

October 15, 2015

TO: Members of the MAG Air Quality Technical Advisory Committee

FROM: Tim Conner, Scottsdale, Chair

SUBJECT: MEETING NOTIFICATION AND TRANSMITTAL OF TENTATIVE AGENDA

Thursday, October 22, 2015 - 1:30 p.m.
MAG Office, Suite 200 - Saguaro Room
302 North 1st Avenue, Phoenix

A meeting of the MAG Air Quality Technical Advisory Committee has been scheduled for the time and place noted above. Members of the Air Quality Technical Advisory Committee may attend the meeting either in person, by videoconference or by telephone conference call. Those attending by videoconference must notify the MAG site three business days prior to the meeting. If you have any questions regarding the meeting, please contact Chair Conner or Lindy Bauer at 602-254-6300.

Please park in the garage underneath the building, bring your ticket, and parking will be validated. For those using transit, Valley Metro/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.

In 1996, the Regional Council approved a simple majority quorum for all MAG advisory committees. If the MAG Air Quality Technical Advisory Committee does not meet the quorum requirement, members who arrived at the meeting will be instructed a legal meeting cannot occur and subsequently be dismissed. Your attendance at the meeting is strongly encouraged. If you are unable to attend the meeting, please make arrangements for a proxy from your entity to represent you.

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

TENTATIVE AGENDA

COMMITTEE ACTION REQUESTED

1. Call to Order

2. Call to the Audience

An opportunity will be provided to members of the public to address the Air Quality Technical Advisory 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 Air Quality Technical Advisory Committee requests an exception to this limit. Please note that those wishing to comment on action agenda items will be given an opportunity at the time the item is heard.

3. Approval of the August 27, 2015 Meeting Minutes

4. Evaluation of Proposed FY 2018, 2019, and 2020 CMAQ Projects for the FY 2017-2021 MAG TIP

An evaluation of proposed FY 2018, 2019, and 2020 Congestion Mitigation and Air Quality Improvement (CMAQ) projects submitted for the FY 2017-2021 MAG Transportation Improvement Program (TIP) has been conducted. The deadline for submitting the projects was September 21, 2015. The evaluation includes emission reductions and cost-effectiveness information.

In addition, a list of Air Quality Projects is also provided. It is requested that the Air Quality Projects be ranked and forwarded to the Transportation Review Committee. Please refer to the enclosed material.

2. For information.

3. Review and approve the August 27, 2015 meeting minutes.

4. For information, discussion, and recommendation to forward the evaluation of proposed FY 2018, 2019, and 2020 CMAQ projects for the FY 2017-2021 MAG Transportation Improvement Program to the MAG Transportation Review Committee and modal committees for use in prioritizing projects. In addition, rank the Air Quality Projects to be forwarded to the MAG Transportation Review Committee.

5. Evaluation of Proposed PM-10 Certified Street Sweeper Projects for FY 2016 CMAQ Funding

An evaluation of proposed PM-10 Certified Street Sweeper Projects for Fiscal Year 2016 Congestion Mitigation and Air Quality Improvement (CMAQ) Funds has been conducted. The deadline for submitting projects was September 21, 2015.

The FY 2016 Unified Planning Work Program and Annual Budget and FY 2014-2018 MAG Transportation Improvement Program contain \$1,081,440 in FY 2016 CMAQ funding to encourage the purchase and utilization of PM-10 certified street sweepers. An additional \$448,673 in CMAQ is available from street sweeper cost savings, for a total amount of \$1,530,113. A minimum local cash match of 5.7 percent is required.

Nine projects requesting federal funds were evaluated. The MAG Air Quality Technical Advisory Committee is requested to recommend a prioritized list of proposed PM-10 Certified Street Sweeper Projects for FY 2016 CMAQ funding to the MAG Management Committee and to retain the prioritized list for any additional FY 2016 CMAQ funds that may become available due to closeout or additional funding received by this region. Please refer to the enclosed material.

6. Evaluation of Proposed PM-10 Paving Unpaved Road Projects for FY 2018, 2019, and 2020 CMAQ Funding

An evaluation of proposed PM-10 Paving Unpaved Road Projects for Federal Fiscal Year 2018, 2019, and 2020 Congestion Mitigation and Air Quality Improvement (CMAQ) Funds has been conducted. The deadline for submitting projects was September 21, 2015.

In total, sixteen PM-10 paving of road and alley project applications were received from member agencies in the Maricopa County and

5. For information, discussion, and recommendation of a prioritized list of proposed PM-10 Certified Street Sweeper Projects for FY 2016 CMAQ funding to the MAG Management Committee and to retain the prioritized list for any additional FY 2016 CMAQ funds that may become available due to closeout or additional funding received by this region.

6. For information, discussion, and recommendation to rank the Proposed PM-10 Paving Unpaved Road Projects for FY 2018, 2019, and 2020 CMAQ funding and forward to the MAG Transportation Review Committee.

Pinal County PM-10 and PM-2.5 nonattainment areas requesting \$16.7 million. The total estimated CMAQ funding available is \$14.0 million. It is requested that the Paving Unpaved Road Projects be ranked and forwarded to the Transportation Review Committee. Materials will be transmitted under a separate cover memorandum.

7. EPA Approval of the MAG 2014 Eight-Hour Ozone Plan-Submittal of Marginal Area Requirements

On September 25, 2015, the Environmental Protection Agency (EPA) signed a notice to take direct final action to approve the MAG 2014 Eight-Hour Ozone Plan- Submittal of Marginal Area Requirements for the 2008 eight-hour ozone standard (0.075 parts per million). Specifically, EPA approved the base year emissions inventory, emission statements, pre-1990 Reasonably Available Control Technology corrections, pre-1990 corrections to previously required vehicle inspection and maintenance programs. EPA did not take any action on the elements of the plan related to new source review. Please refer to the enclosed material.

8. New Strengthened Ozone Standard

On October 1, 2015, the Environmental Protection Agency (EPA) issued a final rule to strengthen the federal eight-hour ozone standard from 0.075 parts per million to 0.070 parts per million. By October 1, 2016, states are required to submit designation recommendations for nonattainment/attainment to EPA. By October 1, 2017, EPA anticipates finalizing the designations, classifications, and attainment dates based upon 2014-2016 ozone monitoring data. Nonattainment areas will have until 2020 to late 2037 to meet the standard, with attainment dates varying based upon the ozone levels in the area (Marginal-Extreme). The Maricopa eight-hour ozone nonattainment area exceeds the new standard. In Arizona, nine of the ten counties that

7. For information and discussion.

8. For information and discussion.

monitor for ozone exceed the new standard. According to EPA, there are existing and proposed federal rules that will provide assistance in meeting the standard: requirements to reduce the interstate transport of air pollution; Regional Haze Regulations; Mercury and Air Toxics Standards; Clean Power Plan; Tier 3 Vehicle Emissions and Fuels Standards; Light-Duty Vehicle Tier 2 Rule; Mobile Source Air Toxics Rule; Light-Duty Greenhouse Gas/Corporate Average Fuel Efficiency Standards; Heavy-Duty Vehicle Greenhouse Gas Rule; Reciprocating Internal Combustion Engines NESHAP; and Industrial/Commercial/Institutional Boilers and Process Heaters MACT and amendments. The EPA analysis indicates that these rules will help the vast majority of the counties in the U.S. to meet the standard by 2025 without additional action. Please refer to the enclosed material.

9. EPA Withdrawal of the Direct Final Rule to Approve the Removal of Stage II Vapor at Gasoline Stations

On September 28, 2015, EPA signed a notice to withdraw the September 2, 2015 direct final rule to approve the MAG 2014 State Implementation Plan Revision for the Removal of Stage II Vapor Recovery in the Maricopa Eight-Hour Ozone Nonattainment Area due to the receipt of adverse comments. EPA will address the comments in a subsequent final action based upon the proposed rulemaking action, also published on September 2, 2015. Please refer to the enclosed material.

10. EPA Approval of the MAG 2013 Carbon Monoxide Maintenance Plan

On September 30, 2015, EPA signed a notice to propose approval of the the MAG 2013 Carbon Monoxide Maintenance Plan. The plan indicates that the standard will be maintained through 2025. Please refer to the enclosed material

9. For information and discussion.

10. For information and discussion.

II. Call for Future Agenda Items

The next meeting of the Committee has been tentatively scheduled for **Thursday, December 3, 2015 at 1:30 p.m.** The Chair will invite the Committee members to suggest future agenda items.

II. For information and discussion.

MINUTES OF THE
MARICOPA ASSOCIATION OF GOVERNMENTS
AIR QUALITY TECHNICAL ADVISORY COMMITTEE MEETING

Thursday, August 27, 2015
MAG Office
Phoenix, Arizona

MEMBERS ATTENDING

Tim Conner, Scottsdale, Chairman	Jeanette Fish, Maricopa County Farm Bureau
Jamie McCullough, El Mirage, Vice Chair	Heather Thrasher for Steve Trussell, Arizona
Drew Bryck, Avondale	Rock Products Association
Susan Avans for Robert van den Akker, Buckeye	* Claudia Whitehead, Greater Phoenix Chamber
# Jim Weiss, Chandler	of Commerce
* Jessica Koberna, Gilbert	* Amanda McGennis, Associated General
Megan Sheldon, Glendale	Contractors
* Cato Esquivel, Goodyear	* Spencer Kamps, Homebuilders Association of
# Kazi Haque, Maricopa	Central Arizona
# Greg Edwards, Mesa	# Mannie Carpenter, Valley Forward
William Mattingly, Peoria	* Kai Umeda, University of Arizona Cooperative
Joe Giudice, Phoenix	Extension
# John McFarlane for Antonio DeLaCruz, Surprise	Joonwon Joo for Beverly Chenausky, Arizona
Oddvar Tveit, Tempe	Department of Transportation
* Youngtown	# Eric Massey for Arizona Department of
* Ramona Simpson, Queen Creek	Environmental Quality
# Walter Bouchard, American Lung Association of	* Environmental Protection Agency
Arizona	Corky Martinkovic, Maricopa County Air
Kristin Watt, Salt River Project	Quality Department
Rebecca Hudson-Nunez, Southwest Gas Corporation	* Scott DiBiase, Pinal County
Michael Denby, Arizona Public Service Company	Michelle Wilson, Arizona Department of
* Gina Grey, Western States Petroleum Association	Weights and Measures
* Robert Forrest, Valley Metro/RPTA	* Ed Stillings, Federal Highway Administration
* Dave Berry, Arizona Motor Transport Association	* Judi Nelson, Arizona State University
	Stan Belone, Salt River Pima-Maricopa Indian
	Community

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

OTHERS PRESENT

Lindy Bauer, Maricopa Association of Governments	# Dawn Coomer, Valley Metro/RPTA
Julie Hoffman, Maricopa Association of Governments	Ben Davis, Maricopa County Air Quality
Matt Poppen, Maricopa Association of Governments	Department
Kara Johnson, Maricopa Association of Governments	Todd Williams, Michael Baker International
Dean Giles, Maricopa Association of Governments	Joe Gibbs, City of Phoenix
Taejoo Shin, Maricopa Association of Governments	My Le, Maricopa County Air Quality
Amy St. Peter, Maricopa Association of Governments	Department
Cathy Arthur, Maricopa Association of Governments	Jesse Potestas, Maricopa County Air Quality
Randy Sedlacek, Maricopa Association of	Department
Governments	Philip Loftis, Maricopa County Department of
	Transportation
	Liz Foster, Arizona Farm Bureau Federation

1. Call to Order

A meeting of the Maricopa Association of Governments (MAG) Air Quality Technical Advisory Committee (AQTAC) was conducted on August 27, 2015. Tim Conner, City of Scottsdale, Chair, called the meeting to order at approximately 1:30 p.m. Eric Massey, Arizona Department of Environmental Quality; Greg Edwards, City of Mesa; Mannie Carpenter, Valley Forward; John McFarlane, City of Surprise; Kazi Haque, City of Maricopa; Jim Weiss, City of Chandler; Walter Bouchard, American Lung Association; and Dawn Coomer, Valley Metro attended the meeting via telephone conference call.

Chair Conner indicated that copies of the handouts for the meeting are available. He noted for members attending through audio conference, the presentations for the meeting will be posted on the MAG website under Resources for the Committee agenda, whenever possible. If it is not possible to post them before the meeting, they will be posted after the meeting.

2. Call to the Audience

Chair Conner stated that the Call to the Audience provides an opportunity for members of the public to address the 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. Comment cards for those wishing to speak are available on the tables adjacent to the doorways inside the meeting room. 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 Committee requests an exception to this limit. Please note that those wishing to comment on action agenda items will be given an opportunity at the time the item is heard. Chair Conner noted that no public comment cards had been received.

Jeanette Fish, Maricopa County Farm Bureau, indicated that she is retiring next month. She stated that she has been on the Committee for 16 years. Ms. Fish introduced Elizabeth Foster who will be her replacement at the Maricopa County Farm Bureau.

3. Approval of the May 21, 2015 Meeting Minutes

The Committee reviewed the minutes from the May 21, 2015 meeting. Megan Sheldon, City of Glendale, requested that 1.065 be revised to 0.065 under agenda item number five in the minutes. William Mattingly, City of Peoria, moved and Ms. Sheldon seconded and the motion to approve the May 21, 2015 meeting minutes, with the correction, carried unanimously.

4. EPA Notice Proposing to Reclassify the Maricopa Eight-Hour Ozone Nonattainment Area from Marginal to Moderate for the 2008 Ozone Standard

Lindy Bauer, Maricopa Association of Governments, provided a presentation on the Environmental Protection Agency (EPA) notice proposing to reclassify the Maricopa Eight-Hour Ozone Nonattainment Area from Marginal to Moderate for the 2008 ozone standard. She indicated that ground level ozone is a summer air pollutant. Ozone is not directly emitted into the atmosphere, rather volatile organic compounds (VOC) and nitrogen oxides (NO_x), in the presence of sunlight and high temperatures, cook and can turn into ozone. Ms. Bauer stated that the eight-hour ozone nonattainment area is the largest nonattainment area in the region and

encompasses 5,017 square miles. The nonattainment area was expanded slightly by the Environmental Protection Agency in 2012.

Ms. Bauer discussed the sources of ozone. She mentioned the draft 2011 ozone season-day VOC emissions in the Maricopa nonattainment area. She noted that biogenics, natural vegetation such as trees and plants, is the largest category at 58.5 percent. Ms. Bauer noted that in a study conducted by MAG on biogenics, isoprenes of some plants can be more reactive than vehicle exhaust in the formation of ozone. Area sources make up 19 percent of the VOC emissions; area sources include the following: solvents and coatings use; fuel storage and transport; waste treatment and disposal; industrial and chemical processes; residential and industrial fuel combustion; and wildfires. Onroad sources, including cars and trucks, are 12.3 percent of the emissions. Nonroad sources make up 9.8 percent, which include: commercial; industrial; construction; mining; lawn and garden; farm and recreational equipment; aircraft; and locomotives. The remaining 0.5 percent are point sources, which are manufacturing and electrical power generating facilities. She noted that these are the sources, based on the Maricopa County draft 2011 emissions inventory.

Ms. Bauer discussed NO_x emissions. The draft 2011 ozone season-day NO_x emissions in the Maricopa nonattainment area include the following: 60.9 percent are onroad sources; 28.5 percent are nonroad; 6.3 percent are area sources; 3.0 percent are point sources; and 1.2 percent are biogenic sources.

Ms. Bauer discussed the progress the region has made in reducing ozone concentrations over time. In June 2005, EPA redesignated the Maricopa County nonattainment area to attainment status for the one-hour standard. There have been no violations of the one-hour standard since 1996. She stated the region has had no violations of the eight-hour ozone standard of 0.08 parts per million (ppm) since 2004. The MAG 2009 Eight-Hour Ozone Maintenance Plan, recently approved by EPA, demonstrates that the standard of 0.08 ppm will continue to be met through 2025. However, the region has not met the current 0.075 ppm eight-hour ozone standard set by EPA in 2008. On August 19, 2015, EPA signed a notice proposing action for 36 Marginal nonattainment areas for the 0.075 ppm ozone standard. The notice indicated that the Maricopa eight-hour ozone nonattainment area did not meet the standard by the July 20, 2015 attainment date and did not qualify for a one year extension of the attainment date. EPA is proposing to reclassify the region from a Marginal Area to a Moderate Area.

Ms. Bauer stated that under the Clean Air Act, there are five classifications for ozone. She discussed that areas classified as Marginal have lower ozone concentrations. As the ozone concentrations increase, so does the classification level. She noted that with each step up in classification, there are additional requirements and different attainment dates. Ms. Bauer noted that the best course of action is to attain the standard as quickly as possible to avoid additional requirements on the nonattainment area. For Marginal Areas, EPA assumed that no additional control measures would be necessary to attain the standard. Ms. Bauer indicated that the MAG 2014 Eight-Hour Ozone Plan Submittal of Marginal Area Requirements did not include additional control measures. She noted that this was beneficial for the region due to the recession.

Ms. Bauer presented the eight-hour ozone monitoring data for the 1997 and the 2008 eight-hour ozone standards. The chart indicated that in 2014 four monitors were in violation of the current 0.075 ppm ozone standard. Ms. Bauer stated that the four violating monitors are: North Phoenix, West Phoenix, Pinnacle Peak, and Phoenix Supersite.

Ms. Bauer displayed trend data of the highest three-year average of the fourth high concentrations from 2000-2014. She noted that generally concentrations are in a downward trend other than an increase from 2011 to 2012 which was due to meteorology. The bottom dotted line on the chart represents the current standard that has not been met.

Ms. Bauer indicated that the required Moderate Area Plan has a January 1, 2017 due date. She stated that MAG tracks the Maricopa County monitoring data and the reclassification to a Moderate Area was anticipated. MAG staff has previously reported on this to the Committee. Ms. Bauer reported that MAG has begun work on the Plan due to the extensive work necessary. The Plan is required to demonstrate at least a 15 percent reduction in VOC emissions over a six year period, 2012-2017. The options for the 15 percent reduction will be discussed under agenda item six.

Ms. Bauer discussed the July 20, 2018 attainment date for the region. She stated that the Plan is required to demonstrate attainment in the prior 2017 ozone season since the attainment date is in the middle of the 2018 summer ozone season. Ms. Bauer noted that the attainment date for the Marginal Area was December 31, 2015, which allowed the ozone nonattainment areas a full calendar year. However, on December 23, 2014 the Court ruled that EPA did not have the authority to make the attainment date December 31, 2015. Ms. Bauer noted that the attainment date went back to July 20, 2015. This attainment date required the region to be clean at the monitors in the 2014 ozone season to attain the standard. The region did not attain the standard in the 2014 ozone season. Ms. Bauer explained that the nonattainment area will need three years of clean data at the monitors and a clean modeling demonstration in 2017 to meet the standard by the July 20, 2018 attainment date.

Ms. Bauer outlined additional Moderate Area requirements. Moderate Area requirements include: reasonably available control technology; reasonably available control measures; new source review; emissions inventories; contingency measures; Motor Vehicle Emissions Budgets; and off-set requirement for major industries. Ms. Bauer added that the Plan will be based on the 2011 Periodic Emissions Inventory, however Maricopa County will have the 2014 Periodic Emissions Inventory completed by the due date. She stated that MAG will include the 2014 Periodic Emissions Inventory because the Clean Air Act and EPA require the most recent emissions inventory in the Plan. Ms. Bauer commented on the off-set requirement for major industries. She stated that for every pound of pollution emitted, a reduction of 1.15 pounds is required.

Ms. Bauer discussed next steps. She stated that first the benefits of the federal control measures are going to be applied. The federal control measures impact similar sources across the country. Ms. Bauer noted that this will aid in reducing the transport that comes into the region from other areas. She stated that the federal control measures deliver significant benefits. For example, the Tier 3 vehicle tailpipe standards and cleaner fuels beginning in 2017 will have an immediate impact. Starting with model year 2017 vehicles, as the vehicle fleet turns over, there are cleaner

and cleaner vehicles on the road. Ms. Bauer indicated that once the federal measures are applied it will be determined whether additional measures are needed. She stated that MAG hopes that the modeling will show that additional control measures are not needed. She mentioned that the MAG Economic Development Committee brings together MAG member agencies, the private sector, the State, local governments, and Maricopa County to work together on fostering economic development in the region. Ms. Bauer noted that it would be helpful if no additional control measures were required. She stated that the region currently has over 80 control measures implemented to reduce ozone. Ms. Bauer indicated that MAG is compiling a list of the measures for a presentation at a later date.

Ms. Bauer continued on the next steps. She stated that MAG staff is preparing exceptional event documentation for a wildfire on June 19, 2015 in San Bernardino, California. The wildfire caused exceedances of the ozone standard in the region on June 20, 2015. MAG staff will be using the Arizona Department of Environmental Quality (ADEQ) meteorological data for the exceptional event documentation. Included in the next steps, she stated that the region must obtain three years of clean data at the monitors. If the standard has not been attained, the region could potentially apply for a one year extension of the attainment date. MAG is working with the Maricopa County Air Quality Department, ADEQ, and the Arizona Department of Transportation on the Moderate Area Plan. Ms. Bauer indicated that MAG will be working with the Committee on the Plan and providing updates. She added that the Federal Register Notice was provided at each place. The Federal Register Notice indicated that comments may be provided through September 28, 2015.

Chair Conner asked about the exceptional events on wildfires. Ms. Bauer responded that the pollutants emitted by wildfires can cause exceedances of the ozone standard. A wildfire on June 19, 2015 in San Bernardino, California transported emissions to the region that caused ozone exceedances. Meteorological data from ADEQ will be used in the exceptional event documentation that will be submitted to ADEQ and EPA so that the increased values will not be counted against the region.

5. Air Quality Status Report

Julie Hoffman, Maricopa Association of Governments, provided an Air Quality Status Report to the Committee. She indicated that the update will provide information on carbon monoxide, ozone, and PM-10 concentrations in the region.

Ms. Hoffman displayed the number of eight-hour carbon monoxide exceedance days in the Maricopa County maintenance area since 1983. She stated that the standard for carbon monoxide is 9 parts per million (ppm), not to be exceeded more than once per year at a monitor. The region has attained the eight-hour carbon monoxide standard. Ms. Hoffman indicated that there have been no exceedances of the eight-hour carbon monoxide standard since 1999. The last violation of the eight-hour carbon monoxide standard occurred in 1996.

Ms. Hoffman presented the trend of the second highest eight-hour carbon monoxide concentrations in the region. She noted the significant decline in carbon monoxide concentrations. Ms. Hoffman stated that in 2014 the carbon monoxide levels in the region were 67 percent below the standard.

Ms. Hoffman discussed ozone. She noted that the region has met two ozone standards: the one-hour ozone standard of 0.12 ppm and the eight-hour ozone standard of 0.08 ppm. No violations of the one-hour ozone standard have occurred since 1996. Ms. Hoffman stated that the region has not violated the 0.08 ppm standard since 2004. For the current eight-hour ozone standard of 0.075 ppm, there were four violating monitors in 2014. Ms. Hoffman indicated that the concentrations have come down. The highest three-year average of the fourth highest eight-hour ozone concentration in 2014 was 0.080 ppm at the North Phoenix monitor. The four monitors violating the 0.075 ppm eight-hour ozone in 2014 were: North Phoenix, West Phoenix, Phoenix Supersite, and Pinnacle Peak.

Ms. Hoffman stated that the 2015 exceedances of the eight-hour ozone standard of 0.075 ppm by date and monitor have been provided to the Committee at each place. She noted that the 2015 ozone season has not yet ended, however there have been eight ozone exceedance days to date. Ms. Hoffman indicated that the June 20, 2015 exceedance is noted as a potential exceptional event due to the wildfire. She added that the three-year average of the fourth high for years 2013, 2014, and 2015 has also been provided to the Committee. There are currently four violating monitors in 2015: Mesa, North Phoenix, Phoenix Supersite, and Pinnacle Peak. To date, the highest three-year average of the fourth high in 2015 is 0.078 ppm.

Ms. Hoffman presented the number of 24-hour PM-10 exceedance days in Maricopa County and the PM-10 nonattainment area by year. She added that the data also notes exceptional events. In 2014, there were seven exceedance days of the PM-10 standard in which six of the days were flagged as exceptional events. Ms. Hoffman indicated that there have been no exceedances of the PM-10 standard in 2015.

6. Update on the MAG Eight-Hour Ozone Moderate Area Plan for the Maricopa Nonattainment Area

Matt Poppen, Maricopa Association of Governments, provided an update on the MAG Eight-Hour Ozone Moderate Area Plan for the Maricopa Nonattainment Area. He stated that in the EPA notice proposing to reclassify the Maricopa Eight-Hour Ozone Nonattainment Area from a Marginal to a Moderate Area, EPA has provided the Moderate Area Plan due date of January 1, 2017. One of the Moderate Area requirements is a demonstration that models attainment at the monitors by the attainment date, July 20, 2018. Since the attainment date is in the middle of the summer ozone season, the Plan is required to demonstrate attainment in the 2017 ozone season. The MAG air quality modeling staff have been preparing the inputs necessary for the modeling demonstration, which include meteorology and emissions inventories at a local, State, National, and International level. Mr. Poppen commented that ozone modeling is complex in that a large area is modeled to replicate concentrations. He noted that once the inputs are completed, the existing control measures will be evaluated for sufficiency to attain the standard in 2017.

Mr. Poppen discussed the Moderate Area requirement of reasonable further progress. He stated that to demonstrate reasonable further progress, a rate of progress plan is required that provides a 15 percent reduction in VOC emissions over a six-year period, 2012 to 2017, from the baseline anthropogenic emissions. The baseline year is 2011. Mr. Poppen added that biogenic emissions would not be included in the reasonable further progress demonstration. He stated that the EPA

implementation rule provides two options for calculating and demonstrating the 15 percent rate of progress reduction requirement for the Maricopa nonattainment area.

Mr. Poppen presented a map of the eight-hour ozone nonattainment area to demonstrate the two options for the reasonable further progress demonstration. Option one is to demonstrate a 15 percent reduction in strictly VOC emissions across the entire eight-hour ozone nonattainment area. Mr. Poppen discussed that option two allows for a 15 percent reduction in NO_x and/or VOC in the one-hour ozone maintenance area. EPA allows any combination of VOC and/or NO_x reduction in the one-hour maintenance area since this area has already demonstrated a 15 percent reduction in VOCs in a prior plan. For example, the one-hour maintenance area could demonstrate a 10 percent reduction in VOC and a five percent reduction in NO_x. In addition, under option two the area outside the one-hour maintenance area, but inside the eight-hour nonattainment area (called the donut area) would still be required to demonstrate a 15 percent reduction in VOC emissions only. He noted that option two is more flexible than option one, however it is more complex. Mr. Poppen stated that under both options, the control measures are applied equally throughout the entire nonattainment area. He explained that it is simply the calculations that differ between the two options. Mr. Poppen indicated that preliminary analysis looks positive that existing control measures are sufficient to meet the requirements.

Mr. Poppen continued with the Moderate Area requirements. He stated that another requirement is reasonably available control technology (RACT), which are largely controls on point and area sources of VOC and NO_x in the nonattainment area. EPA sets control technique guidelines that create the baseline for evaluating RACT. Maricopa County Air Quality Department is in the process of updating their rules to meet RACT for VOC and NO_x sources.

Mr. Poppen discussed reasonably available control measures (RACM). The RACM requirement requires a demonstration that all reasonably available control measures (including RACT) have been adopted to meet the reasonable further progress requirements and demonstrate attainment as expeditiously as practicable. Mr. Poppen reviewed that there are over 80 local, state, and federal ozone control measures already in place in the Maricopa nonattainment area. He noted that these measures were adopted in previous plans and also include federal measures, such as the tailpipe standards that were released separately. Any new RACM measure would have to be economically and technologically feasible along with advancing the attainment date or be necessary for demonstrating reasonable further progress. Mr. Poppen indicated that EPA suggests looking at ozone control measures in other nonattainment areas and has provided a list of VOC and NO_x controls that are currently available.

Mr. Poppen stated that new source review is also a Moderate Area requirement. New source reviews are the permitting rules for major and minor point and area sources. The Arizona Department of Environmental Quality, Maricopa County Air Quality Department, and Pinal County Air Pollution Control District are in the process of updating their new source review rules.

Mr. Poppen indicated that emissions inventories are also a Moderate Area requirement. He stated that the Plan is based on the 2011 base year inventory developed by Maricopa County. Inventories for modeling and the reasonable further progress are also being developed. Additionally, the 2014 periodic emissions inventory will also be available for inclusion in the Plan.

Mr. Poppen added that contingency measures are also required if the control measures in place are not sufficient to produce attainment by 2017. Contingency measures should represent one year's worth of progress, amounting to a three percent reduction in baseline VOC and/or NOx emissions. Mr. Poppen added that contingency measures can be existing measures.

Mr. Poppen presented additional Moderate Area requirements. Motor Vehicle Emissions Budgets will be produced from the attainment demonstration modeling for the year 2017, which will include VOC and NOx emissions for onroad mobile sources. Mr. Poppen stated that a Moderate Area is also required to maintain a motor vehicle inspection and maintenance program. ADEQ operates the program for the Maricopa nonattainment area. In addition, there is an emissions offset requirement for major industries for both VOC and NOx. Mr. Poppen stated that to demonstrate that the region has met the standard, three years of clean data is required at the monitors for years 2015, 2016, and 2017. Exceptional event demonstrations will be prepared as needed for ozone exceedances caused by wildfires.

Mr. Poppen discussed the possible ozone wildfire exceptional event on June 20, 2015. He presented a satellite photograph taken June 19, 2015 at approximately noon. The Lake Fire is circled in red and smoke drifting eastward into Arizona and Mexico is visible. Mr. Poppen noted that on June 20, 2015, the monitors displayed high ozone concentrations. The highest ozone concentrations were recorded at the Falcon Field monitor. A yellow dotted line on the photograph represents the back trajectory the smoke traveled making its way to the Falcon Field monitor in the ozone nonattainment area. Mr. Poppen indicated that at 3:00 p.m. on June 20, 2015 the ozone concentration reached a peak of 0.089 ppm at the Falcon Field monitor. He commented that each yellow dot represents one hour of time. The smoke shown in Mexico and western Arizona in the satellite photo was transported to the Maricopa ozone nonattainment area and contained ozone or ozone precursors that contributed to the ozone exceedance on June 20, 2015. Mr. Poppen stated that MAG shared this image to demonstrate some of the analysis that is prepared for an ozone exceptional event for wildfires. He noted that ozone exceptional events are different than the PM-10 exceptional events that have been presented to the Committee.

Rebecca Hudson-Nunez, Southwest Gas Corporation, inquired if the ozone exceptional event requires the same level of documentation as a PM-10 exceptional event. Mr. Poppen replied that EPA has provided samples of approved ozone exceptional event documentation for wildfires as a reference. MAG will be using the samples as a model for the level of documentation to submit. Mr. Poppen noted that there is quite a bit of work involved and that modeling will be necessary in the exceptional event documentation to demonstrate how much ozone the fire contributed above the normal local concentrations. He stated that because EPA has approved other ozone exceptional event documentation for wildfires that MAG can use those as templates for the submittal.

7. Draft Maricopa County 2014 Air Monitoring Network Plan

Ben Davis, Maricopa County Air Quality Department, presented the Draft Maricopa County 2014 Air Monitoring Network Plan. He stated that he is the Air Monitoring Manager for Maricopa County. The Maricopa County Air Quality Department Air Monitoring Division monitors a majority of the air quality monitors in Maricopa County. The mission of the division is to produce data on the air quality in the region. Mr. Davis stated that he will provide an update

on the 2014 data summary, network changes, emergency and mobile monitoring, and assisting compliance.

Mr. Davis presented a graph of the monitors violating the eight-hour ozone standard in 2014. He noted that an ozone violation is when the three-year average of the fourth high is above the current standard. Mr. Davis indicated that North Phoenix, Pinnacle Peak, and West Phoenix monitors have violated the current ozone standard of 0.075 ppm. He commented that the Supersite monitor, operated by the Arizona Department of Environmental Quality, is not on this graph which is the fourth violating monitor mentioned earlier. The current standard is displayed in a blue line, however the potential standards of 0.070 ppm and 0.065 ppm were added to the graph. Mr. Davis indicated that if EPA lowered the standard to 0.065 ppm, the Buckeye monitor would be the only monitor not in violation of the standard in 2014.

Mr. Davis presented a table of PM-10 exceedances in 2014. He indicated that there were no violations of the PM-10 standard in 2014. Mr. Davis mentioned the one exceedance at the Buckeye monitor in 2014. There have been no violations or exceedances of the PM-10 standard in 2015. Mr. Davis stated that the region is in a positive footing for the PM-10 standard.

Mr. Davis discussed PM-2.5. He stated that smoke from fires and diesel smoke are examples of PM-2.5. There have been no violations of the annual and 24-hour PM-2.5 standards. However, he noted that it is important to continue to monitor the PM-2.5 concentration since the 2014 value at the West Phoenix monitor of 11.13 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) was getting close to the annual standard of 12 $\mu\text{g}/\text{m}^3$.

