

April 9, 2013

TO: Members of the Transportation Policy Committee

FROM: Mayor W. J. "Jim" Lane, City of Scottsdale, Chair

SUBJECT: NOTIFICATION OF MEETING AND TRANSMITTAL OF TENTATIVE AGENDA

Meeting - 12:00 noon  
Wednesday, April 17, 2013  
MAG Office, Suite 200 - Saguaro Room  
302 N. First Avenue, Phoenix

A meeting of the Transportation Policy Committee is scheduled for the time and place noted above. Members of the Committee may attend the meeting either in person, by videoconference, or by telephone conference call. As determined at the first meeting of the Committee, proxies are not allowed. Members who are not able to attend the meeting are encouraged to submit their comments in writing, so that their view is always a part of the process.

For those attending in person, please park in the garage under the building. Bring your ticket to the meeting, parking will be validated. For those using transit, the Regional Public Transportation Authority will provide transit tickets for your trip. For those using bicycles, please lock your bicycle in the bike rack in the garage.

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

Refreshments and a light luncheon will be provided. If you have any questions, please contact Dennis Smith, MAG Executive Director, or Eric Anderson, MAG Transportation Director, at (602) 254-6300.

c: MAG Regional Council  
MAG Management Committee

**TRANSPORTATION POLICY COMMITTEE  
TENTATIVE AGENDA  
April 17, 2013**

COMMITTEE ACTION REQUESTED

1. Call to Order

2. Pledge of Allegiance

3. Call to the Audience

An opportunity will be provided to members of the public to address the Transportation Policy 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 Policy Committee requests an exception to this limit. Please note that those wishing to comment on agenda items posted for action will be provided the opportunity at the time the item is heard.

3. Information.

**MINUTES FOR APPROVAL**

4. Approval of the March 20, 2013, Meeting Minutes

4. Review and approval of the March 20, 2013, meeting minutes.

**ITEMS PROPOSED TO BE HEARD**

5. Transportation Funding Overview

The recession and the decline in Proposition 400 sales tax revenue has resulted in a number of program revisions over the past five years. Over the life of the 20-year sales tax, the estimated revenues expected to be collected are about 40 percent lower than the original projections. The recession and slow recovery have also significantly impacted the Arizona Highway User Revenue Fund (HURF), especially with the diversion in FY 2012 of almost 20 percent of the HURF revenues to other purposes. Federal transportation funds also have been affected with the national highway trust fund expected to be out of funds by 2015. Staff will present background information

5. Information, discussion and input.

concerning all three transportation funding sources and the prospects for future funding.

6. Update on Transportation Division Planning Projects

Since voter approval of Proposition 400 in 2004, MAG's Transportation Planning Division has conducted more than 16 technical studies to identify the evolving needs for transportation facilities and services throughout the Valley. Recommendations from these studies are influencing the overall planning process at MAG as staff initiates efforts to establish the next generation of the Regional Transportation Plan. Some of these studies include the Central Phoenix Transportation Framework Study, the Sun Corridor Freight Transportation Framework Study, Interstate 11 planning efforts, the US-60/Grand Avenue Corridor Optimization, Access Management Plan, and System Study (COMPASS), Sustainable Transportation and Land Use Integration Study, continuing study of the Interstate 10 and Interstate 17 Central Freeway Corridor (also known as the Spine), and the MAG Managed Lanes Network Development Strategy - Phase I. In this presentation, the Transportation Policy Committee will be provided an update on these planning studies as well as how these efforts inter-relate into establishing the next generation of the MAG Regional Transportation Plan. Please refer to the enclosed material.

7. Recommendation from the MAG Managed Lanes Network Development Strategy - Phase I Study

On November 15, 2010, the MAG Regional Council authorized procurement of consultant services to develop the MAG Managed Lanes Network Development Strategy - Phase I project. This multi-phase effort was in response to consideration for public-private-partnership (P3) opportunities in the Phoenix Metropolitan Area where high occupancy vehicle (HOV) lanes could be operated as high occupancy toll (HOT) lanes as part of an overall managed lanes strategy. Since the last presentation on this project to the Transportation Policy Committee in October

6. Information and discussion.

7. Information, discussion, and review of the recommendations, and possible action to recommend approval to move on to Phase II of the MAG Managed Lanes Network Development Strategy project.

2012, the study team has completed this phase of the project and has made the recommendation to actively pursue implementing a broad array of enhanced mobility options, including the use of managed lanes, congestion pricing, active traffic management, and other similar innovative transportation solutions to accommodate travel demand. Implementation of this recommendation would be identified and studied further in Phase II of this project. Details of their recommendation are summarized in the Phase I Executive Summary that is attached to this agenda. Please refer to the enclosed material.

8. ADOT Passenger Rail Study, Tucson to Phoenix

The Arizona Department of Transportation (ADOT) Passenger Rail Study has concluded a public outreach effort pertaining to several options for alternative transportation modes between Tucson and Metro Phoenix. ADOT staff will present the results of this outreach and an update on study progress. Please refer to the enclosed material.

9. Legislative Update

An update will be provided on legislative issues of interest.

10. Request for Future Agenda Items

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

11. Comments from the Committee

An opportunity will be provided for Transportation Policy Committee members to present a brief summary of current events. The Transportation Policy Committee is not allowed to propose, discuss, deliberate or take action at the meeting on any matter in the summary, unless the specific matter is properly noticed for legal action.

Adjournment

8. Information and discussion.

9. Information, discussion, and possible action.

10. Information and discussion.

11. Information.

MINUTES OF THE  
MARICOPA ASSOCIATION OF GOVERNMENTS  
TRANSPORTATION POLICY COMMITTEE MEETING

March 20, 2013  
MAG Office, Saguaro Room  
Phoenix, Arizona

MEMBERS ATTENDING

Mayor W. J. “Jim” Lane, Scottsdale, Chair  
Mayor Jackie Meck, Buckeye, Vice Chair  
# F. Rockne Arnett, Citizens Transportation  
Oversight Committee  
Ron Barnes, Total Transit  
Councilmember Cathy Carlat, Peoria  
Dave Berry, Swift Transportation  
\* Jed Billings, FNF Construction  
Vice Mayor Ben Cooper, Gilbert  
\* Mayor Mark Mitchell, Tempe  
\* Councilmember Dick Esser, Cave Creek  
Joseph La Rue, State Transportation Board

\* Mark Killian, The Killian Company/Sunny  
Mesa, Inc.  
\* Lt. Governor Stephen Roe Lewis, Gila River  
Indian Community  
\* Garrett Newland, Macerich  
# Mayor Marie Lopez Rogers, Avondale  
Mayor Georgia Lord, Goodyear  
Mayor Jerry Weiers, Glendale  
Vice Mayor Jack Sellers, Chandler  
\* Mayor Scott Smith, Mesa  
\* Mayor Greg Stanton, Phoenix  
Karrin Kunasek Taylor, DMB Properties  
\* Vacant, Maricopa County  
Mayor Sharon Wolcott, Surprise

\* Not present

# Participated by telephone conference call

+ Participated by videoconference call

1. Call to Order

The meeting of the Transportation Policy Committee (TPC) was called to order by Chair W. J. “Jim” Lane at 12:05 p.m.

2. Pledge of Allegiance

The Pledge of Allegiance was recited.

Mayor Marie Lopez Rogers and Mr. Roc Arnett participated in the meeting by telephone.

Chair Lane welcomed Peoria Councilmember Cathy Carlat to her first TPC meeting.

Chair Lane requested that members of the public fill out blue cards for Call to the Audience and yellow cards for consent or action items on the agenda, and then turn in the cards to staff, who will bring them to him. He stated that parking garage validation and transit tickets for those who used transit to attend the meeting were available from staff.

3. Call to the Audience

Chair Lane stated that an opportunity is provided to the public to address the Transportation Policy Committee on items that are not on the agenda that are within the jurisdiction of MAG, or non action agenda items that are on the agenda for discussion or information only. 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 Policy Committee requests an exception to this limit. Those wishing to comment on agenda items posted for action will be provided the opportunity at the time the item is heard.

Chair Lane noted that no comment cards had been received.

4. Approval of Consent Agenda

Chair Lane stated that agenda items #4A, #4B, #4C, and #4D were on the consent agenda. He stated that public comment is provided for consent items. Chair Lane asked members if they would like to remove any of the consent agenda items or have a presentation. No requests were noted. No public comment cards were received.

Mr. La Rue moved to recommend approval of agenda items #4A, #4B, #4C, and #4D on the consent agenda. Vice Mayor Sellers seconded, and the motion carried unanimously.

4A. Approval of the January 23, 2013, Meeting Minutes

The Transportation Policy Committee, by consent, approved the January 23, 2013, meeting minutes.

