                        | 1,342         | 375           | 1,309         | 4,946         |
|  |                                       | 2030 | 26,541              | 10,822                       | 3,214         | 1,252         | 3,194         | 8,059         |
| 232                                    | 2005                                  | 2005 | 5,808               | 3,131                        | 532           | 184           | 614           | 1,347         |
|  |                                       | 2010 | 8,985               | 4,812                        | 1,403         | 348           | 670           | 1,752         |
|  |                                       | 2020 | 9,697               | 5,110                        | 1,403         | 670           | 670           | 1,844         |
|  |                                       | 2030 | 9,363               | 5,132                        | 1,403         | 670           | 670           | 1,488         |
| 233                                    | 2005                                  | 2005 | 6,731               | 659                          | 3             | 329           | 943           | 4,797         |
|  |                                       | 2010 | 14,056              | 3,050                        | 714           | 1,408         | 3,084         | 5,800         |
|  |                                       | 2020 | 29,411              | 8,875                        | 3,380         | 4,268         | 5,147         | 7,741         |
|  |                                       | 2030 | 44,049              | 14,185                       | 7,128         | 7,098         | 6,962         | 8,676         |
| 234                                    | 2005                                  | 2005 | 2,491               | 1,301                        | 184           | 139           | 646           | 221           |
|  |                                       | 2010 | 2,966               | 1,502                        | 284           | 146           | 689           | 345           |
|  |                                       | 2020 | 3,392               | 1,668                        | 317           | 146           | 719           | 542           |
|  |                                       | 2030 | 3,318               | 1,698                        | 317           | 146           | 733           | 424           |
| <b>Surprise<br/>Total</b>              |                                       | 2005 | <b>16,289</b>       | <b>5,185</b>                 | <b>719</b>    | <b>796</b>    | <b>2,524</b>  | <b>7,065</b>  |
|  |                                       | 2010 | <b>31,105</b>       | <b>10,709</b>                | <b>2,401</b>  | <b>2,237</b>  | <b>5,629</b>  | <b>10,129</b> |
|  |                                       | 2020 | <b>81,423</b>       | <b>28,831</b>                | <b>8,583</b>  | <b>7,593</b>  | <b>11,976</b> | <b>24,440</b> |
|  |                                       | 2030 | <b>147,703</b>      | <b>53,198</b>                | <b>19,445</b> | <b>14,306</b> | <b>22,396</b> | <b>38,358</b> |

(\*) Note: Other employment includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.



| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |               |               |               |               |
|--|---------------------------------------|------|---------------------|------------------------------|---------------|---------------|---------------|---------------|
|  |                                       |      |                     | Retail                       | Office        | Industrial    | Public        | Other         |
| <b>Tempe</b>                           |                                       |      |                     |                              |               |               |               |               |
|  | 288                                   | 2005 | 80,263              | 12,233                       | 18,302        | 28,640        | 16,323        | 4,765         |
|  |                                       | 2010 | 89,366              | 14,175                       | 21,376        | 30,622        | 17,815        | 5,378         |
|  |                                       | 2020 | 105,832             | 15,600                       | 28,896        | 31,505        | 22,638        | 7,193         |
|  |                                       | 2030 | 120,280             | 15,719                       | 38,686        | 32,097        | 26,836        | 6,942         |
|  | 297                                   | 2005 | 47,910              | 14,386                       | 13,744        | 13,529        | 2,857         | 3,394         |
|  |                                       | 2010 | 52,730              | 14,583                       | 15,938        | 14,945        | 3,469         | 3,795         |
|  |                                       | 2020 | 52,700              | 14,583                       | 16,449        | 14,985        | 3,502         | 3,181         |
|  |                                       | 2030 | 52,608              | 14,583                       | 16,449        | 14,985        | 3,506         | 3,085         |
|  | 308                                   | 2005 | 48,515              | 12,067                       | 11,316        | 19,360        | 3,406         | 2,366         |
|  |                                       | 2010 | 56,147              | 13,904                       | 13,421        | 21,429        | 3,605         | 3,788         |
|  |                                       | 2020 | 61,011              | 14,273                       | 16,552        | 23,139        | 3,680         | 3,367         |
|  |                                       | 2030 | 62,728              | 14,302                       | 17,765        | 23,995        | 3,690         | 2,976         |
| <b>Tempe<br/>Total</b>                 |                                       | 2005 | <b>176,688</b>      | <b>38,686</b>                | <b>43,362</b> | <b>61,529</b> | <b>22,586</b> | <b>10,525</b> |
|  |                                       | 2010 | <b>198,243</b>      | <b>42,662</b>                | <b>50,735</b> | <b>66,996</b> | <b>24,889</b> | <b>12,961</b> |
|  |                                       | 2020 | <b>219,543</b>      | <b>44,456</b>                | <b>61,897</b> | <b>69,629</b> | <b>29,820</b> | <b>13,741</b> |
|  |                                       | 2030 | <b>235,616</b>      | <b>44,604</b>                | <b>72,900</b> | <b>71,077</b> | <b>34,032</b> | <b>13,003</b> |
| <b>Tolleson</b>                        |                                       |      |                     |                              |               |               |               |               |
|  | 274                                   | 2005 | 12,340              | 1,520                        | 53            | 8,302         | 1,707         | 758           |
|  |                                       | 2010 | 15,808              | 1,998                        | 53            | 10,971        | 1,994         | 792           |
|  |                                       | 2020 | 19,854              | 2,972                        | 53            | 14,006        | 1,994         | 829           |
|  |                                       | 2030 | 22,314              | 3,836                        | 53            | 15,725        | 1,994         | 706           |
| <b>Tolleson<br/>Total</b>              |                                       | 2005 | <b>12,340</b>       | <b>1,520</b>                 | <b>53</b>     | <b>8,302</b>  | <b>1,707</b>  | <b>758</b>    |
|  |                                       | 2010 | <b>15,808</b>       | <b>1,998</b>                 | <b>53</b>     | <b>10,971</b> | <b>1,994</b>  | <b>792</b>    |
|  |                                       | 2020 | <b>19,854</b>       | <b>2,972</b>                 | <b>53</b>     | <b>14,006</b> | <b>1,994</b>  | <b>829</b>    |
|  |                                       | 2030 | <b>22,314</b>       | <b>3,836</b>                 | <b>53</b>     | <b>15,725</b> | <b>1,994</b>  | <b>706</b>    |

(\*) Note: Other employment includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.



| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |            |              |              |              |
|--|---------------------------------------|------|---------------------|------------------------------|------------|--------------|--------------|--------------|
|  |                                       |      |                     | Retail                       | Office     | Industrial   | Public       | Other        |
| <b>Wickenburg</b>                      |                                       |      |                     |                              |            |              |              |              |
|  | 201                                   | 2005 | 4,384               | 1,944                        | 68         | 351          | 538          | 1,483        |
|  |                                       | 2010 | 5,512               | 2,223                        | 136        | 531          | 658          | 1,964        |
|  |                                       | 2020 | 7,295               | 2,720                        | 253        | 866          | 863          | 2,593        |
|  |                                       | 2030 | 9,620               | 3,336                        | 412        | 1,186        | 1,042        | 3,644        |
|  | 335                                   | 2005 | 602                 | 4                            | 0          | 0            | 52           | 546          |
|  |                                       | 2010 | 957                 | 108                          | 0          | 81           | 105          | 663          |
|  |                                       | 2020 | 1,449               | 430                          | 0          | 81           | 123          | 815          |
|  |                                       | 2030 | 2,121               | 960                          | 0          | 81           | 162          | 918          |
|  | 347                                   | 2005 | 69                  | 0                            | 0          | 0            | 0            | 69           |
|  |                                       | 2010 | 153                 | 31                           | 0          | 0            | 16           | 106          |
|  |                                       | 2020 | 177                 | 52                           | 0          | 0            | 21           | 104          |
|  |                                       | 2030 | 575                 | 188                          | 0          | 0            | 100          | 287          |
| <b>Wickenburg<br/>Total</b>            |                                       | 2005 | <b>5,055</b>        | <b>1,948</b>                 | <b>68</b>  | <b>351</b>   | <b>590</b>   | <b>2,098</b> |
|  |                                       | 2010 | <b>6,622</b>        | <b>2,362</b>                 | <b>136</b> | <b>612</b>   | <b>779</b>   | <b>2,733</b> |
|  |                                       | 2020 | <b>8,921</b>        | <b>3,202</b>                 | <b>253</b> | <b>947</b>   | <b>1,007</b> | <b>3,512</b> |
|  |                                       | 2030 | <b>12,316</b>       | <b>4,484</b>                 | <b>412</b> | <b>1,267</b> | <b>1,304</b> | <b>4,849</b> |
| <b>Youngtown</b>                       |                                       |      |                     |                              |            |              |              |              |
|  | 236                                   | 2005 | 1,657               | 733                          | 56         | 32           | 91           | 745          |
|  |                                       | 2010 | 1,667               | 748                          | 56         | 32           | 91           | 740          |
|  |                                       | 2020 | 1,988               | 970                          | 56         | 32           | 91           | 839          |
|  |                                       | 2030 | 2,042               | 1,054                        | 56         | 32           | 91           | 809          |
| <b>Youngtown<br/>Total</b>             |                                       | 2005 | <b>1,657</b>        | <b>733</b>                   | <b>56</b>  | <b>32</b>    | <b>91</b>    | <b>745</b>   |
|  |                                       | 2010 | <b>1,667</b>        | <b>748</b>                   | <b>56</b>  | <b>32</b>    | <b>91</b>    | <b>740</b>   |
|  |                                       | 2020 | <b>1,988</b>        | <b>970</b>                   | <b>56</b>  | <b>32</b>    | <b>91</b>    | <b>839</b>   |
|  |                                       | 2030 | <b>2,042</b>        | <b>1,054</b>                 | <b>56</b>  | <b>32</b>    | <b>91</b>    | <b>809</b>   |

(\*) Note: Other employment includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.



| Municipal<br>Planning<br>Area<br>(MPA) | Regional<br>Analysis<br>Zone<br>(RAZ) | Year | Total<br>Employment | Components of Employment (*) |         |            |         |         |
|--|---------------------------------------|------|---------------------|------------------------------|---------|------------|---------|---------|
|  |                                       |      |                     | Retail                       | Office  | Industrial | Public  | Other   |
| <i>County Total</i>                    |                                       | 2005 | 1,747,532           | 466,492                      | 384,634 | 357,712    | 244,431 | 294,263 |
|  |                                       | 2010 | 2,157,424           | 576,956                      | 476,982 | 442,821    | 297,621 | 363,044 |
|  |                                       | 2020 | 2,788,101           | 767,763                      | 645,278 | 535,119    | 368,513 | 471,428 |
|  |                                       | 2030 | 3,378,800           | 931,789                      | 829,414 | 614,631    | 441,812 | 561,154 |

(\*) Note: Other employment includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.

These projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only.

For complete notation on this series please refer to Caveats for Socioeconomic Projections 2007.



## **NOTES AND CAVEATS FOR 2007 PROJECTIONS**

1. The projections by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ) were prepared to be consistent with the September 1, 2005 Census Survey and have been prepared for July 1<sup>st</sup> of base 2005 and projected for July 1<sup>st</sup> of 2010, 2020, and 2030.
2. The population projections are for resident population only and do not include nonresident seasonal or transient population.
3. The projections are required to use the latest Census as the base. The 2005 Census Survey was released in June 2006. Subsequent to the release, DES prepared a new set of Maricopa County projections consistent with the 2005 Census Survey. These County projections were recommended for approval by the MAG Population Technical Advisory Committee (POPTAC) in October 2006 and the Management Committee in November 2006. The projections were approved by the Regional Council in December 2006.
4. The MAG projections by MPA and RAZ were recommended for approval by the MAG POPTAC on April 24, 2007 and by the MAG Management Committee on May 9, 2007. The projections were approved by MAG Regional Council on May 23, 2007.
5. The projections include the Maricopa County portion of Peoria, Queen Creek and the Gila River Indian Community only. Although Apache Junction is a MAG member agency, currently only 275 of its residents are within Maricopa County. Because almost all of its population lies within Pinal County, no projections have been included in this report.
6. The projections were based upon the latest version of each member agency's land use plan. These plans are subject to change.
7. The databases and assumptions upon which the projections are based have been reviewed by MAG member agencies, revised by MAG staff based on input received and approved by members of the MAG POPTAC.
8. The projections are based upon previous review and local insight by members of the MAG POPTAC.
9. The "other" employment category includes work-at-home and construction employment. Because construction employment follows development, employment projections may show declines in future years.
10. The projections should be used with caution. They are subject to change as a result of fluctuation in economic and development conditions, local development policies and updated data.

## GLOSSARY OF TERMS

**Base Population:** Population base for the current estimate, usually the last Decennial Census or a special census or census survey taken since then.

**Construction Employment:** Employment associated with construction sites across the region but not with a specific land use. This is included in the Other Employment category. Because construction employment follows development, employment projections may show declines in future years.

**Employment:** The total number of jobs of persons receiving wage or salary to work in a given industry. This measure of employment only includes persons over the age of 16 and does not include working within the home without outside wage or volunteering. An employee works in the designated weekly time period at least one hour.

**Group Quarters:** Group quarters are places where people live or stay other than the usual house, apartment, or mobile home. Two general types of group quarters are recognized: institutional, i.e. nursing homes, mental hospitals or wards, hospitals or wards for chronically ill patients, hospices, and prison wards; and noninstitutional, i.e. college or university dormitories, military barracks, group homes, shelters, and missions. Group quarters may have housing units on the premises for staff or guests.

**Household:** An occupied housing unit.

**Housing Unit:** A dwelling unit that could be single family, multi-family, mobile home or other type of unit.

**Industrial Employment:** Employment in areas designated for industrial land use.

**Land Use:** The predominant activity that is occurring in a geographic area.

**Municipal Planning Area (MPA):** An MPA represents the area of planning concern for a municipality and is based upon its anticipated future corporate limits.

**Occupied Housing Unit:** A housing unit is considered occupied if a resident person or persons are living in it or if the occupant is only away from the unit temporarily, e.g., away on vacation.

**Office Employment:** Employment that is located in areas designated for office land use.

**Other Employment:** A residual of total employment minus employment in areas designated for industrial, office, public and retail land uses. It includes, but is not limited to, medical, postal, transportation, utilities, communication, hotel/motel, and construction.

**Population in Households:** The population in occupied housing units.

**Projection:** Numerical outcome of a set of assumptions (based on past trends) relating to future trends. The numbers are conditional upon these assumptions being fulfilled.

**Public Employment:** Employment located on land designated for public use.

**Regional Analysis Zone (RAZ):** An area within an MPA. RAZs can be either coterminous with or may be aggregated to form an MPA.

**Resident:** a resident of a geographical area is a person who reports that his or her regular place of residence is within that geographical area.

**Resident Population:** Resident population is defined as the people who live in a specific area more than six months a year. Resident population may live in housing units or in group quarters.

**Retail Employment:** Employment that is located in areas designated for retail land use.

**Total Resident Housing Units:** The combination of occupied and vacant resident housing units.

**Total Resident Population:** Includes those residents living in housing units and group quarters.

**Work-at-Home Employment:** Employment where the primary place of work is at home.

**A RESOLUTION OF THE MARICOPA ASSOCIATION OF GOVERNMENTS  
APPROVING THE 2007 MAG SOCIOECONOMIC PROJECTIONS**

WHEREAS, the Maricopa Association of Governments was formed in 1967 as a Council of Governments and provides regional planning assistance in transportation, air quality, water quality, solid waste, population projections, growth/open space, human services, 9-1-1 and public works; and

WHEREAS, an official set of projections are required to be used in transportation, air quality and water quality management plans as well as providing the base for all other regional planning activities; and

WHEREAS, Maricopa County experienced the greatest net increase in population in the United States between 2000 and 2006; and

WHEREAS, up-to-date projections are crucial for managing future growth; and

WHEREAS, the general plans of local jurisdictions go beyond their current corporate limits in order to plan for and guide future growth; and

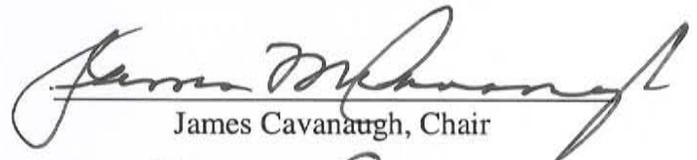
WHEREAS, socioeconomic projections require that the future corporate limits and a consistent geography over time be established for each jurisdiction; and

WHEREAS, Municipal Planning Area boundaries are determined by MAG member agencies in consultation with MAG; and

WHEREAS, Municipal Planning Areas identify the anticipated future corporate limits of a city or town, have been used by MAG in preparing projections since 1983, and are used in the MAG 208 Water Quality Management Plan;

NOW THEREFORE, BE IT RESOLVED that the Regional Council for the Maricopa Association of Governments approves the Municipal Planning Areas and the 2007 MAG socioeconomic projections of population, housing and employment for July 1<sup>st</sup> 2010, 2020 and 2030 by Municipal Planning Area and Regional Analysis Zone for use in all regional planning activities.

PASSED AND ADOPTED BY THE MARICOPA ASSOCIATION OF GOVERNMENTS THIS 23RD  
DAY OF MAY 2007

  
James Cavanaugh, Chair

ATTEST:

  
Dennis Smith, Executive Director

# **Appendix Q**

**MEMORANDUM OF AGREEMENT**  
**AMONG**  
**THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**AND**  
**THE ARIZONA DEPARTMENT OF TRANSPORTATION**  
**AND**  
**MARICOPA COUNTY, BY AND THROUGH THE MARICOPA COUNTY**  
**ENVIRONMENTAL QUALITY AND COMMUNITY SERVICES AGENCY**  
**AND**  
**THE MARICOPA ASSOCIATION OF GOVERNMENTS**

**PURPOSE**

The purpose of this Memorandum of Agreement is to provide the framework and guidelines to promote coordinated decision making in planning, development, and implementation, and enforcement of those actions necessary to attain and maintain the National Ambient Air Quality Standards in Maricopa County, hereafter referred to as the Nonattainment Area Plan, or NAP. This Memorandum is required pursuant to A.R.S. 49-406 D. and E. The Memorandum also provides the framework and guidelines for preparing plans designed to address other air pollution problems of regional concern.

**SCOPE**

This Memorandum is designed to address the control of the following pollutants: Carbon Monoxide, Ozone, Particulates, and Other Air Pollution Problems of Regional Concern.

The geographical area of concern is Maricopa County or the area specifically designated by the Administrator of the U.S. Environmental Protection Agency as not having attained the National Ambient Air Quality Standards for one or more of the pollutants named above.

**RESPONSIBILITIES AND AUTHORITIES**

The Arizona Department of Environmental Quality (ADEQ) has the primary authority in the State of Arizona for air pollution control and abatement. ADEQ is charged with preparation, development and maintenance of the State Implementation Plan (A.R.S. § 49-404); designation of areas of the state with respect to compliance with the National Ambient Air Quality Standards (A.R.S. § 49-405); and assuring that nonattainment area plans are implemented (A.R.S. § 49-406 J.). ADEQ has original jurisdiction and control over portable, mobile, and specific types of stationary air pollution sources (see A.R.S. § 49-402 A.). In addition, ADEQ is responsible for development of stationary source permitting procedures and standards (see A.R.S. § 49-480 B.). ADEQ is also responsible for providing technical assistance to political subdivisions of the State for implementing air pollution control programs (A.R.S. § 49-424 A.8.), conducting research on the amounts of hazardous air pollutants in ambient air and their impacts on human health (A.R.S. § 49-426.06); management and implementation of programs under the Air Quality Fee Fund (A.R.S. § 49-551), implementation of the Vehicle Emissions Inspections Program (A.R.S. § 49-521 through 550), and conducting research on vehicular emissions and clean burning fuels (A.R.S. § 49-553). The Department may delegate authority to a county for implementing air pollution control statutes (A.R.S. § 49-424 B.)

The Arizona Department of Transportation (ADOT) has exclusive control over state highways and all other state owned transportation systems (A.R.S. § 28-104). This includes the responsibility of multi-modal state transportation planning, cooperation with local governments, coordination of transportation planning with local governments, investigation of new transportation systems, and advising local governments concerning the development and operation of public transit systems (A.R.S. § 28-104).