Mr. Davis stated that the Monitoring Network Plan is a summarization of 2014 projects and any plans for 2015. One project for 2015 is the two near-road monitor sites; Maricopa County is required to have two near-road monitoring sites. Mr. Davis indicated that extensive work went into determining the locations for the near-road monitoring sites. He noted that the first near-road operating monitor is the Diablo site located at Diablo Street and Fairmont just south of the Tempe Diablo Stadium. Mr. Davis stated that the new Thirty-Third site is located at 33rd Avenue and the Interstate 10. The Thirty-Third site came online recently, however will start officially reporting September 1, 2015.

Mr. Davis discussed the installation of the Thirty-Third site. He indicated that a crane was used to place the shelter inside the barrier walls. Mr. Davis stated that the monitoring site is collecting good data and Maricopa County is working on establishing the site in the EPA Air Quality System database.

Mr. Davis discussed site construction. He stated that the Fountain Hills ozone monitoring site was being remodeled, however the construction is now complete and monitoring has resumed. Mr. Davis added that the Tempe site is currently down due to construction. He commented that the Higley site is currently shut down due to a change in the site location.

Mr. Davis stated that the Air Monitoring Division provides both emergency and mobile monitoring. He stated that emergency monitoring was provided during the West Valley mulch fire over the Thanksgiving holiday. Mobile monitoring was also provided during the Super Bowl. Mr. Davis added that the Air Monitoring Division has been assisting Tribal Communities with repair, operations, and training of their air monitoring equipment.

Mr. Davis indicated that the monitors, in addition to monitoring ambient air, can also assist with inspections for things such as leaks. He added that the division utilizes a thermographic camera that determines the location of leaks. Mr. Davis noted the monitors can also aid with odor complaints.

8. Tentative MAG Air Quality Project Schedule

Ms. Bauer discussed the tentative two year MAG Air Quality Project Schedule. She indicated that the dates for the Eight-Hour Moderate Area Ozone Plan have been included. Ms. Bauer stated that the Committee can use the schedule to track the air quality projects.

9. Call for Future Agenda Items

Chair Conner indicated that the next meeting of the Committee has been scheduled for Thursday, September 24, 2015 at 1:30 p.m. He requested suggestions for future agenda items. With no further comments, the meeting was adjourned at approximately 2:25 p.m.

October 15, 2015

TO: Members of the MAG Air Quality Technical Advisory Committee

FROM: Dean Giles, Air Quality Planning Program Specialist

SUBJECT: EVALUATION OF PROPOSED FY 2018, 2019, AND 2020 CMAQ PROJECTS FOR THE FY 2017-2021 MAG TRANSPORTATION IMPROVEMENT PROGRAM

The Maricopa Association of Governments staff has conducted an evaluation of proposed FY 2018, 2019, and 2020 Congestion Mitigation and Air Quality Improvement (CMAQ) projects submitted for the FY 2017-2021 MAG Transportation Improvement Program (TIP). The results of the project evaluations are ranked by cost-effectiveness by modal category in Attachment A. In accordance with the approved MAG Federal Fund Programming Guidelines and Procedures, this information is being presented to the MAG Air Quality Technical Advisory Committee for a possible recommendation to forward the CMAQ evaluation to the MAG Transportation Review Committee and modal committees for use in prioritizing projects. In addition, it is requested that the Committee rank the Air Quality Projects, to be forwarded to the MAG Transportation Review Committee. Please refer to the role of the AQTAC in the Congestion Mitigation and Air Quality Improvement Project Evaluation Process (Attachment B).

BACKGROUND

According to the federal Congestion Mitigation and Air Quality Improvement Program Guidance, published November 12, 2013, the purpose of the CMAQ program is to fund transportation projects or programs that will contribute to attainment or maintenance of the national ambient air quality standards for ozone, carbon monoxide, and particulate matter. A description of the project categories contained in federal CMAQ guidance, as well as general activities and projects eligible for CMAQ funding is provided in the Fact Sheet (Attachment C).

On August 10, 2015, MAG announced a Call for Projects for Federal Highway Administration suballocated CMAQ from member agencies in the Maricopa County and Pinal County PM-10 and PM-2.5 nonattainment areas. During the call for projects the MAG member agencies are requested, through the MAG Management Committee, the Transportation Review Committee, and modal committees, to submit project requests for federal funding. The Regional Transportation Plan allocates CMAQ funding percent by mode (see Attachment D). The program areas and estimated federal CMAQ funds available are:

- Air Quality Projects funding levels are \$6,594,332 for FY 2018, \$6,783,943 for FY 2019, and \$6,920,650 for FY 2020. The Trip Reduction Program, Regional Rideshare Program, and Travel Reduction Program are programmed through the MAG Unified Planning Work Program. In each year, an amount of \$4,000,000 is used for PM-10 Paving Unpaved Road

- Projects and the remaining amounts have been programmed as lump sums for PM-10 Certified Street Sweeper projects in future years of the TIP.
- Arterial Intelligent Transportation Systems (ITS) Projects for FY 2018 and 2019 - \$3.68 million in CMAQ funding each year. The MAG Intelligent Transportation Systems Committee comments on the project applications are provided in Attachment E.
 - Bicycle and Pedestrian Projects for FY 2018, 2019, and 2020 - \$7.8 million in CMAQ funding each year. Another \$4.2 million from the Transportation Alternative Program is also available each year for Bicycle and Pedestrian projects. The MAG Bicycle and Pedestrian Committee meets on October 20, 2015, and comments on the project applications will be provided.

The deadline for submitting project applications was September 21, 2015. Overall, MAG evaluated 37 PM-10 Paving Unpaved Road Projects, PM-10 Street Sweeper Projects, and other Air Quality projects as well as 32 ITS projects and 37 Bicycle and Pedestrian Projects. During the Call For Projects, MAG invited public comments as part of the Early Phase Input Opportunity. The MAG Public Participation Process is divided into four phases: Early Phase, Mid-Phase, Final Phase, and Continuous Involvement. MAG is in the Continuous Involvement Phase and is currently obtaining public input into the transportation programming process.

The Methodologies for Evaluating Congestion Mitigation and Air Quality Improvement Projects, September 30, 2011, were utilized to estimate the emission reduction benefits of the proposed CMAQ projects. All projects were evaluated for their estimated emission reduction benefits and cost-effectiveness utilizing these methodologies. The CMAQ methodologies involve the estimation of the total daily weighted emissions reduction of PM-10, nitrogen oxides (NO_x), and total organic gases (TOG) expressed in kilograms per day, and the cost-effectiveness of each project, measured in CMAQ dollars per metric ton of total annual emissions reduced. Since there have been no violations of the carbon monoxide (CO) standard since 1996, carbon monoxide has been assigned a weight of zero and therefore no CO emissions reductions are shown. The Environmental Protection Agency MOVES emission model was used to estimate emission factors for NO_x, TOG, and PM-10 exhaust, tire wear, and brake wear for the year of project implementation. The emission factors from EPA AP-42 were used to estimate reentrained PM-10 emissions from vehicles traveling on paved and unpaved roads.

Attachment A provides the results of the project evaluation ranked by cost-effectiveness within each modal category by the year requested by the member agency. It is important to note that all of the proposed projects support committed control measures contained in the MAG air quality plans. It is anticipated that these projects will be reviewed and ranked by the modal committees and then forwarded to the Transportation Review Committee.

Following review of the CMAQ evaluation by the MAG Air Quality Technical Advisory Committee, it is anticipated that the Committee may make a possible recommendation to forward the CMAQ evaluation to the MAG Transportation Review Committee and modal committees for use in prioritizing projects. In addition, it is requested that the Committee rank the Air Quality Projects to be forwarded to the MAG Transportation Review Committee. The Transportation Review Committee will be requested to recommend a fiscally constrained list of projects for federal funding to the MAG Management Committee for inclusion in the Draft FY 2017-2021 MAG Transportation Improvement Program.

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

Attachments

Table 1 - Evaluation of Proposed AIR QUALITY Projects for the Federal Fiscal Year 2018 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
	MAG	Regionwide	Purchase PM-10 Certified Street Sweepers ¹	2018		0.00	0.00	1168.33	1168.33	\$283	\$846,985
	MAG	Regionwide	Trip Reduction Program ²	2018		43.16	66.87	173.99	284.02	\$9,561	\$962,347
	MAG	Regionwide	Regional Rideshare Program ³	2018		24.74	38.70	50.54	113.98	\$14,706	\$594,000
	MAG	Regionwide	Travel Reduction Program ³	2018		0.27	0.43	1.12	1.82	\$209,560	\$135,000

Table 2 - Evaluation of Proposed Bicycle and Pedestrian Projects for the Federal Fiscal Year 2018 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
GLN-18-BPB-005	Glendale	Camelback Road, 79th Ave to 83rd Ave	Installation of new sidewalk and ADA ramps along the north side of Camelback Road to fill in pedestrian facility gaps. ⁶	2018	0.5	0.04	0.02	2.90	2.97	\$12,108	\$257,156
PEO-18-BPB-001	Peoria	83rd Avenue	Project along the half-street of 83rd Avenue between Happy Valley Road and Jomax Road to widen the asphalt on the east side of the street to provide width for 6' bike lanes on both sides (with curb on the west side and without curb on the east side). Project will also include construction of 5'-8' (as space and conflicts permit) sidewalk along the west side attached to the existing curb and gutter. ⁴	2018	1.2	0.01	0.01	2.49	2.51	\$45,073	\$614,836
ELM-18-BPB-001	El Mirage	Varney Road	The project is an unfinished segment of sidewalk in the City's right-of-way along a collector street. The project will complete and connect an exiting sidewalk. ⁶	2018	0.25	0.05	0.02	0.02	0.09	\$221,364	\$104,352
APJ-18-BPB-001	Apache Junction	Winchester Road	The project will provide new sidewalks to fill-in gaps in the pedestrian network along Winchester Rd and install bicycle lanes on the roadway shoulders. In addition, the project will add a center continuous left turn lane to allow safer turning movements and prevent backups along Winchester Rd. ^{4,5,6}	2018	0.5	0.01	0.01	0.74	0.76	\$314,130	\$1,289,994
TMP-18-BPB-004	Tempe	Western Canal Multi-use Path	The Western Canal / Missing Link project is proposed to be a 10' wide concrete shared-use path and on-street facility running .5 miles connecting the Highline and Western Canal pathways. The project will link local and regional facilities, other canal paths, a bicycle boulevard (the "Brake" route in Tempe's BIKEiT system), the Tempe North South Rail Spur Path and run through a public golf course, a Salt River Project facility and across a major arterial. ^{4,6}	2018	0.5	0.04	0.03	0.05	0.12	\$930,041	\$793,063

Table 2 - Evaluation of Proposed Bicycle and Pedestrian Projects for the Federal Fiscal Year 2018 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
PHX-18-BPB-002	Phoenix	Downtown Phoenix	The project scope consists of the siting, procurement, and installation of bikeshare equipment to expand the Citywide GRID bikeshare program. As part of this scope, approximately 250 “bikeshare” bicycles, 360 bicycle racks, 13 large Sign Displays, and 10 bikeshare kiosks will be purchased to expand services for this program. This expanded system will compliment the City’s existing bikeshare system launched in November, 2014. ⁴	2018	12	0.07	0.06	0.14	0.27	\$1,075,971	\$918,426
SCT-18-BPB-001	Scottsdale	McDowell Road: Pima Road to 64th Street	This project will design and construct the unfinished segments of bicycle lanes on McDowell Rd in order to provide continuous bike lanes from 64th St to Pima Rd. The new bike lanes will be created by reducing the width of the median and travel lanes. ^{4,5}	2018	3	0.11	0.10	0.23	0.43	\$1,345,442	\$3,152,449
TMP-18-BPB-002	Tempe	Rio Salado Shared-use Path Underpass at McClintock	Construct ADA compliant bicycle/pedestrian shared use underpass path under McClintock Drive bridge along the south bank of the Rio Salado River. ^{4,5,6}	2018	0.1	0.03	0.02	0.04	0.10	\$1,362,723	\$1,231,275
PHX-18-BPB-005	Phoenix	Phoenix	2018 Phoenix Pedestrian and Bicycle HAWK Signalized Crossing Program. ^{4,6}	2018	0.1	0.08	0.06	0.10	0.24	\$1,367,342	\$1,770,011
AVN-18-BPB-001	Avondale	Agua Fria Trail	This project will construct a pedestrian/bike bridge across the ADOT drainage channel connecting Friendship Park to the existing trail head recently constructed with the Agua Fria I-10 Underpass project. ^{4,6}	2018	0.1	0.02	0.01	0.02	0.05	\$2,374,505	\$1,168,377

Table 3 - Evaluation of Proposed ITS Projects for the Federal Fiscal Year 2018 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
GLN-18-ITS-001	Glendale	Citywide	Install emergency vehicle pre-emption (EVP) systems citywide at 48 arterial to arterial intersections, 5 signalized fire station access points, and 5 additional high priority signalized intersections (58 total locations). Purchase 58 radio units, 3 (EA) installation cables, and 57 vehicle equipment: 37 City of Glendale EMS vehicles and 20 additional units for neighboring jurisdictions that respond to Glendale emergencies. One (1) Central Management Software and one (1) CMS Maintenance Agreement will be required. Procurement of EVP equipment will use existing conduit with no ground disturbance. ⁷	2018	153.00	15.13	10.23	0.00	25.36	\$9,432	\$399,832

Table 3 - Evaluation of Proposed ITS Projects for the Federal Fiscal Year 2018 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
SUR-18-ITS-002	Surprise	Citywide	The project includes developing a planning document for ITS planning, deployment, and integration. The document will investigate mobility support, senior-living support, liveable/walkable/golf cart accessible communities. A communications section will focus on addressing issues of technology compatibility, upgrades to legacy equipment, and the integration of existing technology with new equipment and deployments within the City. ⁷	2018	55.00	3.39	1.93	0.00	5.32	\$15,906	\$141,450
PHX-18-ITS-001	Phoenix	SR51 corridor	Procure and provision and integrate traffic data acquisition devices at intersections along corridors adjacent and parallel to as well as traversing the SR 51. Additionally traffic data acquisition devices will be deployed along and traversing corridors of media interest. ⁷	2018	84.00	3.84	5.74	0.00	9.58	\$28,630	\$458,534
PEO-18-ITS-001	Peoria	Citywide	Purchase and install 72 four-section flashing yellow signal heads, new Peoria standard cabinet and controller at 12 signalized intersections in City of Peoria. ⁷	2018	100.00	2.79	1.25	0.00	4.05	\$52,961	\$358,340
MMA-18-ITS-001	MCDOT	Citywide	This project will enhance the RADS database to allow for additional connectivity of agencies, and expanded capacity for information exchange and archiving. MCDOT and partners will identify required enhancements based on needs of ICM, decision support for arterial-reroutes due to freeway incidents, and other needed capabilities that stakeholders have identified. Requirements will be identified, and MCDOT (and any contractors) will follow the systems engineering process to design, implement, and test the RADS enhancements. ⁷	2018	189.00	0.88	0.60	0.00	1.48	\$121,408	\$299,874
ELM-18-ITS-001	El Mirage	City Hall	Install approximately 6 miles of fiber optic cable within existing conduit and pull boxes that will be installed as part of currently approved ALCP projects. This cable will allow for the interconnection of six traffic signals and five CCTV cameras along El Mirage Road between Olive Avenue and Thunderbird Road. This infrastructure will be connected back to City Hall and the Police Department with possible connections to other City structures. The City will also discuss the feasibility of connecting to the adjacent networks with the appropriate agencies. ⁷	2018	5.70	0.24	0.36	0.00	0.61	\$301,606	\$305,721

Table 3 - Evaluation of Proposed ITS Projects for the Federal Fiscal Year 2018 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
MES-18-ITS-001	Mesa	West Mesa	Purchase, test and install new ATC traffic signal cabinets & controllers at 25 locations. Establish communications with new controllers to the TMC for enhanced traffic management and diagnostics capabilities. ⁷	2018	1.00	0.26	0.40	0.00	0.66	\$353,847	\$390,000
MAR-18-ITS-001	Maricopa	Honeycutt Road from SR 357 to White & Parker & White and Parker to Honeycutt City Hall	The project will install 1-3 inch conduit with innerduct, trunk fiber, interconnect 3 traffic signals along the conduit path, install 3 CCTV cameras at the traffic signals, and install wireless radio connections to 3 additional traffic signals on Smith-Enke Road, one mile to the north. By making the fiber connection to the traffic signal at SR 347 and Maricopa Casa Grande Highway, just south of Honeycutt, the City will have a dedicated fiber link between their facilities at City Hall and the ADOT signals along SR 347. The project is included in the City of Maricopa Regional Transportation Plan Update. ⁷	2018	3.00	0.22	0.35	0.00	0.57	\$416,220	\$400,000
TMP-18-ITS-001	Tempe	Citywide	Install a bi-directional Dynamic Message Sign (DMS), CCTV cameras, a high-speed wireless backbone link, intersection wireless radios, bicycle detection in mixed-use lanes and Emergency Vehicle Preemption networking. ⁷	2018	36.00	0.18	0.12	0.00	0.30	\$776,336	\$392,010
SUR-18-ITS-001	Surprise	Citywide	Review current implemented ITS technology at signalized intersections at or adjacent to City fire stations. Provide implementation plan to improve efficiency communications, consistency throughout the system and safety to the travelling public. ⁷	2018	7.00	0.03	0.02	0.00	0.05	\$1,230,285	\$94,300
CHN-18-ITS-001	Chandler	Chandler Blvd.	Procure bicycle detection systems for 20 signalized intersections in the City of Chandler with CMAQ grant. The field installation, wiring and configuration will be done by city employees and is not counted as part of the project cost. ⁷	2018	5.50	0.14	-0.01	0.00	0.14	\$1,746,457	\$396,060
GDY-18-ITS-002	Goodyear	Phase 2: Cotton Ln - Estrella Pkwy to Lower Buckeye Rd; Estrella Pkwy - Elliot Rd to Cotton Ln; Elliot Rd - San Gabriel Dr to Estrella Pkwy	Purchase and install approximately 3,030 LF of 2-2" conduits, 330 LF of 3" conduit, 25,000 LF of 96 strand SMFO cable, 3,300 LF of 12 strand SMFO cable, 5 fiber optic splice enclosures, 4 field hardened ethernet switches, 4 video codecs and 4 CCTV cameras. The project will connect the City of Goodyear TMC to the four traffic signals along Cotton Lane, Estrella Parkway and Elliot Road. ⁷	2018	1.00	0.05	0.03	0.00	0.09	\$2,088,656	\$301,482

Table 3 - Evaluation of Proposed ITS Projects for the Federal Fiscal Year 2018 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
GLN-18-ITS-003	Glendale	Camelback Rd, 75th Ave to 91st Ave	Installation of conduit, fiber optic cable, communications equipment and CCTV cameras at intersections along Camelback to complete several last mile connections to expand the City's remote control and management capabilities of the signal system. Specifically 2 miles of conduit/fiber optics and 2 cameras. ⁷	2018	2.00	0.06	0.03	0.00	0.08	\$2,862,259	\$400,000
BKY-18-ITS-2	Buckeye	Verrado Wy between Yuma Rd & Van Buren St; Verrado Wy between McDowell Rd & I-10	Complete current critical system gaps within major corridors to facilitate future installation of ITS. ⁷	2018	1.00	0.04	0.00	0.00	0.04	\$3,438,071	\$225,977
GLN-18-ITS-002	Glendale	Camelback Rd, 51st Ave to 67th Ave	Installation of conduit, fiber optic cable, communications equipment and CCTV cameras at intersections along Camelback to complete several last mile connections to expand the City's remote control and management capabilities of the signal system. Specifically 2 miles of conduit/fiber optics and 2 cameras. ⁷	2018	2.00	0.03	0.03	0.00	0.07	\$3,580,634	\$400,000
SCT-18-ITS-001	Scottsdale	Thomas Corridor	Purchase and install a total of 17 video detection cameras along Thomas Road from 60th Street to Pima Road and adjacent intersections with central control module/software at the TMC. The software would allow TMC operators within the city to set detection zones on cameras for dynamic traffic management purposes. ⁷	2018	3.50	0.03	0.02	0.00	0.05	\$4,237,125	\$368,713
APJ-18-ITS-001	Apache Junction	Apache Trail from Meridian Road to Idaho Road and Ironwood Drive from Superstition to US-60	Purchase and install wireless radios and wireless radio tower to connect all Apache Junction traffic signals to the City of Mesa central control system. Purchase and install a total of nine (9) CCTV cameras. The City would integrate new traffic signals and new CCTV into the City of Mesa central system under a separate local project. This integration into the City of Mesa system would allow permissions control to specific departments within the City and other adjacent agencies via RCN to control the cameras for traffic and incident management purposes. ⁷	2018	10.00	0.02	0.01	0.00	0.04	\$4,540,036	\$267,340
BKY-18-ITS-1	Buckeye	Yuma Rd between Miller Rd & Verrado Wy	Complete current critical system gaps within major corridors to facilitate future installation of ITS. ⁷	2018	1.00	0.04	0.00	0.00	0.04	\$4,820,408	\$316,835

Table 3 - Evaluation of Proposed ITS Projects for the Federal Fiscal Year 2018 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
AVN-18-ITS-001	Avondale	Dysart Rd	Procure, Construct and Install: Three (3) new ASC 3 controllers installed to replace existing to provide compatible ITS applications. Two CCTV cameras will be included for the Van Buren Street and Coldwater North intersections. Fiber backbone will be installed in Dysart Road roadway right-of-way from Van Buren to north of I-10. ⁷	2018	0.50	0.01	0.02	0.00	0.03	\$5,455,548	\$278,279
GDY-18-ITS-001	Goodyear	Phase 1: Elwood Street - Cotton to Estrella; Cotton Lane - Commerce to Elwood	Purchase and install approximately 5,540 LF of 2-2" conduits, 5,540 LF of 3" conduit, 12,000 LF of 96 strand SMFO cable, 800 LF of 12 SMFO cable, 2 fiber optic splice enclosures, 2 field hardened ethernet switches, 2 video codecs and 2 CCTV cameras. The project will connect the City of Goodyear TMC to the two traffic signals along Cotton Lane and Sarival Avenue. ⁷	2018	0.50	0.01	0.01	0.00	0.02	\$10,549,431	\$380,683

Table 4 - Evaluation of Proposed AIR QUALITY Projects for the Federal Fiscal Year 2019 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
	MAG	Regionwide	Purchase PM-10 Certified Street Sweepers ¹	2019		0.00	0.00	1168.33	1168.33	\$346	\$1,036,596
	MAG	Regionwide	Trip Reduction Program ²	2019		40.34	59.68	179.56	279.59	\$9,713	\$962,347
	MAG	Regionwide	Regional Rideshare Program ³	2019		23.14	34.57	52.26	109.97	\$15,243	\$594,000
	MAG	Regionwide	Travel Reduction Program ³	2019		0.25	0.37	1.12	1.73	\$219,846	\$135,000

Table 5 - Evaluation of Proposed Bicycle and Pedestrian Projects for the Federal Fiscal Year 2019 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
PHX-19-BPB-009	Phoenix	Bounded by Mohave to the north, Durango to the south, 1st Street to the west and 5th Street to the east	Friendly House Safe Streets, Safe Routes to School Project: The neighborhood north of the school lacks sidewalk, curb and gutter, ADA ramps and lighting. The goal of the project would be to install these missing items. ^{5,6}	2019	0.6	0.01	0.00	10.10	10.11	\$19,746	\$1,084,196
PVY-19-BPB-001	Paradise Valley	Lincoln Drive	This project will install 6' wide meandering colored concrete sidewalks which will complete a safe pedestrian connection along Lincoln Drive between the town's western boundary with the City of Phoenix and the eastern boundary with the City of Scottsdale. ^{5,6}	2019	2	0.05	0.03	14.51	14.58	\$24,739	\$1,958,977
PHX-19-BPB-001	Phoenix	Connecting the Gap on Roeser Road: 32nd Street to 36th Street	Design and construct pedestrian improvements on south side and stripe bicycle lanes on both sides. ^{4,5,6}	2019	0.65	0.01	0.01	1.17	1.19	\$137,678	\$888,895

Table 5 - Evaluation of Proposed Bicycle and Pedestrian Projects for the Federal Fiscal Year 2019 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
GLN-19-BPB-002	Glendale	Paradise Lane, 55th to 59th Ave	New sidewalk and ADA ramps will be added to fill in bicycle and pedestrian facility gaps. ⁶	2019	0.5	0.06	0.03	0.02	0.12	\$281,722	\$233,110
GLN-19-BPB-004	Glendale	SR101L, Bethany Home Rd to Maryland Ave	This project will include a multiuse pathway to extend the Grand Canal Linear Park multiuse path, widen existing sidewalk, and restripe Maryland Avenue to add bike lanes. ^{4,6}	2019	2	0.07	0.05	0.11	0.23	\$446,735	\$731,768
PHX-19-BPB-006	Phoenix	Phoenix	2019 Phoenix Pedestrian and Bicycle HAWK Signalized Crossing Program ^{4,6}	2019	0.1	0.07	0.05	0.10	0.23	\$679,327	\$830,783
SCT-19-BPB-003	Scottsdale	Underpass at Chaparral Road and Indian Bend Wash Path	This project will design and construct a north/south non-motorized underpass at Chaparral Road along the Indian Bend Wash Path. It will include connections to the paths, existing east/west tunnel, sidewalks, and crosswalk. ^{4,6}	2019	0.01	0.05	0.04	0.08	0.17	\$745,504	\$1,182,569
SUR-19-BPB-001	Surprise	Bullard Avenue Multimodal Corridor	The City envisions Bullard Avenue as a multimodal corridor with a raised landscaped median, one 11-ft vehicle travel lane, one 6-ft Neighborhood Electric Vehicle (NEV) travel lane, a buffer zone, a 5-ft raised cycle track, landscape strip, and sidewalks on each side of the roadway. Two HAWK signals are proposed at the intersections with Acoma Drive and with Sweetwater Avenue. ⁴	2019	4	0.06	0.05	0.14	0.26	\$1,089,371	\$1,551,235
SCT-19-BPB-004	Scottsdale	Via Linda CAP Canal Underpass	Design and construct a non-motorized underpass at Via Linda and 1-mile long 10-foot concrete path along the south side of the Central Arizona Project Canal from Via Linda to the Cactus and Frank Lloyd Wright intersection. It will complete a local corridor gap along the regional CAP Trail. ^{4,6}	2019	1	0.05	0.04	0.08	0.17	\$1,094,286	\$1,735,830
SUR-19-BPB-003	Surprise	Greenway Road and Thompson Ranch Road	This joint project between the Cities of Surprise and El Mirage proposes to install a pedestrian crossing at or near the existing paved intersection of Greenway Road and Thompson Ranch Road/El Mirage Road. ⁶	2019	0.1	0.02	0.01	0.01	0.03	\$1,304,995	\$203,452
TMP-19-BPB-001	Tempe	Alameda Drive	Design bicycle and pedestrian facility improvements on three miles of a collector street that will include improved street crossings, road diets, medians, buffered or protected bike lanes, landscaping, lighting, enhanced sidewalks and pedestrian amenities and upgrades to meet all Americans with Disabilities Act design requirements. ^{4,6}	2019	3	0.07	0.05	0.10	0.22	\$1,328,677	\$1,584,282

Table 5 - Evaluation of Proposed Bicycle and Pedestrian Projects for the Federal Fiscal Year 2019 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
GLB-19-BPB-001	Gilbert	Western Powerline Trail Grade Separated Bicycle/Pedestrian Bridge	This project will construct a grade-separated bike/ped bridge to provide safe, unobstructed passing for trail users. ^{4,6}	2019	0.22	0.06	0.04	0.09	0.19	\$1,628,137	\$2,829,943
SUR-19-BPB-002	Surprise	Grand Avenue Sidewalk	Construct approximately 2 miles of 10-foot wide shared use path on the southwest side of Grand Avenue from SR303 to Yorkshire Drive. The project will also fill in a missing segment of sidewalk (approximately 200 feet) in front of the Century Link building at 14541 W. Grand Avenue, approximately 2,200 feet south of W. Yorkshire Drive. ^{4,6}	2019	2	0.08	0.06	0.11	0.25	\$1,705,063	\$2,293,727
QNC-19-BPB-001	Queen Creek	Queen Creek Wash Trail Extension	The design and paving of approximately 73,000 square feet alongside the Queen Creek Wash to extend an existing multi-use trail from Crismon Road to Rittenhouse Road. ^{4,6}	2019	1.4	0.02	0.02	0.03	0.07	\$1,822,863	\$969,248
MES-19-BPB-003	Mesa	West-side of McDowell Road	South Canal Shared Use Path, which begins at the east side of the existing Consolidated Canal Shared Use Path, then extends northeasterly within the SRP South Canal ROW where it will join the SRP Eastern Canal terminating on the west-side of McDowell Road. ^{4,6}	2019	3.5	0.04	0.03	0.06	0.12	\$2,254,398	\$2,003,013
MES-19-BPB-001	Mesa	Southeast Pathway (Phase 2): Elliot Road to Hawes Road	This project is Phase 2 of the Southeast Shared Use Path, which begins at the east side of Power Road within the ADOT Loop 202 San Tan Freeway Right of Way (ROW), then extends northeasterly within the ADOT Loop 202 ROW where it will join and cross the RWCD Canal and EMF and then extends along the west-side of the ADOT ROW to Baseline Road. Phase 2 will construct the pathway segment from Elliot to Hawes Roads. ^{4,6}	2019	2.5	0.03	0.02	0.04	0.10	\$2,933,767	\$2,032,624

Table 6 - Evaluation of Proposed ITS Projects for the Federal Fiscal Year 2019 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
MMA-19-ITS-002	MCDOT	Citywide	This project will enhance the RADS database to allow for additional connectivity of agencies, and expanded capacity for information exchange and archiving. MCDOT and partners will identify required enhancements based on needs of ICM, decision support for arterial-reroutes due to freeway incidents, and other needed capabilities that stakeholders have identified. Requirements will be identified, and MCDOT (and any contractors) will follow the systems engineering process to design, implement, and test the RADS enhancements. ⁷	2019	279.50	2.14	1.35	2.43	5.92	\$12,389	\$122,590
SUR-19-ITS-004	Surprise	City Hall	Install the necessary equipment to upgrade video display monitors and video processors. This project would upgrade to LED video display technology, providing better performing equipment that uses less electricity. ⁷	2019	55.00	3.07	1.62	3.69	8.38	\$22,560	\$315,905
PHX-19-ITS-003	Phoenix	SR51 corridor	Procure and provision and integrate traffic data acquisition devices at intersections along corridors adjacent and parallel to as well as traversing the SR 51. Additionally traffic data acquisition devices will be deployed along and traversing corridors of media interest. ⁷	2019	84.00	3.84	5.74	0.00	9.58	\$28,380	\$454,526
CHN-19-ITS-002	Chandler	Ray Road	Procure bicycle detection systems for 20 signalized intersections in the City of Chandler with CMAQ grant. The field installation, wiring and configuration will be done by city employees and is not counted as part of the project cost. ⁷	2019	8.50	0.26	-0.02	0.40	0.64	\$372,035	\$396,060
TMP-19-ITS-002	Tempe	Citywide	Install a bi-directional Dynamic Message Sign (DMS), CCTV cameras, a high-speed wireless backbone link, intersection wireless radios, bicycle detection in mixed-use lanes and Emergency Vehicle Preemption networking. ⁷	2019	43.00	0.17	0.11	0.20	0.48	\$485,068	\$392,010

Table 6 - Evaluation of Proposed ITS Projects for the Federal Fiscal Year 2019 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
APJ-19-ITS-002	Apache Junction	City Hall	Design conduit infrastructure and fiber along from City Hall at the intersection of Superstition Blvd and Idaho Rd along Superstition Rd west to Ironwood Dr and south along Ironwood Dr to Broadway Ave to connect the existing wireless backhaul radio tower. Infrastructure will connect to the City Hall complex as well as one of the two fire stations in the City. ⁷	2019	2.50	0.14	-0.01	0.22	0.35	\$607,378	\$351,047
PHX-19-ITS-002	Phoenix	South Phoenix	Install fiber optic cable along Baseline Road from 51st Avenue to 7th avenue and procure and integrate ARID devices at signalized intersections along Baseline Road, Southern Avenue and Broadway Road. ⁷	2019	10.00	0.13	0.08	0.15	0.37	\$1,211,640	\$749,067
MES-19-ITS-002	Mesa	East Mesa	Purchase, test and install new ATC traffic signal cabinets & controllers at 25 locations. Establish communications with new controllers to the TMC for enhanced traffic management and diagnostics capabilities. ⁷	2019	1.00	0.06	0.04	0.07	0.18	\$1,330,808	\$390,000
MAR-19-ITS-002	Maricopa	Porter Road from Honeycutt Road to Maricopa Casa Grande Highway; from Porter Road to Stonegate, Honeycutt/Garvey from SR 347 to Maricopa Public Works Building	The project will install 1-3 inch conduit with innerduct, trunk fiber, interconnect 7 traffic signals along the conduit path, install CCTV cameras at each of the 7 traffic signals, and install wireless radio connections to 2 additional traffic signals on MCG and Bowlin Road. ⁷	2019	1.70	0.05	0.07	0.05	0.17	\$1,385,773	\$400,000
SUR-19-ITS-003	Surprise	Greenway Road	Install CCTV cameras at 2 intersections along Greenway Road. In addition, install vehicle detection at 9 intersections along Greenway Road. This project is a priority for the City in order to implement a future Adaptive Signal Control technology along Greenway. ⁷	2019	5.00	0.03	0.02	0.04	0.09	\$2,288,773	\$353,625
GDY-19-ITS-003	Goodyear	Citywide	The selected consultant will revise the existing Goodyear Intelligent Transportation Systems Strategic Plan with emphasis on future infrastructure improvements, future funding changes and roles and responsibilities for implementation and for maintenance and operations. ⁷	2019	2.50	0.01	0.01	0.01	0.02	\$4,724,458	\$188,600
AVN-19-ITS-002	Avondale	Van Buren St	Procure, Construct and Install: Two (2) new ASC 3 controllers installed to replace existing to provide compatible ITS applications. Fiber backbone will be installed in Van Buren Street roadway right-of-way. ⁷	2019	0.75	0.00	0.00	0.01	0.01	\$14,487,390	\$301,477

