

December 13, 2011

Ms. Debra Davenport  
Auditor General  
Arizona Office of Auditor General  
2910 N. 44th Street, Suite 410  
Phoenix, Arizona 85018-7243

Dear Ms. Davenport:

The Maricopa Association of Governments (MAG) has completed its review of the final draft report of the Performance Audit of the Maricopa County Regional Transportation Plan (RTP) that we received on November 21, 2011. This response supersedes our response of December 9, 2011. MAG was notified by the audit contractor on December 12, 2011 that MAG as well as the other agencies who reviewed and responded to the audit, used the "marked-to-show-changes" version of the document that was transmitted on November 21, 2011. According to the audit contractor, subsequent changes were made to the report that were not reflected in the "marked-to-show-changes" version of the document.

We appreciate the efforts and the time your office has invested in conducting the performance audit and we understand the limitations that are inherent with consultants who are located in another state. MAG staff agrees with the findings with some exceptions and concurs with the majority of the recommendations presented in the audit report. Since the audit recommendations have policy and operational implications for MAG, the MAG Regional Council, our governing body, with input from the MAG Management Committee and the Transportation Policy Committee, has the ultimate authority on implementation of the MAG-related recommendations. Please note that the committee structure shown in the audit on pages 17 and 20 are not accurate as MAG stated in the comments on the first draft report and discussed during the exit conference held on November 9, 2011.

As we carefully review the findings and recommendations we believe the Performance Audit could have been significantly strengthened with a better understanding of the expectancies under Proposition 400 to build the plan. Also, legislative constraints were established for changing the plan strictly through the major amendment process. Both the citizens and the legislature expected that the plan presented to voters would be completed. We believe the MAG planning process and the Arizona Department of Transportation have kept faith with the voters and the legislature.

The downturn in the American economy drastically affected the state of Arizona and in particular the MAG region. We have experienced thirty-five consecutive months of year-over-year economic decline, unprecedented in the history of Maricopa County. This situation dramatically affected how we look at the components of our Regional Transportation Plan and how we make decisions about our transportation future. Consequently, over the last four years, MAG has placed a focus on outcome performance measures as applied to mobility, safety and accessibility on the multimodal transportation system. The region's most significant outcome performance measure is the fact that despite the loss of \$369 million in half-cent sales tax dollars in originally anticipated revenues and additional losses in state and federal funds during the last three years, MAG and partner agencies have been able to sustain their ability to implement the plan, and continue to deliver RTP projects with the unanimous support of regional policymakers.

A Voluntary Association of Local Governments in Maricopa County

Our primary task, as outlined by the Proposition 400 ballot measure is to deliver the transportation system delineated in the RTP to the citizens of the region. Projects are being built, the system continues to be developed and improvements being made are enhancing the performance of the MAG region transportation system. Specifically, in the last four years, freeway and arterial travel times have improved on entire corridors, peak hour congestion duration has decreased, recurring congestion at certain bottleneck locations has been relieved, fatalities and injuries have decreased by 25 percent and transit revenue miles as well as boardings per mile have increased. A scrupulous rebalancing effort applied to future RTP phases was successful in deferring significant projects without significantly affecting future forecasted performance and maintaining the integrity of the transportation networks and systems.

The final draft report notes important performance findings where improvements are recommended and recognizes positive examples of practices that demonstrate efficiency and effectiveness in multi modal regional transportation planning.

We look forward to continue working with our RTP Partners in addressing the process improvements as recommended and will continue working to enhance the current practices that have been instrumental in successfully implementing the Regional Transportation Plan for the MAG region.

MAG is appreciative of the auditor's efforts to constructively comment on the performance of the Regional Transportation Plan and offers the agency's response to the general findings of the audit in Appendix A and specific responses to audit recommendations as follows:

1. Formally identify and quantify what the MAG Regional Council, in collaboration with its partners, expects to achieve through the implementation of the RTP.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented. The 2003 RTP set out a number of quantified performance measures for the system. These performance measures are currently part of MAG's Performance Measurement Framework and are updated as the Regional Transportation Plan Updates are developed.

