

December 10, 2015

TO: Members of the MAG Transportation Review Committee

FROM: David Fitzhugh, City of Avondale, Chair

SUBJECT: MEETING NOTIFICATION AND TRANSMITTAL OF TENTATIVE AGENDA

Thursday, December 17, 2015, 10:00 a.m.  
MAG Office, Suite 200, Saguaro Room  
302 North 1st Avenue, Phoenix

A meeting of the MAG Transportation Review Committee (TRC) will be held at the time and place noted above. **Please park in the garage under the building. Bring your ticket to the meeting as parking will be validated. Bicycles can be locked in the rack at the entrance to the parking garage.**

The next meeting of the MAG Transportation Review Committee will be held at the time and place noted above. Committee members or their proxies may attend **in person, via videoconference or by telephone conference call**. Those attending video conference must notify the MAG site three business days prior to the meeting. Those attending by telephone conference call, please contact MAG offices for conference call instructions.

Pursuant to Title II of the Americans with Disabilities Act (ADA), MAG does not discriminate on the basis of disability in admissions to or participation in its public meetings. Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting David Massey or Jason Stephens at the MAG Office. Requests should be made as early as possible to allow time to arrange the accommodation.

Please be advised that under procedures adopted by the MAG Regional Council on August 21, 2013 all MAG committees need to have a quorum in order to conduct business. A quorum is a simple majority of the membership based on the attendance of the three (3) previous MAG TRC meetings. If the Transportation Review Committee does not meet the quorum requirement, members who have arrived at the meeting will be instructed a legal meeting cannot occur and subsequently be dismissed. Your attendance at the meeting is strongly encouraged. If you are unable to attend the meeting, please make arrangements for a proxy from your jurisdiction to represent you. Please contact Eric Anderson or David Massey at (602) 254-6300 if you have any questions or need additional information.

TENTATIVE AGENDA

	COMMITTEE ACTION REQUESTED
<p>1. <u>Call to Order</u></p> <p>For the December 17, 2015 meeting, the quorum requirement is 13 committee members.</p>	
<p>2. <u>Approval of Draft October 1, 2015 Minutes</u></p>	<p>2. Approve Draft minutes of the October 1, 2015 meeting.</p>
<p>3. <u>Call to the Audience</u></p> <p>An opportunity will be provided to members of the public to address the Transportation Review Committee 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. Citizens will be requested not to exceed a three minute time period for their comments. A total of 15 minutes will be provided for the Call to the Audience agenda item, unless the Transportation Review Committee requests an exception to this limit.</p>	<p>3. For information and discussion.</p>
<p>4. <u>Transportation Director's Report</u></p> <p>Recent transportation planning activities and upcoming agenda items for the MAG Management Committee will be reviewed by the Transportation Director.</p>	<p>4. For information.</p>
<p>5. <u>Consent Agenda</u></p> <p>Consent items are marked with an asterisk (*). Committee members may request that an item be removed from the consent agenda to be heard.</p>	<p>5. Recommend approval of the Consent Agenda.</p>

CONSENT AGENDA\*

\*5A. MAG Federally Funded, Locally Sponsored Project Development Status Report

A Project Development Status Report is produced twice each year, and project changes are completed quarterly or as needed. Monitoring of member agency project schedules within the Status Report, and the assurance by each agency that their project(s) will obligate federal funds as noted in the federally approved Transportation Improvement Program (TIP) listing, assists with ensuring that the regional suballocation of federal funds will be utilized and not swept from the region. The Project Status Report also assists with providing needed information in preparation of closing out FHWA funding for the current year. Please see attachments.

\*5B. Programming of Transportation Alternatives/Safe Routes to School Projects in FY 2017

Through prior MAG action a total of \$400,000 in Transportation Alternatives (TA) funds is set aside, each fiscal year, for Safe Routes for School (SRTS) non-infrastructure projects. A call for qualifying projects was issued in August 2015 to program \$508,057 in FY2017 (includes \$108,057 moved to FY2017 from earlier cycles). A total of six (6) SRTS project applications were received requesting a total of \$260,407 in FY 2017.

On November 17, 2015, the Transportation Safety Committee reviewed and recommend a list of TA/SRTS projects. Since this recommendation will not result in the programing of all available funds, remaining TA/SRTS non-infrastructure funds will be transferred to the Transportation Alternatives Program to be used to program infrastructure projects for FY 2018-2020. Please see attachments.

\*5C. Request for Connection to the Regional

5A. Recommend acceptance of the MAG Federally Funded, Locally Sponsored Project Development Status Report.

5B. Recommend a list of six (6) projects for FY2017 in the total amount of \$260,407 to be added to the FY 2014-2018 MAG Transportation Improvement Program, and to add the lists of FY 2018, 2019, and 2020 projects to the Draft FY 2017-2021 MAG Transportation Improvement Program, and 2035 Regional Transportation Plan as appropriate.

5C. Recommend approval of the revision of the

### Community Network

MAG recently received a request from Arizona State University (ASU), with sponsorship from the City of Tempe, to obtain a connection to the Regional Community Network (RCN) fiber optic communications backbone. This connection would enable the ASU Traffic Engineering Laboratory to get access to traffic data from a partnering local agency for research purposes.

MAG approval is required for providing such a connection, based on recommendations from both the MAG ITS Committee and the MAG Technology Advisory Group (TAG). This request was discussed at a Working Group, ITS and TAG and steps necessary to address member agency concerns were noted. The RCN Roles and Responsibilities document has been revised based on this discussion, and changes have been incorporated as necessary to accommodate this and similar requests in the future from academic institutions. A draft letter of authorization is also provided. Please see attachments.

\*5D. Prioritized List of Proposed PM-10 Certified Street Sweeper Projects for FY 2016 CMAQ Funding

The Fiscal Year (FY) 2016 MAG Unified Planning Work Program and Annual Budget and the FY2014-2018 MAG Transportation Improvement Program contain \$1,530,113 in FY 2016 Congestion Mitigation and Air Quality Improvement (CMAQ) funding to encourage the purchase and utilization of PM-10 Certified Street Sweepers. It is anticipated that the MAG Regional Council will take action on recommended listing of FY2016 PM-10 Certified Street Sweepers. Please refer to the enclosed material.

On November 17, 2015 the MAG Management Committee recommended a prioritized list of PM-10 Certified Street

RCN Roles and Responsibilities document to allow Arizona State University (ASU) to obtain a connection to the Regional Community Network.

5D. For information.

Sweepers Projects for FY 2016 CMAQ funding. October 22, 2015, the MAG Air Quality Technical Advisory Committee (AQTAC) recommended a prioritized list of proposed PM-10 Certified Street Sweeper Projects for FY 2016 CMAQ funding. Prior to the AQTAC recommendation, the MAG Street Committee reviewed the proposed street sweeper applications on October 13, 2015, in accordance with the MAG Federal Fund Programming Guidelines and Procedures.

\*5E. Arterial Life Cycle Program Status Report: April 2015 - November 2015

The Arterial Life Cycle Program Status Report provides detail about the status of projects, revenues, and other relevant program information for the period between April 2015 and November 2015. This is the program's twenty-second status report and the first published in Fiscal Year 2016. Please refer to the enclosed material.

\*5F. 2015 Annual Report on the Status of the Implementation of Proposition 400

Proposition 400 was approved by the voters of Maricopa County in November 2004, and authorized the extension of a half-cent sales tax for use on transportation projects in the MAG Regional Transportation Plan. A.R.S. 28-6354 requires that MAG issue an annual report on projects included in Proposition 400, addressing factors such as project status, funding, and priorities. The 2015 Annual Report is the eleventh report in the series and covers the status of the life cycle programs for freeways/highways, arterial streets, and public transit. A Summary of Findings and Issues is included in the attached material and the full report is available on the MAG website. Please refer to the enclosed material.

5E. For information.

5F. For information.

\*5G. Recommendation of Projects for MAG FY 2016 Traffic Signal Optimization Program

On October 7, 2015, MAG announced a request for new projects for the FY2016 Traffic Signal Optimization Program (TSOP). The budget available for new TSOP projects is \$300,000. A total of six project applications were received. On December 2, 2015, the MAG ITS Committee reviewed all applications and recommended all six (6) of the proposed projects, plus two additional projects that would involve performing before-and-after evaluations and a workshop to provide training on traffic signal timing software. The execution of these projects would help improve traffic signal coordination along a number of major arterial corridors in addition to freeway-arterial coordination in the I-10 corridor. The total estimated cost for all eight (8) projects is estimated to be \$304,000. An additional \$10,000 is available in TSOP funds carried over from FY2015. All projects will be carried out using MAG on-call consultants. Please refer to Attachment 8 for a listing of the recommended TSOP projects.

5G. Recommend approval of the list of FY 2016 Traffic Signal Optimization Program projects.

ITEMS TO BE HEARD

6. Federal Fiscal Year 2015 Year End Actuals Report of Federal Highway Administration Suballocated MAG Regional Funds, and Evaluation of Federal Fiscal Year 2016 Funding Levels

FFY 2015 Federal Highway Administration (FHWA) funding that was suballocated to the MAG region includes Congestion Mitigation and Air Quality (CMAQ), Surface Transportation Program (STP), Highway Safety Improvement Program (HSIP), Transportation Alternatives (TAP), planning funds (SPR) and (PL) programs. Final amounts for those funding allocations and project authorizations were reported by the Arizona Department of Transportation (ADOT) in October 2015. An update is being provided for the FFY 2015 year end actuals, and an estimated outlook for FFY 2016 funding.

7. Programming of Paving of Unpaved Road Projects for MAG Federal Congestion Mitigation and Air Quality Improvement Funding in the Draft FY2017-2021 MAG Transportation Improvement Program

MAG is developing a new Fiscal Year (FY) 2017-2021 Transportation Improvement Program (TIP). A Call for Projects was announced in August 2015 and the results from the evaluation process are included for the Paving of Unpaved Road projects that is funded with the Air Quality program CMAQ funds. Please see attachments.

8. Programming of Intelligent Transportation Projects for MAG Federal Congestion Mitigation and Air Quality Improvement Program Funding in the Draft FY2017-2021 MAG Transportation Improvement Program

MAG is developing a new Fiscal Year (FY) 2017-2021 Transportation

6. For information and discussion.

7. For information, discussion, and possible recommendation of approval of the list of FY 2018 Congestion Mitigation and Air Quality funded projects to be added to the FY 2014-2018 MAG Transportation Improvement Program, and to add the lists of FY 2018, 2019, and 2020 projects to the Draft FY 2017-2021 MAG Transportation Improvement Program, and 2035 Regional Transportation Plan as appropriate.

8. For information, discussion, and possible recommendation of approval of the list of FY 2018 Congestion Mitigation and Air Quality Improvement Program funded Intelligent Transportation projects to be added to the FY 2014-2018 MAG Transportation Improvement Program, and to add the lists of FY 2018 and 2019 projects to the Draft FY 2017-2021 MAG

Improvement Program (TIP). A Call for Projects was announced in August 2015 and the results from the evaluation process are included for the Intelligent Transportation projects that are funded with Congestion Mitigation and Air Quality Improvement Program (CMAQ) funds. Please see attachments.

9. Programming of the Pinal County Surface Transportation Program (PC-STP) Projects in Fiscal Year 2018 and Fiscal Year 2020

MAG is developing a new Fiscal Year (FY) 2017-2021 Transportation Improvement Program (TIP). On August 10, 2015, MAG released a call for projects for the Pinal County Surface Transportation Program (PC-STP). Project applications for FY 2018 and FY 2020 funding were due on September 21, 2015 and three were received. The MAG Street Committee reviewed the applications at the October 13, 2015 meeting, and deemed one ineligible for funding under the program. Additionally, there were questions concerning the data in the two remaining project applications and the committee requested that the agencies provide additional information at the next meeting.

On November 10, 2015, the Street Committee reviewed the updated applications. The two remaining project applications received an identical project score based on the committee's technical review, program measures, and evaluative weights. At the meeting, the Gila River Indian Community indicated that they would not be able to proceed with their Gilbert Road project with partial funding. The City of Apache Junction subsequently indicated that they would be able to go forward with their Southern Avenue project with partial funding.

Please refer to the enclosed material.

Transportation Improvement Program, and 2035 Regional Transportation Plan as appropriate.

9. For information, discussion, and possible recommendation to award full funding to the Gilbert Road project and partial funding to the Southern Avenue project in the FY 2014-2018 MAG Transportation Improvement Program, draft FY 2017 - FY2021 MAG Transportation Improvement Program, and 2035 Regional Transportation Plan as appropriate. Inclusion of the Southern Avenue project is contingent on a new finding of air quality conformity, anticipated in June 2016.

10. Project Changes – Amendment and Administrative Modification to the FY 2014-2018 MAG Transportation Improvement Program and to the 2035 Regional Transportation Plan

The Fiscal Year (FY) 2014-2018 Transportation Improvement Program (TIP) and 2035 Regional Transportation Plan were approved by the MAG Regional Council on January 29, 2014 with the last modification approved at that the October 28, 2015 Regional Council meeting. Since then, additional project changes and additions have been requested by member agencies. The new requested project additions and changes include Regional Freeway and Highway Program project changes, Transit Life Cycle Program project changes, and general project changes and are shown in Table C. Additionally, the TA/SRTS, paving, ITS, and Pinal County STP projects recommended for funding as part of agenda items 5B, 7, 8, and 9 to be added to the FY 2014-2018 TIP, as appropriate, are included in Table D. Please see attachments.

11. Request for Future Agenda Items

Topics or issues of interest that the Transportation Review Committee would like to have considered for discussion at a future meeting will be requested.

12. Member Agency Update

This section of the Agenda will provide Committee members with an opportunity to share information regarding a variety of transportation-related issues within their respective communities.

13. Next Meeting Date

The next regular Transportation Review Committee meeting will be scheduled Thursday, January 28, 2016 at 10:00 a.m. in the MAG Office, Saguaro Room.

10. For information, discussion, and possible recommendation of approval of amendments and administrative modifications to the FY 2014-2018 MAG Transportation Improvement Program, and, as appropriate, to the 2035 Regional Transportation Plan.

11. For information and discussion.

12. For information.

13. For information.

DRAFT MINUTES OF THE  
MARICOPA ASSOCIATION OF GOVERNMENTS  
TRANSPORTATION REVIEW COMMITTEE

October 1, 2015

Maricopa Association of Governments Office  
302 North First Avenue, Suite 200, Saguaro Room  
Phoenix, Arizona

MEMBERS ATTENDING

- |  |  |
|--|--|
| Avondale: Jessica Blazina for David Fitzhugh | *Maricopa (City): Paul Jepson          |
| *ADOT: Brent Cain                            | Maricopa County: Jennifer Toth         |
| Apache Junction: Shane Kiesow for Giau Pham  | Mesa: Jeff Martin for Scott Butler     |
| Buckeye: Jose Heredia for Scott Lowe         | *Paradise Valley: Jim Shano            |
| *Cave Creek: Ian Cordwell                    | *Peoria: Andrew Granger                |
| Chandler: Dan Cook, Vice Chair               | Phoenix: Ray Dovalina                  |
| El Mirage: Jorge Gastelum                    | *Pinal County: Louis Andersen          |
| *Fountain Hills: Randy Harrel                | Queen Creek: Mohamed Youssef           |
| *Gila Bend: Ernie Rubi                       | Scottsdale: Todd Taylor for Paul Basha |
| Gila River Indian Community: Tim Oliver      | Surprise: Mike Gent                    |
| Gilbert: Kristin Myers for Leah Hubbard      | Tempe: Shelly Seyler                   |
| Glendale: Patrick Sage for Debbie Albert     | Valley Metro: John Farry               |
| Goodyear: Cato Esquivel                      | *Wickenburg: Vince Lorefice            |
| Litchfield Park: Woody Scoutten              | *Youngtown: Grant Anderson             |

EX-OFFICIO MEMBERS ATTENDING

- |   |  |
|---|--|
| *Street Committee: Maria Deeb, City of Mesa         | * Bicycle/Pedestrian Committee: Jim Hash, City of Mesa             |
| *ITS Committee: Marshall Riegel, City of Phoenix    | * Transportation Safety Committee: Renate Ehm, City of Mesa        |
| *FHWA: Ed Stillings                                 |  |
| * Members neither present nor represented by proxy. | + - Attended by Videoconference<br># - Attended by Audioconference |

OTHERS PRESENT

- |                    |                                      |
|--------------------|--------------------------------------|
| John Bullen, MAG   | Marc Pearsall, MAG                   |
| Quinn Castro, MAG  | Nathan Pryor, MAG                    |
| Bob Hazlett, MAG   | Amy St. Peter, MAG                   |
| Roger Herzog, MAG  | Stephen Tate, MAG                    |
| Chaun Hill, MAG    | Kwi-Sung Kang, ADOT                  |
| Teri Kennedy, MAG  | Tricia Brown, Wilson & Company       |
| Sarath Joshua, MAG | Randall Overmyer, The CK Group, Inc. |
| David Massey, MAG  |                                      |

1. Call to Order

Vice Chair Dan Cook called the meeting to order at 10:00 a.m. Vice Chair Cook noted that the quorum requirement for the October 1, 2015 Transportation Review Committee meeting was 13 committee members. Vice Chair Cook informed the committee that there was one handout at the table.

2. Approval of Draft August 27, 2015 Minutes

Vice Chair Cook asked the committee if there were any comments on the draft August 27, 2015, meeting minutes. There were none. Mr. Jeff Martin moved to approve the minutes. Mr. John Farry seconded the motion. The motion carried unanimously.

3. Call to the Audience

There were no public comments from the audience.

4. Transportation Director's Report

Vice Chair Cook invited Mr. Eric Anderson, MAG Transportation Director, to provide the Transportation Director's Report.

Mr. Eric Anderson stated that there were two months of revenues collected for the current fiscal year so far. He stated that Highway User Revenue Fund (HURF) revenues only increased 0.3% in August compared to 2.2% in July. He noted that growth in the Vehicle License Tax (VLT) revenue had not been as robust. He stated that Regional Area Road Fund (RARF) revenues were up 5.4% in August, with year-to-date growth at 4.5% for the first two months.

Mr. Anderson stated that he will be meeting with a representative from the Governor's office who presented at Regional Council the previous day. He noted that the representative talked about proposals from the Governor's office that may be offered to the Legislature to increase HURF revenues and hopefully solve the HURF sweep issue. He stated that they are generally discussing increasing registration fees, title fees, and other fees to generate more revenue. He noted that another aspect of the proposal not shared with the Regional Council is implementation of a new organization to help transportation funding. He stated that he is not sure if the Legislature will go along with the fee increases, but they are user fees and not tax increases.

Mr. Anderson stated that MAG is still soliciting nominations for a new Vice Chair, and that interested jurisdictions should submit a letter by November 6th.

Mr. Anderson introduced Ms. Quinn Castro, who is a new MAG staff member. He noted that she had begun that week and came from ADOT. He added that she is a licensed Professional Engineer and has an engineering degree from the University of Arizona.

Vice Chair Cook thanked Mr. Anderson for his report.

5. Consent Agenda

Vice Chair Cook directed the Committee's attention to the consent agenda items.

Vice Chair Cook asked the Committee if there were any questions or comments. There were none.

Mr. Jeff Martin moved to approve the consent agenda. Mr. Mike Gent seconded the motion. The motion carried unanimously.

5A – Project Changes - Amendment and Administrative Modification to the FY 2014-2018 MAG Transportation Improvement Program, Fiscal Year 2016 Arterial Life Cycle Program, and as appropriate, to the 2035 Regional Transportation Plan

The MAG Transportation Review Committee, by consent, recommended approval of amendments and administrative modifications to the FY 2014-2018 MAG Transportation Improvement Program, Fiscal Year 2016 Arterial Life Cycle Program, and as appropriate, to the 2035 Regional Transportation Plan.

5B – Project Changes Report on September Activities - Amendment and Administrative Modification to the FY 2014-2018 MAG Transportation Improvement Program, and as needed, to the 2035 Regional Transportation Plan submitted to ADOT on September 3, 2015 and September 17, 2015

The MAG Transportation Review Committee, by consent, received the Project Changes Report on September Activities - Amendment and Administrative Modification to the FY 2014-2018 MAG Transportation Improvement Program, and as needed, to the 2035 Regional Transportation Plan submitted to ADOT on September 3, 2015 and September 17, 2015.

5C – Multimodal Level of Service (MMLOS) Study Workshop Information

The MAG Transportation Review Committee, by consent, received the Multimodal Level of Service (MMLOS) study workshop information.

6. Southeast Valley Transit System Study

Vice Chair Cook invited Mr. Marc Pearsall to present this item.

Mr. Pearsall stated that this was the third of three subregional transit studies that MAG and Valley Metro had engaged in over the last three to four years. He noted that they had been working diligently with many people in the room on this study, the Southwest Valley study, and the Northwest Valley study. He added that Mr. Jorge Luna of Valley Metro had co-managed the study.

Mr. Pearsall stated that the study helped educate agencies that might not be familiar with Valley Metro and what they do for the region. He stated that the benefits of transit include economic development, environmental improvement, and social benefits. He stated that the foundation of the study was to determine what kind of transit the Southeast Valley wants in the near term, mid-term, and long term.

Mr. Pearsall stated that one of the benefits the Southeast Valley has is its age and also its engagement with transit in the last 25 years, noting that it has been ahead of the rest of the valley. He stated that they looked at optimization of existing transit services and coordination between cities to find efficiencies that had not been engaged in. He stated that one of the ideas was to identify concepts for optimization over the next two years. He noted that many communities are already engaged in transit development plans and interagency agreements on how to better coordinate bus drivers, fleet, and construction projects, which is ahead of the study recommendations.

Mr. Pearsall presented a conceptual timeline of how the study was developed, starting with existing services and proceeding to study recommendations. He noted that there was an extensive public input process, including meetings at community events, councils, transit groups. He noted a broad variety of comments ranging from requesting bus service in a neighborhood to questioning the need for transit. He provided the example of neighborhood circulators and their impact on neighborhoods such as Ahwatukee, Maryvale, North Phoenix and areas of Tempe.

Mr. Pearsall presented a map of the study area, noting engagement with every community in the area, including the Gila River Indian Community and Pinal County. He then presented the study scope of work, noting a financial analysis. He stated that the idea of the study was to be revenue neutral but also to create regional coordinations between cities. He noted fundamental ideas, including 30 minute bus frequency and improved access to bus stops.

Mr. Pearsall presented the results of the transit optimization analysis. He stated that they looked at ways to strengthen the network and optimize the use of resources, including improving frequency where warranted, streamlining routes, and removing route duplications. He noted that the project team looked at branches and deviations on existing bus routes and engaged with communities to determine which branches they could trim and which branches were important to communities. He stated that this refinement ensured the recommendations would have the endorsement of the entire Southeast Valley.

Mr. Pearsall presented a slide showing a transit continuum from walking all the way to high speed rail. He noted that this slide was intended to show the public and community officials the full range of possibilities for transit and that not every agency will have all of them, while some agencies may skip over some.

Mr. Pearsall presented 2010 and projected 2030 population and employment maps, including current and planned transit coverage. He noted that the coverage is reasonable, but that there are several areas with potential unmet needs. He stated that some communities would ask why their community did not have transit. He stated that it is not

for a lack of will, noting the lack of either local or regional money for implementation.

Mr. Pearsall presented the study recommendations. He stated that specific concepts will be further implemented through transit programming processes or area-specific implementation plans.

Mr. Pearsall presented optimization concepts. He noted one idea for consolidation of Arizona Avenue and Main Street service into one high-frequency service. He stated that the service concepts have a basic threshold of 30 minutes frequency all day. He noted that this is a foundation for a system that people can begin to rely on. He stated that they are recommending expanding frequencies on high ridership routes.

Mr. Pearsall presented mid-term improvement concepts, noting branching out into San Tan Valley, neighborhood circulator options in Queen Creek, and vanpool options in the city of Maricopa. He noted that many people who live in Maricopa who commute to west Chandler, Tempe, and the Ocotillo area. He stated that for the Gila River Indian Community, the process for neighborhood circulators has begun in Komatke and Sacaton.

Mr. Pearsall presented long-term concepts. He stated that this is where the idea of expanding the Valley Metro rural connector route fleet with 10-30 passenger buses and vanpools comes in. He noted a long-term vision in the Gila River Indian Community to expand neighborhood circulators to aid with medical and nonmedical trips within the community. He noted outreach to the San Tan Valley and Florence, noting many commuters to the Florence prison complex and other businesses. He also noted a concept of transit expansion to Apache Junction to connect to the Power Road area.

Mr. Jeff Martin expressed his thanks to the staff and consultants for their work on the study. He stated that a lot of good information came out of the study on potential efficiencies and also improvements that do not currently have available funding. He stated that the study noted the difficulty in expanding the system, particularly with the new performance measures Valley Metro has implemented. He stated that all communities are looking to expand their bus network over the next 20-25 years, but that meeting the performance measures and still expanding the network is difficult. He added that a new route is not necessarily going to meet the performance requirements and that the struggle is how to expand the network within the new requirements. He stated that this will not be an issue until the next Regional Transportation Plan is developed.

Mr. Jeff Martin moved to recommend acceptance of the Southeast Valley Transit System Study. Ms. Kristin Myers seconded the motion. The motion carried unanimously.

Vice Chair Cook expressed Chandler's thanks to Mr. Pearsall and his project team. Mr. Pearsall thanked URS/AECOM for their work.

7. Strategic Transportation Safety Plan 2016-2025

Vice Chair Cook invited Mr. Sarath Joshua to present this item.

Mr. Joshua stated that he would like to recognize the many contributions to the study effort by the Safety Committee, which is chaired by Ms. Renate Ehm and includes many of the Transportation Review Committee members' staff. He stated that the consultant team for this project was Lee Engineering and the Texas Transportation Institute, and that the project was managed by Ms. Margaret Boone, who was unable to attend the meeting as she was presenting at a conference.

Mr. Joshua stated that in 2013 a brief report on the study was provided to the Committee. He stated that he is now presenting the draft final plan for recommendation for approval. He noted that the Safety Committee had unanimously recommended the plan for approval.

Mr. Joshua stated that the region has an excellent arterial and freeway system which allows for travel throughout the region, but also has many crashes resulting in deaths and injury. He stated that there are approximately 80,000 crashes per year with approximately 3600 injuries and 400 fatalities. He stated that the MAG region experiences 45% of fatalities and two-thirds of injuries in the state.

Mr. Joshua stated that the safety planning program began in 2000 with discussions of road safety issues and what could be done about them. He noted that this led to the creation of the Safety Committee which was a first for MPOs in the nation. He stated that the committee put together the first safety plan which recommended projects to improve road safety.

Mr. Joshua stated that the region has invested \$13 million between 2010 and 2017 for 65 safety improvement projects. He stated that MAG has developed the RTSIMS software, which is safety analysis software used by MAG, which was also used to develop the safety plan. He stated that another project from the 2005 safety plan was the adoption of Clearview font for road signs to increase visibility, which has now been adopted throughout the region. He stated that the Road Safety Assessment (RSA) program has resulted in 40 high crash locations being studied with recommendations for improvements given to agencies. He stated that the Safe Routes to School (SRTS) program has resulted in regional crossing guard training, which trains 400-500 crossing guards each year in partnership with local agencies.

Mr. Joshua stated that the safety plan was driven by crash data. He stated that they analyzed crash data between 2008 and 2012, and that they provided the consultant team access to the crash data analysis software. He stated that they established a road safety vision of zero deaths and zero injuries for the region through the workshop, which is compatible with the statewide vision of "Toward Zero Deaths for a Safe Arizona." He noted that there are six action areas, with 47 strategies covering engineering, education, enforcement, and emergency services. He stated that the plan addressed performance goals from the MAP-21 legislation and established performance goals compatible with the statewide safety plan. He noted that this plan and the statewide plan were developed around the same time, so the plan development processes were closely coordinated.

Mr. Joshua stated that the goal of the plan was to provide a three to five percent reduction

in deaths and serious injuries over the next five years. He noted that comparing 2013 and 2014 data, there was a 7.9% reduction, and that the region's ongoing work in the area of safety may be related to this reduction. He added that the plan contains a ten-year implementation plan from 2016 to 2025.

Mr. Joshua presented some comparisons of crash data, showing the distribution of crashes throughout the state and comparisons to other western metropolitan areas. He stated that 47% of the fatal crashes in the state occurred in the MAG region, and 80% of those were on arterial and local roads. He noted that the freeways are safe considering the amount of travel that occurs on them, and that the bulk of the safety problem is on the arterial system. He stated that in comparison with other urban locations, the MAG region has 8.75 fatalities per 100,000 persons, second only to Houston with 10 fatalities per 100,000 persons. He added that the region is in the mid range with regard to injuries per 1000 persons.

Mr. Joshua presented the action areas from the plan. He stated that they were identified based on crash data analysis and what factors contributed to the most serious crashes. He noted that these were impaired driving, speed or aggressive driving, intersections, vulnerable road users such as bicyclists and pedestrians, and young road users. He stated that additional potential action areas not included in the plan were the use of safety devices, older road users, distracted driving, lane departures, and motorcycle users. He noted that these were not included in the MAG safety plan as the state plan is already addressing them.

Mr. Joshua presented an example of strategies for intersection safety. He stated that they will encourage projects in the MAG Transportation Improvement Program (TIP) to include safety by including safety in the project evaluation process. He stated that an agreement on the process to include safety in project evaluation is ongoing. He stated that other strategies would include new practices and standards to integrate safety into planning and design and enhancing the Road Safety Assessment program. He added that crash data could be used to provide insight to law enforcement for targeted enforcement in high crash locations. He noted other strategies, including pedestrian islands, HAWK signals, and the reduction of secondary crashes through more efficient incident response with a DPS officer located at the Traffic Operations Center.

Mr. Joshua stated that there is an implementation plan for a 10 year period with the goal of reducing deaths and injuries by three to seven percent. He stated that planning level cost estimates for implementation are \$78 million over 10 years. He noted a current funding level of \$4.8 million per year which leaves a \$3 million gap in funding yearly. He stated that he presented this to the Transportation Policy Committee and Regional Council earlier in the year for guidance and was told to discuss with ADOT to figure out how best to address this issue. He stated that ADOT was working on a total revamping of the Highway Safety Improvement Program (HSIP). He stated that ADOT has defined a new process for fiscal year 2019 and beyond. He stated that the plan has introduced some recommendations for how the region could best utilize the HSIP funding that is available to ADOT, and that one recommendation is a MAG program to help identify candidate projects in the region and assist local agencies in developing successful applications. He

noted that starting in 2019 projects throughout the entire state will be evaluated under the same set of criteria. He stated that if the region comes up with a strategy to identify the high risk locations that best fit the criteria, the region will have the best chance at receiving funding for safety improvements.

Mr. Mike Gent stated that the most important aspect of the projects that are done in the region is improving the safety of users of the transportation system. He thanked Mr. Joshua and the staff who worked on the project.

Mr. Mike Gent moved to recommend acceptance of the Strategic Transportation Safety Plan. Ms. Jennifer Toth seconded the motion. The motion carried unanimously.

8. Interstate 10/Interstate 17 - "the Spine" - Corridor Master Plan Project Update

Vice Chair Cook invited Mr. Bob Hazlett to present this item.

Mr. Hazlett stated that the Spine corridor refers to the central corridor of I-17 from SR-101L to I-10 continuing to the SR-202L Pecos Stack. He stated that 40% of the region's daily freeway traffic travels on this corridor, and it is a very important corridor to the region. He stated that \$1.47 billion in improvements had been programmed in the RTP for this corridor.

