



---

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

March 18, 2010

TO: Members of the MAG Air Quality Technical Advisory Committee

FROM: Doug Kukino, Glendale, Chair

SUBJECT: MEETING NOTIFICATION AND TRANSMITTAL OF TENTATIVE AGENDA

Thursday, March 25, 2010 - 1:30 p.m.  
MAG Office, Suite 200 - Saguaro Room  
302 North 1<sup>st</sup> 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 Kukino 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.

---

A Voluntary Association of Local Governments in Maricopa County

City of Apache Junction ▲ City of Avondale ▲ Town of Buckeye ▲ Town of Carefree ▲ Town of Cave Creek ▲ City of Chandler ▲ City of El Mirage ▲ Fort McDowell Yavapai Nation ▲ Town of Fountain Hills ▲ Town of Gila Bend  
Gila River Indian Community ▲ Town of Gilbert ▲ City of Glendale ▲ City of Goodyear ▲ Town of Guadalupe ▲ City of Litchfield Park ▲ Maricopa County ▲ City of Mesa ▲ Town of Paradise Valley ▲ City of Peoria ▲ City of Phoenix  
Town of Queen Creek ▲ Salt River Pima-Maricopa Indian Community ▲ City of Scottsdale ▲ City of Surprise ▲ City of Tempe ▲ City of Tolleson ▲ Town of Wickenburg ▲ Town of Youngtown ▲ Arizona Department of Transportation

## 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 January 28, 2010 Meeting Minutes

4. Exceptional Events and Data Collection in the Vicinity of the West 43<sup>rd</sup> Avenue Monitor

The Environmental Protection Agency (EPA) has been reviewing the Arizona Department of Environmental Quality (ADEQ) exceptional events documentation and has questioned four high wind exceedances that occurred at the West 43<sup>rd</sup> Avenue monitor in 2008. If EPA does not concur with the exceptional events, these four exceedances would count as a violation at the West 43<sup>rd</sup> Avenue monitor and the region would not have its first year of clean data at the monitors. MAG staff and Sierra Research, MAG consultant, have been providing additional information to ADEQ to further support the ADEQ exceptional events documentation. MAG is also working with the Arizona Department of Environmental Quality

2. For information.

3. Review and approve the January 28, 2010 meeting minutes.

4. For information and discussion.

and the Maricopa County Air Quality Department to implement a Data Collection Plan to Evaluate and Identify Sources and Unique Geographic and Meteorological Conditions Contributing to Exceedances of the PM-10 Standard at the West 43<sup>rd</sup> Avenue Monitor. As part of the effort, soil samples will also need to be analyzed to determine the types of soils that have the highest potential to create PM-10 emissions.

In addition, the City of Phoenix received the 404 permit in December 2009 for the Phoenix Rio Salado Oeste Environmental Restoration Project. This project will be a permanent long-term solution for stabilization of the Salt River area where the West 43<sup>rd</sup> Avenue monitor is located. Rio Salado is an environmental restoration project with the Army Corps of Engineers that includes flood control improvements and recreation features. A five-mile stretch of the Salt riverbed project is already constructed from 24<sup>th</sup> Street to 19<sup>th</sup> Avenue. The Rio Salado Oeste Project will connect and continue the restoration of the Salt River area from 19<sup>th</sup> to 83<sup>rd</sup> avenues. The project corrects years of ecosystem damage to the riverbed. A presentation will be given on these activities.

5. Notice of Intent to File a Lawsuit From the WildEarth Guardians for PM-10

On February 1, 2010, the WildEarth Guardians provided a notice of intent to file a lawsuit against the Environmental Protection Agency for failure to take action on the MAG Five Percent Plan for PM-10 which was submitted to EPA by the federal deadline of December 31, 2007. The notice also indicated that EPA had failed to take action on various Maricopa County Rules. If EPA does not correct the situation within 60 days, the WildEarth Guardians intend to file a lawsuit. Please refer to the enclosed material.

5. For information and discussion.

6. CMAQ Annual Report

In accordance with federal guidance, the 2009 Congestion Mitigation and Air Quality Improvement (CMAQ) Funds Annual Report describes how funds have been spent and the expected air quality benefits. The report was prepared by MAG in cooperation with the Arizona Department of Transportation. The report is in the electronic format required by the Federal Highway Administration. Please refer to the enclosed material.

7. Additional Funding for PM-10 Pave Unpaved Road Projects

Endeavoring to integrate programs and avoid areas of duplication, the MAG Regional Council Executive Committee took action to eliminate the \$300,000 Telework and Ozone Outreach Program contract and transfer the Regional Public Transportation Authority telework staff costs to the Regional Rideshare Program contract while keeping the overall contract amount at \$594,000 this year and in future years. This action taken by the Executive Committee makes available additional CMAQ funds of \$300,000 in FY 2010, \$391,000 in FY 2011, and \$391,000 in FY 2012 for programming Air Quality Projects. MAG staff is recommending that the funding be programmed for PM-10 Pave Unpaved Road Projects by the MAG Transportation Review Committee.

8. Final Revisions to the Nitrogen Dioxide Standard

On January 22, 2010, the Environmental Protection Agency strengthened the National Ambient Air Quality Standard for nitrogen dioxide. The new 1-hour standard is set at the level of 100 parts per billion. EPA is also retaining the current annual average standard of 53 parts per billion. Please refer to the enclosed material.

6. For information and discussion.

7. For information and discussion.

8. For information and discussion.

9. Call for Future Agenda Items

The next meeting of the Committee has been tentatively scheduled for Thursday, April 29, 2010 at 1:30 p.m. The Chairman will invite the Committee members to suggest future agenda items.

9. For information and discussion.

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

Thursday, January 28, 2010  
MAG Office  
Phoenix, Arizona

MEMBERS ATTENDING

Doug Kukino, Glendale, Chairman  
Gaye Knight, Phoenix, Vice Chair  
Sue McDermott, Avondale  
Elizabeth Biggins-Ramer, Buckeye  
#Jim Weiss, Chandler  
#Jamie McCullough, El Mirage  
Kurt Sharp for Tami Ryall, Gilbert  
Cato Esquivel, Goodyear  
#Greg Edwards for Scott Bouchie, Mesa  
Maher Hazine for William Mattingly, City of Peoria  
#Larry Person, Scottsdale  
#Antonio DeLaCruz, Surprise  
Oddvar Tveit, Tempe  
#Mark Hannah, Youngtown  
#Ramona Simpson, Queen Creek  
\*Walter Bouchard, Citizen Representative  
\*Corey Woods, American Lung Association of Arizona  
Grant Smedley, Salt River Project  
Brian O'Donnell, Southwest Gas Corporation  
Mark Hajduk, Arizona Public Service Company  
#Gina Grey, Western States Petroleum Association  
\*Randi Alcott, Valley Metro/RPTA  
\*Dave Berry, Arizona Motor Transport Association  
Jeannette Fish, Maricopa County Farm Bureau  
\*Russell Bowers, Arizona Rock  
Products Association

\*Greater Phoenix Chamber of Commerce  
\*Amanda McGennis, Associated General  
Contractors  
\*Spencer Kamps, Homebuilders Association of  
Central Arizona  
\*Mannie Carpenter, Valley Forward  
Erin Taylor, University of Arizona Cooperative  
Extension  
Beverly Chenausky, Arizona Department of  
Transportation  
\*Diane Arnst, Arizona Department of  
Environmental Quality  
\*Wienke Tax, Environmental Protection Agency  
Jo Crumbaker, Maricopa County Air Quality  
Department  
#Duane Yantorno, Arizona Department of  
Weights and Measures  
\*Ed Stillings, Federal Highway Administration  
\*Judi Nelson, Arizona State University  
Christopher Horan, 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  
Julie Hoffman, Maricopa Association of Governments  
Randy Sedlacek, Maricopa Association of Governments  
Cathy Arthur, Maricopa Association of Governments  
Dean Giles, Maricopa Association of Governments  
Patrisia Magallon, Maricopa Association of  
Governments  
Adam Xia, Maricopa Association of Governments  
Feng Liu, Maricopa Association of Governments  
Taejoo Shin, Maricopa Association of Governments

Dan Caitlin, Fort McDowell Yavapai Nation  
Shane Kiesow, City of Apache Junction  
Michelle Wilson, City of Glendale  
Heather Hodgman, City of Apache Junction  
Scott DiBiase, Pinal County Air Quality  
Leonard Montenegro, Arizona Department of  
Environmental Quality

1. Call to Order

A meeting of the MAG Air Quality Technical Advisory Committee was conducted on January 28, 2010. Doug Kukino, City of Glendale, Chair, called the meeting to order at approximately 1:32 p.m. Jamie McCullough, City of El Mirage; Greg Edwards, City of Mesa; Gina Grey, Western States Petroleum Association; Mark Hannah, Town of Youngtown; Larry Person, City of Scottsdale; Ramona Simpson, Town of Queen Creek; Duane Yantorno, Arizona Department of Weights and Measures; Antonio DeLaCruz, City of Surprise; and Jim Weiss, City of Chandler, attended the meeting via telephone conference call.

2. Call to the Audience

Mr. Kukino stated that, according to the MAG public comment process, members of the audience who wish to speak are requested to fill out comment cards, which are available on the tables adjacent to the doorways inside the meeting room. Citizens are asked not to exceed a three minute time period for their comments. Public comment is provided at the beginning of the meeting for nonagenda items and nonaction agenda items. He noted that no public comment cards had been received.

3. Approval of the December 10, 2009 Meeting Minutes

The Committee reviewed the minutes from the December 10, 2009 meeting. Oddvar Tveit, City of Tempe, moved and Elizabeth Biggins-Ramer, Town of Buckeye, seconded and the motion to approve the December 10, 2009 meeting minutes carried unanimously.