4B. Amendments and Administrative Modifications to the FY 2011-2015 MAG Transportation Improvement Program, and Changes to the Regional Transportation Plan 2010 Update for FFY 2013 MAG Closeout Funds: Design Phase for FY 2015 Congestion Mitigation and Air Quality Projects

The Transportation Policy Committee, by consent, recommended approval of the Congestion Mitigation and Air Quality (CMAQ) projects for a design phase that will authorize in FFY 2013, up to the maximum federal share of 94.3 percent of eligible project costs and of the necessary amendments and administrative modifications to the FY 2011-2015 MAG Transportation Improvement Program, and as appropriate, changes to the Regional Transportation Plan 2010 Update. To ensure that all estimated levels of Congestion Mitigation and Air Quality (CMAQ) Obligation Authority (OA) is fully programmed for Federal Fiscal Year (FFY) 2013, the recommendation from the modal committees in December 2012 and January 2013 was to fund a design phase for the proposed FY 2015 CMAQ construction projects. The MAG Regional Council approved the final list of FY 2015 CMAQ construction and procurement projects on February 27, 2013. For projects to receive design phase federal funding, the project sponsor must submit related project information to the Arizona Department of Transportation no later than June 28, 2013. On February 28, 2013, the MAG Transportation Review Committee recommended approval of this

item. This item was recommended for approval on February 28, 2013, the MAG Transportation Review Committee, and on March 13, 2013, by the MAG Management Committee.

4C. Project Changes – Amendment and Administrative Modification to the FY 2013 Arterial Life Cycle Program, FY 2011-2015 MAG Transportation Improvement Program and the Regional Transportation Plan 2010 Update

The Transportation Policy Committee, by consent, recommended approval of amendments and administrative modifications to the FY 2011-2015 MAG Transportation Improvement Program, FY 2013 Arterial Life Cycle Program, and as appropriate, to the Regional Transportation Plan 2010 Update. The Fiscal Year (FY) 2011-2015 MAG Transportation Improvement Program and Regional Transportation Plan 2010 Update were approved by the MAG Regional Council on July 28, 2010, and have been modified twenty-three times with the latest modification approved on February 27, 2013. Since then, there is a need to modify projects in the programs. Refer to Tables A, B, and C for a list of proposed administrative corrections and project changes in the Arterial Life Cycle, Highway, and Transit Programs. These modifications are mainly minor adjustments to financial information. This item was recommended for approval on February 28, 2013, the MAG Transportation Review Committee, and on March 13, 2013, by the MAG Management Committee.

4D. Amendments and Modification to the FY 2011-2015 Transportation Improvement Program, the Regional Transportation Plan 2010 Update, and Inclusion in the Draft FY 2014-2018 Transportation Improvement Program, and Draft 2035 Regional Transportation Plan for the Transportation Alternatives Program

The Transportation Policy Committee, by consent, recommended approval of the scenario for short term and long term programming methodologies and of the associated amendments and modification to the FY 2011-2015 Transportation Improvement Program (TIP), the Regional Transportation Plan 2010 Update, and for inclusion in the Draft FY 2014-2018 TIP, and Draft 2035 Regional Transportation Plan as appropriate. Under Moving Ahead for Progress in the 21st Century (MAP-21), a new Transportation Alternatives program allocates funding to regional planning organizations for programming. Federal Fiscal Year (FFY) 2013 and 2014 Transportation Alternatives funds are estimated at \$4.2 million and \$4.8 million respectively. Transportation Enhancement projects and Safe Routes to School projects, previously programmed by the Arizona Department of Transportation for FY 2013 and FY 2014, have sunset under MAP-21. This item was recommended for approval on February 28, 2013, the MAG Transportation Review Committee, and on March 13, 2013, by the MAG Management Committee.

5. Proposed Major Amendment to the MAG Regional Transportation Plan to Add the Light Rail Transit Extension on Main Street: Mesa Drive to Gilbert Road

Eileen Yazzie, MAG staff, provided a report on the proposed major amendment to the MAG Regional Transportation Plan to add the light rail transit extension on Main Street: Mesa Drive to Gilbert Road. Ms. Yazzie noted that this is the final step in the approval process of the proposed major amendment. She noted that the Transportation Policy Committee last received a presentation on this item in October 2012 from Eric Anderson.

Ms. Yazzie stated that on January 23, 2013, the Transportation Policy Committee recommended approval of the proposed major amendment subject to the necessary air quality conformity analysis. She explained that the project, which is estimated to cost \$133 million, is to add a 1.9 mile light rail transit extension to the light rail segment already under construction. Ms. Yazzie noted that the project cost includes right-of-way, design, and construction. She displayed a map of the project area. Ms. Yazzie stated that funding is obtained from the removal of federal funds from Arterial Life Cycle Program projects.

Ms. Yazzie reviewed prior committee actions. She said that the amendment process began in October 2012, the Transportation Policy Committee and Regional Council took action to approve the concept and request consultation on proposed major amendment, which triggered the major amendment process. Ms. Yazzie stated that consultation on the proposed major amendment is required with the State Transportation Board, the Regional Public Transportation Authority (RPTA), and the Maricopa County Board of Supervisors. She noted that all three agencies took action to support the amendment. Ms. Yazzie stated that the MAG Management Committee, the Transportation Policy Committee, and Regional Council took action toward approval of the amendment subject to the necessary air quality conformity analysis.

Ms. Yazzie stated that the air quality conformity analysis process is now complete and a recommendation to approve the technical modifications and amendments to the Regional Transportation Plan (RTP) and the Transportation Improvement Program (TIP), is being requested.

Chair Lane asked for confirmation that action today was a technical approval, and action was past determining making a major amendment, which was done at previous meetings. Ms. Yazzie replied that was correct.

Mr. Berry asked for clarification of funding firewalls that were established in Proposition 400. Mr. Anderson noted that the firewalls applied only to Proposition 400 sales tax funding, and the funds being put toward the light rail project are federal funds.

Mr. Berry asked if this was the first major amendment of the RTP between modes. Mr. Anderson replied that he believed it was.

Vice Mayor Sellers moved to recommend approval of the proposed major amendment to the Regional Transportation Plan to add a 1.9 mile light rail transit extension on Main Street, from Mesa Drive to Gilbert Road, the removal of federal Surface Transportation Program (STP) funds totaling \$153,366,043 (2011\$) from sixteen (16) Arterial Life Cycle Program (ALCP) projects, and of the amendments and administrative modifications the Regional Transportation Plan 2010 Update, Arterial Life Cycle Program, and the FY 2011-2015 MAG Transportation Improvement Program.

Mr. Barnes seconded. Before a vote was taken, Mr. Barnes expressed that as a Mesa resident, he was pleased to see this placement of funds based on the ever-changing needs of the community. He said that he was at a meeting where an update of the general plan was being discussed. He said

that the entire general plan is based on the benefits this light rail will bring. Mr. Barnes stated that he is very supportive of this project.

Chair Lane clarified that his earlier statements were to note that action was implement the numbers and previous discussions centered on the actual project change. Ms. Yazzie noted that Chair Lane was correct – this was the final step in the major amendment process. Chair Lane stated that this is a unique process and would need to be followed each time there is a major amendment. Ms. Yazzie replied that the major amendment process for the Regional Transportation Plan is written in state statute and is not mode specific. She noted that there have been two previous major amendments to the Regional Transportation Plan (one for light rail and one for SR-143/SR-153). Chair Lane confirmed that this was the shifting of federal funds and not Proposition 400 funds. Ms. Yazzie replied that was correct. She explained that Proposition 400 sales tax funds are firewalled by mode.

The vote on the motion passed unanimously.

#### 6. Transportation Funding Overview

Mr. Anderson stated that there is an effort underway to update the Regional Transportation Plan, which was developed ten years ago and formed the basis for Proposition 400. He said that the world has changed since then: the increase in construction costs in 2006, the opening of the Red Mountain Freeway, the connection of Interstate 17 with Loop 303, the passage of Proposition 400, the opening of light rail, the unprecedented increase in gasoline prices, the distressed property market, and the fiscal cliff.

Mr. Anderson noted that Proposition 400 revenues started to go negative in September 2007 and this trend continued for 39 months. He noted that the negative growth in sales tax was an unprecedented occurrence in this region. Mr. Anderson displayed a chart of projections done in 2003 for the Regional Transportation Plan and compared it to current sales tax projections – a gap of about \$6 billion. He noted that there has been some recovery, but about ten years of revenue growth and economic activity were lost.

Mr. Anderson noted that the recovery period has been longer than originally hoped. He said there has been some positive activity in the housing market and some positive announcements with Intel and General Motors, but we are still far away from the best times.

Mr. Anderson discussed sources and uses of the Arizona Highway User Revenue Fund (HURF), which is another major source of transportation funding. He said that 2012 revenue totaled \$1.2 billion. Mr. Anderson stated that approximately half of HURF goes to ADOT to fund operations, pay debt service, and match federal funds. He stated that cities receive about 19 percent and counties receive about 30 percent. He then addressed HURF diversions, which include \$1 million for the economic strength fund and about \$235 million for other uses. Mr. Anderson stated that other uses for 2013 and 2014 HURF total about \$126 million for each year. He noted that the \$126 million for 2014 is to go to the Department of Public Safety.

Mr. Anderson displayed a comparison of the 2003 and current projections for the HURF. He noted that the growth prospects for HURF are much worse than the sales tax. Mr. Anderson pointed out a \$7.5 billion reduction over the life of the RTP in projections which needed to be accommodated, referencing the rebalancing of the highway program in 2009 in the amount of \$6.6 billion and the \$380 million reduction last year. Mr. Anderson remarked that another rebalancing might be needed.

Mr. Anderson compared uses of the HURF revenue, which is vital to municipalities for their streets. He said that in 2000, cities received approximately \$306 million, or 30 percent, of the approximate \$1 billion in HURF revenue. In 2012, even though revenue was higher (approximately \$1.2 billion), cities received less (approximately \$304 million, or 25 percent). Mr. Anderson pointed out that in 2000, \$25.5 million was diverted to the Other Purposes category (to the Department of Public Safety and/or General Fund). In 2012, this amount increased to approximately \$235 million.