Mr. Hazlett stated that, in 2012, an Environmental Impact Study was undertaken for I-10 and I-17 to look at strategies for improvement that were beyond the scope of the RTP. He added that, based on input from the political leadership, the study asked what the goal is for the corridor. He stated that ADOT, FHWA, MAG, and the cities of Chandler, Tempe, and Phoenix got together and identified a near-term improvement strategy for the Spine corridor. He stated that the next thing that was identified was a corridor master plan. He stated that he will be reporting on both of those efforts. He noted that after these efforts are completed, environmental studies, design, and then construction will be the next logical phases.

Mr. Hazlett presented the planned improvements which came out of the near-term improvement strategies. He stated that for the I-10 Maricopa Freeway from SR-143 to the SR-202L Pecos Stack, there would be a collector/distributor system added at the US-60 split to eliminate weaving between traffic from US-60 and traffic going to SR-143. He stated that, based on simulation results, this improvement addresses many of the issues at the Broadway Curve. He stated that another improvement would be the addition of a general purpose lane in each direction on I-10 from Baseline Road to SR-202L. He stated that two bicycle and pedestrian crossings have been studied, one at Alameda Drive in the City of Tempe and the other at Guadalupe Road in the Town of Guadalupe.

Mr. Hazlett stated that, for the I-17 Black Canyon Freeway, they are looking at adding auxiliary lanes between the traffic interchanges on the east-west section from the I-10 split to the Durango Curve. He noted that this is the last area in the region where there are not auxiliary lanes between closely spaced traffic interchanges. He stated that they are also looking at active traffic management technology from the I-10 Stack to the SR-101L

North Stack. He stated that they learned about this technology being used in Melbourne, Australia, and it is now in place in Salt Lake City, Denver, and Seattle. He stated that they are looking at using a combination of variable speed limits and ramp metering to protect traffic flow on I-17. He stated that the intent is to provide speed harmonization along the corridor and coordinate with the City of Phoenix on adaptive ramp metering so that traffic will not be backing up onto the arterial system. He noted that the theoretical capacity of a freeway lane is 2200 vehicles per hour per lane, and that I-17 traffic flow is breaking down around 1450 vehicles per hour per lane, so they are looking to recover whatever capacity they can.

Mr. Hazlett stated that this effort is being done by ADOT right now to get everything together for the near term improvement strategies, and that they are looking at a cost of \$300-400 million. He stated that they thought the technology was best to put on I-17 because not much else can be done on that corridor. He added that this effort requires high coordination with local agencies, and they thought it best to pilot with only one agency.

Mr. Hazlett stated that, regarding the corridor master plan, earlier there had been public meetings and online input through the MetroQuest online tool. He stated that the results are in now, and the biggest takeaway was that they received 1700 responses online, but only 70 people attended meetings and they were mostly agency staff. He noted that everyone who responded suggested something to be done on the corridor.

Mr. Hazlett presented a word diagram of people's responses and issues. He noted that weaving was pointed out heavily. He stated that other ideas were to add vehicle lanes, new light rail, and interchange improvements. He stated that a lot of people have been very mindful of the ideas and thoughts that have been developed for the Spine corridor.

Mr. Hazlett stated that guiding principles were discussed at the Transportation Policy Committee. He stated that they began with summarizing different ideas about guiding principles to develop alternatives. He presented the four guiding principles. He stated that the first principle was to optimize the system, to make use of what is available, and to engage technology. He stated that the second principle was to expand the system, not necessarily by adding travel lanes but by providing travel choices and alternate modes. He stated that the third principle was to enhance performance to ensure travel demand is met. He stated that there are different travel markets in the corridor, and that the Active Traffic Management System corridor in Melbourne, Australia, had 5 different travel markets similar to those of the Spine corridor. He stated that the last principle was to implement deliverable and economical packages of improvements considering the variety of travel choices.

Mr. Hazlett stated that in June, 40 people met to look at the different alternatives. He stated that there were 341 individual alternatives which could be combined in numerous ways. He stated that some of the alternatives were systemwide and others were segment-specific. He presented some possible alternatives under consideration. He stated that ADOT wants to move forward with active traffic management, including the creation of a Transportation Systems Management and Operations (TSM&O) group with an

assistant director to oversee the process. He stated that they are looking at alternate transportation options, including transit, bicycles, and pedestrians. He added that this could include direct HOV (DHOV) ramps and new park and ride lots. He stated that other things they are looking at include widenings, managed lanes, and fixes for interchanges and weaving areas. He stated that for segment-specific improvements, they are looking at I-17 and Camelback Road due to the growth of Grand Canyon University and also fixing the SR-143 loop ramp onto I-10. He noted other possibilities such as freight connections and the possibility of relocating the freeway due to airspace issues at Sky Harbor.

Mr. Hazlett stated that the corridor master plan will be done by December 2016. He presented a schedule chart showing the remaining work, noting the consultant team is working on a tiered alternative screening process. He stated that the next step will be to establish project alternatives consistent with the guiding principles, which will be reported on next spring.

Mr. Jeff Martin complimented the project team. He asked if improvements at the I-10/I-17 Stack would help with the I-10 bottleneck. Mr. Hazlett responded that they are trying to figure out how to work within different corridors and are looking at different travel lanes. He noted that there may be a need for an extra general purpose lane only in short segments. He added that right of way on I-17 would be very expensive. Mr. Eric Anderson stated that there is another project to look at the inner loop area of I-10 through the tunnel from the SR-202L Mini Stack to the I-17 Stack. He stated that this area is one of the major bottlenecks in the entire country, so it is incumbent on the region to see what we can do to improve.

Vice Chair Cook thanked Mr. Hazlett for his presentation.

#### 9. Regional Freeway and Highway Program Update

Vice Chair Cook invited Mr. Bob Hazlett to present this item.

Mr. Hazlett provided an update on the cost risk analysis process. He stated that they have gotten to where they are looking at cash flow and projected revenues and that there will need to be a rebalancing for the entire program. He stated that they may be rebalancing the program to add projects back in and that they will know more in the next few months.

Mr. Hazlett presented a timeline of the program since 2003. He presented the history of ADOT cost opinions, noting that the recession plus cost escalation resulted in the removal of \$6.6 billion from the program in 2009. He stated that the program is currently balanced based on current cash flow projections. He noted that the program is 54% complete after 10 years, which is a little ahead of schedule. He stated that cooperation between MAG member agencies, FHWA, and ADOT, has allowed the region to reach this milestone.

Mr. Hazlett then presented a map of projects which have been completed across the region. He stated that there is a lot to be proud of, noting the region having the fourth largest HOV lane network in the country and the largest number of direct HOV ramps in

the country. He stated that 54% of the centerline miles in the program have been constructed with 45% of projected revenues and that there has been an amazing job of keeping costs and revenues in line.

Mr. Hazlett stated that there are a lot of remaining projects between now and 2026, with the SR-101L Pima Freeway in Scottsdale and SR-202L Red Mountain Freeway in the East Valley under construction. He stated that the next major project is the SR-202L South Mountain Freeway, and ADOT is gearing up for the design/build/maintain process since the Record of Decision was issued. He noted that instead of ten separate projects, there will be one project with a confirmed cost by the end of the year. He stated that the next projects will be general purpose lanes on the SR-101L Price and Pima Freeways, intersection improvements on Grand Avenue, completion of the SR-303L/I-10 stack and extension south of I-10, and the near-term improvements on the Spine corridor.

Mr. Hazlett stated that there is a continuing program review ongoing as a joint effort between ADOT and MAG. He stated that the cost risk analysis process has been completed and that they have been able to retire a lot of risk that was being carried on projects. He noted that closeout has been completed for RARF, but that they are waiting for closeout to be completed on Federal funds. He stated that they are refining project costs with the retirement of risk and are looking for new revenue projections. He stated that they are continuing to work with the South Mountain Freeway project team to incorporate a fixed cost on the project by March 2016 and that they will need to balance the program by fall 2016 for the 2017 Regional Transportation Plan update.

Mr. Hazlett stated that they may be able to bring deferred projects back into the program that were in the original Proposition 400 plan, especially the SR-30 and SR-24 Gateway Freeway projects. He noted that the \$7 billion that was deferred has been reduced to \$2.8 billion due to taking out risk and looking at different design concepts for the projects.

Vice Chair Cook thanked Mr. Hazlett for his presentation.

10. Request for Future Agenda Items

There were no requests for future agenda items.

11. Member Agency Update

There were no updates from member agencies.

12. Next Meeting Date

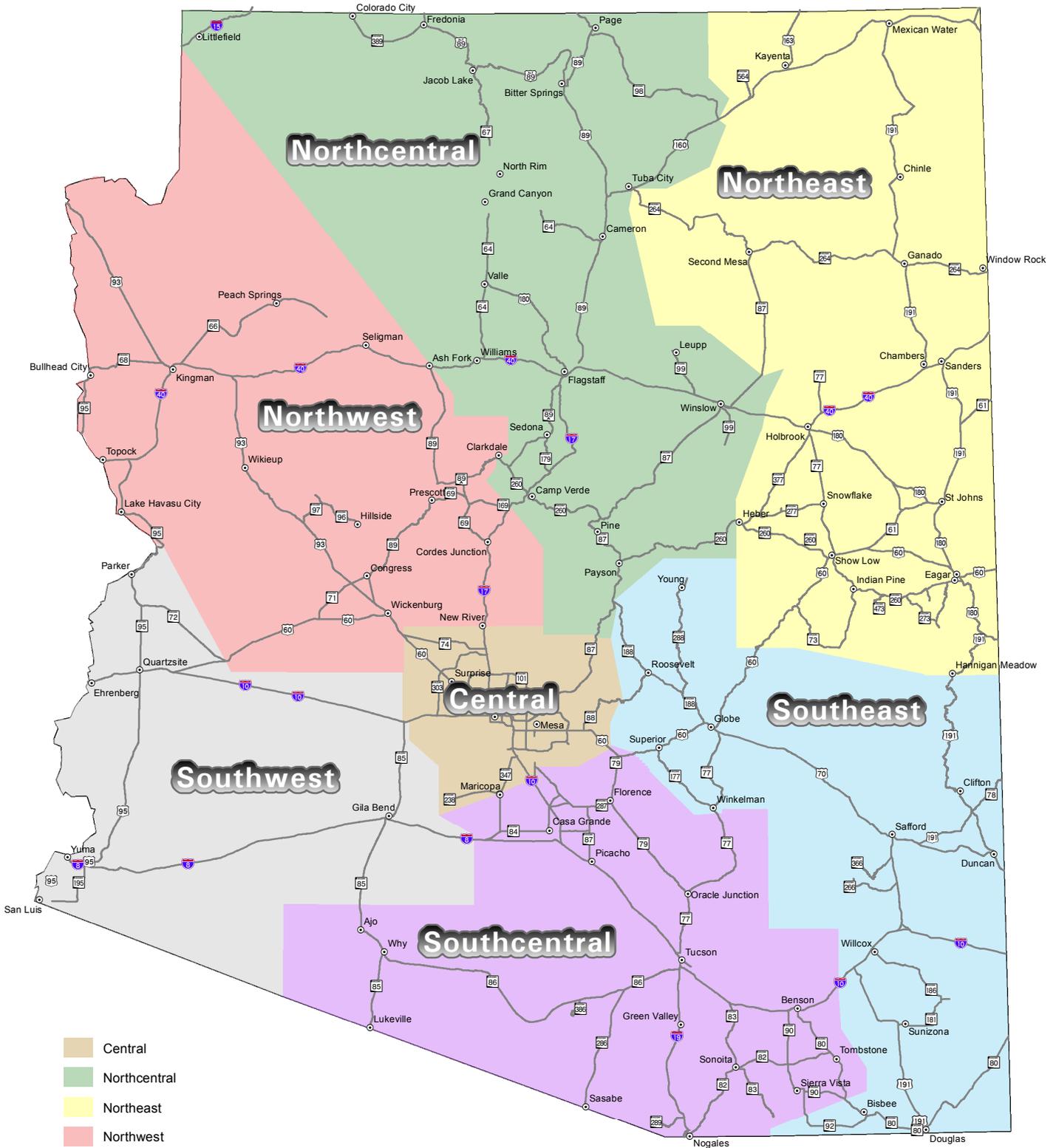
The next regular Transportation Review Committee meeting will be scheduled for Thursday, October 29, 2015 at 10:00 a.m. in the MAG Office, Saguaro Room.

The meeting was adjourned at 11:05 a.m.

# **ATTACHMENT #1**

## **Agenda #4**

# Arizona Department of Transportation Engineering and Maintenance Districts



- Central
- Northcentral
- Northeast
- Northwest
- Southcentral
- Southeast
- Southwest

- Cities and Towns
- State Highway System



**Note:**  
The State of Arizona makes no claims concerning the accuracy of this map nor assumes any liability resulting from the use of the information herein.

Prepared by:  
Arizona Department of Transportation  
Multimodal Planning Division  
Transportation Analysis GIS Section  
602.712.7333  
October, 2015

# **ATTACHMENT #2**

**Agenda Item #5A**

## **MARICOPA ASSOCIATION OF GOVERNMENTS INFORMATION SUMMARY... for your review**

**DATE:**

December 9, 2015

**SUBJECT:**

MAG Federally Funded, Locally Sponsored Project Development Status Report

**SUMMARY:**

The MAG Federal Fund Programming Guidelines and Procedures, approved by the MAG Regional Council on June 24, 2015, outline the requirements for local agencies to submit status information on the development of their federally funded projects. A Project Development Status Report is produced twice each year, and project changes are completed quarterly or as needed. Monitoring of member agency project schedules within the Status Report, and the assurance by each agency that their project(s) will obligate federal funds as noted in the federally approved Transportation Improvement Program (TIP) listing, assists with ensuring that the regional suballocation of federal funds will be utilized and not swept from the region.

The December 2015 Project Development Status Report focuses mainly on projects funded with Congestion Mitigation and Air Quality Improvement (CMAQ) funds that are programmed to authorize in Federal Fiscal Year (FFY) 2016 and 2017. The Project Development Status Workbook (Workbook) that was sent to member agencies required that a project development schedule be completed and project changes could be requested. Workbooks were also sent to agencies that have Highway Safety Improvement Program (HSIP-MAG) and Transportation Alternatives Program (TAP-MAG) funded projects regionwide, and Surface Transportation Program funded projects in Pinal County that are included in the FY 2014-2018 MAG TIP as of September 2015 Regional Council action. Information submitted by local agencies was at times cross checked with the ADOT Local Government section for feasibility, and further inquiries were made by MAG staff as appropriate. The summary of the projects (since the July 2015 report) requesting deferrals or deletions, and projects that are expected to authorize on time (June 1, 2016) is included in the table below.

Funding Type	----- 2016 -----					----- 2017 -----				
	On Time	Deferrals	Deletions	Advance-ments	Total	On Time	Deferrals	Deletions	Advance-ments	Total
CMAQ	26	1	3	0	<b>30</b>	29	0	1	0	<b>30</b>
CMAQ 2.5	1	0	0	0	<b>1</b>	2	0	0	0	<b>2</b>
HSIP-MAG	8	0	0	0	<b>8</b>	3	0	0	0	<b>3</b>
STP-MAG	1	0	0	0	<b>1</b>	0	0	0	0	<b>0</b>
TAP-MAG	4	0	0	0	<b>4</b>	3	0	0	0	<b>3</b>

The report may be accessed electronically at:

<http://www.azmag.gov/Events/Event.asp?CMSID=7072>. A printed copy of the report will be available at for the committee members at the meeting.

**PUBLIC INPUT:**

None has been received.

**PROS & CONS:**

PROS: Acceptance of this Project Development Status Report will allow the projects to proceed in a timely manner in the year that best fits their project development schedule.

CONS: There is no guarantee that sufficient funds will be available in the following fiscal year to cover any or all of the deferred projects should Congress fail to authorize a funding level of obligation authority that can meet programming levels.

**TECHNICAL & POLICY IMPLICATIONS:**

TECHNICAL: The Project Development Status Report aids the region in making decisions to keep projects in the current year, or defer, advance, or delete them from the program.

POLICY: This Status Report follows the process explained in the approved MAG Federal Fund Programming Guidelines.

**ACTION NEEDED:**

Recommend acceptance of the MAG Federally Funded, Locally Sponsored Project Development Status Report.

**PRIOR COMMITTEE ACTIONS:**

None

**CONTACT PERSON:**

Teri Kennedy, Transportation Improvement Program Manager, or Stephen Tate, Senior Planner (602) 254-6300.

# **ATTACHMENT #3**

**Agenda Item #5B**

**TA/SRTS Projects FY 2017**

<b>Applicant</b>	<b>Program Year</b>	<b>Project</b>	<b>Requested FY2017 Funds</b>
City of Glendale	FY2017	Glendale Schools: Support Activity Project	\$ 46,459
Maricopa (County)	FY2017	Safe Routes to School - Maricopa County: Support Activity Project	\$ 49,996
City of Phoenix	FY2017	Creighton School District/Biltmore Preparatory: Study Project	\$ 22,000
City of Phoenix	FY2017	Creighton Elementary Safe Routes: Support Activity Project	\$ 21,452
City of Phoenix	FY2017	Vista del Sur Fit, Performing Tigers: Support Activity Project	\$ 20,500
City of Surprise	FY2017	SRTS Walking/Biking Maps for Dysart Schools	\$ 100,000

Request Total **\$ 260,407**

Total Available \$ 508,057

Amount Remaining **\$ 247,650**

**ATTACHMENT  
#4**

**Agenda Item #5C**

# **Regional Community Network (RCN) Roles and Responsibilities**

**Version 4.67**

**Developed by the:**

**RCN Working Group  
ITS Committee  
Technology Advisory Group**

**January 5, 2010**

**October 23, 2015**

**Approved by Regional Council **February 24, 2010****



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## REVISION HISTORY

Last Updated: ~~4/5/2010~~ 10/23/2015

Date	Version	Author	Description
6/22/2009	1.0	AWT	Initial creation of the document.
8/4/2009	2.0	AWT	Revision

9/4/2009	3.0	SJ	Revision
9/11/2009	4.0	AS	Revision
10/6/2009	4.1	SJ	Revision – address review comments
11/10/09	4.2	SJ	Revision – address review comments
11/11/09	4.3	AS	Revision – address review comments
11/24/09	4.4	AS	Revision – address review comments
12/10/09	4.5	SJ	Revision – address review comments
1/5/10	4.6	AS	Revision – address review comments
<u>10/23/2015</u>	<u>4.7</u>	<u>RG</u>	<u>Revision – added non-governing partner</u>

## DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

Item	Definition / Example
AC	Architecture Consultant
ATM	Asynchronous Transfer Mode
GPS	Global Positioning System
IA	Implementing Agency
IGA	Intergovernmental Agreement
ITS	Intelligent Transportation Systems Committee
IP	Internet Protocol
ISDN	Integrated Services Digital Network
MA	Member Agency
NAT	Network Address Translation
NBD	Next Business Day
NM	Network Manager
<u>NGP</u>	<u>Non-Governing Partner</u>
OSPF	Open Shortest Path First
OTDR	Optical Time-Domain Reflectometer
PAT	Port Address Translation
PM	RCN Program Manager at MAG
POC	Point of Contact
QOS	Quality of Service
RCN	Regional Community Network
RCN WG	RCN Working Group
RTP	Regional Transportation Plan
RVS	Regional Videoconferencing System
SLA	Service Levels Agreement
SMF	Single Mode Fiber
SONET	Synchronous Optical Networking
TAG	Technology Advisory Group
TIP	Transportation Improvement Program
TT	Trouble Tickets
UPS	Uninterruptible Power Supply
UPWP	Unified Planning Work Program
VDS	Video Distribution Server
VLAN	Virtual Local Area Network

# 1 INTRODUCTION

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## 1.1 Background & Purpose

The Regional Community Network (RCN) is a high-speed optical fiber based communication system designed primarily to facilitate the exchange of video, data, and other information between traffic management centers at the Arizona Department of Transportation (ADOT), Maricopa County Department of Transportation (MCDOT), and at cities and towns in the Phoenix metropolitan region. The RCN is considered an essential component required for safe and efficient operation of the regional transportation system. Other applications that will utilize the RCN network initially include the Regional Videoconferencing System (RVS) that is owned and operated by Maricopa Association of Governments (MAG), and other videoconferencing applications at a few local agencies. The RCN is NOT intended to be used for mission critical data transmissions between agencies on the network. Applications proposed and implemented on the RCN require that the member agencies supply end to end security levels for their applications and that the non-mission critical network reliability be acceptable in their usage.

The original RCN concept was developed by MAG in 2001. However, the project was not programmed, as the \$34 million that was required for full implementation was not available. The Arizona DOT, a stakeholder supportive of the original RCN concept, carried out the design of the first phase of RCN using funds from a United States Department of Transportation (USDOT) Intelligent Transportation Systems (ITS) integration grant awarded to Arizona. The RCN project still lacked funds for building Phase 1. In 2005, \$1.6 million that had been programmed in the Transportation Improvement Program (TIP) as a place holder project for the original RCN project became available to the ITS program and was directed to ADOT for implementing the already designed RCN Phase 1A. The status of funding for future RCN implementation has not changed. Its completion remains unfunded at this time. However, many segments of the proposed regional network have also been built through local agency fiber projects.

The RCN is currently being developed as a regional communications infrastructure to be owned and operated by MAG and its Member Agencies (MA). Hence, it is very likely that future regional resources will be directed for completion of the RCN and linking all MAG MA's.

The primary purpose of this document is to outline the framework for future expansion, operation and maintenance of the RCN by identifying the roles and responsibilities of each participant. In addition to this document, a companion document on RCN Governance was adopted by MAG on April 22, 2009.

## 1.2 Stakeholders

The RCN is being developed by member agencies of MAG in the Phoenix metropolitan area. The primary stakeholders and users of RCN are traffic management staff at agencies that are linked through the network. All participating agencies have agreed to work together in an effort to reduce the cost and time required for the implementation of the system. Where available, agencies have dedicated a portion of their existing fiber infrastructure to the RCN and have agreed to provide space in existing agency facilities for the installation and housing of RCN equipment. The construction of the initial phase of the RCN, Phase 1A, carried out with ADOT as the Implementing Agency (IA) was funded with regional transportation funds. This procurement involved the purchase and installation of the active electronics, construction of fiber segments that are required to complete the initial phase and management of the network for the first year of operations.

### 1.3 RCN Planning, Programming, Development and Ownership

All planning and programming activities related to the RCN will be carried out by MAG with oversight provided by the ITS committee and the Technology Advisory Group (TAG). A planned schedule for RCN expansion and completion will be developed and updated annually by ITS/TAG. All RCN planning studies will be based on recommendations of ITS/TAG and undertaken by MAG as projects identified in the annual Unified Planning Work Program (UPWP). All new projects that are required for the expansion, rehabilitation and maintenance of the RCN will be programmed in the Transportation Improvement Program based on recommendations from ITS/TAG. The RCN will be identified in the Regional Transportation Plan (RTP) as a key component of the regional ITS infrastructure. Any MA desiring to build a local fiber path shared with the RCN and funded with state, local or a federal grant is required to coordinate with MAG to ensure that all such projects comply with the RCN design, regional standards and adopted practices. The introduction of any such project shall not alter the MAG approved schedule or sequence of RCN expansion projects, unless such a change has been recommended by ITS/TAG and approved by MAG.

All active electronics devices installed at various secure locations within MA facilities will be owned by MAG and will carry an RCN inventory number. Their warranties, repair and replacement will be monitored and maintained by MAG. Agreements will be developed between MAG and MAs linked to the RCN to provide access to RCN equipment installed at secure facilities.

All fiber infrastructure of the RCN located within the jurisdictional boundaries of a MA will be owned by that agency/jurisdiction. Any interruption of RCN services due to damage to such fiber will be repaired by the MA based on regionally agreed upon procedures.

### 1.4 Legal and Liability Information

The Regional Council approved the governance structure for this project on April 22, 2009. As part of this structure, MAG will have title to the electronic equipment provided for the project. A contracted agent will maintain and repair the electronic equipment. This agent will need permission to access the appropriate facilities. This agent's ability to execute repairs will be limited by the availability of technical staff at participating agencies where troubleshooting and facility access is required and by the terms of the underlying warranty agreement. Repairs will be executed through a best effort approach. Additionally, this network relies on previously agency-owned fiber and project laid fiber which has been transferred to the agency within which it resides. Agencies will be responsible for repairing this fiber through a best effort approach. Future regional investments in the RCN may make greater service levels available, but the service level provided by Phase 1A is adequate for data transmissions required for current traffic management activities.

- Each Agency and NGP will provide timely access to MAG and its contracted agent to install and maintain RCN equipment housed in its facilities.
- Each Agency and NGP will provide appropriate space, power and environmental conditioning for the network equipment necessary to establish the RCN, and furthermore will provide the necessary technical personnel support (agency representative) as the single point of contact for any network/equipment installation or maintenance issues. The site requirements are detailed in the ADOT Regional Community Network Design Concept Report for Phase 1 prepared by Kimley-Horn and Associates, Inc. and dated November 2004.

- Each Agency and NGP will provide the necessary technical personnel support (agency representative) as the single point of contact for coordination of any fiber repair or maintenance issues and to make a best effort at timely repair of such issues.
- Each Agency and NGP understands that MAG, its authorized agent and the other participating agencies will make every effort to affect repairs as quickly as possible, but that the initial implementation will not guarantee a service level.

## 1.5 Standards and Specifications

Standards and specifications used on the RCN will be adopted by ITS/TAG and will be made available via the MAG website. Any changes to the standards and specifications will be made on the recommendation of ITS/TAG and will be accompanied by an analysis of short- and long-term cost implications.

## 1.6 Descriptions & Roles

This section provides a high level description of the different groups within the RCN management structure and their key functions. This is also graphically depicted in Figure 1.

### 1.6.1 Member Agency (MA)

This includes all current and future MAG member agencies that wish to be connected to the RCN. It is not based on whether an agency has infrastructure to share with the RCN or not. Staff at MAs are the ultimate end users of the system.

### 1.6.2 Intelligent Transportation Systems Committee & Technology Advisory Group

The ITS Committee and TAG are comprised of representatives of the local member agencies. Together, these committees are responsible for the review and recommendation of all policies and guidelines related to the RCN for formal adoption by MAG. Some actions of these two committees will be based on the recommendations submitted by the RCN Working Group (WG) which functions as a joint subcommittee of the ITS and TAG committees.

### 1.6.3 RCN Working Group (WG)

The RCN Working Group (WG) develops recommendations for the management of the RCN and its future expansion. All recommendations for RCN expansion, modification or repair that require funding will be carried forward through the MAG approval process jointly sponsored by the ITS committee and the TAG. No cost changes may be approved by the ITS/TAG committees on the recommendation of the WG.

### 1.6.4 RCN Program Manager (PM)

A MAG staff position will be assigned to function as the overall Program Manager (PM) for the RCN. The responsibilities of the PM will be as follows:

- Provide reports to ITS/TAG on all RCN related projects that are being carried out directly by MAG or through other agencies. Identify issues that need to be addressed by ITS/TAG and ensure they are included in ITS/TAG meeting agendas.
- Incorporate the RCN as a key regional infrastructure within MAG planning documents such as the Regional Transportation Plan (RTP), TIP and the UPWP.
- Execute planning studies related to the RCN expansion based on direction and funding support from MAG.

- Make presentations to MAG committees based on ITS/TAG recommendations related to the RCN.
- Serve as the primary Point of Contact (POC) for the Network Manager (NM) and the interface to the MAs thru the WG. If the decision is to outsource the NM role to perform the full time technical and expert services that will be required, the PM will also be responsible for the solicitation, funding, and management of this contract. If the NM function is designated to a MA, the PM will coordinate the required IGAs between MAG and the MA, and their approval by the Regional Council.
- Participate in all RCN projects procured through any other MA, and serve as a member of the consultant/contractor selection committee for all RCN projects. Provide oversight to design and construction of all new RCN phases.
- Maintain a record of all standards, specifications, procedures established for the RCN by the ITS/TAG technical committees.
- Ensure the execution of required Agreements. Maintain a record of all IGAs and agreements entered with MAs in connection with the RCN – such as access to Active Electronics located in MA secure facilities, and to ensure that the design and construction of RCN projects will maintain regional compatibility through the adherence to established RCN standards.
- Receive formal reports on all RCN related procurement contracts carried out by other agencies on behalf of MAG. This work may be carried out by ADOT (similar to the Phase 1A project) or MAs for RCN projects that are within their jurisdictions.

#### 1.6.5 Network Manager (NM)

For the initial year, the Network Management function will be provided by Kimley Horn and ~~Asseoaite~~ Associates and ITS Engineers. After that period, the Network Manager (NM) will be either a qualified contractor or a local agency, designated by the Regional Council, with staff dedicated to the RCN NM function. The NM will be primarily responsible for ensuring that the RCN functions without any serious interruptions to service, but will be responsible only for Active Electronics. The NM will be providing ongoing maintenance of the active electronics associated with the RCN. The NM will also manage all repair work carried out under warranties. In the case of other repairs, the NM will purchase, install, and configure RCN active electronics components. The NM will attend all WG meetings, and ITS/TAG meetings when necessary as indicated by the PM.

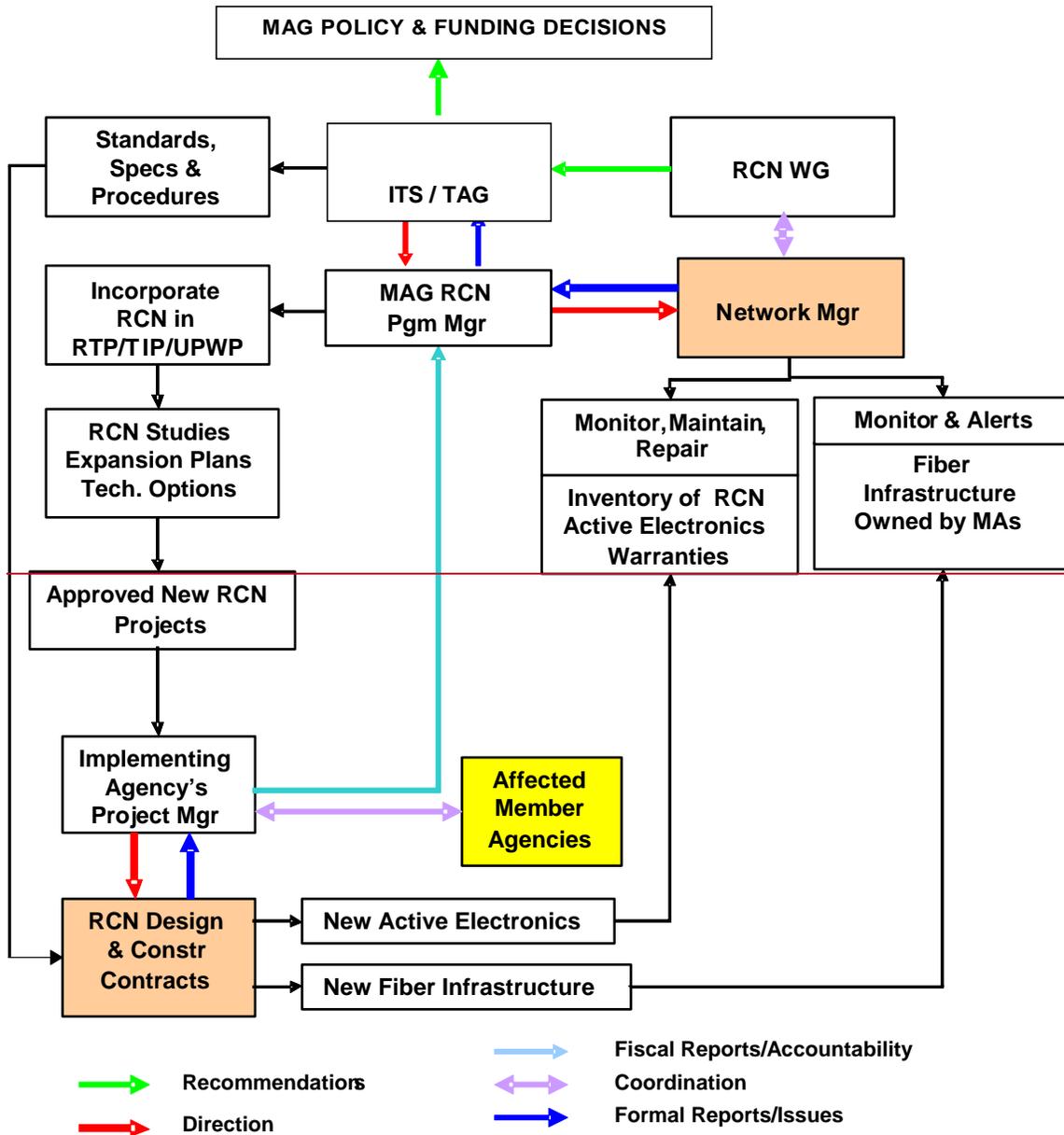
#### 1.6.6 Implementing Agency (IA)

The IA will be responsible for hiring contractors to design and build new segments of the RCN. The IA could be ADOT, Maricopa County or any MA interested in helping implement any of the planned RCN projects that are funded and programmed in the TIP as MAG projects. Upon the identification of an IA, project funds will be transferred to the IA based on an IGA between MAG and IA that specifies accountability requirements.