4. 2008 Implementation Status of Committed Measures in the MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area

Cathy Arthur, MAG, provided an update on the 2008 Implementation Status of Committed Measures in the MAG 2007 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area. Ms. Arthur indicated that this item was on the December 10, 2009 Committee agenda; however, no action was taken. She indicated that the item is on the agenda today for action. Ms. Arthur noted that two minor changes have been made to the document since the December meeting. She stated that Measure 51 was previously not in the table since the City of El Mirage is the only entity that committed to that measure. Ms. Arthur added that since that time, MAG obtained the input from El Mirage on Measure 51 and it is now included in the table on page 18. She commented that the information received for the measure indicates a preliminary unpaved road inventory was conducted by El Mirage in 2008. Ms. Arthur added that this inventory was finalized in 2009 and will be updated in the 2009 report.

Ms. Arthur mentioned that the other change to the document occurred on the chart showing the PM-10 concentrations. She stated that the 2008 data had one exceedance day listed. There were actually 12 exceedance days; however, 11 of those days are being considered as natural/exceptional events. Ms. Arthur mentioned that the change is reflected in the chart on page 27.

Ms. Arthur stated that this item is on the agenda for information, discussion, and recommendation to forward the 2008 Implementation Status of Committed Measures in the MAG Five Percent Plan for PM-10 in the Maricopa County Nonattainment Area to the Governor's Office, Legislature, Arizona Department of Environmental Quality (ADEQ) and the Environmental Protection Agency (EPA). Ms. Arthur stated that if the Committee recommends approval, the item will go to the MAG Management Committee, the MAG Regional Council, and subsequently be forwarded to the mentioned agencies.

Brian O'Donnell, Southwest Gas Corporation, inquired if the Committee approved the list of measures. Ms. Arthur responded that the Committee worked hard to develop the measures that were included in the Five Percent Plan for PM-10. She added that the Committee went through a protracted process to refine a suggested list of measures. Ms. Arthur indicated that commitments for those measures were received from the implementing entities and were included in the Five Percent Plan submitted to EPA in December 2007. She mentioned that MAG committed to track the implementation of those measures. Ms. Arthur commented that this report is the 2008 implementation status of those measures. She added that MAG will also report back to the Committee with the implementation status of the measures in 2009 and 2010.

Mr. O'Donnell made a motion to forward the 2008 Implementation Status of Committed Measures in the MAG Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area to the Governor's Office, Legislature, Arizona Department of Environmental Quality and the Environmental Protection Agency. Gaye Knight, City of Phoenix, seconded, and the motion passed unanimously.

5. Update on PM-10 Certified Street Sweeper Projects for FY 2010 CMAQ Funding

Dean Giles, MAG, provided an update on the PM-10 Certified Street Sweeper Projects for FY 2010 Congestion Mitigation and Air Quality Improvement (CMAQ) Funding. Mr. Giles stated that the Committee recommended a prioritized list at the December 10, 2009 meeting to be forwarded to the MAG Management Committee. He added that the list included sweepers for the Town of Gilbert, City of Phoenix, Maricopa County, City of Peoria, City of Tempe, City of Apache Junction and the City of Scottsdale. He added that the MAG Management Committee endorsed the recommendation of the Air Quality Technical Advisory Committee at its January 13, 2010 meeting. Mr. Giles noted that the Prioritized List of PM-10 Certified Street Sweeper Projects for FY 2010 CMAQ funding was approved by the MAG Regional Council at its January 27, 2010 meeting.

Mr. Giles stated that for FY 2010, the new transportation authorization and apportionments have been approved by Congress through February 28, 2010 under a series of continuing resolutions. He added that all of the funding is currently not in place; therefore, MAG will be mailing a letter to the recipients of funding and city/town managers advising them of the availability of funding as MAG is apprised by the Arizona Department of Transportation (ADOT) and Federal Highway Administration.

6. Proposed Revised Eight-Hour Ozone Standard

Lindy Bauer, MAG, provided an update on the Proposed Revised Eight-Hour Ozone Standard. She stated that EPA proposed strengthening the primary eight-hour ozone standard to a level within the range of .060-.070 parts per million (ppm). Ms. Bauer added that the standard is decreasing from the .075 ppm standard. She indicated that EPA also proposed a secondary standard within the range of 7-15 ppm-hours. Ms. Bauer noted that the secondary standard is designed to protect vegetation and fish. She stated that EPA will be taking comments on the proposal through March 22, 2010. Ms. Bauer mentioned that the plans will stay on the same schedule with a due date of December 2013. She stated that according to the notice, the attainment dates would range between 2014 and 2031 depending on the severity of the problem. Ms. Bauer added that looking at the monitoring data, the lowest values for the current three-year average was approximately .063 ppm. She noted that only a few monitors came close to that value so this would be a significant tightening up for the region. Ms. Bauer commented that EPA intends to go final with the standards by August 31, 2010.

Mr. O'Donnell commented that the region attained the .08 ppm standard when the .075ppm standard was announced. He stated that the region should have a chance to implement the measures for the .075 ppm standard before EPA indicates that the region is not in attainment for the lower standard. Ms. Bauer responded that MAG submitted a plan in June 2007 showing that the region could attain the .08 ppm ozone standard; however, EPA did not take action on the plan. She added that the region was a Subpart 1 Area which was legally challenged making the region fall into a grey zone. Ms. Bauer noted that the region attained the .08 ppm standard at the monitors. She stated that the maintenance plan for the .08 ppm standard was submitted to EPA in February 2009 and EPA tightened the standard to .075 ppm in March 2008. She commented that only one monitor was over .075 ppm at the end of the 2009 ozone season; however, in September 2009, EPA announced that the standard was going to be reconsidered. Ms. Bauer indicated that there are areas of the country that have yet to meet the one-hour ozone standard of .12 ppm. She added that the old standards will stick with regions until they are met; however, EPA intends to recall the .075 ppm standard.

Mr. O'Donnell discussed the region being designated under the new standard prior to the measures being fully implemented to meet the old standard. Mr. O'Donnell commented on sending a letter to EPA. Ms. Bauer responded that we need to see where EPA lands on the standard. She added that the measures have been implemented for several years. She indicated that no new measures have been needed for ozone since the region has been incrementally getting cleaner. Ms. Bauer commented that EPA intends to make designations for the new standard in August 2011. She noted that the standard is still proposed. Ms. Bauer indicated that, generally, around the Country there is concern about the standard getting close to background conditions.

Ms. Knight mentioned that she thought the region was designated attainment for the 1997 standard. She inquired if EPA took action on that plan. Ms. Knight added that she thought the Federal Register notice that proposed the .075 ppm standard also determined that the region was in attainment for the .08 standard. Ms. Bauer responded that the region was officially designated attainment for the one-hour ozone standard of .12 ppm. Ms. Knight inquired if that was the 1997 standard. Ms. Bauer responded that the .12 ppm standard was before 1997. She noted that the 1997 standard is .08 ppm. Ms. Bauer added that the 2007 nonattainment plan and the 2009 maintenance plan were submitted for the 1997 standard. She indicated that there is a Federal Register notice where EPA has put the region in the attainment bin to indicate that this region has met the standard; however, there is no official redesignation to attainment. Ms. Bauer noted that the standard has been attained and the Federal Register notice is probably the best source to use.

Ms. Knight mentioned that she thought it was certain that the region would violate the .075 ppm standard and inquired if Ms. Bauer stated that only one monitor violated the standard in 2009. Ms. Bauer responded that is correct. Ms. Knight indicated that the region might meet the .075 ppm standard and now the standard will become more stringent. Ms. Bauer responded that the region does not meet the .075 ppm standard since there is one monitor violating; however, the numbers have been decreasing. Ms. Knight commented that it may be due to the federal fuels and cleaner cars. Ms. Bauer mentioned that the Tier 2 tail pipe standards, heavy-duty engine standards as well as clean fuels have contributed to the region experiencing fewer ozone exceedances.

Duane Yantorno, Arizona Department of Weights and Measures, inquired if there are plans to submit written comments on behalf of MAG with regard to the designations. Ms. Bauer responded that EPA just proposed the standards and MAG does not typically comment on the standards since they are designed to protect public health. She added that MAG staff does not have the expertise in public

health to comment. Ms. Bauer noted that perhaps ADEQ and Maricopa County have submitted comments in the past. Jo Crumbaker, Maricopa County Air Quality Department, stated that the County commented on the last PM proposals; however, the County typically leaves the commenting to ADEQ. Ms. Crumbaker indicated that in some instances the County will choose to comment and be directed by the Board to provide a comment, but it is not consistent.

Jeannette Fish, Maricopa County Farm Bureau, mentioned her frustration with the constantly moving target. She added that it seems that when the region takes one step forward, we are told it is a step away. Ms. Knight stated that when EPA set the .075 ppm standard last year it was the first time they went against the independent Scientific Advisory Board. She added that the numbers selected under the last administration did not match what the Board stated. Ms. Knight noted that under the Federal Clean Air Act, the Board is mandated to look at the standards every five years. She mentioned that she also shares the same frustration that every time the region meets the standard a more stringent standard is added. Ms. Knight indicated that we need to keep in mind that there are a lot of people with asthma and suffering from the air pollution levels. She commented that the Board is composed of scientists and health professionals which look at the research every year. Ms. Knight added that the standard was not consistent with how standards were previously set and it was originally proposed more stringent.

Grant Smedley, Salt River Project, noted that the designations would be based on more recent data. He added that the economy has slowed down significantly and it is unknown what the ozone data may look like in the next few years. Mark Hajduk, Arizona Public Service Company, commented that the plan required modeling for ten years into the future. He inquired about the numbers and concentrations projected in the modeling analysis. Ms. Bauer responded that MAG could bring that information back to the Committee. She added that MAG staff modeled up to year 2025. Ms. Bauer noted that the region has to show that the standard will be met for those years. Mr. Hajduk stated that it would be a good idea to see the modeled concentration levels and where the region stands in the future. Ms. Arthur responded that the numbers are around .08 ppm for the maximum and were not much lower than what was modeled for 2008. Mr. Hajduk commented that it sounded like the readings at the monitors are lower with the exception of one. Ms. Arthur responded that is correct and added that last summer was very mild and there was a recession. She added that it is great that the numbers have come down; however, it is yet to be determined whether it was an aberration.