Mr. Anderson stated that over the years, threats to the HURF besides diversions, have included the fixed tax per gallon of gas with no adjustment for inflation, increased fuel economy standards, increased utilization of alternative fuel vehicles, reduced driving due to increased gas prices, and reduced growth in the vehicle license tax.

Mr. Anderson stated that the gas tax and diesel usage tax represent more than half of the HURF and 92 percent of the source of national funding. He stated that the gas tax is fixed at 18 cents per gallon in most states, the same amount since 1991. Mr. Anderson noted that if the tax was indexed for inflation with the consumer price index, the gas tax amount would now be 30 cents per gallon. Mr. Anderson advised that this could have meant an additional \$400 million of revenue for 2012. He stated that fuel economy standards for new cars per federal guidelines are expected to continue to improve – to 56.5 miles per gallon in 2025 from the current 33 miles per gallon in 2012, and this impacts the gas tax collections. Mr. Anderson stated that due to the increase in fuel economy, the gas tax rate in 25 years is expected to see a 25 percent reduction in revenue, and this amount is 35 percent to 40 percent when inflation is factored in.

Mr. Anderson stated that there is a movement to liquefy natural gas, which has no fuel taxes. Whether this could impact use fuel taxes or not is unknown. He noted that with diesel fuel at more than \$4 per gallon, fleet operators will be looking at ways to save money on fuel costs. Mr. Anderson stated that he felt zero greenhouse emissions would have a great impact on future revenues.

Mr. Anderson stated that to deal with these issues, 33 states have raised their gas taxes over the last 20 years. He said that Arizona ranks near the bottom, at 14 cents per gallon, and the average in surrounding states is almost 50 cents per gallon. Mr. Anderson stated that transportation infrastructure is being discussed in other states – it was mentioned in 14 state-of-the-state addresses. He explained that Nevada has a local option gas tax and Reno had a voter-approved measure to index its gas tax and then it could keep the revenue itself.

Mr. Anderson stated that legislation about to be signed by the Governor in Virginia replaces the cents per gallon tax with a percentage tax. In Wyoming, legislation was enacted to increase the 14 cents per gallon gas tax to 24 cents per gallon. In Maryland, the Transportation Investment Act of 2013 reduces the per gallon gas tax but indexes the gas tax rate to inflation. Mr. Anderson stated that Oregon is going to require per mile fees for high efficiency vehicles after 2015. He stated that they see the gas taxes as a dying source of revenue.

Mr. Anderson stated that other states fund transportation with such things as general funds, fuel taxes, and department of motor vehicle fees. He said that there was one bill at the Arizona Legislature to fund a study of alternatives to the gas tax, but it did not pass. Mr. Anderson displayed a chart of the gas tax rates by state, and noted that the highest rate is in New York, at 50 cents per gallon.

Mr. Anderson stated that the HURF needs to be fixed by stopping the diversions and returning the fund to the statutory limit of \$20 million annually; raising the fuel tax and indexing it for future inflation; and replacing the fuel tax with alternative mechanisms. He said that fossil fuel prices will continue to escalate and likely there will be increased regulation on greenhouse gas emissions.

Mr. Anderson stated that the MAG region has three sources of transportation funds: sales tax funds, HURF funds, and federal transportation funds. He noted how Congress has had to supplement the national Highway Trust Fund with general fund revenue of about \$17 billion per year for the past couple of years. Mr. Anderson stated that sequestration does not affect the Highway Trust Fund because it is dedicated funding, but at risk is the general fund subsidy. He remarked that there is a lot of political support to maintain transportation funding, but without the subsidy, projections show that the Highway Trust Fund will be below the minimum balance of \$4 billion in 2014 or 2015. Mr. Anderson recollected that a couple of years ago, the Federal Highway Administration actually shut down state reimbursements for a couple of days while Congress debated whether to subsidize the Fund with general fund revenue. Mr. Anderson remarked how this puts the state departments of transportation in a bad position because they pay contractors and are then reimbursed with federal funds.

Mr. Anderson discussed a graph of two federal budget proposals. He said that Senator Murray's budget tries to maintain the current spending levels over the next ten years. Congressman Ryan's budget proposal keeps the Highway Trust Fund solvent, but would require filling in the gaps with an increase in the federal gas tax, alternative funding sources or subsidies. Mr. Anderson commented that there are issues with transportation funding across the board – federal transportation funding used to be the most reliable source of funding, but with the federal deficit, that is not the case any more.

Mr. Anderson stated that ADOT just reduced its five-year program by \$350 million, due to lower HURF and federal funds. He added that down the road, if something is not done at the state and federal levels, MAG might need to trim its programs significantly.

Chair Lane thanked Mr. Anderson for his report and asked if there were questions.

Mayor Wolcott stated that transportation funding is not a new issue. Some states have been more aggressive in taking hold of low hanging fruit, but a solution is needed nationally. Mayor Wolcott stated that every way to tax something has been analyzed, but what is needed is political courage. She stated that what concerned her more was getting the message out locally. Mayor Wolcott stated that we need to do a better job to engage with the state and let them know the implications of transportation investments and economic development. She asked the percentage of all revenues that come into the state that is spent on transportation. Mr. Anderson replied that he did not know. Mayor Wolcott remarked that she thought it would be a very small amount.

Mr. Anderson stated that a comment was made at a recent AGC meeting that constituents complain about other issues but rarely complain about transportation, because the transportation system works so well it is a victim of its own success. In addition, it is fairly young infrastructure, but the fact that it will need rehabilitation in the future as it ages is not on the radar screen of legislators or citizens.

Mayor Wolcott stated that the local area is where she thought increased communication was needed to convey the looming crisis of not investing in transportation infrastructure. She invited Mr. Anderson to come and give this presentation to her community to inform the public about this crisis, and added that she hoped other communities would as well.

Mr. La Rue stated that ADOT is looking at taking big cuts, but where stresses were being created was having a more aggressive new build policy instead of maintenance policy. He stated that they decided to balance that approach to carry them into the future. Mr. La Rue stated that with the cuts they are at a crossroads. He stated that ADOT has a system that is \$18 billion and less than \$100 million for maintenance and repair, which is not enough. Mr. La Rue stated that if they follow a policy of repair first, nothing new would be built. He stated that they are currently conducting their public comment period on multiple plans and one of those plans is no new build, just maintenance. Mr. La Rue stated that there could be good roads locally, but if there are not good roads in the rest of the state, you will not advance the state. He noted that ADOT staff will be making almost 200 visits throughout the state to inform residents and would be glad to partner with MAG on this.

Mr. La Rue asked if MAP-21 included a scorecard that included a quality ranking for preservation and maintenance. Mr. Anderson replied yes, MAP-21 includes performance measures and they expect state of good repair for both transit and highways to be high priorities. He also mentioned the possibility that spending for increased capacity could be limited until a system is demonstrated to be of a certain level of quality.

Mr. Berry stated that the amount from auto registration fees that go to ADOT is a very small amount – maybe \$10 to \$20. The remainder is the Vehicle License Tax, which was created years ago by the county tax assessors to replace the personal property tax. Mr. Berry stated that the rate has increased faster than inflation and what it has done has blocked changes to the registration fees. He also noted that with trucking companies, the roads are their offices. It is important to invest in safe roads and good transportation systems – the backbone of commerce. Mr. Berry stated that trucking companies say to please tax them – they are willing to take the increase in the diesel fuel

tax as long as it is spent on roads and the national freight system. He added that there is some distrust that fees could go toward things other than roads.

Chair Lane referenced the changes mentioned by Mr. Berry. He said that challenges in changing taxes is not always due to political will, but also to how it is perceived there is an organization in place to apply and assess the funds. In addition, there is the transfer of federal funds between modes, which the TPC just voted on in the proposed major amendment to the MAG Regional Transportation Plan to add the light rail transit extension on Main Street. Chair Lane stated that theoretically, you could say these funds were generated by the HURF and fuel taxes. He stated that there are new modes of fueling, such as natural gas, and user fees have not been built in, however, adding fees is tricky because usage of alternative fuels is being encouraged. Chair Lane stated that it is important to be credible and trustworthy in how taxes are used.

Chair Lane stated that if there were no further questions, he would close the discussion and suggested that discussion of remaining agenda items be continued to the next meeting since many of the TPC members needed to be at the Legislature. No questions were noted.

7. Update on Transportation Division Planning Projects

This agenda item was not considered.

8. Legislative Update

This agenda item was not considered.

9. Request for Future Agenda Items

This agenda item was not considered.

10. Comments from the Committee

This agenda item was not considered.

Adjournment

The meeting adjourned at 1:05 p.m.

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Chair

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Secretary

# MARICOPA ASSOCIATION OF GOVERNMENTS

## INFORMATION SUMMARY... for your review

**DATE:**

April 9, 2013

**SUBJECT:**

Update on Transportation Division Planning Projects

**SUMMARY:**

Since voter approval of Proposition 400 in 2004, MAG's Transportation Planning Division has conducted more than 16 technical studies to identify the evolving needs for transportation facilities and services throughout the Valley. Recommendations from these studies are influencing the overall planning process at MAG as staff initiates efforts to establish the next generation of the Regional Transportation Plan. Some of these studies include the Central Phoenix Transportation Framework Study, the Sun Corridor Freight Transportation Framework Study, Interstate 11 planning efforts, the US-60/Grand Avenue Corridor Optimization, Access Management Plan, and System Study (COMPASS), Sustainable Transportation and Land Use Integration Study, continuing study of the Interstate 10 and Interstate 17 Central Freeway Corridor (also known as the Spine), and the MAG Managed Lanes Network Development Strategy - Phase I.