The ADOT Director shall also enter into agreements on behalf of the state with political subdivisions for the improvement, maintenance and construction of mass transit systems, and shall provide rules for the application for and expenditure of all mass transit funds (A.R.S. § 28-108).

In addition, ADOT is authorized to conduct demonstration projects to evaluate the effectiveness of new, extended, improved or integrated public transportation services and carpooling or vanpooling activities in meeting regional transportation needs or in improving air quality (A.R.S. § 28-2611). These projects are funded by an annual distribution of \$400,000 from the air quality fund (A.R.S. § 49-551). ADOT must also support ADEQ on reporting to the Legislature results of mobile source emissions Research, where applicable, per A.R.S. § 49-553.

The Maricopa County Environmental Quality and Community Services Agency (MC EQ&CSA) is the local air pollution control department for Maricopa County. The Agency has jurisdiction over air pollution sources not explicitly reserved for state jurisdiction (A.R.S. § 49-402); the Agency is delegated authority from the State of Arizona to regulate certain portable air pollution sources initially reserved for state jurisdiction (A.R.S. § 49-424); the Agency operates the Regional Travel Reduction Program (A.R.S. § 49-582 et seq), and is the principal government sponsor for the Voluntary No Drive Days Program (A.R.S. § 49-506). The Agency is also responsible for monitoring the ambient air quality of the region (A.R.S. § 49-473) through collecting and analyzing air quality data.

Within the Maricopa County Environmental Quality and Community Services Agency, the Assistant County Manager of the Agency is designated as the Air Pollution Control Officer. The Air Pollution Control Officer has the responsibility and authority to enforce the provisions of Article 3, Chapter 3, Title 49, "County Air Pollution Control", Arizona Revised Statutes. The Control Officer also has the responsibility for assuring adequate nonattainment plan implementation as prescribed by A.R.S. § 49-406.

The Maricopa Association of Governments (MAG) is a nonprofit Arizona corporation composed of elected officials from twenty-four cities and towns, Maricopa County, Gila River Indian Community, and the Arizona Department of Transportation. MAG has been designated by the Governor of Arizona as the lead planning organization for Maricopa County that, together with the State, is responsible for determining which elements of the State Implementation Plan revision will be planned, implemented, and enforced by State and local governments in Arizona (Governor Wesley Bolin, February 7, 1978; Clean Air Act § 174(a); and A.R.S. 49-406)). MAG is responsible for providing assistance to the Maricopa County Travel Reduction Regional Task Force and for recommending third and following year travel reduction targets, policies, standards and criteria for the Maricopa County Travel Reduction Program (A.R.S. § 49-582 and 49-588). Related directly to air quality, MAG is the official designated metropolitan transportation planning organization, and the designated agency for preparing population estimates and projections for the Maricopa County area. MAG is also responsible for making transportation/air quality conformity determinations, subject to the consultation procedures as provided by law (Clean Air Act § 176).

## UNDERSTANDING/AGREEMENTS

In recognition and to facilitate the accomplishment of the foregoing, IT IS HEREBY AGREED that:

1. The Arizona Department of Environmental Quality; Arizona Department of Transportation; Maricopa County Environmental Quality and Community Services Agency; and Maricopa Association of Governments will work through a coordinated effort to prepare the MAG regional air quality plans as described in Attachments One, Three, Four, and Five. Attachment One contains a description of the generalized roles and areas of expertise of the agencies, the MAG Air Quality Planning Team, and the MAG Air Quality Policy Team. Attachment Three contains the general implementation authorities for measures in the air quality plans. Attachment Four includes provisions for tracking plan implementation; determining reasonable further progress; assurances for adequate plan implementation, and adoption of control measures. Attachment Five contains the Work Programs for Preparing Air Quality Plans.
2. The Maricopa Association of Governments will maintain the MAG Regional Air Quality Planning Process for decision making as described in Attachment Two. This Attachment contains the roles of the MAG Regional Council, MAG Management Committee, MAG Air Quality Policy Committee, and ad hoc Working Groups. MAG will coordinate the preparation of the NAPs. Representatives from ADEQ, ADOT and MC EQ&CSA will be included as ex-officio members of the MAG Air Quality Policy Committee, and active members of all working groups associated with this MAG committee.
3. The Arizona Department of Environmental Quality; Arizona Department of Transportation; Maricopa County Environmental Quality and Community Services Agency; Maricopa Association of Governments will pursue commitments to implement the measures in the NAPs. The aforementioned agencies will continue to evaluate and pursue the implementation of additional air pollution control measures as a result of the evaluations performed as described in Attachment Four.

### EFFECTIVE DATE

The Agreement and all Amendments shall become effective on the date it has been signed by all parties to it.

### TERM

This Agreement shall remain in effect from the effective date of the Agreement until such time it is terminated or superseded by a subsequent agreement. This Agreement may be terminated by any party to it, providing written notice of intent to terminate is provided to all other parties to the Agreement thirty days prior to the effective date of withdrawal of that party from the Agreement.

AMENDMENT

This Agreement may be amended at any time upon mutual written agreement of all parties. No agent, employee or other representative of any party to this Agreement is empowered to alter any of the terms of the Agreement, unless it is done in writing and signed by the Designated Officers of the respective parties, their authorized representatives, or duly appointed successors.

ATTEST

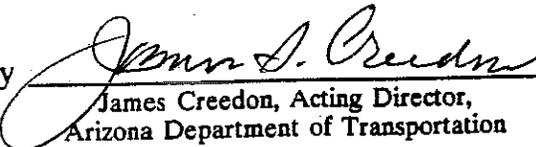
All terms of this Memorandum of Agreement are hereby acknowledged and agreed, as certified by the signatures of the Designated Officers affixed hereto:

ARIZONA DEPARTMENT OF  
ENVIRONMENTAL QUALITY

By   
Edward Z. Fox, Director, Arizona  
Department of Environmental Quality

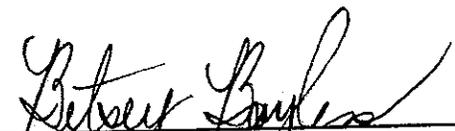
Date NOV 9, 1992

ARIZONA DEPARTMENT OF  
TRANSPORTATION

By   
James Creedon, Acting Director,  
Arizona Department of Transportation

Date NOV 9, 1992

MARICOPA COUNTY, BY AND  
THROUGH THE MARICOPA COUNTY  
ENVIRONMENTAL QUALITY AND  
COMMUNITY SERVICES AGENCY

By   
Betsy Bayless, Chairman, Maricopa  
County Board of Supervisors

Date 11.2.92

MARICOPA ASSOCIATION OF  
GOVERNMENTS

By   
John J. DeBolske, Secretary,  
Maricopa Association of Governments

Date 11.2.92

## MAG REGIONAL AIR QUALITY PLANNING TECHNICAL PROCESS

- All MAG regional air quality plans are prepared through a coordinated effort among the Arizona Department of Environmental Quality, Arizona Department of Transportation, Maricopa County Environmental Quality and Community Services Agency, and Maricopa Association of Governments.

### MAG AIR QUALITY POLICY TEAM

*Composition: Director of Arizona Department of Environmental Quality; Director of Arizona Department of Transportation; Air Pollution Control Officer of Maricopa County; MAG Secretary*

- Oversees preparation of plans and overall technical planning effort
- Resolves technical problems and issues

### MAG AIR QUALITY PLANNING TEAM

*Composition: Staff from the Arizona Department of Environmental Quality, Arizona Department of Transportation; Maricopa County Environmental Quality and Community Services Agency; Maricopa Association of Governments*

#### Agency Roles

- Arizona Department of Environmental Quality - air quality modeling and technical assistance, mobile source emissions research and inventory, input for the comprehensive list of measures and feasibility analysis, information relating to the Vehicle Emission Inspection Maintenance Program, stationary and portable source control strategies, air quality research studies, State Air Quality Fund administration, adoption and submittal of State Implementation Plans to the Environmental Protection Agency, tracking plan implementation, assurances, special purpose air quality and meteorological monitoring for plan development and compliance
- Arizona Department of Transportation - State Transportation Improvement Program, other transportation plans and programs, input for the comprehensive list of measures and feasibility analysis
- Maricopa County Environmental Quality and Community Services Agency - stationary source emissions inventory and controls, coordinating the comprehensive emissions inventory, air quality monitoring data, input for comprehensive list of measures and feasibility analysis, mandatory travel reduction program, trip reduction data, voluntary no drive days program, tracking plan implementation, reasonable further progress, assurances, special purpose air quality and meteorological monitoring for plan development and compliance
- Maricopa Association of Governments - demographic projections and socioeconomic data, transportation modeling, air quality modeling, Regional Transportation Improvement Program, Regional Transportation Plan, other transportation plans and programs, congestion management system, conformity, input for comprehensive list of measures and feasibility analysis, development of the air quality plans, interface with state, county, and local entities, recommending future year travel reduction goals, policies, and standards to Maricopa County, assistance to Maricopa County for the mandatory travel reduction program, review reasonable further progress made to reduce air pollution and plan adjustments if necessary, review plan implementation

*The technical planning work is closely coordinated with EPA Region IX staff, Federal Highway Administration, and Federal Transit Administration.*

# MAG REGIONAL AIR QUALITY PLANNING PROCESS

## MAG REGIONAL COUNCIL

**Composition:** *Elected officials from 24 cities and towns, Maricopa County, Gila River Indian Community, and Arizona Department of Transportation, Regional Public Transportation Authority*

- Reviews all pertinent air quality data
- Adopts regional air quality plans
- Formally requests that state, county, local, and other appropriate agencies implement measures in the plans
- Approves trip reduction goals and policies and recommends to Maricopa County
- Determines conformity, subject to the consultation procedures as provided by law (Clean Air Act § 176)
- Maintains an air quality/transportation planning process consistent with federal law

## MAG MANAGEMENT COMMITTEE

**Composition:** *Managers from 24 cities and towns, Maricopa County, Gila River Indian Community, and Arizona Department of Transportation, Regional Public Transportation Authority*

- Reviews all pertinent air quality and transportation data
- Recommends regional air quality and transportation plans
- Recommends trip reduction goals and policies

## MAG AIR QUALITY POLICY COMMITTEE

**Composition:** *10 elected officials from cities and towns and Maricopa County and 9 citizen representatives + ex-officio representatives from Arizona Department of Environmental Quality, Arizona Department of Transportation, and Maricopa County Environmental Quality and Community Services Agency*

- Reviews all pertinent air quality data from the technical planning process
- Reviews air quality research studies conducted by MAG, Arizona Department of Environmental Quality, EPA, Maricopa County Environmental Quality and Community Services Agency, etc.
- Reviews related data generated from other MAG regional planning areas such as transportation, transit, population, regional development, water quality, solid waste, etc.
- Studies in detail a comprehensive list of control measures. Data on the measures includes: description of the measures, air quality impacts, complementary measures, implementation responsibility, costs, advantages and disadvantages, etc.
- Recommends air quality measures for the plans
- Conducts public hearings on the plans
- Formally recommends regional air quality plans and control measures
- Recommends trip reduction goals and policies
- Conducts conformity reviews, subject to the consultation procedures as provided by law (Clean Air Act § 176)
- Reviews reasonable further progress made to reduce air pollution and recommends plan adjustments if necessary
- Provides input on the MAG congestion management system

**ADDITIONAL WORKING GROUPS  
AS NECESSARY**

IMPLEMENTATION OF MAG REGIONAL AIR QUALITY PLANS  
GENERAL IMPLEMENTATION AUTHORITIES

STATE - ARIZONA DEPARTMENT OF ADMINISTRATION

- Travel reduction and adjusted work hours for state employees

STATE - ARIZONA DEPARTMENT OF COMMERCE

- Capitol Ridesharing Program

STATE - ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

- Mobile source emissions controls
- Mobile source emissions research
- Portable and some major stationary source controls
- Ambient air quality monitoring and research
- Assurances

STATE - ARIZONA DEPARTMENT OF TRANSPORTATION

- State and interstate transportation system planning, development and management (includes High Occupancy Vehicle Lanes, Freeway Management Systems, etc.)
- Vehicle registration and licensing
- Transit Assistance Grants

STATE - ARIZONA DEPARTMENT OF WEIGHTS AND MEASURES

- Oxygenated fuels
- Other fuel quality regulation (e.g. Reid Vapor Pressure)
- Stage I and Stage II vapor recovery

MARICOPA COUNTY - ENVIRONMENTAL QUALITY AND COMMUNITY SERVICES AGENCY

- Stationary source controls
- Delegated portable source controls
- Area source controls (e.g. *de minimis* sources, materials storage and handling, construction)
- Open burning control
- Mandatory Travel Reduction Program (TRP) and Voluntary No Drive Days
- Other transportation control measures in unincorporated areas
- Ambient air monitoring
- County roadways system planning, development and management
- Planning and zoning (unincorporated areas)
- Assurances

MAG CITIES AND TOWNS

- Municipal roadways system planning, development and management
- Transportation control measures (besides TRP)
- Planning and zoning
- Some area source controls (e.g. vacant land, construction practices)
- Public transit (including Regional Public Transportation Authority)

## MARICOPA ASSOCIATION OF GOVERNMENTS

- Future year travel reduction goals, policies, standards, and criteria
  - Ridesharing program
  - Conformity determinations, as provided by law (Clean Air Act § 176)
  - Allocation of Congestion Mitigation Air Quality Improvement Program Funds and Surface Transportation Program Funds
- 
- \* As noted in the MAG regional air quality plans, the action taken by the MAG Regional Council to approve the Suggested Measures and Adopted Plan Measures does not commit each jurisdiction to implement those measures. As indicated in the resolutions and commitments, each jurisdiction determines which measures are reasonably available for implementation by that jurisdiction.

## **OTHER IMPLEMENTATION AND ADOPTION FUNCTIONS**

This attachment includes provisions for tracking plan implementation and determining reasonable further progress; assurances for adequate plan implementation, and procedures and responsibilities for adoption of control measures and emissions limitations.

### **TRACKING PLAN IMPLEMENTATION AND DETERMINING REASONABLE FURTHER PROGRESS**

Each agency is afforded a review and comment period for each ongoing portion of a plan or revision to a plan being prepared by another agency. Every effort will be made to incorporate the comments of the reviewing agency into each portion of the plan being prepared by another agency.

Maricopa County will develop monitoring guidelines with respect to reasonable further progress which will be consistent with the needs of the Arizona Department of Environmental Quality and U.S. EPA. Maricopa County will be responsible for tracking emissions from point, area and non-road mobile sources and for tracking implementation of control strategies. MAG will be responsible for tracking on-road mobile source emissions and conformity. Maricopa County will integrate the MAG information and reports with the Maricopa County information and submit it to the Arizona Department of Environmental Quality.

For the EPA, the primary means of demonstrating the rate of progress will be through the periodic inventories (i.e., complete, actual inventories) submitted every 3 years. EPA has indicated in the General Preamble Section III.A.3 (d) that they currently intend to rely on existing reporting requirements such as emission statements, periodic inventories, annual Aerometric Information Retrieval System update, and conformity reviews.

### **ASSURANCES FOR ADEQUATE PLAN IMPLEMENTATION**

In order to comply with the Clean Air Act, State law provides an approach for assurances that State and local committed measures will be adequately implemented (A.R.S. §49-406 I. and J.). If any person (includes State, County, local governments, regional agencies, and other entities) fails to implement a committed measure, the County would file an action in Superior Court to have the court order that the measure be implemented. Likewise, the ADEQ Director will backstop the County if it fails to implement a committed measure or if the County fails to backstop the local governments and regional agencies.

Regarding committed measures, A.R.S. §49-406 G. requires that each agency that commits to implement any control measure contained in the State Implementation Plan must describe the commitment in a resolution. The resolution must be adopted by the appropriate governing body of the agency. State law also requires the resolution to specify the following: (1) Its authority for implementing the limitation or measure as provided in statute, ordinance or rule; (2) A program for the enforcement of the limitation or measure; and (3) The level of personnel and funding allocated to the implementation of the measure.

As noted in the MAG regional air quality plans, the action taken by the MAG Regional Council to approve the Suggested Measures and Adopted Plan Measures does not commit each jurisdiction to implement those measures. As indicated in the resolutions and commitments, each jurisdiction determines which measures are reasonably available for implementation by that jurisdiction.

#### PROCEDURES AND RESPONSIBILITIES FOR ADOPTION OF CONTROL MEASURES AND EMISSIONS LIMITATIONS

According to A.R.S. §49-404 B., the ADEQ Director may adopt rules that describe procedures for adoption of revisions to the State Implementation Plan. The State, in accordance with these rules, and the governing body of the metropolitan planning organization (MAG) are required to adopt the nonattainment area plans (A.R.S. §49-406 H.).

**WORK PROGRAMS FOR PREPARING  
REGIONAL AIR QUALITY PLANS**

**NOTE:** The attached work programs are designed to meet statutory deadlines and critical intermediate milestones. Scheduling of specific work activities will be the responsibility of each applicable agency. Some flexibility is permissible for major activities, except for those activities which have a statutory deadline.

**November 15, 1992**

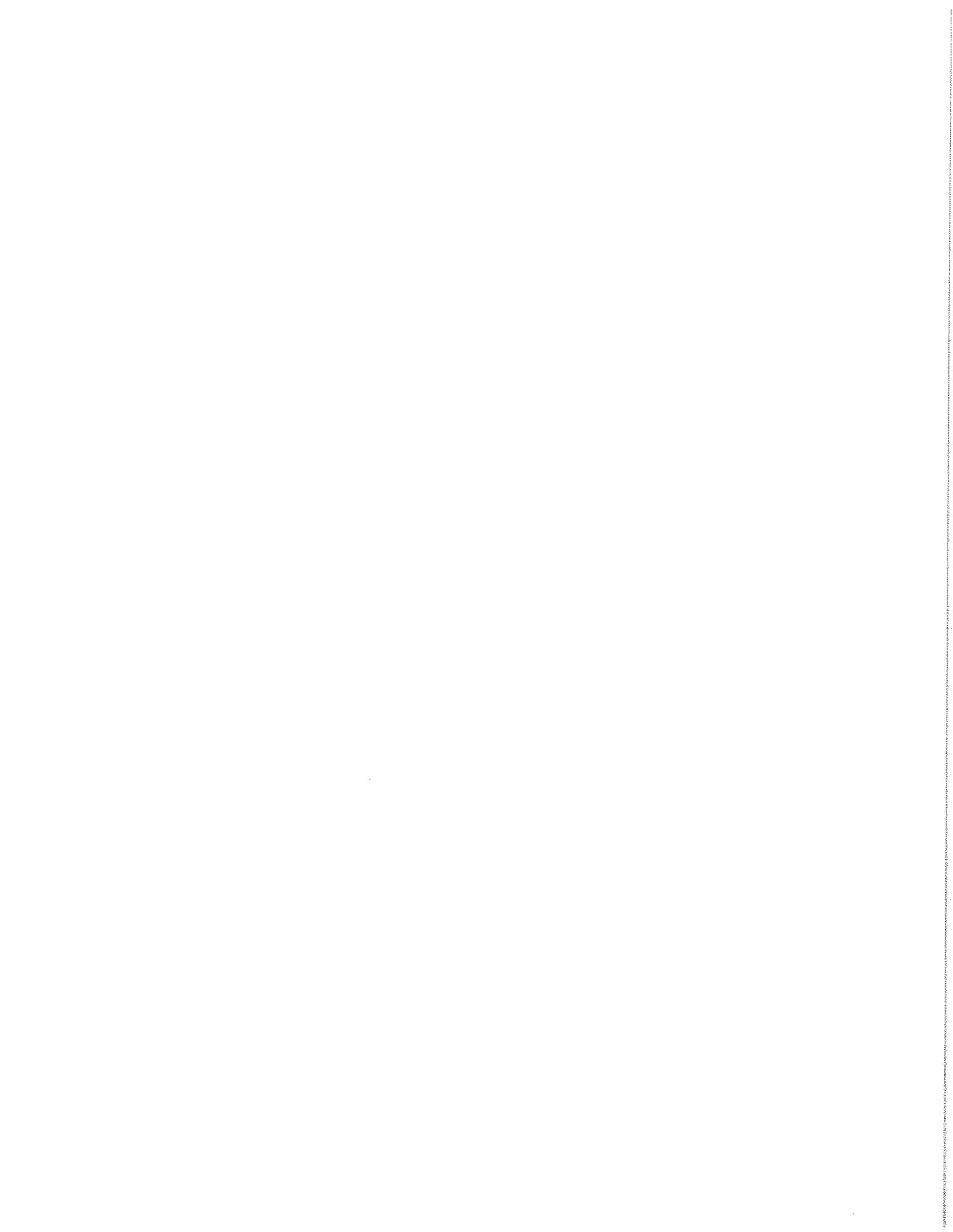
# **Appendix R**

**MAG CONFORMITY CONSULTATION PROCESSES  
FOR THE MARICOPA COUNTY NONATTAINMENT AREA,  
REQUIRED UNDER ARIZONA CONFORMITY RULE R18-2-1405**

Adopted February 28, 1996

Maricopa Association of Governments  
1820 West Washington Street  
Phoenix, Arizona 85007

Contact Persons:  
Doug Eberhart or Roger Herzog, (602) 506-4117



## **GUIDE TO THE DRAFT MAG CONFORMITY CONSULTATION PROCESSES FOR THE MARICOPA COUNTY NONATTAINMENT AREA**

The purpose of this guide is to provide an overview of the material developed to document MAG conformity consultation processes. The Draft MAG Conformity Consultation Processes report was developed in response to Section R18-2-1405 of the Arizona conformity rules. It represents a companion document to the MAG Transportation Conformity Guidances and Procedures which was adopted by the MAG Regional Council on September 27, 1995.

