

February 26, 2016

TO: Members of the MAG Intelligent Transportation Systems Committee

FROM: Marshall Riegel, City of Phoenix, Chair

SUBJECT: MEETING NOTIFICATION AND TRANSMITTAL OF TENTATIVE AGENDA

Wednesday, March 9, 2016- **10:00 a.m.**  
MAG Office Building, 2<sup>nd</sup> Floor, Ironwood Room  
302 North First Avenue, Phoenix

The ITS Committee has been scheduled at the time and place noted above. Committee members or their proxies may attend **in person or by video conference or by telephone conference call**. Those attending by telephone conference call please contact MAG offices for conference call instructions.

Please park in the garage under the MAG building, bring your ticket, parking will be validated. For those using transit, Valley Metro/RPTA will provide transit tickets for your trip. For those using bicycles, please lock your bicycle in the bike rack in the garage.

In 1996, the Regional Council approved a simple majority quorum for all MAG advisory committees. If the ITS 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.

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 Leila Gamiz at the MAG office. Requests should be made as early as possible to allow time to arrange the accommodation.

If you have any questions regarding the meeting, please contact Sarath Joshua at (602) 254-6300.

## TENTATIVE AGENDA

	<u>COMMITTEE ACTION REQUESTED</u>
<p>1. <u>Call to Order</u></p> <p>For the March 9, 2016 meeting, the quorum requirement is 10 committee members.</p>	
<p>2. <u>Approval of the January 6, 2016 ITS Committee Meeting Minutes</u></p>	2. Review and approve minutes of the meeting held on January 6, 2016.
<p>3. <u>Call to Audience</u></p> <p>An opportunity will be provided to members of the public to address the ITS 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. Members of the public 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 ITS Committee requests an exception to this limit. Please note that those wishing to comment on action agenda items will be given an opportunity when the item is heard.</p>	3. For information and discussion.
<p>4. <u>Program Managers Report</u></p> <p>The following items will be discussed:</p> <ul style="list-style-type: none"><li>• Status of TSOP Projects</li><li>• ITS &amp; Safety On-Call RFQ</li><li>• First Year Evaluation Results from DPS Co-location at TOC</li><li>• Report on the RCN</li></ul>	4. For information and discussion.
<p>5. <u>Use of ARID to Generate Arterial Traffic Congestion Map</u></p> <p>The City of Mesa has implemented an ITS project, funded through the MAG TIP, that has installed a network of traffic sensors that generates information to help improve traffic operations. A total of 82 Anonymous Re-identification sensors (ARID) have been installed across the city street network to gather travel time and traffic speed data by</p>	5. For information and discussion.

matching encoded media access control (MAC) addresses from passing mobile devices. The information gathered using data from these sensors enable traffic operations staff to identify and respond faster to crashes and other non-recurring traffic events.

A brief presentation will be provided on how this project has helped improve traffic operations in the City of Mesa.

6. Status of Autonomous Vehicles (AVs), Connected Vehicles (CVs) & Potential Impact on Traffic Operations

Recent developments in Autonomous and Connected Vehicle technology have created some uncertainty about future transportation infrastructure needs, future modes of travel etc. One of the responsibilities of the committee is to make recommendations to policy makers on technology-related solutions for making the region's transportation system safer and more efficient. A recent example of such a recommendation is the pilot project to co-locate DPS officers at the Traffic Operations Center.

Brief status reports will be provided on AV and CV technologies, followed by an open discussion on the likely impacts of the latest developments and forecasts in AVs and CVs. The committee will identify issues and challenges related to local agency readiness, to accommodate AVs and CVs, from a traffic management and operations viewpoint. The observations and comments generated may help define realistic future scenarios for regional transportation planning. The following topics will be discussed:

1) Autonomous Vehicles - What challenges might AVs pose to: freeway and arterial street operations, intersection operations. The current AV concept is that they are totally self-reliant with driving functions that mimic those of a human driver.

6. For information and discussion.

2) SPaT Data - CVs are being designed and tested to be able to navigate both freeways and city streets and utilize real-time traffic signal status information such as Signal Phase and Timing (or SPaT) data. Signal status information is dynamic and is currently not shared by local agencies that operate traffic signal systems. How ready are agencies to sharing real-time SPaT data streamed from an agency server? What are the issues and challenges?