Coupled with the recommendations from these studies are the following key planning factors that also influence the next generation of the Regional Transportation Plan (or NexGen Regional Transportation Plan):

- Funding uncertainties - Since 2004, the three sources for funding Regional Transportation Plan activities, the United States Highway Trust Fund (federal gas tax), the Arizona Highway Users Revenue Fund (state gas tax), and the Regional Area Road Fund (half-cent Maricopa County sales tax), continue to see declines which reduces the ability to meet current and future infrastructure needs. While there continues to be a declination in the funding capacity at the federal and state level with no credible strategy for stabilizing these resources, it is important to note that the Regional Area Road Fund sunsets in December 2025, thereby adding to the uncertainty for funding future transportation projects.
- New economic direction with focus on freight and goods movement - In the time leading up to the 2008 downturn, the Phoenix area had the strong characteristics of a consumer economy. MAG's Economic Development Committee (EDC) has discussed a broad range of topics and has identified potential strategies for improving the overall economic climate of the Valley by attracting more producer economy type industries. Within this context is capitalizing upon the strategic location of the Phoenix area between Mexico, Texas, and the West Coast of the United States for a more significant role in freight and goods movement. The Sun Corridor Freight Transportation Framework Study has identified varying recommendations, from land-use to transportation infrastructure, as a means for improving the region's producing economy.
- Transit successes - Ridership on the Valley Metro Light Rail Transit line has exceeded expectations to more than 45,000 riders per day. In addition, overall transit ridership on the region's bus system has seen significant increases recently, some of it due in part to the

economic downturn, but also a reflection of demographic changes. Recent informal surveys by MAG staff show a growing public appetite for transit throughout the Valley and many see these additional services as a means for greater economic diversification and the opportunity to enhance regional activity centers. While expanding transit capital is on the minds of many, it is important to note that the budgets for day-to-day operation are also in decline and in some areas limiting services for transit-dependent populations.

- Pending operations and maintenance needs - The Valley enjoys a state-of-the-art transportation system with very little infrastructure that is either structurally and/or functionally deficient due to its relatively young age from recent construction. To that point, the current system is being designed to minimize maintenance needs and delay the need for any large scale rehabilitation and/or reconstruction in the immediate future. From an operations perspective, MAG has been working with ADOT, Valley Metro, and member agencies to expand this potential and maximize system use. Despite these efforts, the infrastructure does age and does need maintenance. As an example, the Interstate 10/Interstate 17 “Stack” traffic interchange northwest of downtown Phoenix opened to traffic in 1990 and will be 50 plus years old by the 2040 proposed horizon for the next generation Regional Transportation Plan.

In this agenda topic, the Transportation Policy Committee will be provided an update on these planning studies as well as how these efforts inter-relate into establishing the NexGen Regional Transportation Plan. An illustration of the proposed work plan is attached to this summary.

At the conclusion of the presentation, the Transportation Policy Committee will be briefed on their role in overseeing the effort and how the following topics will be discussed over the coming months to initiate the planning process: highways, roads/streets, intelligent transportation systems, safety, data and transportation modeling, transit, bicycle/pedestrian, healthy sustainable communities, freight and aviation, performance measurement, and programming. MAG staff will be developing fact sheets on these topics that includes background information, key issues and problem areas (include - state of good repair and rehabilitation as needed), and how these topics connect to planning for the greater MAG Transportation System.

#### **PUBLIC INPUT:**

MAG has a continuing public input process related to the Regional Transportation Plan. Early action items for establishing the NexGen Regional Transportation Plan will include opinion surveys and focus group discussions on the topics outlined above. As this material becomes available, the results will be shared with the Transportation Policy Committee to assist in their discussion about the Plan outcome.

#### **PROS AND CONS:**

**PROS:** The Regional Transportation Plan represents the core mission for the Maricopa Association of Governments as the metropolitan planning organization for the Phoenix metropolitan area. As the needs of the Valley have changed since the current generation of the Regional Transportation Plan was adopted in 2003, and subsequently updated in 2006, 2007, 2008, 2010, and undergoing update in 2013, it is important to recognize these changes and incorporate them into a document that better reflects the current thinking on transportation as MAG plans for the 2040 horizon.

**CONS:** Updating the Regional Transportation Plan means re-examining the policies and programs that are presently in-place to determine near-term capital projects and expenditures. During the course of this re-examination, certain projects could either be modified, delayed, or removed from the Plan. These changes could influence the continuing planning decisions of MAG member agencies.

**TECHNICAL AND POLICY IMPLICATIONS:**

TECHNICAL: As this document represents the core mission for the Maricopa Association of Governments, the necessary processes and staffing requirements are presently in-place as part of the day-to-day functions of the Transportation Division. Additional needs for completing further technical studies to bring together the components necessary for delivering the NexGen Regional Transportation Plan have been identified in the proposed FY 2014 Unified Planning Work Program (UPWP) and Annual Budget for MAG for the coming fiscal year. Future UPWP and Annual Budget requests may reflect the need for additional technical resources. MAG staff proposes completing and establishing the NexGen Regional Transportation Plan by December 31, 2015.

POLICY: The Regional Transportation Plan is a federal requirement of metropolitan planning organizations to illustrate to the community the planning process and actions proposed for meeting travel demand and providing transportation services. The NexGen Regional Transportation Plan will provide guidance to MAG, the Arizona Department of Transportation, and member agencies on the future of transportation in the MAG region. When completed and adopted by the Regional Council, the document will represent the policy for transportation actions through the 2040 horizon.

**ACTION NEEDED:**

For information and discussion.

**PRIOR COMMITTEE ACTIONS:**

No prior committee actions have been taken on this matter.

**CONTACT PERSON:**

Bob Hazlett, Senior Engineering Manager, 602 254-6300.

# NexGen Regional Transportation Plan



# MARICOPA ASSOCIATION OF GOVERNMENTS

## INFORMATION SUMMARY... for your review

**DATE:**

April 9, 2013

**SUBJECT:**

Recommendation from the MAG Managed Lanes Network Development Strategy - Phase I Study

**SUMMARY:**

On November 15, 2010, the MAG Regional Council authorized procurement of consultant services to develop the MAG Managed Lanes Network Development Strategy - Phase I project. This multi-phase effort was in response to consideration for Public-Private-Partnership (P3) opportunities in the Phoenix Metropolitan Area where high occupancy vehicle (HOV) lanes could be operated as high occupancy toll (HOT) lanes as part of an overall congestion priced-managed lanes strategy. The project has been divided into the following four phases:

- I. **Network Feasibility** - where the program goals, an initial assessment of the viability of a priced-managed lanes network, regional considerations for applying a system, and an implementation strategy are developed.
- II. **Network Concept** - identifying a preliminary operations concept for a priced-managed lanes network that includes an overall design concept, preliminary traffic and revenue forecasts, and a delivery approach for the system.
- III. **Corridor Concept** - from the results in the second phase, determine the corridors and their operations concept that includes preliminary design, detailed traffic and revenue forecasts, and environmental clearance for construction and operation.
- IV. **Implementation** - following the identity of the corridor concepts, the system's business rules, final design, and market-grade traffic and revenue forecasts are developed to facilitate system construction, operations, and continuing maintenance.

Since the last presentation on this project to the Transportation Policy Committee in October 2012, the study team has completed the first phase of the project and has determined that priced-managed lanes operations in the metropolitan Phoenix area are feasible where the potential construction and operations costs are met by the users of the system over a thirty year period. Upon that determination, the study team recommends to **actively pursue implementing a broad array of enhanced mobility options, including the use of managed lanes, congestion pricing, active traffic management, and other similar innovative transportation solutions to accommodate travel demand.** To support this recommendation, the study team further recommends the following:

- Develop a unified branding strategy for enhancing mobility in the MAG region to capitalize on the success of projects that focus on maximizing system performance and productivity.
- Prioritize implementing an Active Traffic Management demonstration on the I-10/Papago Freeway to promote the benefits of integrated managed lanes strategies.

- Determine possible congestion pricing demonstration projects to pursue as an initial proof of concept.
- Use guiding policies to further enhance existing HOV operations or to facilitate the introduction of HOT operations on the regional freeway system.

Additional details related to this recommendation are summarized in the Phase I Executive Summary that is attached to this summary. Implementation of this recommendation would be identified and studied further in Phase II of this project.

**PUBLIC INPUT:**

No public input has been received on this technical study to identify overall system feasibility. The project's second phase will feature a public outreach process based upon an early action item to identify a unified branding strategy to emphasize system performance and productivity.

**PROS & CONS:**

PROS: Public-Private-Partnerships (P3) represent a new direction for Arizona to consider in financing future transportation infrastructure. While numerous applications could be applied to the MAG region, priced-managed lanes could provide an introduction to P3 as an option in a corridor without requiring all commuters to pay a toll. As this capacity could be implemented on individual corridors, it is important to consider the overall feasibility of a system to ensure the potential success of priced-managed lanes in the region.

CONS: At this time, none. This request is to continue the MAG Managed Lanes Network Development Strategy into the next phase to study the network concept and conduct public outreach. It represents the second of four phases of study prior to any implement strategy. At the conclusion of this phase, the results will be reviewed by MAG and assessed before proceeding to the third phase.