7. Proposed Additional Funding for an Existing Air Quality Project for the MAG FY 2011 Work Program

Ms. Bauer discussed the proposed additional funding for an existing air quality project for the MAG FY 2011 Work Program. Ms. Bauer stated that MAG is going through the process of developing the MAG FY 2011 Unified Planning Work Program and Annual Budget. She added that \$280,000 is being proposed for the existing Air Quality Technical Assistance On Call Project. Ms. Bauer indicated that this funding will be needed to assist with research, especially in the area of PM-10.

8. Call for Future Agenda Items

Mr. Kukino commented that the Air Quality Technical Advisory Committee 2010 schedule has been provided at each place. He inquired if the information was available for those that were not present at the meeting. Ms. Bauer responded that the schedule was sent out in the December agenda packet and the meetings will also be posted on the MAG website.

Ms. Knight indicated that the Federal Register stated that EPA proposed a new nitrogen dioxide (NO<sub>2</sub>) standard to address emissions along heavily traveled roads. She inquired if a brief status report could be provided on this item and the potential impacts on the region. Ms. Crumbaker responded that the standard is final. She added that the change between the proposal and final was that EPA went from the 99<sup>th</sup> percentile to the 98<sup>th</sup> percentile. Ms. Crumbaker noted that EPA also chose to go with the 100 parts per billion (ppb) one-hour standard. She indicated that the values in the region under the 99<sup>th</sup> percentile for the last three years were 93 ppb and fell to approximately 79 ppb when looking at the 98<sup>th</sup> percentile. Ms. Crumbaker stated that the Greenwood NO<sub>2</sub> monitor is the only monitor that can be considered near road which is about 80 meters away instead of 50 meters. She added that this new siting criteria will be very difficult to meet. Ms. Crumbaker mentioned that the County will work with ADOT and the cities to determine how to get within 50 meters of a major roadway safely. She stated that one regional scale monitor is required for the monitoring; however, the County is required to have two near road monitors since the region has a population greater than 2.5 million. Ms. Crumbaker added that other criteria include near roadway monitoring when a roadway carries more than 250,000 vehicles. She noted that she did not know what the difference will be when moving the monitor from 80 meters to less than 50 meters. Ms. Kukino inquired if Ms. Knight would like to have a discussion at a future meeting. Ms. Knight thanked Ms. Crumbaker and indicated that she would let MAG decide whether this would be a future agenda item for further discussion.

Mr. Kukino announced that the next meeting of the Committee has been tentatively scheduled for February 25, 2010 at 1:30 p.m. With no further comments, the meeting was adjourned at 2:03 p.m.



February 1, 2010

**BY CERTIFIED MAIL  
RETURN RECEIPT REQUESTED**

Lisa Jackson  
Administrator  
U.S. Environmental Protection Agency  
Ariel Rios Building  
1200 Pennsylvania Ave., NW  
Washington, D.C. 20004

**Re: Notice of Intent to File Suit For Failure to Act on State Implementation Plan Submissions**

Dear Administrator Jackson:

This letter is to inform you that WildEarth Guardians intends to sue you and the Environmental Protection Agency over your failure to act on State Implementation Plan ("SIP") submissions as required by Section 110(k)(2) of the Clean Air Act. 42 USC § 7410(k)(2). The SIP submissions related to Arizona's 5% Annual Reasonable Further Progress PM<sub>10</sub> SIP revision for Maricopa County and Apache Junction, Arizona, within Region 9 of the EPA. EPA's failure to perform its mandatory duty means that the people of Metropolitan Phoenix are not at liberty to engage in the activities that they chose, free from the adverse impacts of PM<sub>10</sub>.

We intend to bring a suit 60 days from the date of this letter, or shortly thereafter, under Section 304 of the Clean Air Act, 42 U.S.C. § 7604, against you for your failure to perform a nondiscretionary duty set forth in 42 U.S.C. § 7410(k)(2). The suit will seek injunctive relief, declaratory relief, the cost of litigation, and other relief.

WildEarth Guardians is a nonprofit organization with offices in Denver, Phoenix, and Oakland. WildEarth Guardians is dedicated to protecting and restoring the American West and has members throughout the Western United States who are harmed by the failure of the Administrator and the EPA to follow through with duties under the Clean Air Act to ensure protection of public health and welfare.

Under the Clean Air Act, states are required to submit SIPs to the EPA to implement, maintain, and enforce the National Ambient Air Quality Standards ("NAAQS"). See 42 USC § 7410(a). The Clean Air Act further requires the Administrator to fully or partially approve or disapprove a SIP submission within 12 months after such submission has been deemed complete, either by the Administrator or as a matter of law. See 42 USC § 7410(k)(2).

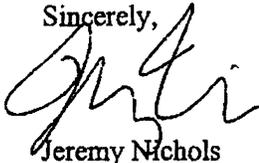
On December 21, 2007, the Arizona Department of Environmental Quality ("ADEQ") submitted a SIP revision to provide for compliance with section 189(d) of the Clean Air Act regarding reasonable further progress toward attaining the PM<sub>10</sub> NAAQS in the Phoenix and Apache Junction PM<sub>10</sub> nonattainment area, located in Maricopa County. The SIP submission should provide for annual reductions of PM<sub>10</sub> or PM<sub>10</sub> precursors of not less than 5% of the most recent emissions inventory, until the NAAQS is attained. The SIP submission was required in response to the EPA's finding that the area failed to attain the PM<sub>10</sub> NAAQS by the required attainment date. EPA provided Robert Ukeiley with a spreadsheet that assigns the following identification to this submittal: MRPM10NONATTPM10122107 & AZAJPM10NONATTPM10122107.

On July 10, 2008 the ADEQ submitted a further SIP revision to provide for compliance with section 189(d) of the Clean Air Act regarding reasonable further progress toward attaining the PM<sub>10</sub> NAAQS in the Maricopa County Nonattainment Area. This submission consisted of Maricopa County Rules 300, 310, 310.01, 314, 316, and Ordinance P-26, as revisions to the Maricopa County portion of the Arizona SIP. This series of new rules and revisions was adopted by Maricopa County in response to air-quality requirements in Senate Bill 1552 and Maricopa Association of Government's Five Percent Plan for PM<sub>10</sub> for the Maricopa County nonattainment area. EPA provided Robert Ukeiley with a spreadsheet that assigns the following identification to these submittals: MR300OPAC071008, MR310.01UNPV071008, MR310DUCO071008, MR314BUHO031208 & MRP26BRPR032608. Note that EPA did not assign a number to Maricopa Rule 316. This does not affect EPA's violation of its mandatory duty or our intent to sue EPA for this violation.

Pursuant to the Clean Air Act, the Administrator was required to act on these SIP submissions within 12 months after such submissions had been deemed complete. Because the Clean Air Act provides that SIP submissions become complete as a matter of law within six months of receipt by the EPA, the Administrator was required to act on these submissions at most within 18 months of receipt. The Administrator has yet to fully or partially approve or disapprove ADEQ's submission yet more than 18 months has passed since ADEQ submitted them to EPA. We therefore intend to bring a suit 60 days from the date of this letter, or shortly thereafter, against you for your failure to fully or partially approve or disapprove these SIP submission within 18 months, a nondiscretionary duty required by the Clean Air Act, 42 USC § 7410(k)(2).

In keeping with the requirements of federal regulations, you are hereby notified that the full name and address of the person giving the notice is WildEarth Guardians, 312 Montezuma Ave., Santa Fe, NM 87501. For purposes of discussing this matter, please contact us at the information below. Thank you.

Sincerely,



Jeremy Nichols  
Climate and Energy Program Director  
WildEarth Guardians  
1536 Wynkoop, Suite 301  
Denver, CO 80202  
(303) 573-4898 x 1303  
[jnichols@wildearthguardians.org](mailto:jnichols@wildearthguardians.org)

cc: Jared Blumenfeld, EPA Region 9 Administrator

CMAQ DETAILED PROJECT LISTING REPORT ( FY 2009 )

15-March-2010

Fiscal Year = '2009' and Status Selection Criteria = 'Approved by State' and State = 'Arizona'

STATE	Apportionments	APPORTION. AMOUNT	OBLIGATED AMOUNT	OBLIG. %	PROJECT AMOUNT	PROJECT TYPE	PROJECT TITLE & DESCRIPTION	VOC (Kg/Day)	CO (Kg/Day)	NOx (Kg/Day)	PM 10 (Kg/Day)	PM 2.5 (Kg/Day)	CONTINUING PROJECT?
Arizona	11/20/1930	\$50,000,000	\$51,968,202	104 %									
Arizona					\$1,612,968	I/M and Other TCMS	Maricopa Association of Governments: PM-10 Certified Street Sweeper Program Regional program for the purchase of PM-10 Certified Street Sweepers				1,561		
Arizona					\$1,440,000	I/M and Other TCMS	Maricopa County: Pave shoulders Pave shoulders to include a bicycle lane on Rio Verde Dr from Forest Rd to 136th St alignment	1	3	1	20		
Arizona					\$702,000	I/M and Other TCMS	Litchfield Park: Pave Unpaved Alleys Various Locations Pave unpaved alleys at various locations				149		
Arizona					\$316,377	I/M and Other TCMS	Salt River Pima - Maricopa Indian Community: Design Pave Dirt Roads Design pave dirt roads within the Salt River Pima - Maricopa Indian Community				93		
Arizona					\$56,000	I/M and Other TCMS	Buckeye: Design Pave Dirt Shoulders Design Pave Dirt Shoulders at Various Locations				37		
Arizona					\$7,745,320	Pedestrian/Bicycle	Scottsdale: Upgrade sidewalks and add bicycle lanes Upgrade sidewalks and add bicycle lanes on Scottsdale Rd from Roosevelt St to Earl Dr	2	24	1	1		
Arizona					\$2,550,000	Pedestrian/Bicycle	Tempe: Construct pedestrian improvements Construct pedestrian improvements on College Ave from Superstition Freeway (US 60) to Apache Blvd	1	1	1	1		
Arizona					\$1,164,057	Pedestrian/Bicycle	Peoria: Design and construct pedestrian improvements Design and construct at-grade pedestrian improvements at 84th Ave from Peoria Ave to Monroe St	1	1	1			