Issues identified during this committee discussion could be provided as input to the USDOT for use in the national CV development efforts.

7. Reports by Committee Members

Members will be provided an opportunity to share information related to ongoing ITS activities in their jurisdictions.

8. Request for Future Agenda Items

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

9. Next Meeting Date and Place

The next meeting is scheduled to be held at 10:00 a.m. on Wednesday, April 6, 2016. It will be held in the Ironwood Room on the 2<sup>nd</sup> Floor of the MAG office building.

Adjournment

7. For information and discussion.

8. For information and discussion.

9. For information.

**DRAFT MINUTES OF THE  
MARICOPA ASSOCIATION OF GOVERNMENTS  
INTELLIGENT TRANSPORTATION SYSTEMS COMMITTEE**

January 6, 2016  
MAG Ironwood Room, 2nd Floor  
302 North First Avenue  
Phoenix, Arizona

MEMBERS ATTENDING

# Lydia Warnick for Reza Karimvand, ADOT	Luke Albert, City of Goodyear
# Yingyan Lou, ASU Chris Hamilton, City of Avondale Mike Mah, City of Chandler	# Faisal Saleem for Nicolaas Swart, Maricopa County Avery Rhodes, City of Mesa Steve McKenzie, City of Peoria Marshall Riegel, City of Phoenix Steve Ramsey, City of Scottsdale Albert Garcia, City of Surprise
* Captain Burley Copeland, DPS Bryce Christo, City of El Mirage	# David Lucas, City of Tempe Abhishek Dayal, Valley Metro
* Toni Whitfield, FHWA	
# Leslie Bubke, Town of Gilbert	
* Debbie Albert, City of Glendale	

OTHERS PRESENT

Saroja Devarakonda, HDR	Dan Hartig, Ayres
Felipe Ladron, Kittelson	Doug McCants, Horrocks
Vinay Vanapalli, Stantec	Marta Gerber, Baker
Jeff Jenq, OZ Engineering	Sarah Simpson, UCG
Srini Goundla, PB	Scott Kelley, AMEC FW
Krishna Anantuni, PB	Jothan Samuelson, Wilson
Don Tappendorf, TEC	Margaret Boone, MAG
Arnab Gupta, AECOM	Ryan Gish, MAG
Lisa Burgess, Kimley-Horn	Micah Henry, MAG
Anita Johari, ASJ	Sarath Joshua, MAG
Don Wiltshire, YSMA	Eric Nava, MAG

- \* Not present or represented by proxy
- # Participated by teleconference
- + Participated by videoconference

1. Call to Order  
Chair Marshall Riegel called the meeting to order at 10:00 a.m.
  
2. Approval of the December 2, 2015 ITS and TAG Joint Meeting Minutes  
Chair Riegel requested approval of the meeting minutes from the December 2<sup>nd</sup> ITS and TAG Joint meeting minutes. Chair Riegel with City of Phoenix identified a spelling correction in Item 3. **Albert Garcia from City of Surprise moved, Bryce Christo from City of El Mirage seconded, and it was unanimously carried to approve the minutes, with the corrections noted, of the meeting held on December 2, 2015.**