**TECHNICAL & POLICY IMPLICATIONS:**

TECHNICAL: The outcome and subsequent actions taken by the Regional Council based upon the findings of this first phase study could influence development and implementation of future transportation corridors identified in the Regional Transportation Plan. As this effort is to examine the potential for priced-managed lanes, other tolling options could be considered as part of a P3 implementation. This study could provide guidance for these options as well in the overall context of delivering the future transportation infrastructure.

POLICY: The outcomes of this study will provide guidance to MAG, the Arizona Department of Transportation, and other affected jurisdictions and agencies on the development of priced-managed lanes as a potential P3 option in the MAG region. A significant task within this project will be to examine various policies the Regional Council and State Transportation Board may need to consider to ensure the success of a priced-managed lanes network in the MAG region. These policies could include HOV occupancy, design guidance, and target travel speeds to ensure network reliability.

**ACTION NEEDED:**

Information, discussion, and review of the recommendations, and possible action to recommend approval to move on to Phase II of the MAG Managed Lanes Network Development Strategy project.

**PRIOR COMMITTEE ACTIONS:**

No prior committee actions have been taken on this matter.

**CONTACT PERSON:**

Bob Hazlett, Senior Engineering Manager, 602 254-6300.



# Managed Lanes

## Network Development Strategy Phase One

### Executive Summary

MARCH 2013

**DRAFT**



The Maricopa Association of Governments (MAG) is working in cooperation with the Arizona Department of Transportation (ADOT), Federal Highway Administration (FHWA), Valley Metro, and local communities throughout the region to explore a regional managed lanes system in the Phoenix Metro Area. This effort is in part a response to Arizona House Bill 2396, which enabled ADOT to consider Public-Private-Partnerships (P3) as a tool for financing transportation infrastructure in Arizona. The study entails determining future needs for High-Occupancy Vehicle (HOV) lane expansion, and evaluating the potential introduction of High-Occupancy Toll (HOT) lanes, and active traffic management strategies.

Specific study efforts include establishing Goals and Objectives for managed lanes in the region, exploring various management strategies and operations policies for managed lanes, and evaluating the existing regional freeway network for managed lanes potential in terms of constructability, traffic performance, facility cost, and revenue potential



## Managed Lanes Concept

Managed lanes are dedicated lanes for one or more user groups that are proactively managed to provide better travel time reliability, greater user choices, and improved traffic flow than general purpose lanes, as well as possible enhancements to transit service.

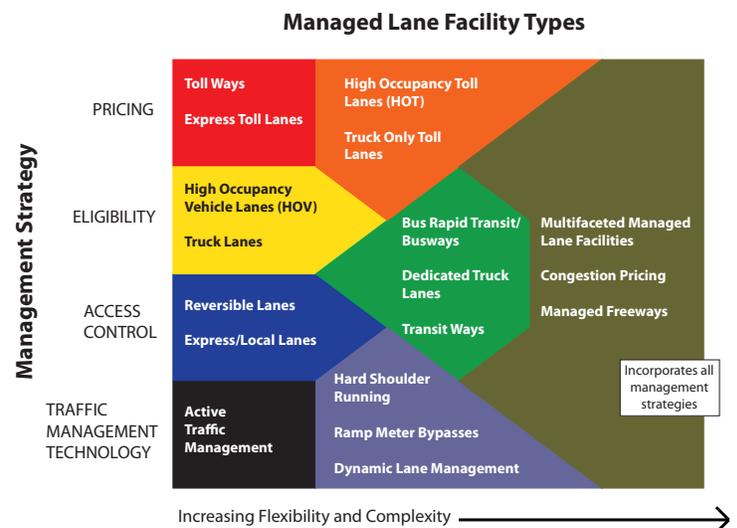
Many existing corridors in the Phoenix Metro Area continue to develop and are reaching a state of buildout. This requires the region to think differently about the use of pavement and space for transportation needs. Managed lanes are one tool that could offer commuters potential advantages.

Specific managed lane projects can be customized to meet local needs, using different management strategies, including pricing, vehicle types allowed to enter the lanes, access control, and traffic management technology. The concept can take many forms including:

- High-Occupancy Vehicle Lanes (HOV)
- High-Occupancy Toll Lanes (HOT)
- Truck Lanes
- Express Lanes
- Busways

## Management Strategies and Facility Types

Managed lanes have been successfully implemented in seventeen corridors across the U.S., with additional facilities currently under construction. Managed lanes utilize four primary management strategies. Facility types vary in flexibility and complexity with different combinations of management strategies.



## Why Managed Lanes?

Growth in population and subsequent highway traffic has outpaced the ability of many regions to provide adequate highway facilities.

Many regions are facing serious challenges that managed lanes can help to address.

*Phoenix I-10 Maricopa Freeway*



*Tempe LOOP-101 Price Freeway*



## Benefits of Managed Lanes

### Travel Time Savings

The primary benefit of managed lanes is travel time savings for commuters and other motorists. On average, vehicles in managed facilities are able to travel at a higher rate of speed and with fewer delays than vehicles using general purpose lanes within the same corridors.

### Trip Reliability

Managed lanes can greatly improve trip reliability by offering motorists a new commuting option with fewer delays and less congestion than general purpose lanes within the same corridor.

### Commuter Choices

Managed lanes can create greater commuter choices by allowing those willing to pay a toll into the lane, along with carpoolers and transit vehicles, which frees up space in the adjacent general purpose lanes.

### Transit Service

Managed lanes can complement regional transit service by providing access to buses and vanpools and enhancing the speed and effectiveness of corresponding transit routes within the corridor.

*Washington D.C. Capital Beltway I-495 Express Lanes*  
(Initial Operation: November 2012)



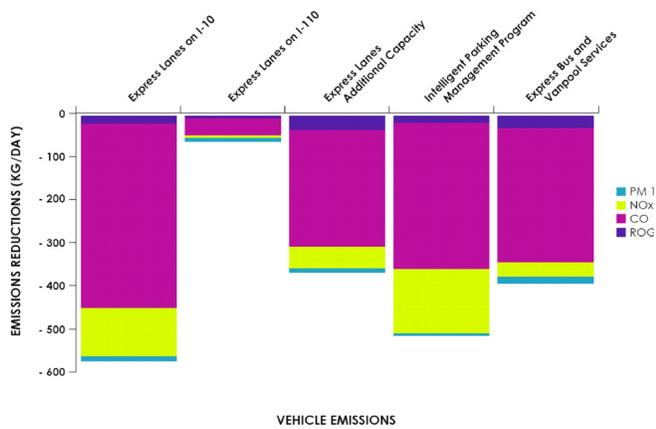
*Minneapolis I-35 MnPass Express Lanes*  
(Initial Operation: November 2010)



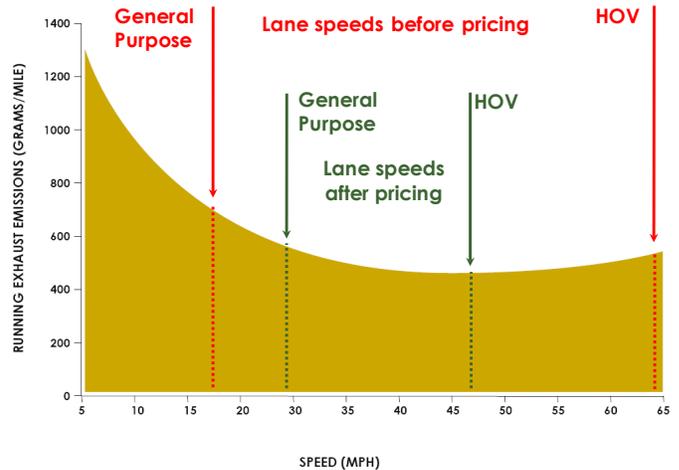
## Los Angeles I-110 Express Lanes (Initial Operation: November 2012)



**LOS ANGELES CONGESTION REDUCTION DEMONSTRATION  
ESTIMATED EMISSIONS REDUCTIONS**



**CARBON DIOXIDE EMISSIONS FOR ALL VEHICLE TYPES  
(EMFAC2007 EMISSIONS FACTORS - LOS ANGELES COUNTY)**



### Environmental Impacts

Managed lanes can have positive regional environmental impacts by maximizing overall lane productivity and enhancing transit service. Both of these factors can lower system-wide greenhouse gas emissions within a region.

### Revenue

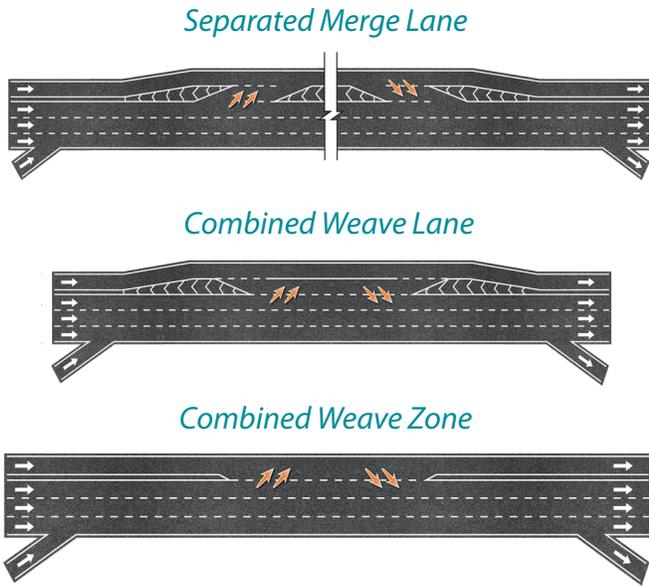
Managed lanes can create potential revenue by implementing a tolling element along corridors and requiring some drivers to pay to access the lane. These revenues are used to pay for the corridor and operations of the managed lanes; and in some cases, generate funding for other corridor improvements and transit.