The IA's project manager will closely coordinate of all such projects with the PM and shall comply with all established RCN standards and specifications.

Any new fiber infrastructure built by the IA becomes the property of the MA upon completion of the project. Any new Active Electronics that are installed at MA facilities remain the property of

MAG with an RCN inventory number. All warranties for RCN active electronics will be assigned to MAG for administration by NM.



### 1.6.7 Non-Governing Partner (NGP)

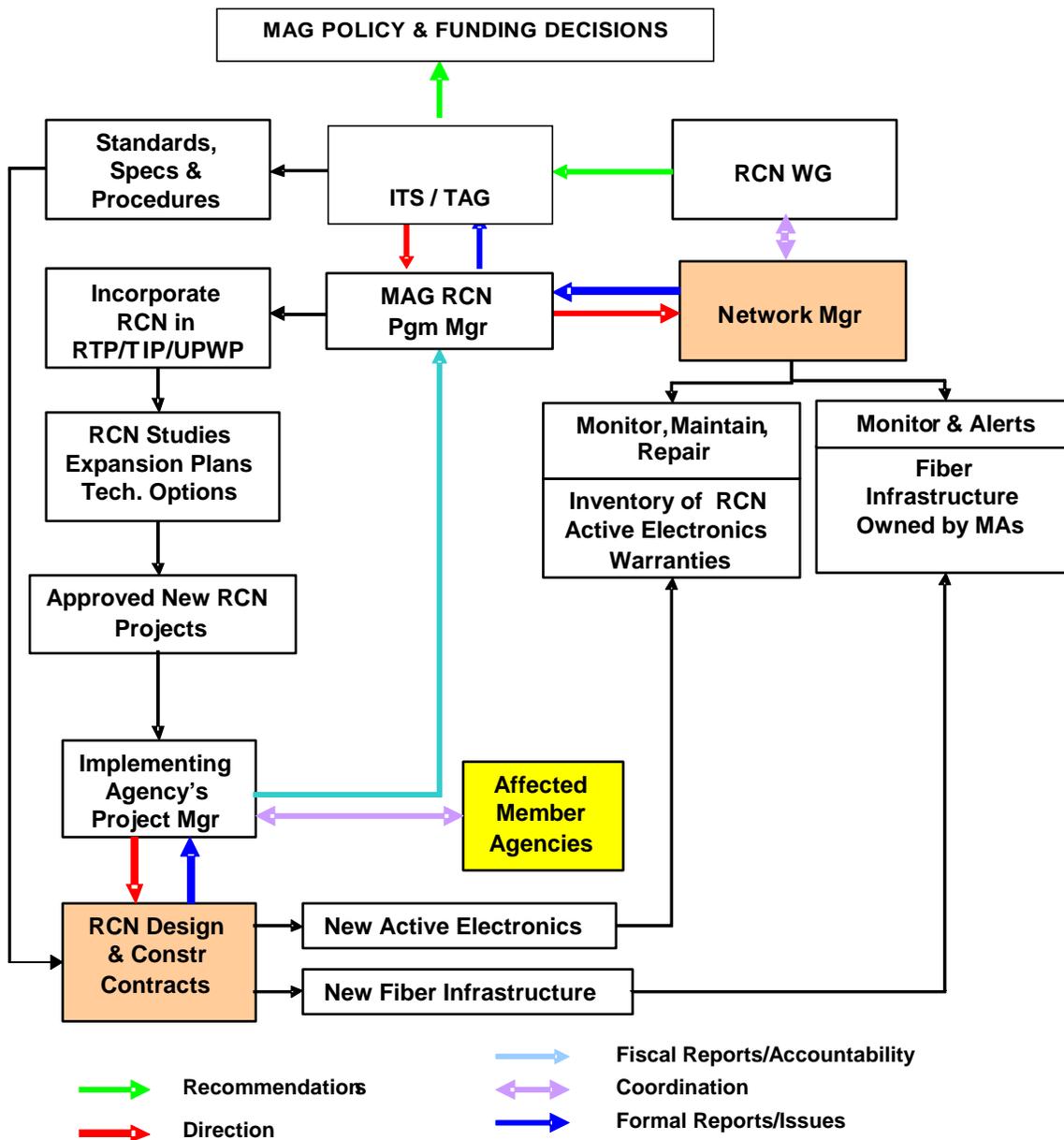
An NGP refers to all current and future entities that wish to be connected to the RCN, but are not MAG member agencies. An NGP connection must be sponsored by an existing MAG member agency to be connected to the RCN, and the terms and length of the sponsorship will be at the discretion of the sponsoring agency, subject to the approval of the TAG and ITS committees. Each class of NGP must be approved jointly by the TAG and ITS committees and provide a clear benefit, direct or indirect, to MAG member agencies. The request from an NGP must clearly state

how the RCN connection will be used and identify the name, title and contact information of the person who will be responsible for the RCN connection.

The first approved class of NGPs, Educational Institutions, consists of institutions meeting all of the following criteria:

- Must be a publically-funded university
- Achieve connectivity through an existing member agency
- Maintain ABET accreditation in a relevant Engineering Program – e.g., Civil Engineering or Systems Engineering
- Use the connection in coordination with a sponsoring agency for a defined purpose
- The request must be endorsed by the Dean of the School of Engineering.

Future class approvals will take place at the TAG and ITS committees and a summary will be included in the RCN Program Manager's reports to the other committees.



**Figure 1. Overall RCN Management Structure & Key Functions**

## 2 LONG RANGE PLANNING

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This section describes the responsibilities of those involved in the planning of the RCN.

PM will:

- Be responsible for coordinating all planning activities related to the RCN.
- Obtain input to planning efforts from ITS/TAG, WG, MA and NM.
- Actively seek comments and recommendations for the improvement of the RCN from the WG.
- Obtain consultant support for the preparation of planning documents and complex technical discussions at WG.
- Develop a long range plan for the RCN, updated every year, and contain the following:
  - Identify all fiber paths that are required to provide the desired RCN connectivity.
  - Identify existing fiber infrastructure that may be used to support/expand the RCN.
  - Identify current or planned road construction projects that may be used to implement new fiber that is required for the RCN.
  - Identify gaps in the fiber network that needs to be addressed through new RCN projects.
  - Provide a prioritized list of new RCN projects.

The ITS/TAG will:

- Be responsible for reviewing all planning documents and recommending them for adoption by MAG.
- Review recommendations from WG and produce action items to be addressed during plan updates.
- Assign tasks to WG on complex RCN related issues that needs to be investigated.

The WG will:

- Receive direction from the ITS/TAG committee, and work closely with the MAs they represent to make sure the RCN provides the functionality they need.
- Review the long range plan developed and updated by MAG, provide feedback and recommend improvements.

The MA will:

- Designate primary contacts for the NM at the MAs (These should be WG participants).
- Identify the initial and future nodes that will require connectivity to the RCN and forward that information to the WG.
- Provide documentation on existing and new fiber infrastructure to MAG to help identify fiber that can be used for the expansion of the RCN. For planning, this is limited to the

path, the number of available strands, and the location of splice points. There is no requirement for splice details for the planning phases.

- Identify and relay RCN related issues and concerns through their ITS/TAG or WG representative.

### **3 REQUIREMENTS DEVELOPMENT**

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This section will identify the roles and responsibilities of those involved with the requirements development for the RCN. These requirements will be used as the basis for the architecture and design that are described in later sections of this document. During the initial warranty period, changes may be limited if no funding source is identified to enable the network manager to perform the required assessments.

The MA will:

- Identify the specific requirements for each connection to the RCN. This includes items such as those listed below:
  - Entry and exit point
  - Requirements for dedicated fiber strands and/or wavelength (if applicable)
  - Bandwidth
  - Latency and jitter
  - Quality of Service (QOS)
  - Switching
  - Virtual Local Area Network (VLAN)
  - Internet Protocol (IP) addresses
  - Unicast / Multicast
  - Due Date
  - Routing Protocols
- Work closely with the NM and PM to accurately describe the expectations of the MA as it relates to the service levels that are expected of the RCN. These expectations will be the basis of Service Levels Agreements (SLA) and the resulting requirements that drive the design and operation of the RCN. This could have a significant impact on the selection of equipment, need for additional fiber paths, and the availability of technical support staff to respond to problems.
- Help identify requirements and clarify expectations related to the RCN.
- Forward all requests for service to the WG through their representative.

The WG will:

- Recommend the service level to be guaranteed by the RCN.

The ITS/TAG will:

- Approve the service level to be guaranteed by the RCN.

The PM will:

- Assign and manage RCN requirement development activities to the NM.

The NM will:

- Receive and confirm receipt of all requests for service.
- Review all requests to determine the budget impact of all new requests and review the impacts on the system with the PM.

- Evaluate the requests received from the WG to determine if the RCN is capable of meeting the requirements.
- Provide comments back to the WG about the feasibility of their request.
- Request additional information from the WG or MA thru their representative to clarify the request if required.

## 4 RCN DOCUMENTATION

This section describes the responsibilities of those involved in the documentation of the equipment and fiber used for the RCN. For the initial year of deployment, this information is already in place.

The MAs will:

- Be responsible for maintaining documentation of their respective fiber assets. This includes documentation related to the route, installation depth, conduits, fiber, location of splice enclosures, and complete splice details. Complete and accurate records are important since they impact the ability to repair quickly and accurately, in the event of any damage to the fiber plant.
- Maintain accurate records that can be used by the MA to locate RCN fiber infrastructure as part of the Bluestake process.
- Clearly mark and label all RCN fiber optic patch panels. While some variations are expected between agencies, the labels should clearly identify fiber paths used by the RCN as illustrated in Figure 2.
- Provide a warning sticker or sign at the fiber patch panel with contact information for the NM.
- Track all fiber assets with a system such as OSP Insight or another fiber documentation software application. This software product shall be used to maintain comprehensive as-built documentation of the RCN network. A copy of this documentation will be provided to the PM.
- Identify their agency representative and provide his/her contact information to other agency staff that are involved with any work related to the RCN.
- Identify the need for improvements in the documentation of existing fiber infrastructure and communicate those needs to the ITS/TAG through their WG member or the PM.

<b>Site: ADOT TMC - Room # 312</b>												
<b>Row 5 - Rack 3 - Fiber Panel 3</b>												
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>	<b>L</b>	<b>M</b>
1	1 RCN 7A	7 spare	1 MDN	7 VID	1 Fire	7 spare	13 spare	1 SONET	7 spare	1 empty	7 empty	13 empty
2	2 RCN 7B	8 spare	2 MDN	8 VID	2 Fire	8 spare	14 spare	2 SONET	8 spare	2 empty	8 empty	14 empty
3	3 video	9 spare	3 VID	9 VID	3 Police	9 spare	15 spare	3 spare	9 spare	3 empty	9 empty	15 empty
4	4 video	10 spare	4 VID	10 VID	4 Police	10 spare	16 spare	4 spare	10 spare	4 empty	10 empty	16 empty
5	5 video	11 ATM	5 VID	11 IP	5 spare	11 spare	17 spare	5 spare	11 spare	5 empty	11 empty	17 empty
6	6 spare	12 ATM	6 VID	12 IP	6 spare	12 spare	18 spare	6 spare	12 spare	6 empty	12 empty	18 empty
	<b>Backbone</b>		<b>Backbone</b>		<b>Distribution</b>			<b>Backbone</b>		<b>Empty</b>		
	North		South		West			East				

**Figure 2. Patch Panel Labels**

The WG will:

- Recommend guidelines and identify issues to be researched and addressed by the NM.
- Make recommendations to the PM regarding the scope of work and assignments to the NM.
- Review and comment on recommendations made by the NM as they relate to the RCN design, implementation, operations, and management.

The ITS/TAG will:

- Establish guidelines and identify issues to be researched and addressed by the NM.
- Make recommendations to the PM regarding the scope of work and assignments to the NM.
- Approve recommendations made by the NM and forwarded by the WG as they related to the RCN design, implementation, operations, and management.

The PM will:

- Maintain documentation of work carried out by the NM.
- Participate in all required meetings related to the documentation of assets used for the RCN.

The NM will:

- Maintain proper documentation for all fiber paths used by the RCN. This includes drawings that provide an overview of each fiber path, and properly identify the demarcation point between the NM and MA. The NM will not be responsible for maintaining complete as-built drawings of the fiber plant unless this responsibility has been delegated to the NM by the MA and approved by the PM.
- Maintain complete documentation of the RCN electronics. This includes drawings that identify all ports that are in use and the MA equipment it is connected to.
- Maintain a complete accounting of all IP addresses that are used on the RCN.
- Maintain a complete accounting of all VLANs that are used on the RCN.
- Maintain a complete accounting of all IP Multicast addresses that are used on the RCN.
- Maintain documentation that shows the physical connection between all RCN equipment. This includes documentation of the slot and port number. This includes type of module, link speed, and duplex mode.
- Identify and document Ethernet trunk and station ports.
- Identify gaps in the documentation of the fiber plant and help identify a strategy to fill in the missing information.
- Coordinate with the WG to evaluate and recommend a software program to document the fiber optic cable and related infrastructure such as conduit, boxes, splice enclosures, etc.
- Coordinate with each MA representative to gather information about how new and existing fiber infrastructure is documented and lessons learned from previous projects. Information may include items such as the spacing between Global Positioning System (GPS) measurements along the conduit route.

- Utilizing agency experience and best industry practices as input, prepare a white paper that recommends how to document fiber assets during new construction, and the best approach for documenting existing fiber assets. The focus of this white paper is to make sure the fiber used as part of the RCN is properly documented to assist in the planning of future projects and to make sure there is adequate documentation to facilitate repairs.

## 5 RCN ARCHITECTURE

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This section identifies the responsibilities of those involved in the development and maintenance of the RCN architecture. For the initial year of deployment, this information is already in place.

The MA will:

- Inform and coordinate with PM on architecture issues or requirements that impact local functions.

The WG will:

- Review and recommend the architecture and high level design provided by the NM or Architecture Consultant (AC).
- Evaluate the detailed designs prepared by the NM or AC and submit comments and recommendations for improvement.
- Review and recommend the equipment standards recommended by the NM or AC.

The ITS/TAG will:

- Review and approve the architecture and high level design recommended by WG.
- Review and approve the equipment standards recommended by the WG.

The PM will:

- Document the RCN architecture as currently defined in the Phase 1A project.
- Execute tasks for generating architecture improvements through the NM or an .AC

The NM or AC will:

- Evaluate current telecommunications technology for potential use in the RCN.
- Develop an overall architecture that can be used to guide the design of future phases of the RCN and provide updates as new technology becomes available. This includes key decisions such as the use of Single Mode Fiber (SMF) and the selection of key technologies such as Synchronous Optical Networking (SONET), Asynchronous Transfer Mode (ATM), Ethernet, and IP. While many of these decisions have already been made for the initial deployment of the RCN and are not likely to change, these decisions should be revalidated as the RCN is expanded and as equipment is upgraded or replaced over time.
- Develop an overall architecture for the transport of video across the RCN. This includes an approach for the replication of video, the selection of video compression technologies, and an approach to deal with the rapid and continuous improvements in compression technology.
- Work with the WG to make long-term design improvements to the RCN and generate suggestions for improvements within the agency networks that will allow agencies to exchange video without the use of Video Distribution Server (VDS) technology. The use of a VDS is often driven by the fact that agency networks were implemented well before plans could be put in place for a regional network such as the RCN. While that is the reality of today, the NM should consider long-term planning and design that will minimize the requirements for a VDS over time.

- Work with WG to develop and update existing standards related to the interface with the RCN. While many of these standards such as Ethernet and IP are set and not likely to change in the near future, other standards such as video compression will change quickly.
- Develop a high level design of the RCN and update that design as new technology becomes available.
- Develop a detailed design of the electronics used for the RCN.
- Develop a layer 3 network design.
- Develop an IP Address plan for use on the RCN and the interface with the MAs. This includes issues related to the use of Network Address Translation (NAT) and Port Address Translation (PAT).
- Develop a routing design based on the use of open standards such as Open Shortest Path First (OSPF).
- Develop a layer 2 switch design that includes the assignment of VLANs that will be used on the RCN and details on the use of spanning tree.
- Develop a security plan for the RCN and present the plan to the PM and WG for review and approval.

## 6 RCN DESIGN

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This section identifies the responsibilities of those involved in the design of the RCN. RCN design and implementation projects may be undertaken by either (1) a MA for RCN components within their jurisdiction OR (2) by a IA on behalf of MAG.

(1) On MA design projects:

The MA will:

- Have primary responsibility for the design of all fiber infrastructure installed by the MA. This includes all existing and new fiber infrastructure that is used for the RCN.
- Coordinate with the PM and the MA representative to ensure that the designs are carried out to be compatible with regional RCN standards.
- Provide documentation about the IP address space that is already in use within the agency network to help identify overlaps and a plan for NAT and PAT as needed.
- Provide documentation of the VLANs that are being used.

The WG will:

- Evaluate the detailed designs prepared by the NM and submit comments and recommendations for improvement thru the IA.
- Review and recommend new equipment standards recommended by the NM.

(2) On IA design projects:

The IA will:

- Review the requirements that are the result of the planning and requirements development process described earlier and use that information as the basis for the initial and ongoing design process.
- Coordinate with the MAs thru the WG to get the information required to complete the design of the RCN equipment.

The NM or AC will:

- Have primary responsibility for the design of the electronics used to support the RCN.

The PM will:

- Coordinate with the MA 's Project Manager regarding all design activities.
- Coordinate with the MAs and WG to collect comments on the designs developed by the IAs.

## 7 IMPLEMENTATION

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This section will identify the responsibilities of those involved in the implementation of the RCN. During the initial warranty period, changes may be limited if no funding source is identified to enable the network manager to perform the required assessments.

### (1) On projects implemented by MA:

The MA will:

- Follow all existing regional standards and specifications for the RCN.
- Have primary responsibility for all aspects of the implementation of the fiber optic cable, including the conduit, boxes, splice enclosures, and patch panels. This includes the management and payments to the contractor.
- Manage the inspection of conduits and boxes installed during the construction.
- Be responsible for the end-to-end testing done as part of the post construction acceptance.
- Work with agency staff to get construction updates and notify the NM of the scheduled availability for all new fiber segments that will be used by the RCN.
- Coordinate fiber testing (Optical Time-Domain Reflectometer (OTDR) and power meter) done by the network manager immediately before connecting RCN equipment to the fiber managed by the MA.

The WG will:

- Receive briefings from NM on project progress and address any issues.

The NM will:

- Test all fiber using an OTDR and power meter immediately before the fiber is put into service for the RCN. Testing should be done in both directions and on all wavelengths that are expected to be used. Compare the results with the calculations prepared during the design process and account for any significant differences. Forward the test results and comparison information to the MA thru the PM.
- Archive the test results for comparison with future test results.
- Provide and install all fiber jumpers and optical attenuators that are required. This includes the fiber jumpers installed between the RCN equipment and the patch panel that is installed by the MA.
- Have primary responsibility for the installation and configuration of all RCN active electronics equipment. This may include firewalls, routers, switches, video conference system, video distribution servers, etc.
- Identify any unexpected items that are needed to complete the installation. Coordinate with the PM to identify a resolution.

The PM will:

- Manage all activities done by the NM.

**(2) On projects implemented by an IA:**

The PM will:

- Coordinate with the IA to ensure that all existing RCN standards are followed.
- Make periodic reports to WG and ITS/TAG on project progress.
- Upon completion document the handover of fiber infrastructure to MA and addition of active electronics to the MAG equipment inventory.

The NM will:

- Monitor project progress and report on any issues to PM.
- Ensure that RCN standards are followed.
- Have primary responsibility for the installation and configuration of all RCN active electronics equipment.

## 8 BUILDING INFRASTRUCTURE

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This section identifies roles and responsibilities related to buildings used to house the RCN electronics and provide access to the outside fiber cable infrastructure.

The MA will:

- Provide space within an existing building that is appropriate for the installation of equipment. This may include an existing computer room or equipment closet.
- Provide a minimum of one (1) enclosed equipment rack for the installation of RCN equipment. In most cases, racks should match existing rack systems.
- Provide a climate control system to maintain proper temperature, humidity, and dust control.
- Provide a building service entrance for the installation of fiber optic cable. This may include items such as a vault or pull box outside of the building and conduit into the equipment room. The MA will be responsible to make sure the conduits are properly sealed to prevent the entry of water, smoke, or rodents into the building.
- Provide a minimum of two (2) dedicated circuits at the RCN equipment cabinet. The voltage, amps, and plug requirements will be provided by the NM.
- Pay for all power used at the RCN node.
- Ensure that all electrical and safety standards are followed.
- Make sure primary power is provided from a regular commercial power source and should not rely on solar panels or a local generator.
- Provide a secondary source of power such as a diesel or natural gas generator with an automatic transfer switch.
- Provide access to a building Uninterruptible Power Supply (UPS) if available and in good operating condition. The UPS should be capable of providing power from battery for a minimum of one (1) hour if a secondary power source is available or eight (8) hours if a secondary power source is not available.
- Provide an additional equipment rack for the installation of batteries if a secondary source of power is not available. This rack space requirement will change depending on the final power requirements of the equipment.
- Provide secure access to the computer room where the RCN equipment is located. A card reader should be used when possible to provide a method to reporting the date and time that people have entered the area. Access to critical nodes should be available at all times (24x7x365) and during business hours for secondary locations.
- Provide locks for the equipment cabinets used for the RCN equipment when a card reader system is not available.
- Coordinate with the NM to identify the procedure for access into agency buildings. This includes information about requirements for an escort by agency staff.
- Provide a dedicated rack mounted UPS when a building UPS is not available
- Provide additional batteries for the rack mounted UPS if a secondary power source is not available. The batteries should provide power for eight (8) hours. Changes to the Service Level Agreements may increase this requirement and should be carefully considered.

The NM will:

- Follow agency procedures related to building access.
- If provided to the NM, maintain control of all access cards and keys and immediately report to the MA if anything is lost or stolen.

## 9 MAINTENANCE AND REPAIR

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This section identifies roles and responsibilities related to maintenance and repair of the RCN.

The MA will:

- Maintain all outside plant fiber assets such as conduit, fiber cable, boxes, splice points, and fiber patch panels.
- Monitor agency related Trouble Tickets (TT) reports and facilitate agency related repairs.
- Utilize the work order tracking system to manage TTs that are related to the fiber optic cable managed by the MAs.

The WG will:

- Review performance reports submitted by the NM.
- Coordinate with MA representatives to help prioritize and assist with critical repairs.

The PM will:

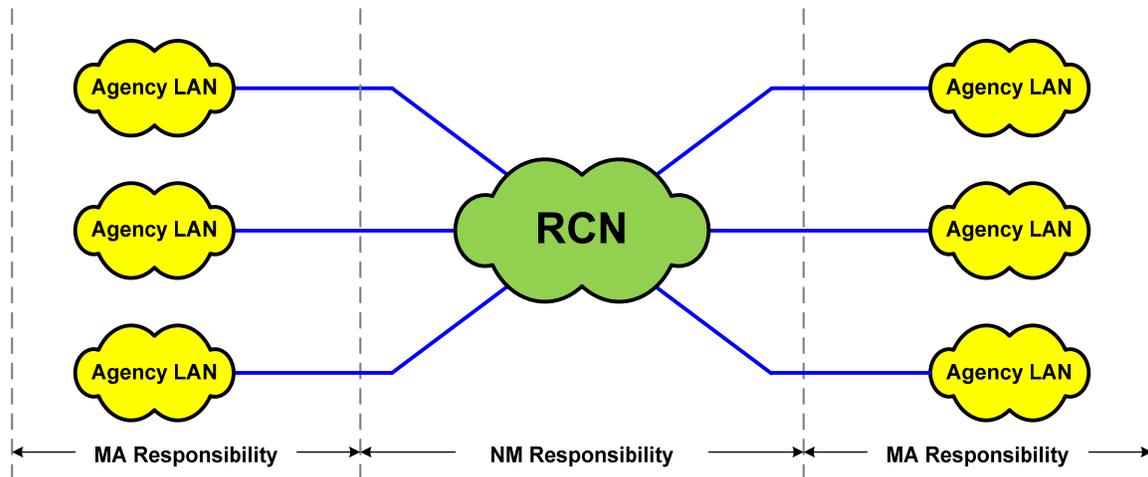
- Manage all activities done by the NM.
- Review performance reports submitted by the NM to verify proper response times.

The NM will:

- Have primary responsibility for maintenance and repair of the RCN electronics.
- Monitor all critical components on the RCN.
- Provide a primary and secondary contact telephone number for approved agency staff to report problems with the RCN.
- Utilize the work order tracking system to alert the MA of problems with the fiber.

## 10 RCN OPERATIONS

Operation of the RCN should be modeled after a carrier network with a clear demarcation point between the RCN and the MA network as shown in Figure 3.



**Figure 3 – Division of Responsibility**

This diagram is only intended to show the division of responsibility and is not intended to suggest a design for the RCN.

The MA will:

- Have primary responsibility for the operations of the fiber network.
- Participate in the Bluestake program to locate all agency fiber in order to prevent damage.
- Provide a list of authorized users who can submit requests for service.
- Coordinate with the NM to provide notifications of events that might affect the operations of the RCN. All requests should be made thru the PM.

The WG will:

- Discuss and endeavor to resolve issues such as priorities, schedules, and responsibilities that may arise between agencies, members, or other parties.

PM will:

- Coordinate with the ITS/TAG to identify and provide funding for ongoing operations.

The NM will:

- Have primary responsibility for the operation of the RCN electronics.
- Make all approved configuration changes to the RCN electronics in accordance with previously submitted and approved design documents.
- Monitor the status of all RCN electronics to determine the condition of the power supplies, operating temperature, etc.

- Monitor the status of each link in the RCN network to ensure proper operations, and address failures as required.
- Maintain a calendar of planned system downtime to perform maintenance activities. The NM will notify the WG and MAs of any planned downtime with detail such as the date, time, expected duration, and impacts on the RCN.
- Coordinate with PM and the MAs to provide transport across the RCN for the RVS installed and maintained by MAG.
- Perform general network administration oversight and preventative maintenance functions as they relate to the RCN electronics equipment.
- Manage and enforce equipment warranties and operational support service provided by the equipment manufacturers.
- Close out TTs and document changes that have been made to the RCN configuration, and maintain RCN maintenance records and drawings.
- Generate and track the progress of TTs for each system related problem reported by the MAs (or problem identified by the NM during routine preventative maintenance checks). Upon request by a MA representative, generate a report on TTs for any agency. This may also be addressed via the TT tracking software.
- Observe equipment trouble shooting activities, corrective measures taken, and testing of the corrective measures taken.
- Post diagrams and documents that describe any changes made to the RCN configuration.

## 11 CENTRAL WORK ORDER TRACKING SYSTEM

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This section will identify the roles and responsibilities related to the Central Work Order Tracking System.

The MA will:

- Proactively respond to RCN failures that fall within the responsibility of the agency (e.g., fiber cut).
- Notify NM of repairs, issues, or related coordination activities through its representative as appropriate.
- Provide a list of authorized users who can makes requests for service.
- Facilitate agency repairs as may be required.

The PM will:

- Obtain MAG funding for the initial installation, maintenance, and operations of a Central Work Order Tracking System.
- Facilitate the development of a web based system to create and track work orders and TTs.
- Review summary reports of TTs and assist with issues and delinquencies as may be required.
- Make policy recommendations to ITS/TAG and arbitrate issues that may arise.
- Coordinate with the other RCN partners.

The NM will:

- Track and respond to work orders assigned to the NM.
- Track all RCN hardware and the inventory of spare parts that are assigned to the NM, if any.
- Provide monthly reports to the PM for distribution to the WG. The report should include information about open and closed tickets, response times, and the time required to close tickets.

## 12 GOVERNANCE

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This section describes the RCN Management Reporting Structure that has been approved by MAG.

The Regional Community Network (RCN) is a fiber optic communications network that, when completed, would connect all MAG member agencies for the primary purpose of coordinating traffic control operations between neighboring agencies. The RCN communications network will allow the sharing of video and live traffic count data, and would help each jurisdiction manage its signal network more efficiently, thus improving safety, and reducing traffic delay and emissions. In addition, the RCN may be a significant communications asset in the event of a regional emergency evacuation due to a natural or a man-made cause. The network will also be available to support other interagency data sharing applications, including videoconferencing, Information Technology, and possibly public safety communications.

A number of larger cities and towns in the region have developed Traffic Management Centers that serve as the coordination centers for traffic management. Efficient management of the regional road network relies heavily on efficient communications between these centers. At present, a number of local agencies rely on local fiber networks as well as expensive leased phone lines for their agency-to-agency electronic communications. The RCN would eliminate the need for some leased fiber and/or phone lines and result in cost savings for those agencies. The RCN will also link ADOT's Freeway Traffic Operations Center, City of Phoenix's Transit Control Center, and METRO Rail's LRT Control Center to the rest of the regional traffic management network. The following is a subset of the information that will be shared:

- Real-time traffic conditions
- Crash bottlenecks
- Plans for relief routes
- Freeway cameras showing traffic heading towards local streets

The initial RCN design was developed as part of a study in which MAG examined ways to increase access to telecommunications and leverage existing agency infrastructure investments. Each agency agreed in principle to provide at least two fiber strands in key locations to allow the creation of a network connecting all MAG member agencies. The design called for filling key gaps to connect one agency's fiber to another's.