**CMAQ DETAILED PROJECT LISTING REPORT ( FY 2009 )**

15-March-2010

Fiscal Year = '2009' and Status Selection Criteria = 'Approved by State' and State = 'Arizona'

STATE	Apportionments	APPORTION. AMOUNT	OBLIGATED AMOUNT	OBLIG. %	PROJECT AMOUNT	PROJECT TYPE	PROJECT TITLE & DESCRIPTION	VOC (Kg/Day)	CO (Kg/Day)	NOx (Kg/Day)	PM 10 (Kg/Day)	PM 2.5 (Kg/Day)	CONTINUING PROJECT?
Arizona					\$540,000	Pedestrian/Bicycle	Chandler: Install pedestrian actuated crossing signals Install three pedestrian actuated crossing signals on Western Canal bike path at Dobson Rd Alma School Rd and Arizona Ave.	1	1	1	1		
Arizona					\$450,000	Pedestrian/Bicycle	Glendale: Design multi-use path Design multi-use path and underpass with landscaping lighting parking and pedestrian facilities at New River (east bank) from Northern Ave to Bethany Home Rd	1	11	1	1		
Arizona					\$250,000	Pedestrian/Bicycle	Glendale: Design multi-use path Design a 1.5 mile multi-use path along the Grand Canal from Loop 101 to New River	1	13	1	1		
Arizona					\$129,804	Pedestrian/Bicycle	Avondale: Design and construct sidewalk Design and construct sidewalk and landscaping on Buckeye Rd from Avondale Blvd to 117th Ave alignment	1	1	1	1		
Arizona					\$100,000	Pedestrian/Bicycle	Glendale: Design bike lane and multi-use path Design project to widen roadway for a bike lane on 67th Ave to 69th Ave and pave multi-use path in Discovery Park from 79th Ave to 83rd Ave	1	23	1	3		
Arizona					\$24,000	Pedestrian/Bicycle	Maricopa Association of Governments: Valley Metro Bicycle Education Project Bicycle Education Program	13	162	11	11		
Arizona					\$939,998	Shared Ride	Maricopa Association of Governments: Trip Reduction Program Trip Reduction Program	386	4,644	327	324		
Arizona					\$700,092	Shared Ride	Maricopa Association of Governments: Regional Rideshare Program Regional Rideshare Program	269	3,238	228	226		
Arizona					\$317,967	Shared Ride	Maricopa Association of Governments: Telework & Ozone Outreach Program MAG/Valley Metro Telework Outreach and Ozone Education Program	250	3,007	212	210		

**CMAQ DETAILED PROJECT LISTING REPORT ( FY 2009 )**

15-March-2010

Fiscal Year = '2009' and Status Selection Criteria = 'Approved by State' and State = 'Arizona'

STATE	Apportionments	APPORTION. AMOUNT	OBLIGATED AMOUNT	OBLIG. %	PROJECT AMOUNT	PROJECT TYPE	PROJECT TITLE & DESCRIPTION	VOC (Kg/Day)	CO (Kg/Day)	NOx (Kg/Day)	PM 10 (Kg/Day)	PM 2.5 (Kg/Day)	CONTINUING PROJECT?
Arizona					\$138,176	Shared Ride	Maricopa Association of Governments: Travel Reduction Program Capitol Rideshare Program	3	37	3	3		
Arizona					\$2,520,000	Traffic Flow Improvements	Peoria: Construct intersection Construct intersection at 91st Ave and Olive Ave	1	2	1			
Arizona					\$2,220,000	Traffic Flow Improvements	Mesa: Expand fiber optic network Expand fiber optic network and link 11 traffic signals to the TMC	4	-3	2			
Arizona					\$1,822,800	Traffic Flow Improvements	Scottsdale: Construct smart corridor traffic control system Construct smart corridor traffic control system on Scottsdale Rd from Loop 101 Pima Freeway to Indian School Rd	10	-2	4			
Arizona					\$1,370,000	Traffic Flow Improvements	Mesa: Install signal system Install real-time adaptive signal system in the Superstition Springs Mall Area	3	-2	1			
Arizona					\$1,256,000	Traffic Flow Improvements	Phoenix: Intersection improvements Design and construction of intersection improvements at 7th St and McDowell Rd	1	1	1			
Arizona					\$1,000,000	Traffic Flow Improvements	Chandler: Upgrade Traffic Management Center equipment Upgrade retrofit and integrate TMC equipment at Buffalo St and Colorado St	43	212	49			
Arizona					\$1,000,000	Traffic Flow Improvements	Maricopa County: Construct ITS improvements Construct ITS improvements on Bell Rd from Loop 303 Estrella Freeway to Loop 101 Agua Fria Freeway	12	-3	6			
Arizona					\$1,000,000	Traffic Flow Improvements	Surprise: Construct fiber optic interconnection of traffic signals Construct fiber optic interconnection of traffic signals on Greenway Rd from US 60 to Cotton Ln	7	29	8			

**CMAQ DETAILED PROJECT LISTING REPORT ( FY 2009 )**

15-March-2010

Fiscal Year = '2009' and Status Selection Criteria = 'Approved by State' and State = 'Arizona'

STATE	Apportionments	APPORTION. AMOUNT	OBLIGATED AMOUNT	OBLIG. %	PROJECT AMOUNT	PROJECT TYPE	PROJECT TITLE & DESCRIPTION	VOC (Kg/Day)	CO (Kg/Day)	NOx (Kg/Day)	PM 10 (Kg/Day)	PM 2.5 (Kg/Day)	CONTINUING PROJECT?
Arizona					\$852,459	Traffic Flow Improvements	Maricopa County: Establish arterial incident response teams Establish REACT arterial incident response teams in Glendale Peoria and Scottsdale	31	-9	15			
Arizona					\$566,550	Traffic Flow Improvements	Mesa: Upgrade TMC Equipment Upgrade TCM equipment and purchase central components field cameras and VMS	146	622	161			
Arizona					\$450,000	Traffic Flow Improvements	Chandler: Install fiber optic cable for traffic signal interconnection Install fiber optic cable traffic signal interconnection on Chandler Blvd from Delaware St to Gilbert Rd	1	0	1			
Arizona					\$400,000	Traffic Flow Improvements	Phoenix: Downtown Traffic Management System Upgrade the Downtown Traffic Management System software video switches wall and the TMC projector system	5	-1	2			
Arizona					\$300,000	Traffic Flow Improvements	Glendale: Develop ITS Strategic Plan Develop an ITS Strategic Plan document in line with regional ITS planning efforts	22	-5	10			
Arizona					\$296,548	Traffic Flow Improvements	Peoria: Install connections from existing traffic signals to central system Connect existing traffic signals with a hybrid wireless fiber system to the central system	8	40	9			
Arizona					\$294,908	Traffic Flow Improvements	Maricopa Association of Governments: Traffic Signal Optimization Project Traffic Signal Optimization Project	9	-2	4			
Arizona					\$282,700	Traffic Flow Improvements	Chandler: Install integrated signal system Install Chandler Fire/Police Department signal system integration and variable message signs at various locations	1	0	1			

**CMAQ DETAILED PROJECT LISTING REPORT ( FY 2009 )**

15-March-2010

Fiscal Year = '2009' and Status Selection Criteria = 'Approved by State' and State = 'Arizona'

STATE	Apportionments	APPORION. AMOUNT	OBLIGATED AMOUNT	OBLIG. %	PROJECT AMOUNT	PROJECT TYPE	PROJECT TITLE & DESCRIPTION	VOC (Kg/Day)	CO (Kg/Day)	NOx (Kg/Day)	PM 10 (Kg/Day)	PM 2.5 (Kg/Day)	CONTINUING PROJECT?
Arizona					\$150,000	Traffic Flow Improvements	Glendale: Design of fiber optic cable conduit and Dynamic Message Signs Design for installation of fiber optic cable conduit and DMS at 59th Ave from Northern Ave to Bethany Home Rd; Glendale Ave from 51st Ave to 67th Ave; and Peoria Ave from 47th Ave to 67th Ave	8	-9	3			
Arizona					\$150,000	Traffic Flow Improvements	Glendale: Design for fiber optic cable conduit and Closed Circuit Television Design for fiber optic cable conduit and CCTV at various locations on Cactus Rd Thunderbird Rd and Greenway Rd.	3	-1	1			
Arizona					\$11,406,416	Transit	Phoenix: Purchase 29 buses Purchase 29 buses for regional fixed route service	-32	11	27	32		
Arizona					\$1,856,002	Transit	Valley Metro Rail: Preliminary Engineering/FEIS for Fixed Guideway Corridor Preliminary Engineering/FEIS for Fixed Guideway Corridor along Main Street in downtown Mesa	1	6	1	1		
Arizona					\$1,086,000	Transit	Chandler: Construct regional park-and-ride Repayment for the construction of a regional park-and-ride near Loop 202 and Arizona Avenue	2	29	2	2		
Arizona					\$1,000,000	Transit	Valley Metro Rail: Alternatives Analysis for Light Rail Transit Alternatives Analysis for Light Rail Transit along Interstate-10 and Loop 101	1	6	1	1		
Arizona					\$473,060	Transit	Glendale: Pre-design for regional park-and-ride Pre-design and environmental documentation activities for a regional park-and-ride near Loop 101 and Bell Rd	6	69	5	5		
Arizona					\$438,000	Transit	Goodyear: Purchase five buses Purchase five buses for new neighborhood circulator services	6	71	2	4		

**CMAQ DETAILED PROJECT LISTING REPORT ( FY 2009 )**

15-March-2010

Fiscal Year = '2009' and Status Selection Criteria = 'Approved by State' and State = 'Arizona'