The latter report was prepared to respond to specific requirements in the Arizona conformity rules relating to guidances and procedures for use by public agencies in identifying regionally significant transportation projects and ensuring that they meet applicable conformity requirements. The MAG Conformity Consultation Processes, on the other hand, focuses on the processes that MAG will follow to meet the consultation requirements placed on metropolitan planning organizations by the Arizona conformity rules.

The MAG conformity consultation processes are based, to the extent possible, upon existing processes previously adopted by MAG. Prior to the development of the Arizona rules, MAG had adopted conformity procedures in July 1994, responding to the requirements of the federal regulations on transportation conformity. Also, responding to requirements of the federal Intermodal Surface Transportation Efficiency Act, MAG adopted a formal public involvement process in September 1994.

### **FEDERAL AIR QUALITY CONFORMITY REQUIREMENTS**

Conformity requirements were strengthened by Congress in 1990, through amendments to the federal Clean Air Act. The concept of conformity is that air quality plans are based upon assumptions about the future transportation facilities and programs which affect motor vehicle use. Any significant change to the transportation system assumed in the air quality plans has the potential to affect the air quality outcome.

Prior to taking action on a transportation plan, program, or project, government agencies are required to ensure that the action conforms with the air quality plans. The federal regulations on conformity place specific emphasis on the importance of interagency consultation as part of the conformity process.

## PURPOSE OF MAG CONFORMITY CONSULTATION PROCESSES DOCUMENT

The EPA issued federal regulations on transportation conformity with detailed requirements regarding interagency and public consultation. The EPA regulations gave states one year to adopt and submit their own conformity criteria, in which consultation requirements could be tailored to local needs. Arizona conformity rules became effective in June 1995.

The Arizona rules require that Metropolitan Planning Organizations (MPOs) develop specific consultation processes that they will follow in fulfilling their roles in meeting conformity requirements. The purpose of the Draft MAG Conformity Consultation Processes document is to describe the processes that MAG will follow to meet the consultation requirements that are placed on the MPO by the Arizona conformity rules.

## ORGANIZATION OF THE MAG CONFORMITY CONSULTATION PROCESSES DOCUMENT

The Draft MAG Conformity Consultation Processes begins with an introduction which provides background information on conformity legislation, consultation requirements and the entities in the consultation process. The document is then segmented according to the sections of the Arizona conformity rules that place specific consultation requirements on the MPO.

The MAG processes which are described are numbered to correspond directly to specific requirements of the Arizona conformity rules. For example, the designation for the MAG process corresponding to requirement R18-2-1405(C)(1) is MAG process C-1. Processes are provided in response to the specific requirements of Arizona conformity rule subsections C, M, N, O, and R. (See Table 1 for a complete listing of process topics.) To provide additional cross-referencing of process topics, major consultation subject areas are discussed below.

### MAG CONSULTATION ON AIR QUALITY PLANS (See MAG Process C-1)

MAG is responsible, for leading consultation on State Implementation Plan (SIP) revisions which contain attainment demonstration, emissions budgets, or transportation control measures. Revisions to the SIP are made whenever necessary and not on a regularly scheduled basis. The MAG committee structure is used to initiate a SIP revision.

MAG provides information describing the decision process to the affected agencies and interested members of the public, provides access to all information needed for meaningful input, and solicits early and continuing input from those agencies. Policy level contact is accommodated throughout the process. Information is transmitted to the affected agencies through committee agenda mailings, supplemented with other direct correspondence as necessary.

Workshops and hearings are advertised prominently in local newspapers along with information on where the documents can be reviewed. After the public hearing, a response to public comments is prepared. Through the MAG committee structure, which provides full public access through the open meeting law, comments are reviewed by the technical, management and elected official policy levels.

#### MAG CONSULTATION ON THE TRANSPORTATION IMPROVEMENT PROGRAM (TIP) AND LONG-RANGE TRANSPORTATION PLAN (See MAG Process C-3 and C-6)

MAG is responsible for leading consultation on the Long Range Transportation Plan and TIP and accompanying conformity determinations. Normally, MAG prepares a new TIP and updates the Long Range Transportation Plan on an annual basis. However, the TIP preparation schedule may vary considerably, due to technical and regulatory complexities.

Development of a Transportation Improvement Program or Long Range Transportation Plan Update by MAG entails extensive interagency coordination efforts and a specialized public involvement process. A final public hearing is conducted to receive comments on the final Draft Program Update. After the public hearing, a response to public comments is prepared.

During the time between adoption of two successive TIP documents, the currently approved TIP may be amended. It is important to note that the TIP is amended only for federal projects. Non federal projects which are regionally significant require a regional emissions analysis but do not require a TIP amendment.

MAG develops conformity determinations for the MAG Long Range Transportation Plan and TIP through its committee structure. Conformity determinations are made for each TIP and Transportation Plan Update. Air quality conformity analyses are made available with transportation documents for public review during the final public hearing phase. After the public hearing, a written response to comments is prepared. The MAG Regional Council makes the conformity determination for transportation plans and programs in its role as the MPO. All comments and responses are fully considered prior to taking final action.

#### MAG CONSULTATION ON PROJECT-LEVEL CONFORMITY (See MAG Process M-2, M- 3, M-9 and R-3)

MAG makes conformity determinations only for the TIP and Long Range Transportation Plan, as a whole. The determination of conformity for individual federal projects is the responsibility of the implementing agency.. Consultation issues required to be addressed by implementing agencies at the project level for federal projects are described in Arizona Conformity Rule R18-2-1405(P)(2). When an implementing agency consults with MAG as part of this process, an agenda item is include on the MAG Management Committee and MAG Regional Council agendas.

For regionally significant nonfederal projects, the implementing agency also is responsible for meeting applicable conformity and emissions analysis criteria required under federal regulations. However, neither a conformity determination nor a consultation process is required of the implementing agency. MAG will assist member agencies in project-level conformity analyses for both federal and nonfederal projects by performing regional emissions analyses as appropriate. The results of the regional emissions analysis appears as an item on the MAG Management Committee and Regional Council agendas.

In addition, under Arizona conformity rules, the implementing agency is required to determine whether or not a project is regionally significant, has a significant change in scope or may be relieved of mitigation or control measures. MAG member agencies may request consultation through MAG on these issues.

To consult on these issues, the MAG process makes associated material available for public review and provides an opportunity for informal question and answers. An agenda item for the MAG Management Committee is developed, and a deadline for comments is established. The result of this process is reported at a subsequent meeting of the MAG Regional Council. The consultation process ends when a finalized version of the memorandum is included as an agenda item for consultation at a meeting of the MAG Regional Council.

#### MAG CONSULTATION ON TECHNICAL ISSUES (See MAG Process C-2, M-1, M-5, M-7 and N-2)

MAG is responsible for leading consultation on several technical issues relating primarily to the modeling of motor vehicle emissions and developing air quality estimates. Specific subject areas to be addressed include modeling and assumptions for hot-spot and regional emissions analysis and evaluating possible adverse emission impacts of exempt projects.

For consultation on these issues, the MAG process makes material associated with these issues available for public review and provides an opportunity for informal questions and answers. An agenda item for the MAG Management Committee is developed, and a deadline for comments is established. The result of this process is reported at a subsequent meeting of the MAG Regional Council. The consultation process ends when a finalized version of the memorandum is included as an agenda item for consultation at a meeting of the MAG Regional Council.

In addition, conformity rules require consultation regarding the design and funding of research and data collection efforts relating to transportation/air quality topics. This consultation is accomplished by MAG through the annual MAG Unified Planning Work Program (UPWP). MAG develops the UPWP through a process which emphasizes participation by federal agencies.

MAG initiates the UPWP development process by distributing a memorandum to agencies which participate in regional planning activities. The memorandum requests input

regarding proposed work elements for the upcoming LTWP. Opportunity for additional interagency and public input is afforded when the revised draft UPWP is presented to the MAG Management Committee. Following consideration and a recommendation by the Management Committee, the Unified Planning Work Program is forwarded to the MAG Regional Council for possible approval.

MAG CONSULTATION ON PLANNING AND PROGRAMMING ISSUES (See MAG Process M-4, M-6, M-8, N-1 and O-1)

MAG is responsible for leading consultation on several conformity issues which address regional transportation planning and programming considerations. Specific subject areas include identifying regionally significant transportation facilities, programming exempt projects and assessing TCM priorities. Also, the need for a new conformity determination of the TIP and Long Range Transportation Plan may be required to be evaluated.

For these issues, the MAG consultation process again makes material associated with these issues available for public review and provides an opportunity for informal questions and answers. An agenda item for the MAG Management Committee is developed, and a deadline for comments is established. The result of this process is reported at a subsequent meeting of the MAG Regional Council. The consultation process ends when a finalized version of the memorandum is included as an agenda item for consultation at a meeting of the MAG Regional Council.

In addition, conformity rules require consultation on the disclosure of regionally significant projects. This consultation is accomplished in accordance with the time frames established in the adopted MAG Transportation Conformity Guidances and Procedures. Local agencies are required to make the disclosures to MAG throughout the year, and MAG distributes the project information on approximately a quarterly basis, in conjunction with the annual TIP development cycle and the off-cycle process for assessing conformity of individual projects.

MAG CONSULTATION ON TRANSPORTATION CONFORMITY GUIDANCE AND PROCEDURES (See MAG Process O-2 and R-2)

On September 27, 1995, the MAG Regional Council adopted MAG Transportation Conformity Guidance and Procedures. This document was prepared to respond to requirements in the Arizona Conformity rules relating to guidance and procedures for use by public agencies in identifying regionally significant transportation projects and ensuring that they meet applicable conformity requirements. In addition, a map and guidances regarding regionally significant transportation projects was prepared. MAG is responsible for periodic update of the map and procedures.

As previously indicated, the MAG process makes material associated with these issues available for public review and provides an opportunity for informal questions and answers. An agenda item for the MAG Management Committee is developed, and a

Deadline for comments is established. The result of this process is reported at a subsequent meeting of the MAG Regional Council. The consultation process ends when a finalized version of the memorandum is included as an agenda item for consultation at a meeting of the MAG Regional Council.

#### UPDATING MAG CONFORMITY CONSULTATION PROCESSES

MAG consultation processes may be updated as required. It is not intended that the MAG consultation processes be considered as part of the Arizona Air Quality State Implementation Plan, which would entail State approval and submittal to the U.S. Environmental Protection Agency. This approach will allow enhanced timeliness and flexibility at the regional level in modifying the MAG consultation process periodically in the event that the need for change arises.

## TABLE 1

### MAG CONFORMITY CONSULTATION PROCESSES

- C-1. MAG air quality plans, including emissions budgets and transportation control measures
- C-2. MAG Unified Planning Work Program
- C-3. MAG Transportation Plan and Transportation Improvement Program
- C-6. Transportation conformity determinations
- M-1. Choosing models and assumptions for hotspot and regional emissions
- M-2. Determining whether a transportation project may proceed without previously committed mitigation or control measures
- M-3. Determining whether or not a transportation project is consistent with the TIP conformity determination
- M-4. Determining which minor arterials serve regional transportation needs and which concept design or scope changes are considered significant
- M-5. Evaluation whether exempt projects should be treated as non-exempt in cases where potential adverse emissions impacts may exist
- M-6. Determining whether past obstacles to TCMs are being overcome and TCMs are given funding priority
- M-7. Determining whether PM-10 hotspot analysis is required
- M-8. Adding and deleting exempt projects from transportation plan and TIP
- M-9. Conformity determinations for transportation projects which are federally funded or otherwise require federal approval
- N-1. Evaluating events which trigger new conformity determinations
- N-2. Consulting on emissions analysis for transportation activities which cross the borders of MPOs or nonattainment areas
- O-1. Disclosure of possible regionally significant transportation projects by agencies receiving federal highway or transit funds

- O-2. Development of procedures regarding required information, timeframes, and financial commitment documentation for approval of nonfederal projects by agencies which are recipients of federal highway or transit funds
- R-2. Development of map and guidance regarding regionally significant transportation projects
- R-3. Proposed list of transportation projects to be considered regionally significant

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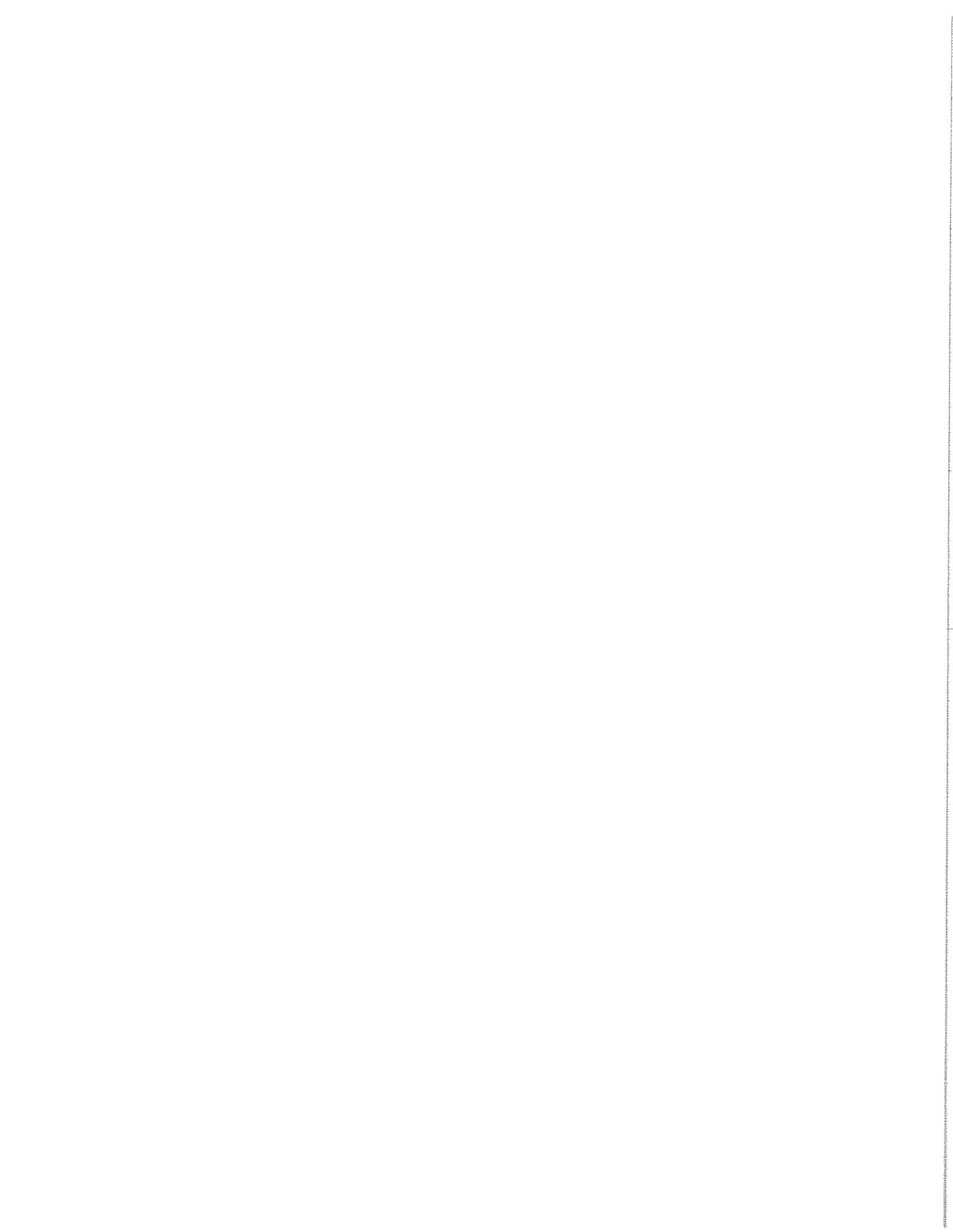
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## **AGENCY ABBREVIATIONS**

ADOT .....Arizona Department of Transportation  
ADEQ .....Arizona Department of Environmental Quality  
EPA .....U.S. Environmental Protection Agency  
FHWA.....Federal Highway Administration  
FTA .....Federal Transit Administration  
MAG .....Maricopa Association of Governments  
MCESD.....Maricopa County Environmental Services Department  
RPTA .....Regional Public Transportation Authority

## **OTHER KEY ACRONYMS**

CFR.....U. S. Code of Federal Regulations  
CO .....Carbon Monoxide  
PM-10 .....Particulate Matter (less than 10 microns in size)  
SIP .....State Implementation Plan for air quality  
STIP .....State Transportation Improvement Program  
TCM.....Transportation Control Measure  
TIP.....Transportation Improvement Program  
UPWP .....Unified Planning Work Program



## INTRODUCTION

This document describes specific processes for interagency and public consultation on air quality and transportation conformity issues for the Maricopa County area. These procedures have been prepared by the Maricopa Association of Governments (MAG) in response to the requirements of Arizona conformity regulations which became effective in June 1995. MAG serves as the designated Metropolitan Planning Organization for all jurisdictions within Maricopa County, Arizona, including the Phoenix urbanized area. MAG is a regional planning agency, consisting of 24 cities and towns, Maricopa County, and two Indian communities. A representative from the Arizona Department of Transportation also serves for transportation-related issues.

Arizona Conformity Rule R18-2-1405 identifies numerous transportation/air quality planning products and technical issues for which Metropolitan Planning Organizations such as MAG are required to develop consultation processes. The consultation processes are required to be developed in consultation with transportation agencies, air quality agencies, and the public. Many of the consultation requirements in the Arizona Conformity Rules are also required under federal regulations.

Conformity requirements were mandated by Congress in 1990, through amendments to the federal Clean Air Act. The concept of conformity is that air quality plans are based upon assumptions about the future transportation facilities and programs which affect motor vehicle use. Any significant change to the transportation system assumed in the air quality plans has the potential to affect the air quality outcome. Accordingly, prior to taking action on a transportation plan, program, or project, government agencies are required to ensure that the action conforms with the air quality plans.

### EPA CONFORMITY REGULATIONS

The Clean Air Act Amendments of 1990 placed specific emphasis on the importance of interagency consultation in making conformity determinations. Section 176(4)(B)(i) of the Act required the U.S. Environmental Protection Agency (EPA) to promulgate conformity criteria and procedures addressing, at a minimum:

“the consultation procedures to be undertaken by metropolitan planning organizations and the Secretary of Transportation with State and local air

quality agencies and State departments of transportation before such organizations and the Secretary make conformity determinations.”

In November 1993, the EPA issued federal regulations on transportation conformity, with detailed requirements regarding interagency and public consultation. The consultation requirements are contained in Title 40, Code of Federal Regulations, Section 51.402. For reference, Section 51.402 has been provided in Appendix A to this MAG consultation processes document. The EPA regulations gave States one year to adopt and submit their own conformity criteria, in which consultation requirements could be tailored to local needs.