ADOT is currently overseeing the construction of Phase 1A of the RCN. This project will create the core ring and abbreviated East Valley and West Valley rings that will eventually be expanded into the full RCN. The original RCN concept specified a network carrying both general information technology data and transportation data, using advanced equipment to create multiple networks on a single pair of fiber. Limiting Phase 1A to accommodate the available budget reduced the scope to a single network carrying transportation data and supporting the RVS. The advanced electronics may still be added at a later date without discarding any equipment provided in Phase 1A.

The RCN Working Group (WG) is comprised of representatives of the member agencies serving on the Technology Advisory Group (TAG) and Intelligent Transportation Systems (ITS) Committee. This group currently develops recommendations for the management and future expansion of the Regional Community Network. The Working Group forwards recommendations

to the TAG and ITS committees for approval and from there the recommendations move through the normal MAG committee structure.

Following completion of Phase 1A of the RCN, the design consultant, Kimley-Horn and the selected turn-key solution provider, will manage the network for one year. This will give member agencies time to develop a funding mechanism for ongoing maintenance, a plan for the ongoing management of the network, and policies for its operation and expansion.

The RCN Working Group will work to identify a number of policies and procedures to assure that the network will fulfill the promise of increased access for Information Technology uses without compromising the primary transportation requirement imposed by the use of FHWA funding for construction and purchase of equipment. Additionally, the Working Group will recommend a network manager after the completion of the first year.

The TAG, ITS, and the RCN WG envision a formal structure whereby the day-to-day operations and routine addition of services to the network would be efficiently managed. To that end, the committees propose that they draft an initial set of policies and delineation of tasks to provide a framework for timely decisions while maintaining the oversight and policy role of the existing MAG process. The following details a suggested program.

#### **Regional Council, Management Committee, Transportation Review Committee**

Approve the initial set of policies.

Approve annual funding to support network management activities, including a small budget for incidentals as identified and included through the TIP process.

Review and approve any requests for additional funding for system maintenance.

Review and approve any requests for expansion funding.

Review and approve any policy changes.

Review and approve any removal of a previously approved agency service.

Receive annual reports on the status and function of the RCN.

#### **ITS and TAG**

Approve new services that have passed the RCN WG assessments.

Review and recommend approval of RCN WG policies to the TRC.

Approval of RCN WG guidelines.

Proposed Regional Community Network Management Reporting Structure

Review and recommend approval of annual funding to support network management activities including a small budget for incidentals.

Receive annual reports on the status and function of the RCN generated by the Network Manager and recommend them to the TRC.

Identify expansion projects and recommend approval to the TRC.

Approve no-cost expansions of the RCN on recommendation from the RCN WG.

[Approve new classes of NGPs.](#)

[Approve individual requests for NGP connections.](#)

#### **RCN WG**

Recommend initial policies and guidelines.

Develop a risk assessment procedure for new services.

Develop a risk assessment procedure for expansions.

Oversee the Network Manager and receive quarterly status reports.

Recommend additional service support.



Recommend expansion support.  
Recommend annual funding levels.

**Network Manager**

Oversee the day-to-day operations of the RCN.  
Coordinate repairs and maintenance.  
Maintain the safety of the RCN.  
Act as a resource for the connected agencies in troubleshooting applications.  
Perform risk assessments for new services.  
Perform risk assessments for expansions.  
Generate quarterly status reports.  
Monitor bandwidth and enforce restrictions on usage per the defined policy.  
Identify bandwidth limitations and issues.

**Member Agency RCN Representative**

Coordinate access to agency facilities for repairs and maintenance.  
Act as the main resource in troubleshooting applications and determining if the problem lies with the RCN.  
Act as the single point of contact for the Network Manager.

## 13 POLICIES

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This section defines the polices under which the ITS and TAG committees will make the decisions delegated to them under the adopted governance structure.

### No Cost Additions of Applications

**Policy:** The TAG and ITS committees will approve no cost additions of applications that respect the funding requirements, technical limitations, regional nature and equitable use of the RCN.

**Purpose:** This policy allows the timely addition of applications to the RCN while providing for fair accommodation to participating agencies.

**Applicability:** This policy applies only to no cost application additions by existing participants in the RCN.

**Procedure:** The TAG and ITS committees will review all requests that seek to add additional applications based on the following criteria.

Area	Description
Compatibility with funding requirements	Transportation uses must be given priority because construction of the facilities relies on federal transportation funding. Additional uses are permitted as long as they do not affect the transportation use. Projects must demonstrate that they are either compatible with the transportation use or that they will not impact that use in order to be considered.
Bandwidth Usage	The proposed use should be shown to not exceed the available bandwidth of the network, including burst traffic.
Regional Use	Regional uses of the network for interagency communication should be given preference over individual use.
Agency Distribution	The project should reflect a reasonable distribution of bandwidth among agencies.
Cost	Agencies should demonstrate that there will be no additional costs borne by the RCN for the implementation of the application. The agency will have the option of doing this by assuming the costs associated with implementation.

Requests for applications must include the understanding that non-transportation applications may have to be removed from the network in the future or may have to upgrade equipment to maintain the ability to execute transportation related applications.

A request must be approved by both committees before the additional application is added to the RCN.

<Date>

TO: Dennis Smith, Executive Director

FROM: <Manager>

SUBJECT: AUTHORIZATION TO MAINTAIN EQUIPMENT FOR THE MAG REGIONAL  
COMMUNITY NETWORK PROJECT

This memorandum is between the Maricopa Association of Governments (MAG), 302 N. 1<sup>st</sup> Avenue, Suite 300, Phoenix, Arizona 85003, a Council of Governments, hereinafter identified as MAG, <NGP>, hereinafter identified as <NGP>, and the sponsoring City (Town, County, Community or Agency) of \_\_\_\_\_, regarding the MAG Regional Community Network, hereinafter identified as RCN. Project specific items needing expeditious handling in relation to the RCN are addressed in this memorandum.

This memorandum will authorize MAG personnel or its contractor to install and maintain network equipment on the premises of all participating agencies and partners for the purpose of creating a regional data network. MAG will provide and maintain the equipment required to support the network either directly or through a contractor.

MAG has title to the electronic equipment provided for the RCN. MAG personnel or its contractor will maintain and repair the electronic equipment. MAG personnel or its contractor will need permission to access the appropriate facilities. Additionally, this network relies on previously existing agency-owned fiber and may transition across fiber from the sponsoring MAG member agency and <NGP>. Participating agencies are responsible for repairing RCN assigned fiber through a best effort approach. The <NGP> and sponsoring agency are solely responsible for the maintenance of their own interconnection.

As a non-governing partner in the RCN, <NGP> agrees as follows:

1. <NGP> will provide timely access to MAG or its contractor to install and maintain RCN equipment housed in its facilities.
2. <NGP> agrees to provide appropriate space, power and environmental conditioning for the network equipment necessary to establish the RCN, and furthermore agrees to provide the necessary technical personnel support (a site coordinator) as the single point of contact to coordinate any network/equipment installation or maintenance issues. These requirements are detailed in the ADOT Regional Community Network Design Concept Report for Phase I prepared by Kimley-Horn and Associates, Inc. and dated November 2004.
3. <NGP> agrees to provide the necessary technical personnel support (a site coordinator) as the single point of contact for any fiber repair or maintenance issues and to make a best effort at timely repair of such issues.

4. <NGP> understands that MAG, its contractors and the other participating agencies will make every effort to make repairs as quickly as possible, but that the initial implementation will not guarantee a service level.

Therefore, <NGP> hereby authorizes the installation of equipment in our facilities, agree to provide access to the equipment once installed, agree to make a best effort at timely fiber repair and acknowledge that service level is not guaranteed.

<NGP> hereby waives and releases MAG and its officers, elected officials, appointees, employees, agents and representatives (collectively "MAG") from any claims, demands, losses, liabilities and causes of action relating to or arising out of MAG's activities in fulfilling its responsibilities pursuant to this Authorization. This waiver and release is intended to be an express waiver and release from any and all claims against MAG arising from MAG's actions in fulfilling its responsibilities pursuant to this Authorization

Furthermore, as a non-governing partner, <NGP> will be sponsored for this connection by \_\_\_\_\_. This connection will be used for \_\_\_\_\_ during the period of \_\_\_\_\_ to \_\_\_\_\_. The <NGP> agrees to use the connection solely for transportation related applications and communications. Improper use of the connection, including but not limited to recording of camera feeds, unauthorized access to connected servers, or network probing and port scanning, will result in its termination and possible legal penalties. Authorized IPs and port numbers:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
NGP Signature

\_\_\_\_\_  
Sponsor Signature

\_\_\_\_\_  
NGP Name

\_\_\_\_\_  
Sponsor Name

\_\_\_\_\_  
NGP Title

\_\_\_\_\_  
Sponsor Title

\_\_\_\_\_  
NGP Organization

\_\_\_\_\_  
Sponsor Agency

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

**ATTACHMENT  
#5**

**Agenda Item #5D**

## MAG Air Quality Technical Advisory Committee Recommendation

### Prioritized List of Proposed PM-10 Certified Street Sweeper Projects for FY 2016 CMAQ Funding

\$1,530,113 in CMAQ Funding is Available for Sweeper Projects

										Supplemental Information			
Agency	Federal Cost	Local Cost	Total Cost*	Daily Emission Reduction (Kilograms/day)	Cost-Effectiveness (CMAQ dollar cost per annual metric ton reduced)	The requested certified street sweeper will:				Have local resources been committed for staff or equipment to support the sweeper project?		Please indicate in what geographical area(s) the requested certified street sweeper will operate	Number of certified street sweepers owned and operated by your agency. +
						Replace non-certified sweeper	Expand	Increase Frequency	Replace older certified sweeper	Yes	No		
Peoria #1	\$259,845	\$15,706	\$275,551	552	\$184				✓	✓		Peoria City Limits: Northern Ave. to SR74 and 67 <sup>th</sup> Ave. to El Mirage Rd.	5
Phoenix #1	\$232,850	\$14,075	\$246,925	158	\$574				✓	✓		Area from 111 <sup>th</sup> Ave. to 1 <sup>st</sup> Ave., W. Bethany Home Rd. to W. Pecos Rd.	35
Phoenix #2	\$232,850	\$14,075	\$246,925	158	\$574				✓	✓		Area from 51 <sup>st</sup> Ave. to 32 <sup>nd</sup> St., Bell Rd. to Camelback Rd.	35
Mesa	\$166,756	\$10,080	\$176,836	66	\$981		✓				✓	Citywide.	9
Scottsdale	\$214,853	\$12,987	\$227,840	67	\$1,260				✓	✓		Scottsdale Rd. to Pima Rd. and Chaparral Rd. to Thunderbird Rd.	7
Apache Junction	\$270,636	\$16,359	\$286,995	81	\$1,306				✓		✓	Citywide.	3
Peoria #2 ++	\$259,845	\$15,706	\$275,551	53	\$1,915			✓		✓		Peoria City Limits: Northern Ave. to SR74 and 67 <sup>th</sup> Ave. to El Mirage Rd.	5
<b>Subtotal</b>	\$1,637,635												
<b>Amount Available</b>	\$1,530,113												
<b>Balance</b>	\$-107,522												
Chandler	\$228,749	\$13,827	\$242,576	28	\$3,150				✓	✓		Alma School to Germann, Germann to Gilbert, Gilbert north along city boundary to Elliot, Elliot to Alma School. Also throughout the city.	10
Glendale	\$241,043	\$14,570	\$255,613	5	\$19,497			✓		✓		Citywide.	3
<b>Total</b>	\$2,107,427												

All street sweeper project applications indicate sweeping within four miles of a PM-10 monitor.

\* Total cost for the CMAQ eligible portion of the project, excludes ineligible equipment.

+ The total number of certified street sweepers owned and operated by the agency, regardless of funding source.

++ For Peoria #2 sweeper project, initial funding of \$152,323 is available in FY 2016 CMAQ. The remaining \$107,522 of the \$259,845 requested for the project may become available due to year-end closeout including any additional funding received by the region.

**ATTACHMENT  
#6**

**Agenda Item #5E**

# ARTERIAL LIFE CYCLE PROGRAM



## STATUS REPORT

08/15/2015 - 10/15/2015



### CONTENTS



- Page 1: ALCP Revenue and Finance
- Page 2: ALCP Project Highlight:  
Lake Pleasant Pkwy: West Wing Pkwy to L303
- Page 3: FY2016 Arterial Life Cycle Program
- Page 3: ALCP Project Status
- Pages 4-10: ALCP Project Status Tables

**ALCP REVENUE AND FINANCE**

In November 2004, the voters of Maricopa County approved Proposition 400, which extended the ½-cent sales tax for transportation through 2025. The tax extension was divided among freeways (56.2%), transit (33.3%) and arterial streets (10.5%). The portion of the tax extension allocated to arterial streets is managed through the Arterial Life Cycle Program (ALCP). Table 1 provides a breakdown of Proposition 400 revenues collected in fiscal year (FY) 2015 by mode.

<b>TABLE 1. FY 2015 PROPOSITION 400 COLLECTIONS (July 2014 - June 2015)</b>				
	Freeways	Arterial Streets	Transit	TOTAL
July	\$17,109,525	\$3,196,620	\$10,137,850	\$30,443,995
August	\$16,966,371	\$3,169,874	\$10,053,027	\$30,189,272
September	\$17,034,712	\$3,182,642	\$10,093,521	\$30,310,875
October	\$17,198,429	\$3,213,230	\$10,190,528	\$30,602,186
November	\$16,894,110	\$3,156,373	\$10,010,211	\$30,060,694
December	\$17,632,145	\$3,294,262	\$10,447,517	\$31,373,924
January	\$20,780,273	\$3,882,435	\$12,312,867	\$36,975,575
February	\$16,853,934	\$3,149,241	\$9,987,593	\$29,990,769
March	\$18,153,420	\$3,391,653	\$10,756,386	\$32,301,460
April	\$19,818,878	\$3,702,815	\$11,743,214	\$35,264,907
May	\$18,005,827	\$3,364,078	\$10,668,933	\$32,038,837
June	\$18,422,856	\$3,441,993	\$10,916,034	\$32,780,883
<b>TOTAL</b>	<b>\$214,870,480</b>	<b>\$40,145,215</b>	<b>\$127,317,682</b>	<b>\$382,333,377</b>

*\*Amount excludes debt service from Prop 300*

In addition to the half-cent sales tax, the Regional Transportation Plan (RTP) allocates federal Surface Transportation Program – MAG Funds (STP-MAG) and federal Congestion Mitigation and Air Quality Improvement Program Funds (CMAQ) to fund projects in the ALCP.

Revenues from the ½-cent sales tax allocated to arterials are deposited into the Regional Area Road Fund (RARF) arterial account on a monthly basis. At the end of FY 2015, actual RARF revenue collections were 1.0% higher than the November 2013 Arizona Department of Transportation (ADOT) RARF revenue forecast. Table 2 provides a summary of estimated versus actual arterial RARF revenue collections over that period.

Fiscal Year 2016 started on July 1, 2015. Through October, \$13.1 million of additional RARF revenues have been deposited into the arterial account. To date, approximately \$344.2 million Regional Area Road Funds have been collected for arterial improvements in the region, \$5.7 million has been earned through income from investments, and more than \$331.7 million of project expenses have been reimbursed. As of the end of November 2015, the RARF project account balance was \$18.2 million.

**April 2015 – November 2015**



The RTP dedicates approximately 3.65% percent of the ALCP RARF funds for planning and implementation studies in the region. The funding allocated for implementation studies is contingent on RARF revenue collections. As a result, the amounts programmed in the ALCP are estimates derived the ADOT RARF revenue forecasts published annually. The remaining regional budget for the implementation studies fluctuate concurrently with the forecasts. Since 2006, \$12.4 million in RARF revenues have been deposited into the RARF Studies account.

For more information about the MAG Implementation and Planning Studies, please see the appendices in the approved Arterial Life Cycle Program available for download at: <http://www.azmag.gov/ALCP>

**TABLE 2. TOTAL ARTERIAL RARF COLLECTIONS Estimate v. Actual FY 2015 (July 2014 - June 2015)**

	Estimated Total RARF	Actual Total RARF*	Percentage Difference
July	\$3,253,215	\$3,196,620	-1.7%
August	\$3,089,625	\$3,169,874	2.6%
September	\$3,176,880	\$3,182,642	0.2%
October	\$3,190,635	\$3,213,230	0.7%
November	\$3,160,080	\$3,156,373	-0.1%
December	\$3,232,320	\$3,294,262	1.9%
January	\$3,843,105	\$3,882,435	1.0%
February	\$3,138,555	\$3,149,241	0.3%
March	\$3,258,465	\$3,391,653	4.1%
April	\$3,628,380	\$3,702,815	2.1%
May	\$3,357,060	\$3,364,078	0.2%
June	\$3,403,680	\$3,441,993	1.1%
<b>TOTAL</b>	<b>\$39,732,000</b>	<b>\$40,145,215</b>	<b>1.0%</b>

*\*Amount excludes debt service from Prop 300*

**ALCP PROJECT HIGHLIGHT:  
LAKE PLEASANT PKWY: WEST WING PARKWAY TO LOOP 303**

The Lake Pleasant Pkwy: West Wing Parkway to Loop 303 arterial capacity improvement project was opened to traffic in August 2015. The project included the demolition of the existing two-lane rural roadway and construction of a new four-lane urban arterial roadway along the project’s entire 2.5 mile route. Features of the roadway include a raised-landscaped median, new sidewalks, pedestrian features, and bike lanes.



For additional information about the Lake Pleasant Pkwy: West Wing Parkway to Loop 303 arterial capacity improvement, please contact the City of Peoria Engineering Department at (623) 773-7212.



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## FY 2016 ARTERIAL LIFE CYCLE PROGRAM

On October 28, 2015 the MAG Regional Council approved an update to the FY2016 Arterial Life Cycle Program, the MAG FY 2014-2018 Transportation Improvement Program (TIP), and the 2035 Regional Transportation Plan (RTP). An electronic copy of the updated FY 2016 ALCP may be downloaded from the MAG website at:

<http://www.azmag.gov/ALCP>

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## ALCP PROJECT STATUS

Detailed information about projects underway is provided in Tables 3 and 4. Table 3 lists whether projects are programmed for work and/or reimbursement in FY 2016, the amount programmed for reimbursement in FY 2016, and ALCP project requirements submitted to-date. Table 4 details project reimbursements and expenditures for projects programmed for work and/or reimbursement in FY2016.

This is the 22nd Status Report for the Arterial Life Cycle. Semi-annually, MAG provides member agencies with an update on the projects in the ALCP. This report and all other ALCP information are available online at:

<http://www.azmag.gov/ALCP>.

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**TABLE 3. FY 2016 ARTERIAL LIFE CYCLE PROGRAM**  
**SCHEDULE FOR PROJECTS PROGRAMMED FOR WORK AND/OR REIMBURSEMENT IN FY16**

RTP Project	Programmed in the FY16 ALCP	Programmed Reimb. in FY16	Reimb. in FY 2016	ALCP Project Requirements		
				Overview (PO)	Agreement (PA)	Needed in FY16
<b><u>CHANDLER</u></b>						
Chandler Blvd at Alma School Rd: Intersection Improvements	Work and Reimbursement	\$ 545,676.28		Completed 3/2008	Completed 7/2008	PRR
Gilbert Rd: Chandler Heights Rd to Hunt Hwy	Work and Reimbursement	Funds obligated in FFY 2013	-	Completed 5/2012	Completed 1/2014	PRR
Chandler Heights Rd: Arizona Ave to McQueen Rd	Work and Reimbursement	1,287,825.00	-	Completed 9/2014	Completed 12/2014	PRR
McQueen Rd: Ocotillo Rd to Riggs Rd	Work and Reimbursement	493,306.91	112,858.83	Completed 4/2013	Completed 8/2013	PRR
Ocotillo Rd: Arizona Ave to McQueen Rd	Work and Reimbursement	4,126,379.14	-	Completed 4/2013	Completed 1/2014	PRR
Old Price Rd at Queen Creek Rd: Intersection Improvements	Work and Reimbursement	2,855,227.29	1,457,158.20	Completed 9/2014	Completed 12/2014	PRR
McQueen Rd: Ocotillo Rd to Chandler Heights	Work and Reimbursement	Funds obligated in FFY 2013	2,252,072.52	Completed 4/2013	Completed 4/2014	PRR
McQueen Rd: Chandler Heights to Riggs Rd	Work and Reimbursement	Funds obligated in FFY 2015	-	Completed 4/2013	Completed 4/2014	PRR
Ray Rd at Dobson Rd: Intersection Improvements Phase I	Work and Reimbursement	251,006.80	13,562.75	Completed 9/2014	Completed 12/2014	PRR
Cooper Rd: South of Queen Creek Rd to Chandler Heights	Work and Reimbursement	588,401.00	-	Completed 2/2015	Completed 3/2015	PRR
Cooper Rd: South of Queen Creek Rd to Riggs Rd	Work and Reimbursement	Funds obligated in FFY 2015	-	Completed 2/2015	---	PA/PRR
<b><u>CHANDLER &amp; GILBERT</u></b>						
Queen Creek Rd: McQueen Rd to Gilbert Rd	Work and Reimbursement	\$ 1,500,000.00	\$ 108,857.900	Completed 4/2014	Completed 7/2014	PRR
<b><u>EL MIRAGE</u></b>						
El Mirage Rd: Cactus to Grand & Thunderbird Rd: 127th Ave to Grand	Work and Reimbursement	\$ 741,327.97	\$ 53,569.17	Completed 9/2013	Completed 11/2013	PRR
Thunderbird Rd: 127th Ave to Grand Avenue	Work and Reimbursement	500,000.00	-	Completed 9/2013	Completed 11/2013	PRR
El Mirage Rd: Peoria Ave to Cactus Rd	Work and Reimbursement	6,110,892.62	600,106.82	Completed 10/2013	Completed 1/2014	PRR
El Mirage Rd: Cactus to Grand Avenue	Work and Reimbursement	625,000.00	-	Completed 9/2013	Completed 11/2013	None
<b><u>FOUNTAIN HILLS</u></b>						
Shea Blvd: Technology Dr to Cereus Wash	Work and Reimbursement	\$ 450,239.00	\$ -	Completed 8/2008	Completed 10/2008	PRR
<b><u>GILBERT</u></b>						
Elliot Rd at Cooper Rd: Intersection Improvements	Work and Reimbursement	\$ 1,052,100.00	\$ -	Completed 8/2014	Completed 5/2015	PRR
Germann Rd: Val Vista Dr to Higley Rd	Work and Reimbursement	5,253,233.20	-	Completed 4/2013	Completed 5/2013	PRR
Guadalupe Rd at Cooper Rd: Intersection Improvements	Work and Reimbursement	3,456,549.89	-	Completed 5/2012	Completed 10/2010	PRR
<b><u>MARICOPA COUNTY</u></b>						
El Mirage Rd: Northern Ave to Peoria Ave	Work and Reimbursement	\$ 2,283,429.19	\$ 64,326.93	Completed 11/2012	Completed 1/2013	PRR
Gilbert Rd: Bridge over Salt River	Work and Reimbursement	Funds obligated in FFY 2015	-	---	---	PO/PA/PRR
McKellips Rd: Loop 101 to SRP-MIC/Alma School Rd	Work and Reimbursement	Funds obligated in FFY 2013	146,861.02	---	Completed 12/2013	PRR

**SCHEDULE FOR PROJECTS PROGRAMMED FOR WORK AND/OR REIMBURSEMENT IN FY16**

RTP Project	Programmed in the FY16 ALCP	Programmed Reimb. in FY16	Reimb. in FY 2016	ALCP Project Requirements		
				Overview (PO)	Agreement (PA)	Needed in FY16
<b>MARICOPA COUNTY (Cont.)</b>						
Northern Parkway (Phase I): Sarival to Dysart	Work and Reimbursement	Funds Obligated in FFY 10/11/12	222,064.06	Completed 4/2010	Completed 3/2011	PRR
Northern Parkway (Phase II): Sarival to Dysart	Work and Reimbursement	Funds Obligated in FFY 2011	-	Completed 11/2012	Completed 1/2013	PRR
Northern Parkway: Dysart to 111th Ave	Work and Reimbursement	\$ 14,503,035.00	127,610.43	Completed 6/2012	Completed 11/2012	PRR
Northern Parkway: Reems and Litchfield Overpasses	Work and Reimbursement	Funds Obligated in FFY 12/13	-	Completed 6/2012	Completed 11/2012	PRR
Northern Parkway: Northern Ave at Loop 101	Work and Reimbursement	1,100,660.00	-	Completed 11/2012	Completed 1/2013	PRR
Northern Parkway: Dysart Overpass	Work and Reimbursement	200,000.00	-	Completed 9/2013	Completed 11/2013	PRR
<b>MESA</b>						
Mesa Dr: US 60 to Southern Ave	Reimbursement Only	\$ 900,000.00	\$ 787,259.71	Completed 3/2007	Completed 1/2008	PRR
Mesa Dr: 8th Avenue to Main Street	Work and Reimbursement	2,376,097.48	16,703.05	Completed 6/2014	Completed 8/2014	PRR
Ray Road: Signal Butte to Meridian	Work Only	-	-	Completed 6/2015	Completed 8/2015	None
Signal Butte Road: Elliot Rd to Ray Rd	Work Only	-	-	Completed 8/2014	Completed 11/2014	None
Southern Avenue Area DCR	Work and Reimbursement	105,000.00	-	Completed 10/2015	Completed 11/2015	PRR
Val Vista Dr: Baseline Rd to Southern Ave	Work and Reimbursement	295,000.00	-	---	---	PO/PA/PRR
<b>PEORIA</b>						
Lake Pleasant Pkwy: West Wing Parkway to Loop 303	Reimbursement Only	\$ 2,250,000.00	\$ 2,250,000.00	Completed 5/2006	Completed 10/2011	None
<b>PHOENIX</b>						
Avenida Rio Salado Phase I: 51st Ave to 43rd Ave and 35th Ave to 7th Street	Work and Reimbursement	Funds Obligated in FFY 12-15	\$ 1,076,782.28	Completed 1/2012	Completed 5/2012	PRR
Black Mountain Blvd: SR-51 and Loop 101/Pima Fwy to Pinnacle Peak Rd	Work and Reimbursement	Funds Obligated in FFY 11-15	-	Completed 10/2007	Completed 6/2012	PRR
<b>SCOTTSDALE/CAREFREE</b>						
Happy Valley Rd: Pima Rd to Alma School Rd	Work and Reimbursement	\$ 945,000.00	\$ -	---	---	PO/PA/PRR
Pima Rd: Pinnacle Peak to Happy Valley Rd	Work and Reimbursement	\$ 1,345,498.56	\$ -	---	---	PO/PA/PRR
<b>SCOTTSDALE</b>						
Miller Rd/SR-101L Underpass	Work and Reimbursement	\$ 700,000.00	\$ -	---	---	PO/PA/PRR
Pima Rd: Via Linda to Via De Ventura	Work and Reimbursement	1,330,066.08	41,821.95	Completed 9/2014	Completed 12/2014	PRR
Pima Rd: Krail St to Chaparral Rd	Work and Reimbursement	500,000.00	-	Completed 9/2014	---	PA/PRR
Redfield Rd: Raintree Dr to Hayden Rd	Work and Reimbursement	150,000.00	-	Completed 8/2014	Completed 12/2014	PRR
Raintree Drive: Scottsdale Rd to Hayden Rd	Work and Reimbursement	6,353,954.47	188,288.63	Completed 8/2014	Completed 12/2014	PRR
Southbound Loop 101 Frontage Road Connections	Work and Reimbursement	1,543,952.18	32,522.19	Completed 9/2014	Completed 12/2014	PRR

**TABLE 4A. ARTERIAL LIFE CYCLE PROGRAM**  
STATUS OF RARF-FUNDED PROJECTS UNDERWAY IN FISCAL YEAR 2016  
Consistent with the Fiscal Year 2016 ALCP approved on October 28, 2015

FACILITY/LOCATION	SCHEDULE FOR WORK (W) AND/OR REIMB. (R)	REGIONAL FUNDING (Millions)					TOTAL EXPENDITURES (Millions)			FINAL FY for CONST	LENGTH* (Miles)	OTHER PROJECT INFORMATION
		Reimb through FY15 (YOE\$)	FY 2016 Est. Reimb. (2015\$)	Est. Reimb FY17-FY26 (2015\$)	Total Reimb FY06-FY26 (2015\$, YOE\$)	Unfunded Due to Deficit (2015\$)	Expend through FY15 (YOE\$)	Estimated Future Expend FY16-FY26 (2015\$)	Total Expend FY06-FY26 (2015\$,YOE\$)			
	FY 2016											
<b>CHANDLER</b>												
Chandler Blvd at Alma School Rd: Intersection Improvements	W/R	0.708	0.546	2.094	3.347	0.942	1.011	0.780	9.020	2017	0.25	
Chandler Heights Rd: Arizona Ave to McQueen Rd	W/R	1.037	0.251	6.037	7.325	0.000	1.482	9.774	11.256	2019	1.00	
McQueen Rd: Ocotillo Rd to Riggs Rd	W/R	1.503	0.493	0.000	1.996	0.000	2.147	0.705	2.852	2016	2.00	Design & ROW only
Ocotillo Rd: Arizona Ave to McQueen Rd	W/R	1.168	4.126	0.000	5.294	1.408	1.669	8.787	10.455	2016	1.00	
Old Price Rd at Queen Creek Rd: Intersection Improvements	W/R	0.167	2.855	1.219	4.241	0.000	0.239	4.185	4.424	2016	0.80	
Ray Rd at Dobson Rd: Intersection Improvements Phase I	W/R	0.015	0.251	0.000	0.266	0.000	0.021	0.359	0.380	2016	0.30	
Cooper Rd: South of Queen Creek Rd to Chandler Heights	W/R	0.000	0.588	4.202	4.790	0.000	0.000	5.656	5.656	2018	1.60	ROW & Const. only
<b>EL MIRAGE</b>												
El Mirage Rd: Cactus to Grand & Thunderbird Rd: 127th Ave to Grand	W/R	1.047	0.741	0.000	1.788	0.000	1.047	1.557	2.604	2016	2.00	Design only
Thunderbird Rd: 127th Ave to Grand Avenue	W/R	1.528	0.500	1.965	3.993	0.000	2.183	9.556	11.739	2017	0.50	ROW & Const. only
El Mirage Rd: Peoria Ave to Cactus Rd	W/R	0.325	6.111	0.000	6.436	0.000	0.464	5.809	6.274	2017	1.00	ROW & Const. only
El Mirage Rd: Cactus to Grand Avenue	W/R	0.000	0.625	12.928	13.553	0.000	0.000	19.361	19.361	2017	1.50	ROW & Const. only
<b>FOUNTAIN HILLS</b>												
Shea Blvd: Technology Dr to Cereus Wash	W/R	2.675	0.450	0.000	3.125	0.000	3.821	0.595	4.417	2015	0.80	
<b>GILBERT</b>												
Elliot Rd at Cooper Rd: Intersection Improvements	W/R	0.000	1.052	3.088	4.140	0.000	0.000	7.615	7.615	2018	0.50	

Reimb. Reimbursement(s)  
FY Fiscal Year

YOE Year of Expenditure  
Expend Expended/Expenditures

\$ Dollars  
Est Estimated

\* Measured in centerline miles

STATUS OF RARF-FUNDED PROJECTS UNDERWAY IN FISCAL YEAR 2016  
Consistent with the Fiscal Year 2016 ALCP approved on October 28, 2015