3. Approval of the December 2, 2015 ITS Committee Meeting Minutes  
Chair Riegel requested approval of the meeting minutes from the December 2<sup>nd</sup> ITS Committee meeting. **Chris Hamilton from City of Avondale moved, Albert Garcia from City of Surprise seconded, and it was unanimously carried to approve the minutes of the meeting held on December 2, 2015.**
4. Call to Audience  
Chair Riegel made a call to the audience providing an opportunity for any members of the public to address the ITS Committee. No comments were received.
5. Program Manager's Report  
Chair Riegel invited Sarath Joshua from MAG to present the Program Manager's Report. Mr. Joshua addressed the following items in his report:
  - **Status of TSOP Projects:**  
For FY2015 TSOP projects ten out of the eleven projects have been completed. The task order for the final project for the I-10 ICM Final Phase is being developed. For FY2016 TSOP projects, a total of eight (8) projects have been identified, including the Before and After Evaluation and the Synchro training. TRC recommended approval on December 17, 2015 and the projects are on the Management Committee agenda on January 6, 2016 for recommendation. It is anticipated that the projects will be approved by Regional Council on January 27, 2016.
  - **Traffic Incident Management Summit**  
The Traffic Incident Management (TIM) Summit was held on December 9<sup>th</sup> & 10<sup>th</sup>, sponsored by the National Operations Center for Excellence, and hosted by ADOT, DPS, and Maricopa County. The topics discussed at the workshop included collaboration, TIM training facility in Tennessee, linking TIM to safety, effective TIM policies and procedures, TIM data and performance measures, and advancing TIM in the region through a potential TIM training facility in Glendale. During the workshop the need was identified for additional TIM modules for addressing arterial traffic operations managed by local agencies.
  - **MAG Project Initiation Pool**  
The MAG Project Initiation Pool is available each year from October 1<sup>st</sup> through December 31<sup>st</sup>. The pool provides \$2,829 in federal funding to local agencies to help initiate the project obligation process at ADOT. It requires a matching amount of \$171.
  - **DPS Co-location at the TOC**  
The first year results from the DPS Co-location Pilot Project have been compiled. The media event to present the findings is to be held at the ADOT TOC on January 19, 2016.
  - **ITS & Safety On-Call Request for Qualifications**  
The current contracts for the MAG ITS & Safety On-Call Consulting Services end in September 2016. The Request for Qualifications for the subsequent three-year on-call contracts is planned to be released at the end of January 2016

or early February 2016, with new contracts in place by August 2016.

➤ TIP Close-Out Funds for FY2016

A total of \$4.6M is available in FY2016 Close-out funds to be programmed for eligible projects. ITS projects recommended for FY2018 and FY2019 are eligible to be advanced to the current fiscal year, provided that the projects are ready to be authorized by ADOT by June 1, 2016. Requests for Close-out funds must be submitted in writing to Teri Kennedy with MAG by Friday, January 15, 2016. City of Scottsdale has one eligible project being advanced to the current fiscal year. Faisal Saleem with MCDOT requested the deadline for establishing clearances for projects. Clearances need to be in place by June 1<sup>st</sup>, but project requests still need to be submitted to MAG by January 15<sup>th</sup>. Mr. Joshua will send out an email detailing requirements to the Committee.

6. Emergency Vehicle Pre-emption Study

Chair Riegel invited Micah Henry with MAG to discuss the next steps for the on-going Emergency Vehicle Pre-emption (EVP) Study. The study conducted a comprehensive review of EVP practices, identified best practices and recommended potential practices for the MAG region to follow. The study also compiled an inventory of regional EVP installations and practices. The draft final report has been reviewed and all comments received from the ITS Committee have been addressed in the final report.

The final report identified the findings of the research, summarized the state of the practice, identified regional opportunities, developed recommendations for improving operations, and recommended follow-up actions and future coordination efforts. The recommendations include forming a regional EVP coordination forum/working group to identify feasible technologies for system interoperability, identify a methodology and a transition schedule for system interoperability, identify operations for preemption phasing, and develop a consensus on confirmation lights. The regional EVP working group would coordinate a workshop to develop a regional consensus for adopting the Final Report recommendations, establish a vision/charter agreement, develop a strategy for interoperability, identify EVP phasing and confirmation lights use, and identify costs and form a unified direction for EVP procurement and implementation. The forthcoming FY2017 UPWP project is anticipated for approval and would develop regional EVP coordination for unified operations.

Through the review of the study by the committee, the report will be revised to reflect the state of the practice and identify future opportunities to develop regional consensus. Additional data was requested to be added to the report. This included the ratio of intersections with EVP operations that use concurrent phasing for preemption and those that preempt a single approach for the emergency vehicle. Clarification of confirmation lights was also requested to reflect the total number of intersections with confirmation lights coordinated with EVP operations. MAG staff will solicit this data from member agencies to compile the information in the revised Final Report.

Abhishek Dayal with Valley Metro asked about the light rail interface with EVP operations. In the City of Phoenix, EVP is not deployed on the light rail alignment. Avery Rhodes with City of Mesa stated that the city has deployed EVP at all light rail intersections. The 25 locations operate similar to other intersections deployed with EVP. David Lucas with City of Tempe stated that EVP is deployed at all 29 intersections on the

light rail alignment.