Table 7 - Evaluation of Proposed AIR QUALITY Projects for the Federal Fiscal Year 2020 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
	MAG	Regionwide	Purchase PM-10 Certified Street Sweepers ¹	2020		0.00	0.00	1168.33	1168.33	\$392	\$1,173,303
	MAG	Regionwide	Trip Reduction Program ²	2020		37.01	54.42	184.59	276.02	\$9,839	\$962,347
	MAG	Regionwide	Regional Rideshare Program ³	2020		21.23	31.54	53.82	106.59	\$15,725	\$594,000
	MAG	Regionwide	Travel Reduction Program ³	2020		0.22	0.33	1.12	1.66	\$229,094	\$135,000

Table 8 - Evaluation of Proposed Bicycle and Pedestrian Projects for the Federal Fiscal Year 2020 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
GLN-20-BPB-001	Glendale	67th Ave and Orangewood Ave	New sidewalk and ADA ramps will be added to fill in pedestrian facility gaps. New curb and gutter and driveways will be added for access control along business frontages, collecting drainage runoff and protecting overhead power poles. ^{4,5,6}	2020	1	0.03	0.02	11.53	11.58	\$13,240	\$1,097,275
PHX-20-BPB-008	Phoenix	Neighborhood west of Mountain View Elementary	Mountain View Safe Streets/Safe Routes to School Project: To install missing and incomplete sections of sidewalk, curb and gutter, ADA ramps and Lighting. ^{5,6}	2020	0.6	0.01	0.01	6.70	6.72	\$39,128	\$1,428,494
GLN-20-BPB-003	Glendale	71st Ave & Orangewood Ave	New sidewalk, ADA ramps and curb and gutter will be added to fill in pedestrian facility gaps. Bike lanes will be provided on 71st Avenue and Orangewood Avenue. ^{4,5,6}	2020	0.25	0.02	0.01	2.90	2.93	\$59,571	\$947,621
CHN-20-BPB-001	Chandler	Chandler Boulevard: I-10 to 54th Street	This project will add bike lanes on Chandler Blvd. between I-10 and just east of 54th St. (0.4 miles) by restriping and/ or relocating curb and gutter. ^{4,5}	2020	0.37	0.07	0.06	0.18	0.32	\$261,332	\$454,597
PEO-20-BPB-002	Peoria	Pinnacle Peak Road to Happy Valley Road	Project to connect two missing segments along the New River Multi-use Path from Pinnacle Peak Road to Happy Valley Road. ^{4,6}	2020	1	0.03	0.02	0.05	0.11	\$706,053	\$539,622
PHX-20-BPB-007	Phoenix	Phoenix	2020 Phoenix Pedestrian and Bicycle HAWK Signalized Crossing Program. ^{4,6}	2020	0.1	0.06	0.05	0.10	0.21	\$963,448	\$1,121,227
PHX-20-BPB-003	Phoenix	Downtown Phoenix	City of Phoenix Bikeshare Expansion Project (2020). ⁴	2020	12	0.06	0.05	0.14	0.25	\$1,183,081	\$918,426
TMP-20-BPB-003	Tempe	North South Rail Spur	Construct 4.1 miles of ADA compliant bicycle/pedestrian shared use path along the Union Pacific Railroad corridor from University Drive to Baseline Road. ^{4,6}	2020	4	0.07	0.05	0.12	0.24	\$1,332,838	\$2,315,065

Table 8 - Evaluation of Proposed Bicycle and Pedestrian Projects for the Federal Fiscal Year 2020 Sorted by Cost Effectiveness

Project Number	Agency	Location	Work Type	FY	Length (miles)	Emission Reduction Weighted TOG(kg/day)	Emission Reduction Weighted NOx(kg/day)	Emission Reduction Weighted PM10(kg/day)	Emission Reduction Weighted Total(kg/day)	Cost Effectiveness (CMAQ dollars/metric ton)	CMAQ Funds Requested
SCT-20-BPB-002	Scottsdale	Osborn Road: Hayden to Scottsdale Road	This will add bike lanes and sidewalk to Osborn Road from Hayden Road to Scottsdale Road downtown. It will include connections to Osborn Park and Indian Bend Wash Path as well as a roundabout with geometric speed control to slow vehicles and pedestrian refuges at the Miller Road intersection. ^{4,5,6}	2020	1	0.03	0.03	10.14	0.11	\$2,120,886	\$1,214,450
PHX-20-BPB-004	Phoenix	Van Buren Street	This projects seeks to repurpose the Van Buren Corridor into a complete street, enhancing walkability, bikeability, public transit use and economic revitalization opportunities. Safety can be improved along the street with the addition of bicycle lanes, narrowed street configuration, slower traffic speeds, signage, and an improved pedestrian environment. ^{4,5,6}	2020	2	0.06	0.04	0.08	0.18	\$2,392,970	\$2,310,350
MES-20-BPB-002	Mesa	Power Road to Hawes Road	Phase 3 will construct the pathway segment from Power to Hawes Roads. Users will have the benefit of a 10-foot shared use path and comfort amenities such as lighting, nodes, trailhead and way findings signs. This project will connect residential and business areas as well as providing a safe lit recreational pathway for users. ^{4,6}	2020	3.5	0.01	0.01	0.02	0.04	\$9,782,947	\$2,806,072

Notes:

¹Supports the Measure in the Serious Area PM-10 Plan and MAG 2012 Five Percent Plan for PM-10: "PM-10 Efficient Street Sweepers"

²Supports the TCM in the Serious Area PM-10 Plan and CO Maintenance Plan: "Trip Reduction Program"

³Supports the TCMs in the Serious Area PM-10 Plan and CO Maintenance Plan: "Areawide Public Awareness Program" and "Employer Rideshare Program Incentives"

⁴Supports the TCM in the Serious Area PM-10 Plan and CO Maintenance Plan: "Development of Bicycle Travel Facilities"

⁵These projects also include shoulder paving which supports the measure in the Serious Area PM-10 Plan: "Curbing, Paving or Stabilizing Shoulders on Paved Roads"

⁶Supports the TCM in the Serious Area PM-10 Plan and CO Maintenance Plan: "Encouragement of Pedestrian Travel"

⁷Supports the TCMs in the Serious Area PM-10 Plan and CO Maintenance Plan: "Coordinate Traffic Signal Systems" and "Develop Intelligent Transportation Systems"

**ROLE OF THE MAG AIR QUALITY TECHNICAL ADVISORY COMMITTEE
IN THE CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT (CMAQ)
PROJECT EVALUATION PROCESS**

CMAQ Projects for the Transportation Improvement Program

- Forward the evaluation of proposed CMAQ projects for the MAG Transportation Improvement Program to the MAG Transportation Review Committee and modal committees for use in prioritizing projects.
- Rank the Air Quality Projects to be forwarded to the MAG Transportation Review Committee.

Sequence of Committee Actions: Air Quality Technical Advisory Committee, Transportation Review Committee and Modal Technical Advisory Committees, Management Committee, Transportation Policy Committee, Regional Council.

PM-10 Certified Street Sweeper Projects

- Recommend a prioritized list of proposed PM-10 Certified Street Sweeper Projects for CMAQ funding and retain the prioritized list for any additional CMAQ funds that may become available due to year-end closeout, including redistributed obligation authority, or additional funding received by this region.

Sequence of Committee Actions: Air Quality Technical Advisory Committee, Management Committee, Regional Council.

Paving Unpaved Road Projects

- Rank the proposed Paving Unpaved Road Projects for CMAQ funding and forward to the MAG Transportation Review Committee.

Sequence of Committee Actions: Air Quality Technical Advisory Committee, Transportation Review Committee, Management Committee, Transportation Policy Committee, Regional Council.

MAG COMMITTEE STRUCTURE

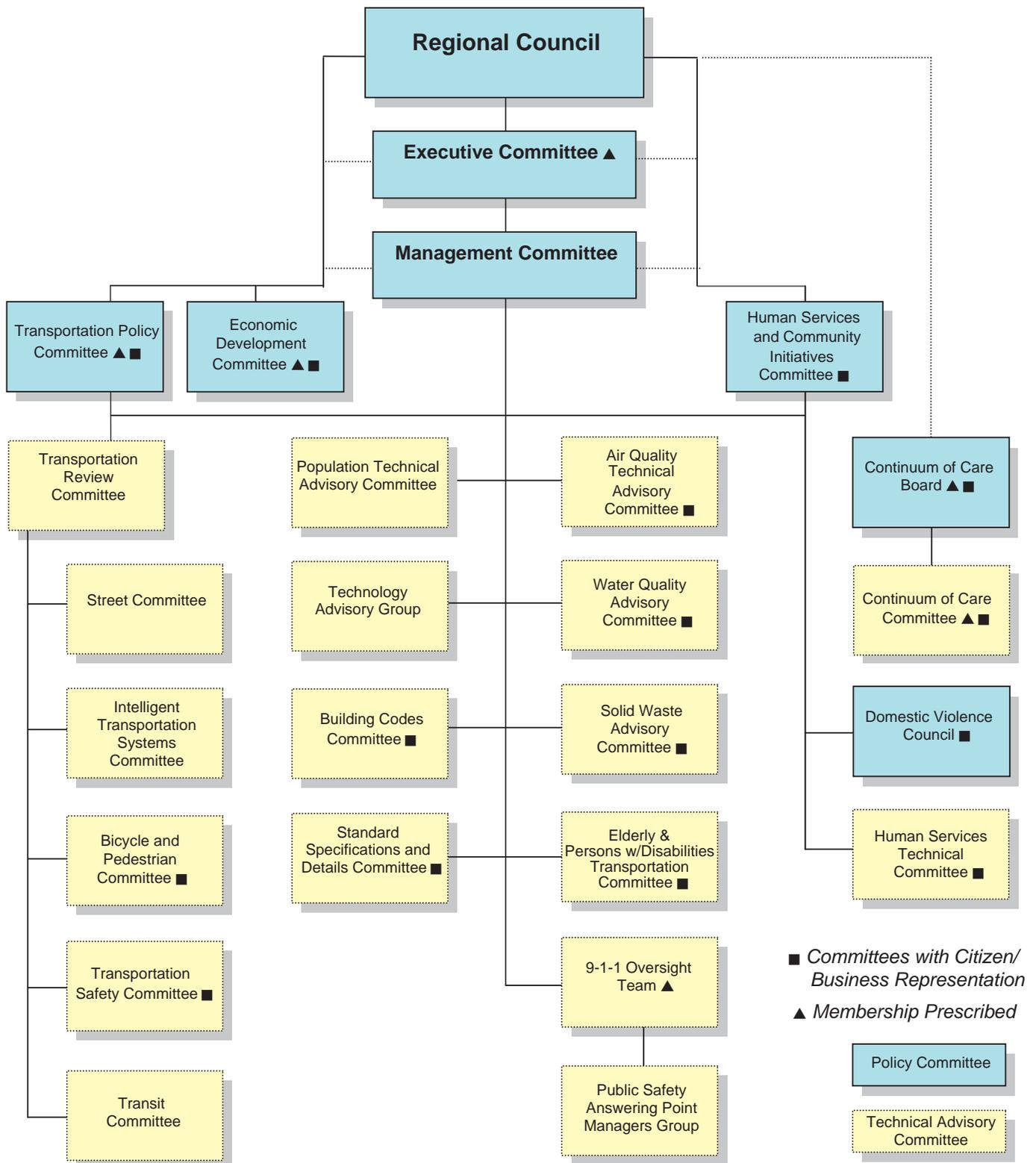


Figure 8: MAG Committee Structure

CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT PROGRAM FACT SHEET

The Congestion Mitigation and Air Quality Improvement (CMAQ) Program was established by the Intermodal Surface Transportation Efficiency Act of 1991 and revised by Moving Ahead for Progress in the 21st Century (MAP-21) Act of 2012. The purpose of the CMAQ program is to fund transportation projects or programs that will contribute to attainment or maintenance of the National Ambient Air Quality Standards (NAAQS) for ozone, carbon monoxide (CO), and particulate matter (both PM₁₀ and PM_{2.5})

MAP-21 and its processors direct States and Metropolitan Planning Organizations (MPOs) to give priority to cost-effective projects, including diesel retrofits and congestion-mitigation efforts that also produced an air quality benefit. It also continues and expands the focus on efficiency and cost-effective project selection. Transportation Control Measures (TCMs) that are identified in State Implementation Plans (SIPs) for air quality attainment are also to be given funding priority.

Any State that has a PM_{2.5} nonattainment or maintenance area-including those with approved SIPs that identify on-road mobile sources as insignificant for regional transportation conformity-is required under MAP 21-to invest a portion of its CMAQ funding in projects that reduce PM_{2.5} directly or its precursors .More specifically, an amount equal to 25 percent of the funds attributable to PM_{2.5} nonattainment in each of the affected States must be used for projects targeting PM_{2.5} reductions in those nonattainment and maintenance areas.

Part of Pinal County in the MAG planning area is in a PM_{2.5} nonattainment area. The PM₁₀ nonattainment area includes areas in both Maricopa and Pinal County area.

Also, the development of a CMAQ-eligible project may occur through a public-private partnership. Private entity proposals that benefit the general public by clearly reducing emissions require a legal written agreement between the public agency and private or nonprofit entity specifying the use of funds, roles and responsibilities of participating entities, cost sharing arrangements for capital investments and/or operating expenses, and how the disposition of land, facilities, and equipment should original terms of the agreement be changed. Eligible costs under this section may not include costs to fund an obligation imposed on private sector or nonprofit entities under the CAA or any other federal law except where the incremental portion of a project that exceeds the obligation under Federal law.

The following is a listing of eligibility provisions contained in the November, 2013 guidance. Footnote references in the document have been removed.

A. Project Eligibility: General Conditions

Each CMAQ project must meet three basic criteria: ***it must be a transportation project, it must generate an emissions reduction, and it must be located in or benefit a nonattainment or maintenance area.*** In addition, all Federal-aid projects—CMAQ is no exception-must be included in the MPO's current transportation plan and Transportation Improvement Program (TIP) (or the current Statewide Transportation Improvement Program (STIP) in areas without an MPO). In nonattainment and maintenance areas, the project also must meet the conformity provisions contained in section 176(c) of the CAA and the transportation conformity regulations. Lastly, all CMAQ-funded projects need to

complete National Environmental Policy Act (42 U.S.C. 4321 *et seq.*) (NEPA) requirements and satisfy the basic eligibility requirements under titles 23 and 49 of the United States Code.

The following should guide CMAQ eligibility decisions:

1. Capital Investment

The CMAQ funds may be used to establish new or expanded transportation projects or programs that reduce emissions, including capital investments in transportation infrastructure, congestion relief efforts, vehicle acquisitions, diesel engine retrofits, or other capital projects.

2. Operating Assistance

There are several general conditions for operating assistance eligibility under the CMAQ program (see the November 2013 CMAQ Program Interim Guidance for a complete discussion on CMAQ project eligibility requirements):

- a. Operating assistance is limited to start up operating costs for new transportation services or the incremental costs of expanding such services, including transit, commuter and intercity passenger rail services, intermodal facilities, and travel demand management strategies, including traffic operation centers.
- b. In using CMAQ funds for operating assistance, the intent is to help start up viable new transportation services that can demonstrate air quality benefits and eventually cover costs as much as possible. Other funding sources should supplement and ultimately replace CMAQ funds for operating assistance, as these projects no longer represent additional, net air quality benefits but have become part of the baseline transportation network. The provisions in 23 U.S.C. 116 place responsibilities for maintenance of transportation facilities on the States. Since facility maintenance is akin to operations, a time-limited period of CMAQ assistance provides adequate incentive and flexibility while not creating a pattern of excessive or even perpetual support.
- c. Operating assistance includes all costs of providing new transportation services, including, but not limited to, labor, fuel, administrative costs, and maintenance.
- d. When CMAQ funds are used for operating assistance, non-Federal share requirements still apply.
- e. With the focus on start-up, and recognizing the importance of flexibility in the timing of financial assistance, the 3 years of operating assistance allowable under the CMAQ program may now be spread over a longer period, for a total of up to 5 sequential years of support. Grantees who propose to use CMAQ funding for operating support may spread the third year amount (an amount not to exceed the greater of year 1 or 2) across an additional 2 years (i.e. years 4 and 5). This approach will provide an incremental, taper-down approach, while other funding is used for a higher proportion of the operating costs as needed. See the table below for examples of possible funding allocations. At the conclusion of the 5-year period, operating costs would have to be maintained with non-CMAQ funding. It is anticipated that this approach may enable a transition to more independent system operation. The amounts which apply to years 1 and/or 2 are established at the discretion of the State or local sponsor.

Example	Year 1	Year 2	Year 3	Year 4	Year 5	Total
A	\$300	\$300	\$200	\$50	\$50	\$900
B	300	300	100	100	100	900
C	100	400	200	100	100	900

Except as noted in paragraph (f) below, activities that already have received 3 years of operating assistance under prior authorizations of the CMAQ program are not considered to be in a start-up phase and are not eligible for new CMAQ operating assistance or the expanded assistance period.

- f. Section 125 of the 2014 Appropriations Act included changes to the Operating Assistance Section of the CMAQ program (23 USC 149(m)). The changes added new language that specifically prohibits the imposition of a time limitation for operating assistance eligibility on a system “for which CMAQ funding was made available, obligated or expended in fiscal year 2012.” The phrase “made available” applies to projects designated for CMAQ operating assistance in statute, or to any commitment by the party that by law selects projects for operating assistance funding so long as it occurred during FY 2012. There must be official documentation demonstrating that there was a specific commitment in FY 2012 to provide CMAQ funding for operating assistance for a particular project or service. Such official documentation could include a TIP or STIP, or other State or MPO official records. The specific project or service for which the CMAQ funds are being sought for operating assistance without a time limitation must be clearly identified in this documentation. Transportation services expressly eligible for CMAQ funding under SAFETEA-LU sections 1808(g)-(k) and certain provisions in previous appropriations acts are eligible to use CMAQ funds for operating assistance without time limitations. Consistent with Section IX of the CMAQ Program Interim Guidance, States retain the discretion to decide whether or not to fund the operating assistance.
- g. Elements of operating assistance prohibited by statute or regulation are not eligible for CMAQ participation, regardless of their emissions or congestion reduction potential.

3. Emission Reduction

Air quality improvement is defined by several distinct terms in 23 U.S.C. 149. These terms include contribution to attainment, reduction in pollution, air quality benefits, and others. For purposes of this guidance, **emission reduction** represents this group of terms. CMAQ-funded projects or programs must reduce CO, ozone precursors (NO_x and VOCs), PM_{2.5}, PM₁₀, or PM precursor (e.g., NO_x) emissions from transportation; these reductions must contribute to the area’s overall clean air strategy and can be demonstrated by the emissions reduction analysis that is required under this guidance. States and MPOs also may consider the ancillary benefits of eligible projects, including greenhouse gas reductions, congestion relief, mobility, safety, or other elements, when programming CMAQ funds, though such benefits do not alone establish eligibility.

4. Planning and Project Development

Activities in support of other Title 23-eligible projects also may be appropriate for CMAQ investments. All phases of eligible projects-not only construction-are eligible for CMAQ funding. For example, studies that are part of the project

development pipeline (e.g., preliminary engineering) under NEPA are eligible for CMAQ support. General studies that fall outside specific project development do not qualify for CMAQ funding. Examples of such ineligible efforts include major investment studies, commuter preference studies, modal market polls or surveys, transit master plans, and others. These activities are eligible for Federal planning funds.

B. Projects Ineligible for CMAQ Funding

The following projects are ineligible for CMAQ funding:

1. Light-duty vehicle scrappage programs.
2. Projects that add new capacity for SOVs are ineligible for CMAQ funding unless construction is limited to high-occupancy vehicle (HOV) lanes. This HOV lane eligibility includes the full range of HOV facility uses authorized under 23 U.S.C 166, such as high-occupancy toll (HOT) and low-emission vehicles.
3. Routine maintenance and rehabilitation projects (e.g., replacement-in-kind of track or other equipment, reconstruction of bridges, stations, and other facilities, and repaving or repairing roads) are ineligible for CMAQ funding as they only maintain existing levels of highway and transit service, and therefore do not reduce emissions. (See previous section covering eligibility for operational support.) Other funding sources, such as STP and FTA's Urbanized Area Formula Program (49 U.S.C. 5307), are available for such activities.
4. Administrative costs of the CMAQ program may not be defrayed with program funds, e.g., support for a State's "CMAQ Project Management Office" is not eligible.
5. Projects that do not meet the specific eligibility requirements of Titles 23 and 49, United States Code, are ineligible for CMAQ funds.
6. Stand-alone projects to purchase fuel.
7. Models and Monitors-Acquisition, operation, or development of models or monitoring networks are not eligible for CMAQ funds. As modeling or monitoring emissions, traffic operations, travel demand or other related variables do not directly lead to an emissions reduction, these activities or acquisitions are not eligible. Such efforts may be appropriate for Federal planning funds.
8. Litigation costs surrounding CMAQ or other Federal-aid projects.

C. Public-Private Partnerships (PPPs)

In a PPP, a private or non-profit entity's resources replace or supplement State or local funds and possibly a portion of the Federal-aid in a selected project. The PPP component of CMAQ has evolved into a critical element of the program, as private sector involvement in such activities as freight and diesel retrofits has grown considerably.

Partnerships should have a legally binding, written agreement in place between the public agency and the private or non-profit entity before a CMAQ-funded project may be implemented. These agreements should be developed under relevant Federal and State law and should specify the intended use for CMAQ funding; the roles and responsibilities of the participating entities; and how the disposition of land, facilities, and equipment will be carried out should the original terms of the agreement be altered (e.g., due to insolvency, change in ownership, or other changes in the structure of the PPP).

Public funds should not be invested where a strong public benefit cannot be demonstrated. Consequently, CMAQ funds should be devoted to PPPs that benefit the general public by clearly reducing emissions, not for financing marginal projects. Consistent with the planning and project selection provisions of the Federal-aid highway program,

the FHWA considers it essential that all interested parties have full, open, and timely access to the project selection process.

There are several other statutory restrictions and special provisions on the use of CMAQ funds in PPPs. Eligible costs under this section should not include costs to fund an obligation imposed on private sector or non-profit entities under the CAA or any other Federal law. However, if the private or non-profit entity clearly is exceeding its obligations under Federal law, CMAQ funds may be used for that incremental portion of the project.

Eligible non-monetary activities that satisfy the non-Federal match requirements under the partnership provisions include the following:

- Ownership or operation of land, facilities, or other physical assets
- Construction or project management
- Other forms of participation approved by the Department.

Sharing of total project costs, both capital and operating, is a critical element of a successful public-private venture, particularly if the private entity is expected to realize profits as part of the joint venture. State and local officials are urged to consider a full range of cost-sharing options when developing a PPP, including a larger State/local match.

D. Costs and other Regulatory Requirements

The CMAQ projects must comply with other applicable Federal requirements, including those affecting determinations of eligible project costs. All Federal projects must conform to the appropriate cost principles for Federal-aid. Most CMAQ projects are subject to 2 CFR Part 225-also known as OMB Circular A-87-the [cost principles for State, local, and Indian tribal governments](#). These principles focus on determining the allowable costs for the subject government entities and also provide a discussion of the relationship between appropriate costs and the purpose of the program.

Sponsors also should be familiar with the general cost and accounting components of 49 CFR Part 18, which provides direction on administering Federal grants to State and local governments.

E. Programmatic Eligibility

The MAP-21 provides flexibility for States and MPOs to conduct a technical assessment of the program of CMAQ projects under review that fulfills the requirement for an emissions reduction demonstration. This technical assessment is fully optional and can include the full program as listed in the TIP or a subset of that full program. The technical methods are at the discretion of the MPO but can include modeling or other contemporary tools generally found acceptable by professionals in the field. If the assessment is successful in demonstrating an emissions reduction, no further analysis will need to be provided by the MPO for those projects included, and these efforts can proceed to CMAQ obligation. However, emissions reductions also should be demonstrated for CMAQ projects not included in the selected subset covered by the technical assessment.

F. Eligible Projects and Programs

Eligibility information is provided below. Not all possible requests for CMAQ funding are covered-this section provides examples of general project types that may be eligible for CMAQ funds.

1. Diesel Engine Retrofits & Other Advanced Truck Technologies

The MAP-21 continues the emphasis SAFETEA-LU placed on diesel engine retrofits and the various types of projects that fall under this broad category. These efforts are defined as vehicle replacement, repowering (replacing an engine with a cleaner diesel engine, alternative fuels, etc.), rebuilding an engine, or other technologies determined by the EPA as appropriate for reducing emissions from diesel engines. This latter point, highlighting developing technologies, establishes a degree of flexibility and a need for periodic adjustment in the definition by the EPA. The legislation defines retrofit projects as applicable to both on-road motor vehicles and non-road construction equipment; the latter must be used in Title 23 projects based in nonattainment or maintenance areas for either PM or ozone.

The MAP-21 expands the prior focus created by the SAFETEA-LU. Specifically for PM_{2.5} areas, diesel retrofits are called out as eligible projects in the Priority Consideration section. Similarly, such efforts are again highlighted in the discussion of the PM_{2.5} priority set-aside, and emphasized again in the closely related section on construction vehicles and equipment.

More than 13 million diesel engines make up the legacy fleet operating in the U.S. The vast majority of these power on-road heavy-duty and medium-duty trucks, locomotives, and off-road construction equipment-all of which may be eligible for CMAQ funding.

There are a number of specific project types in the diesel retrofit area for which CMAQ funds are eligible. Assuming all other CMAQ criteria are met, eligible projects could include diesel engine or full vehicle replacement; full engine rebuilding and reconditioning; and purchase and installation of after-treatment hardware, including particulate matter traps and oxidation catalysts, and other technologies; and support for heavy-duty vehicle retirement programs. Project agreements involving replacements for either engines or full vehicles should include a provision for disposal or destruction of the engine block, verification that the engine is no longer contributing emissions in the nonattainment or maintenance area, or for other processes at the State's discretion that track the retirement of the vehicle or engine in accordance with the State's or sub-grantee's program. The MAP-21 provided one change to the approach in establishing eligibility for emissions control equipment. After-treatment and other on-board control devices are restricted to those EPA or the California Air Resources Board (CARB) verified and/or technologies as defined in section 791 of the Energy Policy Act of 2005 (42 U.S.C. 16131).

A strong component of the SAFETEA-LU focus on diesel retrofits, construction vehicles and equipment also are eligible under MAP-21. Eligible acquisitions or retrofits would be for those capital items used for highway construction projects in PM_{2.5} nonattainment or maintenance areas. Equipment or vehicles used predominantly in a maintenance role would not qualify. These would include loaders or backhoes in yard or depot work, tractors assigned to mowing or other median maintenance, impactors or rollers involved in routine work, such as pothole repair, and others.

The CMAQ funds may be used to purchase and install emission control equipment on school buses. (Such projects, generally, should be administered by FHWA; see Transit Improvements, below). In addition, although CMAQ funds should not be used for the initial purchase of conventionally fueled airport parking lot shuttles, funds may be used for purchase and installation of after treatment hardware or repowering (with a hybrid drive train, for example).

Refueling is not eligible as a stand-alone project, but is eligible if it is required to support the installation of emissions control equipment, repowering, rebuilding, or other retrofits of non-road engines.

In addition to equipment and technology, outreach activities that provide information exchange and technical assistance to diesel owners and operators on retrofit options are eligible investments. These projects could include the actual education and outreach program, construction or acquisition of appropriate classroom buildings, and other efforts to promote the use of retrofit technologies.

Non-road mobile source projects also are eligible for CMAQ funding. Most notably, a considerable amount of CMAQ support has been directed to locomotive retrofit and the acquisition of clean locomotives, such as railyard switchers and shunters that fit the generator-set criterion (See Freight and Intermodal, Section VII. F. 4). The FHWA acknowledges that diesel retrofit projects may include non-road mobile source endeavors, which traditionally have been outside the Federal-aid process. However, the MAP-21 clarifies CMAQ eligibility for non-road diesel retrofit projects. Areas that fund these projects are not required to take credit for the projects in the transportation conformity process. For areas that want to take credit, the EPA developed guidance for estimating diesel retrofit emission reductions and for applying the credit in the SIP and transportation conformity processes.

Transportation projects that are part of an effort associated with EPA's Diesel Emissions Reduction Act (DERA) also may be eligible. Federal field offices, State DOTs, and other local sponsors should consult with the nearest EPA Regional Office on projects that feature DERA elements or mutual funding with CMAQ.

In addition to retrofit projects, upgrading long-haul heavy-duty diesel trucks with EPA and/or CARB verified advanced technologies, such as idle reduction devices, cab and trailer aerodynamic fixtures, and single-wide or other efficient tires, has been demonstrated by the EPA's *Smart Way Transport Partnership Program* to reduce NO_x emissions and save fuel. These strategies also are eligible for CMAQ support. Such projects funded directly by CMAQ that involve the private sector should be part of a PPP, as discussed in Section VII.C.

Many diesel retrofit projects involve private sector participation. Although standard match rates established in 23 U.S.C. 120 apply to these efforts, States and local governments are encouraged to seek a higher non-Federal match from those participants that ultimately will own the equipment. An even 50-50 split share between the Federal CMAQ and all other sources has been a frequent compromise for many past projects in this arena.

2. Idle Reduction

Idle reduction projects that reduce emissions and are located within, or in proximity to and primarily benefiting, a nonattainment or maintenance area are eligible for CMAQ investment. (The geographic requirement mainly applies to off-board projects, i.e., truck stop electrification (TSE) efforts.) However, if CMAQ funding is used for an on-board project (i.e. auxiliary power units, direct fired heaters, etc.) the vehicle—usually a heavy-duty truck—should travel within, or in proximity to and primarily benefiting, a nonattainment or maintenance area. Idle reduction devices are verified by the EPA.

There have been several instances where operating assistance funds have been requested for TSE services. The CMAQ funding for TSE projects has been limited to capital costs (i.e. deployment of TSE infrastructure). Operating assistance for TSE projects should not be funded under the CMAQ program since TSE projects generate their own revenue stream and therefore should be able to cover all operating expenses from the accumulated revenue.

Commercial idle reduction facilities cannot be located within rest areas of the Interstate right-of-way (ROW). The SAFETEA-LU initially provided for these facilities in the ROW. However, this provision was removed with the SAFETEA-LU Technical Corrections Bill that followed.

3. Congestion Reduction & Traffic Flow Improvements

Traffic flow improvements may include the following:

a. Traditional Improvements

Traditional traffic flow improvements, such as the construction of roundabouts, HOV lanes, left-turn or other managed lanes, are eligible for CMAQ funding provided they demonstrate net emissions benefits through congestion relief.

b. Intelligent Transportation Systems

ITS projects, such as traffic signal synchronization projects, traffic management projects, and traveler information systems, can be effective in relieving traffic congestion, enhancing transit bus performance, and improving air quality. The following have the greatest potential for improving air quality:

- Regional multimodal traveler information systems
- Traffic signal control systems
- Freeway management systems
- Electronic toll-collection systems
- Transit management systems
- Incident management programs.

The FHWA has provided a lengthier discussion of the benefits associated with various operational improvements.

c. Value/Congestion Pricing

Congestion pricing is a market-based mechanism that allows tolls to rise and fall depending on available capacity and demand. Tolls can be charged electronically, thereby eliminating the need for full stops at tollbooths. In addition to the benefits associated with reducing congestion, revenue is generated that can be used to pay for a wide range of transportation improvements, including Title 23-eligible transit services in the newly tolled corridor.

Parking pricing can include time-of-day parking charges that reflect congested conditions. These strategies should be designed to influence trip-making behavior and may include charges for using a parking facility at peak periods, or a range of employer-based parking cash-out policies that provide financial incentives to avoid parking or driving alone. Parking pricing integrated with other pricing strategies is encouraged.

Pricing encompasses a variety of market-based approaches such as:

- **HOT lanes**, or High Occupancy Toll lanes, on which variable tolls are charged to drivers of low-occupancy vehicles using HOV lanes, such as the “FasTrak” Lanes on I-15 in San Diego and the recently converted I-394 in Minneapolis in which prices vary dynamically every two minutes based on traffic conditions.
- **New variably tolled express lanes** on existing toll-free facilities, such as the “91 Express Lanes” on State Route 91 in Orange County, CA.
- **Variable tolls on existing or new toll roads**, such as on the bridges and tunnels operated by the Port Authority of New York and New Jersey.
- **Network-wide or cordon pricing**, such as implemented in Stockholm, London, and Singapore.