### ARIZONA CONFORMITY REQUIREMENTS

The Arizona conformity rules, which became effective in June 1995, closely followed the federal regulations. The Arizona rules require that Metropolitan Planning Organizations (or the Arizona Department of Transportation, in areas not covered by an MPO) develop specific consultation processes addressing conformity determinations and various related technical decisions. Section R18-2-1405 of the Arizona rules identifies which agency is responsible for leading each consultation process, which parties are to be consulted, and what minimum steps and features are to be included in specific processes.

Consultation is defined in the Arizona conformity rules as follows: “Consultation means that one party confers with another identified party, provides access to all appropriate information to that party needed for meaningful input, and, prior to taking any action, considers the views of that party and responds in accordance with the procedures established in R18-2-1405.” For reference, Section R18-2-1405 has been provided in Appendix B to this MAG consultation processes document.

A brief outline of rule R18-2-1405 is provided in Figure 1. Sections which identify specific consultation processes required of the Metropolitan Planning Organization (e.g. MAG) are indicated with an asterisk.

### MAG CONFORMITY CONSULTATION PROCESSES

The MAG conformity consultation processes described in the following pages were developed in response to Section R18-2-1405 of the Arizona conformity rules. To the extent possible, these processes have been based upon existing processes previously adopted by MAG. Prior to the development of the Arizona rules, MAG had adopted conformity procedures in July 1994, responding to the requirements of the federal regulations on transportation conformity. Also, responding to requirements of the federal Intermodal Surface Transportation Efficiency Act, MAG adopted a formal public involvement process in September 1994.

It is not intended that the MAG consultation processes be considered part of the Arizona State Implementation Plan, which would entail State approval and submittal to the U.S. Environmental Protection Agency. This approach will allow enhanced timeliness and flexibility at the regional level in modifying the MAG consultation processes in the event that the need for change arises.

The MAG processes which are described in the following pages are numbered to correspond directly to specific requirements of the Arizona conformity rules. For example, the designation for the MAG process corresponding to requirement R18-2-1405(C)(1) is MAG process C-1. Processes are provided in response to the specific requirements of Arizona conformity rule subsections C, M, N, O, and R.

Generally, all of the MAG conformity procedures involve consultation with the entities which are listed in Figure 2. Any variation from this list of consulted entities is clearly indicated in the text describing the specific process for which the variation applies.

Figure 3 identifies the organizational level at which regular consultation processes will operate. The list in Figure 3 does not exclude the possibility that additional agency staff may also be contacted.

Figures 4, 5 and 6 are generalized flow charts depicting the major elements of MAG consultation processes. Figure 4, applicable to a few selected technical issues, consists of five elements:

- Draft memo distributed by MAG
- Review by interested agencies and the public
- Opportunity for review/input by the MAG Management Committee
- Opportunity for review/input by the MAG Regional Council
- Notification to interested parties

Figure 5, the consultation flow chart applicable to most conformity technical and programming issues, adds one additional step:

- Opportunity for informal questions and answers at a workshop or a MAG committee meeting

Figure 6, the consultation flow chart for air quality and transportation plans and programs, involves an approval action (rather than just an opportunity for review and input) for the MAG Regional Council, and provides for two additional steps, in the decision-making process:

- Public hearing
- Formal recommendation to the MAG Regional Council from an appropriate MAG committee.

Figure 1. Outline of Arizona Conformity Rule R18-2-1405

Section A. Establishes the general requirement that consultation shall be undertaken by transportation and air quality agencies in preparing for and making conformity determinations and in developing air quality implementation plans.

Section B. Lists five required elements for the consultation processes which are required in Sections M and N.

Section C.\* Lists major transportation actions for which conformity consultation processes are required.

Sections D through G. Identify lead agencies responsible for consultation on the major transportation actions listed in Section C.

Section H. Lists six required elements for consultation processes, applicable to the agencies identified in Sections D through G.

Sections I and J. Identify lead agency responsibilities of the U.S. Department of Transportation and U.S. Environmental Protection Agency.

Section K. Establishes requirements regarding notification and distribution of final documents after conformity findings are made.

Section L. Describes a public notice requirement for conformity consultation.

Section M.\* Specifies nine consultation processes which require consultation with the U.S. Environmental Protection Agency and U.S. Department of Transportation, in addition to State and local agencies and the public.

Section N.\* Specifies five consultation processes which require consultation with State and local agencies and the public, but not with federal agencies.

Section O.\* Specifies two consultation processes involving specific responsibilities for recipients of federal highway or transit funds, focusing on regionally significant transportation projects.

Section P. Identifies specific requirements for public involvement processes. Subsection 1 applies to the Arizona Department of Transportation, or the Metropolitan Planning Organization (e.g. MAG). Subsection 2 applies to local transportation agencies and regional transportation agencies (e.g. Regional Public Transportation Authority), regarding conformity determinations.

Section Q. Addresses resolution of conflicts among state agencies, or between state agencies and a Metropolitan Planning Organization.

Section R.\* Identifies requirements for consultation guidance and procedures regarding regionally significant transportation projects.

Section S. Indicates the requirements which apply to the delegation of consultation responsibilities from one agency to another entity pursuant to applicable state law.

Section T. Identifies the effective dates for respective provisions of Section 1405.

\*Indicates consultation processes required of the Metropolitan Planning Organization (e.g. MAG).

Figure 2. List of Entities Included in MAG Conformity Consultation Processes

|                          |   |
|--------------------------|---|
| Air quality agencies:    |   |
| Federal --               | Environmental Protection Agency, Region IX- San Francisco   |
| State --                 | Arizona Department of Environmental Quality   |
| Local --                 | Maricopa County Environmental Services Department   |
| Transportation agencies: |   |
| Federal --               | Federal Highway Administration, Arizona Division<br>Federal Transit Administration, Region VHI - Denver |
| State --                 | Arizona Department of Transportation  |
| Local --                 | Regional Public Transit Authority   |
|                          | MAG member agencies:  |
|                          | Maricopa County<br>cities and towns<br>Indian communities   |
| The public               |   |

Figure 3. Agency Representatives for Regular Consultation

| <u>Agency</u>       | <u>Contact Person</u>              |
|---------------------|------------------------------------|
| EPA                 | Director, Air and Toxics Division  |
| FHWA                | Division Administrator             |
| FTA                 | Regional Administrator             |
| ADEQ                | Director<br>Director, Air Division |
| ADOT                | Director                           |
| MCESD               | Director                           |
| RPTA                | Executive Director                 |
| MAG                 | Secretary                          |
| MAG member agencies | Manager                            |

Figure 4

## FLOW CHART FOR CONSULTATION ON SELECTED TECHNICAL ISSUES

(M-8: Exempt Projects, N-2 Cross-Boundary Projects,  
M-9: Project Level Determinations, C-3: Minor Amendments)

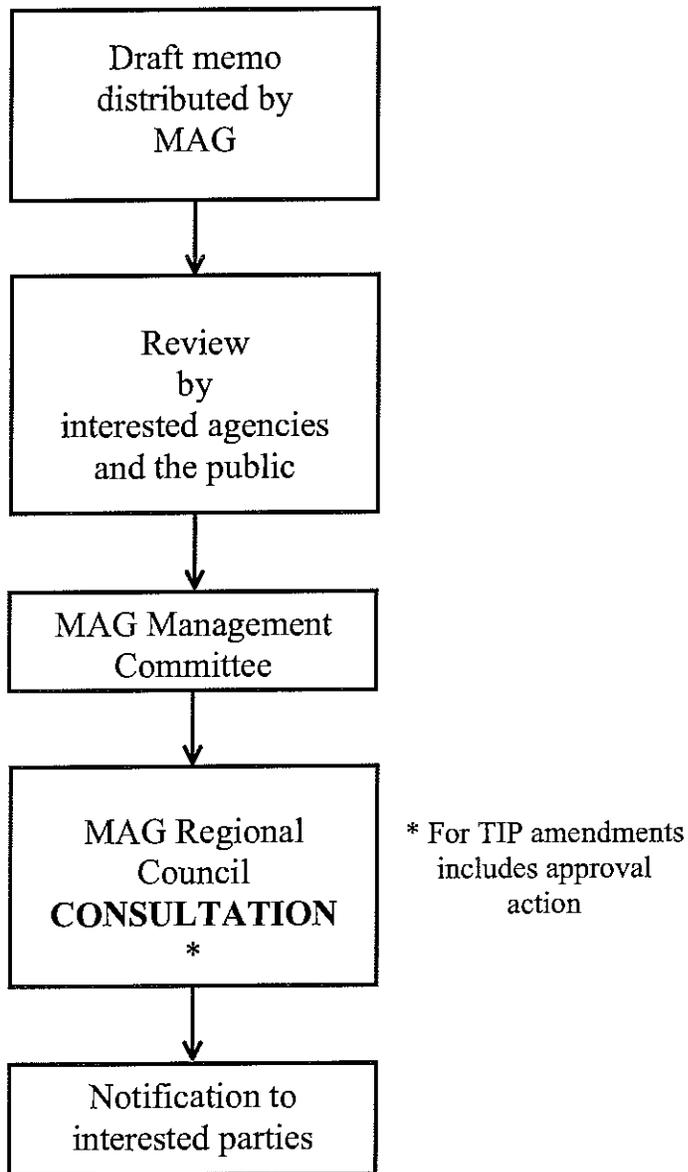


Figure 5

## FLOW CHART FOR CONSULTATION ON TECHNICAL AND PLANNING ISSUES

(Applies to the following MAG Conformity Consultation Processes: M-1, M-2, M-3, M-4, M-5, M-6, M-7, N-1, O-1, O-2, R-2, and R-3)

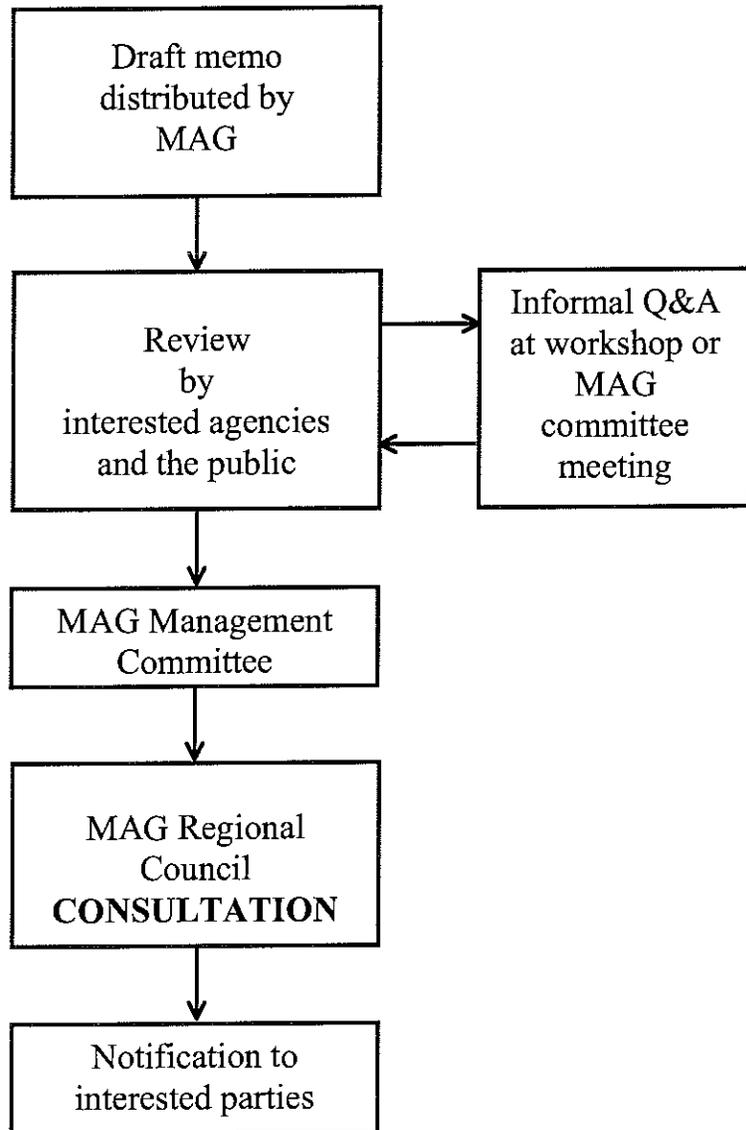
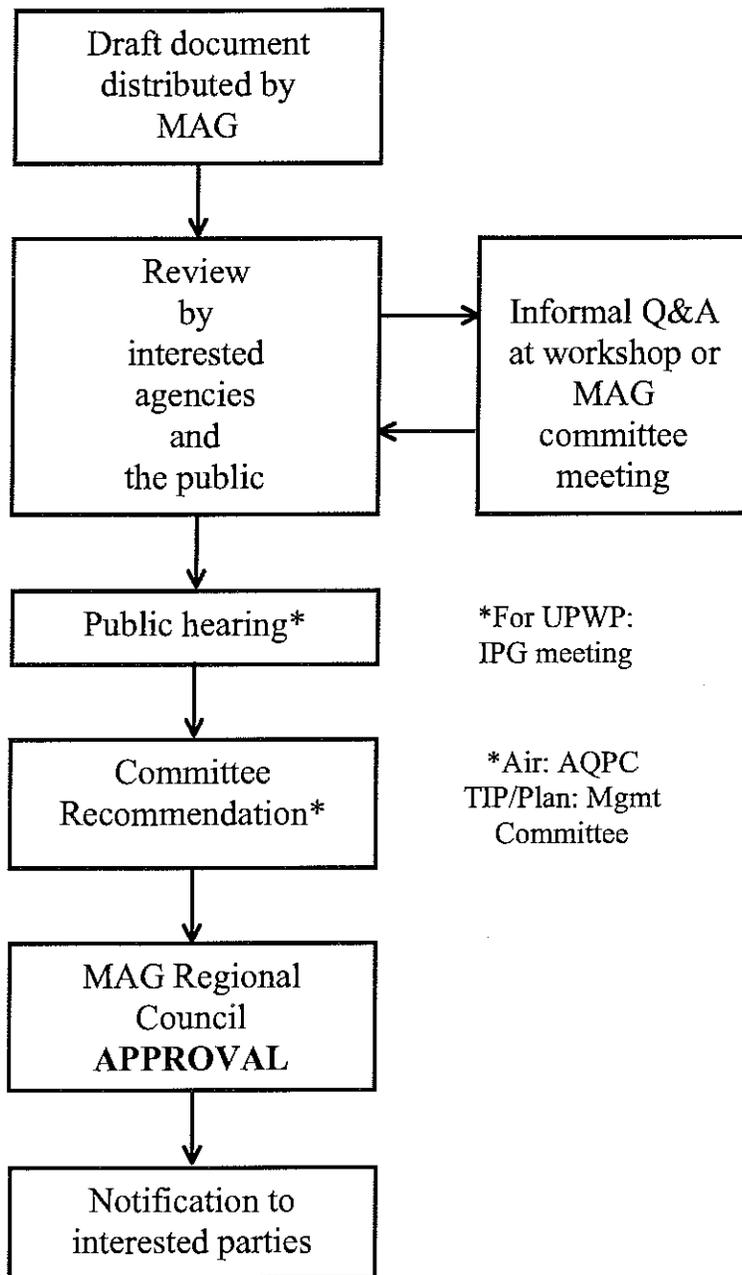


Figure 6

## FLOW CHART FOR CONSULTATION PROCESS ON AIR QUALITY AND TRANSPORTATION PLANS AND PROGRAMS

(C-1: SIP, C-2: UPWP, C-3: Transportation Plan/TIP, C-6: Conformity Analysis)



## **I. MAG CONSULTATION PROCESSES REQUIRED UNDER R18-2-1405(C)**

This section describes four MAG consultation processes which are required under Arizona Conformity Rule R18-2-1405(C). The Arizona rule specifies that consultation is required on the development of the following actions:

1. The implementation plan, including the emission budget and list of TCMs in the applicable implementation plan.
2. The unified planning work program under 23 CFR § 450-314.
3. The transportation plan and TIP.
4. The statewide transportation plan and STIP.
5. Any revisions to the preceding documents.
6. All transportation conformity determinations.

In response to these requirements, MAG has developed processes C-1, C-2, C-3, and C-6. No separate MAG process (e.g. C-5) has been provided to address the fifth item in the above list (“Any revisions to the preceding documents”); instead, revisions are addressed together with development of the affected document. For example, TIP amendments are addressed by MAG process C-3.

In addition, MAG has not developed a process C-4, regarding consultation on the statewide transportation plan and State Transportation Improvement Program (STIP). Subsection R18-2-1405(F) of the Arizona conformity rules indicates that, “ADOT shall be the lead agency responsible for preparing the final document or decision and for assuring the adequacy of the consultation process with respect to the development of the statewide transportation plan and the STIP.”

The specific consultation processes developed in response to the requirements of R18-2-1405(C) are listed below:

- C-1. MAG air quality plans, including emissions budgets and transportation control measures.
- C-2. MAG Unified Planning Work Program.
- C-3. MAG Transportation Plan and Transportation Improvement Program.
- C-6. Transportation conformity determinations.

Arizona Conformity Rule R18-2-1405(H) identifies certain elements required to be included in the C-series of consultation processes. Each MAG consultation process addressing the C-series requirement is structured to address these elements.

**MAG PROCESS C-1.      MAG Air Quality Plans, Including Emissions Budgets and Transportation Control Measures**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(C)(1), which corresponds to Federal conformity regulation 40 CFR 51.402(b)(1).

**ROLES AND RESPONSIBILITIES**

The Clean Air Act requires States to prepare air quality plans for the purpose of attaining federal air quality standards as expeditiously as practicable. A State Implementation Plan (SIP) which demonstrates attainment may establish a motor vehicle emissions budget and contain legally enforceable commitments for implementation of specific Transportation Control Measures. For the Maricopa County area, MAG is the designated air quality planning agency. Following their adoption by the MAG Regional Council, MAG air quality plans are forwarded to the Arizona Department of Environmental Quality for approval as part of the State Implementation Plan. The State of Arizona then submits SIP revisions to the U.S. Environmental Protection Agency for federal approval. Revisions to a State Implementation Plan are prepared using the same process.

In accordance with Arizona Conformity Rule R18-2-1405(D), MAG is responsible for leading consultation on SIP revisions which contain attainment demonstrations, emissions budgets, or transportation control measures. MAG provides for the participation of the transportation and air quality agencies, as well as the public. The list of consulted agencies is provided in Figure 2.

**ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3. In addition, other representatives of the consulted transportation and air quality agencies are included as members and/or agenda recipients for MAG air quality committees.

**FREQUENCY**

Revisions to the State Implementation Plan for air quality are made whenever necessary, and not on a regularly scheduled basis. A SIP submittal ordinarily would be made in response to new federal Clean Air Act Amendments, promulgation of a new national ambient air quality standard, or in conjunction with an EPA finding which changes the attainment status of the region. For example, a new SIP could be required within 18 months after finalization of EPA action to reclassify the region from “Moderate” to “Serious,” or from “nonattainment” to “maintenance.”

## PROCESS

SIP revisions are prepared through a cooperative effort involving ADEQ, ADOT, MCESD, and MAG, with opportunities for comment provided to federal agencies and the public. As required in Arizona statutes, a Memorandum of Agreement is in place among ADEQ, ADOT, Maricopa County and MAG. The purpose of this Memorandum of Agreement is to provide the framework and guidelines to promote coordinated decision making in planning, development, and implementation, and enforcement of those actions necessary to attain and maintain the National Ambient Air Quality Standards in Maricopa County Nonattainment Area. As described in the Memorandum, MAG maintains the regional air quality process for decision making through its committee structure. Other roles and responsibilities of agencies party to the Memorandum are identified as they relate to the preparation of air quality plans through a coordinated interagency effort.

The MAG committee structure is used to initiate a SIP revision. Discussion of upcoming SIP requirements is conducted at open public meetings, with the subject clearly indicated as part of the meeting agenda. Through this process, MAG provides to the affected agencies and interested members of the public information describing the upcoming decision process, provides access to all information needed for meaningful input, and solicits early and continuing input from those agencies.