FACILITY/LOCATION	SCHEDULE FOR WORK (W) AND/OR REIMB. (R)	REGIONAL FUNDING (Millions)					TOTAL EXPENDITURES (Millions)			FINAL FY for CONST	LENGTH* (Miles)	OTHER PROJECT INFORMATION
		Reimb through FY15 (YOE\$)	FY 2016 Est. Reimb. (2015\$)	Est. Reimb FY17-FY26 (2015\$)	Total Reimb FY06-FY26 (2015\$, YOE\$)	Unfunded Due to Deficit (2015\$)	Expend through FY15 (YOE\$)	Estimated Future Expend FY16-FY26 (2015\$)	Total Expend FY06-FY26 (2015\$, YOE\$)			
	FY 2016											
<b>GILBERT (Cont)</b>												
Germann Rd: Val Vista Dr to Higley Rd	W/R	2.651	5.253	9.911	17.815	0.000	3.787	8.180	11.967	2016	2.00	
Guadalupe Rd at Cooper Rd: Intersection Improvements	W/R	1.731	3.457	0.000	5.188	0.000	2.473	8.971	11.444	2016	0.50	
<b>MARICOPA COUNTY</b>												
El Mirage Rd: Northern Ave to Peoria Ave	W/R	0.255	2.283	7.789	10.327	0.000	0.364	12.099	12.463	2017	2.00	
<b>MESA</b>												
Mesa Dr: US 60 to Southern Ave	R	15.126	0.900	0.000	16.026	0.000	23.635	0.000	23.635	2015	1.00	
Mesa Dr: 8th Avenue to Main Street	W/R	0.187	2.376	9.209	11.772	0.000	0.267	14.588	14.856	2017	1.00	
Ray Road: Signal Butte to Meridian	W	0.000	0.000	14.428	14.428	0.000	2.000	0.000	2.000	2015	1.00	
Signal Butte Road: Elliot Rd to Ray Rd	W	0.000	0.000	9.436	9.436	0.000	13.480	0.000	13.480	2015	2.00	
Southern Avenue Area DCR	W/R	0.000	1.050	0.000	1.050	0.000	0.000	1.500	1.500	2016	0.00	Design only
Val Vista Dr: Baseline Rd to Southern Ave	W/R	0.000	0.295	8.025	8.320	0.000	0.000	12.369	12.369	2018	1.00	
<b>PEORIA</b>												
Lake Pleasant Pkw y: West Wing Parkw ay to Loop 303	R	2.645	2.250	12.546	17.441	11.114	16.835	0.000	16.835	2015	2.50	
<b>SCOTTSDALE/CAREFREE</b>												
Happy Valley Rd: Pima Rd to Alma School Rd	W/R	0.000	0.945	6.002	6.947	0.000	0.000	11.350	11.350	2017	2.20	
Pima Rd: Pinnacle Peak to Happy Valley Rd	W/R	0.000	1.345	14.645	15.990	0.000	0.000	22.844	22.844	2018	2.50	

Reimb. Reimbursement(s)  
FY Fiscal Year

YOE Year of Expenditure  
Expend Expended/Expenditures

\$ Dollars  
Est Estimated

\* Measured in centerline miles

STATUS OF RARF-FUNDED PROJECTS UNDERWAY IN FISCAL YEAR 2016  
Consistent with the Fiscal Year 2016 ALCP approved on October 28, 2015

FACILITY/LOCATION	SCHEDULE FOR WORK (W) AND/OR REIMB. (R)	REGIONAL FUNDING (Millions)					TOTAL EXPENDITURES (Millions)			FINAL FY for CONST	LENGTH* (Miles)	OTHER PROJECT INFORMATION
		Reimb through FY15 (YOE\$)	FY 2016 Est. Reimb. (2015\$)	Est. Reimb FY17-FY26 (2015\$)	Total Reimb FY06-FY26 (2015\$, YOE\$)	Unfunded Due to Deficit (2015\$)	Expend through FY15 (YOE\$)	Estimated Future Expend FY16-FY26 (2015\$)	Total Expend FY06-FY26 (2015\$, YOE\$)			
	FY 2016											
<b>SCOTTSDALE</b>												
Miller Rd/SR-101L Underpass	W/R	0.000	0.700	13.305	14.005	0.000	0.000	21.006	21.006	2022	1.30	
Pima Rd: Via Linda to Via De Ventura	W/R	0.009	1.330	0.000	1.339	0.000	0.012	2.342	2.354	2016	1.30	
Pima Rd: Krail St to Chaparral Rd	W/R	0.000	0.500	8.963	9.463	0.000	0.000	20.313	20.313	2019	1.80	
Redfield Rd: Raintree Dr to Hayden Rd	W/R	0.000	0.150	1.350	1.500	0.000	0.000	2.215	2.215	2017	1.00	
Raintree Drive: Scottsdale Rd to Hayden Rd	W/R	0.146	6.354	9.474	15.974	0.000	0.209	22.656	22.865	2017	1.00	
Southbound Loop 101 Frontage Road Connections	W/R	0.012	1.544	1.496	3.052	0.000	0.018	6.940	6.957	2017	0.75	

Reimb. Reimbursement(s)  
FY Fiscal Year

YOE Year of Expenditure  
Expend Expend/Expenditures

\$ Dollars  
Est Estimated

\* Measured in centerline miles

**TABLE 4B. ARTERIAL LIFE CYCLE PROGRAM**  
STATUS OF FEDERALLY FUNDED PROJECTS UNDERWAY IN FISCAL YEAR 2016  
Consistent with the Fiscal Year 2016 ALCP approved on October 28, 2016

FACILITY/LOCATION	SCHEDULE FOR WORK (W) AND/OR REIMB. (R)	OBLIGATIONS (Millions)					TOTAL EXPENDITURES (Millions)			FINAL FY for CONST	LENGTH* (Miles)	OTHER PROJECT INFORMATION
		Obligated through FFY15	Est. Obligations FFY16	Est. Obligations FFY17-FFY26	Total Federal Funding FFY2006 - FFY2026	Unfunded Due to Deficit (2015\$)	Expend through FY15 (YOE\$)	Estimated Future Expend FY16-FY26 (2015\$)	Total Expend FY06-FY26 (2015\$, YOE\$)			
	FY 2016											
<b>CHANDLER</b>												
Gilbert Rd: Chandler Heights Rd to Hunt Hwy	W/R	2.048	0.000	0.000	2.048	1.770	3.845	6.349	10.194	2016	1.00	Const. only
McQueen Rd: Ocotillo Rd to Chandler Heights	W/R	3.896	0.000	0.000	3.896	0.000	0.984	3.147	4.131	2016	1.00	Const. only
McQueen Rd: Chandler Heights to Riggs Rd	W/R	3.049	0.000	0.000	3.049	0.000	0.000	4.760	4.760	2017	1.00	Const. only
Cooper Rd: South of Queen Creek Rd to Chandler Heights	W/R	1.037	0.000	0.000	1.037	0.000	0.000	1.100	1.100	2019	2.60	Design only
<b>CHANDLER &amp; GILBERT</b>												
Queen Creek Rd: McQueen Rd to Gilbert Rd	W/R	1.515	1.500	4.433	7.448	5.112	0.299	17.625	17.925	2019	2.00	
<b>MARICOPA COUNTY</b>												
Gilbert Rd: Bridge over Salt River	W/R	1.400	0.000	12.605	14.005	0.000	0.000	33.000	33.000	2021	1.60	
McKellips Rd: Loop 101 to SRP-MIC/Alma School Rd	W/R	0.581	22.305	14.567	37.453	0.000	0.111	14.828	14.939	2023	2.00	
Northern Parkway (Phase I): Sarival to Dysart	W/R	60.713	0.000	0.000	60.713	0.000	88.637	0.536	89.173	2014	4.10	
Northern Parkway (Phase II): Sarival to Dysart	W/R	2.400	0.000	0.000	2.400	0.000	4.618	0.000	4.618	2014	4.10	
Northern Parkway (Phase II): Dysart to 111th	W/R	8.918	14.503	12.409	35.830	0.000	13.954	37.099	51.053	2016	2.50	
Northern Parkway (Phase II): Reems and Litchfield Overpasses	W/R	7.214	0.000	0.000	7.214	0.000	12.961	0.000	12.961	2015	0.20	
Northern Parkway (Phase II): Northern Ave at Loop 101	W/R	0.000	1.101	7.348	8.449	0.000	0.000	13.307	13.307	2018	0.50	
Northern Parkway (Phase II): Dysart Overpass	W/R	0.000	0.200	23.157	23.357	0.000	0.000	33.872	33.872	2018	0.10	

Reimb. Reimbursement(s)  
FY Fiscal Year

YOE Year of Expenditure  
Expend Expended/Expenditures

\$ Dollars  
Est Estimated

\* Measured in centerline miles

**TABLE 4B. ARTERIAL LIFE CYCLE PROGRAM**  
STATUS OF FEDERALLY FUNDED PROJECTS UNDERWAY IN FISCAL YEAR 2016  
Consistent with the Fiscal Year 2016 ALCP approved on October 28, 2016

PHOENIX												
Avenida Rio Salado Phase I: 51st Ave to 43rd Ave and 35th Ave to 7th Street	W/R	44.693	0.000	0.000	44.693	0.000	25.820	56.899	82.720	2016	5.00	
Black Mountain Blvd: SR-51 and Loop 101/Pima Fwy to Pinnacle Peak Rd	W/R	22.530	0.000	0.000	22.530	0.000	9.234	23.271	32.505	2016	2.00	

Reimb. Reimbursement(s)

YOE Year of Expenditure

\$ Dollars

\* Measured in centerline miles

FY Fiscal Year

Expend Expended/Expenditures

Est Estimated

**ATTACHMENT  
#7**

**Agenda Item #5F**

# **MARICOPA ASSOCIATION OF GOVERNMENTS**

## **INFORMATION SUMMARY... for your review**

**DATE:**

December 9, 2015

**SUBJECT:**

2015 Annual Report on the Status of the Implementation of Proposition 400

**SUMMARY:**

Arizona Revised Statute 28-6354 requires that MAG issue an annual report on the status of projects funded by the half-cent sales tax authorized by Proposition 400. The 2015 Annual Report is the 11th report in this series, covering progress through the fiscal year ending June 30, 2015, and reviewing the program outlook through June 30, 2026. State law also requires that MAG hold a public hearing on the report after it is issued. A public hearing on the Draft 2015 Annual Report was held on November 19, 2015.

The Draft 2015 Annual Report on the Status of the Implementation of Proposition 400 addresses project status, financing, and the overall outlook for program implementation. All projects for the major transportation modes, as defined in the MAG Regional Transportation Plan, are being monitored, whether they specifically receive sales tax funding or not. The annual report process draws heavily on data from the Freeway/Highway, Arterial Street, and Transit Life Cycle Programs.

A Summary of Findings and Issues from the 2015 Annual Report has been enclosed and the full document is available on the MAG website. The Draft 2015 Annual Report was included on the November 18, 2015, MAG Management Committee agenda, the December 9, 2015, MAG Transportation Policy Committee agenda, and the December 16, 2015, MAG Regional Council agenda for information and discussion.

**PUBLIC INPUT:**

No public input has been received to date regarding this agenda item.

**PROS & CONS:**

PROS: Preparation of the Annual Report on the Status of the Implementation of Proposition 400 is required in State statutes.

CONS: None.

**TECHNICAL & POLICY IMPLICATIONS:**

TECHNICAL: The information in the Annual Report represents a "snapshot" of the status of the Proposition 400 program. As new information becomes available, it will be incorporated into subsequent annual updates of the report.

POLICY: The annual report process represents a valuable tool to monitor the MAG Regional Transportation Plan and identify changing conditions that may require plan and program adjustments.

**ACTION NEEDED:**

Information and discussion.

**CONTACT PERSON:**

Roger Herzog, MAG, (602) 254-6300, Rherzog@azmag.gov

# **DRAFT 2015 ANNUAL REPORT ON THE STATUS OF THE IMPLEMENTATION OF PROPOSITION 400**

## **Summary of Findings and Issues**

The *2015 Annual Report on the Status of the Implementation of Proposition 400* has been prepared by the Maricopa Association of Governments (MAG) in response to Arizona Revised Statute (ARS) 28-6354. ARS 28-6354 requires that MAG annually issue a report on the status of projects funded through Proposition 400, addressing project construction status, project financing, changes to the MAG Regional Transportation Plan, and criteria used to develop priorities. In addition, background information is provided on the overall transportation planning, programming and financing process. The 2015 Annual Report is the 11th report in this series, covering progress through the fiscal year ending June 30, 2015, and reviewing the program outlook through June 30, 2026. The key findings and issues from the 2015 Annual Report are summarized below.

### **MAG REGIONAL TRANSPORTATION PLAN**

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

- A major amendment to add a five-mile light rail transit (LRT) extension on South Central Avenue was approved.

On December 3, 2014, the MAG Regional Council approved a major amendment to the MAG 2035 RTP to add a five-mile light rail transit (LRT) extension on Central Avenue from downtown Phoenix (near the existing LRT turns at Washington and Jefferson Streets) to Baseline Road. The current timeframe for opening of the facility would be 2034-35. The air quality conformity analysis for this major amendment was approved by the MAG Regional Council on June 24, 2015.

- Revised alignments and cost changes to the Tempe Streetcar and the Phoenix Northwest - Phase II Light Rail Transit Extension were approved.

On March 25, 2015, the MAG Regional Council approved an amendment to the MAG 2035 RTP to reflect revised alignment and cost changes to the Tempe Streetcar, and to the Phoenix Northwest - Phase II Light Rail Transit Extension. The new Tempe Streetcar route travels on Rio Salado Parkway

from the Marina Heights development west to Mill Avenue, to the Mill/Ash avenues downtown loop and south to Apache Boulevard, then east to Dorsey Lane. The revised three-mile Tempe Streetcar project cost estimate is \$177 million. The year of opening for the three-mile Tempe Streetcar project is now 2018. The corridor alignment for Phase II of the Phoenix Northwest LRT was extended to cross I-17 near Mountain View Road, ending west of I-17. The revised project is estimated to cost \$295 million.

- The next iteration of the RTP will be a transitional update maintaining the existing Life Cycle Program structure, but incorporating federally required performance measures and targets.

Current federal transportation legislation – the Moving Ahead for Progress in the 21st Century Act (MAP-21) – establishes performance-based programs and sets forth requirements for performance goals, outcomes and targets. It is anticipated that the next iteration of the RTP will be a transitional update maintaining the existing Life Cycle Program structure, but incorporating federally required performance measures and targets. MAG staff efforts are focusing on the development of specific performance measures and targets for the transportation system in the MAG metropolitan planning area. A collaborative Performance Measures and Targets Advisory Group has been convened to gather input from MAG member agencies with respect to the requirements anticipated in the Metropolitan Planning and Asset Management Proposed Rules from the Federal Highway Administration.

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

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

- Fiscal Year 2015 receipts from the Proposition 400 half-cent sales tax were 4.5 percent higher than receipts in FY 2014.

The receipts from the Proposition 400 half-cent sales tax in FY 2015 totaled approximately \$382 million, corresponding to a 4.4 percent increase over the total of \$366 million in FY 2014. This represents the fifth consecutive year of higher revenues since FY 2010. However, the collections for FY 2015 remain 2.2 percent lower than those in FY 2007.

- Forecasts of Proposition 400 half-cent revenues are 2.1 percent lower for the period FY 2016 through FY 2026, compared to the 2014 Annual Report estimate.

Future half-cent revenues for the period FY 2016 through FY 2026 are currently forecasted to total \$5.3 billion. This amount is \$115 million, or 2.1 percent, lower than the forecast for the same period presented in the 2014 Annual Report. This decrease reflects a slightly lower annual growth rate in revenues forecasted for this period (4.4 versus 4.6 percent). The Proposition 400 half-cent revenue forecasts will be updated again in the fall of 2015.

- Forecasts of total ADOT Funds dedicated to the MAG area for FY 2016 through FY 2026 are 3.9 percent higher than the 2014 Annual Report estimate.

The forecast for ADOT Funds for FY 2016 through FY 2026 totals \$2.7 billion, which is 3.9 percent higher than the 2014 Annual Report forecast of \$2.6 billion for the same period. This increase reflects funding allocation adjustments in the ADOT five-year construction program.

- Forecasts of total MAG federal transportation funds for FY 2016 through FY 2026 are 0.9 percent lower than the 2014 Annual Report estimate.

Total MAG federal funding for the period FY 2016 through FY 2026 is forecasted to total \$2.3 billion. This is about a 0.9 percent decrease from the slightly higher amount forecasted for the same period in the 2014 Annual Report. These forecasts are only for those MAG federal fund sources that are utilized in the Life Cycle Programs. Additional federal funds are received in the MAG region and applied to other transportation program areas, which are not covered by this report.

- Federal transportation funding levels over the long-term remain uncertain.

On July 6, 2012, President Obama signed legislation known as the 'Moving Ahead for Progress in the 21st Century Act', or 'MAP-21'. The MAG area federal transportation funding forecasts included in 2015 Annual Report correspond to the programs as structured in MAP-21. MAP-21 was originally a two-year transportation reauthorization bill through September 2014, but has been extended several times and, as of this writing, runs through November 20, 2015. A multi-year transportation funding bill is now under consideration at the federal level. The sporadic pattern of federal funding extensions has made long range forecasting of this source considerably more uncertain.

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

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

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

- A number of major freeway/highway construction projects were completed, underway, or advertised for bids during FY 2015.

Projects completed during FY 2015:

- I-10/Perryville Road: Construct new interchange.
- US-60 (71st Avenue to McDowell Road): Roadway improvements.
- Loop 303 (Camelback Road to Glendale Avenue): Construct new freeway.
- Loop 303/I-10: Construct new system interchange (Phase I).

Projects advertised for bids or under construction during FY 2015:

- US-60 Meridian Road Half-diamond Traffic Interchange: Construct new interchange.
- Loop 101 (Shea Blvd. to Loop 202): Construct General Purpose lanes.
- Loop 202 (Loop 101 to Broadway Road): Add General Purpose and High Occupancy Vehicle lanes.
- Loop 303/US-60: Construct new interchange.
- Loop 303 (US-60 to Happy Valley Road): Construct new freeway.
- Loop 303 El Mirage Road Traffic Interchange: Construct new interchange.

- Major progress was made toward construction of the South Mountain Freeway.

The final Environmental Impact Statement for the South Mountain Freeway Corridor was released to the public on September 26, 2014. A Record of Decision by the Federal Highway Administration was published to the public through the Federal Register on March 13, 2015, selecting a build alternative. The Record of Decision is currently in litigation in the U.S. District Court for the District of Arizona. At this time, no stays or injunctions regarding the project have been issued by the court. At the time of this document, the project litigation is under schedule for a judicial decision before project construction commences in May 2016.

In July 31, 2014, it was announced that the South Mountain Freeway would be delivered as a single Public-Private-Partnership Design-Build-Maintain project. A Request for Qualifications was released on October 15, 2014 and a shortlist of three developers was announced on March 19, 2015. A final Request for Proposals (RFP) was released on June 12, 2015 and proposals were due to ADOT on November 2, 2015. Following an evaluation period, ADOT will announce a winning proposal and corresponding developer in January 2016. Assuming successful contract negotiation, the developer will begin design and construction activities in May 2016 with a completion target

of late 2019. This completion date is three-years ahead of previous schedules for the Loop 202/South Mountain Freeway facility.

- Cash flow analysis indicates that there is a positive balance of approximately \$30 million for the Regional Freeway/Highway Life Cycle Program through FY 2026.

During FY 2015, cash flow modeling based on revised revenue forecasts and updated project cost estimates was conducted. This analysis indicated that except for FY 2025 there is a positive ending cash balance for all years through FY 2026, and that there is a positive balance of approximately \$30 million (2015 \$'s) for the total program through FY 2026. This is an improvement compared to a negative ending balance of \$162 million reported in the FY 2014 Annual Report and is due largely to reduced costs associated with preliminary engineering and right-of-way activities.

As in the past, the Freeway/Highway Life Cycle Program will be subjected to continuing analysis, addressing future revenue forecasts and project cost trends. Revised long-range revenue forecasts will be prepared and updated cash flow assessments will be conducted. Based on this analysis, the need for additional program adjustments will be considered during FY 2016.

## **ARTERIAL STREET LIFE CYCLE PROGRAM**

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

- During FY 2015, a total of \$63 million in ALCP project expenses was reimbursed to the implementing agencies.

During FY 2015, a total of \$63 million in ALCP project expenses was reimbursed to implementing agencies. This included reimbursements to nine individual agencies, as well as funding for projects in the MAG Intelligent Transportation System program. Since the beginning of the program, a total of \$582 million has been disbursed and 54 projects have been completed.

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

During FY 2015, project overview reports were prepared by the lead agencies for 12 projects in the ALCP. Since the inception of the program, 92 project overviews have been submitted to MAG. Thirteen project agreements were executed in FY 2015. In all, 91 project agreements have been executed to date. Lead agencies deferred approximately \$32 million in federal and regional reimbursements from FY 2015 to later years due to project implementation and local funding issues.

- Projected Arterial Life Cycle Program (ALCP) reimbursements are slightly above estimated future revenues for the period FY 2016 - FY 2026.

Projected Arterial Life Cycle Program reimbursements are slightly above (\$36 million in 2015 \$'s or 3.5 percent) estimated future revenues. This difference is considered to be within the variance of revenue projections and cost estimates, and specific remedial action is not anticipated at this time. On June 24, 2015, the MAG Regional Council approved the FY 2016 ALCP. The temporary elimination of the program bonding and project inflation remained in place. These two actions, combined with adjustments to project schedules, meant that no involuntary funding deferrals were needed.

## **TRANSIT LIFE CYCLE PROGRAM**

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

- One bus route extension was implemented in FY 2015 and additional routes will be funded during the next five years.

Routes Implemented During FY 2015:

- Waddell/Thunderbird (T71): Extended to the City of Peoria.

Routes Planned for Implementation during FY 2016 through FY 2020:

- Van Buren Street (T70): Scheduled Improvement in FY 2016.
- Alma School Road (T43): Scheduled Improvement in FY 2018.
- University Drive (T69); Funding Start in FY 2020.

- Estimated future costs for the Transit Life Cycle Program are in balance with project future funds for the period of FY 2016 through FY 2026.

Estimated future costs for the period of FY 2016 through FY 2026 are in balance with project future funds available with a remainder of approximately \$6.0 million (2015 \$'s). Valley Metro continually works with its members to find the optimal mix of local, regional and federal funds for the projects in the TLCP. The life cycle process requires a balance to be maintained through effective financing and cash flow management, value engineering of projects, and Plan and Program adjustments as necessary.

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

A significant portion of the funding for the Light Rail Transit/High Capacity Transit system is awarded by the US Department of Transportation through the discretionary "New Starts Program". The MAG area is subject to a highly competitive process with other regions for this federal funding, resulting in uncertain timing and amounts of New Starts monies over the long term. Therefore, prospective New Starts awards require careful monitoring. Beyond the "New Starts Program" for the Light Rail Transit/High Capacity Transit system, other revenues from the Federal Transit Administration are a key source of funding for the bus capital program. At the federal level, continued pressure to reduce spending could result in decreased federal revenues for the TLCP. In the future, this could put additional projects in jeopardy.

## **PERFORMANCE MONITORING PROGRAM**

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

- Freeway vehicle miles of travel (VMT) in the region have increased recently.

Freeway Vehicle Miles of Travel (VMT) per day in the Phoenix-Mesa urbanized area reflects the overall vehicle travel trends for the region. In 2014, there was an increase of 4.8 percent in VMT in the region. This compares with an increase of 1.1 percent in 2013.

- Annual boardings on light rail transit and fixed route bus declined somewhat during FY 2015.

Light rail transit boardings decreased slightly by 0.4 percent, and boardings on bus service (local bus, express, RAPID, circulators, and a rural route) also decreased somewhat by 2.3 percent, during FY 2015 compared to FY 2014.

**ATTACHMENT  
#8**

**Agenda Item #5G**

# MARICOPA ASSOCIATION OF GOVERNMENTS

## INFORMATION SUMMARY... for your review

**DATE:**

December 7, 2015

**SUBJECT:**

Recommendation of Projects for MAG FY 2016 Traffic Signal Optimization Program

**SUMMARY:**

A formal request for projects for the FY 2016 Traffic Signal Optimization Program (TSOP) was announced by MAG on October 7, 2015. The available TSOP budget in the MAG Work Program for FY 2016 is \$300,000. Six (6) project applications were received for signal timing coordination improvements on one freeway-arterial corridor and on several arterial streets, affecting 5 local jurisdictions and one state agency. All six (6) proposed TSOP projects have been recommended along with two additional projects that would involve performing evaluation of before-and-after conditions and provide a workshop on traffic signal timing software. The estimated cost for all eight (8) recommended projects is \$304,000. The additional \$4000 required will be met by an estimated \$10,000 in TSOP funds carried over from FY2015. All recommended projects will be carried out using nine (9) qualified on-call consultants under contract with MAG.

Since its inception in 2004, the MAG Traffic Signal Optimization Program (TSOP) has successfully completed one hundred projects that has helped improve traffic signal timing at more than 1100 intersections across the region. Projects launched through this program provide technical assistance to member agencies for improving traffic signal coordination, optimization and review of operations through simulation modeling. Technical assistance is provided by consultants under contract with MAG for on-call consulting services.

Traffic signal optimization is one of the most cost-effective ways to improve traffic movement and make our streets safer and efficient. Signal optimization is performed for any or all of the following reasons:

- To adjust signal timing to account for changes in traffic patterns due to new developments and traffic growth
- To reduce motorist frustration and unsafe driving by reducing stops and delay
- To improve traffic flow through a group of signals, thereby reducing emissions and fuel consumption
- To postpone the need for costly long-term road capacity improvement by improving the traffic flow using existing resources

Signal optimization projects have been found to produce benefit to cost ratios as high as 40 to 1. This program, enthusiastically championed by the Intelligent Transportation Systems Committee, provides traffic engineering assistance for refining signal operations across the MAG region. These projects do not require a local match.

**PUBLIC INPUT:**

None.

**PROS & CONS:**

PROS: The proposed TSOP projects, when implemented, will result in improved traffic operations and reductions in gasoline consumption and vehicular emissions.

CONS: None.

**TECHNICAL & POLICY IMPLICATIONS:**

TECHNICAL: It is essential that local agency technical staff participate in coordinating the execution of these projects by the designated MAG on-call consultant.

POLICY: None.

**ACTION NEEDED:**

Recommend approval of the list of FY 2016 Traffic Signal Optimization Program projects.

**PRIOR COMMITTEE ACTIONS:**

MAG Intelligent Transportation Systems Committee: On December 2, 2015, the MAG Intelligent Transportation Systems Committee recommended approval of proposed list of TSOP projects for FY2016.

MEMBERS ATTENDING

- |   |   |
|---|---|
| Phoenix: Marshall Riegel (Chair)          | # Goodyear: Hugh Bigalk for Luke Albert |
| # ADOT: Farzana Yasmin for Reza Karimvand | Maricopa County: Barbara Hauser for     |
| * ASU: Yingyan Lou                        | Nicolaas Swart                          |
| Avondale: Chris Hamilton                  | Mesa: Avery Rhodes                      |
| Chandler: Mike Mah                        | Peoria: Steve McKenzie                  |
| DPS: Capt Burley Copeland                 | * Scottsdale: Steve Ramsey              |
| El Mirage: Bryce Christo                  | Surprise: Albert Garcia                 |
| * FHWA: Toni Whitfield                    | # Tempe: David Lucas                    |
| Gilbert: Leslie Bubke                     | * Valley Metro: Abhishek Dayal          |
| Glendale: Allan Galicia for Debbie Albert |   |

\*Members neither present nor represented by proxy.

+ Attended by Videoconference

# Attended by Audioconference

**CONTACT PERSON:**

Sarath Joshua (602) 254-6300.

**Recommended Projects for FY2016 MAG Traffic Signal Optimization Program**

<b>Project#</b>	<b>Lead Agency</b>	<b>Other Agencies</b>	<b>Brief Description</b>	<b>MAG Estimated Cost</b>
1	Gilbert	Mesa, ADOT	Develop ICM Plan for US-60 corridor from Gilbert Rd to SR 202L	\$60,000.00
2	MCDOT		Signal Optimization on 99th Ave & Union Hills Dr corridors	\$30,000.00
3	Phoenix	ADOT	Signal Optimization in the vicinity of SR-51 & Glendale *	\$30,000.00
4	Phoenix	ADOT, MCDOT	I-10 ICM Project - Develop Signal Timing Plans	\$55,000.00
5	Surprise		Signal Optimization on Greenway Rd - Dysart Rd to Cotton Ln	\$27,000.00
6	ADOT	Phoenix	Signal Optmization at: (a) I-17 & Indian School Rd*; (b) I-17 & Camelback Rd*	\$60,000.00
7	MAG		3-day SYNCHRO Training	\$12,000.00
8	MAG		Before/After Evaluation of Selected Locations*	\$30,000.00
			<b>Total Estimated Cost</b>	<b>\$304,000.00</b>
			<b>FY2016 TSOP Funds Available</b>	<b>\$300,000.00</b>
			<b>FY2015 TSOP Carry Over Funds</b>	<b>\$310,000.00</b>

**ATTACHMENT  
#9**

**Agenda Item #6**

# MARICOPA ASSOCIATION OF GOVERNMENTS

## INFORMATION SUMMARY... for your review

**DATE:**

December 9, 2015

**SUBJECT:**

Federal Fiscal Year 2015 Year End Actuals Report of Federal Highway Administration Suballocated MAG Regional Funds, and Evaluation of Federal Fiscal Year 2016 Funding Levels

**SUMMARY:**

On July 6, 2012, the Moving Ahead for Progress in the 21st Century (MAP-21) Surface Transportation Authorization Act was signed into law. Through multiple continuing resolutions and extensions, the federal funding levels for federal fiscal year (FFY) 2015 surface transportation programs were published and regional projects have authorized. FFY 2015 Federal Highway Administration (FHWA) funding that is suballocated to the MAG region includes Congestion Mitigation and Air Quality (CMAQ), Surface Transportation Program (STP), Highway Safety Improvement Program (HSIP), Transportation Alternatives (TAP), planning funds (SPR) and (PL) programs. Actuals for those funding allocations and project authorizations were reported by the Arizona Department of Transportation (ADOT) in October 2015. An update is being provided for the FFY 2015 year end actuals, and an estimated outlook for FFY 2016 funding.

An evaluation of FFY 2015 funding shows apportionments of \$116.1 million with obligation authority applied at \$109.0 million, Final Vouchers (FV) and project cost savings of \$5.8 million, and incoming loans and transfers of \$9.4 million. Loans and repayments out at \$34.4 million. All suballocations and additional revenues were fully expended through the repayment of loans, debt service, and a combination of project closeouts held in January 2015, approved by Regional Council in February 2015, and by advance construction funding conversion in the Arterial Life Cycle Program. This year the MAG region ended with (\$375,570) in carry forward. ADOT has loaned MAG the funding with repayment in FFY2016. Please refer to Table A for additional detail on the revenues and expenditures for FY 2015.

Utilizing the FHWA FFY 2015 funding, 72 projects/work phases, seven Unified Planning Work Program projects authorized, and one transfer was made to Federal Transit Administration. One project was held at ADOT from authorization, pending a multiagency commitment letter.