2. Work with ADOT to establish targets and baselines for freeway performance to insert more accountability into the process and ensure that the regional performance framework aligns with state performance measures as well as work with local jurisdictions to set similar targets to track arterial performance.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented. The regional performance framework was developed specifically for the MAG region, the largest urban area in the state with 60 percent of the state's population. The state performance measures and targets are under development by ADOT and will reflect the State's interest rather than specifically for the MAG region.

3. Once available, measure and analyze all available freeway and arterial performance data against set baselines, once established, at a system level and at a project level to better understand how individual projects impact overall system performance.

The finding of the Auditor General is agreed to and a different method of dealing with the finding will be implemented. Measuring project level performance as it relates to overall system performance has to recognize that often the performance analysis of a single project may significantly over- or underestimate the project's contribution to system performance. For example, a project to add high-occupancy vehicle (HOV) lanes on one section of freeway may appear to perform poorly when analyzed in isolation with the overall system, when in fact the single project is part of a series of system improvements to build the HOV network. Corridor level performance will continue to be monitored.

4. Coordinate all RTP Partner's individual performance measurement activities with MAG's overall performance system for the RTP, especially with ADOT's evolving long-range transportation plan measures to minimize duplication or contradiction and maximize efforts and results.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented. MAG and transit agency performance measures will be coordinated and incorporated into MAG's proposed reporting tools. ADOT's state level long range performance measures will be integrated wherever applicable.

5. Publish certain summary performance data on a pre-determined regular basis on MAG's website showing targets and actual performance by corridor and by project as well as providing specific project level performance related to budget and schedule with links to the other RTP Partner websites. Consider providing data at a summary and mode level showing performance of individual projects or segments through a performance dashboard feature.

The finding of the Auditor General is agreed to and a different method of dealing with the finding will be implemented. System level and corridor level performance data will be published on a pre-determined basis. Project level performance data will not be published as part of the MAG performance reporting. Project benefits will be listed on the project "report card."

6. Communicate results and analysis from MAG's Performance Measurement Framework and work with RPTA to communicate results of the Transit Performance Report to committees on a more frequently basis, such as quarterly,

The finding of the Auditor General is agreed to and the audit recommendation will be implemented. Performance data will be provided on a pre-determined basis depending on data availability and data volatility.

7. Continue to implement the current transportation system and strive to continually reassess system performance to make modifications as necessary,

The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

8. Develop and use a "report card" type feature to provide, 1-page project snapshots summarizing project budget and schedule by development phase, actual costs against estimated budget and schedule, project performance measures and progress toward targets, financial assumptions and highlights of project changes to scope, schedule, or cost. Moreover, these report cards could feature a brief project description, project manager contacts, project risks, and percent completion as well and provide a history of each project from the 2003 RTP proposed to the voters.

The finding of the Auditor General is agreed to and a different method of the finding will be implemented. Specific project performance targets will not be included, but rather the project benefits will be listed as illustrated by the Nevada Department of Transportation example.

9. Ensure consistency in data reported and facilitate the tracking of totals and data between the annual Proposition 400 reports and RTP Updates in addition to the various LCP reports published, as well as adding footnotes to clarify data sources in the reports and reasons for amounts that vary between the reports. Additionally, consider:
  - Clarifying terms used in the reports or using term "open to traffic" rather than using "programmed for final construction" related to project schedule;

- Providing explanation of timing of expenditure data and that some "actual" data is just estimated for the fourth quarter of the year being reported;
- Consistently report projects and expenditure information from year to year, and fully explain whether revenues and costs are reflective of full RTP funding sources or only the proposition 400 portion of project funds; and
- Making necessary corrections, in future reports, to communicate past inaccuracies noted by the auditors in previous reports relating to typos and incomplete information from missing projects completed to ensure that future reports reflect the most accurate information.