Policy level contact is accommodated throughout the process. Information is transmitted to the affected agencies through committee agenda mailings, supplemented with other direct correspondence as necessary. A meeting of the Air Quality Planning Team or the Air Quality Policy Team, each consisting of staff from MAG, ADEQ, MCESD, and ADOT, may be convened when necessary, at the request of any of the four agencies.

As drafts of parts or all of a SIP revision document are completed, MAG distributes them by mail not only to the MAG Air Quality Policy Committee, but also to EPA, FHWA, FTA, ADOT, ADEQ, MCESD, RPTA and the MAG member jurisdictions, as appropriate. Interested members of the public are kept informed of these developments through inclusion on the mailing list for the Air Quality Policy Committee.

The open public meetings conducted using the MAG committee structure, described above, provide opportunities for informal questions and answers throughout the SIP development process. Meeting notices and memoranda routinely identify the name and telephone number of appropriate contact persons who can be reached for further information. In addition, if significant comment from the general public is likely, a workshop or public meeting is scheduled during the development of the document in addition to the required public hearing. Copies of draft documents are made available prominently for public review prior to the scheduled workshops and meetings.

When the draft plan as a whole is prepared, copies are made available for public review by all interested parties and a public hearing is advertised. Workshops and hearings are advertised prominently in local newspapers along with information on where the documents can be reviewed. A 30 day review period prior to hearings is provided. The public hearing format provides for a brief summary of the proposed action, presented by staff, but places primary emphasis on receiving input from interested parties.

Through the consultation process, MAG considers the views of each agency and the public, responds to significant comments in a timely, substantive written manner prior to taking action, and assures that such views and written response are made part of the record of any action.

After the public hearing, a response to public comments is prepared. For all significant comments on the draft documents subject to these procedures, a written response is prepared and distributed to the parties being consulted. Documentation of the comments received and the draft staff response to comments is also provided to the MAG Air Quality Policy Committee for consideration. The final document which is recommended by the MAG Air Quality Policy Committee to the MAG Regional Council for adoption includes any changes, as appropriate, made in response to the comments received. The information that is forwarded to the Regional Council includes documentation of the comments and responses as part of the record for the approval action.

During this process, the MAG Management Committee and MAG Air Quality Technical Advisory Committee may comment as appropriate. Through the MAG committee structure, which provides full public access through the open meeting law, significant comments are reviewed by the technical, management and elected official policy levels.

Following approval of a SIP revision by MAG, MAG transmits the adopted document and record of public participation is forwarded to ADEQ to be adopted as part of the State Implementation Plan for submittal to EPA. As required under Arizona Conformity Rule R18-2-1405(K), which corresponds to federal regulation 40 CFR 51-402(c)(7), MAG provides to each other consulted agency and interested members of the public a notice of the approval action, indicating the availability of each final document that is the product of the consultation process. This notice includes a checklist of the available supporting information.

A generalized flow chart depicting the major elements of MAG Process C-1 is provided in Figure 6, on page viii.



## **MAG PROCESS C-2.      MAG Unified Planning Work Program**

Arizona Conformity Rule R18-2-1405(C)(2) requires consultation regarding the Unified Planning Work Program. Arizona Conformity Rule R18-2-1405(N)(4) and Federal conformity regulation 40 CFR 51.402(c)(6) require consultation regarding the design, schedule, and funding of research and data collection efforts and regional transportation model development.

### **ROLES AND RESPONSIBILITIES**

Federal transportation planning regulations require Metropolitan Planning Organizations (e.g., MAG) to prepare an annual or biennial work program which documents the various federally funded planning work tasks. The Unified Planning Work Program (UPWP) contains several air quality work elements which affect the attainment of the clean air standards and the conformity process.

MAG is responsible for leading consultation on development of the UPWP and the associated research activities which affect transportation and air quality modeling used in conformity analysis. MAG provides for the participation of the transportation and air quality agencies, listed in Figure 2, as well as the public.

### **ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3. For purposes of UPWP development, additional federal staff are consulted, through their involvement on the Intermodal Planning Group (IPG). The IPG currently is comprised of representatives of Region IX Federal Highway Administration (FHWA), Region VIR Federal Transit Administration (FTA), Region IX Environmental Protection Agency (EPA), and the Region LX Federal Aviation Administration (FAA).

### **FREQUENCY**

MAG prepares the UPWP annually. Normally, UPWP development begins in January, and is targeted toward UPWP adoption by the MAG Regional Council in April. The goal of this process is to obtain UPWP approval from FHWA and FTA by July 1, the start of the Arizona fiscal year. Amendments to the UPWP are made whenever necessary during the fiscal year.

### **PROCESS**

MAG develops the UPWP through a process which emphasizes participation by federal agencies. The federal agencies have a major role in guiding the use of federal planning funds to assist the region in meeting federal certification requirements for the metropolitan

planning process. The federal agencies are able to provide valuable input based upon their national headquarters priorities and the regional administration perspective which includes knowledge of comparable metropolitan planning efforts throughout the western states.

MAG initiates the UPWP development process by distributing a memorandum to agencies which participate in regional planning activities. The MAG memorandum requests input regarding proposed work elements for the upcoming UPWP. The needed input includes a task name, objective, list of proposed products, description of previous and ongoing work, anticipated impact, specification of individual tasks, as well as cost estimate, implementing agency, and funding source. Based upon the initial submittal, and review of an initial draft, MAG prepares a revised draft which is distributed for review and comment.

MAG provides the draft UPWP, normally in March, to affected agencies at least 30 days prior to the annual meeting of the Intermodal Planning Group (IPG). The IPG meeting is held annually in April to discuss the draft UPWP document. One of the IPG member Federal agencies prepares the agenda and serves as chairman for the meeting. In addition to the Federal agencies in this group, the IPG meeting is also usually attended by ADOT, RPTA and MCESD. These agencies, plus ADEQ, are invited to review the draft UPWP and provide comments.

Opportunity for additional interagency and public input is afforded when the revised draft UPWP is presented to the MAG Management Committee, normally in April. Following consideration and a recommendation by the Management Committee, the Unified Planning Work Program is forwarded to the MAG Regional Council for possible approval. The Regional Council, consisting of elected officials from all jurisdictions in Maricopa County, takes final approval action on the UPWP.

After the UPWP is approved by the Regional Council, MAG transmits the adopted document to the FHWA, FTA, and ADOT as the basis for approval of federal grants and interagency contracts. Copies are distributed to other consultation agencies for information purposes. Interested members of the public will be mailed a notice of the approval action, indicating the availability of the final document, as required under Arizona Conformity Rule R18-2-1405(K).

Developments during the course of the year may result in the need for modification, deletion, or addition of individual work elements in the Unified Planning Work Program (UPWP). As part of the annual approval of the Work Program, the MAG Regional Council normally authorizes the MAG Secretary to make administrative changes to the UPWP and to execute staffing contracts pursuant to the Work Program for transportation, financial and legal services. If the need for a major, non-administrative change to the UPWP amendment is identified, a proposed amendment would be presented to the MAG

Management Committee, which may recommend that the Regional Council take action. The process is comparable to the process for UPWP development, except that an amendment does not necessitate the convening of an IPG meeting.

A generalized flow chart depicting the major elements of MAG Process C-2 is provided in Figure 6, on page viii.



### **MAG PROCESS C-3.      MAG Transportation Plan and Transportation Improvement Program (TIP)**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(C)(3), which corresponds to Federal conformity regulation 40 CFR 51.402(b)(1).

#### **ROLES AND RESPONSIBILITIES**

Federal transportation planning regulations require Metropolitan Planning Organizations (e.g., MAG) to prepare a Long Range Transportation Plan. This plan is the basis for the conformity analysis for the future years of the transportation program. In addition, MPOs are required to prepare a Transportation Improvement Program (TIP), identifying proposed transportation projects covering at least the upcoming three year time period.

MAG is responsible for leading consultation on the long range transportation plan and TIP. MAG provides for the participation of the transportation and air quality agencies, as well as the public. The list of consulted agencies is provided in Figure 2.

#### **ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3.

#### **FREQUENCY**

Usually, MAG prepares a new TIP and updates the Long Range Transportation Plan on an annual basis if appropriate. The MAG TIP process begins with a project submittal deadline around January, and culminates in adoption by the MAG Regional Council in July. This schedule is intended to enable related state action and federal conformity approval to be completed before the start of the next federal fiscal year (October 1). However, the TIP preparation schedule may vary considerably, due to technical and regulatory complexities.

Federal regulations indicate that a TIP approval is valid for two years, and that long range plan adoption is required at least once every three years. The MAG process and schedule may be revisited at any time in the future due to changes in appropriate regulations or the needs of MAG member agencies.

Amendments to the TIP and/or Long Range Transportation Plan are considered, as necessary, throughout the year. Amendments which require regional emission's analysis are considered on approximately a quarterly basis. Amendments with no impact on the most recent conformity analysis for the MAG TIP and transportation plan may be considered for approval at any time of the year.

## PROCESS

Development of a Transportation Improvement Program or Long Range Transportation Plan Update by MAG entails extensive interagency coordination efforts and a specialized public involvement process. The adopted MAG public involvement process offers opportunities for public involvement in an early stage of TIP development, as well as in mid-phase, and in the final phase. The elements of this process are described briefly below.

A public forum for early input into the Transportation Improvement Program is held. At this stage, public input is used to identify and address public sentiment regarding transportation plans and programs, with specific reference to upcoming issues and work topics. Several forum options are considered, including open houses, staff booths at shopping malls, fairs and exhibitions. Comments received are summarized and provided to the Regional Council, the Arizona Department of Transportation (ADOT) and Regional Public Transportation Authority (RPTA). All meetings are widely advertised with appropriate advanced notice.

A joint MAG/ADOT/RPTA Mid Phase Public Hearing is held on regional transportation issues. This hearing includes a report by the MAG Fiscal Analysis Unit. A mid-phase opportunity for input on the initial analysis is also held. Several forum options are considered, including open houses, staff booths at shopping malls, fairs, or exhibitions. Comments received are summarized and provided to the Regional Council, ADOT and RPTA. All meetings are widely advertised with appropriate advanced notice.

A final public hearing is conducted to receive comments on the final Draft Program Update. The public hearing is advertised 30 days in advance, and draft reports are available for public review during this time. Normally, the public hearing includes not only the proposed transportation action (i.e. TIP and/or Plan update), but also the associated air quality conformity analysis.

After the public hearing, a response to public comments is prepared. For all significant comments on the draft documents subject to these procedures, a written response is prepared and distributed to the parties being consulted. Documentation of the comments received and the draft staff response to comments is also provided to an appropriate MAG committee for consideration. The final document which is ultimately recommended to the MAG Regional Council for adoption includes any changes, as appropriate, made in response to the comments received. The information that is forwarded to the Regional Council also includes documentation of the comments and responses as part of the record for the approval action.

Following approval of a TIP and/or Long Range Plan by MAG, MAG transmits the TIP to the Governor for incorporation as part of the State Transportation Improvement Program. As required under Arizona Conformity Rule R18-2-1405(K), which corresponds to federal regulation 40 CFR 51.402(c)(7), MAG provides to each other consulted agency and interested members of the public a notice of the approval action, indicating the availability of each final document that is the product of the consultation process.

During the time between adoption of two successive TIP documents, the currently approved TIP may be amended. It is important to note that the TIP is amended only for federal projects. Nonfederal projects which are regionally significant require a regional emissions analysis but do not require a TIP amendment. MAG consultation process M-8 addresses revisions to a transportation plan or TIP which merely add or delete exempt projects, as identified in Arizona Conformity Rule R18-2-1434.

Amendments involving nonexempt projects can be either minor project revisions or major project revisions. Minor project revisions are program changes which would not necessitate a change to the most recent regional conformity analysis; examples include: funding changes; scope changes that do not alter the number of through traffic lanes more than one-half mile; changes to the programmed implementation year within the five years addressed by the TIP; and design, right-of-way, or utility projects. Major amendments are those which require regional transportation modeling and air quality analysis. Major amendments will follow the consultation process for TIP and transportation plan development, modified to omit the “early” and “mid-phase” efforts described above. Minor amendments will follow MAG consultation process M-8.

A generalized flow chart depicting the major elements of MAG Process C-3 is provided in Figure 6, on page viii. Minor amendments to a TIP or Transportation Plan would be addressed in accordance with the flow chart in Figure 4, on page vi.



## **MAG PROCESS C-6.      MAG Transportation Conformity Determinations**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(C)(6), which corresponds to Federal conformity regulation 40 CFR 51.402(b)(1).

### **ROLES AND RESPONSIBILITIES**

The Clean Air Act requires Metropolitan Planning Organizations (e.g. MAG) to prepare and document conformity findings before approving a transportation plan or Transportation Improvement Program (TIP). For the MAG region, the conformity determination includes: (1) documentation of the modeling methods and assumptions used to assess the MAG transportation plan and TIP; (2) documentation of socioeconomic projections, vehicle activity levels, and transportation control measures; (3) regional emissions modeling and microscale modeling for carbon monoxide under Federal Implementation requirements; and (4) regional emissions analyses and findings for several pollutants under the Conformity Final Rule requirements.

MAG is responsible for leading consultation on the conformity determination for the TIP and Long Range Transportation Plan. MAG provides for the participation of the transportation and air quality agencies, as well as the public. The list of consulted agencies is provided in Figure 2.

### **ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3. In addition, other representatives of the consulted transportation and air quality agencies are included as members and/or agenda recipients for MAG air quality committees.

### **FREQUENCY**

Conformity determinations for the TIP and/or Long Range Transportation Plan normally occur on annual basis, with the goal of securing approval from both MAG and federal agencies prior to the federal fiscal year, which begins on October 1. However, the TIP preparation schedule and conformity determination may vary considerably, due to technical and regulatory complexities. In addition, amendments to the TIP and/or Transportation Plan may be proposed at any time during the year, due to changes in appropriate regulations or the needs of MAG members.

### **PROCESS**

MAG develops conformity determinations for the MAG Transportation Plan and TIP through its committee structure. As noted above, conformity determinations are made for

each TIP and Transportation Plan Update. The procedures discussed in MAG Process C-3 (MAG Transportation Plan and Transportation Improvement Program) indicate that air quality conformity analyses are made available with transportation documents for public review during the final public hearing phase. Conformity determinations prepared by MAG will be made in conjunction with the development of the TIP and/or Transportation Plan (see MAG Process C-4) and in accordance with the MAG Public Involvement Process which was adopted by the MAG Regional Council in September 1994.

Consistent with MAG Process C-3, the draft conformity document is distributed to ADOT, FHWA, FTA, RPTA, EPA, ADEQ and MCESD for review, and is made available for public review for at least 30 days. In addition, citizen review and input regarding the draft conformity analysis are received during the final public hearing phase under Process C-3. After the public hearing, a written response to comments is prepared. Any changes in response to comments are made in the final document, which is recommended by the MAG Air Quality Policy Committee to the MAG Regional Council for adoption.

The MAG Regional Council makes the conformity determination for transportation plans and programs in its role as the MPO. All comments and responses are fully considered prior to taking final action. During this process, the MAG Management Committee may comment as appropriate. The adopted document and record of public participation are forwarded to ADOT, FHWA, FTA, RPTA, EPA, ADEQ and MCESD. Copies of the final conformity analysis are also made available, upon request, to MAG member agencies through their Management Committee representatives.

In addition, it is important to note that MAG makes conformity determinations only for the TIP and Long Range Transportation Plan, as a whole. The determination of conformity for individual federal projects rests with the implementing agency. Consultation issues required to be addressed at the project level by implementing agencies are described in Arizona Conformity Rule R18-2-1405(P)(2). It is anticipated that these issues can be addressed by the implementing agency during the environmental analysis phase of the federal project processing sequence.

For regionally significant nonfederal projects, applicable conformity and emissions analysis criteria required under federal regulations must be met. However, neither a conformity determination nor a consultation process is required of the implementing agency.

A generalized flow chart depicting the major elements of MAG Process C-6 is provided in Figure 5, on page vii.

## **II. MAG CONSULTATION PROCESSES REQUIRED UNDER R18-2-1405(M)**

This section describes nine MAG consultation processes which are required under Arizona Conformity Rule R18-2-1405(M). The consultation processes address conformity related technical issues, largely focused on conformity determinations on individual transportation projects. The list of entities required to be consulted under subsection M includes not only state and local agencies, but also the U.S. Environmental Protection Agency and the U.S. Department of Transportation (USDOT). Consultation with USDOT includes both the Federal Highway Administration and the Federal Transit Administration.

MAG has developed the following consultation processes in response to the nine requirements of R18-2-1405(M):

- M-1. Choosing models and assumptions for hotspot and regional emissions
- M-2. Determining whether a transportation project may proceed without previously committed mitigation or control measures
- M-3. Determining whether or not a transportation project is consistent with the TIP conformity determination
- M-4. Determining which minor arterials serve regional transportation needs and which concept design or scope changes are considered significant
- M-5. Evaluating whether exempt projects should be treated as non-exempt in cases where potential adverse emissions impacts may exist
- M-6. Determining whether past obstacles to TCMs are removed and TCMs are given funding priority
- M-7. Determining whether PM-10 hotspot analysis is required
- M-8. Adding and deleting exempt projects from the transportation plan and TIP
- M-9. Conformity determinations for transportation projects which are federally funded or otherwise require federal approval

Arizona Conformity Rule R18-2-1405(B), requires that consultation processes in the M-series address certain elements, which may be conducted at separate times or in combination. To address these elements the consultation process for M-series items will proceed in accordance with a standard process which is described below.

## STANDARD MAG CONSULTATION PROCESS FOR CONFORMITY TECHNICAL AND PLANNING ISSUES

For each consultation issue, a memorandum is prepared describing the relevant requirements and the approaches or procedures to be followed. This material is made available for public review. In addition, to provide an informal opportunity for questions and answers, the material is discussed at either a public workshop or a meeting of an appropriate MAG committee. The memorandum is also provided to consulted parties (see Figure 2), normally as an agenda item for the MAG Management Committee, and a deadline for comments is established. The result of this process is reported at a subsequent meeting of the MAG Regional Council. Inclusion of the item on the MAG Management Committee and MAG Regional Council agendas provides additional opportunity for comment. The consultation process ends when a finalized version of the memorandum is included as an agenda item for consultation at a meeting of the MAG Regional Council. Subsequently, MAG will send to consulted parties a memorandum summarizing the comments received, response to comments, and the final outcome of the process. A generalized flow chart depicting the major elements of the standard MAG consultation process is provided in Figure 5, on page vii.

## **MAG PROCESS M-1. Choosing Models and Assumptions For Hot-spot and Regional Emissions**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(M)(1), which corresponds to Federal conformity regulation 40 CFR 51.402(c)(1)(i).

### **ROLES AND RESPONSIBILITIES**

MAG is required to initiate interagency consultation for evaluating and choosing a model (or models) and associated methods and assumptions to be used in hot-spot analyses and regional emissions analyses. These methods and assumptions are used by MAG in making conformity determinations for the Long Range Transportation Plan and Transportation Improvement Program. In addition, the methods and assumptions are used by other agencies when project-level transportation conformity determinations are required.

MAG is responsible for leading consultation on the evaluation and selection of models for hotspot and regional emissions analyses. MAG provides for the participation of the transportation and air quality agencies, as well as the public, in the consultation process. The list of consulted agencies is provided in Figure 2.

### **ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3.

### **FREQUENCY**

Periodic as needed. Normally, MAG has conducted consultation on model selection at the outset of the process to prepare a conformity analysis for a new TIP or transportation plan update. From time to time, EPA approves new mobile source emission factors or other pertinent models for use in regional or hotspot analysis. To allow for the completion of analyses already underway using a prior approved model, EPA typically establishes a grace period during which either the previous model or the newly approved model may be used.

### **PROCESS**

Periodic consultation may be appropriate to evaluate the adequacy of currently used models and methods, and to update them as necessary. The current model being used by MAG for CO hotspot analysis is version 2 of the CAL3QHC intersection model as approved by EPA. For project-level analysis, background CO values may be derived from results of the Urban Airshed Model, or by adjusting the maximum one-hour concentration at the nearest neighborhood scale monitoring station. The adjustment is made by

multiplying the background concentration by the ratio of future year MOBILE5a CO emission factors to the current MOBILE5a emission factors and by the ratio of future to current traffic. All modeling is required to use the latest planning assumptions, in accordance with 40 CFR 51.412.