- **Usage-based vehicle pricing**, such as mileage-based vehicle taxation being explored by the State of Oregon, or pay-per-mile car insurance.

As with any eligible CMAQ project, value pricing should generate an emissions reduction. Marketing and outreach efforts to expand and encourage the use of eligible pricing measures may be funded indefinitely. Eligible expenses for reimbursement include, but are not limited to: tolling infrastructure, such as transponders and other electronic toll or fare payment systems; small roadway modifications to enable tolling, marketing, public outreach, and support services, such as transit in a newly tolled corridor. Innovative pricing approaches yet to be deployed in the U.S. also may be supported through the *Value Pricing Pilot Program*.

Operating expenses for traffic operating centers (TOCs) are eligible for CMAQ funding if they can be shown to produce air quality benefits, and if the expenses are incurred from new or additional capacity. The operating assistance parameters discussed in Section VII.A.2 apply.

Projects or programs that involve the purchase of integrated, interoperable emergency communications equipment are eligible for CMAQ funding.

4. Freight/Intermodal

Projects and programs targeting freight capital costs-rolling stock or ground infrastructure-are eligible provided that air quality benefits can be demonstrated. Freight projects that reduce emissions fall generally into two categories: primary efforts that target emissions directly or secondary projects that reduce net emissions.

Successful primary projects could include new diesel engine technology or retrofits of vehicles or engines. See discussion in Section VII.F.1. Eligibility under CMAQ is not confined to highway projects, but also applies to nonroad mobile freight projects such as rail.

Secondary projects reduce emissions through modifications or additions to infrastructure and the ensuing modal shift. Support for an intermodal container transfer facility may be eligible if the project demonstrates reduced diesel engine emissions when balancing the drop in truck VMT against the increase in locomotive or other non-highway activity. Intermodal facilities, such as inland transshipment ports or near/on-dock rail, may generate substantial emissions reductions through the decrease in miles traveled for older, higher-polluting heavy-duty diesel trucks. This secondary, indirect effect on truck traffic and the ensuing drop in diesel emissions help demonstrate eligibility.

The transportation function of these freight/intermodal projects should be emphasized. Marginal projects that support freight operations in a very tangential manner are not eligible for CMAQ funding. Warehouse handling equipment, for example, is not an eligible investment of program funds. Warehouses, themselves, or other similar structures, such as transit sheds, bulk silos or other permanent, non-mobile facilities that function more as storage resources are not eligible. However, equipment that provides a transportation function or directly supports this function is eligible, such as railyard switch locomotives or shunters that fall into the generator-set or other clean engine category. Similarly, large-scale container gantry cranes, or other heavy-duty container handling equipment that is a clear link in the intermodal process can be eligible as well. Also, on the ground operations side of aviation, the purchase or retrofit of airport handling equipment can be eligible, including baggage handlers, aircraft tow motors, and other equipment that plays a role in this intermodal link.

5. Transportation Control Measures (TCM)

Most of the TCMs included in Section 108 of the CAA, listed below, are eligible for CMAQ funding. We would note that one particular CAA TCM, created to encourage removal of pre-1980 light-duty vehicles, is specifically excluded from CMAQ eligibility.

- i. Programs for improved public transit;
- ii. Restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or HOV;
- iii. Employer-based transportation management plans, including incentives;
- iv. Trip-reduction ordinances;
- v. Traffic flow improvement programs that reduce emissions;
- vi. Fringe and transportation corridor parking facilities serving multiple-occupancy vehicle programs or transit service;
- vii. Programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration particularly during periods of peak use;
- viii. Programs for the provision of all forms of high-occupancy, shared-ride services;
- ix. Programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;
- x. Programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;
- xi. Programs to control extended idling of vehicles;
- xii. Reducing emissions from extreme cold-start conditions;
- xiii. Employer-sponsored programs to permit flexible work schedules;
- xiv. Programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for SOV travel, as part of transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity; and
- xv. Programs for new construction and major reconstructions of paths, tracks, or areas solely for the use by pedestrian or other non-motorized means of transportation when economically feasible and in the public interest.

6. Transit Improvements

Many transit projects are eligible for CMAQ funds. The general guideline for determining eligibility is whether the project increases transit capacity and would likely result in an increase in transit ridership and a potential reduction in congestion. As with other types of CMAQ projects, there should be a quantified estimate of the project's emissions benefits accompanying the proposal.

The FTA administers most transit projects. For such projects, after the FTA determines a project eligible, CMAQ funds will be transferred, or "flexed," from the FHWA to the FTA, and the project will be administered according to the appropriate FTA program requirements. Certain types of eligible transit projects for which FTA lacks statutory authority, such as diesel retrofit equipment for public school bus fleets, may be the responsibility of the State or other eligible project sponsor and are administered by FHWA.

a. Facilities

New transit facilities (e.g., lines, stations, terminals, transfer facilities) are eligible if they are associated with new or enhanced public transit, passenger rail, or other similar services. Routine maintenance or rehabilitation of existing facilities is not eligible, as it does not reduce emissions. However, rehabilitation of a facility may be eligible if the vast majority of the project involves physical improvements that will increase transit service capacity. In such cases there should be supporting documentation showing an expected increase in transit ridership that is more than minimal. If the vast majority of the project involves capacity enhancements, other elements involving refurbishment and replacement-in-kind also are eligible.

b. Vehicles and Equipment

New transit vehicles (bus, rail, or van) to expand the fleet or replace existing vehicles are eligible. Transit agencies are encouraged to purchase vehicles that are most cost-effective in reducing emissions. Diesel engine retrofits, such as replacement engines and exhaust after-treatment devices, are eligible if certified or verified by the EPA or California Air Resources Board (CARB). See discussion in Section VII.F.1. Routine preventive maintenance for vehicles is not eligible as it only returns the vehicles to baseline conditions. Other than diesel engine retrofits, other transit equipment may be eligible if it represents a major systemwide upgrade that will significantly improve speed or reliability of transit service, such as advanced signal and communications systems.

c. Fuel

Fuel, whether conventional or alternative fuel, is an eligible expense only as part of a project providing operating assistance for new or expanded transit service under the CMAQ program. This includes fuels and fuel additives considered diesel retrofit technologies by the EPA or CARB. Purchase of alternative fuels is authorized in some States based on the continuation of a series of exemptions for uses expressly eligible for CMAQ funding under SAFETEA-LU section 1808(k) and certain provisions in subsequent appropriations acts. The maximum allowable assistance level and time limitation described in Section VII.A.2. will apply.

d. Operating Assistance

Operating assistance to introduce new transit service or expand existing transit service is eligible. The eligibility applies regardless of the size of the urbanized area (UZA) or whether a particular grantee is or was previously authorized to use funding under Chapter 53 of Title 49 U.S.C. for operating assistance. For a detailed discussion of operating assistance eligibility, including the changes brought about by MAP-21, please see Section VII.A.2 above.

e. Transit Fare Subsidies

The CMAQ funds may be used to subsidize regular transit fares in an effort to prevent the NAAQS from being exceeded, but only under the following conditions: The reduced or free fare should be part of a comprehensive areawide program to prevent such an anticipated exceedance. For example, "Ozone Action" programs vary in scope around the country, but they generally include actions that individuals and employers can take, and they are aimed at all major sources of air pollution, not just transportation. The subsidized fare should be available to the general public and may not be limited to specific groups. It may only be offered during periods of elevated pollution when the threat of exceeding the NAAQS is greatest; e.g., it is not intended for the entire high-ozone season. The fare subsidy proposal should demonstrate that the responsible local agencies will combine the reduced or free fare with a robust marketing program to inform SOV drivers of other transportation options. Because the fare subsidy is not strictly a form of operating assistance, it would not be subject to the 5-year limit.

7. Bicycle and Pedestrian Facilities and Programs

Bicycle and pedestrian facilities and programs are included as a TCM in section 108(f)(1)(A) of the CAA (42 U.S.C. 7408(f)(1)(A)). The following are eligible projects:

- Constructing bicycle and pedestrian facilities (paths, bike racks, support facilities, etc.) that are not exclusively recreational and reduce vehicle trips.
- Non-construction outreach related to safe bicycle use.
- Establishing and funding State bicycle/pedestrian coordinator positions for promoting and facilitating nonmotorized transportation modes through public education, safety programs, etc. (Limited to one full-time position per State).

Bicycle and pedestrian programs that are not supported under 23 CFR Part 652, *Pedestrian and Bicycle Accommodations and Projects*, also are not eligible for CMAQ funding. For example, under 23 CFR 652.9(b)(3), a non-construction bicycle project does not include salaries for administration, maintenance costs, and other items akin to operational support under 23 CFR 652.9(b)(3), and, therefore, these are not allowable CMAQ costs.

Additional activities related to bicycle and pedestrian programs can be supported by other elements of the Federal-aid highway program. These efforts are described at the FHWA's Bicycle and Pedestrian Programs Website.

8. Travel Demand Management

Travel demand management (TDM) encompasses a diverse set of activities that focus on physical assets and services that provide real-time information on network performance and support better decisionmaking for travelers choosing modes, times, routes, and locations. Such projects can help ease congestion and reduce SOV use-contributing to mobility, while enhancing air quality and saving energy resources. Similar to ITS and Value Pricing, today's TDM programs seek to optimize the performance of local and regional transportation networks. The following activities are eligible if they are explicitly aimed at reducing SOV travel and associated emissions:

- Fringe parking
- Traveler information services
- Shuttle services
- Guaranteed ride home programs
- Carpools, vanpools
- Traffic calming measures
- Parking pricing
- Variable road pricing
- Telecommuting/Teleworking
- Employer-based commuter choice programs.

The CMAQ funds may support capital expenses and, as discussed in Section VII.A.2, up to five years of operating assistance to administer and manage new or expanded TDM programs. Marketing and outreach efforts to expand use of TDM measures may be funded indefinitely, but only if they are broken out as distinct line items.

Eligible telecommuting activities include planning, preparing technical and feasibility studies, and training. Construction of telecommuting centers and computer and office equipment purchases should not be supported with CMAQ funds.

9. Public Education and Outreach Activities

The goal of CMAQ-funded public education and outreach activities is to educate the public, community leaders, and potential project sponsors about connections among trip making and transportation mode choices, traffic congestion, and air quality. Public education and outreach can help communities reduce emissions and congestion by inducing drivers to change their transportation choices. More important, an informed public is likely to support larger regional measures necessary to reduce congestion and meet CAA requirements.

A wide range of public education and outreach activities is eligible for CMAQ funding, including activities that promote new or existing transportation services, developing messages and advertising materials (including market research, focus groups, and creative), placing messages and materials, evaluating message and material dissemination and public awareness, technical assistance, programs that promote the Tax Code provision related to commute benefits, transit “store” operations, and any other activities that help forward less-polluting transportation options.

Using CMAQ funds, communities have disseminated many transportation and air quality public education messages, including maintain your vehicle; curb SOV travel by trip chaining, telecommute and use alternate modes; fuel properly; observe speed limits; don’t idle your vehicle for long durations; eliminate “jack-rabbit” starts and stops; and others.

Long-term public education and outreach can be effective in raising awareness that can lead to changes in travel behavior and ongoing emissions reductions; therefore, these activities may be funded indefinitely.

10. Transportation Management Associations

Transportation Management Associations (TMAs) are groups of citizens, firms, or employers that organize to address the transportation issues in their immediate locale by promoting rideshare programs, transit, shuttles, or other measures. The TMAs can play a useful role in brokering transportation services to private employers.

Subject to applicable cost principles under 2 CFR Part 225, CMAQ funds may be used to establish TMAs provided that they reduce emissions. Eligible expenses include TMA start-up costs and up to 5 years of operating assistance as discussed in Section VII.A.2. Eligibility of specific TMA activities is addressed throughout this guidance.

11. Carpooling and Vanpooling

Eligible activities can be divided into two types of costs: *marketing* (which applies to both carpools and vanpools) and *vehicle* (which applies to vanpools only).

- a. Carpool/vanpool marketing covers existing, expanded, and new activities designed to increase the use of carpools and vanpools, and includes purchase and use of computerized matching software and outreach to employers. Guaranteed ride home programs are also considered marketing tools. Marketing costs may be funded indefinitely.
- b. Vanpool vehicle capital costs include purchasing or leasing vans for use in vanpools. Eligible operating costs, limited to five years as set forth in Section VII.A.2, empty-seat subsidies, maintenance, insurance, administration, and other related expenses. Prorated cost sharing plans that establish grant proportions for undefined shares of

capital and operating costs need to be broken down to the specific components or line items that establish the capital-operating shares.

The CMAQ funds should not be used to buy or lease vans that would directly compete with or impede private sector initiatives. States and MPOs should consult with the private sector prior to using CMAQ funds to purchase vans, and if private firms have definite plans to provide adequate vanpool service, CMAQ funds should not be used to supplant that service.

In accordance with 23 U.S.C. 120(c)(1), carpooling and vanpooling activities may be supported with up to 100 percent Federal funding, under certain limitations.

12. Carsharing

The MAP-21 specifically highlights carsharing projects in the amended section on traffic demand. These efforts involve the pooling of efficient, low-emission vehicles, provided to travelers who have occasional need for a vehicle but not the constant, daily necessity that demands ownership. As with any CMAQ project, sponsors need to demonstrate an emissions reduction from the carsharing program. If a programwide emissions reduction cannot be demonstrated, CMAQ funding may be available to support vehicle costs under Alternative Fuels and Vehicles eligibility, discussed in Section VII.F.17.

13. Extreme Low-Temperature Cold Start Programs

Projects intended to reduce emissions from extreme cold-start conditions are eligible for CMAQ funding. Such projects include retrofitting vehicles and fleets with water and oil heaters and installing electrical outlets and equipment in publicly owned garages or fleet storage facilities.

14. Training

States and MPOs may use Federal-aid funds to support training and educational development for the transportation workforce. Such activities are subject to applicable cost principles in 2 CFR Part 225. The FHWA encourages State and local officials to weigh the air quality benefits of such training against other cost-effective strategies detailed elsewhere in this guidance before using CMAQ funds for this purpose. Training funded with CMAQ dollars should be directly related to implementing air quality improvements and be approved in advance by the FHWA Division office.

15. Inspection/Maintenance (I&M) Programs

Funds under the CMAQ program may be used to establish either publicly or privately owned I&M facilities. Eligible activities include construction of facilities, purchase of equipment, I&M program development, and one-time start-up activities, such as updating quality assurance software or developing a mechanic training curriculum. The I&M program must constitute new or additional efforts, existing funding (including inspection fees) should not be displaced, and operating expenses are eligible for five years as discussed in Section VII.A.2.

States or other sponsors planning new or expanded I&M programs that incorporate other elements of a State's vehicle administrative function, e.g. registration, safety inspection, titling, etc., must remove these line items from the CMAQ project. These tasks are not linked to the CMAQ purpose and are, therefore, not allowable costs.

Privately Owned I&M Facilities

In States that rely on privately owned I&M facilities, State or local I&M program-related administrative costs may be funded under the CMAQ program as in States that use public I&M facilities. However, CMAQ support to establish I&M facilities at privately owned stations, such as service stations that own the equipment and conduct emission test-and-repair services, requires a PPP.

The establishment of “portable” I&M programs, including remote sensing, is also eligible under the CMAQ program, provided that they are public services, reduce emissions, and do not conflict with statutory I&M requirements or EPA regulations.

16. Innovative Projects

State and local organizations have worked with various types of transportation services to better meet the travel needs of their constituents. These innovative projects also may show promise in reducing emissions, but do not yet have supporting data. The FHWA has supported and funded some of these projects as demonstrations to determine their benefits and costs. Such innovative strategies are not intended to bypass the definition of basic project eligibility, but seek to better define the projects’ future role in strategies to reduce emissions.

For a project or program to qualify as an innovative project, it should be defined as a transportation project and be expected to reduce emissions by decreasing VMT, fuel consumption, congestion, or by other factors. The FHWA encourages States and MPOs to creatively address their air quality problems and to consider new services, innovative financing arrangements, PPPs, and complementary approaches that use transportation strategies to reach clean air goals.

Given the untried nature of these innovative projects, before-and-after studies should be completed to determine actual project impacts on air quality as measured by net emissions reduced. These assessments should document the project’s immediate impacts in addition to long-term benefits. A schedule for completing the study should be a part of the project agreement. Completed studies should be submitted to the FHWA Division office within 3 years of implementation of the project or 1 year after the project’s completion, whichever is sooner.

17. Alternative Fuels and Vehicles

The FHWA issued a memorandum in April 2011, covering the relationship between the required emissions reduction benefits of alternative fuel vehicles and the associated cost principles at 2 CFR Part 225. Essentially, this guidance illustrates the cost-benefit relationship between different vehicle types and functions and the air quality benefit provided as a cost basis under the CMAQ program. The memorandum, outlining the requirements in 23 U.S.C. 149, supports eligibility only for the incremental cost, limited to the marginal emissions-reducing elements of the alternative fuel vehicles that are acquired through PPPs or that are purchased by public sponsors.

Program funds may be used to support projects involving the alternative or renewable fuels defined in the Energy Policy Act of 1992 or the Energy Independence and Security Act of 2007. All standard eligibility criteria apply. Aside from fuel acquisitions that are part of a transit operating support effort, stand-alone purchase of any fuel-alternative or otherwise-is not an eligible CMAQ cost. However, the few exceptions provided by Section 1808(k) of SAFETEA-LU continue under MAP-21, subject to the limitation on operating assistance as described in Section VII.A.2.

Generally, CMAQ support for alternative fuel vehicle projects can be broken into the following areas:

Infrastructure

Except as noted below, establishing publicly owned fueling facilities and other infrastructure needed to fuel alternative-fuel vehicles is an eligible expense, unless privately-owned fueling stations are in place and reasonably accessible. Fueling facilities can dispense one or more of the alternative fuels identified in section 301 of the 1992 Energy Policy Act or biodiesel, or provide recharging for electric vehicles. Additionally, CMAQ funds may support converting a private fueling facility to support alternative fuels through a public-private partnership agreement. In accordance with 23 U.S.C. 149(c)(2), and 23 U.S.C. 111, regarding the prohibition of commercial activities in the Interstate ROW, CMAQ-funds may be used to establish or support refueling facilities within the Interstate ROW, providing these services are offered at no charge.

Non-transit Vehicles

The CMAQ funds may be used to purchase publicly-owned alternative fuel vehicles, including passenger vehicles, service trucks, street cleaners, and others. However, only publicly owned vehicles providing a dominant transportation function can be fully funded, such as paratransit vans, incident management support vehicles, refuse haulers, and others. Costs associated with converting fleets to run on alternative fuels are also eligible. When non-transit vehicles are purchased through PPPs, only the cost difference between the alternative fuel vehicles and comparable conventional fuel vehicles is eligible. Such vehicles should be fueled by one of the alternative fuels identified in section 301 of the 1992 Energy Policy Act or biodiesel.

Eligible projects also include alternatives to diesel engines and vehicles. Alternative fuel vehicle projects that are implemented as diesel retrofits and involve the replacement of an operable engine-not standard fleet turnover-would be eligible for full Federal participation, i.e. an 80 percent Federal share of the full vehicle cost.

Hybrid Vehicles

Although not defined by the Energy Policy Act of 1992 as alternative fuel vehicles, certain hybrid vehicles that have lower emissions rates than their non-hybrid counterparts may be eligible for CMAQ investment. Hybrid vehicle models that are in part the focus of State legislation addressing HOV exemptions for alternative fuel and low emissions vehicles are considered eligible for CMAQ support. Other hybrid vehicles will be assessed on a case specific basis, as there is no specific EPA regulation available to rate the lower emissions and energy efficiency advantages of the models involved.

Projects involving heavier vehicles, including refuse haulers and delivery trucks, also may be appropriate for program support. Eligibility should be based on a comparison of the emissions projections of these larger candidate vehicles and other comparable models.

TABLE 5-5

FUNDING PERCENT BY MODE (Expressed by Percentage)								
Mode	Program Area	½ Cent	ADOT Funds	FTA (5307)	FTA (5309)	CMAQ	MAG-STP	Total Regional Funding
Freeways	Capital	52.0	100.0	0.0	0.0	19.1	0.0	55.0
	Operations	4.2	0.0	0.0	0.0	0.0	0.0	2.2
	Total	56.2	100.0	0.0	0.0	19.1	0.0	57.3
Streets	Capital	10.2	0.0	0.0	0.0	13.4	100.0	9.3
Buses	Capital	4.2	0.0	90.6	12.7	0.0	0.0	8.4
	Operations	11.9	0.0	0.0	0.0	0.0	0.0	6.4
	Total	16.0	0.0	90.6	12.7	0.0	0.0	14.8
LRT	Capital	14.4	0.0	0.0	87.3	35.9	0.0	14.7
Other Transit	Capital	0.4	0.0	9.4	0.0	0.0	0.0	0.8
	Operations	2.5	0.0	0.0	0.0	0.0	0.0	1.3
	Total	2.9	0.0	9.4	0.0	0.0	0.0	2.1
Planning	Programs	0.4	0.0	0.0	0.0	0.0	0.0	0.2
Bicycle/ Pedestrian	Capital	0.0	0.0	0.0	0.0	17.0	0.0	0.8
Air Quality	Programs	0.0	0.0	0.0	0.0	14.6	0.0	0.7
Total Funding	Capital	81.1	100.0	100.0	100.0	85.4	100.0	89.1
	Operations	18.9	0.0	0.0	0.0	14.6	0.0	10.9
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percent Funding by Major Mode								
Freeways		56.2	100.0	0.0	0.0	19.1	0.0	57.3
Streets		10.2	0.0	0.0	0.0	13.4	100.0	9.3
Transit		33.3	0.0	100.0	100.0	35.9	0.0	31.7
Other		0.4	0.0	0.0	0.0	31.6	0.0	1.8
Total		100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Maricopa Association of Governments

CMAQ ITS Applications Received by 9-21-2015

MAG ITS PROJECT EVALUATION FORM - FY2018 & FY2019
SUMMARY OF EVALUATION

Presentations Order	Lead Agency	Project Number	Preferred Program Year	ITS Project Category	Project Description	FFY2018	FFY 2019	Year	Committee Comments October 7, 2015 meeting
						Funding Requested	Funding Requested		
1	Apache Junction	APJ-18-ITS-1	FY2018	Arterial ITS	Install wireless communication to all Apache Junction traffic signals	\$267,340		FY2018	<p>Q: Interested to understand how connection to Mesa TMC will serve Apache Junction.</p> <p>A: AJ does not have connection to any signals, connection to Mesa will assist; can view through their system.</p> <p>Q: Explain how you'll identify locations.</p> <p>A: This project makes it easy to change the location, the design process allows us to figure out exactly where to change it to.</p>
2	Apache Junction	APJ-19-ITS-2	FY2019	Arterial ITS	Connect traffic signals via fiber communications accessible from City Hall		\$351,047	FY2019	<p>Q: RADS architecture is provided, but regional connectivity not clear otherwise.</p> <p>A: Connecting the central wireless tower to City Hall will give AJ direct access to signals through their own fiber/wireless system while still being able to manage the signals and infrastructure through Mesa's system. This link will allow AJ to share any data to RADS.</p> <p>Q: How will this project impact APJ-18-ITS-1?</p> <p>A: Wanted this to be the first one, but in conversations with Mesa the communications would first be a better project. First know what is out there to monitor then install fiber.</p> <p>Q: Is there an IGA prepared with Mesa? Who will be operating signals?</p> <p>A: Will talk to Mesa and get an IGA or MOU once receive funding. Did communicate and did get permission for a certain number of seats.</p> <p>Q: Who will be operating signals.</p> <p>A: AJ will be using the software but can only operate those signals using Mesa signals.</p>
3	Avondale	AVN-18-ITS-1	FY2018	Arterial ITS	Install fiber backbone to connect two existing backbone runs on Dysart Rd fiber	\$278,279		FY2018	<p>Q: How many signals that are not connected to the TMC today will be connected as a result of this project?</p> <p>A: Three signals directly. Would also pick up two more signals indirectly.</p> <p>Q: The line item for conduits show two 2" and two 4" conduits appears excessive, although the \$25/ft. is reasonable for what is actually needed, which one is conduit?</p> <p>A: Corridor has been identified as a backbone corridor and will be consistent with the city's other backbone corridors.</p> <p>Q: What was considered in choosing an ASC-3 Controller? Will this function well in the future in comparison to ATC. Are ASC-3s allowed to be purchased federal funds?</p> <p>A: Avondale staff is not familiar with the ATC controllers. These controllers give easier ability for staff to keep going.</p> <p>Q: What percentage of the cost is set aside for traffic control contingencies?</p> <p>A: Install east side to minimize traffic controllers, but should be able to budget.</p> <p>Q: Seems that the conduit is overkill. Just something to keep in mind if you wanted to keep cost down.</p> <p>Q: Is the four duct bank typical?</p> <p>A: Yes</p>
4	Avondale	AVN-19-ITS-2	FY2019	Arterial ITS	Install fiber backbone on Van Buren Street from Dysart Rd to 127th Ave		\$301,477	FY2019	<p>Q: What was considered in choosing an ASC-3 Controller? Will this function well in the future in comparison to ATC. Are ASC-3s allowed to be purchased federal funds?</p> <p>A: ASC-3 Controllers are standard to Avondale.</p> <p>Q: Explain how the design cost is 40% of construction cost.</p> <p>A: There is concerns that the project might impact the river bed. Hope to go over bridge, but wanted to build in contingency.</p> <p>Q: Why a site topography survey for a fiber trunk line project?</p> <p>A: Might have to go along the river bed.</p>

Presentations Order	Lead Agency	Project Number	Preferred Program Year	ITS Project Category	Project Description	FFY2018	FFY 2019	Year	Committee Comments October 7, 2015 meeting
						Funding Requested	Funding Requested		
5	Buckeye	BKY-18-ITS-001	FY2018	Arterial ITS	Phase I ITS Infrastructure	\$316,835		FY2018	<p>Q: So the project is to install conduit only? Might want to consider putting something in the pipe to keep it live and notify when its live.</p> <p>A: Yes.</p> <p>Q: When does the city plan on putting in fiber?</p> <p>A: Depends on the selection. Working on CIP now, would add it to the CIP if project is selected over next 3/4 years.</p> <p>Q: Does Buckeye have a ITS plan or strategy? Do these projects fall in line?</p> <p>A: Fall in line with a plan that MAG is assisting with right now.</p>
6	Buckeye	BKY-18-ITS-002	FY2018	Arterial ITS	Phase II ITS Infrastructure	\$225,977		FY2018	<p>Q: Have you considered any interim solution (i.e. wireless)? As land gets developed you could get infrastructure though developer.</p> <p>A: We do have a setup for a wireless connection at Yuma and Watson but have no other plans for wireless at this time.</p> <p>Q: Is there any chance this conduit would be impacted when development occurs?</p> <p>A: We would plan for the ultimate widening</p>
7	Chandler	CHN-18-ITS-1	FY2018	Arterial ITS	Install bicycle detection system for 20 signalized intersections along Chandler Blvd	\$396,060		FY2018	<p>Q: Are these projects installing bike detection only?</p> <p>A: Yes</p> <p>Q: Do cycle lanes exit along these arterials?</p> <p>A: Yes</p> <p>Q: Where will bicycle detection be set up?</p> <p>A: On signals</p> <p>Q: Is the bicycle detect for the arterial only or does it include the side streets?</p> <p>A: Yes, side streets.</p> <p>Q: Why do you need 20 video servers?</p> <p>A: Its actually the interface panel/hub. All require to operate.</p> <p>Q: What percentage of city signals does this project represent</p> <p>A: About 20%</p> <p>Q: What is current detection?</p> <p>A: 100% video</p> <p>Q: Would these detectors only detect bicycles? How did you determine the unit cost for the detection system? Are bike routes identified in Chandler's master plan?</p> <p>A: Yes, bicycles only. Costs for cameras only. Chandler does have a bike plan as part of the master plan.</p> <p>Q: Are these intersections where the highest for bike activity? How were they selected? Did you conduct bike counts?</p> <p>A: Bike activity is highest in north and west Chandler.</p> <p>Q: Have you compared this to determine how accurate it is?</p> <p>A: Yes, we're testing it now and comparing against different brands.</p> <p>Q: Do these cameras simply detect a bicycle or do they different and do operates differently?</p> <p>A: When cameras recognize that there's head movement they'll put it in the category of a</p>

Presentations Order	Lead Agency	Project Number	Preferred Program Year	ITS Project Category	Project Description	FFY2018	FFY 2019	Year	Committee Comments October 7, 2015 meeting
						Funding Requested	Funding Requested		
8	Chandler	CHN-19-ITS-2	FY2019	Arterial ITS	Install bicycle detection system for 20 signalized intersections along Ray Rd		\$396,060	FY2019	<p>bike and the signal will operate differently.</p> <p>Q: Do you calculate green time differently? Some intersections are wide and some are not</p> <p>A: No, times are standardized across all intersections.</p> <p>Q: So at a major inspection, wouldn't there be enough time for a bicycle to get improved at both directs?</p> <p>A: Double lefts impact timing.</p> <p>Q: Do you see a lot of bicyclists in dual turn lanes?</p> <p>A: Not a lot.</p> <p>Q: Does your master plan encourage bicycles on the arterials?</p> <p>A: Yes.</p> <p>Q: Is this going to supplement existing detection? Will do it all modes of operation or just bikes?</p> <p>A: Will replace current cameras and will be for bikes only.</p> <p>Q: Your application seems predisposed to a certain type of technology. How will you ensure you get the technology you're looking for?</p> <p>A: We will address that down the road.</p> <p>Q: Do bicycle detection systems improve safety? Can you quantify it?</p> <p>A: Yes they do, but we don't have existing data.</p> <p>Q: Is it possible to use the same cameras for pedestrian activity?</p> <p>A: Yes, it's the same technology.</p>
9	El Mirage	ELM-18-ITS-1	FY2018	Arterial ITS	Install fiber , install five CCTV cameras and interconnect six traffic signals	\$305,721		FY2018	<p>Q: Do the six signals that are being interconnected with fiber have any connection today?</p> <p>A: Only along Olive Avenue and Grand.</p> <p>Q: Is this using existing conduit? What CCTV management system do you have now?</p> <p>A: Conduit will be installed as part of a current ALCP projects. The city does not currently have a CCTV management system.</p> <p>Q: What central signal system is currently used?</p> <p>A: None</p> <p>Q: Where will the CCTV be viewed?</p> <p>A: At City Hall.</p> <p>Q: What percentage of the \$216 k construction cost will be incurred for mobilization, contingencies, and construction admin?</p> <p>A: Was not based on percentage, based on 7/8 previous ADOT projects.</p>
10	Goodyear	GDY-18-ITS-1	FY2018	Arterial ITS	Phase 1 - Install fiber along Elwood St, CCTV, connect two signals to TMC	\$380,683		FY2018	<p>Q: It appears to ask for multiple conduits do that appear to be necessary.</p> <p>A: Yes.</p>
11	Goodyear	GDY-18-ITS-2	FY2018	Arterial ITS	Phase 2 - Install fiber along Cotton Ln, CCTV, connect four signals to TMC	\$301,482		FY2018	<p>Q: Do I understand correctly that this project will install several miles of conduit/fiber to reach two traffic signals at the end of the line?</p> <p>A: Connection to one near term and two existing signals. Will connect to the improvements being made at L303 and Cotton Ln.</p>
12	Goodyear	GDY-19-ITS-3	FY2019	Local ITS Plans	Update ITS strategic plan and implementation plan		\$188,600	FY2019	<p>Q: How extensive is this revision to ITS strategic Plan?</p> <p>A: Update to the existing plan. If received in 2019, the existing plan would approximately 12 years old.</p> <p>Q: This is the same as the cost for a first time plan. How did you arrive at this cost? Why does the scope look like developing a CIP program with life cycle costs?</p> <p>A: Misunderstanding of the application. Fiber optic infrastructure not infrastructure improvements. The ITS master plan will assist. Hard to get an idea how much it will cost, it's a best guess of the time based on previous plans.</p> <p>Q: Which of the two projects has a higher priority? Would the city update this anyway as you move forward?</p> <p>A: The master plan would be the third priority. The city would take the update under consideration.</p>