# MAG Regional Managed Lanes

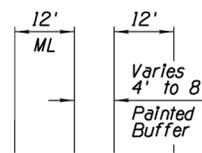
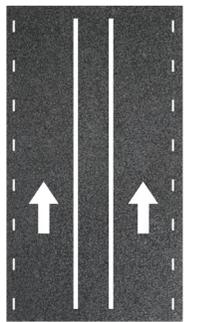
## Goals & Objectives

The regional partners involved in the MAG managed lanes study effort identified several goals and objectives for managed lanes in the MAG region. These goals and objectives helped to prioritize which policy elements and performance measures should be evaluated. Although all goals listed below were deemed important, it is noteworthy that partners emphasized improved mobility over revenue alternatives.

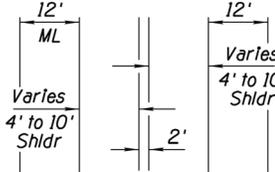
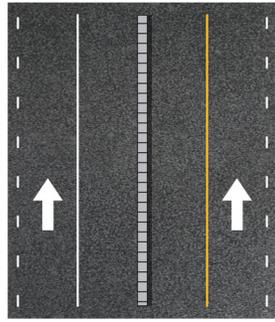
<h3>Improved Mobility</h3>	<ul style="list-style-type: none"> <li>• Reduce travel times and improve travel time reliability.</li> <li>• Manage travel demand and traffic congestion.</li> <li>• Improve and maximize existing system infrastructure.</li> <li>• Maximize use of technology.</li> <li>• Increase capacity.</li> <li>• Provide mobility options.</li> <li>• Improve transit service options, efficiency, and reliability.</li> </ul>
<h3>Revenue Alternatives</h3>	<ul style="list-style-type: none"> <li>• Leverage existing revenue sources.</li> <li>• Access new and alternative revenue sources.</li> <li>• Accelerate project delivery to complete the system.</li> <li>• Support ongoing operations and maintenance.</li> <li>• Support transit service provision.</li> <li>• Better plan future investments.</li> </ul>
<h3>Public and Political Support</h3>	<ul style="list-style-type: none"> <li>• Support public education and outreach.</li> <li>• Identify and foster political champions.</li> <li>• Facilitate an equitable distribution of costs whereby users pay for what they use.</li> </ul>
<h3>Improved Environmental Quality</h3>	<ul style="list-style-type: none"> <li>• Provide air quality benefits.</li> <li>• Enhance quality of life.</li> </ul>



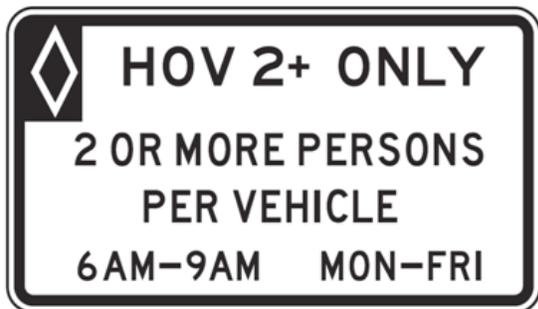
**Buffer Separation**



**Barrier Separation**



**HOV Signage and Hours of Operation**



## Operating Policy and Practice Considerations

Decisions regarding several key policy and practice considerations can have a substantial affect on the successful implementation of a managed lanes network. The pros and cons of each relevant issue must be weighed carefully in terms of technical feasibility and support within a region.

### Lane Separation and Access

Lane separation and access treatments determine how specified users gain access to the managed lane facility. Many different configurations have been implemented as part of managed lanes projects across the country. Options include limited access designs, either through the use of direct access ramps or transition lanes, and near-continuous to fully continuous access designs.

- Limited access configurations allow for optimal control over toll collection, speed, vehicle volumes, and transit operations, but require higher capital costs and space requirements for dedicated infrastructure.
- Continuous access designs maintain the open access structure of existing HOV lanes, cost less to implement and reduce crash potential.
- A lack of access control can complicate signage, toll structures, and enforcement against violators.

### Hours of Operation

Hours of operation decisions concern what times of day a managed lane facility benefits specific users such as carpoolers or toll paying customers, and when the facility reverts to a general use lane. Nearly half of all U.S. HOV facilities operate on a part-time basis during peak traffic periods. However, almost all existing tolled U.S. HOT lanes operate on a full-time basis.

- When converting an HOV to HOT facility, maintaining existing part-time operating hours can limit public concern and reduce operating costs, but can also limit revenue potential and not address mid-day congestion.
- Expanded daytime or 24 hour operations can enhance revenue collection and offer a day-long congestion free option to customers, but are often met with reduced support and increased operating costs.

## Occupancy Requirements

Occupancy requirements control the level of carpool access into a managed lane facility. Most often, occupancy requirements of existing HOV lanes are retained during the initial introduction of a HOT lane.

- Unrestricted access to HOV 2+ vehicles would maintain the current HOV policy in the Phoenix area; preserve the incentive to carpool and only toll single occupant users.
- Other options include allowing free access only to HOV 3+ , or tolling all vehicles, which increases revenue and management potential, but can also limit public support.

## Pricing Methods

There are multiple approaches to pricing that have been implemented as part of managed lanes projects around the country. Types of pricing include:

1. Static/Flat rate: Typically a monthly charge.
2. Variable Static: Charge varies on fixed schedule by time of day.
3. Variable Dynamic: Prices change in near real time based on levels of demand.

Most new facilities utilize variable dynamic pricing, as it allows greater system efficiency through the ability to price managed lanes relative to the level of congestion.

Collection methods vary by system, but often require the pre-registration of vehicles. Types of collection mechanisms include:

1. “Sticker” passes.
2. License plate tolling.
3. Transponders.

Transponders can have a switch to allow users to indicate the number of vehicle occupants. these types of transponders aid in toll collection and enforcement.

## Active Traffic Management (ATM)

Active Traffic Management systems use technology such as overhead signage, entrance ramp signals, and pavement markings to manage congestion in real-time to respond to traffic conditions. These systems offer the following benefits:

- Enhanced roadway safety by reducing the potential for crashes when speeds & conditions change.
- Reduced congestion through variable speed limits, variable lane control, and hard shoulder running.
- More reliable trips and enhanced information to motorists.
- Can provide meaningful traffic-flow benefits at a relatively low cost without tolling.

### *Seattle I-5 Variable Speed Signage (WSDOT)*



**HOV 2+:** Two or more persons per vehicle

**HOV 3+:** Three or more persons per vehicle

### *Express Lane Signage*



### *FasTrak® Transponder*



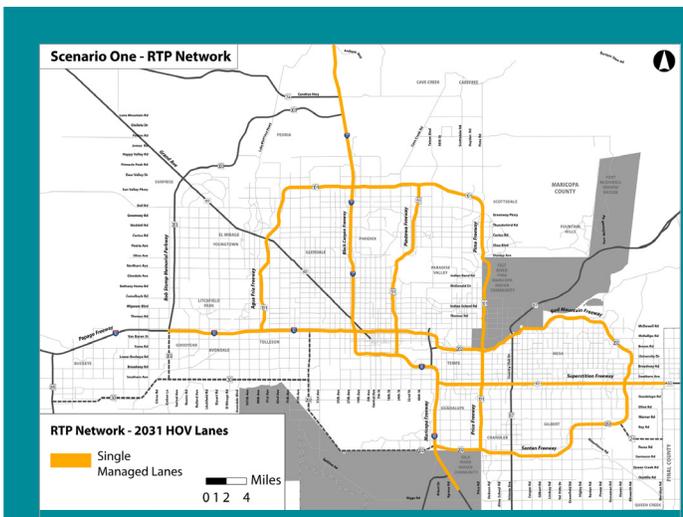
## Initial Evaluation

To support the study of managed lanes in the Phoenix region, the existing HOV system was evaluated based on its potential to implement High-Occupancy Toll (HOT) lanes. The initial evaluation consisted of screening candidate corridors within the existing freeway system for managed lane feasibility in terms of their existing traffic capacity and their potential for managed lanes construction.

**Capacity:** An assessment of existing traffic conditions on candidate corridors, such as the level of congestion in general purpose lanes, the level of utilization of HOV lanes, and the potential for additional travel-time savings for managed lanes users.