Federal Fiscal Year 2016 began on October 1, 2015. Due to current pending legislative action for this federal fiscal year, suballocated funding levels are still estimated, it is expected that federal funding for FFY 2016 will be authorized at approximately the same level as FFY 2015. The Obligation Authority (OA) is currently unknown, and is also pending legislative action. MAG will be working under the reasonable assumption that the suballocated programs will receive a full year authorization at the same level as FFY 2015, with approximately 94.0 percent OA (programming limit). It is also assumed via an ADOT estimate, that the final vouchers and project cost savings can be expected at approximately the same level as FY2015, \$5.8 million. Currently estimated project authorizations for FFY 2016 are under programmed by \$4.6 million. Many projects annually request to defer after the winter Project Development Status Report is published,

which then releases additional funding back to the program in the current year. To ensure that all MAG regional funding is fully utilized each year and minimize the risk of loss of funding to the region, staff will closely monitor federal funding legislative actions, and the results from member agency project status report as we approach the spring report. MAG staff recommends that FFY 2016 Closeout, may take place. A summary of estimated revenues and expenditures for FFY 2016 is included as table B.

**PUBLIC INPUT:**

None.

**PROS & CONS:**

PROS: All Federal Highway Administration suballocated funding was fully utilized for FY 2015, removing the risk of federal recision, and state sweeps.

CONS: none

**TECHNICAL & POLICY IMPLICATIONS:**

TECHNICAL: MAG has determined that Closeout for the Federal Highway Administration sub-allocated funding at this time is necessary due to the anticipated available federal funds for FY2016.

POLICY: Previously adopted MAG policies on the allocation of uncommitted and redistributed federal funds to projects have been followed.

**ACTION NEEDED:**

Information and discussion.

**PRIOR COMMITTEE ACTIONS:**

None

**CONTACT PERSON:**

Teri Kennedy, (602) 254-6300.

Table A

**FFY 2015 FHWA SUB-ALLOCATED MAG FUNDS: Actuals**

YOE, U. S. \$, amounts have been rounded.

FHWA Funding	MAG Sub-allocated Federal FY Apportionments	\$ 116,143,849
	MAG Sub-allocated FFY Obligation Authority Amount /2	\$ 109,038,738
	General Rate of Obligation Authority /1	93.88%

**FFY 2015 Revenues and Debts By Program, includes Obligation Authority**

Description	CMAQ	CMAQ 2_5	HSIP*	PL*	SPR*	STP other	STP OVER 200K	TA OTHER	TA OVER 200K	Total OA
FFY 2015 Apportionments With OA Applied /1	\$ 45,214,389	\$ 655,225	\$ 1,786,256	\$ 3,787,870	\$ 1,250,000	\$ 3,579,872	\$ 48,267,855	\$ 470,747	\$ 4,026,524	\$ 109,038,738
Loans In /7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Loans Out /8	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Repayments In /9	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 713,569	\$ -	\$ -	\$ 713,569
Repayments Out /10	\$ -	\$ -	\$ (49,157)	\$ -	\$ -	\$ (1,018,548)	\$ -	\$ -	\$ -	\$ (969,391)
Transfers In /11	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,709,362	\$ -	\$ -	\$ 8,709,362
Transfers Out /12	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
MAG DEBT SERVICE /13 (OA amt.)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (33,368,200)	\$ -	\$ -	\$ (33,368,200)
Final Vouchers (FV) & Awards	\$ 4,979,051	\$ -	\$ 232,581	\$ -	\$ -	\$ 632,220	\$ -	\$ -	\$ -	\$ 5,843,851
<b>Total Apportionments with OA</b>	<b>\$ 50,193,440</b>	<b>\$ 655,225</b>	<b>\$ 1,969,680</b>	<b>\$ 3,787,870</b>	<b>\$ 1,250,000</b>	<b>\$ 3,193,544</b>	<b>\$ 24,322,586</b>	<b>\$ 470,747</b>	<b>\$ 4,026,524</b>	<b>\$ 89,967,929</b>

**Project Authorizations and Conversions**

Description	CMAQ	CMAQ 2_5	HSIP*	PL*	SPR*	STP other	STP OVER 200K	TA OTHER	TA OVER 200K	Total
Total OA Apportionments plus FV and Awards	\$ 50,193,440	\$ 655,225	\$ 1,969,680	\$ 3,787,870	\$ 1,250,000	\$ 3,193,544	\$ 24,322,586	\$ 470,747	\$ 4,026,524	\$ 89,869,615
Less Project Authorizations /14	\$ 53,404,588	\$ 112,030	\$ 1,526,813	\$ 3,787,870	\$ 1,250,000	\$ 2,235,000	\$ 22,503,607	\$ 190,673	\$ 5,234,604	\$ 90,245,185
Ending Balance (Total Avail. minus Prjt Authorizations)	(3,211,148)	543,195	442,867	-	-	958,544	1,818,979	280,074	(1,208,080)	(375,570)
<b>OA Carry Forward to FY2016/2</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ (375,570)</b>

\* Obligation Authority (OA) reduction not applied; flat distribution at 100%.

\*\* OA reduction applied to certain programs. Loans, repayments, transfers, debt service do not have OA reduction applied. OA to apportionments for FFY2015 has been rounded.

1 General Overall Obligation Authority (OA). Apportionments have OA applied to certain programs. Loans, repayments, transfer, debt service do not have OA reduction applied. OA to apportionments for FFY2015 has

2 All OA expires at end for the year. Loaned OA is retained for return year.

7 Loans In represent funds received by the region from another entity which must be repaid.

8 Loans Out represent funds being loaned to another entity and which will be repaid to the region based upon a scheduled agreed to.

9 Repayments In represent loan funds being repaid to the region by another entity. Error found on ADOT FFY2014 ledger, correction applied.

10 Repayments Out represent funds which are being repaid to another entity. HSIP project authorizations exceeded in FY2014 loan repayment to ADOT, FY2013 loan repayment to SEAGO for STP.

11 Transfers In represent funds received by the region from another entity which will not be repaid. Historic Ledger corrections to refund OA STP to MAG. One of two transactions; balance returned in FY2016.

12 Transfers Out represent funds given by the region to another entity which will not be repaid.

13 Grant Anticipation Notes (GAN) Debt Service includes principal and interest.

14 HSIP Project Authorizations includes a correction of \$21,686 related to FY2014 modification.

### FFY 2016 FHWA SUB-ALLOCATED MAG FUNDS: Estimated

*YOE, U. S. \$, amounts have been rounded.*

FHWA Funding	MAG Sub-allocated Federal FY Apportionments	\$ 116,143,849
	MAG Sub-allocated FFY Obligation Authority Amount /2	\$ 109,210,268
	General Rate of Obligation Authority /1	94.03%

### FFY 2016 ESTIMATED: SUB-ALLOCATED MAG FHWA FUNDS BY PROGRAM

OA Funding Available/1	CMAQ	CMAQ 2_5	HSIP	PL*	SPR *	STP other	STP OVER 200K	TA OTHER	TA OVER 200K	Total
OA Applied rate: TBD										
Estimated Full Year Funding /1	\$ 45,288,962	\$ 656,306	\$ 1,789,202	\$ 3,787,870	\$ 1,250,000	\$ 3,585,776	\$ 48,347,464	\$ 471,523	\$ 4,033,165	\$ 109,210,268
Loans and Repayments in /7,9	-	-	-	-	-	730,000	\$ 3,380,801	-	-	4,110,801
Loans and Repayments out /8, 10	(375,570)	-	-	-	-	(1,200,000)	-	-	-	(1,575,570)
MAG DEBT SERVICE /13	-	-	-	-	-	-	(12,586,400)	-	-	(12,586,400)
<b>Total Available with OA applied</b>	<b>\$ 44,913,392</b>	<b>\$ 656,306</b>	<b>\$ 1,789,202</b>	<b>\$ 3,787,871</b>	<b>\$ 1,250,000</b>	<b>\$ 3,115,776</b>	<b>\$ 39,141,865</b>	<b>\$ 471,523</b>	<b>\$ 4,033,165</b>	<b>\$ 99,159,100</b>
Plus Final Vouchers and Awards Expected	\$ 4,000,000		\$ 200,000	\$ -	\$ -	\$ 400,000	\$ 1,200,000		\$ -	\$ 5,800,000
Less TIP Expected Project Authorizations (Subject to change based on schedule)	\$ 47,321,564	\$ 501,232	\$ 1,766,309	\$ 3,787,871	\$ 1,250,000	\$ -	\$ 42,226,062	\$ -	\$ 3,469,826	\$ 100,322,864
Ending Balance (Total Avail. minus Prit Authorizations)	\$ 1,591,828	\$ 155,074	\$ 222,893	\$ -	\$ -	\$ 3,515,776	\$ (1,884,197)	\$ 471,523	\$ 563,339	\$ 4,636,236

\* Obligation Authority (OA) not applied; flat distribution.

1 Apportionments have estimated OA applied to certain programs. Unified Planning Work Program, Loans, Repayments, Transfers, Debt Service do not have OA reduction applied. OA to apportionments for FFY 16 has been rounded.

2 Program Obligation Authority Share after 100% programs take down. All OA expires at end of the year. Loaned OA is retained for return year.

5 Amounts are still estimated contingent on final federal action.

7 Loans In represent funds received by the region from another entity which must be repaid.

8 Loans Out represent funds being loaned to another entity and which will be repaid to the region based upon a scheduled agreed to.

9 Repayments In represent loan funds being repaid to the region by another entity.

10 Repayments Out represent funds which are being repaid to another entity.

13 Grant Anticipation Notes (GAN) Debt Service includes principal and interest. FFY2016 is final GANs payment.

**ATTACHMENT  
#10**

**Agenda Item #7**

# MARICOPA ASSOCIATION OF GOVERNMENTS

## INFORMATION SUMMARY... for your review

**DATE:**

December 9, 2015

**SUBJECT:**

Programming for Paving of Unpaved Road Projects utilizing the MAG Federal Congestion Mitigation and Air Quality Improvement Funding in the Draft FY2017-2021 MAG Transportation Improvement Program

**SUMMARY:**

MAG is developing a new Fiscal Year (FY) 2017-2021 Transportation Improvement Program (TIP). The MAG Regional Transportation Plan (RTP) allocates MAG Federal Congestion Mitigation and Air Quality (CMAQ) funds to specific modes and in some cases, identifies specific projects for the funds. Funding for all programs is currently estimated based on MAP-21 and the Arizona Department of Transportation (ADOT) estimated regional distribution of funding as of December 2014. MAG estimated federal funding projections were developed using current assumptions. Funding levels for the CMAQ programs in the MAG region are subject to change and will be updated as federal and state announcements are made. A Call for Projects was announced in August 2015 and the results from the evaluation process are included for the Paving of Unpaved Road projects that is funded with the Air Quality program CMAQ funds.

Applications were made available August 10, 2015. An overview and application process meeting was held on August 19, 2015. Two additional workshops were held on August 24, and on September 14, 2015, to provide technical and staff assistance in completing applications and answering questions. Applications were due at MAG on September 21, 2015, by 10:00 A.M., and 17 Paving of UnPaved Road applications were received. All information explained below pertains to on-time, complete, and eligible applications. Each CMAQ project must meet Federal Highway Administration (FHWA) eligibility criteria and one of the criteria is location. For PM-10 Paving Unpaved Road eligibility, projects must be located within the Phoenix PM-10 Nonattainment Area or the West Pinal PM-10 Nonattainment Area. For PM-2.5 Paving Unpaved Road eligibility, projects must be located within West Central Pinal PM-2.5 Nonattainment Area. Each application received is displayed by mode on a map. See attachments.

All proposed FY 2018, 2019, and 2020 CMAQ projects are evaluated by MAG Air Quality staff and receive a cost-effectiveness number (AQ score) within each modal category. Where appropriate, the emission reduction benefits and cost-effectiveness of CMAQ eligible projects have been quantified using the Methodologies for Evaluating Congestion Mitigation and Air Quality Improvement Projects, approved on September 30, 2011. The MAG Air Quality Technical Advisory Committee reviews proposed projects and makes the recommended ranking based on the evaluations. These recommended ranking and Air Quality evaluations are forwarded and presented to the modal committee to include for final consideration and programming of projects.

There were seventeen complete project applications submitted on time, with one agency that requested their project be withdrawn. PM-10 Paving of Unpaved Road applications submitted

requested a total of \$17,103,365 of CMAQ funds. Of the \$17,103,365 requested, six of the projects requesting \$7,370,776 are also eligible for PM-2.5 funding.

There are \$12,000,000 of CMAQ funds available for PM-10 and \$2,022,139 available for PM-2.5 Pave Unpaved Road Projects in FY 2017-2020.

With the scenario included, nine projects are recommended for funding in the PM-10 Pave Unpaved Roads program totaling \$12,324,223. Three projects totaling \$1,687,227 are included to be funded with MP-2.5 funding. A balance of \$10,689 will be included in the next Paving of Unpaved Roads, call for projects.

For your review and discussion, four attachments are included. The attachments include the projects listed by rank order of cost effectiveness, a proposed Programming Scenario 1, a map of project locations, and a memorandum from the Chair of the MAG Air Quality Technical Advisory Committee that details the evaluation process used for ranking the list of projects, and a ranking of projects in order of cost effectiveness of PM-10 emission reductions by county. Please note that all projects that were evaluated for PM-2.5 funding are also eligible for PM-10 funding. Associated detail of TIP listings is included in agenda item #10 - Project Changes.

**PUBLIC INPUT:**

None.

**PROS & CONS:**

**PROS:** Approval of the funding for these projects will enable their inclusion in the Transportation Improvement Program (TIP) and will allow jurisdictions to develop their projects in a timely and integrated manner.

**CONS:** If these projects are not approved, the time to develop projects will be limited. Timely development of projects is needed to ensure that MAG federal funds are fully utilized, that all annual obligation authority is utilized, and to enhance opportunities for additional federal funds.

**TECHNICAL & POLICY IMPLICATIONS:**

**TECHNICAL:** Project selection criteria have been fully addressed by members of MAG technical advisory committees. Air Quality Emission Reduction scores were considered and integrated into the recommended listings based on updated funding availability, and the program is fiscally balanced. The paving of dirt roads and alley projects supports committed measures to “reduce Particulate emissions from unpaved roads and alleys in the revised MAG 1999 Serious Area Particulate Plan for PM-10. The MAG 2012 Five Percent Plan for PM-10 includes the paving of unpaved roads.

**POLICY:** The MAG federally funded program has been developed in accord with federal regulations and MAG policies.

**ACTION NEEDED:**

Approval of the list of FY 2018 Congestion Mitigation and Air Quality funded projects to be added to the FY 2014-2018 MAG Transportation Improvement Program, and to add the lists of FY 2018, 2019, and 2020 projects to the Draft FY 2017-2021 MAG Transportation Improvement Program, and 2035 Regional Transportation Plan as appropriate.

**PRIOR COMMITTEE ACTIONS:**

At the November 12, 2015 MAG Street Committee, the programming scenario was recommended to be forwarded to the Transportation Review Committee.

MEMBERS ATTENDING

- |  |   |
|--|---|
| Maria Angelica Deeb, Mesa, Chair         | Lee Jimenez, Maricopa County            |
| Chris Hauser, El Mirage, Vice Chair      | Mike Gillespie, Litchfield Park         |
| Eric Boyles for Susan Anderson, ADOT     | * James Shano, Paradise Valley          |
| * Emile Schmid, Apache Junction          | Jenny Grote, Phoenix                    |
| David Janover, Avondale                  | * Scott Bender, Pinal County            |
| Jose Heredia, Buckeye                    | Ben Wilson, Peoria                      |
| Kevin Lair, Chandler                     | * Janet Martin, Queen Creek             |
| @Aryan Lirange, FHWA                     | Jennifer Jack, Salt River Pima-Maricopa |
| * Wayne Costa, Florence                  | Indian Community                        |
| Sasha Pachito for Tim Oliver, Gila River | * Phil Kercher, Scottsdale              |
| Indian Community                         | Dana Owsiany, Surprise                  |
| * Greg Smith, Gilbert                    | German Piedrahita, Tempe                |
| Patrick Sage, Glendale                   | * Jason Earp, Tolleson                  |
| * Hugh Bigalk, Goodyear                  | * Grant Anderson, Youngtown             |
| * Bill Fay, City of Maricopa             |   |

\* Members neither present nor represented by Proxy

# Members attending by phone

@Ex-officio member, non voting member

At the October 22, 2015 meeting of MAG Air Quality Technical Advisory Committee, members recommended to forward the evaluation of proposed FY 2018, 2019, and 2020 CMAQ projects for the FY 2017-2021 MAG Transportation Improvement Program.

MEMBERS ATTENDING

- |   |  |
|---|--|
| Tim Conner, Scottsdale, Chairman        | Jeanette Fish, Maricopa County Farm Bureau |
| Jamie McCullough, El Mirage, Vice Chair | Steve Trussell, Arizona Rock Products      |
| Drew Bryck, Avondale                    | Association                                |
| Susan Avans for Robert van den Akker,   | * Claudia Whitehead, Greater Phoenix       |
| Buckeye                                 | Chamber                                    |
| * Jim Weiss, Chandler                   | of Commerce                                |
| Jessica Koberna, Gilbert                | Amanda McGennis, Associated General        |
| Megan Sheldon, Glendale                 | Contractors                                |
| * Cato Esquivel, Goodyear               | * Spencer Kamps, Homebuilders Association  |
| # Kazi Haque, Maricopa                  | of   |
| Greg Edwards, Mesa                      | Central Arizona                            |
| William Mattingly, Peoria               | * Mannie Carpenter, Valley Forward         |
| Joe Gibbs for Joe Giudice, Phoenix      | Kai Umeda, University of Arizona           |
| # Antonio DeLaCruz, Surprise            | Cooperative                                |
| Oddvar Tveit, Tempe                     | Extension                                  |
| * Youngtown                             | Beverly Chenausky, Arizona Department of   |
| Ramona Simpson, Queen Creek             | Transportation                             |

- # Walter Bouchard, American Lung Association of Arizona
- Kristin Watt, Salt River Project
- \* Rebecca Hudson-Nunez, Southwest Gas Corporation
- \* Michael Denby, Arizona Public Service Company
- \* Gina Grey, Western States Petroleum Association
- \* Robert Forrest, Valley Metro/RPTA
- \* Dave Berry, Arizona Motor Transport Association

\*Members neither present nor represented by proxy.  
 #Participated via telephone conference call.

**CONTACT PERSON:**  
 Teri Kennedy, (602) 254-6300

- # Eric Massey for Arizona Department of Environmental Quality
- \* Environmental Protection Agency
- Hether Krause, Maricopa County Air Quality Department
- Scott DiBiase, Pinal County
- \* Michelle Wilson, Arizona Department of Weights and Measures
- @ Ed Stillings, Federal Highway Administration
- \* Judi Nelson, Arizona State University
- Stan Belone, Salt River Pima-Maricopa Indian Community

+Participated via video conference call.  
 @ Ex-Officio member, non-voting member.

### Paving Summary Data Sorted by Cost Effectiveness/1

**PM-10 and PM-2.5 Paving of Unpaved Road Projects for FYs 2018, 2019, 2020**

Sorted by cost effectiveness, and rounding may occur.

PROJECT SPONSOR	PROJECT ID	PROJECT TITLE	FUNDING REQUEST (CONSTRUCTION)			UNIT COSTS MEASURES		CLARIFYING QUESTIONS	Street Committee Comments from 10-13-2015
			Year	2.5 Elig.	CMAQ	Emission Reduction Weighted Total (kg/day)	Cost Effectiveness (CMAQ \$/metric ton)		
Maricopa City	MAR-18-PAV-001	Porter Road Paving	2018	Y	\$ 707,896	1,681.11	\$ 78	<ul style="list-style-type: none"> <li>The application indicates that design would begin in 2017 and construction would occur in 2018. This may leave too little time to compete the design and environmental process through ADOT as the process typically requires 18 to 24 months or more to complete.</li> </ul>	RD: we grade this once a month. Primarily farm vehicles and some residential traffic. Q: Double Chip seal gets a lot of water, how are you going to handle? A: it is crowned with a 2" crown, we intend to get this at the true centerline and there will be drainage on either side. A: CQ: It is a temporary pavement that can be moved a bit faster. We believe we can get it through in that amount of time. Q: Not being a CA agency, you will need an IGA, which takes more time. A: we are not a CA but will take this under advisement. Q: you will need a Design and a Construction JPA, these take time. Admin fees also are in there. A year may be too short. A: Useful life is about 10 years minimum, then a developer would put in a permanent facility. We currently have a 2x chip seal that is 20 years.
Maricopa City	MAR-18-PAV-002	Farrell and Hartman Intersection Paving Phase 2	2018	Y	\$ 679,381	744.68	\$ 168	<ul style="list-style-type: none"> <li>The application indicates that design would begin in 2017 and construction would occur in 2018. This may leave too little time to compete the design and environmental process through ADOT as the process typically requires 18 to 24 months or more to complete.</li> <li>The applications appear to have the wrong cost sheet on the Farrel and Hartman Road applications</li> </ul>	RD: We do have a wash crossing in one spot on Hartman Rd, we will concrete this one area to address. Q: Review your cost sheet. A: thankyou we will.
Pinal County	PNL-19-PAV-001	Design & Pave Stanfield Road from Talla Rd to Miller Rd (3.5 mi)	2019	Y	\$ 2,143,017	339.04	\$ 332	<ul style="list-style-type: none"> <li>The applications include an estimate of over 40% truck traffic. Does Pinal County feel a double chip seal will hold up to this type traffic?</li> </ul>	Our agency grades Stanfield road regularly, busses, dairy trucks, etc. use this roadway. Double chip seal on 6", estimate is based on 8" if needed, will be determined during design.
Pinal County	PNL-19-PAV-002	Design & Pave Barnes Road from Fuqua Rd to Stanfield Rd (1.0 mi)	2019	Y	\$ 612,140	1,187.67	\$ 332	<ul style="list-style-type: none"> <li>The applications include an estimate of over 40% truck traffic. Does Pinal County feel a double chip seal will hold up to this type traffic?</li> </ul>	All of our projects are close to the air monitor. All projects are within 4 miles, Midway Rd is 5 miles.
Maricopa City	MAR-18-PAV-003	Farrell Road Paving Phase 1	2018	Y	\$ 679,381	287.01	\$ 436	<ul style="list-style-type: none"> <li>The application indicates that design would begin in 2017 and construction would occur in 2018. This may leave too little time to compete the design and environmental process through ADOT as the process typically requires 18 to 24 months or more to complete.</li> </ul>	RD: Used by farm vehicles and some residential. Also has a wash crossing on Farrel Rd. We have 22 miles of dirt roads and these apps are about 11 miles worth.
Maricopa County	MMA-19-PAV-001	Miller Road, Tonopah-Salome Highway to Van Buren Street.	2019	Y	\$ 979,331	313.81	\$ 575		Presenter: Quarry traffic and Federal Government (base), allot of dust. Shoulders will remain unpaved. ROW is half owned by Buckeye and MCDOTX. Q: Utility conflicts may arise, are you expecting costs? CMAQ per mile is high compared to other apps. A: Utility company will move the utilities at their cost. CMAQ \$ per mile paved is the cost we expect. Q: what is your structure? A: it will accommodate all the heavy base traffic. The technical group has determined 2.5 on 6" base, subgrade of 10". Q: Design cost looks high, could you speak to this? A: Estimated by our consultants and MCDOTX did a QC review to date. May be due to dam structure to work at the site and meet stopping distances. Concrete will be required for the portion at the dam. Nine driveways are present, six need concrete. Environmental review for drainage may also be higher. Q: This company (army) does allot of dust stirring when mobilizing. This seems like a good project to address the dust.
Pinal County	PNL-18-PAV-001	Design & Pave Midway Road from 0.5 mi south of SR 84 to Cornman Rd (2.5 mi)	2019	Y	\$ 1,569,630	453.82	\$ 637	<ul style="list-style-type: none"> <li>The applications include an estimate of over 40% truck traffic. Does Pinal County feel a double chip seal will hold up to this type traffic?</li> </ul>	No conflicts with utilities are anticipated. Paved shoulders. CQ: We have allot of trucks on this route. We'll verify the needed ABC on the geotechnical report. Q: any reason for the different cost per miles between projects. A: we will double check our cost sheets.
Phoenix	PHX-18-PAV-001	2018 CMAQ Alley Dust Proofing	2018	N	\$ 1,532,375	287.00	\$ 983	<ul style="list-style-type: none"> <li>Some applications state that no design is required or do not include design, however when dealing with federal aid funds, a design component is required. Has there been consideration of performing a reduced design to accommodate obtaining all certification/clearances and the review and approval of these projects?</li> </ul>	Presenter: Our applications are for three years of paving and covers 85 miles. Areas are identified by complaints, track out, or by staff evaluation. We propose chip sealing for these alleyways. We do minimal grading and apply at 11' wide. We do have challenges with alleys, some residents love and use, some have been closed. We do include a 3% cost increase per year. ADTs were dropped from 10 to 4, this will average out as some residents do use alley for access, some do not. We do have a simple straight forward design process.
Phoenix	PHX-19-PAV-002	2019 CMAQ Alley Dust Proofing	2019	N	\$ 1,621,960	221.75	\$ 1,347	<ul style="list-style-type: none"> <li>Some applications state that no design is required or do not include design, however when dealing with federal aid funds, a design component is required. Has there been consideration of performing a reduced design to accommodate obtaining all certification/clearances and the review and approval of these projects?</li> </ul>	Q: What is FAST? A: It is basically a rubber/asphalt chip seal, now we have local suppliers. Q: you are just putting it over native? A: yes.
Salt River Pima-Maricopa Indian Community	SRP-19-PAV-001	Pave McDonald Drive Sub-division and Palm Lane	2019	N	\$ 1,126,885	125.44	\$ 1,654	<ul style="list-style-type: none"> <li>Because the ROW acquisition process has started, one can assume that the alignment was set and that all environmental considerations have been taken. Is this correct?</li> <li>Regarding Segment 7 (Ranch Drive), what consideration has been given to drainage so it is not redirected to the nearby homes (per photo in page 62).</li> <li>Does the Community have the traffic count information available?</li> <li>Is the needed ROW tribal or allotted?</li> <li>The cross-section in the application indicates limited ROW. Will the Community be able to keep fixed objects outside the clear zone?</li> </ul>	Presenter: This is a two phase project. Subdivision portion has needed paving for many years. Acquisition of ROW has been an issue to accomplishing this. It is on allotted land. The tribe has recently changed its position to purchasing ROW. Now this is the first project that the tribe will pay to acquire ROW. One area is 50' ROW the other is 30' ROW which is a correction from the stated 25' ROW. ROW will be evenly split across the property line (centered). All ROW will go through the BIA and initial environmental. Drainage will be addressed with a shallow swill so it doesn't impact residents. Traffic counts in 2011 were completed by sections. Exterior road counts were taken. Land is mostly allotted land with some tribal interest.

## Paving Summary Data Sorted by Cost Effectiveness/1

### PM-10 and PM-2.5 Paving of Unpaved Road Projects for FYs 2018, 2019, 2020

Sorted by cost effectiveness, and rounding may occur.

PROJECT SPONSOR	PROJECT ID	PROJECT TITLE	FUNDING REQUEST (CONSTRUCTION)			UNIT COSTS MEASURES		CLARIFYING QUESTIONS	Street Committee Comments from 10-13-2015
			Year	2.5 Elig.	CMAQ	Emission Reduction Weighted Total (kg/day)	Cost Effectiveness (CMAQ \$/metric ton)		
Phoenix	PHX-20-PAV-003	2020 CMAQ Alley Dust Proofing	2020	N	\$ 1,414,500	147.70	\$ 1,764	• Some applications state that no design is required or do not include design, however when dealing with federal aid funds, a design component is required. Has there been consideration of performing a reduced design to accommodate obtaining all certification/clearances and the review and approval of these projects?	
Chandler	CHN-19-PAV-002	Alleyway PM-10 Stabilization	2019	N	\$ 944,954	41.71	\$ 4,172	• Under AC Mill and Overlay: What is included in this cost item?	A: Some agencies have considered closing alleys. Have you thought of this? A: We looked at this and spoke to our utilities. We spoke to our police reps and they would like to have the dumpsters removed for safety reasons.
Fort McDowell Yavapai Nation	FTM-18-PAV-001	FMYN Dirt Roads Paving Project	2018	N	\$ 841,940	29.97	\$ 5,174	• The application needs to address jurisdictional waters or permits and include minimal drainage infrastructure. Can you please clarify how this has been addressed?	A: Clarifying Q: 404 permits are not anticipated. We have the designer working on this. For the current 5 miles it has not been an issue. We have been able to address all drainage to date. We will use culverts, as designed by engineers under contract. Q: I see that CMAQ dollars seems high compared to others. A: difference in price is due to size and location. Distance to project dictates unit increase.
El Mirage	ELM-18-PAV-001	Unpaved Streets & Alleys	2018	N	\$ 526,963	12.98	\$ 7,478	• The application indicates that design would begin in 2017 and construction would occur in 2018. This may leave too little time to compete the design and environmental process through ADOT as the process typically requires 18 to 24 months or more to complete.	Q: Are the alleys open to traffic? A: yes, residents, utilities, etc. We are thinking about remove able ballards. We need to deter those that dump in the alleys who are not suppose to. Q: What is the amount of time on the design, 18 to 24 months with ADOT - which should be simple and straight forward. Q: Still there may be a schedule issue, it should not effect selection. A: we wouldn't oppose a future year if funded.
Chandler	CHN-18-PAV-001	Alleyway PM-10 Stabilization	2018	N	\$ 761,747	16.79	\$ 8,353	• Under AC Mill and Overlay: What is included in this cost item?	KL: The contractor comes in and clears and levels off old material, then paves. Q: what is the difference in cost? A: It may be due to location, or year increase. A: for the 2020 project I'll have to get back on this.
Chandler	CHN-20-PAV-003	Alleyway PM-10 Stabilization	2020	N	\$ 961,265	17.61	\$ 10,054	• Under AC Mill and Overlay: What is included in this cost item?	Q: Rain, what happens with the pervious surface to the citizens property? A: We do not go all the way to the ROW line, which allows drainage to occur.
			Total Requested		\$ 17,103,365				
			Total Available*		\$ 14,022,139				
			Unfunded		\$ 3,081,226				

\$ 14,011,450

\$10,689

#### PM-2.5: Eligible Projects

Year	Requested	Apportionment*
CF		\$ 28,249
2018	\$ 2,066,658	\$ 654,534
2019	\$ 5,304,118	\$ 669,678
2020	\$ -	\$ 669,678
<b>Total</b>	<b>\$ 7,370,776</b>	<b>\$ 2,022,139</b>

\* Note that Apportionment also includes matching Obligation Authority (OA)

#### PM-10: Eligible Projects

Year	Requested	Apportionment*
CF		\$ -
2018	\$ 5,729,683	\$ 4,000,000
2019	\$ 8,997,917	\$ 4,000,000
2020	\$ 2,375,765	\$ 4,000,000
<b>Total</b>	<b>\$ 17,103,365</b>	<b>\$ 12,000,000</b>

#### Total CMAQ Funding All Years: Eligible Projects

Requested	Apportionment*
\$ 17,103,365	\$ 14,022,139

## Paving Unpaved Roads Programming Scenario 1

### PM-10 and PM-2.5 Paving of unPaved Road Projects for FY 2018

Sorted by cost effectiveness, and rounding may occur.