Presentations Order	Lead Agency	Project Number	Preferred Program Year	ITS Project Category	Project Description	FFY2018	FFY 2019	Year	Committee Comments October 7, 2015 meeting
						Funding Requested	Funding Requested		
13	Glendale	GLN-18-ITS-1	FY2018	Arterial ITS	Install fiber, communication and CCTV along Camelback Rd from 51st Ave to 67th Ave	\$400,000		FY2018	
14	Glendale	GLN-18-ITS-2	FY2018	Arterial ITS	Install fiber, communication and CCTV along Camelback Rd from 75th Ave to 91st Ave	\$400,000		FY2018	<p>Q: Is there existing communication to signals? A: One of the five through fiber, the rest through wireless.</p> <p>Q: How are existing signals interconnected? A: One through fiber, the rest through wireless.</p> <p>Q: Did you consider a wireless solution? A: Yes but want to make it more robust.</p> <p>Q: Camelback is edge of city. Why did you chose to expand fiber at edge of the city? A: This and Glendale Ave out to Luke are the last two in the city. This ranked higher on the ITS plan.</p> <p>Q: What wireless system are you using that seems to be so unreliable? A: It's not necessarily unreliable it's just run its course. Once one of the access points dies, stealing some from the others.</p>
15	Glendale	GLN-18-ITS-3	FY2018	Arterial ITS	Install EVP system citywide at 48 intersections	\$399,832		FY2018	<p>Q: Is Glendale planning to implement the future recommendations of the regional EVP practices study? A: Want to stay within the limits of the study.</p> <p>Q: As a third of the EVP equipment will not be on the City owned EMS vehicles, how will these benefit Glendale? A: Would partner with neighboring agencies. If go with GPS system then would install on emergency vehicles in close proximity.</p> <p>Q: What studies have shown that EVP reduces EMS response times? A: FHWA study in 2006.</p> <p>Q: Will police department use preemption as well? A: With this project we intend on using only for fire department vehicles only.</p> <p>Q: Are you saying that you will use GPS not optical? A: We would want to minimize ground disturbance activity.</p> <p>Q: Seems like an expensive project. A: The chosen system will come based on the FHWA process and analysis.</p> <p>Q: How does this project improve congestion and air quality? A: When response times increase it helps clear accidents and incidents faster. Minimizes secondary crashes.</p> <p>Q: What is your priority between the three projects? A: This project is the priority of the city.</p> <p>Q: Indicated that you'd install certain GPS equipment in neighboring cities? How are you going to bring in your neighbors signals? A: Those details would need to be worked out when go to final scoping.</p>
16	Maricopa City	MAR-18-ITS-1	FY2018	Arterial ITS	Install conduit & fiber, CCTV cameras, & wireless comm. and interconnect 6 signals	\$400,000		FY2018	<p>Q: What percentage of the \$400 k construction cost is going towards design, plan development, and construction admin? A: Maricopa is committed to paying for PE and design.</p> <p>Q: What is Maricopa's plan for Honeycutt when the 347 project is complete? A: Honeycutt would be interconnected along with wireless connection along Smith Rd. Total of 7 signals would be interconnected.</p> <p>Q: Does ADOT have com to 347 today? A: All wireless</p>

Presentations Order	Lead Agency	Project Number	Preferred Program Year	ITS Project Category	Project Description	FFY2018	FFY 2019	Year	Committee Comments October 7, 2015 meeting
						Funding Requested	Funding Requested		
17	Maricopa City	MAR-19-ITS-2	FY2019	Arterial ITS	Install conduit & fiber, CCTV cameras, & wireless comm. and interconnect 9 signals		\$400,000	FY2019	<p>Q: What type of CCTV software does Maricopa have currently?</p> <p>A: Nothing. This would be a part of a larger project. Could connect up with Tucson district in the interim.</p> <p>Q: Are you planning to have TMC up and operating by the time project was to go into action?</p> <p>A: Yes.</p> <p>Q: Is TMC part of your 5 year plan?</p> <p>A: As part of Phase II of this ATP process.</p> <p>Q: Will you build TMC as part of your city funds?</p> <p>A: As part of the ATP there are five different projects that the city will be pursuing over the next 5 years. TMC is one of them.</p>
18	Maricopa County	MMA-18-ITS-1	FY2018	Integrated Corridor Mgmt.	Upgrade TMC workstations, video wall display, network equipment, and system	\$299,874		FY2018	<p>Q: When was the brand new MCDOT TMC commissioned?</p> <p>A: 2011</p> <p>Q: How old are the current TMC video wall, workstations, and servers?</p> <p>A: 2011</p> <p>Q: Why are more video wall screens indeed for ICM above and beyond that is currently in place?</p> <p>A: Bring back video detection feeds to monitor intersections without CCTV, expanding monitoring and traffic alert notifications on social media, and ICM support was not part of regional TMC design.</p> <p>Q: Why are the current network, firewall, and VPN inadequate?</p> <p>A: by 2018-2019, will be beyond expected lifecycle.</p> <p>Q: What is the logic beyond 118 project length?</p> <p>A: With this being regional project, the specific corridor miles/speeds are challenging. Identified parallel arterials using distance to the freeways.</p> <p>Q: Does this include upgrading the current central system?</p> <p>A: No, that was no included.</p> <p>Q: Speak about the operator workstations. Explain how the current ones need to be upgraded.</p> <p>A: Proposing to add to the existing to support the additional functions. The upgrade is in connection with some of the equipment at the existing stations.</p> <p>Q: How big are you expecting to expand the video wall.</p> <p>A: There is wall space to add additional monitors. Hasn't been determined if it will be one monitor or a bunch of different ones.</p> <p>Q: If adding workstations, have the approval for the FTEs?</p> <p>A: In the process of recruiting for more staff in the TMC.</p> <p>Q: Understanding that there is a RADs upgrade in the works.</p> <p>A: This would be a further enhancement of the existing upgrade. It's an incremental approach.</p> <p>Q: Is this capable of handling bluetooth services from other arterial travel places?</p> <p>A: As part of developing the program, additional assistance can be considered+R24.</p>
19	Maricopa County	MMA-19-ITS-2	FY2019	Integrated Corridor Mgmt	Upgrade RADS server and hardware and provide system integration		\$122,590	FY2019	<p>Q: Why do these locations need this upgrade vs the highest volume major-major intersections?</p> <p>A: These all have TS1 cabinets.</p> <p>Q: How will the project improve safety?</p> <p>A: Replacing old TS1 cabinets, which have a lot of issues. Non operational signals cause safety and operational problems.</p> <p>Q: Is the a communications element?</p> <p>A: Just reestablishing communications to the cabinet.</p>
20	Mesa	MES-18-ITS-1	FY2018	Arterial ITS	Install cabinets & controllers at 25 locations and establish communications	\$390,000		FY2018	<p>Q: Why do these locations need this upgrade vs the highest volume major-major intersections?</p> <p>A: These all have TS1 cabinets.</p> <p>Q: How will the project improve safety?</p> <p>A: Replacing old TS1 cabinets, which have a lot of issues. Non operational signals cause safety and operational problems.</p> <p>Q: Is the a communications element?</p> <p>A: Just reestablishing communications to the cabinet.</p>
21	Mesa	MES-19-ITS-1	FY2019	Arterial ITS	Install cabinets & controllers at 25 locations and establish communications		\$390,000	FY2019	<p>Q: Why do these locations need this upgrade vs the highest volume major-major intersections?</p> <p>A: These all have TS1 cabinets.</p> <p>Q: How will the project improve safety?</p> <p>A: Replacing old TS1 cabinets, which have a lot of issues. Non operational signals cause safety and operational problems.</p> <p>Q: Is the a communications element?</p> <p>A: Just reestablishing communications to the cabinet.</p>

Presentations Order	Lead Agency	Project Number	Preferred Program Year	ITS Project Category	Project Description	FFY2018	FFY 2019	Year	Committee Comments October 7, 2015 meeting
						Funding Requested	Funding Requested		
22	Peoria	PEO-18-ITS-1	FY2018	Arterial ITS	Install 72 flashing yellow arrow signal heads & cabinet and controllers at 12 locations	\$358,340		FY2018	<p>Q: Why are a new cabinet and controllers needed? A: Have old cabinets. Q: Do these locations have a high crash occurrence? A: some of them are high locations and some of them are not. Q: What type of crashes and how many in the last 3 years? A: A list of crashes was provided. Q: Do you plan to study the impact of FYA on reducing crashes? A: Yes. Q: Do you anticipate any trouble using federal aid (sole source)? A: We've done it before, but it might be a different type of controller. Q: Are these presently 5 section heads? Will the project need to replace mast heads? A: Yes they are and no. Q: Will you have time of day/peak hour functionality? A: We will look at that in the future. Q: Do you have any comments from residents about current FYA? A: Have done projects throughout the city and no one calls unless have a complaint. When installed had a lot of emails/calls thanking the city for installing them. Positive feedback with a few complaints.</p>
23	Phoenix	PHX-18-ITS-1	FY2018	Integrated Corridor Mgmt.	Install vehicle detection at 182 locations	\$895,000		FY2018	<p>Q: I do not understand the intent of the project. A: SR-51 acts as a spine within the city. Project will give an idea of how to operate signals. Q: The project excess the \$400,000 limit set by MAG. A: The \$400,000 was a suggestion, not a mandate. The project is implementing 16% of the city's network. The cap came after it went to the city council. Q: What specific is traffic data question equipment? A: ARID -- use the terminology for city council, etc. Will get information beyond just traffic design. Q: The description on the evolution excel sheet is "vehicle detection." The projects are implementation of ARID. A: ARID -- use the terminology for city council, etc. Q Can the amount of locations be reduced? A: Yes, by next Monday October 12 at noon.</p>
24	Phoenix	PHX-19-ITS-2	FY2019	Arterial ITS	Install 5 miles of fiber and vehicle detection at 25 locations		\$749,067	FY2019	<p>Q: I do not understand the intent of the project. A: Install more fiber and ARID. Q: The project excess the \$400,000 limit set by MAG. A: The \$400,000 was a suggestion, not a mandate. The project is implementing 16% of the city's network. The cap came after it went to the city council. Q: Can the limits of this project be reduced? A: The project has already gone to council. Q: Could this phase be half the project? A: The project has already gone to council. Q: How are the existing signals interconnected? A: Fiber.</p>

Presentations Order	Lead Agency	Project Number	Preferred Program Year	ITS Project Category	Project Description	FFY2018	FFY 2019	Year	Committee Comments October 7, 2015 meeting
						Funding Requested	Funding Requested		
25	Scottsdale	SCT-18-ITS-1	FY2018	Arterial ITS	Install 17 video detection cameras and TMC software	\$368,713		FY2018	<p>Q: Is this replacing existing detection? If yes, what detection technology and how extensive is the detection today?</p> <p>A: Replaces stop bar detection on side streets and left turns.</p> <p>Q: The per price for video equipment is very high. Why?</p> <p>A: Seventeen locations, 4 poles at each location.</p> <p>Q: What process will you use to determine what detection system will support the functions required for generating performance metrics?</p> <p>A: Detection system must be compatible w/ existing Econolite ASC-3s and TransSuite. Initial measurements by floating car & manual delay measurements. After measurements by both manual & automated methods in order to correlate the 2 processes. Automated process will use system such as Purdue Traffic Applications.</p> <p>Q: What performance metrics will you generate</p> <p>A: Intersection approach delay and corridor travel time.</p> <p>Q: Have you considered using a procurement process with ADOT approval?</p> <p>A: No, but we'd be happy to.</p> <p>Q: Why is the length of the project 3.5 miles?</p> <p>A: That is the distance of the corridor from 60th St. to Pima. Does not include distance to out-of-corridor connecting signals.</p>
26	Surprise	SUR-18-ITS-1	FY2018	ITS Applications that Improve Safety	Develop EVP and signal integration implementation plan	\$94,300		FY2018	<p>Q: What technologies are there to study for fire station?</p> <p>A: Look at the locations and see what technologies are available to implement in the vicinity.</p>
27	Surprise	SUR-18-ITS-2	FY2018	Local ITS Plans	Develop ITS strategic plan and implementation plan	\$141,450		FY2018	<p>Q: Do you currently have an ITS strategy plan?</p> <p>A: No</p> <p>Q: Is it possible to add EVP to strategic plan?</p> <p>A: Yes. Purpose of separating the two was that wanted to focus on the safety aspect.</p>
28	Surprise	SUR-19-ITS-3	FY2019	Arterial ITS	Install 2 CCTV cameras and 9 video detection cameras		\$353,625	FY2019	<p>Q: What detection exists at the proposed locations and how will the proposed detection improve operations?</p> <p>A: Nine intersections. Currently running video detection but it does have its limitations. The new system will allow city to take advance of the new technology that has come out.</p> <p>Q: What is your current system?</p> <p>A: Using traffic line system. Running four channel cards, so four channels per card but two cameras per card. Have had a lot of outages</p> <p>Q: What type of metrics do you want to get out of the new system?</p> <p>A: Lane by lane detection.</p> <p>Q: Will you try to detect bicycles with this technology?</p> <p>A: Yes, but it won't be a primary goal. It's a few years out so the hope is that there will be more to chose from.</p> <p>Q: Scottsdale price is \$370 for 17 signalized intersections. This is \$350 for 9 intersections.</p> <p>A: Did include some costs for including battery backups to help with PM scheduling .</p>
29	Surprise	SUR-19-ITS-4	FY2019	Arterial ITS	Replace unsupported TMC video wall and processor equipment		\$315,905	FY2019	<p>Q: What problems exist with the current video wall? How old is it? What is the mean time between failures for the current system? What security risk exists to signal system operations? What is the current processor? What parts are no longer supported?</p> <p>A: TMC was commissioned in 2007. Video wall and processor are at end of life by the vendor (Microsoft). Current processor limits the usability by city staff and police/fire. The unsupported operating system does present risks, so turned it off most of the time to try and minimize risks.</p> <p>Q: Is this for just the processor or video displays?</p> <p>A: This is the processor and retrofit for video wall.</p>

Presentations Order	Lead Agency	Project Number	Preferred Program Year	ITS Project Category	Project Description	FFY2018	FFY 2019	Year	Committee Comments October 7, 2015 meeting
						Funding Requested	Funding Requested		
30	Tempe	TMP-18-ITS-1	FY2018	Arterial ITS	Phase 1 - Install DMS, CCTV cameras, wireless link, bicycle detection, & EVP networking	\$392,010		FY2018	Q: How was the location of the DMS chosen? A: Two heaviest N-S corridors. Q: What is the intended function of the DMS? A: Access to downtown and US-60.
31	Tempe	TMP-19-ITS-2	FY2019	Arterial ITS	Phase 2 - Install DMS, CCTV cameras, wireless link, bicycle detection, & EVP networking		\$392,010	FY2019	Q: What approaches at the freeway locations are getting bicycle detection? A: University, Apache, Broadway, Southern, Baseline, Guadalupe. Q: What percentage of the signalized system does this represent? A: Roughly half.
						\$7,011,896	\$3,960,381		
						\$3,680,000	\$3,680,000		



302 North 1st Avenue, Suite 300 ▲ Phoenix, Arizona 85003
Phone (602) 254-6300 ▲ FAX (602) 254-6490
E-mail: mag@azmag.gov ▲ Web site: www.azmag.gov

October 15, 2015

TO: Members of the MAG Air Quality Technical Advisory Committee

FROM: Dean Giles, Air Quality Planning Program Specialist

SUBJECT: EVALUATION OF PROPOSED PM-10 CERTIFIED STREET SWEEPER PROJECTS FOR FY 2016 CMAQ FUNDING

The Maricopa Association of Governments staff has evaluated proposed PM-10 Certified Street Sweeper Projects for emission reductions and corresponding cost-effectiveness for FY 2016 Congestion Mitigation and Air Quality Improvement (CMAQ) Funds. Nine projects requesting approximately \$2.1 million in federal funds were evaluated. The evaluation of these projects and supplemental information are included in the attachment. The proposed projects have been listed in order of cost-effectiveness based on the amount of CMAQ funding requested. Following consideration of this information, the MAG Air Quality Technical Advisory Committee will be requested to recommend a prioritized list of PM-10 Certified Street Sweeper Projects for FY 2016 CMAQ funding to the MAG Management Committee and to retain the prioritized list for any additional FY 2016 CMAQ funds that may become available due to closeout or additional funding received by this region.

BACKGROUND

The purchase of PM-10 certified street sweeper projects supports the measure "PM-10 Efficient Street Sweepers" in the Revised MAG 1999 Serious Area Particulate Plan for PM-10. In addition, the MAG 2012 Five Percent Plan for PM-10 includes PM-10 Certified Street Sweepers. The FY 2016 Unified Planning Work Program and FY 2014-2018 MAG Transportation Improvement Program contain \$1,081,440 in FY 2016 CMAQ funding to encourage the purchase and utilization of PM-10 certified street sweepers. An additional amount of \$448,673 from street sweeper cost savings in FY 2014 has been carried forward to FY 2016 for a total of \$1.53 million. The purpose of the CMAQ program is to fund projects and programs in nonattainment and maintenance areas that assist in achieving air quality standards. A minimum local cash match of 5.7 percent on the CMAQ eligible portion of the project is required.

On August 10, 2015, MAG solicited PM-10 certified street sweeper projects in the PM-10 nonattainment areas from member agencies. Eligible street sweepers are defined as those which have been certified by the South Coast Air Quality Management District as meeting that agency's Rule 1186 certification standards. Project applications were due by September 21, 2015.

EVALUATION AND PROJECT RANKING

According to the approved MAG Federal Fund Programming Guidelines and Procedures, the MAG Street Committee is to conduct a technical review of the project data from the applications. On October 13, 2015, the MAG Street Committee conducted a review of the PM-10 Certified Street

Sweeper project applications and made a recommendation to forward the summary of the discussion from the meeting on PM-10 Certified Street Sweeper applications evaluated by the Street Committee to the MAG Air Quality Technical Advisory Committee. A summary of the discussion from the October 13, 2015 Street Committee meeting is attached.

MAG staff estimated the emission reductions and cost-effectiveness utilizing the September 30, 2011 MAG CMAQ Methodologies. Federal CMAQ guidance requires that the estimated emission reductions for each project submitted for CMAQ funding be considered during project selection. The FY 2016 PM-10 Certified Street Sweeper project evaluation and supplemental information are provided in the attachment. The proposed projects have been listed in descending order of cost-effectiveness based on the amount of CMAQ funding requested.

Following consideration of this information, the MAG Air Quality Technical Advisory Committee will be requested to make a recommendation on a prioritized list of proposed projects for FY 2016 CMAQ funding to the MAG Management Committee. After the MAG Regional Council approval of projects for funding, MAG will issue a formal authorization to proceed with the purchase of the proposed street sweepers in a letter to the project sponsor. To address new Federal Highway Administration procedures to minimize inactive obligations and to assist MAG in reducing the amount of obligated federal funds, MAG is requesting that street sweepers be purchased and reimbursement be requested by the project sponsor within one year from the date of the MAG Regional Council authorization.

If you have any questions or need additional information, please contact me at (602) 254-6300.

Attachments

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

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

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

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

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

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

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

Street Sweeper Summary Data With Clarifying Questions

Project ID	Sponsoring Agency	Type of Improvement			Sweeper Service Description																Is sweeper service within 4 miles of a PM10 monitor?	Requested CMAQ Funding	Clarifying Questions	Street Committee Comments from 10-13-2015
					Arterials Roadways				Collector Roadways				Residential Roadways				Other Roadways							
		Sweeper Replacement	Coverage Expansion	Increased Sweeper Frequency	Days between sweeping	Miles Swept per Cycle	ADT per Ln	Service Area (miles)	Days between sweeping	Miles Swept per Cycle	ADT per Ln	Service Area (miles)	Days between sweeping	Miles Swept per Cycle	ADT per Ln	Service Area (miles)	Days between sweeping	Miles Swept per Cycle	ADT per Ln	Service Area (miles)				
APJ-16-SS-002	Apache Junction	Yes	No	No	7	12	4191		30	22	1436		30	98	110		14	44	7148		Yes, the monitor titled "Apache Junction fire" (#17 on map).	\$270,636.29	<p>The current machine is not close to the mileage or service hour thresholds. Can you give a reason for needing to replace this so soon? Did it receive all its recommended service?</p> <p>The application includes a cost of the sweeper for items that may not be eligible (page 8 of application) for reimbursement such as rear camera and LCD monitor, AM/FM radio with CD, etc. Please detail the cost according to eligibility criteria.</p>	Q: age of replacement? A: 11 years old. Q: ineligible items? A: Standard installed items that may be ineligible would be additional cost for removal of the items. Q: Replace a sweeper that is used in flooding areas? A: We receive a lot of water and silt off the mountains in this sweeping area.
CHN-16-SS-001	Chandler	Yes			14	39	5757														Monitor # 13	\$228,748.94	<p>The existing machine has a low mileage and only 2/3 of hours of service to meet the threshold. What is the reason to replace now and why do you think it is not meeting the thresholds?</p> <p>The application includes the training of 3 people (page 7 of application). Can you please explain what is entailed in this factory training? Is it maintenance or in the proper use of the TYMCO Model 600? Does Chandler have other sweeper of this model/brand in their fleet?</p>	A: Not a lot of miles for this sweeper. It is nine years old. Electrical issues, a lot of maintenance issues, it is in the shop frequently. Fleet maintenance records only track parts, we've spent \$40,000 on the current unit. Q: Is this only used for Arterials? A: is used for Arterial and residential miles. Q: Training what is that for? A: for new models, we send our technicians for training. -Manufacturer provides this at no charge.
GLN-16-SS-001	Glendale	No	No	Yes	30	148	7500		60	77	2500		60	232	1000		0	0	0		Yes. Map ID #3, Site ID #40132001, Address: 6001 W. Olive Avenue, Glendale, Maricopa Co. AQD	\$241,043.43		Q: What is the ADT per lane mile. A: 1000. Q: What is the current frequency that you are proposing. A: I will have to submit a response after the meeting.
MES-16-SS-001	Mesa	No	Yes	No	20	64	6504	14	20	20	413	20	20	50	42	50	20	6	79	6	Yes, monitor #14	\$166,755.59		Q: In the application, it lists this sweeper would sweep in other areas, what are they? A: we are going to clean the portions of roadways prior to light rail crossing and in tighter, more constrained areas. This unit is a bit smaller and can maneuver around structures and curbing. A: cost difference is due to size? A: yes.
PEO-16-SS-001	Peoria	Yes	No	No	33	430	6657		84	231	1732		84	844	200		19	42	3525		Yes, the sweeper to be replaced is part of a fleet that sweeps Peoria. It is within four miles of PM-10 Monitors 2, 3 and 4.	\$259,844.59		Q: What are the other types of sweeping done? A: I will follow up after the meeting.
PEO-16-SS-002	Peoria	No	No	Yes	28	430	6657		56	231	1732		56	844	200		10	42	3525		Yes, the expansion sweeper will be incorporated into the fleet that sweeps Peoria. It is within four miles of PM-10 Monitors 2, 3 and 4.	\$259,844.59	What is the mileage and hours of service for the existing street sweeper?	
PHX-16-SS-001	Phoenix	Yes	No	No	14	32	8800		14	25	5000		90	20	500						Yes, The sweeper to be replaced is part of a fleet that sweeps in our Southwest sweeping area. {see attached map} It is within four miles of PM-10 monitors. 1,5,7,11,15, & 17.	\$232,850.28		Q: this is a replacement, what is the year and mileage. A: not available. Q: If you could get a smaller sweeper, would you apply? A: yes
PHX-16-SS-002	Phoenix	Yes	No	No	14	32	8800		14	25	5000		90	20	500						Yes, The sweeper to be replaced is part of a fleet that sweeps in our Southwest sweeping area. {see attached map} It is within four miles of PM-10 monitors. 10, 8, 11, 3, 5 and 7.	\$232,850.28		
SCT-16-SS-002	Scottsdale	Yes	No	No	15	45	8967		15	21	5978		30	280	598		30	4			Yes, Monitor #13 South Scottsdale (Miller & Thomas)	\$214,853.12		



302 North 1st Avenue, Suite 300 ▲ Phoenix, Arizona 85003
Phone (602) 254-6300 ▲ FAX (602) 254-6490
E-mail: mag@azmag.gov ▲ Web site: www.azmag.gov

October 22, 2015

TO: Members of the MAG Air Quality Technical Advisory Committee

FROM: Dean Giles, Air Quality Planning Program Specialist

SUBJECT: EVALUATION OF PROPOSED PM-10 PAVING UNPAVED ROAD PROJECTS FOR FY 2018, 2019, AND 2020 CMAQ FUNDING

The Maricopa Association of Governments staff has evaluated proposed PM-10 Paving Unpaved Road Projects for emission reductions and corresponding cost-effectiveness for FY 2018, 2019, and 2020 Congestion Mitigation and Air Quality Improvement (CMAQ) Funds. In the Maricopa County PM-10 nonattainment area, ten unpaved road and alley projects requesting approximately \$10.7 million in federal funds were evaluated. In the Pinal County PM-2.5 nonattainment area, six unpaved road projects requesting approximately \$6.3 million in CMAQ PM-2.5 funds were evaluated. Following consideration of this information, the MAG Air Quality Technical Advisory Committee will be requested to rank the PM-10 Paving Unpaved Road Projects for FY 2018, 2019, and 2020 CMAQ funding to be forwarded to the MAG Transportation Review Committee.

BACKGROUND

On August 10, 2015, MAG solicited PM-10 Paving Unpaved Road Projects from member agencies in the Maricopa County PM-10 Nonattainment Area and the Pinal County PM-10 and PM-2.5 Nonattainment Areas. A combined amount of \$14 million in CMAQ funding is available to program PM-10 Paving Unpaved Road Projects for FY 2018, 2019, and 2020. This amount includes \$4,000,000 available each year from the Regional Transportation Plan funding that is allocated for Air Quality Projects. This amount also includes \$669,668 allocated annually by the Arizona Department of Transportation to MAG for projects that reduce PM-2.5 in portions of the West Central Pinal PM-2.5 Nonattainment Area located within the planning boundaries of both MAG and the Sun Corridor Metropolitan Planning Organization. The West Central Pinal PM-2.5 Nonattainment Area is located within the larger West Pinal PM-10 Nonattainment Area. The Federal Highway Administration has mentioned using CMAQ PM-2.5 funding for paving projects that help to reduce PM-10 as well as PM-2.5. A minimum local cash match of 5.7 percent on the CMAQ eligible portion of the project is required. Project requests were due by September 21, 2015. The paving of unpaved roads is a committed measure in the Revised MAG 1999 Serious Area Particulate Plan for PM-10 and is included in the MAG 2012 Five Percent Plan for PM-10.

EVALUATION AND PROJECT RANKING

Federal CMAQ guidance requires that the estimated emission reductions for each project submitted for CMAQ funding be considered during project selection. Consistent with the September 30, 2011 CMAQ

Methodologies, MAG staff estimated the emission reductions and calculated the cost-effectiveness for the proposed projects in the following attachments:

- Attachment A includes the proposed projects for the Maricopa County PM-10 nonattainment area in order of cost-effectiveness based on the amount of CMAQ funding requested.
- Attachment B includes the proposed projects for the Maricopa County PM-10 nonattainment area in order of PM-10 emission reductions.
- Attachment C includes the proposed projects for the Pinal County PM-2.5 nonattainment area in order of cost-effectiveness based on the amount of CMAQ funding requested.
- Attachment D includes the proposed projects for the Pinal County PM-2.5 nonattainment area in order of PM-10 emission reductions.

Also, according to the approved MAG Federal Fund Programming Guidelines and Procedures, project applications are to be reviewed by the MAG Street Committee. On October 13, 2015, the MAG Street Committee conducted a review of the PM-10 Paving Unpaved Road project applications and made a recommendation to forward the summary of the discussion from the meeting on PM-10 Paving of Unpaved Road applications evaluated by the Street Committee to the MAG Air Quality Technical Advisory Committee. Attachment E contains a summary of the discussion from the October 13, 2015 Street Committee meeting.

Following consideration of this information, the MAG Air Quality Technical Advisory Committee will be requested to rank the proposed PM-10 Paving Unpaved Road Projects for FY 2018, 2019, and 2020 CMAQ funding to be forwarded to the MAG Transportation Review Committee. The MAG Transportation Review Committee may consider the PM-10 Paving Unpaved Road Projects in December 2015. The recommendations may be considered by the MAG Management Committee, the Transportation Policy Committee, and the MAG Regional Council in January 2016.

If you have any questions or need additional information, please contact me at (602) 254-6300.

Attachment

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Pavement Summary Data

PROJECT ID	PROJECT TITLE	CURRENT CONDITION		CURRENT TRAFFIC			PROPOSED IMPROVEMENTS		CHALLENGES			FUNDING REQUEST (CONSTRUCTION)		UNIT COSTS MEASURES		CLARIFYING QUESTIONS	Street Committee Comments from 10-13-2015
		Facility Type	Current Pavement Condition	ADT	Count Methodology	Traffic Characteristics	Miles to be Paved	Proposed Paving	Environmental Issues	Right-of-way Issues	Utility conflicts	Year	CMAQ	CMAQ Dollars per VMT	CMAQ Dollars per Mile		
CHN-18-PAV-001	Alleyway PM-10 Stabilization	Alley	The alleyway surface is a mixture of dirt and gravel which have built-up over the years. Rain storm events makes the alleys difficult and unsafe to drive due to the surface becoming muddy and slippery.	4	Estimate is based on known maintenance, utility, solid waste, and residential access.	The alleyways are used by homeowners, utility companies, and garbage trucks to access backyards, utility boxes, and garbage cans on a daily basis.	11.8	Paving is 4" to 6" of crushed asphalt millings placed with a paving laydown machine, rolled for compaction and fog sealed with ss-1h emulsion.	None	No right-of-way to be acquired	None	2018	761,747	16,139	64,555	• Under AC Mill and Overlay: What is included in this cost item?	KL: The contractor comes in and clears and levels off old material, then paves. Q: what is the difference in cost? A: It may be due to location, or year increase. A: for the 2020 project I'll have to get back on this.
CHN-19-PAV-002	Alleyway PM-10 Stabilization	Alley	The alleyway surface is a mixture of dirt and gravel which have built-up over the years. Rain storm events makes the alleys difficult and unsafe to drive due to the surface becoming muddy and slippery.	4	Estimate is based on known maintenance, utility, solid waste, and residential access.	The alleyways are used by homeowners, utility companies, and garbage trucks to access backyards, utility boxes, and garbage cans on a daily basis.	14.5	Paving is 4" to 6" of crushed asphalt millings placed with a paving laydown machine, rolled for compaction and fog sealed with ss-1h emulsion.	None	No right-of-way to be acquired	None	2019	944,954	16,292	65,169	• Under AC Mill and Overlay: What is included in this cost item?	A: Some agencies have considered closing alleys. Have you thought of this? A: We looked at this and spoke to our utilities. We spoke to our police reps and they would like to have the dumpsters removed for safety reasons.
CHN-20-PAV-003	Alleyway PM-10 Stabilization	Alley	The alleyway surface is a mixture of dirt and gravel which have built-up over the years. Rain storm events makes the alleys difficult and unsafe to drive due to the surface becoming muddy and slippery.	4	Estimate is based on known maintenance, utility, solid waste, and residential access.	The alleyways are used by homeowners, utility companies, and garbage trucks to access backyards, utility boxes, and garbage cans on a daily basis.	15.7	Paving is 4" to 6" of crushed asphalt millings placed with a paving laydown machine, rolled for compaction and fog sealed with ss-1h emulsion.	None	No right-of-way to be acquired	None	2020	961,265	15,307	61,227	• Under AC Mill and Overlay: What is included in this cost item?	Q: Rain, what happens with the pervious surface to the citizens property? A: We do not go all the way to the ROW line, which allows drainage to occur.
ELM-18-PAV-001	Unpaved Streets & Alleys	Alley	Segments 1-4 - The surface is unkempt with gravel and dirt. Debris is accumulated in some areas. Segments 5-6 - The existing surface is unravelling, it may have been paved at one time but the surface is similar to millings.	9	Data was extrapolated from the ADT of adjacent roads	Segments 1,2,3,4 - less than 1% truck traffic, traffic is mostly residential with occasional trucks Segment 5, 6 - industrial and residential	0.6	Segments 1-4 - 2" AC on native, similar to other alley paving projects in the area Segments 5-6 - 3" AC on 9" AB	None	No right-of-way to be acquired	None	2018	526,963	94,101	878,272	• The application indicates that design would begin in 2017 and construction would occur in 2018. This may leave too little time to compete the design and environmental process through ADOT as the process typically requires 18 to 24 months or more to complete. • Are the alleys open for traffic or are they closed by bollards?	Q: Are the alleys open to traffic? A: yes, residents, utilities, etc. We are thinking about removable bollards. We need to deter those that dump in the alleys who are not suppose to. Q: What is the amount of time on the design, 18 to 24 months with ADOT - which should be simple and straight forward. Q: Still there may be a schedule issue, it should not effect selection. A: we wouldn't oppose a future year if funded.
FTM-18-PAV-001	FMYN Dirt Roads Paving Project	Rural Road	Segment 1-The road is a dirt road Segment 2 The road was originally paved but has deteriorated to the point where complete repaving is necessary Segment 3Starting at Fort McDowell Road, the first 400 feet of the roadway has two inches of asphalt on original and is deteriorating badly in places. The remaining roadway is a bladed dirt road surface.	50	Default value supported by the BIA roads database	Segment 1 - Primarily residential traffic with up to 15% trucks Segment 2 - Truck 15% Segment 3 - Residential traffic with a lot more trucks than anticipated due to the proximity of water lines (24% trucks)	0.8	The paving will be the standard 3 inches of AC on top of 4 inches of AB.	None	No right-of-way to be acquired	None	2018	841,940	21,048	1,052,425	• The application needs to address jurisdictional waters or permits and include minimal drainage infrastructure. Can you please clarify how this has been addressed?	A: Clarifying Q: 404 permits are not anticipated. We have the designer working on this. For the current 5 miles it has not been an issue. We have been able to address all drainage to date. We will use culverts, as designed by engineers under contract. Q: I see that CMAQ dollars seems high compared to others. A: difference in price is due to size and location. Distance to project dictates unit increase.
MAR-18-PAV-001	Porter Road Paving	Rural Road	Road is currently a dirt road and is unpaved, no graveled surface or use of dust suppressants or palliatives.	523	The City of Maricopa utilized Field Data Services of Arizona/Veracity Traffic Group Project # 13-1074-045	Farm vehicles, residential traffic and hauling rigs.	1.9	Double chip seal over aggregate base course material.	None	No right-of-way to be acquired	Power Lines are within 33' easement however on the shoulder.	2018	707,896	712	372,577	• The application indicates that design would begin in 2017 and construction would occur in 2018. This may leave too little time to compete the design and environmental process through ADOT as the process typically requires 18 to 24 months or more to complete.	RD: we grade this once a month. Primarily farm vehicles and some residential traffic. Q: Double Chip seal gets a lot of water, how are you going to handle? A: it is crowned with a 2" crown, we intend to get this at the true centerline and there will be drainage on either side. A: CQ: It is a temporary pavement that can be moved a bit faster. We believe we can get it through in that amount of time. Q: Not being a CA agency, you will need an IGA, which takes more time. A: we are not a CA but will take this under advisement. Q: you will need a Design and a Construction JPA, these take time. Admin fees also are in there. A year may be too short. A: Useful life is about 10 years minimum, then a developer would put in a permanent facility. We currently have a 2x chip seal that is 20 years.