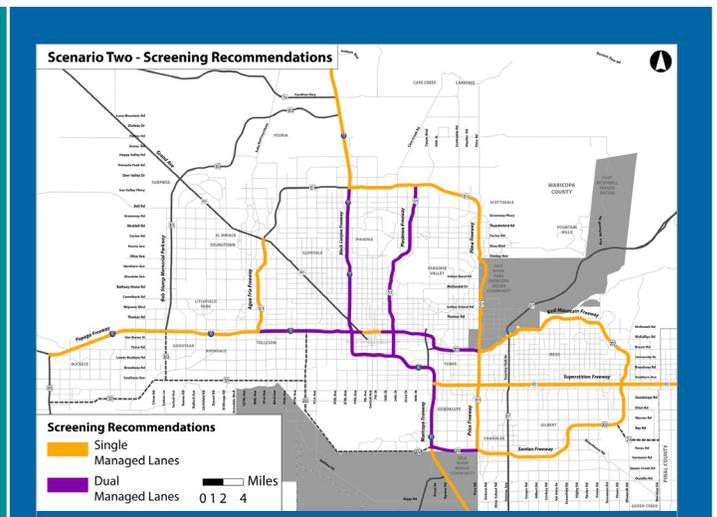
**Constructability:** An assessment of existing physical conditions that would affect the ability to construct the infrastructure necessary for managed lane implementation.

The initial evaluation led to the development of two different scenarios for the potential implementation of managed lanes, which allowed for more detailed analysis of the concept:



### Scenario 1

The conversion of all existing and proposed HOV lanes described in the MAG Regional Transportation Plan through 2031 into single-lane managed lane operations.

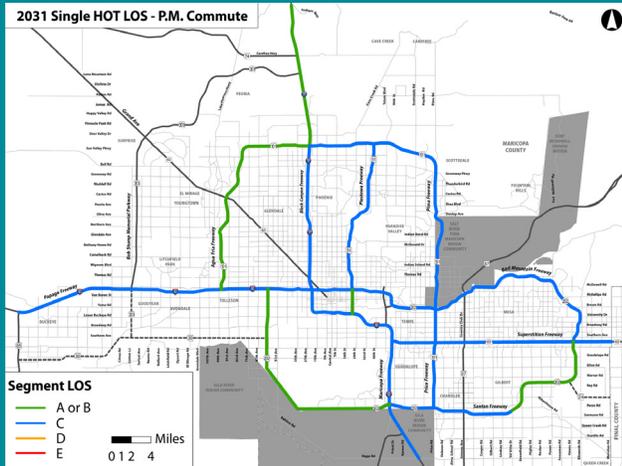


### Scenario 2

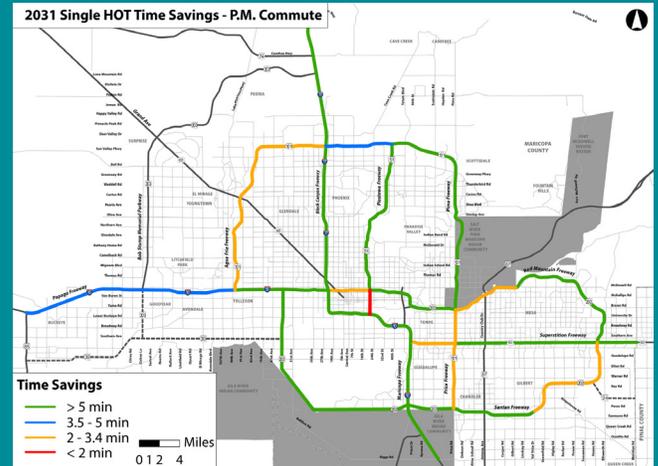
The conversion of the most congested centrally located candidate corridors to dual-lane managed lanes, and the conversion of most outlying corridors to single-lane managed lanes based on the results of the initial evaluation.

## Potential Traffic Performance

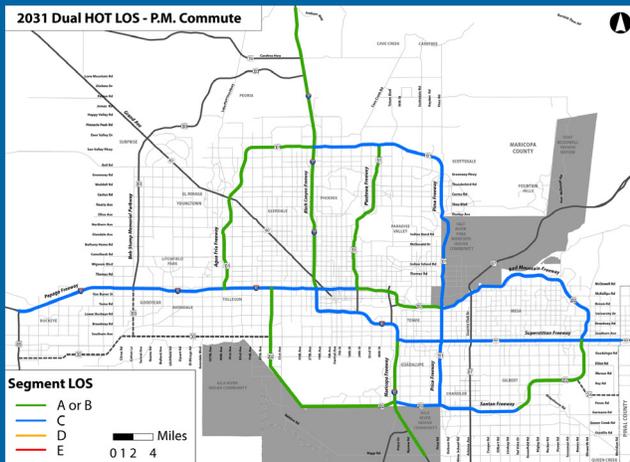
As part of the evaluation of potential managed lane implementation in the Phoenix region, traffic performance was forecasted in order to gauge the benefits that priced managed lanes could provide in terms of congestion relief and travel time savings. The MAG Travel Demand Model was used to forecast both 2031 scenarios established by the initial evaluation.



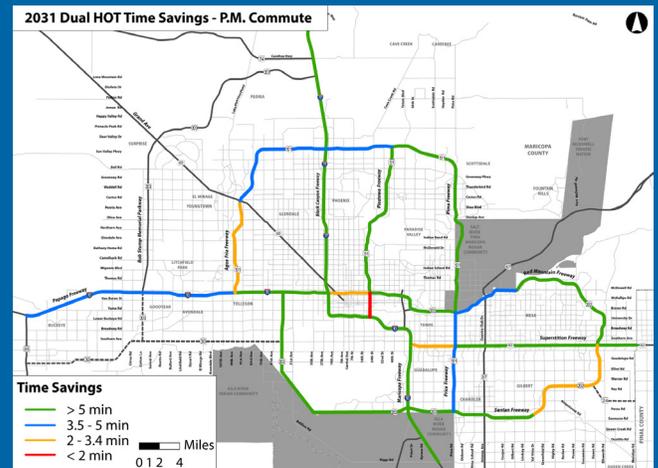
**Scenario 1 Single-lane managed lanes**  
 The MAG Model forecasted that the development of Scenario 1 would provide favorable 2031 traffic conditions overall within the HOT lanes. During the evening peak-period, the level of congestion, or level of service (LOS), on regional HOT lanes is expected to remain at stable flow or better (LOS C).



The 2031 travel time savings provided by the use of HOT lanes is expected to be up to 5 minutes in most freeway corridors within the region, and at least 3 minutes in all but one freeway segment.



**Scenario 2 Single and Dual-lane managed lanes**  
 The MAG Model forecasts for Scenario 2 predict more favorable 2031 traffic conditions than Scenario 1. During the evening peak-period, the level of congestion on regional HOT lanes is expected to remain at least stable flow (LOS C), with many corridors expected at near free-flow conditions (LOS A&B).



The 2031 travel time savings provided by HOT lanes in Scenario 2 is expected to be at least 3 ½ minutes for most freeway corridors, slightly better than the travel time savings predicted in Scenario 1.

## Potential Construction Cost

Preliminary cost estimates for implementing a managed lanes network within the Phoenix region were developed for both development scenarios. Cost estimates were calculated using comparable costs from other recently developed projects throughout the country. Considerations for Scenario 1 and 2 included:

**Tolling Items:** Structures and equipment necessary for electronic tolling such as transponder readers, signage, cameras, and other communication and enforcement equipment

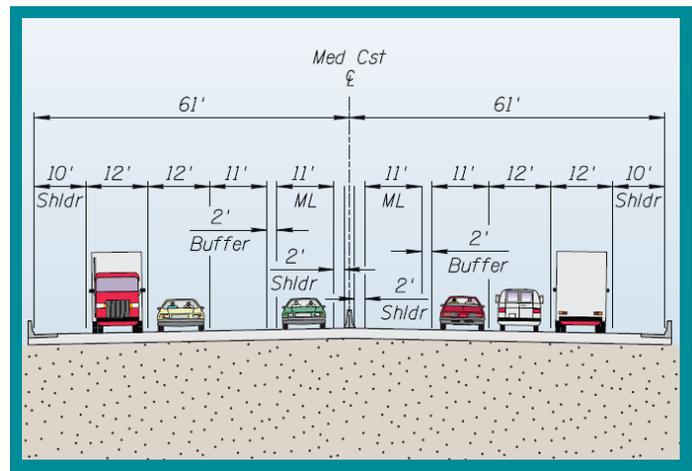
**Roadway and Structural Items:** Construction costs necessary for managed lanes implementation including new pavement, striping, retaining walls, bridge enhancements, and right-of-way acquisition

**Operation and Maintenance:** The annual cost of operating and maintaining a managed lanes network including toll equipment operation, toll enforcement, and roadway maintenance

### Scenario 1

Assumed the conversion of a single existing HOV lane to a single HOT lane with minimal pavement widening

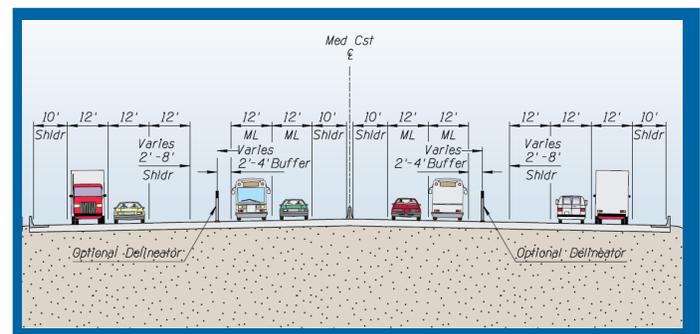
Scenario 1	
Total Construction Cost	\$240 - \$300 (million)
Annual Operation and Maintenance Cost	\$50 - \$70 (million)



### Scenario 2

Assumed a mix of single HOV lane to HOT lane conversion and dual HOT lane construction with increased roadway widening

Scenario 2	
Total Construction Cost	\$2,400 - \$3,000 (million)
Annual Operation and Maintenance Cost	\$60 - \$80 (million)



The implementation of Scenario 2 would be notably more expensive than Scenario 1, since the proposed dual-lane sections would require increased lane expansion, earthwork, and right-of-way acquisition.