STATE	Apportionments	APPORION. AMOUNT	OBLIGATED AMOUNT	OBLIG. %	PROJECT AMOUNT	PROJECT TYPE	PROJECT TITLE & DESCRIPTION	VOC (Kg/Day)	CO (Kg/Day)	NOx (Kg/Day)	PM 10 (Kg/Day)	PM 2.5 (Kg/Day)	CONTINUING PROJECT?
Arizona					\$300,000	Transit	Valley Metro Rail: Expand light rail service Expand METRO light rail hours of service	3	34	2	2		
Arizona					\$300,000	Transit	Valley Metro Rail: Ticket vending machines/fare validation systems Acquire additional METRO ticket vending machines/fare validation systems at stations	1	6	1	1		
Nationwide Totals . . . .		\$50,000,000	\$51,968,202	104 %									

States without ozone or CO Nonattainment or maintenance areas    QA - Qualitative Assessment    PR - Previously Reported    c - Changed benefit from previous year report

**FACT SHEET**  
**FINAL REVISIONS TO THE NATIONAL AMBIENT AIR QUALITY STANDARDS**  
**FOR NITROGEN DIOXIDE**

**SUMMARY OF ACTION**

- On January 22, 2010, EPA strengthened the health-based National Ambient Air Quality Standard (NAAQS) for nitrogen dioxide (NO<sub>2</sub>). The new standard will protect public health, including the health of sensitive populations – people with asthma, children and the elderly.
- EPA is setting a new 1-hour NO<sub>2</sub> standard at the level of 100 parts per billion (ppb). This level defines the maximum allowable concentration anywhere in an area. It will protect against adverse health effects associated with short-term exposure to NO<sub>2</sub>, including respiratory effects that can result in admission to a hospital.
- In addition to establishing an averaging time and level, EPA also is setting a new “form” for the standard. The form is the air quality statistic used to determine if an area meets the standard. The form for the 1-hour NO<sub>2</sub> standard, is the 3-year average of the 98<sup>th</sup> percentile of the annual distribution of daily maximum 1-hour average concentrations.
- EPA also is retaining, with no change, the current annual average NO<sub>2</sub> standard of 53 ppb.
- This suite of standards will protect public health by limiting people’s exposures to short-term peak concentrations of NO<sub>2</sub> – which primarily occur near major roads – and by limiting community-wide NO<sub>2</sub> concentrations to levels below those that have been linked to respiratory-related emergency department visits and hospital admissions in the United States.
- To determine compliance with the new standard, EPA is establishing new ambient air monitoring and reporting requirements for NO<sub>2</sub>.
  - In urban areas, monitors are required near major roads as well as in other locations where maximum concentrations are expected.
  - Additional monitors are required in large urban areas to measure the highest concentrations of NO<sub>2</sub> that occur more broadly across communities.
  - Working with the states, EPA will site a subset of monitors in locations to help protect communities that are susceptible and vulnerable to NO<sub>2</sub>-related health effects.
- The addition of a new 1-hour NO<sub>2</sub> standard and changes to the NO<sub>2</sub> monitoring network are consistent with the recommendations of the majority of the Clean Air Scientific Advisory Committee (CASAC). CASAC provides independent advice to the EPA Administrator on the relevant scientific and technical information and on the standards.
- These changes will not affect the secondary NO<sub>2</sub> standard, set to protect public welfare. EPA is considering the need for changes to the secondary standard under a separate review.

## **NO<sub>2</sub> AND PUBLIC HEALTH**

- Current scientific evidence links short-term NO<sub>2</sub> exposures, ranging from 30 minutes to 24 hours, with an array of adverse respiratory effects including increased asthma symptoms, more difficulty controlling asthma, and an increase in respiratory illnesses and symptoms.
- Studies also show a connection between short-term exposure and increased visits to emergency departments and hospital admissions for respiratory illnesses, particularly in at-risk populations including children, the elderly, and asthmatics.
- NO<sub>2</sub> concentrations near major roads are appreciably higher than those measured at monitors in the current network. Concentrations in heavy traffic or on freeways can be twice as high as levels measured in residential areas or near smaller roads. Monitoring studies indicate that near-road (within about 50 meters) concentrations of NO<sub>2</sub> can be 30 to 100 percent higher than concentrations away from major roads.
- EPA's NAAQS for NO<sub>2</sub> is designed to protect against exposure to the entire group of nitrogen oxides (NO<sub>x</sub>). NO<sub>2</sub> is the component of greatest concern and is used as the indicator for the larger group of NO<sub>x</sub>. The sum of nitric oxide (NO) and NO<sub>2</sub> is commonly called NO<sub>x</sub>. Other nitrogen oxides include nitrous acid and nitric acid.
- Emissions that lead to the formation of NO<sub>2</sub> generally also lead to the formation of other NO<sub>x</sub>. Control measures that reduce NO<sub>2</sub> can generally be expected to reduce population exposures to all gaseous NO<sub>x</sub>. This may have the co-benefit of reducing the formation of ozone and fine particles both of which pose significant public health threats.
  - NO<sub>x</sub> react with ammonia, moisture, and other compounds to form small particles. These small particles penetrate deeply into sensitive parts of the lungs and can cause or worsen respiratory disease, such as emphysema and bronchitis, and can aggravate existing heart disease, leading to increased hospital admissions and premature death. EPA's NAAQS for particulate matter (PM) are designed to provide protection against these health effects.
  - NO<sub>x</sub> react with volatile organic compounds to form ozone. Children, the elderly, people with lung diseases such as asthma, and people who work or exercise outside are at risk for adverse health effects from ozone. These effects include reduced lung function and increased respiratory symptoms, more respiratory-related emergency department visits and hospital admissions, and increased risk of premature death from heart or lung disease. EPA's NAAQS for ozone are designed to provide protection against these health effects.

## **REVISING THE NO<sub>2</sub> MONITORING NETWORK**

- EPA is setting new requirements for the placement of new NO<sub>2</sub> monitors in urban areas. These include:
  - Near Road Monitoring**
    - At least one monitor must be located near a major road in any urban area with a population greater than or equal to 500,000 people. A second monitor is required

near another major road in areas with either:

- (1) population greater than or equal to 2.5 million people, or
- (2) one or more road segment with an annual average daily traffic (AADT) count greater than or equal to 250,000 vehicles.

These NO<sub>2</sub> monitors must be placed near those road segments ranked with the highest traffic levels by AADT, with consideration given to fleet mix, congestion patterns, terrain, geographic location, and meteorology in identifying locations where the peak concentrations of NO<sub>2</sub> are expected to occur. Monitors must be placed no more than 50 meters (about 164 feet) away from the edge of the nearest traffic lane.

- EPA estimates that the new NO<sub>2</sub> monitoring requirements will result in a network of approximately 126 NO<sub>2</sub> monitoring sites near major roads in 102 urban areas.

#### **Community Wide Monitoring**

- A minimum of one monitor must be placed in any urban area with a population greater than or equal to 1 million people to assess community-wide concentrations.
- An additional 53 monitoring sites will be required to assess community-wide levels in urban areas.
- Some NO<sub>2</sub> monitors already in operation may meet the community-wide monitor siting requirements.

#### **Monitoring to Protect Susceptible and Vulnerable Populations**

- Working with the states, EPA Regional Administrators will site at least 40 additional NO<sub>2</sub> monitors to help protect communities that are susceptible and vulnerable to NO<sub>2</sub>-related health effects.

- All new NO<sub>2</sub> monitors must begin operating no later than January 1, 2013.
- EPA Regional Administrators have the authority to require additional monitoring in certain circumstances, such as in areas impacted by major industrial point sources or a combination of sources where there is an indication that the standards may be exceeded. The Regional Administrators also have the authority to require additional near-road monitoring in urban areas where multiple peak concentration areas may be caused by a variety of mobile source factors including fleet mix, traffic congestion patterns, or terrain.

### **IMPLEMENTING THE NEW NO<sub>2</sub> STANDARD**

- In this final rule, EPA is outlining the Clean Air Act requirements that states must address to implement the new NO<sub>2</sub> air quality standard.
- The new standard must be taken into account when permitting new or modified major sources of NO<sub>x</sub> emissions such as fossil-fuel fired power plants, boilers, and a variety of other manufacturing operations.
- EPA expects to identify or “designate” areas as attaining or not attaining the new standard by January 2012, within two years of establishing the new NO<sub>2</sub> standard. These designations

will be based on the existing community-wide monitoring network. Areas with monitors recording violations of the new standards will be designated “nonattainment.” EPA anticipates designating all other areas of the country “unclassifiable” to reflect the fact that there is insufficient data available to determine if those areas are meeting the revised NAAQS.

- Once the expanded network of NO<sub>2</sub> monitors is fully deployed and three years of air quality data have been collected, EPA intends to redesignate areas in 2016 or 2017, as appropriate, based on the air quality data from the new monitoring network.

## **BACKGROUND**

- The Clean Air Act requires EPA to set national ambient air quality standards for pollutants considered harmful to public health and the environment. National standards exist for six pollutants: nitrogen dioxide, ozone, particulate matter, carbon monoxide, sulfur dioxide, and lead.
- For each of these pollutants, the Clean Air Act requires EPA to set the health-based or “primary” standards at a level judged to be “requisite to protect the public health with an adequate margin of safety” and establish secondary standards that are “requisite” to protect public welfare from “any known or anticipated adverse effects associated with the pollutant in the ambient air” including effects on vegetation, soils, water, wildlife, buildings and national monuments, and visibility. EPA is considering the need for changes to the secondary NO<sub>2</sub> standard under a separate review.
- The law also requires EPA to review the standards and their scientific basis every five years to determine whether revisions are appropriate.
- Nitrogen dioxide is one of a group of highly reactive gasses known as “oxides of nitrogen.” NO<sub>2</sub> forms quickly from emissions from cars, trucks and buses, power plants, and off-road equipment. In addition to contributing to the formation of ground-level ozone and fine particle pollution, NO<sub>2</sub> is linked with a number of adverse effects on the respiratory system.
- EPA first established standards for NO<sub>2</sub> in 1971, setting both a primary standard (to protect health) and a secondary standard (to protect the public welfare) at 53 ppb, averaged annually. Prior to the current review, the Agency reviewed the standards twice since 1971, but chose not to revise the standards at the conclusion of each review.
- All areas presently meet the 1971 NO<sub>2</sub> NAAQS, with annual NO<sub>2</sub> concentrations measured at community-wide monitors well below the level of the standard (53 ppb). Annual average ambient NO<sub>2</sub> concentrations, as measured at community-wide monitors, have decreased by more than 40 percent since 1980. Currently, the annual average NO<sub>2</sub> concentrations range from approximately 10-20 ppb.
- EPA expects NO<sub>2</sub> concentrations to continue decreasing as a number of mobile source regulations take effect. Tier 2 standards for light-duty vehicles began phasing in during 2004, and new NO<sub>x</sub> standards for heavy-duty engines are phasing in between 2007 and 2010

model years. Current air quality monitoring data reflect only a few years of vehicles entering the fleet that meet these stricter NO<sub>x</sub> tailpipe standards.