Pavement Summary Data

PROJECT ID	PROJECT TITLE	CURRENT CONDITION		CURRENT TRAFFIC			PROPOSED IMPROVEMENTS		CHALLENGES			FUNDING REQUEST (CONSTRUCTION)		UNIT COSTS MEASURES		CLARIFYING QUESTIONS	Street Committee Comments from 10-13-2015
		Facility Type	Current Pavement Condition	ADT	Count Methodology	Traffic Characteristics	Miles to be Paved	Proposed Paving	Environmental Issues	Right-of-way Issues	Utility conflicts	Year	CMAQ	CMAQ Dollars per VMT	CMAQ Dollars per Mile		
MAR-18-PAV-002	Farrell and Hartman Intersection Paving Phase 2	Rural Road	Road is currently a dirt road and is unpaved, no graveled surface or use of dust suppressants or palliatives.	319	Segment 1 - The ADT is assumed based on the traffic data of arterial unpaved roadway in the area and intersects with Farrell Road, Source data was taken from Field Data Services of Arizona/Veracity Traffic Group Project # 13-1074-045 Segment 2 - The City of Maricopa utilizes CAAG Traffic Research and Analysis for data provided.	Farm vehicles, residential traffic and hauling rigs.	1.4	Segment 1 - Double chip seal over aggregate base course material. Segment 2 - Double Chip seal over 10" ABC. The section that passes through the wash will be concrete paving.	None	No right-of-way to be acquired	Segment 1 - Power Lines are within 33' easement however on the shoulder. Sewer manholes will be under pavement and require adjustment.	2018	679,381	1,543	492,305	<ul style="list-style-type: none"> The application indicates that design would begin in 2017 and construction would occur in 2018. This may leave too little time to compete the design and environmental process through ADOT as the process typically requires 18 to 24 months or more to complete. The applications appear to have the wrong cost sheet on the Farrell and Hartman Road applications 	RD: We do have a wash crossing in one spot on Hartman Rd, we will concrete this one area to address. Q: Review your cost sheet. A: thankyou we will.
MAR-18-PAV-003	Farrell Road Paving Phase 1	Rural Road	Road is currently a dirt road and is unpaved, no graveled surface or use of dust suppressants or palliatives.	117	The ADT is assumed based on the traffic data of arterial unpaved roadway in the area and intersects with Farrell Road, Source data was taken from Field Data Services of Arizona/Veracity Traffic Group Project # 13-1074-045	Farm vehicles, residential traffic and hauling rigs.	1.5	Double chip seal over aggregate base course material.	None	No right-of-way to be acquired	Power Lines are within 33' easement however on the shoulder. Sewer manholes will be under pavement and require adjustment.	2018	679,381	4,005	468,539	<ul style="list-style-type: none"> The application indicates that design would begin in 2017 and construction would occur in 2018. This may leave too little time to compete the design and environmental process through ADOT as the process typically requires 18 to 24 months or more to complete. 	RD: Used by farm vehicles and some residential. Also has a wash crossing on Farrell Rd. We have 22 miles of dirt roads and these apps are about 11 miles worth.
MMA-19-PAV-001	Miller Road, Tonopah-Salome Highway to Van Buren Street.	Rural Road	This portion of Miller Road is currently a meandering dirt, rural local collector road with a speed limit of 15mph. The surface is dirt only with no gravel or dust suppressants.	505	A traffic study was performed by MCDOT, which is referred to as the Final Traffic Analysis Report Technical Memorandum #4, Dated 12/9/13.	There's a high percentage of class 3 and class 6 vehicles (3 and 5 axles, resp.) that generate a high amount of dust and air particulates by large truck traffic going to and from the Arizona Army National Guard and Army Reserve military facility.	1.0	The structural section will consist of 2.5" Asphalt Concrete Pavement on 6" Aggregated Base course with a subgrade of 10" Scarified & compacted Subgrade Material (compacted in 2 layers in approximated equal thickness).	None	It is anticipated that right of way, along with drainage and construction easements, will need to be acquired to facilitate construction of the proposed improvements. The criteria governing the amount of right of way to be acquired are detailed in the Scoping Assessment.	The key area of conflict will be the Overhead electricity and communication lines running parallel with Miller Road predominantly on the west side. At approximately 1600feet south of the Arizona Army National Guard facility the lines cross over to the east side of Miller Road and then cross back at approximately 600 feet south. At these two locations will be a conflict with the new road.	2019	979,331	1,939	979,331	<p>Presenter: Quarry traffic and Federal Government (base), allot of dust. Shoulders will remain unpaved. ROW is half owned by Buckeye and MCDOT. Q: Utility conflicts may arise, are you expecting costs? CMAQ per mile is high compared to other apps. A: Utility company will move the utilities at their cost. CMAQ \$ per mile paved is the cost we expect. Q: what is your structure? A: it will accommodate all the heavy base traffic. The technical group has determined 2.5 on 6" base, subgrade of 10". Q: Design cost looks high, could you speak to this? A: Estimated by our consultants and MCDOT did a QC review to date. May be due to dam structure to work at the site and meet stopping distances. Concrete will be required for the portion at the dam. Nine driveways are present, six need concrete. Environmental review for drainage may also be higher. Q: This company (army) does allot of dust stirring when mobilizing. This seems like a good project to address the dust.</p>	

Pavement Summary Data

PROJECT ID	PROJECT TITLE	CURRENT CONDITION		CURRENT TRAFFIC			PROPOSED IMPROVEMENTS		CHALLENGES			FUNDING REQUEST (CONSTRUCTION)		UNIT COSTS MEASURES		CLARIFYING QUESTIONS	Street Committee Comments from 10-13-2015
		Facility Type	Current Pavement Condition	ADT	Count Methodology	Traffic Characteristics	Miles to be Paved	Proposed Paving	Environmental Issues	Right-of-way Issues	Utility conflicts	Year	CMAQ	CMAQ Dollars per VMT	CMAQ Dollars per Mile		
PHX-18-PAV-001	2018 CMAQ Alley Dust Proofing	Alley	Alleys are dirt with a traveled width of eleven feet that will be dust proofed.	4	Estimated ADT based on City's previous experience.	Traffic consists of trash pick-up, maintenance vehicles, and passenger vehicles.	23.9	3/8" Fractured Aggregate Surface Treatment (FAST) which provides a single application of rubberized asphalt and pre-coated chips.	None	No right-of-way to be acquired	None	2018	1,532,375	16,029	64,116	• Some applications state that no design is required or do not include design, however when dealing with federal aid funds, a design component is required. Has there been consideration of performing a reduced design to accommodate obtaining all certification/clearances and the review and approval of these projects?	Presenter: Our applications are for three years of paving and covers 85 miles. Areas are identified by complaints, track out, or by staff evaluation. We propose chip sealing for these alleyways. We do minimal grading and apply at 11' wide. We do have challenges with alleys, some residents love and use, some have been closed. We do include a 3% cost increase per year. ADTs were dropped from 10 to 4, this will average out as some residents do use alley for access, some do not. We do have a simple straight forward design process.
PHX-19-PAV-002	2019 CMAQ Alley Dust Proofing	Alley	Alleys are dirt with a traveled width of eleven feet that will be dust proofed.	4	Estimated ADT based on City's previous experience.	Traffic consists of trash pick-up, maintenance vehicles, and passenger vehicles.	29.0	3/8" Fractured Aggregate Surface Treatment (FAST) which provides a single application of rubberized asphalt and pre-coated chips.	None	No right-of-way to be acquired	None	2019	1,621,960	13,982	55,930	• Some applications state that no design is required or do not include design, however when dealing with federal aid funds, a design component is required. Has there been consideration of performing a reduced design to accommodate obtaining all certification/clearances and the review and approval of these projects?	Q: What is FAST? A: It is basically a rubber/asphalt chip seal, now we have local suppliers. Q: you are just putting it over native? A: yes.
PHX-20-PAV-003	2020 CMAQ Alley Dust Proofing	Alley	Alleys are dirt with a traveled width of eleven feet that will be dust proofed.	4	Estimated ADT based on City's previous experience.	Traffic consists of trash pick-up, maintenance vehicles, and passenger vehicles.	25.7	3/8" Fractured Aggregate Surface Treatment (FAST) which provides a single application of rubberized asphalt and pre-coated chips.	None	No right-of-way to be acquired	None	2020	1,414,500	13,760	55,039	• Some applications state that no design is required or do not include design, however when dealing with federal aid funds, a design component is required. Has there been consideration of performing a reduced design to accommodate obtaining all certification/clearances and the review and approval of these projects?	
PNL-18-PAV-001	Design & Pave Midway Road from 0.5 mi south of SR 84 to Cornman Rd (2.5 mi)	Rural Road	dirt	200	Estimated ADT based traffic counts on similar roads in the vicinity of this project. An actual traffic count for this segment of Midway road is being requested to verify estimate.	Farm to Market traffic including local Farm/Dairy trucks, school buses and autos - estimate 40% Trucks	2.5	Type of pavement for this segment is estimated to be 3 inches of hot mix asphalt over 8 inches of aggregate base course over a prepared subgrade.	None	No right-of-way to be acquired	None	2019	1,907,219	3,814	762,888	• The applications include an estimate of over 40% truck traffic. Does Pinal County feel a double chip seal will hold up to this type traffic?	No conflicts with utilities are anticipated. Paved shoulders. CQ: We have allot of trucks on this route. We'll verify the needed ABC on the geotechnical report. Q: any reason for the different cost per miles between projects. A: we will double check our cost sheets.
PNL-19-PAV-001	Design & Pave Stanfield Road from Talla Rd to Miller Rd (3.5 mi)	Rural Road	dirt	200	Estimated ADT based traffic counts on similar roads in the vicinity of this project. An actual traffic count for this segment of Stanfield Road is being requested to verify estimate.	Farm to Market traffic including local Farm/Dairy trucks, school buses and autos - estimate 40% Trucks	3.5	Type of pavement for this segment is estimated to be double chip seal over 8 inches of aggregate base course over a prepared subgrade.	None	No right-of-way to be acquired	None	2019	1,629,148	2,327	465,471	• The applications include an estimate of over 40% truck traffic. Does Pinal County feel a double chip seal will hold up to this type traffic?	Our agency grades Stanfield road regularly, busses, dairy trucks, etc. use this roadway. Double chip seal on 6", estimate is based on 8" if needed, will be determined during design.
PNL-19-PAV-002	Design & Pave Barnes Road from Fuqua Rd to Stanfield Rd (1.0 mi)	Rural Road	dirt	200	Estimated ADT based traffic counts on similar roads in the vicinity of this project. An actual traffic count for this segment of Barnes Road is being requested to verify estimate.	Farm to Market traffic including local Farm/Dairy trucks, school buses and autos - estimate 40% Trucks	1.0	Type of pavement for this segment is estimated to be double chip seal over 8 inches of aggregate base course over a prepared subgrade.	None	No right-of-way to be acquired	None	2019	386,970	1,935	386,970	• The applications include an estimate of over 40% truck traffic. Does Pinal County feel a double chip seal will hold up to this type traffic?	All of our projects are close to the air monitor. All projects are within 4 miles, Midway Rd is 5 miles.

Pavement Summary Data

PROJECT ID	PROJECT TITLE	CURRENT CONDITION		CURRENT TRAFFIC			PROPOSED IMPROVEMENTS		CHALLENGES			FUNDING REQUEST (CONSTRUCTION)		UNIT COSTS MEASURES		CLARIFYING QUESTIONS	Street Committee Comments from 10-13-2015
		Facility Type	Current Pavement Condition	ADT	Count Methodology	Traffic Characteristics	Miles to be Paved	Proposed Paving	Environmental Issues	Right-of-way Issues	Utility conflicts	Year	CMAQ	CMAQ Dollars per VMT	CMAQ Dollars per Mile		
SRP-19-PAV-001	Pave McDonald Drive Sub-division and Palm Lane	Rural Road	Segments 1,2,3,5,7 - Unpaved road in fair condition with gravel surface Segments 4,6,8 - Unpaved road in poor condition with gravel surface	30	Segments 1,3,4 & 8 - 24-hour bi-directional tube counts taken by United Civil Group using TimeMark counters Segment 2 - Counts taken by MAG	Segment 1 - weekday count taken 1/18/2012 with 3% heavy vehicles Segment 2 - Average of 2-day count taken 2/2/2011 Segment 3 - weekday count taken 1/25/2012 with 29% heavy vehicles Segment 4 - weekday count taken 1/25/2012 with 3% heavy vehicles Segment 5-7 -Local residential and sanitation truck traffic Segment 8 - weekday count taken 1/25/2012 with 41% heavy vehicles	2.1	Construct 2" AC on 6" ABC	None	Right-of-way will need to be acquired	None	2019	1,126,885	17,677	530,299	<ul style="list-style-type: none"> Because the ROW acquisition process has started, one can assume that the alignment was set and that all environmental considerations have been taken. Is this correct? Regarding Segment 7 (Ranch Drive), what consideration has been given to drainage so it is not redirected to the nearby homes (per photo in page 62). Does the Community have the traffic count information available? Is the needed ROW tribal or allotted? The cross-section in the application indicates limited ROW. Will the Community be able to keep fixed objects outside the clear zone? 	<p>Presenter: This is a two phase project. Subdivision portion has needed paving for many years. Acquisition of ROW has been an issue to accomplishing this. It is on allotted land. The tribe has recently changed its position to purchasing ROW. Now this is the first project that the tribe will pay to acquire ROW. One area is 50' ROW the other is 30' ROW which is a correction from the stated 25' ROW. ROW will be evenly split across the property line (centered). All ROW will go through the BIA and initial environmental. Drainage will be addressed with a shallow swill so it doesn't impact residents. Traffic counts in 2011 were completed by sections. Exterior road counts were taken. Land is mostly allotted land with some tribal interest.</p>

FACT SHEET

Direct Final Approval of Phoenix-Mesa Air Quality Plan

September 25, 2015

Summary of Action

- The EPA is taking direct final action to approve the Maricopa Association of Government's (MAG's) 2014 8-hour ozone plan for the Phoenix-Mesa nonattainment area for the 2008 ozone 8-hour National Ambient Air Quality Standards (NAAQS).
- Specifically, the EPA is taking direct final action to approve the following elements of the MAG plan for the Phoenix-Mesa nonattainment area:
 - The base year emissions inventory
 - The emission statements
 - The pre-1990 Reasonably Available Control Technology corrections
 - The pre-1990 corrections to previously required vehicle inspection and maintenance programs.

The EPA is not acting on the elements of the MAG Plan related to new source review.

Background

- In March 2008, the EPA strengthened the primary and secondary eight-hour ozone NAAQS to 0.075 ppm (annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years)(73 FR 16436). In accordance with section 107(d) of the CAA, the EPA must designate an area "nonattainment" if it is violating the NAAQS or if it is contributing to a violation of the NAAQS in a nearby area. The EPA designated the Phoenix-Mesa ("Maricopa") area as nonattainment for the 2008 ozone NAAQS on May 21, 2012, effective July 20, 2012 (77 FR 30088). The Maricopa nonattainment area (NAA), which includes a portion of Maricopa County and a portion of Pinal County, was classified by operation of law as a Marginal NAA (40 CFR 81.303).
- The Arizona Department of Environmental Quality (ADEQ) submitted the "Maricopa Association of Governments 2014 Eight-Hour Ozone Plan – Submittal of Marginal Area requirements for the Maricopa Nonattainment Area (June 2014)" on July 2, 2014.
- The Phoenix-Mesa Nonattainment area did not attain the 2008 NAAQS by the July 20, 2015 attainment date. Therefore, on August 27, 2015 the EPA proposed to reclassify the area to Moderate nonattainment (80 FR 51992).
- A reclassification would require ADEQ to submit a Moderate Plan in January 2017 that provides for attainment of the 2006 NAAQS no later than July 20, 2018.

- Ground-level ozone is not emitted directly into the air, but forms through a reaction of nitrogen oxides and volatile organic compounds in the presence of sunlight.
- Exposures to ozone can reduce lung function, making it more difficult for people to breathe, especially for those with lung disease, such as children with asthma, and older adults.

Next Steps

We do not think anyone will object to this approval, so we are finalizing it without proposing it in advance. This rule is effective on 60 days after the date of publication in the Federal Register without further notice, unless the EPA receives adverse comments by 30 days after the date of publication in the Federal Register. If we receive such comments, we will publish a timely withdrawal in the Federal Register to notify the public that this direct final rule will not take effect.

For More Information:

<http://www.epa.gov/region9/air/actions/az.html>

The James River is used by a variety of vessels including deep draft ocean-going vessels, U. S. government vessels, small commercial fishing vessels, recreational vessels and tug and barge traffic. The Coast Guard has carefully coordinated the restrictions with U. S. government and commercial waterway users.

Vessels able to pass through the bridge in the closed position may do so at anytime. The bridge will not be able to open for emergencies and there is no alternate route for vessels unable to pass through the bridge in the closed position. The Coast Guard will also inform the users of the waterways through our Local and Broadcast Notice to Mariners of the change in operating schedule for the bridge so that vessels can arrange their transits to minimize any impacts caused by this temporary deviation.

In accordance with 33 CFR 117.35(e), the drawbridge must return to its regular operating schedule immediately at the end of the effective period of this temporary deviation. This deviation from the operating regulations is authorized under 33 CFR 117.35.

Dated: October 13, 2015.

Hal R. Pitts,

Bridge Program Manager, Fifth Coast Guard District.

[FR Doc. 2015-26358 Filed 10-15-15; 8:45 am]

BILLING CODE 9110-04-P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 117

[Docket No. USCG-2015-0944]

Drawbridge Operation Regulations; Atlantic Intracoastal Waterway, South Branch of the Elizabeth River, Portsmouth and Chesapeake, VA

AGENCY: Coast Guard, DHS.

ACTION: Notice of deviation from drawbridge regulations.

SUMMARY: The Coast Guard has issued a temporary deviation from the operating schedule that governs the Belt Line Railroad Bridge across the South Branch of the Elizabeth River, mile 2.6, between Portsmouth and Chesapeake, VA. This deviation allows the bridge to remain in the closed-to-navigation position to facilitate a tie replacement project.

DATES: This deviation is effective without actual notice from October 16, 2015 until 6 p.m. on October 23, 2015. For the purposes of enforcement, actual notice will be used from 7 a.m. on

October 16, 2015, until October 16, 2015.

ADDRESSES: The docket for this deviation, [USCG-2015-0944], is available at <http://www.regulations.gov>. Type the docket number in the "SEARCH" box and click "SEARCH". Click on Open Docket Folder on the line associated with this deviation.

FOR FURTHER INFORMATION CONTACT: If you have questions on this temporary deviation, call or email Mr. Hal R. Pitts, Bridge Administration Branch Fifth District, Coast Guard; telephone (757) 398-6222, email Hal.R.Pitts@uscg.mil.

SUPPLEMENTARY INFORMATION: The Norfolk and Portsmouth Belt Line Railroad Company, who owns and operates the Belt Line Railroad Bridge, has requested a temporary deviation from the current operating regulations to facilitate a tie replacement project on the bridge. The bridge is a vertical lift draw bridge and has a vertical clearance in the closed position of 6 feet above mean high water.

The current operating schedule is set out in 33 CFR 117.997(a). Under this temporary deviation, the bridge will remain in the closed-to-navigation position from 7 a.m. to 6 p.m., except for scheduled daily openings at 9 a.m., 12 noon, and 3 p.m., from October 16, 2015 through October 23, 2015. During this temporary deviation, the bridge will operate per 33 CFR 117.997(a) from 6 p.m. to 7 a.m. The South Branch of the Elizabeth River is used by a variety of vessels including deep draft ocean-going vessels, U.S. government vessels, small commercial vessels, recreational vessels and tug and barge traffic. The Coast Guard has carefully coordinated the restrictions with commercial and recreational waterway users.

Vessels able to pass through the bridge in the closed position may do so at any time. The bridge will be able to open for emergencies and there is no alternate route for vessels unable to pass through the bridge in the closed position. The Coast Guard will also inform the users of the waterways through our Local and Broadcast Notice to Mariners of the change in operating schedule for the bridge so that vessels can arrange their transits to minimize any impacts caused by this temporary deviation.

In accordance with 33 CFR 117.35(e), the drawbridge must return to its regular operating schedule immediately at the end of the effective period of this temporary deviation. This deviation from the operating regulations is authorized under 33 CFR 117.35.

Dated: October 13, 2015.

Hal R. Pitts,

Bridge Program Manager, Fifth Coast Guard District.

[FR Doc. 2015-26359 Filed 10-15-15; 8:45 am]

BILLING CODE 9110-04-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2015-0240; FRL-9935-56-Region 9]

Approval of Implementation Plans; Arizona, Phoenix-Mesa; 2008 Ozone Standard Requirements

AGENCY: Environmental Protection Agency (EPA).

ACTION: Direct final rule.

SUMMARY: The Environmental Protection Agency (EPA) is taking direct final action to approve revisions to the Arizona State Implementation Plan (SIP) concerning the emission inventory, emission statements, reasonably available control technology corrections and the vehicle inspection and maintenance requirements for the Phoenix-Mesa 2008 eight-Hour Ozone National Ambient Air Quality Standard (NAAQS) Marginal nonattainment area. We are approving these revisions under the Clean Air Act (CAA or the Act).

DATES: This rule is effective on December 15, 2015 without further notice, unless the EPA receives adverse comments by November 16, 2015. If we receive such comments, we will publish a timely withdrawal in the **Federal Register** to notify the public that this direct final rule will not take effect.

ADDRESSES: Submit comments, identified by docket number [EPA-R09-OAR-2015-0240] by one of the following methods:

1. *Federal eRulemaking Portal:* www.regulations.gov. Follow the on-line instructions.

2. *Email:* levin.nancy@epa.gov.

3. *Mail or deliver:* Nancy Levin (Air-4), U.S. Environmental Protection Agency Region IX, 75 Hawthorne Street, San Francisco, CA 94105-3901.

Instructions: Once submitted, comments cannot be edited or withdrawn. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. If you need to include CBI as part of your comment, please visit <http://www.epa.gov/>

dockets/comments.html for further instructions. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. For the full EPA public comment policy and general guidance on making effective comments, please visit <http://www.epa.gov/dockets/comments.html>.

Docket: Generally, documents in the docket for this action are available electronically at www.regulations.gov or in hard copy at EPA Region IX, 75 Hawthorne Street, San Francisco, California 94105–3901. While all documents in the docket are listed at www.regulations.gov, some information may be publicly available only at the hard copy location (e.g., copyrighted material, large maps), and some may not be publicly available in either location (e.g., CBI). To inspect the hard copy materials, please schedule an appointment during normal business hours with the contact listed in the **FOR FURTHER INFORMATION CONTACT** section.

FOR FURTHER INFORMATION CONTACT: Nancy Levin, EPA Region IX, (415) 972–3848, Levin.nancy@epa.gov.

SUPPLEMENTARY INFORMATION:

Throughout this document, “we,” “us,” and “our” refer to the EPA.

Table of Contents

- I. Background
- II. Procedural Requirements for Adoption and Submittal of SIP Revisions
- III. Analysis of the State’s Submittal
 - A. Base Year Emissions Inventory
 - B. Emission Statements
 - C. Reasonably Available Control Technology Corrections
 - D. Vehicle Inspection and Maintenance Programs
 - E. Permit Programs: Nonattainment Area Preconstruction, New Source Review
 - F. Offset Requirements
 - G. Transportation Conformity
- IV. Final Action
- V. Statutory and Executive Order Reviews

I. Background

On March 12, 2008, the EPA strengthened the primary and secondary eight-hour ozone NAAQS to 0.075 ppm (annual fourth-highest daily maximum eight-hour concentration, averaged over three years) (73 FR 16436).¹ In accordance with section 107(d) of the CAA, the EPA must designate an area “nonattainment” if it is violating the NAAQS or if it is contributing to a violation of the NAAQS in a nearby area. The EPA designated the Phoenix-

¹ Since the 2008 primary and secondary NAAQS for ozone are identical, for convenience, we refer to both as “the 2008 ozone NAAQS” or “the 2008 ozone standards.”

Mesa (hereinafter referred to as “Maricopa”) area as nonattainment for the 2008 ozone NAAQS on May 21, 2012, effective July 20, 2012 (77 FR 30088). The Maricopa nonattainment area (NAA), which includes a portion of Maricopa County and a portion of Pinal County, was classified by operation of law as a Marginal nonattainment area (40 CFR 81.303). The Arizona Department of Environmental Quality (ADEQ) submitted the “Maricopa Association of Governments 2014 Eight-Hour Ozone Plan—Submittal of Marginal Area requirements for the Maricopa Nonattainment Area (June 2014)” (“MAG 2014 Eight-Hour Ozone Plan” or “Submittal”) on July 2, 2014.

The EPA proposed the 2008 ozone NAAQS SIP Requirements Rule (SRR) on June 6, 2013 (78 FR 34178) and finalized the SRR on March 6, 2015 (80 FR 12264, codified at 40 CFR part 51, subpart AA), effective April 6, 2015. The SRR both promulgated implementation requirements for the 2008 ozone NAAQS and revoked the 1997 ozone NAAQS.²

On August 27, 2015, the EPA proposed to reclassify the Maricopa NAA as Moderate for the 2008 ozone NAAQs because the Maricopa NAA failed to attain the 2008 ozone NAAQS by the Marginal area attainment deadline of July 20, 2015 (80 FR 51992). Should this action be finalized, the Maricopa NAA would be subject to additional requirements, including (1) an attainment demonstration; (2) provisions for reasonably available control technology (RACT) and reasonably available control measures (RACM); (3) reasonable further progress (RFP) reductions in volatile organic compounds (VOC) and/or nitrogen oxide (NO_x) emissions; (4) contingency measures; (5) a vehicle inspection and maintenance program; and (6) NO_x and VOC emission offsets at a ratio of 1.15 to 1 for major source permits (see 40 CFR part 51, subpart AA and CAA sections 182(b) and 172(c)). A SIP revision addressing all of these requirements would be due to the EPA by January 1, 2017.³

II. Procedural Requirements for Adoption and Submittal of SIP Revisions

CAA section 110(a)(1) and 110(l) require states to provide reasonable notice and public hearing prior to adoption of SIP revisions. Section 110(k)(1)(B) requires the EPA to

² The SRR revokes the 1997 NAAQS, but not all of the requirements for implementing the 1997 NAAQS.

³ 80 FR 51992, 51999.

determine whether a SIP submittal is complete within 60 days of receipt. Any plan that we have not affirmatively determined to be complete or incomplete will become complete six months after the day of submittal by operation of law. A finding of completeness does not approve the submittal as part of the SIP nor does it indicate that the submittal is approvable. It does start a 12-month clock for the EPA to act on the SIP submittal (see CAA section 110(k)(2)).

ADEQ’s Submittal documents the public review process followed by MAG and ADEQ in adopting the “MAG 2014 Eight-Hour Ozone Plan—Submittal of Marginal Area Requirements for the Maricopa Nonattainment Area” prior to submittal to the EPA as a revision to the SIP (See Appendix B.1). In addition, ADEQ’s Submittal documents the adoption of the MAG 2014 Eight-Hour Ozone Plan by the MAG Regional Council and includes a letter dated June 27, 2014 from MAG to ADEQ, requesting that ADEQ submit the MAG 2014 Eight-Hour Ozone Plan to the EPA for approval.

Based on the documentation included in ADEQ’s Submittal, we find that the submittal of the MAG 2014 Eight-Hour Ozone Plan, as a SIP revision, satisfies the procedural requirements of sections 110(a)(1) and 110(l) of the Act requiring states to provide reasonable notice and public hearing prior to adoption of SIP revisions. The MAG 2014 Eight-Hour Ozone Plan became complete by operation of law on January 2, 2015 pursuant to section 110(k)(1)(B). The technical support document (TSD) for our action has more information on our evaluation.

III. Analysis of the State’s Submittal

For Marginal nonattainment areas, states are required to comply with sections 172(c) and 182(a) of the Act. Marginal areas have up to three years from the effective date of designation to attain the NAAQS (40 CFR 51.1103(a)). Unlike areas classified as Moderate and above, Marginal areas are not required to submit an attainment demonstration or RFP provisions (see CAA section 182(a) and 80 FR 12268). Below we summarize the CAA and SRR requirements, how they are addressed in the Submittal, and our recommended action. Please refer to the TSD in the docket for this action for additional information.

A. Base Year Emissions Inventory

1. Statutory and Regulatory Requirements

CAA section 182(a)(1) and 40 CFR 51.1115(a) require states to submit a “base year inventory” for each 2008 ozone nonattainment area within two years of the effective date of designation. This inventory must be “a comprehensive, accurate, current inventory of actual emissions from sources of VOC and NO_x emitted within the boundaries of the nonattainment area as required by CAA section 182(a)(1)” (40 CFR 51.1100(bb), see also CAA section 172(c)(3)). The inventory year must be selected consistent with

the baseline year for the RFP plan, which is typically the most recent calendar year for which a complete triennial inventory is required to be submitted to the EPA under the Air Emissions Reporting Requirements (AERR) (40 CFR part 51, subpart A) (see 40 CFR 51.1115(a), 51.1110(b)). The emission values in the base year must be “actual ozone season day emissions,” i.e. “an average day’s emissions for a typical ozone season work weekday.” (40 CFR 51.1115(c), 51.1100(cc)).

2. Summary of the State’s Submittal

The Maricopa County Air Quality Department (MCAQD) prepared a base year emissions inventory, with the

assistance of MAG, and MAG submitted the base year inventory as part of the MAG 2014 Eight-hour Ozone Plan.⁴ MCAQD selected 2011 as the base year. The base year inventory includes ozone season-day emissions from point sources, area sources, nonroad mobile sources, and on-road mobile sources. Appendix A, Exhibit 1 of the MAG 2014 Eight-Hour Ozone Plan includes a description of the methods used to estimate emissions for each category (or subcategory).

The following is a summary of the 2011 Maricopa NAA Emissions Inventory.⁵

MARICOPA NAA 2011 BASE YEAR EIGHT-HOUR OZONE SEASON DAY EMISSION INVENTORY
[July–September]

Category	VOC lbs/day	% of Total	NO _x lbs/day	% of Total
Point sources	4,908	1	15,407	3.1
Area sources:				
Fuel combustion	593	0.1	23,484	4.8
Industrial processes	17,452	4	1,490	0.3
Solvent use	166,557	34	0	0
Storage/transport	28,766	6	0	0
Waste treatment/disposal	838	0	316	0.1
Miscellaneous area sources	13,650	3	6,532	1.3
Mobile—Non road sources	111,798	23	141,444	28.8
Mobile—On road sources	148,186	30	301,824	61.5
Total (excluding biogenic) *	492,748	100	490,495	100.0

* Differences due to rounding.

The TSD for this action contains more information about how MCAQD developed the emission inventory (EI) data for each category of sources.

3. EPA Evaluation of the State’s Submittal

The EPA has reviewed the 2011 ozone season day base year inventory including emission estimates for point source, area source, nonroad and onroad sources. We find that MCAQD’s selection of 2011 as the base year is appropriate because 2011 was the most recent calendar year for which a complete triennial inventory was required to be submitted to the EPA under the AERR (see 40 CFR 51.30(b)).

We also find that the data elements in the base year inventory are “consistent with the detail” required by the AERR. Generally, MCAQD used published emission factors from EPA’s National Emissions Inventory,⁶ made assumptions consistent with the EPA’s Emission Inventory Improvement Program Guidance,⁷ and used the most recent EPA models available at the time of inventory preparation. In addition, the Submittal provides sufficient documentation and explanation to allow the EPA to make a determination on the acceptability of the base year inventory.