## Houston I-10 Katy Tollway (Initial Operation: April 2009)



### Projected Revenue Potential

MAG Travel Demand Model projections and ECONorthwest's Rapid Toll Optimization Model (RapidTOM©) were used to develop high-level estimates for the tolls and revenues associated with potential managed lanes. The RapidTOM model was used to determine toll levels and hourly revenues for priced managed lanes under both development scenarios (Scenario 1 and 2).

Yearly revenue projections were calculated for 2015 and 2031, representing a base year, and the horizon year of the 2031 MAG Regional Transportation Plan. Revenue estimates were also determined, assuming a 30 year lifespan of the potential managed lane system.

Assumptions included:

- An HOV2+ carpool occupancy policy for both model years.
- A minimum 45 mile-per-hour travel speed within managed lanes.
- Dual-lane construction would not be completed by 2015 base year.
- 2010 dollar value for present value calculations, and an inflation adjusted annual discount rate of 3 percent.

The implementation of Scenario 2 would result in significantly more revenue than Scenario 1 over the lifetime of the managed lanes facility. However, Scenario 2 would also be notably more expensive to construct.

Scenario 1	2010 Dollar Value (millions)	Inflation Adjusted (millions)
2015 Revenue	\$170 - \$210	-
2031 Revenue	\$240 - \$290	\$150 - \$190
Lifecycle Revenue (2015-2045)	\$7,300 - \$9,000	\$4,800 - \$5,800

Scenario 2	2010 Dollar Value (millions)	Inflation Adjusted (millions)
2015 Revenue	\$170 - \$210	-
2031 Revenue	\$310 - \$380	\$200 - \$240
Lifecycle Revenue (2015-2045)	\$9,700 - \$11,900	\$6,000 - \$7,400

At a regional level, revenue generated from a network of managed lanes could cover the costs of implementing a system, although it is important to note that costs and revenues do vary significantly by specific corridors.

# Managed Lanes Network Development Strategy - Phase One

## Study Recommendation and Next Steps

# DRAFT

The results of the Phase One study effort have determined that implementing a system of managed lanes in the MAG region is feasible. Results reveal that a system of managed lanes is constructible, improves overall highway system performance, efficiency and traffic operations, provides additional reliable travel options for system users, and generates a net positive cash flow. Based on the findings of the Phase One study effort, **it is recommended that MAG and its key transportation partners endorse and actively pursue the implementation of a broad array of enhanced mobility options, including the use of managed lanes, congestion pricing, Active Traffic Management, and other similar innovative transportation solutions.**

Specific next steps for implementing enhanced mobility options in the MAG region include:

WSDOT "Good to Go!" Logo



### 1. Develop a unified branding strategy for enhancing mobility in the MAG region to capitalize on the success of projects that focus on maximizing system performance and productivity.

- Projects could include various managed lane elements, along with freeway and highway system operational improvements, transit services, and bicycle and pedestrian amenities.
- Incorporate a strategy for enhancing mobility and maximizing system performance and productivity as the cornerstone premise of the Regional Transportation Plan and associated future transportation efforts in the region.

### 2. Prioritize the immediate implementation of an Active Traffic Management demonstration on the I-10 Papago Freeway to promote the benefits of integrated managed lanes strategies.

- Active Traffic Management provides the lowest cost and least intrusive managed lanes solution.
- Active Traffic Management can afford meaningful traffic flow benefits in appropriate locations.

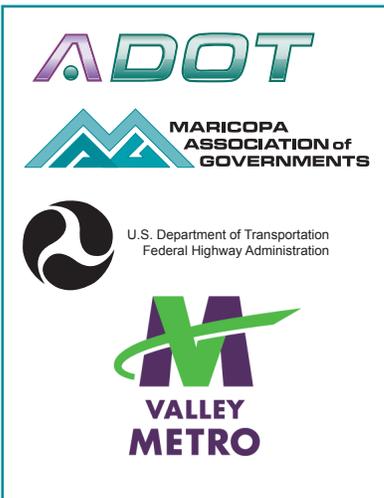
### 3. Determine possible demonstration projects to pursue as an initial proof of concept.

- Seek an initial relatively low cost conversion project to demonstrate benefits.
- Build toward more substantial and complex managed lane projects in the most congested freeway corridors.

### 4. Utilize the following guiding policies to further enhance existing HOV operations or to facilitate the introduction of HOT operations on the regional freeway system:

- Implement the 2009 Manual of Uniform Traffic Control Devices (MUTCD) recommended standards for HOV and HOT lane separation.
- Transition toward a near-continuous access design and operations for HOV and HOT facilities by utilizing limited access treatments in selected locations to improve traffic operations and address safety issues, and to better facilitate enforcement (and tolling).
- Expand HOV hours of operation to ensure time savings and reliability throughout more of the day.
- Maintain the existing HOV occupancy requirement of two or more persons per vehicle (2+) for the foreseeable future, including during initial deployment of HOT, but establish degradation thresholds to guide increasing occupancy to HOV 3+ in order to maintain required lane performance.
- For HOT operations, utilize variable pricing based on levels of congestion and travel time savings within segments of each facility.
- Calculate tolls on a per-mile basis but communicate toll rates to customers per-segment.
- Require all users to carry a transponder with switchable setting to declare carpool status as a primary means of toll collection and occupancy verification on HOT facilities.
- Ensure regional consistency to promote familiarity and support for managed lanes.

### Planning Partner Agencies



# MARICOPA ASSOCIATION OF GOVERNMENTS

## INFORMATION SUMMARY... for your review

**DATE:**

April 9, 2013

**SUBJECT:**

ADOT Passenger Rail Study, Tucson to Phoenix

**SUMMARY:**

The Arizona Department of Transportation (ADOT) Passenger Rail Study has concluded an 18-month public outreach effort pertaining to several options for alternative transportation modes between Tucson and Metro Phoenix. ADOT staff will present the results of this outreach and an update on study progress.

The ADOT Passenger Rail Corridor Study, Tucson to Phoenix, began in Spring 2011. The study is being jointly conducted by ADOT, the Federal Railroad Administration (FRA), and the Federal Transit Administration (FTA). For people traveling between Tucson and Phoenix, Arizona's two largest urban areas, there are limited options. This study is looking at the potential for a future transportation option connecting the urban area. Public input, along with multi-agency and stakeholder cooperation, is essential to understanding and addressing the needs and expectations along the Interstate 10 corridor between Tucson and Phoenix.

Scoping is conducted early in a study of this nature and helps define its direction. The scoping process included opportunities for all interested parties to have a voice, and the opportunity for the study team to refine its focus so that the study truly meets the needs and expectations of the Arizona community. The study team heard from interested parties, including public agencies, Tribal communities, community leaders, businesses, residents, employees, and students. The study's need evolved from the development of the Statewide Transportation Planning Framework (Building a Quality Arizona, or bqAZ) and the Long-Range Transportation Plan (LRTP).

**PUBLIC INPUT:**

ADOT has engaged more than 10,000 people through a variety of public open houses, festivals, special events, online surveys, media and stakeholder meetings in the MAG, Central Arizona Governments and Pima Association of Governments regions in the past 18 months. Additional ongoing dialogue has occurred with the member agency cities, towns, counties, regions, tribal governments, utilities and railroads since 2011.

**PROS & CONS:**

**PROS:** The Study will inform the public of the costs, market demand and feasibility associated with building and maintaining high capacity transit between metropolitan Phoenix and metropolitan Tucson.

**CONS:** The Study recommendations currently have no local, regional, state or federal funding.

**TECHNICAL & POLICY IMPLICATIONS:**

**TECHNICAL:** The findings of the ADOT Study will provide further updated financial and operational detail to MAG for its 2010 Commuter Rail System Study.

POLICY: Should ADOT, FTA and FRA select to proceed with Study findings, MAG and member agencies would continue to work with ADOT and those federal agencies in every capacity.

**ACTION NEEDED:**

Information and discussion.

**PRIOR COMMITTEE ACTIONS:**

This item will be heard by the MAG Management Committee on April 10, 2013.

The item was heard by the MAG Transit Committee on March 14, 2013.

MEMBERS ATTENDING

- ADOT: Nicole Patrick
- Avondale: Rogene Hill
- # Buckeye: Andrea Marquez
- Chandler: Dan Cook for RJ Zeder
- El Mirage: Sue McDermott
- Gilbert: Leslie Hart
- Glendale: Matthew Dudley for Cathy Colbath
- \* Goodyear: Cato Esquivel
- \* Maricopa County DOT: Mitch Wagner
- Mesa: Jeff Martin for Jodi Sorrell
- \* Paradise Valley: Jeremy Knapp
- # Peoria: Maher Hazine
- Phoenix: Neal Young
- \* Queen Creek: Chris Anaradian
- # Scottsdale: Madeline Clemann, Vice Chair
- Surprise: David Kohlbeck
- Tempe: Robert Yabes for Greg Jordan
- \* Tolleson: Chris Hagen
- Valley Metro: Wulf Grote
- \* Youngtown: Grant Anderson

\* Members neither present nor represented by proxy.  
# Participated by teleconference or videoconference call.

**CONTACT PERSON:**

Marc Pearsall, MAG, (602) 254-6300.