#### **FOR MORE INFORMATION**

- To download a copy of the final rule, go to EPA's Web site at: <http://www.epa.gov/air/nitrogenoxides>.
- This final rule and other background information are also available either electronically at <http://www.regulations.gov>, EPA's electronic public docket and comment system, or in hardcopy at the EPA Docket Center's Public Reading Room.
- The Public Reading Room is located in the EPA Headquarters, Room Number 3334 in the EPA West Building, located at 1301 Constitution Avenue, NW, Washington, DC. Hours of operation are 8:30 a.m. to 4:30 p.m. eastern standard time, Monday through Friday, excluding Federal holidays.
- Visitors are required to show photographic identification, pass through a metal detector, and sign the EPA visitor log. All visitor materials will be processed through an X-ray machine as well. Visitors will be provided a badge that must be visible at all times.
- Materials for this action can be accessed using Docket ID No. EPA-HQ-OAR-2006-0922.

# Final Revisions to the Primary National Ambient Air Quality Standard for Nitrogen Dioxide (NO<sub>2</sub>)



## *General Overview*

Office of Air and Radiation  
Office of Air Quality Planning and Standards  
January 2010

## Overview of the Final Rule

- On January 22, 2010 EPA strengthened the primary national ambient air quality standard (NAAQS) for nitrogen dioxide (NO<sub>2</sub>) to increase protection of public health by:
  - adding a *1-hour* NO<sub>2</sub> standard at 100 parts per billion (ppb); and
  - retaining the *annual* average NO<sub>2</sub> standard at a level of 53 ppb
- To determine compliance with the revised NO<sub>2</sub> standard, EPA also is making changes to the NO<sub>2</sub> air quality monitoring network requirements.
  - Monitoring is needed to measure:
    - Peak, short-term concentrations – primarily near major roads in urban areas
    - Highest concentrations of NO<sub>2</sub> that occur over wider community areas, and
    - Concentrations impacting susceptible and vulnerable groups

## Overview of the Final Rule (cont.)

- These revisions are consistent with recommendations of the majority of the Clean Air Scientific Advisory Committee (CASAC) panel.
- This action does **not** impact the secondary NO<sub>2</sub> standard, set to protect public welfare.
  - It is an annual average standard set at 53 ppb
  - Under a separate review, EPA is considering the need for changes to the secondary NO<sub>2</sub> standard
- For more information go to <http://www.epa.gov/air/nitrogenoxides>

## Final NO<sub>2</sub> Standards

- EPA determined that the existing primary annual average NO<sub>2</sub> standard of 53 ppb alone is not sufficient to protect public health with an adequate margin of safety
- EPA is setting a new 1-hour NO<sub>2</sub> that defines the maximum allowable concentration anywhere in an area - primarily near major roads
  - Set at a level of 100 ppb
  - Expressed as the 3-year average of the 98th percentile of the annual distribution of daily maximum 1-hour average concentrations
- EPA is retaining the current annual average NO<sub>2</sub> standard of 53 ppb
- This suite of primary standards will:
  - Limit short-term exposures to peak NO<sub>2</sub> concentrations, which often occur near major roads and could worsen asthma symptoms
  - Maintain community-wide NO<sub>2</sub> concentrations below levels associated with respiratory-related emergency department visits and hospital admissions

# Updating the Monitoring Network

- The monitoring networks for NAAQS pollutants focus on monitoring in locations of **maximum concentrations**
- EPA is requiring changes to the monitoring network that will capture short-term NO<sub>2</sub> concentrations such as those that occur near roads, community-wide NO<sub>2</sub> concentrations, and low income or minority at-risk communities
  - **Near Road**
    - At least one monitor would be located near a major road in any urban area with a population greater than or equal to 500,000 people.
    - A second monitor would be required near a major road in areas with either:
      - population greater than or equal to 2.5 million people, or
      - one or more road segments with an annual average daily traffic count greater than or equal to 250,000 vehicles
  - **Community-Wide**
    - A minimum of one monitor would be placed in any urban area with a population greater than or equal to 1 million people to assess community-wide concentrations
  - **Susceptible and Vulnerable Communities**
    - Working with the states, EPA Regional Administrators will site at least 40 additional NO<sub>2</sub> monitors to help protect communities that are susceptible and vulnerable to NO<sub>2</sub> -related health effects

# Updating the Monitoring Network

- EPA is requiring all new NO<sub>2</sub> monitors to begin operating no later than January 1, 2013
- EPA estimates the revised NO<sub>2</sub> monitoring requirements will lead to:
  - 126 NO<sub>2</sub> monitoring sites near major roads in 102 urban areas.
  - 53 additional monitoring sites to assess community-wide levels across wider urban areas.
  - 40 monitors in low income or minority at-risk communities.

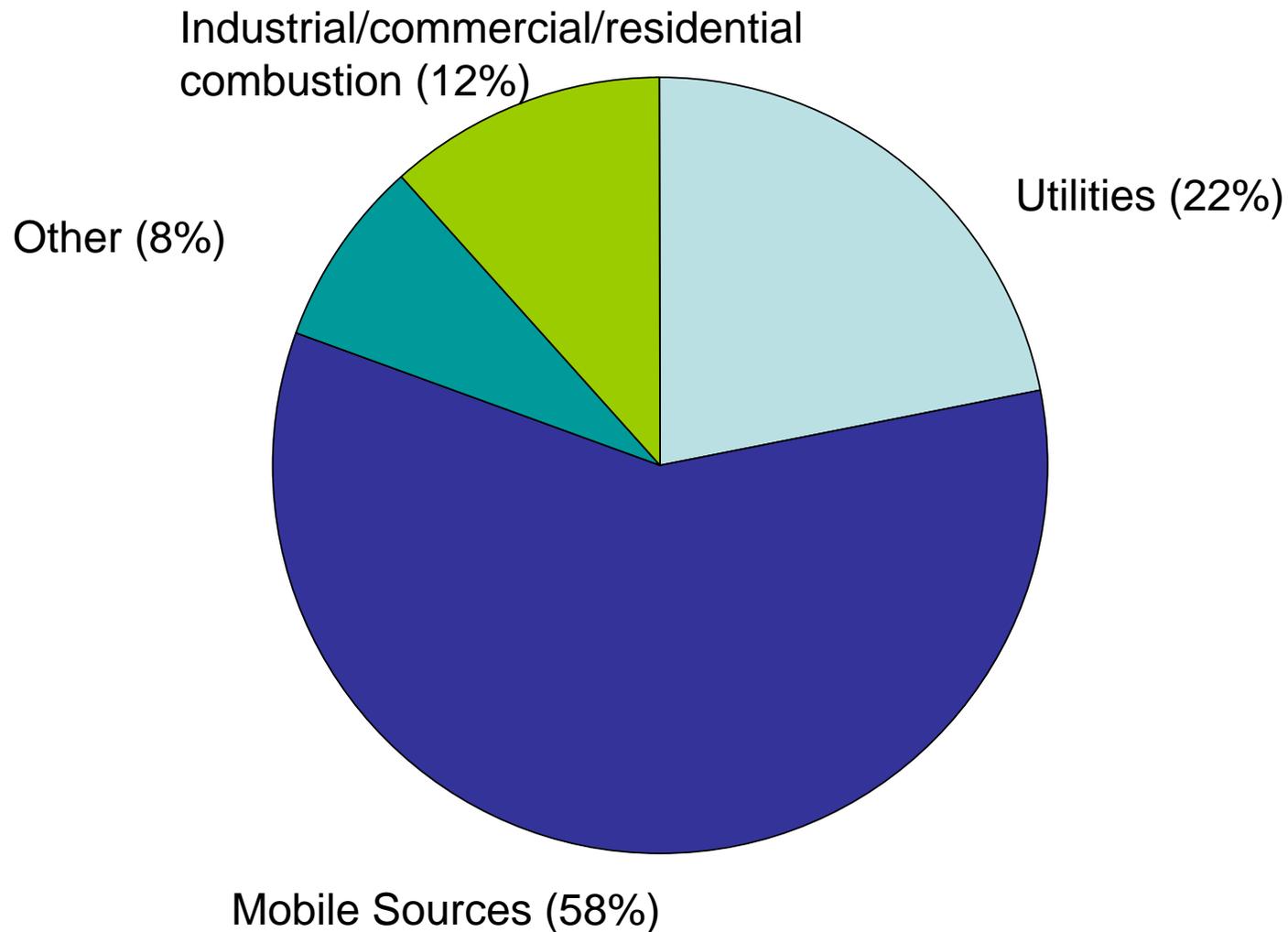
## Setting the Air Quality Standard for NO<sub>2</sub>

- The Clean Air Act requires EPA to set two types of national ambient air quality standards (NAAQS) for “criteria” air pollutants:
  - *Primary standards* to protect public health with an adequate margin of safety
  - *Secondary standards* to protect public welfare (visibility, wildlife, crops, vegetation, national monuments and buildings)
- EPA has set NAAQS for six common air pollutants:
  - Nitrogen dioxide
  - Carbon monoxide
  - Lead
  - Particulate matter
  - Ground-level ozone (smog)
  - Sulfur dioxide
- The law requires EPA to review the scientific information and the standards for each pollutant every five years, and to obtain advice from the Clean Air Scientific Advisory Committee (CASAC) on each review
- Different considerations apply to setting NAAQS than to achieving them
  - **Setting NAAQS:** based on scientific evidence of health and environmental effects
  - **Achieving NAAQS:** account for cost, technical feasibility, time needed to attain
- EPA set the annual average NO<sub>2</sub> standard of 53 ppb in 1971
  - EPA reviewed the NO<sub>2</sub> standard in 1985 and 1996 and decided to retain the 53 ppb annual average standard