Regional mobile emissions analysis is modeled using the latest EPA-approved mobile emissions model(s) as required in 40 CFR 51.414. All model inputs use the latest planning assumptions, as required in 40 CFR 51.412. Until revised or replaced by EPA, MOBILE5a is the appropriate source for determining mobile emissions factors.

For consultation purposes, MAG prepares a written summary of the relevant modeling procedures applied in the conformity analysis, indicating any changes which may be currently proposed for consideration. This memorandum undergoes the consultation process as described on page 18. A generalized flow chart depicting the major elements of MAG Process M-1 is provided in Figure 5, on page vii.

**MAG PROCESS M-2. Determining Whether a Transportation Project May Proceed Without Previously Committed Mitigation or Control Measures**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(M)(2), which corresponds to federal conformity regulation 40 CFR 51.458(d).

**ROLES AND RESPONSIBILITIES**

For some transportation projects, mitigation or project-level control measures may have been identified as conditions for approval of environmental clearance in accordance with requirements of the National Environmental Protection Act (NEPA). If at a later date the project sponsor or the Metropolitan Planning Organization believes the mitigation or control measure is no longer necessary, the project sponsor or operator may be relieved of its obligation to implement the mitigation or control measure. This would require a demonstration that allowing relief would not negate the conformity findings for the regional transportation plan and TIP, in which the mitigation was assumed for modeling purposes. Federal regulations require that the MPO and state department of transportation must confirm that the transportation plan and TIP “still satisfy” applicable conformity requirements if relief of the mitigation requirement were allowed. Consultation regarding such a demonstration is required, and under Arizona conformity rules, “shall be initiated by the responsible agency.” MAG provides for the participation of the transportation and air quality agencies, as well as the public, in the consultation process. The list of consulted agencies is provided in Figure 2.

**ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3.

**FREQUENCY**

As needed.

**PROCESS**

The consultation process for relief from project-level mitigation requirements is initiated by notification from the project sponsor to MAG that relief is being requested. The project sponsor is responsible for preparation of any project-level analyses, and any required regional emissions analyses are prepared by MAG. When all necessary project-level and regional scale analysis is completed and documented by the implementing agency, MAG prepares a written summary of the request for relief. This memorandum undergoes the consultation process as described on page 18. A generalized flow chart depicting the major elements of MAG Process M-2 is provided in Figure 5, on page vii.



**MAG PROCESS M-3. Determining Whether a Transportation Project is Consistent with the TIP Conformity Determination**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(M)(3), which corresponds to Federal conformity regulation 40 CFR 51.450(b). Arizona Conformity Rule R18-2-1405(M)(3) requires consultation when “making a determination, as required under R18-2-1429(C)(2), whether the project is included in the regional emissions analysis supporting the currently conforming TIP even if the project is not included in the TIP for purposes of MPO project selection or endorsement, and whether the project's design concept and scope have changed significantly from those which were included in the regional emissions analysis, or in a manner which would significantly impact use of the facility.”

**ROLES AND RESPONSIBILITIES**

The “determination” referred to in R18-2-1405(M)(3) is one of the alternative criteria available to meet federal conformity requirements for a nonfederal project which is considered regionally significant. The recipient of federal highway or transit funds with authority to approve the nonfederal, regionally significant project is responsible for assuring that conformity criteria are met. Under applicable MAG Transportation Procedures adopted on September 27, 1995, consultation is not required if the project is included in the conforming TIP and transportation plan and has not changed significantly in design concept or scope. A significant change would be one that alters any of the key attributes (project location, length, and number of striped through-lanes) used to model the project for conformity purposes.

If the recipient agency is unable to determine whether or not the project is included in the TIP or whether a scope change is significant, the matter is referred to MAG for consultation. Arizona Conformity Rule R18-2-1405(M)(3) indicates that “the consultation process pursuant to this paragraph shall be initiated by the MPO.” In this consultation process, MAG provides for the participation of the transportation and air quality agencies, listed in Figure 2, and the public.

**ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3.

**FREQUENCY**

Requests for MAG consultation under process M-3 may be made at any time. If the result of the consultation process is the conclusion that a regional emissions analysis is needed, the analysis is conducted as part of the next regularly scheduled (quarterly) MAG analysis, pursuant to adopted MAG Transportation Conformity Procedures.

## PROCESS

After receiving a request for consultation from a recipient of federal highway or transit funds, MAG prepares a draft assessment of whether or not the emissions impact of the proposed transportation project is adequately reflected in the conformity analysis for the approved conforming TIP and transportation plan. The consultation process described on page 18 is then conducted. A generalized flow chart depicting the major elements of MAG Process M-3 is provided in Figure 5, on page vii.

**MAG PROCESS M-4. Determining Which Minor Arterials Serve Regional Transportation Needs and Which Concept Design or Scope Changes Are Considered Significant**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(M)(4), which corresponds to Federal conformity regulation 40 CFR 51.402(c)(1)(ii).

In air quality nonattainment areas, a consultation process is required to determine which roadways functionally classified as “minor arterial” and other transportation projects should be considered to serve regional transportation needs. Improvements on such facilities may be considered “regionally significant,” which makes them subject to transportation conformity requirements. Also, consultation is required to determine which projects should be considered to have a significant change in design concept and scope from the transportation plan or TIP.

**ROLES AND RESPONSIBILITIES**

Under Arizona Conformity Rules, the Metropolitan Planning Organization (MAG) is responsible for leading consultation on these issues. MAG provides for the participation of the transportation and air quality agencies, as well as the public. The list of consulted agencies is provided in Figure 2.

**ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3.

**FREQUENCY**

Periodic as needed. Normally, MAG has conducted consultation on this issue at the outset of the process to prepare a conformity analysis for a new TTP or transportation plan update. In September 1995, as required under R18-2-1429(D), MAG prepared a map of transportation facilities which serve regional transportation needs, together with detailed guidance and procedures applicable to nonfederal transportation projects. The September 1995 map, guidance and procedures may be updated periodically, as needed, under MAG consultation process R-2.

**PROCESS**

For consultation purposes, MAG prepares a memorandum addressing the types of facilities which serve regional transportation needs and the types of project changes which may be considered significant. This memo highlights any changes which may be currently proposed for consideration. The consultation process described on page 18 is then conducted. A generalized flow chart depicting the major elements of MAG Process M-1 is provided in Figure 5, on page vii.



**MAG PROCESS M-5. Evaluating Whether Exempt Projects Should Be Treated as Non-Exempt-in Cases Where Adverse Emissions Impacts May Exist**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(M)(5), which corresponds to Federal conformity regulation 40 CFR 51.402(c)(1)(iii).

**ROLES AND RESPONSIBILITIES**

The Arizona Conformity Rules specify that the Metropolitan Planning Organization (MAG) 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. The list of consulted agencies is provided in Figure 2.

**ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3.

**FREQUENCY**

Periodic as needed. Normally, MAG has conducted consultation on this issue at the outset of the process to prepare a conformity analysis for a new TIP or transportation plan update.

**PROCESS**

For consultation purposes, MAG prepares a memorandum addressing the types of facilities which are considered exempt from conformity requirements. This memo highlights any changes which may be currently proposed for consideration. The consultation process described on page 18 is then conducted. A generalized flow chart depicting the major elements of MAG Process M-5 is provided in Figure 5, on page vii.



**MAG PROCESS M-6. Determining Whether Past Obstacles To TCMs Are Being Overcome and TCMs Are Given Funding Priority**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(M)(6), which corresponds to Federal conformity regulation 40 CFR 51.402(c)(1)(iv).

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 federal transportation conformity regulation 40 CFR 51.418(c)(2).

**ROLES AND RESPONSIBILITIES**

MAG is responsible for leading consultation on the determination of obstacles to and priority of TCMs. MAG provides for the participation of the transportation and air quality agencies, as well as the public. The list of consulted agencies is provided in Figure 2.

**ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3.

**FREQUENCY**

Consultation on this issue is conducted at the outset of the process to prepare a conformity analysis for a new TIP, generally on an annual basis. Related findings are included in the Conformity Analysis document, which undergoes consultation in accordance with MAG consultation process C-6.

**PROCESS**

For consultation purposes, MAG prepares a memorandum assessing whether or not there have been past obstacles to TCM implementation. The consultation process described on page 18 is then conducted. A generalized flow chart depicting the major elements of MAG Process M-6 is provided in Figure 5, on page vii.



## **MAG PROCESS M-7. Determining Whether PM-10 Hotspot Analysis is Required**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(M)(7), which corresponds to Federal conformity regulation 40 CFR 51.402(c)(1)(v).

Consultation is required for the identification of projects located at sites in the PM-10 nonattainment area which have vehicle and roadway emission and dispersion characteristics which are essentially identical to those at sites which have violations verified by monitoring, and therefore may be subject to requirements for quantitative PM-10 hotspot analysis. Federal conformity regulation 40 CFR 51.454(d) indicates that PM-10 hotspot analysis requirements “will not take effect until EPA releases modeling guidance on this subject and announces in the Federal Register that these requirements are in effect.”

### **ROLES AND RESPONSIBILITIES**

MAG is responsible for initiating consultation on this subject. MAG provides for the participation of the transportation and air quality agencies, as well as the public. The list of consulted agencies is provided in Figure 2.

### **ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3.

### **FREQUENCY**

Consultation on this issue is conducted at the outset of the process to prepare a conformity analysis for a new TIP, generally on an annual basis.

### **PROCESS**

For consultation purposes, MAG prepares a memorandum assessing the identification of projects where PM-10 hotspot analysis may be required. The consultation process described on page 18 is then conducted. A generalized flow chart depicting the major elements of MAG Process M-7 is provided in Figure 5, on page vii.



**MAG PROCESS M-8. Adding and Deleting Exempt Projects From Transportation Plan and TIP**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(M)(8), which corresponds to Federal conformity regulation 40 CFR 51.402(c)(1)(vi).

**ROLES AND RESPONSIBILITIES**

Consultation is required to provide notification of transportation plan or TIP revisions or amendments which merely add or delete projects which are exempt from conformity criteria. The transportation plan, TIP, revisions thereto, and associated conformity determinations are prepared by MAG. Accordingly, MAG is responsible for providing notification of TIP or plan amendments which merely delete or add exempt projects. MAG provides for the participation of the transportation and air quality agencies, as well as the public. The list of consulted agencies is provided in Figure 2.

**ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3.

**FREQUENCY**

As needed.

**PROCESS**

Arizona conformity rule R18-2-1405(B) indicates that process M-8 is not required to include the five-element consultation process which applies to all other M-series, regarding consultation with all affected agencies and members of the public.

For consultation purposes, MAG prepares a memorandum describing the proposed TIP amendment as requested by the project sponsor, and indicating why the project is exempt from conformity requirements. The memorandum is provided to consulted parties (see Figure ii), normally as an agenda item for the MAG Management Committee, and deadline for comments is established. The result of this process is reported at a subsequent meeting of the MAG Regional Council. The consultation process ends when a finalized version of the memorandum is included as an agenda item for consultation at a meeting of the MAG Regional Council.

Following approval of a TIP amendment by MAG, MAG transmits the amendment and record of public participation to the Arizona Department of Transportation for incorporation as part of the State Transportation Improvement Program. As required

under Arizona Conformity Rule R18-2-1405(K), which corresponds to federal regulation 40 CFR 51.402(c)(7), MAG provides to each other consulted agency and interested members of the public a notice of the approval action, indicating the availability of each final document that is the product of the consultation process.

A generalized flow chart depicting the major elements of MAG Process M-8 is provided in Figure 4, on page vi.

**MAG PROCESS M-9. Conformity Determinations For Transportation Projects Which Are Federally Funded or Otherwise Require Federal Approval**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(M)(9).

**ROLES AND RESPONSIBILITIES**

Arizona Conformity Rule R18-2-1405(M)(9) requires consultation on project-level conformity determinations, and indicates that the consultation process shall be initiated by the recipient of the funds designated under Title 23 U.S.C. or the Federal Transit Act (i.e. the project sponsor).

MAG will assist member agencies in project-level conformity determinations by performing regional emissions analyses as appropriate. However, MAG is not directly responsible for making any project level conformity determinations that may be required. If amendments to the plan and TIP are triggered by requests from MAG member agencies, MAG makes a conformity determination for the TIP and plan, as a whole. MAG provides for the participation of the transportation and air quality agencies, as well as the public, during the TIP amendment process. The list of consulted agencies is provided in Figure 2.

**ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3.

**FREQUENCY**

As needed.

**PROCESS**

Consultation issues required to be addressed at the project level by implementing agencies are described in Arizona Conformity Rule R18-2-1405(P)(2). It is anticipated that these issues can be addressed by the implementing agency during the environmental analysis phase of the federal project processing sequence.

When an implementing agency consults with MAG as part of this process, MAG transmits a memorandum prepared by the implementing agency describing the proposed project and indicating why the project meets conformity requirements. The memorandum is provided to consulted parties (see Figure ii), normally as an agenda item for the MAG Management Committee, and a deadline for comments is established.

The result of this process is reported at a subsequent meeting of the MAG Regional Council. The consultation process ends when a finalized version of the memorandum is included as an agenda item for consultation at a meeting of the MAG Regional Council.

A generalized flow chart depicting the major elements of MAG Process M-9 is provided in Figure 4, on page vi.

### **III. MAG CONSULTATION PROCESSES REQUIRED UNDER R18-2-1405(N)**

This section describes MAG consultation processes which are required under Arizona Conformity Rule R18-2-1405(N). The consultation processes address conformity related technical issues for which consultation with federal agencies is not required.

One of the issues identified for consultation in Subsection N, specifically N-3, is not applicable in the MAG region. Process N-3 “a consultation process...for purposes of determining conformity of all projects outside of the metropolitan area and within the nonattainment or maintenance area,” is not applicable because in the MAG region, the nonattainment area is not larger than the metropolitan area. Process N-3 is required to be initiated by the Arizona Department of Transportation, and would be developed by ADOT for use where applicable.

Additionally, Arizona conformity rule R18-2-1405(N)(4) is not addressed below since it is addressed earlier under MAG consultation process C-2. Consultation regarding the design, schedule and funding of research and data collection efforts and regional transportation model development is addressed as part of the development of the MAG Unified Planning Work Program.

Arizona conformity rule R18-2-1405(N)(5) is not addressed below since it is addressed earlier under MAG consultation process M-2. MAG has developed the following consultation processes in response to the requirements of R18-2-1405(N):

- N-1. Evaluating events which trigger new conformity determinations
- N-2. Consulting on emissions analysis for transportation activities which cross the borders of MPOs or nonattainment areas

In accordance with R18-2-1405(B), it is required that consultation processes in the N-series address certain elements, which may be conducted at separate times or in combination. The consultation process described on page 18 will be applied.



## **MAG PROCESS N-1.      Evaluating Events Which Trigger New Conformity Determinations**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(N)(1), which corresponds to Federal conformity regulation 40 CFR 51.402(c)(2)(i).

### **ROLES AND RESPONSIBILITIES**

Under EPA regulations, consultation is required to evaluate events which will trigger new conformity determinations in addition to the required frequency of conformity determinations identified in 40 CFR 51.400 (R18-2-1404). The Arizona Conformity Rule has modified the federal requirement to add the phrase, “and including any changes in planning assumptions that may trigger a new conformity determination.”

The Arizona Conformity Rules specify that the Metropolitan Planning Organization (MAG) is responsible for leading consultation on this issue. In this process, MAG provides for the participation of the transportation and air quality agencies, as well as the public. The list of consulted agencies is provided in Figure 2.

### **ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3. In accordance with the specific requirements of R18-2-1405(N), consultation with federal agencies (i.e. U.S. Environmental Protection Agency, Federal Highway Administration and Federal Transit Administration) is not required nor anticipated for MAG Process N-1.

### **FREQUENCY**

As needed. Initiated by any agency listed in Figure ii through notification to MAG identifying a recent or upcoming event which may justify a new conformity determination.

### **PROCESS**

Through its committee structure, MAG will evaluate events that could require a new conformity determination. Events such as receipt of major unanticipated new funding for additional projects could cause a conformity determination to become obsolete and require a new determination on a schedule that is commensurate with the magnitude of the event. Given the frequency of conformity determinations by MAG (annual, under ordinary circumstances), most triggering events would normally be reflected and accounted for in a timely manner through the existing TIP development process.

For consultation, MAG prepares a memorandum describing the identified event and assessing whether or not the event warrants a new conformity determination for the TIP and transportation plan. This memorandum will undergo the consultation process described on page 18. A generalized flow chart depicting the major elements of MAG Process N-1 is provided in Figure 5, on page vii.

**MAG PROCESS N-2.      Emissions Analysis for Transportation Activities Which Cross the Borders of MPOs or Nonattainment Areas**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(N)(2), which corresponds to Federal conformity regulation 40 CFR 51.402(c)(2)(ii).

**ROLES AND RESPONSIBILITIES**

MAG provides for the participation of the transportation and air quality agencies, as well as the public. The list of consulted agencies is provided in Figure 2.

**ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3. In accordance with the specific requirements of R18-2-1405(N), consultation with federal agencies (i.e. U.S. Environmental Protection Agency, Federal Highway Administration and Federal Transit Administration) is not required nor anticipated for MAG Process N-2.

**FREQUENCY**

Consultation is conducted on an as needed basis, in response to a formal request initiated by the agency which has the authority to approve the transportation project in question.

**PROCESS**

Arizona conformity rule R18-2-1405(B) indicates that process N-2 is not required to include all consultation elements which apply to the other N-series processes, regarding consultation with all affected agencies and members of the public.

Most transportation activities that cross the boundaries listed above are accounted for by traffic counts along interstate highways, railway and air traffic estimates. Continuing consultation between ADOT and local agencies through the MAG committee structure generally spotlight changes in these “boundary” conditions as major events occur (e.g. North American Free Trade Association, airport facility expansion, railway service changes, etc.). As new programs are implemented, the affected agencies analyze the impacts on previous assumptions. For example, MCESD would revise its emissions inventory any time one of these sources shows a significant change in emissions. This information would be shared with the other agencies listed in Figure 2.

A generalized flow chart depicting the major elements of MAG Process M-9 is provided in Figure 4, on page vi.



#### **IV. MAG CONSULTATION PROCESSES REQUIRED UNDER R18-2-1405(O)**

This section describes MAG consultation processes which are required under Arizona Conformity Rule R18-2-1405(O). These processes focus on nonfederal transportation projects which are planned or being considered for approval by any agency which is a recipient of funds designated under Title 23 United States Code (i.e. federal highway funds) or the Federal Transit Act.

For reference, Arizona Conformity Rule R18-2-1401(37) provides the following definition:

“Recipient of funds designated under Title 23 U.S.C. or the Federal Transit Act” means any agency at any level of state, county, or city government, including any political subdivision or MPO, that routinely receives Title 23 U.S.C. or Federal Transit Act funds to construct FHWA or FTA projects, operate FHWA or FTA projects or equipment, purchase equipment, or undertake other services or operations via contracts or agreements. This definition does not include private landowners or developers, or contractors or entities that are only paid for services or products created by their own employees.

MAG has developed the following consultation process in response to the requirements of R18-2-1405(O):

- O-1. Disclosure of possible regional significant transportation projects by agencies receiving federal highway or transit funds
- O-2. Development of procedures regarding required information, timeframes, and financial commitment documentation for approval of nonfederal projects by agencies which are recipients of federal highway or transit funds.



**MAG PROCESS O-1. Disclosure of Possible Regionally Significant Transportation Projects by Agencies Receiving Federal Highway or Transit Funds**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(0)(1), which corresponds to Federal conformity regulation 40 CFR 51.402(c)(4).

**ROLES AND RESPONSIBILITIES**

Federal conformity regulations require agencies which receive federal highway or transit funds to disclose as soon as practicable to the Metropolitan Planning Organization (e.g., MAG) known plans for all regionally significant projects which are not funded by FHWA or FTA. The requirement also applies to project changes and to projects which have completed the NEPA process sufficiently to determine assumptions for project design concept and scope.

MAG is responsible for leading consultation on the disclosure of regionally significant projects by agencies who receive federal highway or transit funds. MAG provides for the participation of the transportation and air quality agencies, as well as the public. The list of consulted agencies is provided in Figure 2.

**ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3.

**FREQUENCY**

Consultation on newly disclosed regional significant nonfederal projects is accomplished in accordance with the time frames established in the adopted MAG Transportation Conformity Guidance and Procedures. Local agencies are required to make the disclosures to MAG throughout the year, and MAG distributes the project information on approximately a quarterly basis, in conjunction with the annual development cycle and the off-cycle process for assessing conformity of individual projects.

**PROCESS**

In accordance with the adopted MAG Transportation Conformity Guidance and Procedures, MAG accumulates project submittals throughout the year, periodically reporting them to affected agencies and the public in conjunction with regional emissions analyses. A generalized flow chart depicting the major elements of MAG Process O-1 is provided in Figure 5, on page vii.

For consultation, MAG prepares a memorandum identifying all the projects which have been submitted, and assessing their regional significance. This leads to determination of regional significance under process R-3. Regional emissions analysis, if necessary, is performed with consultation under MAG process C-6.



**MAG PROCESS O-2.      Development of Procedures Regarding Required Information, Timeframes, and Financial Commitment Documentation for Approval of Nonfederal Projects by Agencies Which Are Recipients of Federal Highway or Transit Funds**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(0)(2).

**ROLES AND RESPONSIBILITIES**

Arizona Conformity Rule R18-2-1429(D) requires the Maricopa Association of Governments to develop procedures to be used by recipients of federal highway or transit funds in meeting conformity requirements for nonfederal projects. The rule required completion of the MAG procedures by September 1, 1995, but allows for them to be updated periodically, as may be needed.

MAG is responsible for leading consultation on the conformity guidance. In the consultation process, MAG provides for the participation of the transportation and air quality agencies, as well as the public. The list of consulted agencies is provided in Figure 2.

**ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3. In accordance with the specific requirements of R18-2-1405(O)(2), consultation with federal agencies (i.e. U.S. Environmental Protection Agency, Federal Highway Administration and Federal Transit Administration) is not required nor anticipated for MAG Process O-2.

**FREQUENCY**

The Arizona Conformity Rules indicate that “These procedures may be updated periodically, as needed, using the same consultation process.” Generally, the procedures will be revisited prior to the commencement of the annual TIP development cycle.

**PROCESS**

For consultation purposes, MAG prepares a memorandum detailing the procedures required to be used by recipients of federal highway or transit funds. This memo highlights any changes which may be currently proposed for consideration. This memorandum would undergo the consultation process described on page 18. A generalized flow chart depicting the major elements of MAG Process O-2 is provided in Figure 5, on page vii.



## **V. MAG CONSULTATION PROCESSES REQUIRED UNDER R18-2-1405(R)**

This section describes MAG consultation processes which are required under Arizona Conformity Rule R18-2-1405(R). These processes focus on materials produced by the Metropolitan Planning Organization (e.g. MAG) to assist local governments in the identification of transportation projects which will be considered regionally significant for conformity purposes.

Requirement R-1 of the Arizona Conformity Rule required development of a map and guidance regarding regional significance of transportation projects by September 1, 1995. The required map and guidance were adopted by MAG in September 1995. MAG consultation process R-2 provides for consultation on these materials when they are considered for possible revision in the future.

MAG has developed the following consultation processes in response to the requirements of R18-2-1405(R):

- R-2. Development of map and guidance regarding regionally significant transportation projects
- R-3. Proposed list of transportation projects to be considered regionally significant

Detailed descriptions of the processes listed above are provided in the pages which follow.



**MAG PROCESS R-2.      Development of Map and Guidance Regarding Regionally Significant Transportation Projects**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(R)(2).

**ROLES AND RESPONSIBILITIES**

Arizona Conformity Rule R18-2-1429(R)(1) requires the Maricopa Association of Governments to develop a map and guidance to be used by recipients of federal highway or transit funds in determining whether or not a proposed transportation project is considered to be regionally significant. The rule required completion of the map and guidance by September 1, 1995, but allows for them to be updated periodically, as may be needed.

MAG is responsible for leading consultation on the periodic update of the map and procedures. In the consultation process, MAG provides for the participation of the transportation and air quality agencies, as well as the public. The list of consulted agencies is provided in Figure 2.

**ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3. In accordance with the specific requirements of R18-2-1405(R)(2), consultation with federal agencies (i.e. U.S. Environmental Protection Agency, Federal Highway Administration and Federal Transit Administration) is not required nor anticipated for MAG Process R-2.

**FREQUENCY**

The Arizona Conformity Rules require that the map “shall be updated prior to the commencement of the next TIP or STIP development cycle, unless no changes have occurred,” and that the guidance “shall be revised as necessary to reflect changes in the regional transportation model.” Generally, the map and guidance will be revisited prior to the commencement of the annual TIP development cycle.

**PROCESS**

For consultation purposes, MAG prepares a memorandum addressing the types of facilities which serve regional transportation needs. This memo highlights any changes which may be currently proposed for consideration. This memorandum will undergo consultation as described on page 18. A generalized flow chart depicting the major elements of MAG Process R-2 is provided in Figure 5, on page vii.



**MAG PROCESS R-3. Proposed List of Transportation Projects to be Considered Regionally Significant**

This consultation process is provided in response to Arizona Conformity Rule R18-2-1405(R)(3).

**ROLES AND RESPONSIBILITIES**

Under the Arizona Conformity Rules, the Metropolitan Planning Organization (MAG) is required to develop and initiate a consultation process for a list of transportation projects to be considered regionally significant, and the list is required to include information supporting the proposed classification. The MAG consultation provides for the participation of the transportation and air quality agencies, as well as the public. The list of consulted agencies is provided in Figure 2.

The MAG designation of projects as either regionally significant or not regionally significant is considered advisory to the sponsoring agencies of the projects. The Arizona Conformity Rules require the project sponsor that is a recipient of federal highway or transit funds to determine whether or not the project is regionally significant.

**ORGANIZATIONAL LEVEL OF REGULAR CONSULTATION**

The organizational level for regular consultation is detailed in Figure 3. The Arizona Conformity Rules require this process to include federal agencies (EPA, FHWA and FTA).

**FREQUENCY**

This consultation process is conducted at the point in each TIP cycle when the draft list of projects for inclusion in the TIP is assembled by MAG. In the traditional TIP development schedule, this occurs approximately in March each year. The adopted September 1995 MAG Transportation Conformity Guidance and Procedures provide that between TIP cycles, a MAG member agency may request MAG assistance in determining whether or not a proposed transportation project is considered regionally significant.

**PROCESS**

Based on projects submitted for the annual TIP update, MAG prepares a memorandum identifying which projects in the draft Transportation Improvement Program are considered regionally significant. This memorandum undergoes the consultation process described on page 18. Certain steps in this process may be done concurrently with those in the TIP development process. The list of regionally significant projects contained in the memorandum will become effective when the MAG Regional Council authorizes the draft TIP to be analyzed for conformity.

After Regional Council action to accept the draft list, the designation of a project as regionally non-significant for purposes of TIP conformity analysis will not be subject to change as a result of a future TIP update. However, the regional significance of a project may change upon disclosure of changes in project scope.

The consultation process described on page 18 is also used throughout the year when a MAG member agency requests assistance outside of the normal TIP development cycle. A generalized flow chart depicting the major elements of MAG Process R-3 is provided in Figure 5, on page vii.

**APPENDIX A:**

**EPA TRANSPORTATION CONFORMITY REGULATIONS  
40 CFR 51.402 (CONSULTATION)**

Federal Transportation Conformity Regulation 40 CFR 51.402. Consultation.

(a) General. The implementation plan revision required under §51.396 shall include procedures for interagency consultation (Federal, State, and local) and resolution of conflicts.

(1) The implementation plan revision shall include procedures to be undertaken by MPOs, State departments of transportation, and DOT with State and local air quality agencies and EPA before making conformity determinations, and by State and local air agencies and EPA with MPOs, State departments of transportation, and DOT in developing applicable implementation plans.

(2) Before the implementation plan revision is approved by EPA, MPOs and State departments of transportation before making conformity determinations must provide reasonable opportunity for consultation with State air agencies, local air quality and transportation agencies, DOT, and EPA, including consultation on the issues described in paragraph (c)(1) of this section.

(b) Interagency consultation procedures: General factors.

(1) States shall provide in the implementation plan well-defined consultation procedures whereby representatives of the MPOs, State and local air quality planning agencies, State and local transportation agencies, and other organizations with responsibilities for developing, submitting, or implementing provisions of an implementation plan required by the CAA must consult with each other and with local or regional offices of EPA, FHWA, and FTA on the development of the implementation plan, the transportation plan, the TIP, and associated conformity determinations.

(2) Interagency consultation procedures shall include at a minimum the general factors listed below and the specific processes in paragraph (c) of this section:

(i) The roles and responsibilities assigned to each agency at each stage in the implementation plan development process and the transportation planning process, including technical meetings;

(ii) The organizational level of regular consultation;

(iii) A process for circulating (or providing ready access to) draft documents and supporting materials for comment before formal adoption or publication;

- (iv) The frequency of, or process for convening, consultation meetings and responsibilities for establishing meeting agendas;
  - (v) A process for responding to the significant comments of involved agencies; and
  - (vi) A process for the development of a list of the TCMs which are in the applicable implementation plan.
- (c) Interagency consultation procedures: Specific processes. Interagency consultation procedures shall also include the following specific processes:
- (1) A process involving the MPO, State and local air quality planning agencies, State and local transportation agencies, EPA, and DOT for the following:
    - (i) Evaluating and choosing a model (or models) and associated methods and assumptions to be used in hot-spot analyses and regional emissions analyses;
    - (ii) Determining which minor arterials and other transportation projects should be considered “regionally significant” for the purposes of regional emissions analysis (in addition to those functionally classified as principal arterial or higher or fixed guideway systems or extensions that offer an alternative to regional highway travel), and which projects should be considered to have a significant change in design concept and scope from the transportation plan or TIP;
    - (iii) Evaluating whether projects otherwise exempted from meeting the requirements of this subpart (see §§51.460 and 51.462) should be treated as non-exempt in cases where potential adverse emissions impacts may exist for any reason;
    - (iv) Making a determination, as required by §51.418(c)(1), whether past obstacles to implementation of TCMs which are behind the schedule established in the applicable implementation plan have been identified and are being overcome, and whether State and local agencies with influence over approvals or funding for TCMs are giving maximum priority to approval or funding for TCMs. This process shall also consider whether delays in TCM implementation necessitate revisions to the applicable implementation plan to remove TCMs or substitute TCMs or other emission reduction measures;

- (v) Identifying, as required by §51.454(d), projects located at sites in PM<sub>10</sub> nonattainment areas which have vehicle and roadway emission and dispersion characteristics which are essentially identical to those at sites which have violations verified by monitoring, and therefore require quantitative PM<sub>10</sub> hot-spot analysis; and
  - (vi) Notification of transportation plan or TIP revisions or amendments which merely add or delete exempt projects listed in §51.460.
- (2) A process involving the MPO and State and local air quality planning agencies and transportation agencies for the following:
- (i) Evaluating events which will trigger new conformity determinations in addition to those triggering events established in §51.400; and
  - (ii) Consulting on emissions analysis for transportation activities which cross the borders of MPOs or nonattainment areas or air basins.
- (3) Where the metropolitan planning area does not include the entire nonattainment or maintenance area, a process involving the MPO and the State department of transportation for cooperative planning and analysis for purposes of determining conformity of all projects outside the metropolitan area and within the nonattainment or maintenance area.
- (4) A process to ensure that plans for construction of regionally significant projects which are not FHWA/FTA projects (including projects for which alternative locations, design concept and scope, or the no-build option are still being considered), including those by recipients of funds designated under title 23 U.S.C. or the Federal Transit Act, are disclosed to the MPO on a regular basis, and to ensure that any changes to those plans are immediately disclosed;
- (5) A process involving the MPO and other recipients of funds designated under title 23 U.S.C. or the Federal Transit Act for assuming the location and design concept and scope of projects which are disclosed to the MPO as required by paragraph (c)(4) of this section but whose sponsors have not yet decided these features, in sufficient detail to perform the regional emissions analysis according to the requirements of §51.452.
- (6) A process for consulting on the design, schedule, and funding of research and data collection efforts and regional transportation model development by the MPO (e.g., household/travel transportation surveys).

- (7) A process (including Federal agencies) for providing final documents (including applicable implementation plans and implementation plan revisions) and supporting information to each agency after approval or adoption.
- (d) Resolving conflicts. Conflicts among State agencies or between State agencies and an MPO shall be escalated to the Governor if they cannot be resolved by the heads of the involved agencies. The State air agency has 14 calendar days to appeal to the Governor after the State DOT or MPO has notified the State air agency head of the resolution of his or her comments. The implementation plan revision required by §51.396 shall define the procedures for starting of the 14-day clock. If the State air agency appeals to the Governor, the final conformity determination must have the concurrence of the Governor. If the State air agency does not appeal to the Governor within 14 days, the MPO or State department of transportation may proceed with the final conformity determination. The Governor may delegate his or her role in this process, but not to the head or staff of the State or local air agency, State department of transportation, State transportation commission or board, or an MPO.
- (e) Public consultation procedures. Affected agencies making conformity determinations on transportation plans, programs, and projects shall establish a proactive public involvement process which provides opportunity for public review and comment prior to taking formal action on a conformity determination for all transportation plans and TIPs, consistent with the requirements of 23 CFR part 450. In addition, these agencies must specifically address in writing all public comments that known plans for a regionally significant project which is not receiving FHWA or FTA funding or approval have not been properly reflected in the emissions analysis supporting a proposed conformity finding for a transportation plan or TIP. These agencies shall also provide opportunity for public involvement in conformity determinations for projects where otherwise required by law.

**APPENDIX B:**

**ARIZONA TRANSPORTATION CONFORMITY RULES,  
SECTION R18-2-1505 (CONSULTATION)**

Arizona Conformity Rule R18-2-1405. Consultation.

- A. Consultation procedures as described in this Section shall be undertaken by all of the following entities and shall include the public and affected local and regional transportation agencies in preparing for and making conformity determinations and in developing applicable implementation plans:
1. An MPO where one exists.
  2. The Arizona Department of Transportation (ADOT).
  3. The United States Department of Transportation (USDOT).
  4. The Arizona Department of Environmental Quality (ADEQ).
  5. The county air pollution control agency established pursuant to Title 49 of the Arizona Revised Statutes, where one exists.
  6. The United States Environmental Protection Agency (EPA).
- B. The following elements shall be used to implement the consultation processes under subsection (M), with the exception of paragraph (M)(8), and under subsection (N), with the exception of paragraphs (N)(2) and (N)(3), and shall include all affected agencies and interested members of the public, and may be conducted at separate times or in combination:
1. Providing to the affected agencies and interested members of the public information describing the upcoming decision process.
  2. Distributing or providing access to draft documents.
  3. Providing an opportunity for informal question and answer on the draft document or proposed decision.
  4. Providing an opportunity for formal written comment.
  5. Writing and distributing both a response to comments and the final document or decision.
- C. An MPO where one exists, ADEQ a county air pollution control agency where one exists, ADOT, a transit authority where one exists and any local transportation agency shall undertake a consultation process in accordance with this Section with

each other, with the local or regional offices of EPA, FHWA and FTA, with affected regional transportation agencies, and with the public on the development of the following as described in subsections (D) through (G) of this Section:

1. The implementation plan, including the emission budget and list of TCMs in the applicable implementation plan.
  2. The unified planning work program under 23 CFR § 450.314.
  3. The transportation plan and TIP.
  4. The statewide transportation plan and STIP.
  5. Any revisions to the preceding documents.
  6. All transportation conformity determinations.
- D. ADEQ or the MPO in a county having a population greater than 250,000 persons, shall be the lead agency responsible for preparing an implementation plan, the associated emission budgets and the list of TCMs in the plan. The lead agency shall also be responsible for assuring the adequacy of the consultation process. The concurrence of ADEQ on each implementation plan is required before ADEQ adopts the plan and transmits it to EPA for inclusion in the state implementation plan pursuant to A.R.S. § 49-406.
- E. ADOT, or the MPO where one exists, shall be the lead agency responsible for preparing the final document or decision and for assuring the adequacy of the consultation process with respect to the development of the transportation plan and the TIP. The MPO shall be the lead agency responsible for preparing the final document or decision and for assuring the adequacy of the consultation process with respect to the development of the unified planning work program under 23 CFR § 450.314.
- F. ADOT shall be the lead agency responsible for preparing the final document or decision and for assuring the adequacy of the consultation process with respect to the development of the statewide transportation plan and the STIP.
- G. ADOT, or the MPO where one exists, shall be the lead agency responsible for preparing the final document or decision and for assuring the adequacy of the consultation process with respect to determinations of transportation conformity, except that the entity authorized to adopt or approve a project shall be the lead agency responsible for project-level conformity determinations for projects outside of the transportation plan or TIP and shall assure the adequacy of the consultation process.

- H. Each lead agency described in subsections (D) through (G) shall:
1. Confer with all other agencies having an interest in the document or decision to be developed.
  2. Provide access to all information needed for meaningful input.
  3. Solicit early and continuing input from those agencies.
  4. Conduct the public consultation process described in subsection (P).
  5. Assure policy-level contact with agencies.
  6. With the exception of notifications pursuant to paragraph (M)(8), prior to taking any action required pursuant to subsections (D) through (G) of this Section, consider the views of each agency and the public and respond to significant comments in a timely, substantive written manner prior to taking any final action and assure that such views and written response are made part of the record of any action.
- I. FHWA and FTA shall be responsible for assuring timely action on final findings of conformity for transportation plans, TIPs and federally-funded projects, including the basis for those findings, after consulting with other agencies as provided in this Section. FHWA and FTA shall also be responsible for providing guidance on conformity and the transportation planning process to agencies in consultation. FHWA and FTA may rely on the consultation process initiated by ADOT or the MPO where one exists and shall not be required to duplicate that process.
- J. EPA shall be responsible for reviewing and approving updated motor vehicle emissions factors and providing guidance on conformity criteria and procedures to agencies in consultation.
- K. Each lead agency subject to a consultation process under this Section, including any federal agency, shall provide or notice the availability of each final document that is the product of the consultation process, together with all supporting information, to each other agency and members of the public that have participated in the consultation process within 15 days of adopting or approving the document or making the determination. An agency may supply a checklist of available supporting information, which other participating agencies or the public may use to request all or part of the supporting information, in lieu of generally distributing all supporting information.
- L. A meeting that is scheduled or required for another purpose may be used for the purposes of consultation if the conformity consultation purpose is identified in the public notice for the meeting.

- M. A consultation process involving an MPO where one exists, ADEQ, a county air pollution control agency where one exists, ADOT, a transit authority where one exists, local and regional transportation agencies, EPA, USDOT and the public shall be undertaken for the following:
1. Evaluating and choosing each model and associated methods and assumptions to be used in hot-spot analyses and regional emissions analyses including vehicle miles traveled (VMT) forecasting. The consultation process pursuant to this paragraph shall be initiated by ADOT or the MPO where one exists.
  2. Determining whether the responsible agency identified in R18-2-1433 has demonstrated that the requirements of R18-2-1416, R18-2-1418 and R18-2-1419 are satisfied without a particular mitigation or control measure. The consultation process pursuant to this paragraph shall be initiated by the responsible agency.
  3. Making a determination, as required by R18-2-1429(C)(2), whether the project is included in the regional emissions analysis supporting the currently conforming TIP's conformity determination, even if the project is not included in the TIP for the purposes of MPO project selection or endorsement, and whether the project's design concept and scope have changed significantly from those which were included in the regional emissions analysis, or in a manner which would significantly impact use of the facility. The consultation process pursuant to this paragraph shall be initiated by the MPO. In nonattainment areas where no MPO exists, ADOT shall initiate the consultation process for making a determination, as required by R18-2-1429(C)(2), whether a project that is outside of a TIP is included in the regional emissions analysis, and whether the project's design concept and scope have changed significantly from those which were included in the regional emissions analysis, or in a manner which would significantly impact use of the facility.
  4. Determining pursuant to subsection (R) of this Section which minor arterials and other transportation projects should be considered "regionally significant" for the purposes of regional emissions analysis and which projects should be considered to have a significant change in design concept and scope from the transportation plan or TIP. The consultation process pursuant to this paragraph shall be initiated by the MPO. In nonattainment areas where no MPO exists, ADOT shall initiate the consultation process for determining pursuant to subsection (R) of this Section which minor arterials and other transportation projects should be considered "regionally significant" for the purposes of regional emissions analysis.