The finding of the Auditor General is agreed to and a different method of dealing with the finding will be implemented. Note that the reports reflect different reporting time periods. MAG will attempt to synchronize, whenever possible, the various reports, including clarifying terms used and noting where data is actual or estimated.

10. Clarify priority criteria to be more specific, use some type of weighted measure for ranking, and provide mechanics of specifically how criteria is to be applied in project change discussions. This recommendation should be led and developed by MAG, with input from the other RTP Partners.

The finding of the Auditor General is agreed to and a different method of dealing with the finding will be implemented. MAG will review and revise the priority criteria where appropriate, and will explore the potential use of weighted criteria. Note that the priorities were established in the 2003 Regional Transportation Plan, which is the foundation of Proposition 400, and significant changes to priorities may not be warranted.

11. Ensure documentation exists linking projects selected and changes suggested with the priority criteria, quantifying a technical ranking of corridors or projects by performance measures, and discussing the rationale behind changes.

The finding of the Auditor General is agreed to and a different method of dealing with the finding will be implemented. MAG agrees that the criteria used to make program changes needs to be documented as MAG does now. It is advised that this recommendation be changed from "...or projects by performance measures.." to "...or projects by priority ranking.." which makes this clause consistent with the first part of the sentence.

12. Have MAG require the use of the Congestion Management Program (CMP) tool among local cities and counties to identify projects with regional benefits as well as expand use of the tool into other modes in the region, as warranted, for decision making and project reprioritizations.

The finding of the Auditor General is agreed to and a different method of dealing with the finding will be implemented. This recommendation does not include what context MAG would require the use of the CMP tool. Also, the CMP tool may not be the best vehicle for transit. MAG is exploring different analytic tools that could enhance transit planning.

13. Use a performance based model as part of project change and reprioritization processes on a go forward basis to enhance both transparency of the process and accountability to legislative mandates and the public, and document efforts, deliberation, and decisions to show consideration of performance factors such as volume, capacity, and/or delays.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented. MAG already follows this process as demonstrated by the document "Tentative Scenario for the MAG Regional Freeway and

Highway Program," dated October 2009, which memorialized the analysis of the efforts that MAG went through to balance the freeway program that was \$6.6 billion out of balance. MAG will work with our transit partners on how changes in transit priorities can be better documented with respect to performance factors.

14. Ensure documentation is maintained describing basis, source, deliberations, outcome, and rationale for resulting actions and decisions related to project and RTP changes.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented. MAG produced the document "Tentative Scenario for the MAG Regional Freeway and Highway Program," dated October 2009, which memorialized the analysis of the efforts that MAG went through to balance the freeway program that was \$6.6 billion out of balance.

15. Summarize and communicate data to MAG oversight committees on options available and alternatives considered, risk and opportunities for each alternative, impacts of each alternative related to congestion or performance such as mobility and safety, and rationale behind final recommendations.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented. MAG provides the necessary information concerning options and alternatives as appropriate and as requested by the members of the MAG committees.

16. Ensure any additional information provided to individual committee members outside the formal open meeting process is distributed to all committee members as well as made available to the public to stay fully informed.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented. MAG always provides all information to committee members and to the public that is relevant to the committee's decisions. MAG presently distributes pertinent and relative information for decision-makers prior to committee action. MAG uses a Transmittal Summary that ensures transparency regarding issues and how votes are taken throughout the review process. Our minutes of our process are very extensive to serve as a record of the decisions that are made.

17. Continue efforts to develop a user-friendly guide book providing a public "road map" clarifying how the public can influence transportation projects, at what points input can be provided in the RTP development and update process, and where citizens can go to get information. MAG should lead this effort with input from the other RTP Partners.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented. This effort is presently underway.

18. Develop detailed provisions for the MOU agreements between the four RTP Partners, and possibly the City of Phoenix, guiding the practical aspects of the working relationships between the agencies where coordination and collaboration is needed for planning and expenditure of federal and Proposition 400 funds including specific codes of conduct, conflict resolution, and communication protocols.