## NO<sub>2</sub> is the Indicator for Entire NO<sub>x</sub> Group of Gases

- NO<sub>2</sub> is one of a group of highly reactive gasses known as oxides of nitrogen (NO<sub>x</sub>)
  - Other oxides of nitrogen include nitrous acid and nitric acid
- NO<sub>2</sub> is the component of NO<sub>x</sub> of greatest interest and serves as the indicator for the entire NO<sub>x</sub> family
- NO<sub>x</sub> forms when fuel is burned at high temperatures
- Control measures that reduce NO<sub>2</sub> can generally be expected to reduce population exposures to all NO<sub>x</sub> gases
  - This may have the important co-benefit of reducing the formation of ozone and fine particles both of which pose significant public health threats

# Sources of NO<sub>x</sub> Pollution



## Reducing NO<sub>x</sub> Pollution in the U.S.

- All areas in the U.S. comply with the current (1971) NO<sub>2</sub> standards
  - Annual average ambient NO<sub>2</sub> concentrations, as measured at community-wide monitors, have decreased by more than 40% since 1980
  - The range of current annual average NO<sub>2</sub> concentrations is approximately 10-20 ppb
- EPA, states and tribes have been working together since the 1970's to reduce emissions of NO<sub>x</sub> from a range of sources. Key efforts include:
  - Emission Standards for Motor Vehicles and Power Plants
  - Regulating Regional Transport of NO<sub>x</sub>
- EPA anticipates NO<sub>x</sub> concentrations will continue to decrease as a result of mobile source regulations
  - Tier 2 standards for light-duty vehicles began phasing in in 2004, and new NO<sub>x</sub> standards for heavy-duty engines are phasing in between 2007 and 2010 model years
  - As these standards continue to be phased in, NO<sub>x</sub> from motor vehicles are expected to be lower

## New Health Evidence in this Review

- Current scientific evidence links short-term NO<sub>2</sub> exposures, ranging from 30 minutes to 24 hours, with an array of adverse respiratory effects including increased asthma symptoms, worsened control of asthma, and an increase in respiratory illnesses and symptoms.
  - These health effects have been associated with exposure to the range of NO<sub>2</sub> levels across an area, which includes both the higher short-term exposures than can occur on or near major roadways, and the lower concentrations that can occur away from such roadways.
- Studies also show a connection between short-term exposure and increased visits to emergency departments and hospital admissions for respiratory illnesses, particularly in at-risk populations including children, the elderly, and asthmatics.

## Near and On Roadway NO<sub>2</sub> Exposures

- NO<sub>2</sub> concentrations on or near major roads are appreciably higher than those measured at monitors in the current network
  - In-vehicle concentrations can be 2-3 times higher than measured at nearby community-wide monitors
  - Near-roadway concentrations have been measured to be approximately 30 to 100% higher than those measured away from major roads
- Individuals who spend time on or near major roads can experience short-term NO<sub>2</sub> exposures considerably higher than measured by the current network, which are of particular concern for at-risk populations, including people with asthma, children, and the elderly.

## CASAC Recommendations

- The Clean Air Scientific Advisory Committee (CASAC) provides independent advice to the EPA Administrator on the NAAQS
- The majority of the CASAC panel supported EPA's proposal to:
  - Focus on protecting against short-term maximum concentrations in an area
  - Set a 1-hour standard at a level no higher than 100 ppb
- In light of evidence suggesting an association between *long-term exposures* to NO<sub>2</sub> and adverse health effects, CASAC also recommended retaining the current annual standard of 53 ppb
  - Evidence is too limited to suggest any change to the level of the annual average standard

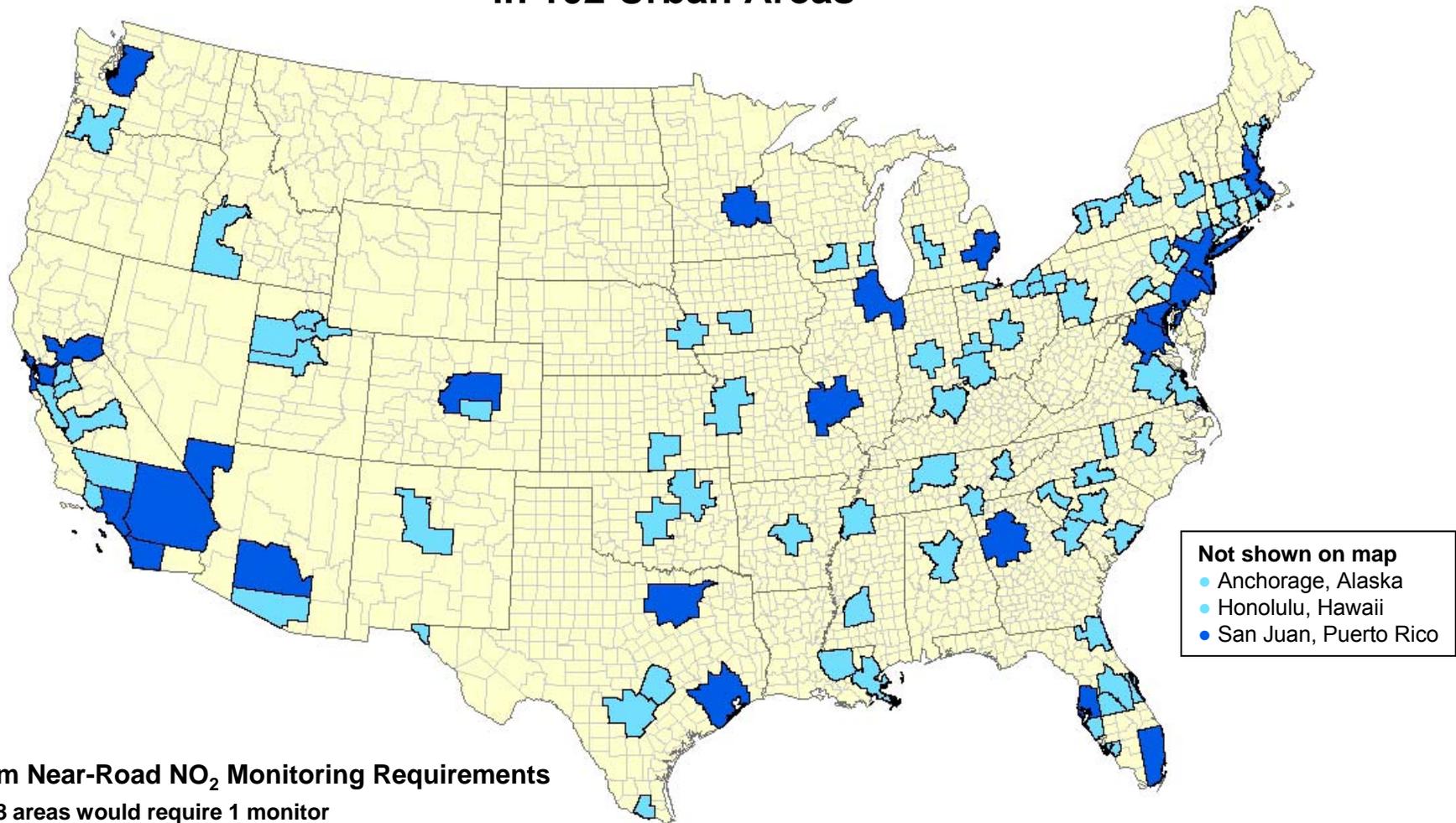
## Nitrogen Oxides Also Contribute to the Formation of Fine Particle Pollution and Ozone

- NO<sub>x</sub> react with ammonia, moisture, and other compounds to form small particles, exposure to which results in health effects including:
  - Premature death
  - Effects on breathing and the respiratory system,
  - Damage to lung tissue,
  - Small particles that penetrate deeply into sensitive parts of the lungs and can cause or worsen respiratory disease, such as emphysema and bronchitis, and aggravate existing heart disease
- NO<sub>x</sub> is also a precursor of ground-level ozone
  - Ozone is formed when NO<sub>x</sub> and volatile organic compounds (VOC) react in the presence of heat and sunlight
  - Children, the elderly, people with lung diseases such as asthma, and people who work or exercise outside are susceptible to adverse effects of ozone such as damage to lung tissue and reduction in lung function

## Implementation Schedule

Milestone	Date
State Designation Recommendations to EPA	January 2011: One year following promulgation (Based on existing network data)
Designations	January 2012: EPA designates all/most areas as "unclassifiable" (because near road monitors not in place)
New NO <sub>2</sub> Monitoring Network	January 1, 2013: All monitors operating
Next NO <sub>2</sub> NAAQS Review Completed	January 2015: Anticipated time frame
Nonattainment Re- Designations (discretionary)	January 2016/2017 (depending on date that sites become operational)
Attainment Date	January 2021/2022 (5 years after date of nonattainment designations)