However, we believe that MCAQD’s initial selection of July–September as the basis for calculating the “ozone

season day emissions” was not appropriate because it was based on 1981–1991 exceedance data for a previous ozone NAAQS.⁸ Accordingly, we requested that MCAQD review more recent ozone monitoring data. Upon review of these data, MCAQD determined that the appropriate months to use to calculate ozone season day emissions are June–August.⁹ Therefore, MCAQD provided a “recast” ozone season day EI for June–August.¹⁰ The MCAQD’s “recast” analysis shows that, compared with the July–September EI, the June–August EI showed a small net increase in season day emissions for anthropogenic sources: VOC increased 0.41 and NO_x increased 2.15. MCAQD

⁴ MAG 2014 Eight-hour Ozone Plan, Table 1—Summary Table of Nonattainment Area Emissions from the Maricopa County Air Quality Department 2011 Periodic Emissions Inventory for Ozone Precursors, February 2014, page 5. See also Appendix A, Exhibit 1.

⁵ MAG 2014 Eight-Hour Ozone Plan, Table 1, pp. 5–6.

⁶ The National Emissions Inventory (NEI) is a comprehensive and detailed estimate of air emissions of air pollutants from all air emissions sources. The NEI is prepared every three years by the EPA based primarily upon emission estimates

and emission model inputs provided by State, Local and Tribal air agencies for sources in their jurisdictions, and supplemented by data developed by the EPA. See <http://www3.epa.gov/ttn/chieff/einformation.html>.

⁷ See, e.g., EPA, Emissions Inventory Improvement Program (EIIP), Volume III, Chapter 1. Introduction to Area Source Emission Inventory Development (Revised Final January 2001), Chapter 11. Gasoline Marketing (Stage I and Stage II) (Revised Final January 2001); Chapter 18. Structure Fires (Revised Final January 2001), and Area Source Category Method Abstract—Leaking Underground Storage Tanks, May 2001.

⁸ See Appendix A, Exhibit 1: 2011 Periodic Emissions Inventory for Ozone Precursors for the Maricopa County, Arizona, Eight-Hour Ozone Nonattainment Area. Maricopa County Air Quality Department, February 2014. An “exceedance” is an ambient concentration that exceeds the relevant NAAQS.

⁹ Maricopa County Air Quality Department, 2011 Periodic Emissions Inventory for Ozone Precursors for the Maricopa County, Arizona, Eight-Hour Ozone Nonattainment Area, Addendum, August 2015, section 3.1.

¹⁰ Ibid. section 3.2.

also added emission reduction credits (ERCs) to the June–August EI for point sources. Total VOC ERCs were adjusted from 114.7 to 213.03 tons/year (1,167 lbs/season day) and total NO_x ERCs were adjusted from 9.8 to 14.14 tons/year (77.5 lbs/season day) to account for additional VOC and NO_x ERCs.¹¹

We agree with MCAQD that using June–August to calculate ozone season day emissions for the base year inventory is appropriate for the Maricopa NAA, given that it was the three-month period with the highest average Air Quality Index value and the greatest number of exceedances of the 2008 ozone standard in the NAA in 2011. However, in light of the relatively small differences in total anthropogenic emissions between the June–August 2011 and July–September 2011 periods, we do not believe it is necessary for MCAQD, MAG and ADEQ to submit a formal SIP revision reflecting the June–August period at this time. Accordingly, we find that the base year emission estimates approaches and methodologies are acceptable and that the state has met the requirements of the Act and the SRR with respect to base year inventories. We recommend that a revised 2011 season-day EI based on June–August data be included as part of a subsequent SIP revision to meet the CAA’s Moderate ozone nonattainment area requirements, as described above.

B. Emission Statements

1. Statutory and Regulatory Requirements

Section 182(a)(3)(B)(i) of the Act requires States to submit a SIP revision requiring owners or operators of stationary sources of VOC or NO_x to provide the State with statements of actual emissions from such sources. Statements must be submitted at least every year and must contain a certification that the information contained in the statement is accurate to the best knowledge of the individual certifying the statement. Section 182(a)(3)(B)(ii) allows States to waive the emission statement requirement for any class or category of stationary sources that emit less than 25 tons per year of VOCs or NO_x, if the state provides an inventory of emissions from such class or category of sources as part of the baseline or periodic inventory. This inventory must be based on the use of the emission factors established by the EPA or other methods acceptable to the EPA.

¹¹ ERCs from Penn Racquet Sports Inc. (March 6, 2009). See Addendum, Table A.1.

2. Summary of the State’s Submittal

ADEQ references three SIP-approved rules as meeting the requirements of CAA section 182(a)(3)(B): Maricopa County Rule 100, Section 500—Monitoring and Records, ADEQ Rule 18–2–327—Annual Emissions Inventory Questionnaire and Pinal County rule PG3–1–103—Annual EI questionnaire.

3. EPA Evaluation of the State’s Submittal

Maricopa County Rule 100 (Section 500, Subsection 503) (approved into the Arizona SIP on November 5, 2012 (77 FR 66405)) requires owners/operators of sources that emit NO_x or VOC to submit, upon request of the Control Officer, emission statements showing actual or estimated actual emissions of NO_x and VOC, containing (at a minimum) all information required by Consolidated Emissions Reporting Rule,¹² 40 CFR subpart A, appendix A, table 2a.¹³ Section 503 also requires that Emissions Statements be submitted annually. The Control Officer may waive this requirement for the owner/operator of any source that emits less than 25 tons per year of NO_x or VOC with an approved emission inventory for sources based on AP–42 or other methodologies approved by the EPA.

ADEQ Rule 18–2–327, Annual Emissions Inventory Questionnaire (approved into the Arizona SIP on November 5, 2012 (77 FR 66405)), requires every source subject to air permit requirements to complete and submit an annual emissions inventory questionnaire including facility contact information, process and control device descriptions, and a quantification of actual emissions of regulated air pollutants¹⁴ using the appropriate quantification method as described in the rule.

Pinal County Rule PG3–1–103 (approved into the Arizona SIP on December 20, 2000 (65 FR 79742)) requires every source that is subject to a permit or obtains an authorization to operate, to complete and submit to the Control Officer an annual emissions inventory questionnaire. The questionnaire must include the source’s name, address, contact information,

¹² The Consolidated Emissions Reporting Rule is now part of the AERR (see 73 FR 76539).

¹³ Appendix G of the Maricopa County Air Pollution Control Rules, section 4, specifies that 40 CFR, Subpart A, Appendix A, Table 2a is incorporated by reference as of July 1, 2014. Table 2a was revised on February 19, 2015 (80 FR 8787, 8790).

¹⁴ Regulated air pollutant is defined by SIP-approved ADEQ rule R18–2–101, section 120 to include NO_x and VOC. (See 40 CFR 52.120(c)(162)(i)(A)(2),

address, and process information (e.g., including design capacity, operations schedule, emission control devices).¹⁵

Based on the contents of these rules, we find that Arizona has met the requirements of CAA section 182(a)(3)(B) for emission statements.

C. Reasonably Available Control Technology Corrections

1. Statutory and Regulatory Requirements

Section 182(a)(2)(A) of the CAA requires the State to submit, within six months of classification under section 181(a), all rules and corrections to existing RACT rules that were required under section 172(b) of the old (pre-1990 Amendments) CAA. Newly designated nonattainment areas are not subject to the RACT “fix-ups” required by section 182(a)(2)(A) because they were not subject to section 172(b) of the old law (see 57 FR 13498, 13503).

2. Summary of the State’s Submittal

The Submittal lists the SIP-approved Rules that apply to source categories subject to CAA section 182(a)(2)(A) and notes that the EPA approved Arizona’s RACT demonstration for the Maricopa County 1-hour Serious Area Ozone NAA on June 14, 2005 (70 FR 34362).

3. EPA Evaluation of the State’s Submittal

As noted in the Submittal, the EPA previously determined that Arizona had met the VOC RACT requirements under section 182(a)(2)(A) for the Maricopa one-hour ozone NAA (see 70 FR 13435 and 70 FR 34363). Although the NAA for the 2008 eight-hour ozone standard is larger than that the one-hour NAA, only the original one-hour area is subject to the RACT correction requirement of 182(a)(2)(A). Therefore, we find that Arizona has met the requirements of CAA section 182(a)(2)(A) with respect to the Maricopa 2008 eight-hour ozone NAA.

D. Vehicle Inspection and Maintenance Programs

1. Statutory and Regulatory Requirements

Section 182(a)(2)(B)(i) of the Act requires the State to submit a revision, immediately after November 15, 1990, to correct any pre-1990 schedules for vehicle emission control inspection and

¹⁵ On September 27, 2006 ADEQ submitted an amendment to PG Rule 3–1–103, however, the change does not substantively change the rule. Rather it reflected ADEQ’s reclassification of Class A and Class B permits to Class I, Class II, and Class III. Under this amendment, the term “Class B permits” is replaced by “Class II or Class II permits.”

maintenance programs, immediately after November 15, 1990. In addition, section 182(a)(2)(B)(ii) requires that the State shall review, revise, update, and republish in the **Federal Register** the guidance for the States for motor vehicle inspection and maintenance (I/M) programs within 1 year of November 15, 1990. The EPA's I/M regulations are codified at 40 CFR part 51, subpart S ("Inspection/Maintenance Program Requirements"), sections 51.350 through 51.373. As explained in the preambles to proposed and final SRR, no new vehicle I/M programs are currently required for purposes of the 2008 ozone NAAQS (78 FR 34194–34196, 80 FR 12283).

2. Summary of the State's Submittal

The Submittal notes that the EPA approved ADEQ's Basic and Enhanced Vehicle Emissions Inspection and Maintenance Programs on January 22, 2003, and approved a statutory provision extending the State's vehicle emissions inspection program on December 21, 2009 (74 FR 67819).

3. EPA Evaluation of the State's Submittal

As noted in the Submittal, the EPA previously approved an "enhanced" I/M program that exceeds the requirements of section 182(a)(2)(B) for the Phoenix-Mesa nonattainment area (69 FR 2912 (January 22, 2003)). Therefore, we find that Arizona has met the requirements of CAA section 182(a)(2)(B) with respect to the Maricopa 2008 eight-hour ozone NAA.

E. Permit Programs: Nonattainment Area Preconstruction, New Source Review

1. Statutory and Regulatory Requirements

Section 182(a)(2)(C) of the Act, requires states to submit a SIP revision within two years after November 15, 1990 to require pre-construction permits for new or modified major stationary sources in the NAA, and to correct requirements regarding pre-1990 permit programs. However, as explained in the preambles to the EPA's final Phase 2 implementation rule for the 1997 eight-hour standard and the final SRR, the EPA considers the submission of new source review (NSR) SIPs due on November 15, 1992 to have fulfilled this CAA requirement (See 75 FR 71683, n. 110, and 80 FR 12267). Therefore, the EPA has concluded that the two-year deadline contained in CAA section 182(a)(2)(C)(i) does not apply to subsequent NSR SIPs for revised ozone standards, including the nonattainment

NSR SIPs for implementing the eight-hour ozone NAAQS. (Id.) Accordingly, the SRR at 40 CFR 51.1114 sets a deadline of three years from the date of designation for states to submit their nonattainment NSR program SIPs for the 2008 ozone NAAQS.

2. Summary of the State's Submittal

The Submittal describes the roles of ADEQ, MCAQD and PCAQCD in implementing the preconstruction permit program in the Maricopa NAA. In particular, the Submittal explains that ADEQ has permitting jurisdiction for the following stationary source categories: smelting of metal ores, coal-fired electric generating stations, petroleum refineries, Portland cement plants, and portable sources. ADEQ also has permitting jurisdiction over other major sources in Pinal County, but has delegated implementation of the major source program to PCAQCD, which implements ADEQ's major NSR rules. MCAQD has jurisdiction over other sources in Maricopa County. The Submittal also described various SIP revisions submitted by ADEQ to meet nonattainment NSR requirements.

3. EPA Evaluation of the State's Submittal

The EPA recently finalized a limited approval and limited disapproval of various rules that comprise ADEQ's NSR program.¹⁶ We expect that ADEQ will revise these rules in the near future. With regard to MCAQD's rules, we note that ADEQ had submitted MCAQD Rule 240—Permits for New Major Sources and Major Modifications to Existing Major Sources to the EPA on August 31, 1995, but withdrew it on April 25, 2014 in order to revise and resubmit it to the EPA for SIP approval. ADEQ published a proposed notice of rulemaking for amendments to Rule 240 and other related rules on August 31, 2015.¹⁷ Given the expected submittal of revised ADEQ and MCAQD NSR rules in the near future, we are deferring action on this element of the MAG 2014 Eight-Hour Ozone Plan at this time.

F. Offset Requirements

CAA Section 173 requires new and modified major sources in

¹⁶ Final rule, Revisions to Air Plan; Arizona; Stationary Sources; New Source Review (pre-publication version, signed June 29, 2015).

¹⁷ On July 31, 2015 the Arizona Secretary of State published a notice of proposed rulemaking to amend MCAQD's rules relating to NSR, including Rule 240. See Arizona Administrative Register (AAR) Vol. 21, Issue 31, page 1302 (July 31, 2015), available at: http://apps.azsos.gov/public_services/register/2015/31/28_county_notices.pdf. It also announced a 30-day comment period that ended August 31, 2015.

nonattainment areas to secure emissions reductions (*i.e.*, "offsets") to compensate for a proposed emissions increase. For Marginal areas, section 182(a)(4) of the Act sets a general offset ratio of 1.1 to 1 for total VOC and NO_x emission reductions as compared to VOC and NO_x emission increases. The Submittal references ADEQ Rule R18–2–404(f) and Maricopa County Air Pollution Control Regulations, Rule 240, Section 306.3 as fulfilling the requirements of CAA section 182(a)(4). Given the expected submittal of revised ADEQ and MCAQD NSR rules in the near future, we are deferring action on this element of the MAG 2014 Eight-Hour Ozone Plan at this time.

G. Transportation Conformity

The Submittal lists "Meet Transportation Conformity Requirements—CAA Section 176(c)" as a marginal area requirement. We note that motor vehicle emission budgets, used in transportation conformity determinations, are not required for marginal areas because such areas are not required to submit a "control strategy implementation plan revision."¹⁸ However, as noted above, the EPA has proposed to reclassify the Maricopa NAA to Moderate nonattainment. If the reclassification is finalized, MAG would be required to develop motor vehicle emission budgets as part of a Moderate area attainment demonstration. In the meantime, MAG may continue to rely on its emission budgets for the 1997 ozone NAAQS,¹⁹ which the EPA approved on September 17, 2014 (79 FR 55645). Accordingly, we are not taking further action on these budgets at this time.

IV. Final Action

The EPA is taking direct final action to approve the MAG 2014 Eight-Hour Ozone Plan with respect to the requirements of CAA section 182(a)(1), (2)(A) and (B), and (3)(B) and is deferring action with respect to the requirements of CAA sections 176(c) and 182(a)(2)(C) and (4). We do not think anyone will object to this approval, so we are finalizing it without proposing it in advance. However, in the Proposed Rules section of this **Federal Register**, we are simultaneously proposing approval of the same submitted rule(s). If we receive adverse comments by November 16, 2015, we will publish a timely withdrawal in the **Federal Register** to notify the public that the direct final approval will not take effect and we will address the

¹⁸ See 40 CFR 93.101.

¹⁹ See 40 CFR 93.109(c)(2).

comments in a subsequent final action based on the proposal. If we do not receive timely adverse comments, the direct final approval will be effective without further notice on December 15, 2015.

V. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this action merely approves state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this action:

- Is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);
- does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- does not provide the EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this action and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by December 15, 2015. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this action for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. Parties with objections to this direct final rule are encouraged to file a comment in response to the parallel notice of proposed rulemaking for this action published in the Proposed Rules section of today's **Federal Register**, rather than file an immediate petition for judicial review of this direct final rule, so that the EPA can withdraw this direct final rule and address the comment in the proposed rulemaking. This action may not be challenged later in proceedings to enforce its requirements (see section 307(b)(2)).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Dated: September 25, 2015.

Jared Blumenfeld,
Regional Administrator, Region IX.

Part 52, Chapter I, Title 40 of the Code of Federal Regulations is amended as follows:

PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

■ 1. The authority citation for Part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart D—Arizona

■ 2. Section 52.120 is amended by adding paragraph (c)(172) to read as follows:

§ 52.120 Identification of plan.

* * * * *

(c) * * *
(172) The following plan was submitted July 2, 2014, by the Governor's designee.

(i) [Reserved]
(ii) *Additional materials.*
(A) Arizona Department of Environmental Quality (ADEQ).
(1) *MAG 2014 Eight-Hour Ozone Plan—Submittal of Marginal Area Requirements for the Maricopa Nonattainment Area* (June 2014), excluding:

(i) Sections titled "A Nonattainment Area Preconstruction Permit Program—CAA section 182(a)(2)(C)," "New Source Review—CAA, Title I, Part D," and "Offset Requirements: 1:1 to 1 (Ratio of Total Emission Reductions of Volatile Organic Compounds to Total Increased Emissions)—CAA Section 182(a)(4)" on pages 8 and 9 and section titled "Meet Transportation Conformity Requirements—CAA Section 176(c)" on pages 10 and 11.

(ii) Appendices A and B.

[FR Doc. 2015-26023 Filed 10-15-15; 8:45 am]

BILLING CODE 6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 180

[EPA-HQ-OPP-2015-0363; FRL-9933-98]

2-Propen-1-Aminium, N,N-Dimethyl-N-Propenyl-, Chloride, Homopolymer; Exemption From the Requirement of a Tolerance

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This regulation establishes an exemption from the requirement of a

The National Ambient Air Quality Standards

OVERVIEW OF EPA'S UPDATES TO THE AIR QUALITY STANDARDS FOR GROUND-LEVEL OZONE

On Oct. 1, 2015, the U.S. Environmental Protection Agency (EPA) strengthened the National Ambient Air Quality Standards (NAAQS) for ground-level ozone to 70 parts per billion (ppb), based on extensive scientific evidence about ozone's effects on public health and welfare. The updated standards will improve public health protection, particularly for at-risk groups including children, older adults, people of all ages who have lung diseases such as asthma, and people who are active outdoors, especially outdoor workers. They also will improve the health of trees, plants and ecosystems.

Highlights

- The updated health standard of 70 ppb will significantly reduce ozone air pollution and will provide an adequate margin of safety to protect at-risk groups.
- The standard is especially important for children and people with asthma, who are at increased risk from ozone exposure, and will prevent hundreds of thousands of asthma attacks.
- Public health benefits of the updated standards are significant – estimated at \$2.9 to 5.9 billion annually in 2025 and outweighing estimated costs of \$1.4 billion.
- EPA projections show the vast majority of U.S. counties will meet the standards by 2025 with federal and state rules and programs now in place or underway.
- EPA will work closely with states and tribes as they develop and implement clean air plans.

Updated Primary (Public Health) Standard

- Based on an expanded body of scientific evidence that includes thousands of studies on the effects of ozone on health, the EPA Administrator has concluded that the 2008 standard of 75 ppb is not requisite to protect public health with an adequate margin of safety, as required by law.
- As she determined what standard would provide that margin of safety, the Administrator considered the science, focusing on new studies that have become available since EPA last reviewed the standards in 2008. Those studies include new clinical studies, which provide the most certain evidence of health effects in adults. Those studies provide information clearly showing that ozone at 72 ppb can be harmful to healthy exercising adults.

- In addition, the Administrator examined results of analyses that look at people’s exposure to ozone and how different levels of a revised standard would reduce risk. These analyses take into account people’s activity patterns and how they are exposed to ozone in their daily lives.
- The Administrator focused on children’s exposure -- particularly repeated exposures. Repeated exposures are important, because the more times children are exposed to ozone, the more likely they will experience serious health effects.
- Children are at increased risk from ozone exposure because their lungs are still developing, and they are more likely to be active outdoors when ozone levels are high. Children also are more likely than adults to have asthma.
- Combined, the results of the clinical studies and risk and exposure analyses show that a standard of 70 ppb will protect public health.
 - A standard of 70 ppb is below the level shown to cause adverse health effects in the clinical studies.
 - A standard of 70 ppb essentially eliminates exposures that have been shown to cause adverse health effects, protecting 99.5 percent of children from even single exposures to ozone at 70 ppb.
- Several clinical studies have shown effects in some adults following exposure to ozone at levels as low as 60 ppb. However, the evidence is uncertain that those effects are harmful or “adverse.” In light of these uncertainties, the Administrator concluded that the science supported setting a standard that reduces exposure to ozone concentrations as low as 60 ppb but does not support a standard that eliminates them.
- The Administrator concluded that a standard of 70 ppb also will provide the adequate margin of safety the law requires. The updated standard will protect more than 98 percent of school-age children from repeated exposures to ozone concentrations as low as 60 ppb – a 60 percent improvement over the current standard.
- The standard accomplishes this because of the way it is structured. Areas meeting the updated standard will see ozone concentrations below 70 ppb on almost all days – and in many areas, on most days, concentrations will be even lower.

Protecting Public Health with an Adequate Margin of Safety

The Clean Air Act requires the EPA Administrator to set primary air quality standards to protect public health with an “adequate margin of safety,” including the health of at-risk groups.

In making this judgment, the Administrator considers factors such as the nature and severity of health effects, the size of the at-risk groups affected, and the degree of certainty and uncertainty in the science on ozone-related health effects. The law charges the Administrator with setting standards that are “requisite” -- neither more nor less stringent than necessary -- to accomplish this. The law does not require EPA to set primary standards at a zero-risk level.

The law requires EPA to review the standards -- and the science behind them -- every five years to determine whether changes are warranted. EPA last updated the standards in 2008.

- In selecting the level of the primary standard, the Administrator also considered advice from the agency’s independent science advisors, the Clean Air Scientific Advisory Committee (CASAC), and she considered public comment on the proposed standards.
- The CASAC concluded that the science indicates the 2008 standard is not adequate to protect public health and that science supports a standard within a range of 70 ppb down to 60 ppb. The panel noted that the decision about what standard provides the adequate margin of safety required by the Clean Air Act is a policy judgment left to the Administrator.

Ozone and Health

- Scientific evidence shows that ozone can cause a number of harmful effects on the respiratory system, including difficulty breathing and inflammation of the airways. For people with lung diseases such as asthma and COPD (chronic obstructive pulmonary disease), these effects can aggravate their diseases, leading to increased medication use, emergency room visits and hospital admissions.
- Evidence also indicates that long-term exposure to ozone is likely to be one of many causes of asthma development. In addition, studies show that ozone exposure is likely to cause premature death.
- An estimated 23 million people have asthma in the U.S., including an estimated 6.1 million children. Asthma disproportionately affects children, families with lower incomes, and minorities, including Puerto Ricans, Native Americans/Alaska Natives and African-Americans.
- Children -- including teenagers -- are among those most at risk from ozone exposure for several reasons:
 - Their lungs are still developing (this occurs until adulthood);
 - They breathe more air per pound of body weight than adults. That means if the air contains ozone, children get a higher “dose” of ozone for their weight than adults;
 - They are active outside more than adults; and
 - They also are more likely to have asthma.

Benefits of the Final Standards Outweigh Costs

- Setting air quality standards is about protecting public health and the environment. By law, EPA cannot consider costs in doing that. States ultimately will decide the best mix of measures to meet the standards in their nonattainment areas. However, to inform the public, EPA analyzes the benefits and illustrative costs of implementing the standards as required by Executive Orders 12866 and 13563 and guidance from the White House Office of Management and Budget (OMB). In conducting these analyses, EPA uses widely accepted, peer-reviewed economic practices and follows OMB guidance on economic analyses.

- EPA estimates that meeting the 70 ppb standards will yield health benefits valued at \$2.9 to \$5.9 billion annually in 2025 nationwide outside of California. These annual benefits include the value of avoiding a range of harmful health effects, including:
 - 320 to 660 premature deaths
 - 230,000 asthma attacks in children
 - 160,000 days when kids miss school
 - 28,000 missed work days
 - 630 asthma-related emergency room visits
 - 340 cases of acute bronchitis in children
- EPA analyzed the benefits and costs for California separately, because a number of areas in California would have longer to meet the final standards, based on their ozone levels. A number of California counties likely would have attainment dates ranging from 2032 to late 2037.
- Benefits of meeting the standards in California add to the nationwide benefits after 2025, with the value of the additional benefits estimated at \$1.2 to \$2.1 billion annually after 2025. This includes the value of avoiding harmful health effects, including:
 - 120 to 220 premature deaths
 - 160,000 asthma attacks among children
 - 120,000 days when kids miss school
 - 5,300 missed work days
 - 380 asthma-related emergency room visits
 - 64 cases of acute bronchitis among children
- While states ultimately decide what measures to implement to meet a standard, EPA has developed illustrative measures in order to estimate costs. Those estimates are \$1.4 billion in 2025 nationwide except for California. Estimated costs in California post-2025 are \$800 million.
- Estimated net benefits range from \$1.5 to \$4.5 billion nationwide, except California. In California, net benefits are estimated at \$0.4 to \$1.3 billion.

Updated Secondary (Public Welfare) Standard

- EPA also is strengthening the secondary standard to improve protection for trees, plants and ecosystems. Like the primary, an area will meet the standard if the fourth-highest maximum daily 8-hour ozone concentration per year, averaged over three years, is equal to or less than 70 ppb.
- New studies since the last review of the standards add to evidence showing that exposure to ozone reduces growth and has other harmful effects on plants and trees. These types of effects have the potential to harm ecosystems and the benefits they provide.
- The agency has assessed ozone exposure to vegetation using a seasonal index known as a “W126 index.” A W126 index, named after portions of the equation used to calculate it, is a weighted index designed to reflect the cumulative exposures that can damage plants and trees during the consecutive three months in the growing season when daytime ozone concentrations are the highest and plant growth is most affected.

- EPA determined that a W126 index level of 17 parts per million-hours (ppm-hours) is sufficient to protect the public welfare based on the latest science.
- Analyses of data from air quality monitors show that an 8-hour standard of 70 ppb will limit cumulative, seasonal exposures above a W126 index level of 17 ppm-hours, averaged over three years.
- Based on consideration of all the information in this review, including CASAC advice and judgments about uncertainties, the Administrator concluded that an updated secondary standard of 70 ppb will provide the requisite protection for public welfare that the Clean Air Act requires.

Working With States and Tribes to Implement the Updated Standards

- Protecting air quality is a federal/state partnership, and EPA, states and tribes have made significant progress reducing ozone. Nationwide, ozone levels have dropped by a third since 1980 at monitor sites that track ozone trends. More than 90 percent of the areas originally designated as nonattainment for the 1997 ozone standard now meet that standard. And 2014 data show that more than a third of areas designated in 2012 as nonattainment for the 2008 ozone standards have air quality meeting that standard.
- EPA has a long history of working closely with states as they develop State Implementation Plans (SIPs) to reduce emissions of ozone precursors within individual jurisdictions. The agency will continue these collaborative efforts for the updated ozone standards, including working closely with states in reviewing air quality during the designations process, which is the first step in implementing the updated standards.
- Recognizing that its partners have significant workloads and resource constraints, the agency has provided an outline of how EPA will work with state, tribal, local and federal agencies to implement the updated standards in a way that maximizes common sense, flexibility and cost-effectiveness, while following the requirements of the Clean Air Act.
- The “Implementation Memo” issued with the revised standards, outlines the agency’s plans for addressing issues related to:

Addressing Background Ozone

“Background ozone” refers to ozone that forms from pollution from natural sources, such as wildfires or stratospheric intrusions, and ozone that forms from man-made pollution from sources outside the U.S.

On high ozone days, most ozone is produced locally or regionally from man-made domestic sources. Reducing emissions of the pollutants that form ozone will reduce ozone broadly across the country and improve public health protection.

EPA analyses do not indicate that background ozone will prevent areas from meeting the updated ozone standards of 70 ppb. The Clean Air Act and EPA policies provide a number of tools to help states in the limited number of areas where background ozone may contribute to high ozone concentrations on a few days. These tools may help areas avoid a nonattainment designation, or minimize attainment control requirements where appreciable levels of background ozone influence air quality.

- Guidance available to agencies;
 - Ensuring major source permitting is effective and efficient;
 - Designating areas;
 - Background ozone;
 - Interstate ozone transport;
 - The challenges of reducing ozone in California;
 - Managing monitoring networks;
 - Community involvement;
 - Multi-pollutant clean air planning;
 - Emissions from wildland fires;
 - Transportation planning; and
 - The Ozone Advance Program.
- California has unique air quality challenges, due to the combination of meteorology and topography, population growth, and the pollution burden associated with mobile sources. EPA will continue working closely with the state, tribes and local air quality officials, nongovernmental organizations, interested commercial representatives and other federal agencies to explore strategies and technologies to reduce pollution and improve public health protection for California residents.

Rules and guidance to help states and tribes

- The agency plans to propose rules and guidance over the next year to help states with potential nonattainment areas implement the revised standards. The agency also plans to update its Exceptional Events Rule, which outlines the requirements for excluding air quality data (including ozone data) from regulatory decisions if the data are affected by events outside an area’s control, such as a wildfire or stratospheric intrusion.
- The Exceptional Events Rule is one of several tools available to states for addressing “uncontrollable pollution,” including background ozone, as they develop their clean air plans. Background ozone is ozone that forms from sources other than manmade U.S. emissions.
- In addition, EPA is developing guidance to address Exceptional Events Rule criteria for wildfires that could affect ozone concentrations. The agency anticipates receiving additional fire-related exceptional events demonstrations as climate change leads to increases in wildfires.
- To ensure a smooth transition to the updated standards, EPA is including a grandfathering provision to ensure that compliance with the updated ozone standards will not delay final processing of certain pending preconstruction permit applications.

- As required by the Clean Air Act, EPA anticipates making attainment/nonattainment designations for the revised standards by late 2017; those designations likely will be based on 2014-2016 air quality data.
- For more information on the designations schedule: see <http://www3.epa.gov/ozonepollution/actions.html>.

Federal rules will help most areas meet the standards without additional reductions.

- Nonattainment areas will have until 2020 to late 2037 to meet the health standard, with attainment dates varying based on the ozone level in the area. Most states can build off work they are already doing to reduce pollution to help them meet the standards.
- Existing and proposed federal rules will help states meet the standards by reducing ozone-forming pollution. These rules include: requirements to reduce the interstate transport of air pollution, Regional Haze regulations, the Mercury and Air Toxics Standards, the Clean Power Plan, the Tier 3 Vehicle Emissions and Fuels Standards, the Light-Duty Vehicle Tier 2 Rule, the Mobile Source Air Toxics Rule, the Light-Duty Greenhouse Gas/Corporate Average Fuel Efficiency Standards, the Heavy-Duty Vehicle Greenhouse Gas Rule, the Reciprocating Internal Combustion Engines (RICE) NESHAP, and the Industrial/Commercial/Institutional Boilers and Process Heaters MACT and amendments.
- EPA's analysis shows that pollution reductions resulting from these rules will help the vast majority of counties meet the updated standards by 2025 without additional action.

Modernizing Monitoring Requirements

- The final rule streamlines and modernizes the Photochemical Assessment Monitoring Stations (PAMS) network to use monitoring resources most efficiently. The PAMS network measures ozone, the pollutants that form it, and meteorology in order to better understand ozone formation and to evaluate national and local ozone-reduction options.
- In addition, EPA is updating the Federal Reference Method for ozone to include an additional method for measuring ozone in the outdoor air. State, local and tribal air agencies will be able to continue operating their existing ozone monitors.

Notifying the Public: Updates to the Ozone Monitoring Season and Air Quality Index

- EPA is updating the Air Quality Index (AQI) to reflect the updates to the ozone health standard to provide the public with the most up-to-date information about air quality where they live. The AQI is EPA's color-coded tool for communicating air quality to the public.
- Also to help alert the public, EPA is extending the ozone monitoring season for 32 states and the District of Columbia to match the times of year when ozone is most likely to approach unhealthy levels. A review of all available ozone data from 2010 to 2013 shows that ozone can be elevated at times when some states were not required to measure it: earlier in the spring and later in the fall – and even in the wintertime in some western states.

- The monitoring season extensions will range from one additional month in 22 states and the District of Columbia, to an additional seven months in Utah.
- For more information on the AQI and monitoring season updates, see: <http://www3.epa.gov/ozonepollution/actions.html>

Background on Developing the Ozone Standards

- The Clean Air Act requires EPA to review the ozone standards every five years to determine whether they should be revised in light of the latest science. Reviewing the NAAQS is a lengthy undertaking and includes the following major steps before EPA issues a proposed rule: planning; a comprehensive review, synthesis and evaluation of the science on ozone (referred to as the Integrated Science Assessment); risk and exposure assessments for public health and the public welfare; and a staff policy assessment.
- Scientific review during the development of each of these documents is thorough and extensive. Drafts of all documents are reviewed by EPA's independent science advisers (CASAC), and the public has an opportunity to comment on them.
 - In June-July 2014, CASAC provided its advice to EPA on the policy assessment, the health risk and exposure assessment, and the welfare risk and exposure assessment.
- The EPA Administrator evaluates all of this information, along with advice from the CASAC, in determining whether to propose revisions to a standard. Proposed rules are made available for public comment, and the agency holds public hearings. EPA carefully considers all comments received on the proposal before issuing a final rule.
- EPA issued the first national air quality standards for ozone in 1971. The agency has revised the standards three times – in 1979, 1997 and 2008 – to ensure they continue to protect public health and welfare. The agency has not revised the standards on two other occasions:
 - In 1993, EPA reviewed the standards but determined that revisions were not warranted;
 - In 2010, the agency proposed, but did not finalize, revisions as part of a reconsideration of the 2008 standards.
- In July 2013, the U.S. Court of Appeals for the D.C. Circuit upheld the 2008 primary ozone standard but remanded the secondary standard to EPA, on the grounds that the agency had not adequately explained how the secondary standard provided the required public welfare protection. The revisions to the secondary standard respond to this remand.
- On Jan. 21, 2014, the Sierra Club, American Lung Association, Environmental Defense Fund and Natural Resources Defense Council sued EPA for not completing the review of the standards within five years - by March 2013. The groups asked the U.S. District Court for the Northern

District of California to order EPA to complete the five-year review of the 2008 standards. The court ordered the agency to sign a proposed rule by Dec. 1, 2014 and a final rule by Oct. 1, 2015.