Member agencies have been asked to submit the requested information to MAG staff by January 22<sup>nd</sup>, which will then be incorporated into the revised Final Report. Following committee acceptance of the Final Report, planning will begin for the next steps for follow-up action including a regional workshop for EVP stakeholder discussion.

7. Developing Traffic Management Response Plans for Freeway Closures

Chair Riegel invited Sarath Joshua and Eric Nava with MAG to discuss the ongoing effort to develop traffic management response plans for freeway closures. Several past TSOP projects involved the development of corridor arterial traffic management plans that would be utilized whenever the arterial is impacted by a major diversion of traffic from a parallel freeway. One of these projects addressed the I-10 segment between I-17 and Loop 101 Agua Fria. The second project addressed the US-60 corridor between I-10 and Loop 101 Price. Another project will address US-60 east of Loop 101. Each of these projects involves close coordination with the local agencies, ADOT, and DPS. A process similar to that being followed in the national Integrated Corridor Management (ICM) demonstration projects is being followed, including the Analysis, Modeling, and Simulation (AMS) plan using the MAG DynusT model.

The identified objectives during a major diversion of freeway traffic are to minimize freeway queuing and to minimize impact to arterials using signal strategies. The process involved in this effort is specific to individual agency needs and expectations. Task orders identify previous efforts to continue and improve. For these projects the consultant is conducting the field investigation, data collection of timing plans, development of strategies, and reporting. MAG is conducting the scenario modeling and strategy deployment through the DynusT model.

The AMS methodology involves understanding system dynamics at the corridor level, identifying corridor-level performance metrics, and using a flexible and iterative approach to adopt various conditions. Evaluation metrics include minimizing queues, total volume throughput, and minimizing delay. The modeling effort may also reveal a wider area of impact where adjacent streets are also impacted by the strategies. It is necessary to establish robust coordination among all project partners, including the member agency, MAG, and the consultant.

Mr. Joshua opened up the discussion on relaying information of diversion routes to the public. Steve Ramsey with City of Scottsdale highlighted his lessons learned by stating that the public needs to be informed on where to go during a road closure. The general public also tends to utilize the nearest alternative regardless of other planned diversion routes. Effective communication strategies for the public also need to be explored. Faisal Saleem identified the MCDOT strategy to leverage REACT responders for dynamic responses. During a typical incident, a REACT responder will go to the MCDOT TMC to coordinate the response effort.

Mr. Joshua identified the need for possibly consolidating closure information to a single source. Mr. Saleem stated that in meetings with media members they have indicated that they receive information through tweets which are then relayed to the radio. Planned construction zones are typically emailed. Chair Riegel suggested closer coordination with local media members to determine the best method of delivering closure

information. Mike Mah stated that signal timing during road closures should reflect where drivers desire to go based on the simulation model. Any spare capacity should be maximized for the parallel routes without penalizing cross street volumes. Mr. Ramsey stated that the focus should be on creating managed routes but need to be prepared to react to the changing demand during an incident. Abhishek Dayal with Valley Metro asked about the modeling capabilities for deviation of transit routes. Eric Nava responded that the DynusT model currently does not have the ability to model transit schedule adherence, but travel times can be developed based on the planned diversion routes.

8. Reports by Committee Members

Chair Riegel called on members to report items of interest to the committee. Faisal Saleem with MCDOT provided an update on the arterial traveler information project, a regional ITS project funded with CMAQ. Through this project MCDOT has been successful in capturing construction event data from City of Mesa and City of Glendale databases and depicting them in RADS. Next steps include receiving data from other agencies and integrating into RADS and AZ511. The RADS database is updated multiple times a day and shows construction activities as current as the data available. Chair Riegel stated that the Bell Road Adaptive Traffic Signal Control System procurement is still on-going with regards to vendor selection. Updates will be provided as the project develops. Lydia Warnick with ADOT stated that the “Plan Your Route” feature on ADOT’s website was available to deal with the traffic anticipated from the scheduled championship game. Major events are scheduled in downtown Phoenix as well.

9. Request for Future Agenda Items

Chair Riegel called on members to request future agenda items. There were no requests.

10. Next Meeting Date and Place

Chair Riegel noted that the next meeting will be held at 10:00 a.m. on Wednesday, February 3, 2016, in the Ironwood Room (2<sup>nd</sup> floor) at MAG.

11. Adjournment

Chair Riegel adjourned the meeting at 11:00 a.m.