The finding of the Auditor General is agreed to and a different method of dealing with the finding will be implemented. The current Memorandum of Understanding (MOU) between MAG and the transit partners was adopted in the spring of 2010 to guide transit planning in the MAG region. In February 2011, provisions of the MOU related to Alternatives Analysis (AA) were clarified through a memorandum. If other aspects of the relationships and

coordination need clarification in the future, appropriate action will be followed to either amend the MOU or provide clarification through implementation memoranda.

19. Similarly, strengthen the existing transit planning MOU to describe the mechanics and specificity of process behind the level of cooperation required in terms of communication frequency, timing, and content as well as the level, timing, and weight of input into agency activities.

The finding of the Auditor General is agreed to and a different method of dealing with the finding will be implemented. The current Memorandum of Understanding (MOU) between MAG and the transit partners was adopted in the spring of 2010 to guide transit planning in the MAG region. In February 2011, provisions of the MOU related to Alternatives Analysis (AA) was clarified through memorandum. If other aspects of the relationships and coordination need clarification in the future, appropriate action will be followed to either amend the MOU or provide clarification through implementation memoranda.

20. Memorialize and maintain key meeting discussions at RTP Partner meetings to document items discussed, agreements reached, action items, and responsible parties for future meetings as well as attendees of the meetings.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented. Agendas and meeting notes will be kept for the RTP Partner meetings.

21. Through the MAG Transportation Policy Committee, or other committee, assume a stronger and more proactive leadership role in setting framework for RTP related activities rather than just facilitating discussions-although RTP Partners should retain authority to operate individually and implement shared vision.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

22. Adjust MAG Transportation Policy Committee membership requirements to include RPTA and METRO transit representatives to better convey transit operation perspective and achieve full multi-modal input, expertise, and support for regional vision and policy formation.

The finding of the Auditor General is not agreed to and the audit recommendation will not be implemented. The role of transit participation was addressed in establishing the Transportation Policy Committee. As memorialized in State Statutes, elected officials from the MAG member agencies are already directly involved in the transit decision-making process. This item will be brought forward to the Transportation Policy Committee for consideration.

23. Reaffirm the role of CTOC and increase effectiveness by considering:
  - Developing operating protocols and guiding principles describing how CTOC will function.
  - Identifying the type of substantive information it needs from the RTP Partners, in addition to the current status updates, to fulfill duties.
  - Actively questioning and deliberating items at meetings.
  - Receiving meeting packets for review and analysis prior to meetings.
  - Providing formal reports and/or recommendations directly to the MAG Regional Council or MAG Transportation Policy Committee related to project and program delivery as well as overall performance.

- Receiving support from MAG staff, rather than ADOT staff.
- Ensuring all committee members have the requisite skills needed to oversee multi-modal system and possibly requiring more specific types of expertise needed for committee members to possess, such as transit experience.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented. The implementation of this recommendation requires legislative action.

24. Continue investigating cost efficiencies that could result from a combination of RPTA and METRO and implement measures as soon as practical to realize maximum value from initiatives.

This finding corresponds to Transit Agencies and does not directly relate to MAG.

25. Work towards realizing more benefits from regionalizing bus transit activities by strengthening the regional entity role and implementing regional activities that have potential for cost savings or better outcomes for riders such as route scheduling, fleet planning and purchasing, fare inspection and collection, coordinated automated tools, and regional service hearings.

This finding corresponds to Transit Agencies and does not directly relate to MAG.

MAG again wants to thank you and your audit team for your efforts and recommendations on how MAG, along with our RTP Partners, can improve the delivery of the Proposition 400 program and improve the regional transportation system. There are areas in the audit report that we believe could have been strengthened and improved through additional discussion resulting in a more robust audit report, such as an accurate portrayal of the MAG committee structure; we believe the audit recommendations are a positive step toward improving transportation in the region.

If you have any questions, please contact me or Eric Anderson, MAG Transportation Director, at the MAG Office.