PROJECT SPONSOR	PROJECT ID	PROJECT TITLE	Request ed Year	2.5 Elig.	Requested CMAQ	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	Program Year	CMAQ Award
Maricopa City	MAR-18-PAV-001	Porter Road Paving	2018	Y	\$ 707,896	1,681.11	\$78	2018	\$ 707,896
Maricopa City	MAR-18-PAV-002	Farrell and Hartman Intersect-ion Paving Phase 2	2018	Y	\$ 679,381	744.68	\$168	2018	\$ 679,381
Maricopa City	MAR-18-PAV-003	Farrell Road Paving Phase 1	2018	Y	\$ 679,381	287.01	\$436	2018	\$ 679,381
Pinal County	PNL-18-PAV-001	Design & Pave Midway Road from 0.5 mi south of SR 84 to Cornman Rd (2.5 mi)	2018	Y	\$ 1,569,630	453.82	\$637	2018	\$ 1,569,630
Phoenix	PHX-18-PAV-001	2018 CMAQ Alley Dust Proofing	2018	N	\$ 1,532,375	287.00	\$983	2018	\$ 1,532,375
<b>Total 2018</b>									\$ 5,168,663
<b>2018 Available</b>									\$ 4,682,783
<b>2018 Balance</b>									\$ (485,880)

### PM-10 and PM-2.5 Paving of UnPaved Road Projects for FY 2019

PROJECT SPONSOR	PROJECT ID	PROJECT TITLE	Request ed Year	2.5 Elig.	Requested CMAQ	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	Program Year	CMAQ Award
Pinal County	PNL-19-PAV-001	Design & Pave Stanfield Road from Talla Rd to Miller Rd (3.5 mi)	2019	Y	\$ 2,143,017	339.04	\$332	2019	\$ 2,143,017
Pinal County	PNL-19-PAV-002	Design & Pave Barnes Road from Fuqua Rd to Stanfield Rd (1.0 mi)	2019	Y	\$ 612,140	1,187.67	\$332	2019	\$ 612,140
Maricopa County	MMA-19-PAV-001	Miller Road, Tonopah-Salome Highway to Van Buren Street.	2019	N	\$ 979,331	313.81	\$575	2019	\$ 979,331
Phoenix	PHX-19-PAV-002	2019 CMAQ Alley Dust Proofing	2019	N	\$ 1,621,960	221.75	\$1,347	2019	\$ 1,621,960
<b>Total 2019 Prog'd</b>									\$ 5,356,448
<b>2019 Available</b>									\$ 4,669,678
<b>2019 Balance</b>									\$ (686,770)

### PM-10 and PM-2.5 Paving of UnPaved Road Projects for FY 2020

PROJECT SPONSOR	PROJECT ID	PROJECT TITLE	Request ed Year	2.5 Elig.	Requested CMAQ	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	Program Year	CMAQ Award
Salt River Pima-Maricopa Indian Community	SRP-19-PAV-001	Pave McDonald Drive Sub-division and Palm Lane	2019	N	\$ 1,126,885	125.44	\$1,654	2020	\$ 1,126,885
Phoenix	PHX-20-PAV-003	2020 CMAQ Alley Dust Proofing	2020	N	\$ 1,414,500	147.70	\$1,764	2020	\$ 1,414,500
Chandler	CHN-19-PAV-002	Alleyway PM-10 Stabil-ization	2019	N	\$ 944,954	41.71	\$4,172	2020	\$ 944,954
<b>Total 2020 Prog'd</b>									\$ 3,486,339
<b>2020 Available</b>									\$ 4,669,678
<b>2020 Balance</b>									\$ 1,183,339

# Paving Unpaved Roads Programming Scenario 1

Summary of Programming		CMAQ	
CMAQ 2.5	FY 2014, 2018-2020	\$	1,970,902
CMAQ 10	FY 2018-2020	\$	12,040,548
<b>Total</b>		\$	<b>14,011,450</b>

<b>Total Funding</b>	<b>FY 2018-2020</b>	\$	<b>14,022,139</b>
<b>Balance CF 2021</b>		\$	<b>10,689</b>

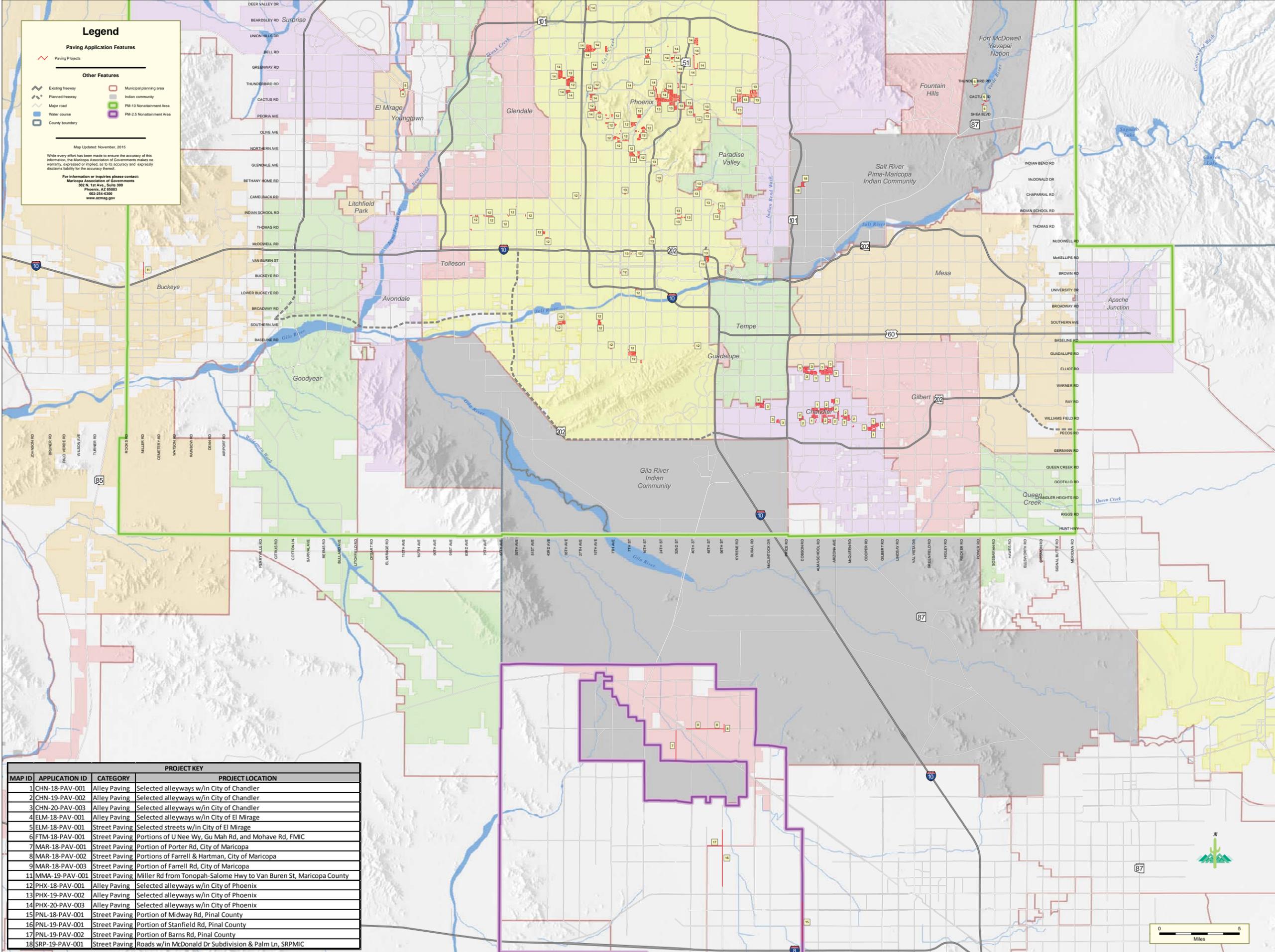
## PM-10 and PM-2.5 Paving of Unpaved Road Projects: No funding available\*\*

PROJECT SPONSOR	PROJECT ID	PROJECT TITLE	Request ed Year	2.5 Elig.	Requested CMAQ	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	Program Year	CMAQ Award
Fort McDowell Yavapai Nation	FTM-18-PAV-001	FMYN Dirt Roads Paving Project*	2018	N	\$ 841,940	29.97	\$5,174	-	0
El Mirage	ELM-18-PAV-001	Unpaved Streets & Alleys	2018	N	\$ 526,963	12.98	\$7,478	-	0
Chandler	CHN-18-PAV-001	Alleyway PM-10 Stabil-ization	2018	N	\$ 761,747	16.79	\$8,353	-	0
Chandler	CHN-20-PAV-003	Alleyway PM-10 Stabilization	2020	N	\$ 961,265	17.61	\$10,054	-	0

\*\*Project funding shortage

**\$3,091,915**

# PM-2.5 and PM-10 Paving Projects FY 2018-2020



**Legend**

**Paving Application Features**

- Paving Projects

**Other Features**

- Existing freeway
- Planned freeway
- Major road
- Water course
- County boundary
- Municipal planning area
- Indian community
- PM-10 Nonattainment Area
- PM-2.5 Nonattainment Area

Map Updated: November, 2015

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

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PROJECT KEY			
MAP ID	APPLICATION ID	CATEGORY	PROJECT LOCATION
1	CHN-18-PAV-001	Alley Paving	Selected alleyways w/in City of Chandler
2	CHN-19-PAV-002	Alley Paving	Selected alleyways w/in City of Chandler
3	CHN-20-PAV-003	Alley Paving	Selected alleyways w/in City of Chandler
4	ELM-18-PAV-001	Alley Paving	Selected alleyways w/in City of El Mirage
5	ELM-18-PAV-001	Street Paving	Selected streets w/in City of El Mirage
6	FTM-18-PAV-001	Street Paving	Portions of U Nee Wy, Gu Mah Rd, and Mohave Rd, FMIC
7	MAR-18-PAV-001	Street Paving	Portion of Porter Rd, City of Maricopa
8	MAR-18-PAV-002	Street Paving	Portions of Farrell & Hartman, City of Maricopa
9	MAR-18-PAV-003	Street Paving	Portion of Farrell Rd, City of Maricopa
11	MMA-19-PAV-001	Street Paving	Miller Rd from Tonopah-Salome Hwy to Van Buren St, Maricopa County
12	PHX-18-PAV-001	Alley Paving	Selected alleyways w/in City of Phoenix
13	PHX-19-PAV-002	Alley Paving	Selected alleyways w/in City of Phoenix
14	PHX-20-PAV-003	Alley Paving	Selected alleyways w/in City of Phoenix
15	PNL-18-PAV-001	Street Paving	Portion of Midway Rd, Pinal County
16	PNL-19-PAV-001	Street Paving	Portion of Stanfield Rd, Pinal County
17	PNL-19-PAV-002	Street Paving	Portion of Barns Rd, Pinal County
18	SRP-19-PAV-001	Street Paving	Roads w/in McDonald Dr Subdivision & Palm Ln, SRPMC





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October 23, 2015

TO: Members of the MAG Transportation Review Committee

FROM: Tim Conner, Scottsdale, Chair of the MAG Air Quality Technical Advisory Committee

SUBJECT: MAG AIR QUALITY TECHNICAL ADVISORY COMMITTEE RECOMMENDATION ON A RANKING OF PROPOSED PM-10 PAVING UNPAVED ROAD PROJECTS FOR FY 2018, 2019, AND 2020 CMAQ FUNDING

On October 22, 2015, the MAG Air Quality Technical Advisory Committee (AQTAC) made a recommendation on a ranking of Proposed PM-10 Paving Unpaved Road Projects for FY 2018, 2019, and 2020 CMAQ funding to the MAG Transportation Review Committee (see attachment). The AQTAC considered the proposed projects listed in order of cost effectiveness and listed in order of PM-10 emission reductions. It is anticipated that the MAG Transportation Review Committee may make a recommendation on these projects for inclusion in the upcoming FY 2017-2021 MAG Transportation Improvement Program (TIP).

In the Maricopa County PM-10 nonattainment area, ten unpaved road and alley projects requesting approximately \$10.7 million in federal funds were evaluated. In the Pinal County PM-2.5 nonattainment area, six unpaved road projects requesting approximately \$6.3 million in CMAQ PM-2.5 funds were evaluated. Project applications were due by September 21, 2015. A combined amount of \$14 million in CMAQ funding is available to program PM-10 Paving Unpaved Road Projects for FY 2018, 2019, and 2020. This amount includes \$4,000,000 available each year from the Regional Transportation Plan funding that is allocated for Air Quality Projects. This amount also includes \$669,668 allocated annually by the Arizona Department of Transportation to MAG for projects that reduce PM-2.5 in portions of the West Central Pinal PM-2.5 Nonattainment Area located within the planning boundaries of both MAG and the Sun Corridor Metropolitan Planning Organization.

The paving of unpaved roads is a committed measure in the Revised MAG 1999 Serious Area Particulate Plan for PM-10 and is included in the MAG 2012 Five Percent Plan for PM-10. Also, the Regional Transportation Plan assumes the annual paving of at least ten miles of unpaved roads to reduce fugitive dust.

On October 13, 2015, the MAG Street Committee conducted a review of the PM-10 Paving Unpaved Road project applications for FY 2018, 2019, and 2020 CMAQ funding. Following the Street Committee meeting, MAG staff calculated the estimated emission reductions and corresponding cost-effectiveness of the proposed projects that included revised information received from member agencies.

If you have any questions, please contact Dean Giles, MAG, at (602) 254-6300.

Attachment

**OCTOBER 22, 2015 MAG AIR QUALITY TECHNICAL ADVISORY COMMITTEE RECOMMENDATION**

**Proposed PM-10 Paving Unpaved Road Projects for FY 2018 CMAQ Funding Listed in Order of Cost Effectiveness  
\$4,000,000 available for FY 2018 for the Maricopa County PM-10 Nonattainment Area**

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
PHX-18-PAV-001	Phoenix	2018 CMAQ Alley Dust Proofing (29.7 miles)	Pave Dirt Alleys	2018	29.70	0	0	287.00	287.00	\$983	\$1,532,375
FTM-18-PAV-001	Fort McDowell Yavapai Nation	FMYN Dirt Roads Paving Project	Pave Dirt Roads	2018	0.70	0	0	29.97	29.97	\$5,174	\$841,940
ELM-18-PAV-001	El Mirage	Unpaved Streets & Alleys	Pave Dirt Alleys	2018	0.60	0	0	12.98	12.98	\$7,478	\$526,963
CHN-18-PAV-001	Chandler	Alleyway PM-10 Stabilization	Pave Dirt Alleys	2018	11.80	0	0	16.79	16.79	\$8,353	\$761,747
										Subtotal	\$3,663,025
										Amount Available	\$4,000,000
										Balance	\$336,975

**Proposed PM-10 Paving Unpaved Road Projects for FY 2019 CMAQ Funding Listed in Order of Cost Effectiveness  
\$4,000,000 available for FY 2019 for the Maricopa County PM-10 Nonattainment Area**

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
MMA-19-PAV-001	Maricopa County	Miller Road, Tonopah-Salome Highway to Van Buren Street.	Pave Dirt Roads	2019	1.00	0	0	313.81	313.81	\$575	\$979,331
PHX-19-PAV-002	Phoenix	2019 CMAQ Alley Dust Proofing (29.0 miles)	Pave Dirt Alleys	2019	29.00	0	0	221.75	221.75	\$1,347	\$1,621,960
SRP-19-PAV-001	Salt River Pima-Maricopa Indian Community	Pave McDonald Drive Subdivision and Palm Lane	Pave Dirt Roads	2019	2.13	0	0	125.44	125.44	\$1,654	\$1,126,885
CHN-19-PAV-002	Chandler	Alleyway PM-10 Stabilization	Pave Dirt Alleys	2019	14.50	0	0	41.71	41.71	\$4,172	\$944,954
										Subtotal	\$4,673,130
										Amount Available	\$4,000,000
										Balance	-\$673,130

**Proposed PM-10 Paving Unpaved Road Projects for FY 2020 CMAQ Funding Listed in Order of Cost Effectiveness  
\$4,000,000 available for FY 2020 for the Maricopa County PM-10 Nonattainment Area**

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
PHX-20-PAV-003	Phoenix	2020 CMAQ Alley Dust Proofing (25.7 miles)	Pave Dirt Alleys	2020	25.70	0	0	147.70	147.70	\$1,764	\$1,414,500
CHN-20-PAV-003	Chandler	Alleyway PM-10 Stabilization	Pave Dirt Alleys	2020	15.70	0	0	17.61	17.61	\$10,054	\$961,265
										Subtotal	\$2,375,765
										Amount Available	\$4,000,000
										Balance	\$1,624,235

**OCTOBER 22, 2015 MAG AIR QUALITY TECHNICAL ADVISORY COMMITTEE RECOMMENDATION**

**Proposed PM-10 Paving Unpaved Road Projects for FY 2018 CMAQ Funding Listed in Order of Cost Effectiveness  
\$669,668 available for FY 2018 for the Pinal County PM-2.5 Nonattainment Area**

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
MAR-18-PAV-001*	Maricopa	Porter Road Paving	Pave Dirt Roads	2018	1.90	0	0	1,681.11	1,681.11	\$78	\$707,896
MAR-18-PAV-002*	Maricopa	Farrell and Hartman Intersection Paving Phase 2	Pave Dirt Roads	2018	1.38	0	0	744.68	744.68	\$168	\$679,381
MAR-18-PAV-003*	Maricopa	Farrell Road Paving Phase 1	Pave Dirt Roads	2018	1.45	0	0	287.01	287.01	\$436	\$679,381
<b>Subtotal</b>											<b>\$2,066,658</b>
<b>Amount Available</b>											<b>\$669,668</b>
<b>Balance</b>											<b>-\$1,396,990</b>

**Proposed PM-10 Paving Unpaved Road Projects for FY 2019 CMAQ Funding Listed in Order of Cost Effectiveness  
\$669,668 available for FY 2019 for the Pinal County PM-2.5 Nonattainment Area**

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
PNL-19-PAV-002*	Pinal County	Design & Pave Stanfield Road from Talla Rd to Miller Rd (3.5 mi)	Pave Dirt Roads	2019	3.50	0	0	1,187.67	1,187.67	\$332	\$2,143,017
PNL-19-PAV-001*	Pinal County	Design & Pave Barnes Road from Fuqua Rd to Stanfield Rd (1.0 mi)	Pave Dirt Roads	2019	1.00	0	0	339.04	339.04	\$332	\$612,140
PNL-18-PAV-001*	Pinal County	Design & Pave Midway Road from 0.5 mi south of SR 84 to Cornman Rd (2.5 mi)	Pave Dirt Roads	2019	2.50	0	0	453.82	453.82	\$637	\$1,569,630
<b>Subtotal</b>											<b>\$4,324,787</b>
<b>Amount Available</b>											<b>\$669,668</b>
<b>Balance</b>											<b>-\$3,655,119</b>

\* Denotes projects within the West Central Pinal PM-2.5 Nonattainment Area. Based on EPA AP-42 emission equation, weighted PM-2.5 emission reductions are ten percent of the weighted PM-10 emission reductions.

**ATTACHMENT  
#11**

**Agenda Item #8**

**MAG ITS Committee Recommendation**  
**Arterial ITS Projects in FY2018 & FY2019**  
**Project FY Changes and Consolidations Based on Agency Requests**

PROJECTS RECOMMENDED FOR FY 2018					
	Lead Agency	Original Project Number	Description	Recommended CMAQ Funds	Committee Rank
1	Tempe	TMP-18-ITS-1	Install DMS, CCTV cameras, wireless link, bicycle detection, & EVP networking	\$392,010	2
2	El Mirage	ELM-18-ITS-1	Install fiber , install five CCTV cameras and interconnect six traffic signals	\$305,721	4
3	Glendale	GLN-18-ITS-3	Install EVP system citywide at 48 intersections	\$399,832	5
4	Surprise	SUR-18-ITS-2	Develop ITS strategic plan and implementation plan	\$141,450	6
5	Avondale	AVN-18-ITS-1	Install fiber backbone to connect two existing backbone runs on Dysart Rd fiber	\$278,279	7
6	Apache Junction	APJ-18-ITS-1	Install wireless communication to all Apache Junction traffic signals	\$267,340	8
7	<b>Mesa</b>	<b>MES-18-ITS-1 &amp; MES-19-ITS-1</b>	<b>Install cabinets &amp; controllers at 50 locations and establish communications</b>	<b>\$780,000</b>	<b>10 &amp; 14</b>
8	Maricopa County	MMA-18-ITS-1	Upgrade TMC workstations, video wall display, network equipment, and system	\$299,874	11
9	Scottsdale	SCT-18-ITS-1	Install 17 video detection cameras and TMC software	\$368,713	12
10	<b>Goodyear</b>	<b>GDY-18-ITS-1 &amp; GDY-18-ITS-2</b>	<b>Install fiber along Elwood St, CCTV, connect two signals to TMC</b>	<b>\$348,661</b>	<b>12 &amp; 15</b>
Total Requested				\$3,581,880	
Available Funds				\$3,680,000	
Balance				\$98,120	

PROJECTS RECOMMENDED FOR FY 2019					
	Lead Agency	Original Project Number	Description	Recommended CMAQ Funds	Committee Rank
1	Tempe	TMP-19-ITS-2	Phase 2 - Install DMS, CCTV cameras, wireless link, bicycle detection, & EVP networking	\$392,010	1
2	Maricopa County	MMA-19-ITS-2	Upgrade RADS server and hardware and provide system integration	\$122,590	3
3	<b>Chandler</b>	<b>CHN-19-ITS-2 &amp; CHN-18-ITS-1</b>	<b>Install bicycle detection system for 40 signalized intersections along Chandler Blvd &amp; Ray Rd</b>	<b>\$792,120</b>	<b>13 &amp; 17</b>
4	<b>Glendale</b>	<b>GLN-18-ITS-2 &amp; GLN-18-ITS-1</b>	<b>Install fiber, communication and CCTV along Camelback Rd from 51st Ave to 91st Ave</b>	<b>\$800,000</b>	<b>9 &amp; 18</b>
5	<b>Phoenix</b>	<b>PHX-19-ITS-3 &amp; PHX-18-ITS-1</b>	<b>Central Core ARID - Phases 1 &amp; 2</b>	<b>\$913,060</b>	<b>16 &amp; 18</b>
6	Peoria	PEO-18-ITS-1	Install 72 flashing yellow arrow signal heads & cabinet and controllers at 12 locations	\$358,340	20
7	Maricopa City	MAR-18-ITS-1	Install conduit & fiber, CCTV cameras, & wireless comm. and interconnect 6 signals	\$400,000	21
Total Requested				\$3,778,120	
Available Funds				\$3,680,000	
Balance				-\$98,120	

**ATTACHMENT  
#12**

**Agenda Item #9**

# MARICOPA ASSOCIATION OF GOVERNMENTS

## INFORMATION SUMMARY... for your review

**DATE:**

December 9, 2015

**SUBJECT:**

Programming of the Pinal County Surface Transportation Program Projects in Fiscal Year 2018 and Fiscal Year 2020

**SUMMARY:**

On February 25, 2015, the MAG Regional Council approved the Pinal County Surface Transportation Program Programming and Evaluation Policy. The program is based on six goals and objectives; measures and evaluative weights to support those goals and objects were also approved as part of the policy.

On August 10, 2015, MAG issued a call for projects totaling \$1.62 million for fiscal years 2018 and 2020. Three applications amounting to more than \$3.57 million of federal aid requests were received from three agencies. On October 13, 2015, the MAG Street Committee conducted a technical review and evaluation of the project applications. At the meeting, the committee deemed one project ineligible for funding per the Programming and Evaluation Policy. Additionally, there were questions concerning the data in the two remaining project applications and the committee requested that the sponsoring agencies provide additional information at the next meeting.

On November 10, 2015, the MAG Street Committee reviewed the updated applications. The two remaining project applications received an identical score based on the committee's technical review, program measures, and evaluative weights. At the meeting, the Gila River Indian Community indicated that they would not be able to proceed with their Gilbert Road Reconstruction and Improvement project with partial funding. The City of Apache Junction subsequently indicated that they would be able to go forward with their Southern Avenue: Delaware Drive to Ironwood Drive project with partial funding.

A Call-for-Projects Tally Sheet, amendment sheet, and evaluation summary are included in the agenda packet.

**PUBLIC INPUT:**

None has been received.

**PROS & CONS:**

**PROS:** Approval of the funding and programming for these projects will enable their inclusion in the Transportation Improvement Program (TIP) – contingent upon a finding of air quality conformity – and will allow jurisdictions to develop their projects in a timely and integrated manner.

**CONS:** If these projects are not approved, the time to develop projects will be limited. Timely development of projects is needed to ensure that MAG federal funds are fully utilized each year, and to enhance opportunities for additional federal funds if available. Currently, the Transportation Authorization for federal funding is operating under a continuing resolution and funding amounts are projected and subject to change.

**TECHNICAL & POLICY IMPLICATIONS:**

TECHNICAL: All projects have been evaluated using the program measures and weights established by the MAG Regional Council as part of the Pinal County Surface Transportation Program Programming and Evaluation Policy.

POLICY: Projects have been prioritized consistent with the Pinal County Surface Transportation Program Programming and Evaluation Policy.

**ACTION NEEDED:**

For information, discussion, and possible recommendation to award full funding to the Gilbert Road project and partial funding to the Southern Avenue project in the FY 2014-2018 MAG Transportation Improvement Program, draft FY 2017 – FY2021 MAG Transportation Improvement Program, and 2035 Regional Transportation Plan as appropriate. Inclusion of the Southern Avenue project is contingent on a new finding of air quality conformity, anticipated in June 2016.

**PRIOR COMMITTEE ACTIONS:**

On November 10, 2015, the MAG Street Committee reviewed the updated project applications. The committee recommended that both the Gilbert Road Reconstruction and Improvement project and Southern Avenue: Delaware Drive to Ironwood Drive project be sent to the Transportation Review Committee to program funding in the MAG Transportation Improvement Program (TIP).

**MEMBERS ATTENDING**

- Maria Angelica Deeb, Mesa, Chair
- Chris Hauser, El Mirage, Vice Chair
- Eric Boyles for Susan Anderson, ADOT
- \* Emile Schmid, Apache Junction
- David Janover, Avondale
- Jose Heredia, Buckeye
- Kevin Lair, Chandler
- @Aryan Lirange, FHWA
- \* Wayne Costa, Florence
- Sasha Pachito for Tim Oliver, Gila River Indian Community
- \* Greg Smith, Gilbert
- Patrick Sage, Glendale
- \* Hugh Bigalk, Goodyear
- \* Bill Fay, City of Maricopa

- Lee Jimenez, Maricopa County
- Mike Gillespie, Litchfield Park
- \* James Shano, Paradise Valley
- Jenny Grote, Phoenix
- \* Scott Bender, Pinal County
- Ben Wilson, Peoria
- \* Janet Martin, Queen Creek
- Jennifer Jack, Salt River Pima-Maricopa Indian Community
- \* Phil Kercher, Scottsdale
- Dana Owsiany, Surprise
- German Piedrahita, Tempe
- \* Jason Earp, Tolleson
- \* Grant Anderson, Youngtown

\* Members neither present nor represented by Proxy # Members attending by phone  
@Ex-officio member, non voting member

On October 13, 2015, the MAG Street Committee conducted a technical review and evaluation of the project applications. The committee deemed that the Bowlin Road Paving project was ineligible for funding per the PC-STP Programming and Evaluation Policy and requested additional detail on the Gilbert Road Reconstruction and Improvement and Southern Avenue: Delaware Drive to Ironwood Drive projects.

MEMBERS ATTENDING

Maria Angelica Deeb, Mesa, Chair  
Chris Hauser, El Mirage, Vice Chair  
Eric Boyles for Susan Anderson, ADOT  
Emile Schmid, Apache Junction  
David Janover, Avondale  
\* Jose Heredia, Buckeye  
Kevin Lair, Chandler  
@Aryan Lirange, FHWA  
Morris Taylor for Wayne Costa, Florence  
Tim Oliver, Gila River Indian Community  
\* Greg Smith, Gilbert  
Patrick Sage, Glendale  
# Luke Albert for Hugh Bigalk, Goodyear  
Bill Fay, City of Maricopa

Lee Jimenez, Maricopa County  
Mike Gillespie, Litchfield Park  
\* James Shano, Paradise Valley  
Jenny Grote, Phoenix  
Scott Bender, Pinal County  
Ben Wilson, Peoria  
\* Janet Martin, Queen Creek  
Jennifer Jack, Salt River Pima-Maricopa  
Indian Community  
\* Phil Kercher, Scottsdale  
Dana Owsiany, Surprise  
German Piedrahita, Tempe  
\* Jason Earp, Tolleson  
Grant Anderson, Youngtown

\* Members neither present nor represented by Proxy # Members attending by phone  
@Ex-officio member, non voting member

**CONTACT PERSON:**

John Bullen, Transportation Planner III (602) 254-6300

## Pinal County Surface Transportation Program – Call for Projects Evaluation Reference Sheet

Criteria		Southern Ave: Delaware Dr to Ironwood Dr	Gilbert Rd Reconstruction and Improvement Project	Bowlin Road Paving*
Overview	Type of Work	Roadway Widening	Roadway Improvement	Paving
	Segment Length	0.5 Miles	2.50 Miles	1 Mile
	Lanes Before	2	2	2
	Lanes After	4	2	2
Annual Average Daily Traffic (AADT)		10,747	6,115	2,200
Pavement/Bridge Condition (1-5 Scale)		2.50	0.5	N/A
Peak Period Speed Differential		1.111	1.182	0.88
Segment/Intersection Capacity (VPLPH)		349	25	1.02
Crash Rate per 100 million Vehicle-Miles of Travel		3,671	2,841	0
Number of Injuries/Fatalities (3-year average)		0	1	0
Does this project improve regional/multijurisdictional connectivity?		Yes	Yes	No
Distance from the nearest commercial/employment center		< 1 Mile	< 1 Mile	< 2 Miles
Does this project involve improvements that address throughput on an existing intersection?		Yes	Yes	Yes
Does this project involve improvements that address safety on an existing intersection?		Yes	Yes	Yes
Is this project identified in the jurisdiction General/Transportation Plan?		Yes	Yes	Yes
Has this project been requested through a neighborhood or community meeting or by council/board/commission outside of the budget process?		Yes	Yes	No

\*Paving is not an eligible activity per the MAG Pinal County Surface Transportation Program (STP) Programming and Evaluation Policy, approved on February 25, 2015

**Pinal County STP  
Call-for-Projects Tally Sheet**

Year	STP Available	Project Costs	Work phase
<b>2018</b>	\$ 352,393	\$ 224,864	Southern Avenue: Delaware Drive to Ironwood Drive Design
<b>2019</b>	\$ -		
<b>2020</b>	\$ 1,265,993	\$ 1,270,000	Gilbert Road Reconstruction and Improvement Construction
		\$ 123,523	Southern Avenue: Delaware Drive to Ironwood Drive Construction
<b>Totals 18-20</b>	<b>1,618,387</b>		

**TABLE D: Requested amendments and administrative modifications to the  
FY 2014-2018 MAG Transportation Improvement Program (TIP), draft FY 2017 - 2021 TIP, and the 2035 Regional Transportation Plan<sup>1</sup>, TIP AMENDMENT #16 PINAL COUNTY STP**

Sort: Section, Agency, Location, Work Year

TIP Amendment #16																				
Agency	Section	Work Year <sup>4</sup>	TIP ID	MAG ID	Location	Work	Miles	Lanes Before	Lanes After	Federal ID/ALI	In Life Cycle Program	TRACS/Grant ID	MAG Mode	Funding	Apport. Year <sup>3</sup>	Federal	Regional	Local	Total	TIP Change Request
Apache Junction	Highway	2018	APJ18-402	30485	Southern Avenue: Delaware Dr to Ironwood Dr	PE - ADOT Review Fee for Roadway Widening and Improvements	0.5	2	4	--	None	--	Street	STP-MAG	2018	42,865	-	2,591	45,456	Amend: New TIP listing. Project awarded funding through the Pinal County STP call-for-projects.
Apache Junction	Highway	2018	APJ18-403	30485	Southern Avenue: Delaware Dr to Ironwood Dr	Design Roadway Widening and Improvements	0.5	2	4	--	None	--	Street	STP-MAG	2018	181,999	-	11,001	193,000	Amend: New TIP listing. Project awarded funding through the Pinal County STP call-for-projects.
Gila River Indian Community	Highway	2019	GRC19-701	17333	Gilbert Road: Hunt Highway to SR-87	Design Roadway Reconstruction and Improvements	2.5	2	2	--	None	--	PC-STP	Local	2019	-	-	235,754	235,754	Amend: New TIP listing. Project awarded funding through the Pinal County STP call-for-projects.
Gila River Indian Community	Highway	2020	GRC20-701	17333	Gilbert Road: Hunt Highway to SR-87	Construct Roadway Reconstruction and Improvements	2.5	2	2	--	None	--	PC-STP	STP-MAG	2020	1,270,000	-	632,868	1,902,868	Amend: New TIP listing. Project awarded funding through the Pinal County STP call-for-projects.