5. Evaluating whether exempt projects as described in R18-2-1434 and R18-2-1435 should be treated as non-exempt in cases where potential adverse emissions impacts may exist for any reason. The consultation process pursuant to this paragraph shall be initiated by ADOT or the MPO where one exists.
  6. Making a determination, as required by R18-2-1413, whether past obstacles to implementation of TCMs which are behind the schedule established in the applicable implementation plan have been identified and are being overcome, and whether State and local agencies with influence over approvals or funding for TCMs are giving maximum priority to approval or funding for TCMs. This consultation process shall also consider whether delays in TCM implementation necessitate revisions to the applicable implementation plan to remove TCMs or to substitute TCMs or other emission reduction measures. The consultation process pursuant to this paragraph shall be initiated by ADOT or the MPO where one exists.
  7. Identifying, as required by R18-2-1431, projects located at sites in PM10 nonattainment areas which have vehicle and roadway emission and dispersion characteristics which are essentially identical to those at sites which have violations verified by monitoring, and therefore require quantitative PM10 hot-spot analysis. The consultation process pursuant to this paragraph shall be initiated by ADOT or the MPO where one exists.
  8. Notification of transportation plan or TIP revisions or amendments which merely add or delete exempt projects listed in R18-2-1434. Notice shall be provided by the MPO and need not be provided prior to final action. Notice shall be provided by ADOT for revisions and amendments affecting the state transportation plan and the state TIP. The public involvement process described in subsection (P) of this Section is not required for the purposes of this paragraph.
  9. Project-level conformity determinations pursuant to R18-2-1416. The consultation process pursuant to this paragraph shall be initiated by the recipient of the funds designated under Title 23 U.S.C. or the Federal Transit Act.
- N. A consultation process involving the MPO, ADEQ, a county air pollution control agency where one exists, ADOT, appropriate political subdivisions, regional transportation agencies, if any, and the public shall be undertaken for the following:

1. Evaluating events which will trigger new conformity determinations in addition to those triggering events established in R18-2-1404 and including any changes in planning assumptions that may trigger a new conformity determination. The consultation process pursuant to this paragraph shall be initiated by ADOT or the MPO where one exists.
  2. Consulting on emissions analysis for transportation activities which cross the borders of MPOs or nonattainment areas or air basins. The consultation process pursuant to this paragraph shall be initiated by ADOT or the MPO where one exists. The public involvement process described in subsection (P) of this Section is not required for the purposes of this paragraph.
  3. Where the metropolitan planning area does not include the entire nonattainment or maintenance area, a consultation process involving the MPO and ADOT for cooperative planning and analysis for purposes of determining conformity of all projects outside the metropolitan area and within the nonattainment or maintenance area. The consultation process pursuant to this paragraph shall be initiated by ADOT. The public involvement process described in subsection (P) of this Section is not required for the purposes of this paragraph.
  4. The design, schedule, and funding of research and data collection efforts and regional transportation model development. The consultation process pursuant to this paragraph shall be initiated by ADOT or the MPO where one exists.
  5. Determining that a conforming project approved with mitigation no longer requires mitigation. The consultation process pursuant to this paragraph shall be initiated by ADOT or the MPO where one exists.
- O. The following consultation processes involve recipients of funds designated under Title 23 U.S.C. or the Federal Transit Act:
1. A consultation process involving the MPO, ADEQ, a county air pollution control agency where one exists, ADOT, recipients of funds designated under Title 23 U.S.C. or the Federal Transit Act and any agency created under state law that sponsors or approves transportation projects shall be undertaken to assure that plans for construction of regionally significant projects which are not FHWA or FTA projects, including projects for which alternative locations, design concept or scope, or the no-build option are still being considered, are disclosed as soon as practicable to ADOT or the MPO where one exists, so as to assure that any significant changes to the design

concept or scope of those plans are disclosed as soon as practicable. The political subdivision having authority to adopt or approve a regionally significant transportation project, and any agency that becomes aware of any such project through applications for approval, permitting, funding or otherwise, shall disclose such project to ADOT or the MPO if one exists as soon as practicable. To help assure timely disclosure, the political subdivision having authority to adopt or approve any potential regionally significant transportation project shall disclose to ADOT or the MPO on a schedule prescribed by ADOT or the MPO, whichever is appropriate, each project for which alternatives have been identified through the NEPA process, and in particular, any preferred alternative that may be a regionally significant project. The consultation process shall include assuming the location, design concept and scope of the project, where the sponsor has not yet decided these features, in sufficient detail to allow ADOT or the MPO to perform a regional emissions analysis. The consultation process pursuant to this paragraph shall be initiated by ADOT or the MPO where one exists.

2. A consultation process involving the MPO, ADEQ, a county air pollution control agency where one exists, ADOT, recipients of funds designated under Title 23 U.S.C. or the Federal Transit Act, any agency created under state law that sponsors or approves transportation projects, and the public shall be undertaken for the development of procedures as described in R18-2-1429. The consultation process pursuant to this paragraph shall be initiated by ADOT or the MPO where one exists.
- P. Public involvement processes shall be conducted according to the requirements of this subsection.
1. ADOT or the MPO, where one exists, when making conformity determinations on transportation plans, programs, and projects shall establish and continuously implement a proactive public involvement process which provides opportunity for public review and comment prior to taking formal action on a conformity determination for all transportation plans and TIPS, that meets the following minimum requirements:
    - a. Includes a process that provides complete information, timely public notice, full public access to key decisions and supports early and continuing involvement of the public in developing plans and TIPS.
    - b. Requires a minimum public comment period of 45 days before the public involvement process is initially adopted or revised.

- c. Provides timely information about transportation issues and processes to citizens, affected public agencies, representatives of transportation agency employees, private providers of transportation, other interested parties and segments of the community affected by transportation plans, programs and projects, including but not limited to central city and other local jurisdiction concerns.
- d. Provides reasonable public access to technical and policy information used in the development of plans and TIPs and open public meetings where matters related to the federal-aid highway and transit programs are being considered.
- e. Requires adequate public notice of public involvement activities and time for public review and comment at key decision points, including, but not limited to, approval of plans and TIPs and approval of changes in plans and TIPs. In nonattainment areas classified as serious and above, the comment period shall be at least 30 days for the plan, TIP and major amendments. Public notice shall include mailing of notice to a list of all persons who have requested notice of actions covered by this Article.
- f. Demonstrates explicit consideration and response to public input received during the planning and program development processes.
- g. Seeks out and considers the needs of those traditionally underserved by existing transportation systems, including but not limited to low-income and minority households.
- h. When significant written and oral comments are received on a draft transportation plan or TIP, including the financial plan, as a result of the public involvement process or the consultation process required by this Section, a summary, analysis, and report on the disposition of comments shall be made part of the final plan and TIP.
- i. If the final transportation plan or TIP differs significantly from the one which was made available for public comment by the MPO and it raises new material issues which interested parties could not reasonably have foreseen from the public involvement efforts, an additional opportunity for public comment on the revised plan or TIP shall be made available.

- j. ADOT or the MPO where one exists shall specifically address in writing all public comments that known plans for a regionally significant transportation project which is not receiving FHWA or FTA funding or approval have not been properly reflected in the emissions analysis supporting a proposed conformity finding for a transportation plan or TIP.
  - k. Public involvement processes shall be periodically reviewed by ADOT or the MPO in terms of their effectiveness in assuring that the process provides full and open access to all.
  - l. These procedures will be reviewed by the FHWA and the FTA during certification reviews for TMAs, and as otherwise necessary for all MPOs, to assure that full and open access is provided to MPO decision making processes.
  - m. Metropolitan public involvement processes shall be coordinated with statewide public involvement processes wherever possible to enhance public consideration of the issues, plans, and programs and to reduce redundancies and costs.
2. Local and regional transportation agencies when making conformity determinations on regionally significant transportation projects shall establish and implement a public involvement process which meets, at a minimum, the following requirements:
- a. Provides to the affected agencies and interested members of the public information describing the upcoming decision process.
  - b. Distributes or provides access to draft documents and all information needed for meaningful input.
  - c. Solicits early and continuing input from interested agencies and the public.
  - d. Provides an opportunity for informal question and answer on the draft document or proposed decision.
  - e. Provides an opportunity for formal written comment.
  - f. Provides for writing and distributing both a response to comments and the final document or decision. The response to comments shall

consider the views of each agency and the public. The response to comments shall be made in a timely, substantive written manner prior to taking any final action and shall be made part of the record of any action.

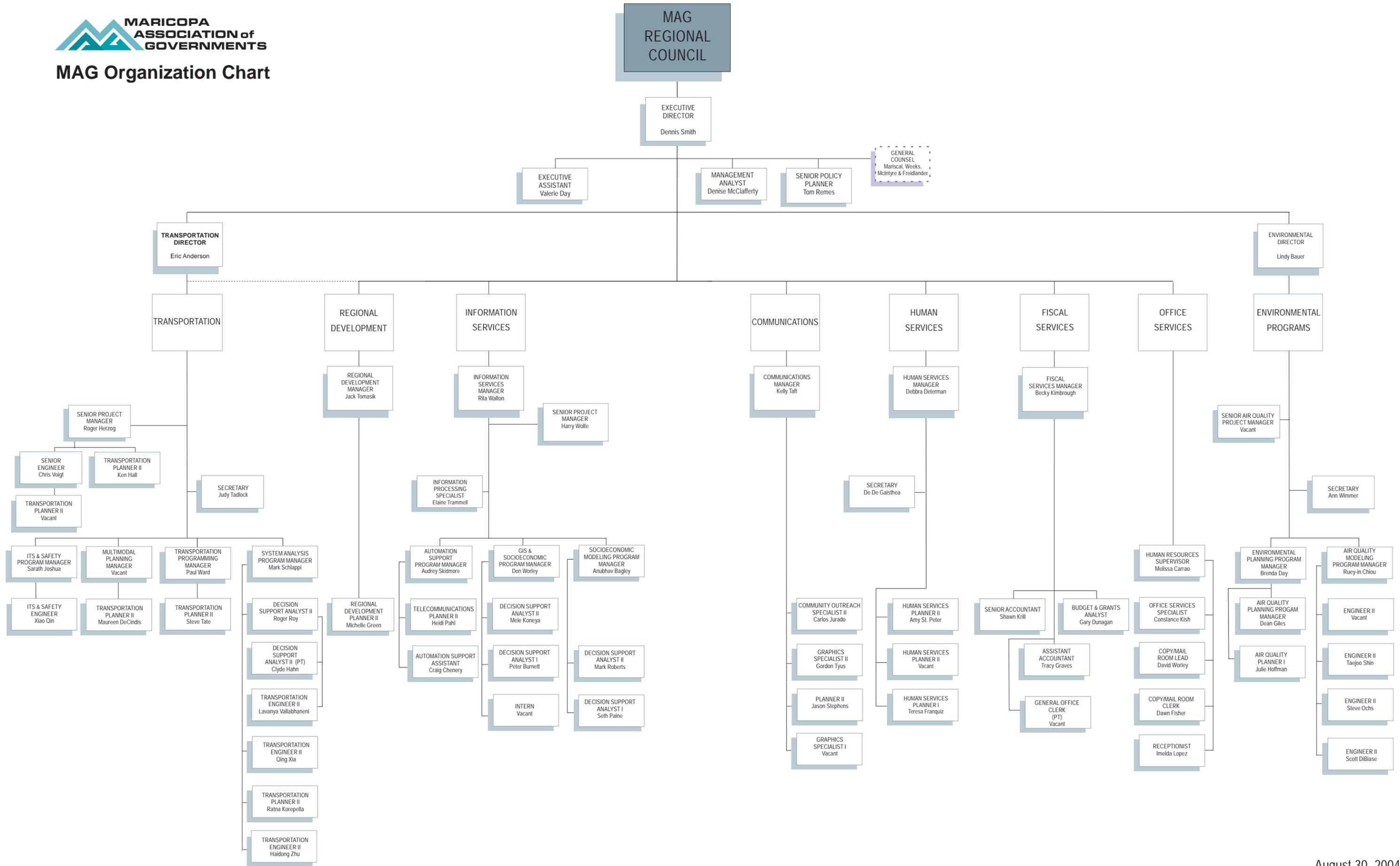
- Q. Any conflict among state agencies or between state agencies and an MPO shall be escalated to the Governor if the conflict cannot be resolved by the directors of the involved agencies. In the first instance, such entities shall make every effort to resolve any differences, including personal meetings between the directors of such entities or their policy-level representatives, to the extent possible. Within 14 calendar days after ADOT or the MPO has notified ADEQ of its decision, ADEQ may appeal a proposed determination of conformity, or other policy decision under this Article, to the Governor. ADEQ must provide notice of any appeal under this subsection to ADOT or the MPO. If ADEQ does not appeal to the Governor within 14 days, ADOT or the MPO may proceed with the final determination or decision. If ADEQ appeals to the Governor, the final conformity determination or policy decision shall have the concurrence of the Governor. The Governor may delegate to another official or agency within the state the role of hearing any appeal under this subsection and of deciding whether to concur in the determination or decision, but may not delegate these functions to the director or staff of ADEQ, to any local air quality agency, to ADOT, to any state transportation commission or board, to an MPO or to any agency that has responsibility for any of these functions.
- R. The following procedures shall govern the consultation process regarding regionally significant transportation projects as defined in R18-2-1401(37):
1. By September 1, 1995, ADOT or the MPO where one exists shall develop and make available, for each nonattainment or maintenance area, consistent with A.R.S. § 49-408(A), the following:
    - a. A map of the highway or transit facilities in the nonattainment or maintenance area that serve regional transportation needs.
    - b. Guidance on which undertakings to implement or modify a highway facility are not transportation projects as defined in this Article, because they are not of sufficient length to address environmental matters on a broad scope.
    - c. Guidance on which types of transportation projects are normally included in the regional transportation model.

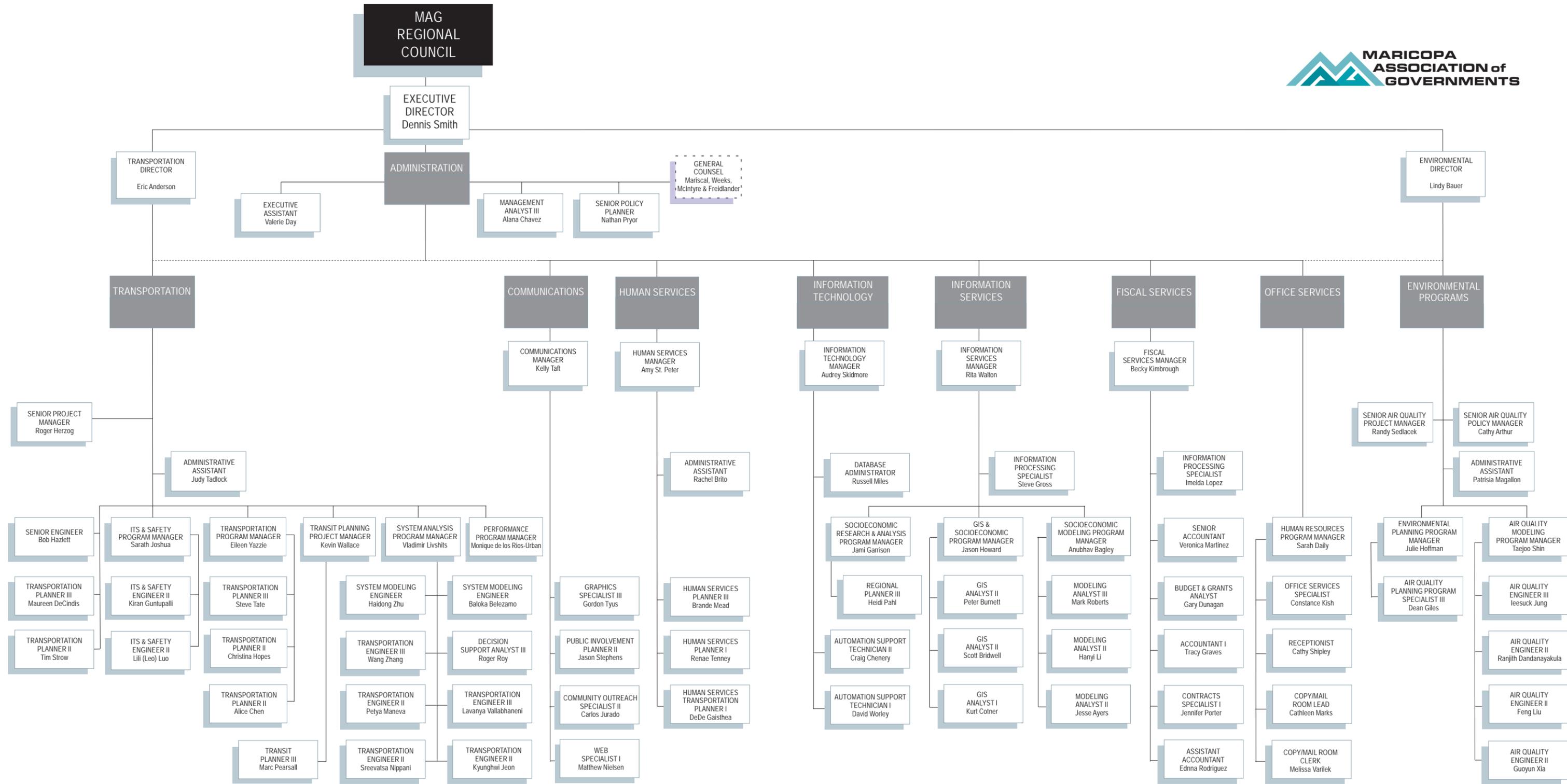
2. The map and guidance described in paragraph (1) of this subsection shall be produced only after consultation with ADEQ a county air pollution control agency where one exists, ADOT, a transit authority where one exists, local and regional transportation agencies, and the public. The map developed pursuant to paragraph (R)(1) shall be updated prior to the commencement of the next TIP or STIP development cycle, unless no changes have occurred. The guidance developed pursuant to paragraph (R)(3) shall be revised as necessary to effect changes in the regional transportation model.
3. ADOT or the MPO where one exists shall develop and initiate the consultation process described in subsection (H) of this Section for a proposed list of transportation projects to be considered regionally significant. The consultation process shall include the MPO where one exists, ADEQ, a county air pollution control agency where one exists, ADOT, a transit authority where one exists, local and regional transportation agencies, EPA, USDOT, and the public. The list shall include information supporting the proposed classification.
4. In determining whether a facility serves regional transportation needs, ADOT or the MPO where one exists shall consider at a minimum whether the facility:
  - a. Would be classified as a principal arterial based on average daily traffic or other factors, if not for limitations that the USDOT places on the percentage of streets that can be so classified.
  - b. For all other roadways, whether the facility:
    1. Serves regional mobility needs, as opposed to local access.
    2. Carries regional traffic from one principal arterial to another.
    3. Is a modification that expands a facility such that it would serve regional transportation needs.
5. For the purposes of this Article, a street with a lower classification than a collector street, as specified in the most recent federal classification map for the region, does not serve regional transportation needs.
6. None of the following attributes, by itself, shall require a transportation project to be included in the modeling of a metropolitan area's transportation network:

- a. The connection of a facility that does not serve regional transportation needs to a facility that does serve regional transportation needs.
  - b. The addition or modification of a lane other than a through lane.
- S. An agency having a role or responsibility under this Section may delegate that role or responsibility to another entity pursuant to the applicable state law, but shall notify all other parties to the consultation process of this fact when the delegation occurs and shall also provide to the other parties the name, address, and telephone number of one or more contact persons representing the entity that is accepting the delegated role or responsibility.
- T. The provisions of this Section apply only to TIP and STIP planning cycles beginning with the cycles next following the effective date of this Section. The provisions of 40 CFR Part 51, Subpart T, continue to apply to all TIP and STIP planning cycles in progress at the time of the effective date of this Section. The provisions of this Section apply to consultation on projects and TIP amendments as of the effective date of this Section.

# **Appendix S**

# MAG Organization Chart





# MAG Organization Chart

September 28, 2009

Note: Interns are not permanent staff and intern positions may not always be included on the organization chart.