Sincerely,



Dennis Smith  
Executive Director

cc: Eric J. Anderson  
Kurt R. Sjoberg

## APPENDIX A

### MAG General Comments

#### AUDIT FINDING #1

- **Some Performance Data Exists, But Determining Results of Proposition 400 Efforts Cannot Be Fully Measured**

MAG's Performance Measurement Program is the result of an extensive process of investigation, exploration and adoption of best practices in the field. The program is based on a MAG-developed Performance Measurement Framework and is in a constant state of evolution and development as base data and resources become available. This Framework explains the direct relationship between all measures selected and each focus area derived from goals and objectives in MAG's Regional Transportation Plan (RTP). To assist in the audit process, MAG provided highway and arterial performance measurement information on a timely basis in various formats, electronic spreadsheets, FTP transfer, raw traffic data, analysis results, one-on-one interviews, and narrative documents, as well as web-based documentation, on the following performance measured results:

#### Limited Access Highway & High Occupancy Vehicle (HOV) Lane Performance

- o Access and Mobility Measures
  - Throughput – Vehicle
  - Lost Capacity
  - Per Capita Vehicle-Miles of Travel
  - Throughput – Freight
- o Travel Time, Reliability and Delay Measures
  - Speed
  - Point-to-Point Travel Times
  - Travel Time Reliability
  - Extent of Congestion Delay
- o Safety Measures
  - Crash/Injury/Fatality Rate
  - Crash/Injury/Fatality Totals for Large Truck-Involved Crashes on the Freeway System

#### Arterial Performance

- o Access and Mobility Measures
  - Throughput - Vehicle
- o Travel Time, Reliability and Delay Measures
  - Extent of Congestion Delay
- o Safety Measures
  - Intersection Crash Ranking
  - Crash/Injury/Fatality Totals for Large Truck-Involved Crashes on the Arterial System

RTP highway and arterial projects that have been delivered to date are predominantly parts of larger segments or corridors. MAG's Performance Report documents performance results for all RTP instrumented highway

corridors and arterial corridors supported by observed data. A careful review of the performance analysis and results for MAG highway and arterial facilities reveals the extent to which projects within these corridors relieve congestion and improve mobility in the MAG region.

Upon developing the MAG Performance Measurement Framework in collaboration with member agencies and in consultation with national experts in the field of transportation performance measurement, a key finding was the recognition that the nature of measuring performance and establishing targets is very different for highway and transit modes. Moreover, measuring performance by quantifying results of individual highway and arterial projects rendered inconsistent and sometimes unexplainable results.

The behavior and performance of highway and arterial transportation facilities is influenced and, in some cases, determined by multiple, dynamic and external factors such as land use and density changes, incidents, seasonal demand, visibility, etc. In the MAG region these significant factors tend to affect performance more consistently at a corridor or sub-area level rather than at an intersection or individual freeway segment project level. To further differentiate the nature of measuring performance across modes, highway and arterial modes do not benefit from the direct feedback mechanism such as the inherently controlled environment of a fare box recovery system that automatically quantifies necessary parameters for straightforward quantification of effectiveness and efficiency of results.

#### AUDIT FINDING #2

- **Cost and Schedule Variance Appear Supported, Although Underlying Data is Difficult to Gather and Assimilate.**

The audit review found that the sheer volume and complexity of data and documents makes it challenging to consistently report and track variances in cost and schedule. Cradle to grave tracking and reporting is encouraged to create a full historic picture of Proposition 400 programs. A project report card is specifically suggested that could combine changes, costs, schedules and performance. With respect to the comment that data are inconsistent and incomplete, MAG currently reports cost and schedule variances on a regular basis by publishing RTP Updates, Proposition 400 Annual Reports and various Life Cycle Reports. Each of these reports is prepared in different cycles, which means that at any given point in time, each report may not contain the latest data presented in another report. Every effort is made to use consistent sources in preparing the reports, but since they are not all released on exactly the same date, some differences may continue to be present.