## EPA Plans to Monitor NO<sub>2</sub> Concentrations Near Roads in 102 Urban Areas



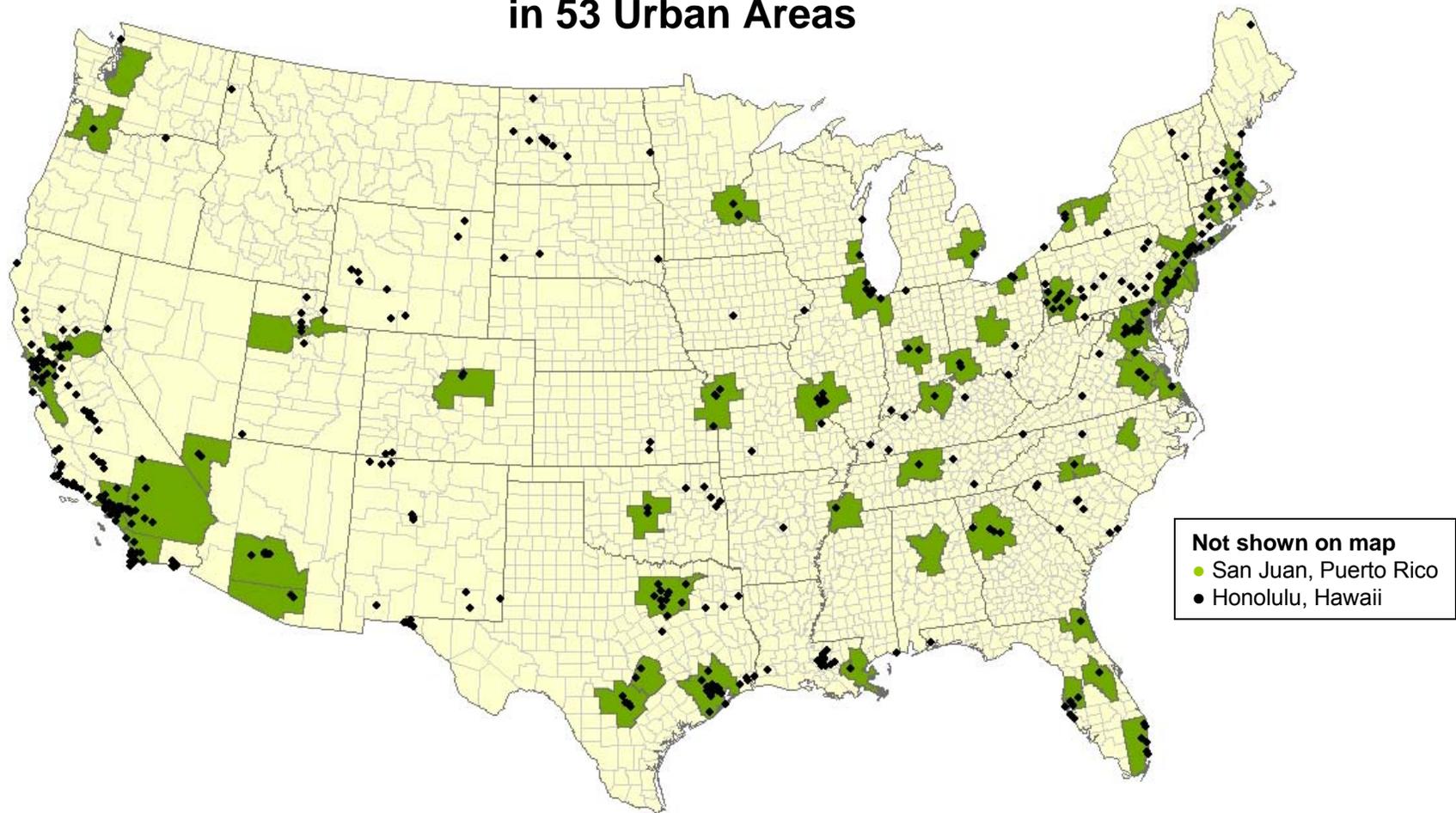
### Minimum Near-Road NO<sub>2</sub> Monitoring Requirements

- ◆ 78 areas would require 1 monitor  
(≥ 500,000 population)
- ◆ 24 areas would require 2 monitors  
(≥ 2.5 million population or road segments with annual average daily traffic counts ≥ 250,000 vehicles)

126 total monitors

*Approximately 40 additional monitors will be placed in locations to help protect communities that are susceptible and vulnerable to NO<sub>2</sub>-related health effects*

## EPA to Monitor NO<sub>2</sub> Concentrations Community-Wide in 53 Urban Areas



### Minimum Community-wide NO<sub>2</sub> Monitoring Requirements

- ◆ 53 areas would require 1 monitor  
(≥ 1 million population)
- 418 existing NO<sub>2</sub> monitoring sites in 2008  
Many of these sites would satisfy the proposed community-wide monitoring requirements.

**Design Values (Average 1-Hour 98th Percentiles  
over 3 Years) by County for Nitrogen Dioxide  
(Based on Monitored Air Quality from 2006-2008)  
(Includes only counties with monitors)**

	Does not violate
	Violates 100 ppb

<b>State</b>	<b>County</b>	<b>2006-2008 Design Value (average 98th percentile)</b>
Arizona	Maricopa	79
Arizona	Pima	48
Arkansas	Crittenden	51
Arkansas	Pulaski	45
California	Alameda	49
California	Contra Costa	44
California	Fresno	63
California	Imperial	73
California	Kern	64
California	Los Angeles	84
California	Madera	41
California	Marin	45
California	Mendocino	32
California	Merced	44
California	Monterey	35
California	Napa	41
California	Orange	73
California	Placer	57
California	Riverside	65
California	Sacramento	56
California	San Bernardino	77
California	San Diego	87
California	San Francisco	56
California	San Joaquin	60
California	San Luis Obispo	44
California	San Mateo	48
California	Santa Barbara	36
California	Santa Clara	56
California	Santa Cruz	26
California	Solano	44
California	Sonoma	39

<b>State</b>	<b>County</b>	<b>2006-2008 Design Value (average 98th percentile)</b>
California	Stanislaus	50
California	Sutter	50
California	Tulare	61
California	Ventura	46
California	Yolo	38
Colorado	Adams	75
Colorado	Denver	81
Colorado	La Plata	16
Connecticut	Fairfield	54
Connecticut	Hartford	47
Connecticut	New Haven	61
District Of Columbia	District of Columbia	60
Florida	Broward	38
Florida	Duval	44
Florida	Escambia	31
Florida	Hillsborough	39
Florida	Miami-Dade	46
Florida	Orange	41
Florida	Pinellas	41
Florida	Sarasota	26
Georgia	DeKalb	61
Georgia	Fulton	68
Georgia	Rockdale	28
Hawaii	Honolulu	25
<b>Illinois</b>	<b>Cook</b>	<b>116</b>
Illinois	Saint Clair	50
Indiana	Hendricks	40
Indiana	Marion	45
Iowa	Scott	40
Kansas	Sedgwick	45
Kansas	Sumner	26
Kansas	Wyandotte	58
Kentucky	Fayette	52
Kentucky	Jefferson	51
Kentucky	McCracken	42
Louisiana	Ascension	44
Louisiana	Calcasieu	36
Louisiana	East Baton Rouge	57
Louisiana	Iberville	40
Louisiana	Livingston	21
Louisiana	West Baton Rouge	52

<b>State</b>	<b>County</b>	<b>2006-2008 Design Value (average 98th percentile)</b>
Maine	Aroostook	25
Massachusetts	Essex	41
Massachusetts	Hampden	48
Massachusetts	Hampshire	31
Massachusetts	Suffolk	56
Massachusetts	Worcester	43
Michigan	Wayne	48
Minnesota	Anoka	44
Missouri	Clay	37
Missouri	Greene	49
Missouri	Jackson	58
Missouri	Saint Charles	34
Missouri	Sainte Genevieve	18
Missouri	Saint Louis	47
Missouri	St. Louis City	59
New Hampshire	Hillsborough	44
New Hampshire	Rockingham	40
New Jersey	Essex	65
New Jersey	Mercer	44
New Jersey	Middlesex	51
New Jersey	Morris	41
New Jersey	Union	78
New Mexico	Bernalillo	58
New Mexico	Dona Ana	53
New Mexico	Eddy	29
New Mexico	Lea	45
New Mexico	Sandoval	45
New Mexico	San Juan	46
New York	Bronx	70
New York	Erie	82
New York	Nassau	58
New York	Queens	67
New York	Suffolk	43
North Dakota	Burke	14
North Dakota	Burleigh	36
North Dakota	Cass	38
North Dakota	Mercer	22
North Dakota	Oliver	22
Ohio	Cuyahoga	59
Ohio	Hamilton	57
Oklahoma	Cherokee	34

<b>State</b>	<b>County</b>	<b>2006-2008 Design Value (average 98th percentile)</b>
Oklahoma	Oklahoma	53
Pennsylvania	Allegheny	62
Pennsylvania	Beaver	45
Pennsylvania	Blair	51
Pennsylvania	Cambria	44
Pennsylvania	Dauphin	46
Pennsylvania	Erie	51
Pennsylvania	Indiana	32
Pennsylvania	Lackawanna	45
Pennsylvania	Lancaster	42
Pennsylvania	Lawrence	46
Pennsylvania	Lehigh	44
Pennsylvania	Luzerne	42
Pennsylvania	Montgomery	51
Pennsylvania	Northampton	43
Pennsylvania	Perry	22
Pennsylvania	Philadelphia	64
Pennsylvania	Washington	48
Pennsylvania	Westmoreland	40
Pennsylvania	York	52
South Dakota	Jackson	6
Tennessee	Bradley	35
Tennessee	Davidson	54
Texas	Bexar	54
Texas	Brazoria	38
Texas	Dallas	58
Texas	Denton	37
Texas	Ellis	45
Texas	El Paso	67
Texas	Gregg	30
Texas	Harris	62
Texas	Harrison	21
Texas	Hunt	32
Texas	Jefferson	42
Texas	Kaufman	31
Texas	Montgomery	36
Texas	Orange	36
Texas	Smith	23
Texas	Tarrant	60
Texas	Travis	26
Utah	Davis	65

<b>State</b>	<b>County</b>	<b>2006-2008 Design Value (average 98th percentile)</b>
Utah	Salt Lake	64
Vermont	Chittenden	44
Vermont	Rutland	42
Virginia	Arlington	52
Virginia	Charles	61
Virginia	Fairfax	51
Virginia	Loudoun	43
Virginia	Prince William	34
Virginia	Richmond City	56
Wisconsin	Milwaukee	47
Wyoming	Sublette	7

**Notes:**

1. Data are shown for monitors that met the following criteria: 75% of the day has valid hourly values, 75% of the days in a quarter are valid, and all 4 quarters for each of the three years are valid.

2. EPA will not designate areas as non-attainment on these data, but likely on 2008 - 2010 data which we expect to show improved air quality.

3. Monitored air quality data is available from the AQS system at <http://www.epa.gov/ttn/airs/airsaqs/>.