**Notes**

1. Rows in the report are sorted in order by the following columns: Section, Agency, Year and TIP ID. Changes are in red font. Deletions are show in strike through font.
2. The following are used to indicate MAG Committees reviewing these TIP listings for amendment: TRC = Transportation Committee, MC = Management Committee, TPC = Transportation Review Committee, RC = Regional Council
3. The year the federal funds (if any) were apportioned by Congress. This item is included only for informational purposes.
4. For federal projects this is the year the project will authorize. For transit this is the year the project will appear in a grant.

5. Changes are in red font. Deletions are shown in strike through font.

**ATTACHMENT  
#13**

**Agenda Item #10**

# **MARICOPA ASSOCIATION OF GOVERNMENTS**

## **INFORMATION SUMMARY... for your review**

**DATE:**

December 9, 2015

**SUBJECT:**

Project Changes - Amendment and Administrative Modification to the FY 2014-2018 MAG Transportation Improvement Program, and as Appropriate, to the 2035 Regional Transportation Plan

**SUMMARY:**

The Fiscal Year (FY) 2014-2018 Transportation Improvement Program (TIP) and 2035 Regional Transportation Plan were approved by the MAG Regional Council on January 29, 2014. Agencies have requested general TIP changes. MAG is preparing the draft FY2017-2021 TIP, and detailed project listings for the programming of recommended projects are included.

**Table C - Highway and Transit General Changes:**

General highway and transit listing changes and additions are included in Table C. The new requested project additions and changes include ADOT pavement preservation, transportation enhancements, and safety. General project changes are included for bicycle and pedestrian, safety, and roadway widening. Project listing changes and additions are not contingent on a new finding of conformity.

**Table D - Highway Programming Detail for Development of the draft FY2017-2021 TIP:**

The detailed listings that relate to the programming of FY 2017 Transportation Alternative Non-infrastructure (Safe Routes to School eligible activities), FY 2018, 2019, and 2020 Paving of Unpaved Roads, FY2018 and 2019 Intelligent Transportation Systems, and Pinal County Surface Transportation Program (STP-MAG) for FY2018 and 2020 Arterial projects are included in Table D. Project additions requested are not contingent on a new finding of conformity in the current FY2014-2018 TIP.

**PUBLIC INPUT:**

None.

**PROS & CONS:**

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

CONS: Project funding is still estimated and additional changes may be required.

**TECHNICAL & POLICY IMPLICATIONS:**

TECHNICAL: Projects that wish to utilize transportation federal funds need to be shown in the TIP in the year that they expect to commence and may need to undergo an air quality conformity analysis or consultation. All projects that are programmed with Federal Highway Administration Federal Fiscal Year 2016 funds must submit their project for obligation at the Arizona Department of Transportation no later than June 1, 2016, or funding may be lost from the project and from the region.

POLICY: This amendment and administrative modification request is in accord with MAG guidelines.

**ACTION NEEDED:**

Recommend approval of amendments and administrative modifications to the FY 2014-2018 MAG Transportation Improvement Program, and as appropriate, to the 2035 Regional Transportation Plan.

**PRIOR COMMITTEE ACTIONS:**

None

**CONTACT PERSON:**

Teri Kennedy, Transportation Improvement Program Manager, or David Massey, Planner (602) 254-6300.

**TABLE C: Requested amendments and administrative modifications to the  
FY 2014-2018 MAG Transportation Improvement Program (TIP), and the 2035 Regional Transportation Plan<sup>1</sup>, TIP AMENDMENT #16**

Sort: Section, Agency, Location, Work Year

TIP Amendment #16																				
Agency	Section	Work Year <sup>4</sup>	TIP ID	MAG ID	Location	Work	Miles	Lanes Before	Lanes After	Federal ID/ALI	In Life Cycle Program	TRACS/Grant ID	MAG Mode	Funding	Apport. Year <sup>3</sup>	Federal	Regional	Local	Total	TIP Change Request
ADOT	Highway	2014	DOT15-406	38329	17: MP 198 to MP 208.9 (19th Ave - Arizona Canal Trail)	Design Pavement Preservation	10.9	8	8	-----	5-year	-----	Freeway	NHPP	2014	794,949	-	48,051	843,000	Amendment: Increase costs by \$493,189/\$29,811 federal/local. Project scope was updated to include: Guardrail/End Treatments improvements, Asphaltic Concrete overlay, additional signage, structural modification to pedestrian railings and deck joints on existing bridges to comply with ADA Requirements, and structural details to modify existing 32" median barrier with glare screen to 44" barrier without glare screen.
ADOT	Highway	2015	DOT15-414D	13018	85: Gila Bend Airport - MP 130.42	Design pavement preservation	8.9	4	4	-----	5-year	-----	Freeway	NHPP	2015	99,958	-	6,042	106,000	Amendment: Add a new pavement preservation design project in FY 2015 for \$106,000. This project was inadvertently deleted from the TIP.
ADOT	Highway	2016	DOT15-414D2	13018	85: Gila Bend Airport - MP 130.42	Design pavement preservation	8.9	4	4	-----	5-year	-----	Freeway	NHPP	2016	22,632	-	1,368	24,000	Amendment: Add a new pavement preservation funding in FY 2016 for \$24,000.
ADOT	Highway	2017	DOT16-437	20301	88: Apache Junction - Tortilla Flat	Spot Safety Improvements	9	2	2	-----	5-year	-----	Freeway	HSIP-AZ	2017	2,185,000	-	-	2,185,000	Amendment: Defer project from FY2016 to FY2017. The environmental process is still underway and will delay advertisement of the project. Change MAG Mode to Freeway.
ADOT	Highway	2017	DOT16-438	20301	88: Apache Junction - Tortilla Flat	Construct Pavement Preservation	9	2	2	-----	5-year	-----	Freeway	NHPP	2017	5,469,400	-	330,600	5,800,000	Amendment: Defer project from FY2016 to FY2017. The environmental process is still underway and will delay advertisement of the project. Change MAG Mode to Freeway.
ADOT	Highway	2016	DOT16-GAN09	2393	MAG regionwide	STP-MAG funds available for repayment of GANs or AC projects	0	0	0	-----	RFHP	-----	Freeway	STP-MAG	2016	12,586,400	(12,586,400)	-	-	Admin: Reduce estimated payment by \$108,600 to \$12,586,400.
ADOT	Highway	2016	DOT16-477	NEW	Paradise Valley (Townwide)	Traffic & Criminal Software (TraCS), Paradise Valley PD electronic crash data transmission	0	0	0	-----	5-year	-----	Safety	HSIP-AZ	2016	50,000	-	-	50,000	Amendment: Add a new software project in FY 2016 for \$50,000.
Florence	Highway	2016	FLO14-402	49365	Main Street: Ruggles St to Butte Ave	Construct Roadway Improvements	0.25	2	2	-----	5-year	-----	Street	STP-TEA	2016	500,000	-	30,223	530,223	Amend: Defer project from 2015 to 2016 per ADOT request.

**TABLE C: Requested amendments and administrative modifications to the  
FY 2014-2018 MAG Transportation Improvement Program (TIP), and the 2035 Regional Transportation Plan<sup>1</sup>, TIP AMENDMENT #16**

Sort: Section, Agency, Location, Work Year

TIP Amendment #16																				
Agency	Section	Work Year <sup>4</sup>	TIP ID	MAG ID	Location	Work	Miles	Lanes Before	Lanes After	Federal ID/ALI	In Life Cycle Program	TRACS/Grant ID	MAG Mode	Funding	Apport. Year <sup>3</sup>	Federal	Regional	Local	Total	TIP Change Request
Glendale	Highway	2018	GLN16-404	35999	Thunderbird Paseo Pathway at Sweetwater Ave, Thunderbird Paseo Pathway at Hearn Rd, Thunderbird Paseo Pathway at 71st Ave, Sk	Construct multiple access points to pathways	0	0	0	-----	None	-----	Bike/Ped	CMAQ	2018	107,832	-	234,456	342,288	Amend: Defer construction to FFY 2018 to accommodate for potential Section 404 Permit delay. Local costs are also updated.
Glendale	Highway	2018	GLN16-405	26638	New River North Shared Use Pathway, Patrick Ln to Hillcrest Blvd	Construct multiuse path and cannal crossing	0.25	0	0	-----	None	-----	Bike/Ped	CMAQ	2018	330,850	-	181,531	512,381	Amend: Defer construction to FFY 2018 to accommodate for potential Section 404 Permit delay. Local costs are also updated.
Glendale	Highway	2016	GLN16-408	30579	Citywide	Update Safe Routes to School Maps	0	0	0	GLN-0(251)D	None	T002401X	Safety	TAP-MAG	2016	75,346	-	4,554	79,900	Amend: Defer project from 2015 to 2016 per ADOT request.
Maricopa (City)	Highway	2018	MAR15-402	15724	MCG Highway: Porter Road to White and Parker	Construct Roadway Widening (Balance of CAG Awarded Funding)	1	2	4	-----	None	-----	Street	STP-MAG	2018	28,000	-	1,700	29,700	Admin: Change work description to clarify source of funding. No change in work.
Maricopa (City)	Highway	2018	MAR15-402C2	15724	MCG Highway: Porter Road to White and Parker	Construct Roadway Widening (MAG Awarded Pinal County STP Funding)	1	2	4	-----	None	-----	Street	STP-MAG	2018	2,000,000	-	251,256	2,251,256	Admin: Change work description to clarify source of funding. No change in work. Reduce local funding by \$541,357 for MAR15-402C3.
Maricopa (City)	Highway	2018	MAR15-402C3	15724	MCG Highway: Porter Road to White and Parker	Construct Roadway Widening (Special Projects Fund)	1	2	4	-----	None	-----	Street	STP-MAG	2018	510,500	-	30,857	541,357	Amend: Add new workphase with additional STP-MAG funding from the Special Projects Fund approved by RC 9/30/2015. Costs originally shown as local costs in MAR15-402C2.
Maricopa County	Highway	2016	MMA15-404	2415	Countywide at Madison Rose, Madison Heights & Joseph Zito Elementary Schools	Purchase educational materials, incentives and services	0	0	0	MMA-0(257)F	None	SF04301D/01X	Safety	TAP-MAG	2016	124,191	-	9,507	133,698	Amend: Defer project from 2015 to 2016 per ADOT request.
Mesa	Highway	2015	MES15-441C	40596	Rio Salado Segments 3 and 4: SR101 to Dobson Road	Construct multi-use pathway and lighting/safety improvements to tunnel at SR202/Wrigleyville West Entrance	1.35	0	0	CM-MES-0(227)T	None	SZ08001C	Bike/Ped	CMAQ	2015	1,599,999	-	462,636	2,062,635	Amend: Combine Rio Salado Segments 3 and 4 into one project utilizing both CMAQ and TAP-MAG funding. Update location and work description to reflect combined project.
Mesa	Highway	2015	MES16-404	40596	Rio Salado Segments 3 and 4: SR101 to Dobson Road	Construct multi-use pathway and lighting/safety improvements to tunnel at SR202/Wrigleyville West Entrance	1.35	0	0	CM-MES-0(227)T	None	SZ08001C	Bike/Ped	TAP-MAG	2015	1,585,674	-	275,388	1,861,062	Amend: Combine Rio Salado Segments 3 and 4 into one project utilizing both CMAQ and TAP-MAG funding. Update location and work description to reflect combined project.

**TABLE C: Requested amendments and administrative modifications to the  
FY 2014-2018 MAG Transportation Improvement Program (TIP), and the 2035 Regional Transportation Plan<sup>1</sup>, TIP AMENDMENT #16**

Sort: Section, Agency, Location, Work Year

TIP Amendment #16																				
Agency	Section	Work Year <sup>4</sup>	TIP ID	MAG ID	Location	Work	Miles	Lanes Before	Lanes After	Federal ID/ALI	In Life Cycle Program	TRACS/Grant ID	MAG Mode	Funding	Apport. Year <sup>3</sup>	Federal	Regional	Local	Total	TIP Change Request
Surprise	Highway	2016	SUR15-402	3193	Arizona Charter Academy - Surprise	Procure consultant services to conduct SRTS Study	0	0	0	SUR-0(220)T	None	SF045 01D/01X	Safety	TAP-MAG	2016	66,482	-	6,019	72,501	Amend: Defer project from 2015 to 2016 per ADOT request.
Surprise	Highway	2016	SUR16-404	676	Dysart Elementary School District: Citywide	Safe Routes to School Support Activity project: Crosswalk Safety Equipment	0	0	0	-----	None	-----	Safety	TAP-MAG	2016	10,373	-	627	11,000	Amend: Defer project from 2015 to 2016 per ADOT request.
Tempe	Highway	2016	TMP15-403	27276	Various locations in Tempe	Implementation of Regional Bike Share, including procuring bikes, kiosks, racks, etc.	0	0	0	TMP-0(244)D	None	SZ173 01D/01C	Bike/Ped	CMAQ	2016	636,525	-	550,000	1,186,525	Amend: Defer project from 2015 to 2016. Project did not authorize in 2015. Project received closeout funding in 2015. Reduce federal funding and increase local funding by \$482,368.
Phoenix	Transit	2015	PHX15-447T	23260	Regionwide	700 MHz Transit Communications Upgrade	0	0	0	11.42.20	TLCP	-----	Transit Bus	5307	2015	5,633,809	1,408,452	-	7,042,261	Clerical: Change TIP ID to PHX15-447T to correct duplication.
Valley Metro Rail	Transit	2015	VMR14-108T	13425	Tempe Streetcar: Rio Salado Parkway to Apache Blvd/Dorsey Lane with Downtown Mill Ave/Ash Loop	Final Design	3	0	0	14.08.80	TLCP	-----	Transit Rail	PTF	2015	-	3,800,688	-	3,800,688	Amend: Change funding from CMAQ-Flex to PTF. No change in total funding.
Valley Metro Rail	Transit	2015	VMR14-434T	13425	Tempe Streetcar: Rio Salado Parkway to Apache Blvd/Dorsey Lane with Downtown Mill Ave/Ash Loop	Right-of-Way Acquisition	3	0	0	14.06.60	TLCP	-----	Transit Rail	PTF	2015	-	1,200,000	-	1,200,000	Amend: Change funding from CMAQ-Flex to PTF. No change in total funding.
Valley Metro Rail	Transit	2015	VMR14-435T	13425	Tempe Streetcar: Rio Salado Parkway to Apache Blvd/Dorsey Lane with Downtown Mill Ave/Ash Loop	Utility Relocation (Prior Rights)	3	0	0	14.04.40	TLCP	-----	Transit Rail	PTF	2015	-	5,312,500	-	5,312,500	Amend: Change funding from CMAQ-Flex to PTF. No change in total funding.
Valley Metro Rail	Transit	2018	VMR15-108T	13425	Tempe Streetcar: Rio Salado Parkway to Apache Blvd/Dorsey Lane with Downtown Mill Ave/Ash Loop	Construct Transitway	3	0	0	13.23.01	TLCP	-----	Transit Rail	CMAQ-Flex	2016	935,222	233,805	-	1,169,027	Amend: Reduce funding from \$5,684,672/\$1,421,168 to \$935,222/\$233,805. Balance of federal funds \$4,749,450 moved to NEW4
Valley Metro Rail	Transit	2023	VMR14-106T	49041	I-10 WEST Phoenix	Fixed guideway corridor - Phx West - Preliminary Engineering	0	0	0	13.71.02	TLCP	-----	Transit Rail	CMAQ-Flex	2015	1,205,962	301,491	-	1,507,453	Amend: Reduce funding from \$8,205,962/\$2,051,491 to \$1,205,962/\$301,491. Balance of federal funds \$7,000,000 moved to VMR15-401T.
Valley Metro Rail	Transit	2023	VMR15-105T	49041	I-10 WEST Phoenix	Fixed guideway corridor - Phx West - Final Design	0	0	0	13.71.02	TLCP	-----	Transit Rail	CMAQ-Flex	2016	971,130	242,783	-	1,213,913	Reduce funding from \$7,971,130/\$1,992,783 to \$971,130/\$242,783. Balance of federal funds \$7,000,000 moved to VMR15-401T2.

**TABLE C: Requested amendments and administrative modifications to the  
FY 2014-2018 MAG Transportation Improvement Program (TIP), and the 2035 Regional Transportation Plan<sup>1</sup>, TIP AMENDMENT #16**

Sort: Section, Agency, Location, Work Year

TIP Amendment #16																				
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Valley Metro Rail	Transit	2023	VMR15-106T	49041	I-10 WEST Phoenix	Fixed guideway corridor - Phx West - Final Design	0	0	0	13.71.02	TLCP	-----	Transit Rail	CMAQ-Flex	2017	1,423,100	355,775	-	1,778,875	Reduce funding from \$4,423,100/\$1,105,775 to \$1,423,100/\$355,775. Balance of federal funds \$3,000,000 moved to VMR15-401T3.
Valley Metro Rail	Transit	2023	VMR18-429T	49041	I-10 WEST Phoenix	Fixed guideway corridor - Phx West - Final Design	0	0	0	-----	TLCP	-----	Transit Rail	CMAQ-Flex	2018	6,650,539	1,662,635	-	12,063,174	Reduce funding from \$9,650,539/\$2,412,635 to \$6,650,539/\$1,662,635. Balance of federal funds \$3,000,000 moved to VMR15-401T4.
Valley Metro Rail	Transit	2016	VMR15-401T	NEW	Regionwide	Purchase Light Rail Vehicles: 8 Expansion	0	0	0	12.13.20	TLCP	-----	Transit Rail	CMAQ-Flex	2015	15,250,550	3,234,965	-	18,485,515	Amend: Add new project using funding from VMR14-108T, VMR14-434T, VMR14-435T, and VMR14-106T.
Valley Metro Rail	Transit	2016	VMR15-401T2	NEW	Regionwide	Purchase Light Rail Vehicles: 8 Expansion	0	0	0	12.13.20	TLCP	-----	Transit Rail	CMAQ-Flex	2016	4,749,450	1,007,459	-	5,756,909	Amend: Add new project using funding from VMR15-105T.
Valley Metro Rail	Transit	2016	VMR15-401T3	NEW	Regionwide	Purchase Light Rail Vehicles: 8 Expansion	0	0	0	12.13.20	TLCP	-----	Transit Rail	CMAQ-Flex	2017	3,000,000	636,364	-	3,636,364	Amend: Add new project using funding from VMR15-106T.
Valley Metro Rail	Transit	2016	VMR15-401T4	NEW	Regionwide	Purchase Light Rail Vehicles: 8 Expansion	0	0	0	12.13.20	TLCP	-----	Transit Rail	CMAQ-Flex	2018	3,000,000	636,364	-	3,636,364	Amend: Add new project using funding from VMR18-429T.

**Notes**

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FY 2014-2018 MAG Transportation Improvement Program (TIP), and the 2035 Regional Transportation Plan<sup>1</sup>, TIP AMENDMENT #16**

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TIP Amendment #16																				
Agency	Section	Work Year <sup>4</sup>	TIP ID	MAG ID	Location	Work	Miles	Lanes Before	Lanes After	Federal ID/ALI	In Life Cycle Program	TRACS/Grant ID	MAG Mode	Funding	Apport. Year <sup>3</sup>	Federal	Regional	Local	Total	TIP Change Request
Glendale	Highway	2017	GLN17-470	NEW	Citywide	Glendale Schools Support Activity Project	0	0	0	-----	None	-----	Safety	TAP-MAG	2017	43,811	-	2,648	46,459	Amend: Add new Safe Routes to School project.
Maricopa County	Highway	2017	MMA17-470	NEW	Moon Mountain, Nevitt and C.O. Greenfield Elementary Schools	Safe Routes to School Support Activity Project	0	0	0	-----	None	-----	Safety	TAP-MAG	2017	47,146	-	2,850	49,996	Amend: Add new Safe Routes to School project.
Phoenix	Highway	2017	PHX17-470	NEW	Creighton School District/Biltmore Preparatory	Safe Routes to School Framework Study	0	0	0	-----	None	-----	Safety	TAP-MAG	2017	20,746	-	1,254	22,000	Amend: Add new Safe Routes to School project.
Phoenix	Highway	2017	PHX17-471	NEW	Creighton Elementary	Safe Routes to School Support Activity Project	0	0	0	-----	None	-----	Safety	TAP-MAG	2017	20,229	-	1,223	21,452	Amend: Add new Safe Routes to School project.
Phoenix	Highway	2017	PHX17-472	NEW	Vista del Sur	Safe Routes to School Support Activity Project	0	0	0	-----	None	-----	Safety	TAP-MAG	2017	19,332	-	1,169	20,500	Amend: Add new Safe Routes to School project.
Surprise	Highway	2017	SUR17-470	NEW	Dysart School District	Walking and Biking Maps	0	0	0	-----	None	-----	Safety	TAP-MAG	2017	94,300	-	5,700	100,000	Amend: Add new Safe Routes to School project.
TAP SRTS Total:																245,563	-	14,843	260,406	

Maricopa (City)	Highway	2017	MAR17-407D	NEW	Porter Rd, Farrell Rd to 1.9 mi South	PE and final design for roadway paving	1.9	2	2	-----	None	-----	Air Quality	Local	2017	-	-	187,262	187,262	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects
Maricopa (City)	Highway	2018	MAR18-406C	NEW	Porter Rd, Farrell Rd to 1.9 mi South	Pave unpaved road	1.9	2	2	-----	None	-----	Air Quality	CMAQ	2018	707,896	-	42,789	750,685	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects
Maricopa (City)	Highway	2017	MAR17-406D	NEW	Farrell Rd, Hartman Rd to 1.4 mi West	PE and final design for roadway paving	1.38	2	2	-----	None	-----	Air Quality	Local	2017	-	-	187,262	187,262	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects
Maricopa (City)	Highway	2018	MAR18-405C	NEW	Farrell Rd, Hartman Rd to 1.4 mi West	Pave unpaved road	1.38	2	2	-----	None	-----	Air Quality	CMAQ-2.5	2018	679,381	-	41,065	720,446	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects

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Maricopa (City)	Highway	2017	MAR17-405D	NEW	Farrell Rd, 1.4 mi West of Hartman Rd to Maricopa-Casa Grande Hwy	PE and final design for roadway paving	1.45	2	2	-----	None	-----	Air Quality	Local	2017	-	-	187,262	187,262	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects	
Maricopa (City)	Highway	2018	MAR18-404C	NEW	Farrell Rd, 1.4 mi West of Hartman Rd to Maricopa-Casa Grande Hwy	Pave unpaved road	1.45	2	2	-----	None	-----	Air Quality	CMAQ-2.5	2018	679,381	-	41,065	720,446	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects	
Maricopa County	Highway	2017	MMA17-406D	NEW	Miller Rd, Tonopah-Salome Highway to Van Buren Street.	PE and final design for roadway paving	1	2	2	-----	None	-----	Air Quality	Local	2017	-	-	376,500	376,500	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects	
Maricopa County	Highway	2018	MMA18-401RW	NEW	Miller Rd, Tonopah-Salome Highway to Van Buren Street.	Right of way acquisition for roadway paving	1	2	2	-----	None	-----	Air Quality	Local	2018	-	-	36,229	36,229	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects	
Phoenix	Highway	2017	PHX17-444D	NEW	Various alleys in Phoenix	PE and final design for alley paving	23.9	2	2	-----	None	-----	Air Quality	Local	2017	-	-	64,000	64,000	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects	
Phoenix	Highway	2018	PHX18-450C	NEW	Various alleys in Phoenix	Pave unpaved alley	23.9	2	2	-----	None	-----	Air Quality	CMAQ	2018	1,532,375	-	92,625	1,625,000	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects	
Phoenix	Highway	2018	PHX18-451D	NEW	Various alleys in Phoenix	PE and final design for alley paving	29	2	2	-----	None	-----	Air Quality	Local	2018	-	-	64,000	64,000	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects	
Pinal County	Highway	2017	PNL17-405D	NEW	Midway Rd, 0.5 mi South of SR 84 to Cornman Rd	PE and final design for roadway paving	2.5	2	2	-----	None	-----	Air Quality	Local	2017	-	-	272,675	272,675	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects	
Pinal County	Highway	2018	PNL18-404C	NEW	Midway Rd, 0.5 mi South of SR 84 to Cornman Rd	Pave unpaved road	2.5	2	2	-----	None	-----	Air Quality	CMAQ	2018	1,569,630	-	126,821	1,696,451	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects	
Pinal County	Highway	2017	PNL17-406D	NEW	Stanfield Road, Talla Rd to Miller Rd	PE and final design for roadway paving	3.5	2	2	-----	None	-----	Air Quality	Local	2017	-	-	369,745	369,745	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects	
Pinal County	Highway	2017	PNL17-404D	NEW	Barnes Rd, Fuqua Rd to Stanfield Rd	PE and final design for roadway paving	1	2	2	-----	None	-----	Air Quality	Local	2017	-	-	130,000	130,000	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects	

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Salt River Pima-Maricopa Indian Community	Highway	2017	SRP17-401D	NEW	McDonald Drive Subdivision (bounded by May St, McDonald Rd, Dobson Rd and Montebello Av) and Palm In, Harris Dr to Gilbert Rd	PE and final design for roadway paving	2.13	2	2	-----	None	-----	Air Quality	Local	2017	-	-	130,000	130,000	Amend: Add new project. Project awarded funding through the CMAQ paving call for projects
CMAQ Paving Total:																5,168,663	-	2,349,301	7,517,964	
Apache Junction	Highway	2018	APJ18-460	NEW	Apache Junction (Citywide)	Install wireless communication to all Apache Junction traffic signals	0	0	0	-----	None	-----	ITS	CMAQ	2018	267,340	-	16,160	283,500	Amend: Add new project. Project awarded funding through the CMAQ ITS call for projects.
Avondale	Highway	2018	AVN18-460	NEW	Dysart Rd: Van Buren Rd to north of I-10	Install fiber backbone to connect two existing backbone runs on Dysart Rd fiber	0.5	6	6	-----	None	-----	ITS	CMAQ	2018	278,279	-	159,321	437,600	Amend: Add new project. Project awarded funding through the CMAQ ITS call for projects.
El Mirage	Highway	2018	ELM18-460	NEW	El Mirage Rd: 1300 ft N of Northern Ave to Grand Ave frontage road, Thunderbird Rd: 127th Ave to El Frio St, Peoria Ave: El Mirage Rd to 121st Ave	Install fiber , install five CCTV cameras and interconnect six traffic signals	0	0	0	-----	None	-----	ITS	CMAQ	2018	305,721	-	18,479	324,200	Amend: Add new project. Project awarded funding through the CMAQ ITS call for projects.
Glendale	Highway	2018	GLN18-460	NEW	Glendale (Citywide)	Install EVP system citywide at 48 intersections	0	0	0	-----	None	-----	ITS	CMAQ	2018	399,832	-	311,416	711,248	Amend: Add new project. Project awarded funding through the CMAQ ITS call for projects.
Goodyear	Highway	2018	GDY18-460	NEW	Elwood St: Cotton Ln to Estrella Pkwy, Cotton Ln: Estrella Pkwy to Elwood St, Estrella Pkwy: Elliot Rd to Cotton Ln, Elliot Rd: San Gabriel Dr to Estrella Pkwy	Install fiber along Elwood St, CCTV, connect two signals to TMC	0	0	0	-----	None	-----	ITS	CMAQ	2018	348,661	-	41,235	389,896	Amend: Add new project. Project awarded funding through the CMAQ ITS call for projects.
Maricopa County	Highway	2018	MMA18-460	NEW	MCDOT TMC	Upgrade TMC workstations, video wall display, network equipment, and system	0	0	0	-----	None	-----	ITS	CMAQ	2018	299,874	-	108,126	408,000	Amend: Add new project. Project awarded funding through the CMAQ ITS call for projects.

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Mesa	Highway	2018	MES18-460	NEW	Mesa (Citywide)	Install cabinets & controllers at 50 locations and establish communications	0	0	0	-----	None	-----	ITS	CMAQ	2018	780,000	-	121,000	901,000	Amend: Add new project. Project awarded funding through the CMAQ ITS call for projects.		
Scottsdale	Highway	2018	SCT18-460	NEW	Thomas Rd: 60th Street to Pima Road	Install 17 video detection cameras and TMC software	3.5	5	5	-----	None	-----	ITS	CMAQ	2018	368,713	-	22,287	391,000	Amend: Add new project. Project awarded funding through the CMAQ ITS call for projects.		
Surprise	Highway	2018	SUR18-460	NEW	Surprise (Citywide)	Develop ITS strategic plan and implementation plan	0	0	0	-----	None	-----	ITS	CMAQ	2018	141,450	-	8,550	150,000	Amend: Add new project. Project awarded funding through the CMAQ ITS call for projects.		
Tempe	Highway	2018	TMP18-460	NEW	Tempe (Citywide)	Install DMS, CCTV cameras, wireless link, bicycle detection, & EVP networking	0	0	0	-----	None	-----	ITS	CMAQ	2018	392,010	-	23,695	415,705	Amend: Add new project. Project awarded funding through the CMAQ ITS call for projects.		
																CMAQ ITS Total:		3,581,880	-	830,269	4,412,149	
Apache Junction	Highway	2018	APJ18-402	30485	Southern Avenue: Delaware Dr to Ironwood Dr	PE - ADOT Review Fee for Roadway Widening and Improvements	0.5	2	4	--	None	--	Street	STP-MAG	2018	42,865	-	2,591	45,456	Amend: New TIP listing. Project awarded funding through the Pinal County STP call-for-projects.		
Apache Junction	Highway	2018	APJ18-403	30485	Southern Avenue: Delaware Dr to Ironwood Dr	Design Roadway Widening and Improvements	0.5	2	4	--	None	--	Street	STP-MAG	2018	181,999	-	11,001	193,000	Amend: New TIP listing. Project awarded funding through the Pinal County STP call-for-projects.		
																Pinal Co STP Total:		224,864	-	13,592	238,456	

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