#### AUDIT FINDING #3

- **Criteria for Project Change is Vague and Documentation of Potential Impacts Provided to MAG Committees For Decision Making Could be Improved.**
- MAG recognizes that there is always room for improvement and that the process of developing and implementing changes to a multimodal, multiagency transportation plan is intricate and complex and agrees that there is room for improvement in the information delivery process. Ample documentation is consistently and universally available through the MAG website as well as distributed to all meeting attendees and the public in various formats prior to decision-making by the Transportation Policy

Committee and Regional Council. Additionally, all published reports are available to the public in the MAG Document Review Room. These documents include, but are not limited to, meeting minutes, agendas, reports, project summaries, maps, graphics, posters and multimedia. Numerous resources available memorialize the iterative and transparent process followed by MAG at all instances pertaining to policy decisions.

With respect to recent changes in the Regional Freeway Life Cycle Program, MAG in cooperation with the Arizona Department of Transportation (ADOT), developed a document, the *Tentative Scenario for the Regional Freeway and Highway Program* (October 2009), which contains analysis and ample supporting documentation regarding rationale, impacts and trade-offs for options to balance the program. Travel demand estimates for 2028, comparative Level of Service (LOS) analysis, as well as forecasted volumes, were used to assess and develop various tentative scenarios. This document also summarizes the process followed by MAG regional policy making bodies, the Regional Council, Transportation Policy Committee, and Management Committee meetings from October 2008 through October 2009, to balance the program. Procedures for changes to the Arterial Life Cycle Program (ALCP) are detailed in the ALCP Policy document and are presented through the Committee process for review and recommendation. Following MAG standard procedures, staff distributes abundant supporting documentation, resources, exhibits and references in advance of any meeting to all decision making bodies.

The rebalancing process was developed through extensive technical and policy discussions. This process was used to balance more than \$6.6 billion from the program due to lower than anticipated tax revenue and more than \$3.5 billion in cost increases and scope creep. At no point did the technical deliberations get out in front of consultation with the MAG Management Committee, Transportation Policy Committee, and the MAG Regional Council. Considerable information about the Value Engineering options is presented in the report *Tentative Scenario for the MAG Regional Freeway and Highway Program* (MAG, October 2009).

#### AUDIT FINDING #4

##### **Current Organizational Structure Provides Oversight, Although There are Opportunities to More Effectively Accomplish RTP Goals**

MAG agrees that the Transportation Policy Committee's guiding and coordinating role could be strengthened as it develops policy positions for the MAG Regional Council.

MAG continues to be concerned by the erroneous depiction of the MAG Management Committee in the decision making organizational charts included twice in the report (see pages 17 and 20). Despite verbal and written comments submitted to the audit team to this effect, one of the key decision-making bodies for our regional transportation policy process is still not properly portrayed.

The transit planning partners meet on a monthly basis as a Regional Transit Planning Team. Discussion topics usually include: current planning projects, the Transit Life Cycle Program (TLCP), short range plan/program, capital and operations, among others. This is the forum where partners work cooperatively to develop solutions to regional transit planning, projects, and project changes. Besides the standing meeting frequency,

additional meetings are held on a case-by-case basis as transit projects are subject to the influences of local and federal funding in addition to the regional priorities and funding. The report states that Life Cycle Program meetings are conducted within the individual modes with little multimodal representation. The nature of discussions and recommendations stemming from each modal committee requires the level of expertise from technical staff and all appropriate staff representing member agencies on specific modal topics. Modal committee recommendations are presented monthly at the Transportation Review Committee. Transit agencies, Street, Highway and Bicycle/Pedestrian representatives sit on the Transportation Review Committee.

With respect to changes in the Arterial Life Cycle Program (ALCP), this program is regulated by Policies and Procedures adopted by the MAG Regional Council that outline specific procedures regarding proposed project changes to the ALCP.