- On Nov. 25, 2014, EPA proposed to strengthen the ozone standards. The agency proposed to set both the primary and secondary standards as 8-hour standards of 65 to 70 ppb. EPA received more than 430,000 comments on the proposed standards and held three public hearings.

Where to Get More Information:

- To read the final rule and additional fact sheets, visit <http://www3.epa.gov/airquality/ozonepollution/actions.html> .
- For technical documents related to this review of the standards, see: http://www.epa.gov/ttn/naaqs/standards/ozone/s_o3_index.html
- A table of historical ozone standards is available at: http://www.epa.gov/ttn/naaqs/standards/ozone/s_o3_history.html
- For your local air quality forecasts and information on current air quality, visit www.airnow.gov

The EPA Regional Administrator, Jared Blumenfeld signed the following withdrawal of a direct final rule on September 28, 2015 and EPA is submitting it for publication in the *Federal Register* (FR). While we have taken steps to ensure the accuracy of this version of this rule, it is not the official version. Please refer to the official version in a forthcoming FR publication appearing on the Government Printing Office website, <http://fdsys.gpo.gov/fdsys/search/home.action>, and on www.regulations.gov in Docket Number EPA-R09-OAR-2014-0256.

Billing Code: 6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2014-0256; FRL-____-__

Approval and Promulgation of Implementation Plans; Arizona;

Phased Discontinuation of Stage II Vapor Recovery Program

AGENCY: Environmental Protection Agency (EPA).

ACTION: Withdrawal of direct final rule.

SUMMARY: Due to the receipt of adverse comments, the Environmental Protection Agency (EPA) is withdrawing the September 2, 2015 direct final rule that approves a state implementation plan (SIP) revision related to the removal of "Stage II" vapor recovery equipment at gasoline dispensing facilities in the Phoenix-Mesa area. The EPA will address the comments in a subsequent final action based upon the proposed rulemaking action, also published on September 2, 2015. The EPA will not institute a second comment period on this action.

DATES: The direct final rule published at 80 FR 53001 on September 2, 2015 is withdrawn, effective [**INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER**].

FOR FURTHER INFORMATION CONTACT: Jeffrey Buss, Air Planning Office (AIR-2), U.S. Environmental Protection Agency, Region IX,

75 Hawthorne, San Francisco, California 94105; (415) 947-4152;
buss.jeffrey@epa.gov.

SUPPLEMENTARY INFORMATION: On September 2, 2015 (80 FR 53001), the EPA published a direct final rule approving a SIP revision submitted by the Arizona Department of Environmental Quality (ADEQ). The revision provides for the phased removal of Stage II vapor recovery equipment at gasoline dispensing facilities in the Phoenix-Mesa area. Specifically, the revision eliminates the requirement to install and operate such equipment at new gasoline dispensing facilities, and provides for the phased removal of such equipment at existing gasoline dispensing facilities from October 2016 through September 2018. In the direct final rule, the EPA stated that if adverse comments were received by October 2, 2015, the EPA would publish a timely withdrawal of the direct final rule and address the comments in a subsequent final rule. The EPA received adverse comments and is therefore withdrawing the direct final rule. The EPA will address these comments in a separate final action based on the proposed action also published on September 2, 2015 (80 FR 53086). The EPA will not open a second comment period for this action.

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 28, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Dated: September 28, 2015. //s//
Jared Blumenfeld,
Regional Administrator,
Region IX.

Accordingly, the amendment to 40 CFR 52.120 which published in the **Federal Register** on September 2, 2015 (80 FR 53001) on page 53007 is withdrawn as of [**INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER**].

U.S. EPA FACT SHEET

Proposed Rule: Air Plan Approval; Phoenix, Arizona; Second 10-Year Carbon Monoxide Maintenance Plan

October 1, 2015

Summary of Action:

On September 30, 2015, EPA proposed to approve the 2013 Maintenance Plan for the Phoenix carbon monoxide maintenance area as a revision to the Arizona State Implementation Plan. The plan addresses continued maintenance in the area for the carbon monoxide (CO) national ambient air quality standards (NAAQS) for another ten years, until 2025. EPA redesignated the area to attainment and approved the first maintenance plan in 2005. EPA also proposed to find adequate and to approve the plan's motor vehicle emissions budget (MVEB) for 2025. The proposal provides a 30-day comment period.

Background:

EPA set the CO NAAQS in 1971. The primary CO NAAQS are attained when ambient concentration design values do not exceed either the 1-hour 35 parts per million (ppm) standard or the 8-hour 9 ppm standard more than once per year. In 1977, the Phoenix metropolitan area in Maricopa County, Arizona was designated and classified as a moderate CO nonattainment area. In 1996, the EPA found that the area had not attained the CO NAAQS by the moderate attainment date and the area was reclassified to serious nonattainment.

There have been no violations in Phoenix of the 1-hour CO standard since 1984 and no violations of the 8-hour standard since 1996. The EPA determined in 2003 that the area had attained the CO NAAQS by the area's December 31, 2000 attainment deadline. In March 2005, EPA redesignated the area to attainment and approved a 10-year maintenance plan. Under the CAA, a maintenance area must submit a second 10-year maintenance plan in the eighth year of their first maintenance plan. Accordingly, the State submitted the second maintenance plan on April 2, 2013. EPA proposes to approve this maintenance plan, which addresses maintenance of the CO NAAQS out to the year 2025.

Next Steps:

The *Federal Register* notice for this proposal will be published in approximately 2 to 3 weeks. There will be a 30-day public comment period on this action.

More Information: <http://www3.epa.gov/region09/air/phxco/index.html>

The EPA Regional Administrator, Jared Blumenfeld signed the following rule on September 30, 2015 and EPA is submitting it for publication in the Federal Register (FR). While we have taken steps to ensure the accuracy of this version of this rule, it is not the official version. Please refer to the official version in a forthcoming FR publication appearing on the Government Printing Office website, <http://fdsys.gpo.gov/fdsys/search/home.action>, and on www.regulations.gov in Docket Number EPA-R09-OAR-2015-0645.

6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2015-0645; FRL-]

Air Plan Approval; Phoenix, Arizona; Second 10-Year Carbon Monoxide Maintenance Plan.

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing approval of a State Implementation Plan (SIP) revision submitted by the State of Arizona. On March 9, 2005, the EPA redesignated Phoenix, Arizona from nonattainment to attainment for the carbon monoxide (CO) National Ambient Air Quality Standards (NAAQS) and approved the State's plan addressing the area's maintenance of the NAAQS for ten years. On April 2, 2013, the State of Arizona submitted to the EPA a second maintenance plan for the Phoenix area that addressed maintenance of the NAAQS for an additional ten years. The EPA is also proposing to find adequate and approve a transportation conformity motor vehicle emissions budgets (MVEB) for the year 2025 and beyond.

DATES: Comments must be received on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R09-OAR-2015-

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

0645, to the *Federal eRulemaking Portal*: <http://www.regulations.gov>. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or withdrawn. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. If you need to include CBI as part of your comment, please visit <http://www2.epa.gov/dockets/commenting-epa-dockets> for instructions. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make.

For additional submission methods, the full EPA public comment policy, and general guidance on making effective comments, please visit <http://www2.epa.gov/dockets/commenting-epa-dockets>.

FOR FURTHER INFORMATION CONTACT: John Kelly, Planning Office (Air-2), Air Division, Region 9, Environmental Protection Agency, 75 Hawthorne Street, San Francisco, California 94105, (415) 947-4151, kelly.johnj@epa.gov.

SUPPLEMENTARY INFORMATION:

Definitions

For the purpose of this document, we are giving meaning to certain words or initials as follows:

- (i) The words or initials Act or CAA mean or refer to the Clean Air Act, unless the context indicates otherwise.
- (ii) The initials AADT mean or refer to Annual Average Daily Traffic.
- (iii) The initials ADEQ mean or refer to Arizona Department of Environmental Quality.

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

- (iv) The initials ANP mean or refer to Annual Monitoring Network Plans, commonly known as Annual Network Plans or ANP
- (v) The initials CO mean or refer to carbon monoxide.
- (vi) The words EPA, we, us or our mean or refer to the United States Environmental Protection Agency.
- (vii) The initials MAG mean or refer to the Maricopa Association of Governments.
- (viii) The initials MCAQD mean or refer to the Maricopa County Air Quality Department.
- (ix) The initials MVEB mean or refer to Motor Vehicle Emissions Budget.
- (x) The initials mtpd mean or refer to metric tons per day.
- (xi) The initials NAAQS mean or refer to the National Ambient Air Quality Standards.
- (xii) The initials ppm mean or refer to parts per million.
- (xiii) The initials RTP mean or refer to Regional Transportation Plan.
- (xiv) The initials SIP mean or refer to State Implementation Plan.
- (xv) The initials TIP mean or refer to Transportation Improvement Plan.
- (xvi) The initials TSA mean or refer to an air monitoring program Technical Systems Audit.
- (xvii) The words Arizona and State mean or refer to the State of Arizona.

I. Background

A. Phoenix (Maricopa County), Arizona Attainment Status

Under the Clean Air Act (CAA) Amendments of 1990, the Phoenix metropolitan area in Maricopa County, Arizona (hereinafter referred to as Phoenix, the Phoenix area or the area) was designated and classified as a moderate CO nonattainment area. On July 29, 1996, the EPA

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

found that the area had not attained the CO NAAQS by the moderate attainment date and the area was reclassified to serious nonattainment by operation of law, effective August 28, 1996. 61 FR 39343.

The primary CO NAAQS are attained when ambient concentration design values do not exceed either the 1-hour 35 parts per million (ppm) standard or the 8-hour 9 ppm standard more than once per year. 40 CFR 50.8(a). There have been no violations in Phoenix of the 1-hour CO standard since 1984 and no violations of the 8-hour standard since 1996. 2013 Maintenance Plan, page 1-1. The EPA determined in 2003 that the area had attained the CO NAAQS by the area's December 31, 2000 attainment deadline. 68 FR 55008, September 22, 2003. This determination did not affect the designation of the area as nonattainment or its classification as a serious area.

On May 30, 2003, the State of Arizona submitted a request to the EPA to redesignate Phoenix from nonattainment to attainment for the CO NAAQS. Along with this request, the State submitted a CAA section 175A(a) maintenance plan which demonstrated that the area would maintain the CO NAAQS for the first 10 years following our approval of the redesignation request ("2003 CO Maintenance Plan"). We approved the State's redesignation request and 10-year maintenance plan on March 9, 2005, effective April 8, 2005. 70 FR 11553. For a detailed history of the CO planning efforts in the area up to 2004, please see the Technical Support Document that accompanied the EPA's proposal to approve the first 10-year maintenance plan for the area. 69 FR 60328, October 8, 2004.

B. 2013 CO Maintenance Plan

Eight years after an area is redesignated to attainment, CAA section 175A(b) requires the

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

State to submit a subsequent maintenance plan to the EPA, covering a second 10-year period.¹

The second maintenance plan must demonstrate continued compliance with the NAAQS during this second 10-year period. To fulfill this requirement of the CAA, Arizona submitted the second 10-year update of the Phoenix area CO maintenance plan to the EPA on April 2, 2013. The plan was developed by the Maricopa Association of Governments (MAG) and is titled “MAG 2013 Carbon Monoxide Maintenance Plan for the Maricopa County Area” (hereinafter, “2013 Maintenance Plan”). MAG is the State’s delegated Agency with authority to develop SIPs for Maricopa County. With this action, we are proposing to approve the 2013 Maintenance Plan as a revision to the Arizona SIP.

C. Transportation Conformity

Section 176(c) of the Act defines conformity as meeting the SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. The Act further defines transportation conformity to mean that no Federal transportation activity will: (1) Cause or contribute to any new violation of any standard in any area; (2) increase the frequency or severity of any existing violation of any standard in any area; or (3) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area. The Federal transportation conformity rule, 40 CFR part 93 subpart A, sets forth the criteria and procedures for demonstrating and assuring conformity of transportation plans, programs and projects which are developed, funded or approved by the U.S. Department of Transportation, and by metropolitan planning organizations or other recipients of

¹ In this case, the initial maintenance period extended through 2015. Thus, the second 10-year period extends through 2025.

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

Federal funds under Title 23 U.S.C. or the Federal Transit Laws. 49 U.S.C. chapter 53.

The transportation conformity rule applies within all nonattainment and maintenance areas. As prescribed by the transportation conformity rule, once an area has an applicable SIP with MVEBs, the expected emissions from planned transportation activities must be consistent with such established budgets for that area.

With this action, the EPA proposes to find adequate and approve a CO transportation conformity MVEB for the year 2025 and beyond.

II. The EPA's Evaluation of Arizona's Submittal

The 2013 Maintenance Plan contains the following major sections:

1. Introduction. This section contains a general discussion of CO plan approvals and the area's redesignation to attainment. 2013 Maintenance Plan, Chapter 1.
2. Continued Attainment of the Carbon Monoxide NAAQS. This section includes some historical background, a description of the CO monitoring network in Phoenix, monitoring results and the State's demonstration that the area has continued to attain the CO standards, and information regarding the State's monitoring data quality assurance program. 2013 Maintenance Plan, Chapter 2.
3. Maintenance Plan. This section includes control measures, maintenance demonstration, monitoring network information and verification that the area has continued to attain the CO standards, contingency provisions, a transportation conformity budget and subsequent maintenance plan revisions. 2013 Maintenance Plan, Chapter 3.

The following is the EPA's evaluation of the ambient air monitoring information and maintenance plan provided in the State's submittal.

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

A. Ambient Air Quality Monitoring Data

The primary NAAQS for CO are: “(1) 9 parts per million (10 milligrams per cubic meter) for an 8-hour average concentration not to be exceeded more than once per year and (2) 35 parts per million (40 milligrams per cubic meter) for a 1-hour average concentration not to be exceeded more than once per year.” 40 CFR 50.8. At the time of submittal of the 2013 Maintenance Plan in March 2013, there had been no violations in Phoenix of the 1-hour carbon monoxide standard since 1984 and no violations of the 8-hour standard since 1996. 2013 Maintenance Plan, page 1-1.

Table 1 – CO Design Values for Phoenix, AZ, years 2005-2014

Design Values (ppm) ²		Years
1-Hour	8-Hour	
7.0	4.6	2005
6.5	4.6	2006
6.0	4.1	2007
4.5	3.0	2008
4.8	3.3	2009
8.9	3.2	2010
3.9	2.9	2011
4.5	2.5	2012
4.2	2.7	2013
4.9	2.8	2014

The EPA also examined monitoring data for Phoenix from the entire period covered by the first maintenance plan. Table 1 shows the complete, quality assured and certified ambient air monitoring design values for CO in the area for the years 2005 to 2014. The monitoring data show the area has not violated the CO standards during the first maintenance period. The EPA

² Design values were derived from the EPA Air Trends (<http://www3.epa.gov/airtrends/values.html>) website.

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

notes the trend of 8-hour CO design values decreasing during this period, as also described in the 2013 Maintenance Plan for the years 2004 to 2011. 2013 Maintenance Plan, figure 2-2, page 2-8.

B. Maintenance Plan Control Measures

The State and MAG commit to continue to implement the nine control measures listed in the 2003 Maintenance Plan, and have implemented a tenth control measure that had been identified in that plan as a contingency measure. 2013 Maintenance Plan, page 3-1. Table 2 lists these control measures. 2013 Maintenance Plan, table 3-1, page 3-2.

Table 2 – Maintenance Measures in the 2013 Maintenance Plan

1. California Phase 2 Reformulated Gasoline with 3.5% Oxygen Content from November 1 through March 31
2. Off-Road Vehicle and Engine Standards
3. Phased-in Emission Test Cutpoints
4. One-Time Waiver from Vehicle Emissions Test
5. Defer Emissions Associated with Government Activities
6. Coordinate Traffic Signal Systems
7. Develop Intelligent Transportation Systems
8. Tougher Enforcement of Vehicle Registration and Emissions Test Compliance
9. Clean Burning Fireplace Ordinances
10. Expansion of Area A Boundaries

The tenth control measure listed in Table 2 is described in the 2003 Maintenance Plan as a contingency measure. 2003 Maintenance Plan, Exhibit 2, Appendix A, Technical Support

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

Document, Section VII-2-2. The State has implemented the expansion of Area A boundaries and the EPA approved the expansion of Area A boundaries as a revision to the Arizona SIP on May 22, 2013. 78 FR 30209.

C. Emissions Inventories

The 2013 Maintenance Plan provides a comparison of actual CO emissions in the Phoenix maintenance area in 2008 with projected emissions in 2025. 2003 Maintenance Plan, page 3-4, table 3-3. These emissions are for an average weekday during the winter season, the months November to January. The 2008 emissions are taken from the latest periodic emissions inventory for the area, the 2008 periodic emissions inventory, which is included in Appendix A, Exhibit 1 of the 2013 Maintenance Plan. Emissions for the year 2025 used growth factors for the area derived from the 2005 special U.S. census conducted in the area and EPA models for estimating onroad emissions and nonroad equipment emissions, as well as the Emissions and Dispersion Modeling System and the Federal Aviation Administration Terminal Area Forecast system database for all airports except Luke Air Force Base (AFB). Emissions of CO from the Luke AFB were derived from two documents: the first, titled “2008 Mobile Source Emissions Inventory for Luke Air Force Base,” prepared by Weston Solutions, Inc. for the Air Education and Training Command, U.S. Air Force, Randolph AFB, Texas, in June 2010; the second document is titled “F-35A Training Basing Environmental Impact Statement, Final Volume 1,” prepared by the U.S. Air Force in 2012.

Several emissions reductions are credited in the projected emissions for the year 2025. The first two control measures listed in Table 2, California Phase 2 Reformulated Gasoline with 3.5 percent Oxygen Content from November 1 through March 31, and Off-Road Vehicle and

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

Engine Standards, are estimated to produce reductions of CO emissions of 128.9 mtpd and 15 mtpd, respectively. These reductions represent about a 19 percent reduction of emissions by 2025. The State and MAG commit to continued implementation of all other control measures listed in Table 2. However, their collective reduction is expected to be less than one percent of 2025 emissions, and therefore no numeric credit was taken for those measures in the State’s projections of CO emissions in 2025.

Details regarding the technical inputs and assumptions used in preparing the emissions inventories are provided in Chapter II of the technical support document for the 2013 Maintenance plan, in Appendix A, Exhibit 2. The results of MAG’s inventory of actual emissions in 2008 and projected emissions in 2025 are provided in Table 3.

Table 3 – Average Weekday Emissions during the Winter Season in the Phoenix CO Maintenance Area, in metric tons per day (mtpd)

Source Category	CO Emissions	
	2008	2025
Point	0.7	19.8
Area	37.8	47.3
Nonroad	281.5	213.1
Onroad	581.6	359.4
TOTAL	901.6	639.6

Compared to emissions in 2008, projected emissions in 2025 show a downward trend.

Total CO emissions projected in the year 2025, 639.6 mtpd, represent approximately 70 percent

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

of the actual emissions in the year 2008.

D. Maintenance Demonstration

The 2013 Maintenance Plan relies on a series of technical analyses to demonstrate maintenance of the CO NAAQS through the year 2025. MAG performed three different modeling analyses to project CO emissions out to the year 2025 and estimate their impact on maximum ambient CO concentration. In addition, MAG conducted two weight-of-evidence evaluations using actual trends in air quality and meteorological data to reinforce the modeling analyses. MAG also developed a modeling protocol to detail the technical approaches and assumptions to be used in demonstrating maintenance of the CO NAAQS. 2013 Maintenance Plan, Appendix A, Exhibit 2, Technical Support Document.

MAG's first modeling analysis was based on an emissions inventory comparison. MAG developed two sets of CO emissions inventories: one representing the CO modeling domain in 2006, 2008, 2015 and 2025; another representing the maintenance area in 2008 and 2025. The modeling domain covers 792 square miles, including the busiest intersections in the area and the ambient air monitors with the highest readings, while the maintenance area is 1,814 square miles. MAG calculated the ratio of the total emissions expected in 2025 to the total emissions in a prior year (2006 for the modeling domain and 2008 for the maintenance area). MAG then multiplied these ratios by the maximum concentration in the earlier year to yield a predicted 2025 concentration. The maximum 8-hour CO concentration at West Indian School monitor in 2006 was 5.3 ppm. When multiplied by the ratio of 2025 emissions for the maintenance area (403.9 mtpd) divided by 2006 emissions (803.0 mtpd) for the maintenance area, or 0.503, the predicted concentration in 2025 at the West Indian School monitoring site is 2.7 ppm, well below the 9

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

ppm level of the 8-hour CO NAAQS.

MAG's second modeling analysis involved updating the modeling of CO concentrations performed in the 2003 Maintenance Plan using the EPA-approved Urban Airshed Model (UAM) and the intersection hotspot model (CAL3QHC). In particular, MAG updated the projections of concentrations for the years 2006 and 2015 in the 2003 Maintenance Plan by adjusting by the ratio of new to old emissions inventory totals and then scaling them for the year 2025. The highest concentrations in 2025 predicted at the two busiest intersections in Phoenix (at the Phoenix Grand Avenue and West Indian School monitors) using these models was 4.0 ppm, less than half of the level of the 8-hour standard.

MAG's third modeling approach in the 2013 Maintenance Plan was an intersection hotspot analysis. The three intersections projected to have the highest traffic volumes and the three intersections projected to have the worst traffic congestion were identified using the MAG TransCAD traffic assignment for the year 2025. MAG used CAL3QHC to determine the maximum 8-hour concentration at these intersections in 2025, then added the expected background concentration, 1.3 ppm CO. The highest CO concentration expected in 2025 was 1.7 ppm at two intersections, 16th Street and Camelback Road, and Priest Drive and Southern Avenue. This level is also well below the 8-hour CO NAAQS.

In addition to the above three modeling exercises, MAG conducted two weight-of-evidence evaluations to support the maintenance demonstration. In one, historical trends of 1-hour and 8-hour monitored CO concentrations were applied to a regression analysis to project concentrations in 2015 and 2025. The monitoring data used was from the period 1980 to 2011. Projecting forward the trend lines using regression analysis for each monitoring site, the West

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

Phoenix site has the highest projected 8-hour CO concentration, 2.7 ppm in 2015 and 1.6 ppm in 2025.

In a second weight-of-evidence evaluation, MAG conducted a meteorological analysis to assess whether unusually favorable meteorology played a role in continued maintenance of the CO standard. In particular, MAG assessed long-term values of key meteorological parameters, including temperature, wind speed, wind direction, atmospheric stability and mixing height and compared these values to CO monitored concentration trends during the same period. Four meteorological analyses were performed, comparing later meteorological data to the data from the 1994 episode used in the evaluation, when there was an exceedance of the 8-hour CO standard, with the following results: 1) the maximum 8-hour CO concentrations have continued to decline, while meteorological conditions have not differed significantly from the 1994 episode; 2) 8-hour CO concentrations declined while daily variations in wind speeds, temperatures and mixing heights have not varied significantly over time; 3) 1-hour CO concentrations have continued to decrease over time regardless of meteorological conditions; and 4) daily maximum 8-hour CO concentrations below the CO NAAQS were predominant during the period 1997 through 2011 under the same range of wind speeds and mixing heights.

The EPA finds that the three modeling exercises and two weight-of-evidence evaluations provide compelling evidence that the Phoenix area will continue to maintain the CO NAAQS.

E. Ambient Air Quality Monitoring Network

The Phoenix area has maintained an ambient air quality monitoring network consisting of twelve State and Local Air Monitoring Stations (SLAMS). Of these twelve monitoring stations, 11 are operated by the Maricopa County Air Quality Department (MCAQD) and one monitor is

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

operated by the Arizona Department of Environmental Quality (ADEQ). These agencies provide the EPA with Annual Monitoring Network Plans (commonly known as Annual Network Plans or ANPs) for the area, and have committed to continue to operate an appropriate air quality monitoring network in accordance with appendix D of 40 CFR part 58. 2013 Maintenance Plan, page 3-17.

The EPA approved the area's ANPs, which describe the monitoring network for the area and any changes anticipated for the following year. The most recent ANP from the MCAQD was the "MCAQD 2013 Final Air Monitoring Network Review," dated December 5, 2014. The most recent ANP from ADEQ was the "State of Arizona Air Monitoring Network Plan for the Year 2014," dated July 1, 2014. The 2014 MCAQD ANP was approved by the EPA on March 31, 2015. Letter from Meredith Kurpius, Manager, Air Quality Analysis Office, to William Wiley, Director, MCAQD, dated March 31, 2015. The 2014 ADEQ ANP was approved by the EPA on October 30, 2014. Letter from Meredith Kurpius, Manager, Air Quality Analysis Office, to Eric Massey, Director, Air Quality Division, ADEQ, dated October 30, 2014.

The EPA performs Technical Systems Audits (TSA) of ambient air monitoring programs in accordance with 40 CFR part 58, section 2.5, which requires that the EPA conduct TSAs of primary quality assurance organizations every three years. The most recent TSA for the MCAQD was conducted by the EPA on September 25 to September 27, 2013. The EPA's findings from this TSA are presented in a final report. There were no findings that were cause for data invalidation. Letter from Deborah Jordan, Director, U.S. EPA Region 9 Air Division, to Phil McNeely, Director, Maricopa County Air Quality Department, dated December 12, 2014, transmitting "Technical System Audit, Maricopa County Air Quality Department, Ambient Air

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

Monitoring Program, September 25 – September 27, 2013,” dated December 2014.

The most recent TSA for ADEQ was conducted by the EPA on April 9 to April 13, 2012. The EPA’s findings from this TSA are presented in a final report. There were no findings that were cause for data invalidation. Letter from Deborah Jordan, Director, U.S. EPA Region 9 Air Division, to Eric Massey, Director, ADEQ Air Division, dated January 18, 2013, transmitting “Technical System Audit, Arizona Department of Environmental Quality, Ambient Air Monitoring Program, April 9 – April 13, 2012,” dated January 2013.

The EPA is confident that the area’s air quality monitoring network is being implemented in accordance with requirements in the CAA and implementing regulations in 40 CFR part 58.

F. Contingency Plan

Section 175A(d) of the CAA requires that a maintenance plan include contingency provisions to promptly correct any violation of the NAAQS that occurs after redesignation of an area. A maintenance plan’s contingency measures are not required to be fully adopted. However, the plan should contain clearly identified contingency measures to be adopted, a schedule and procedure for adoption and implementation, and a specific time limit for action by the State. In addition, specific indicators should be identified which will be used to determine when the contingency measures need to be implemented. EPA memorandum, “Procedures for Processing Requests to Redesignate Areas to Attainment,” September 4, 1992.

Two contingency measures that were included in the 2003 Maintenance Plan are included in the 2013 Maintenance Plan: Gross Polluter Option for I/M Program Waivers, and Increased Waiver Repair Limit Options. These contingency measures have already been implemented in the area. A third contingency measure has been added to the 2013 Maintenance Plan:

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

Reinstatement of the Vehicle Emissions Inspection and Maintenance (VEI) Program for Motorcycles. The VEI program for motorcycles was a control measure in the area prior to redesignation to attainment, but the State subsequently exempted motorcycles from the VEI program. Pursuant to section CAA section 175A(d) of the CAA, the contingency provisions of a maintenance plan must include all the control measures that were included in the SIP for the area before redesignation. Therefore, the State is required to include the VEI program for motorcycles as a contingency measure in the 2013 CO Maintenance Plan. ADEQ has fulfilled this requirement by submitting a SIP revision committing to request Legislative action to reinstate emissions testing for motorcycles in the Phoenix area should the area experience a violation of the CO standards. See 78 FR 30209, May 22, 2013. In addition, as noted above, the State has expanded Area A in Maricopa County, which extends additional controls beyond the previous boundary for Area A, converting this expansion from a contingency measure in the 2003 Maintenance Plan, to a control measure in the 2013 Maintenance Plan.

We propose to find that the contingency plan in the 2013 Maintenance Plan is sufficient to meet the requirements of section 175A(d) of the CAA.

G. Transportation Conformity

Transportation conformity is required by section 176(c) of the CAA. Conformity to a SIP means that transportation activities will not produce new air quality violations, worsen existing violations, or delay timely attainment of the NAAQS (CAA section 176(c)(1)(B)). The EPA's conformity rule at 40 CFR part 93, subpart A requires that transportation plans, programs and projects conform to SIPs and establish the criteria and procedures for determining whether or not they conform. To effectuate its purpose, the conformity rule generally requires a demonstration

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

that emissions from the Regional Transportation Plan (RTP) and the Transportation Improvement Program (TIP) are consistent with MVEBs contained in the control strategy SIP revision or maintenance plan (40 CFR 93.101, 93.118, and 93.124). An MVEB is defined as the level of mobile source emissions of a pollutant relied upon in the attainment or maintenance demonstration to attain or maintain compliance with the NAAQS in the nonattainment or maintenance area.³ The EPA's process for determining adequacy of a MVEB consists of three basic steps: (1) Notifying the public of a SIP submission; (2) providing the public the opportunity to comment on the MVEB during a public comment period; and, (3) making a finding of adequacy or inadequacy. See 40 CR 93.118(f). The 2003 Maintenance Plan established CO MVEBs (calculated for Friday in December) of 699.7 mtpd in 2006 and 662.9 mtpd in 2015. The EPA found the CO MVEBs adequate for transportation conformity purposes on September 29, 2003, 68 FR 55950, and approved the MVEBs on March 9, 2005, 70 FR 11553.

The 2013 Maintenance Plan establishes a 2025 MVEB of 559.4 mtpd for the CO maintenance area. We are not announcing the availability of this MVEB through the EPA's Adequacy Web site and providing a separate comment period on the adequacy of the MVEB. Instead, we are reviewing the adequacy of the MVEB simultaneously with our review of the 2013 Maintenance Plan itself. See 40 CFR 93.118(f)(2). In order to determine whether this MVEB is adequate and approvable, we have evaluated whether the MVEB meets the conformity adequacy provisions of 40 CFR 93.118(e)(4) and (5). The details of the EPA's evaluation of the

³ Further information concerning the EPA's interpretations regarding MVEBs can be found in the preamble to the EPA's November 24, 1993, transportation conformity rule (see 58 FR 62193 – 62196).

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

MVEB for compliance with the budget adequacy criteria of 40 CFR 93.118(e) are provided in a memo to file for this proposed rulemaking. Memo from John J. Kelly, Air Planning Office, EPA Region 9, to Docket EPA-R09-OAR-2015-0645, dated September 29, 2015. Based on this evaluation, we propose to find the 2025 MVEB adequate and to approve it. Any and all comments on the adequacy and approvability of the 2025 MVEB should be submitted during the comment period stated in the DATES section of this document.

If today's proposed action is finalized, the 2015 MVEB, which is already approved for 2015 and later years, would apply only up to the year 2024. For the year 2025 and later years, the budget will be 559.4 mtpd. See Table 4.

Table 4 – Approved and Proposed Transportation Conformity Motor Vehicle Emissions

Budgets for the Phoenix CO Maintenance Area, in metric tons per day (mtpd)

	Approved	Approved	Proposed
Year	2006	2015	2025
CO MVEB	699.7	662.9	559.4

III. Proposed Action

The EPA is proposing to approve the 2013 Maintenance Plan submitted on April 3, 2012. This maintenance plan meets the applicable CAA requirements and the EPA has determined it is sufficient to provide for maintenance of the CO NAAQS over the course of the second 10-year maintenance period out to 2025.

The EPA is also proposing to find adequate and approve the CO MVEB of 559.4 mtpd for use in the year 2025 and later years.

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

IV. Statutory and Executive Orders Review

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA's role is to approve State choices, provided that they meet the criteria of the CAA. Accordingly, this action merely proposes to approve State law as meeting federal requirements and does not impose additional requirements beyond those imposed by State law. For that reason, this action:

- Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- Does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355,

This document is a prepublication version signed by EPA Regional Administrator Jared Blumenfeld on September 30, 2015. We have taken steps to ensure the accuracy of this version, but it is not the official version.

May 22, 2001);

- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- Does not provide the EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Carbon monoxide, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Authority: 42 U.S.C. 7401 *et seq*

September 30, 2015

/s/

Dated:

Jared Blumenfeld
Regional Administrator
Region 9