The audit report indicates that the Citizens Transportation Oversight Committee's (CTOC) responsibilities are not clearly defined and that it "may not be operating as effectively as it could." Furthermore, it suggests that the committee fails to facilitate citizen's involvement. In 2009, CTOC deliberated among various public participation opportunities at their meetings. Following the Open Meeting Law, all their meetings are open to the public and CTOC has an option to make a Call to the Public. Although it is not required, they voted to adopt the MAG Open Call to the Public practice in which the public may comment on agenda action items at the time the item is heard, after the presentation and before the committee discussion and action; for non-action items and for items not on the agenda, each member of the public has three minutes for a total of fifteen minutes for all speakers. CTOC adopted this practice after examining various practices in place at State, County and local Council governing boards.

CTOC's Annual Report presents status updates on freeway, arterial and transit Life Cycle Programs, information on revenues, expenditures, construction updates, ADOT budget updates, framework studies, illustrative corridors, private public partnerships as well as a Financial Compliance Audit.

MAG agrees with the finding that there are a number of opportunities to bolster CTOC's contribution and operate more efficiently developing clear operational protocols and adopting formal guidelines in order to fulfill its duties.

#### **AUDIT FINDING #5**

- **Revenue and Expenditure Model is a Reliable Tool for Planning**

This finding discusses the revenue and cost models that are used to project future revenues and costs. It is important to clarify the difference between expenditures and costs. In the context of the life cycle programs, expenditures represent the flow of funds to pay for program costs. ADOT, for example, maintains the cash flow model for the freeway life cycle program and produces projects of expenditures for each year of the program. Costs, on the other hand, represent the cost of complete projects or pay for operations and maintenance of the system. For the freeway program, for example, costs to complete the South Mountain Freeway are divided among right of way, design and construction by construction segment.

The revenue forecasting process is well-documented by ADOT and incorporates sensitivity analysis in the process and has since 1992:

"The revenue forecast is highly dependent on estimates of independent variables. In order to deal with variability between estimated and actual values, the Department introduced the Risk Analysis Process (RAP) in 1992. The RAP relies on probability analysis and the independent evaluation of the model's variables by an expert panel of economists. The process results in a series of forecasts, with specified probabilities of occurrence, rather than a single or "best guess" estimate." (Maricopa County Excise Tax Forecasting Process & Results, FY 2011-2026, Arizona Department of Transportation, October 2010, pg. 1, [http://www.azdot.gov/Inside\\_ADOT/FMS/PDF/rarfcstproc1126.pdf](http://www.azdot.gov/Inside_ADOT/FMS/PDF/rarfcstproc1126.pdf)).

The same process is used for the Highway Users Revenue Fund (HURF) projections. In essence the analytic process uses the input of the expert panel for each variable that is in the econometric and runs through a Monte Carlo simulation using the distribution of the panel inputs.

A major issue that MAG has had with the Proposition 400 program and that was discussed with the Audit Team is the wide variation in project cost estimates. For example, for the Loop 303 Corridor, the costs have varied from \$1,467 billion in 2006, to \$3,044 billion in 2009, to \$1,835 billion in 2011. MAG also just completed a cost review of the South Mountain corridor and has found that there may be over \$500 million of savings that could be realized through more economical designs that still provide the same level of service and safety. The concept of designing to a budget was a central recommendation from the first Performance Audit for the Regional Freeway System in 1991.

#### AUDIT FINDING #6

- **Air Quality Violations Remain a concern and can jeopardize the Completion of RTP Projects**

Significant air quality improvements have been made in the MAG region over the past 20 years. The audit document presents the air quality issue related to PM-10 as a risk factor that can jeopardize the completion of RTP projects. MAG is not sure why this particular factor was included and not other risk factors. In reviewing the parts of the consultant work tasks as described in Appendix B of the draft we could not find any task related to air quality or risk factors that might impact the completion of RTP projects. For example, the availability of federal transportation funds, both highway and transit formula funds and discretionary funding such as the FTA New Starts and Small Starts Program (5309), currently have a high degree of uncertainty. The completion with a record of decision for the South Mountain Corridor Environmental Impact Study (EIS) and the I-10 Corridor EIS, and a positive outcome of any potential litigation are substantial risks to the completion of these two programs.