

MAG 2017 Eight-Hour Ozone Moderate Area Plan for the Maricopa Nonattainment Area



Public Hearing
October 17, 2016



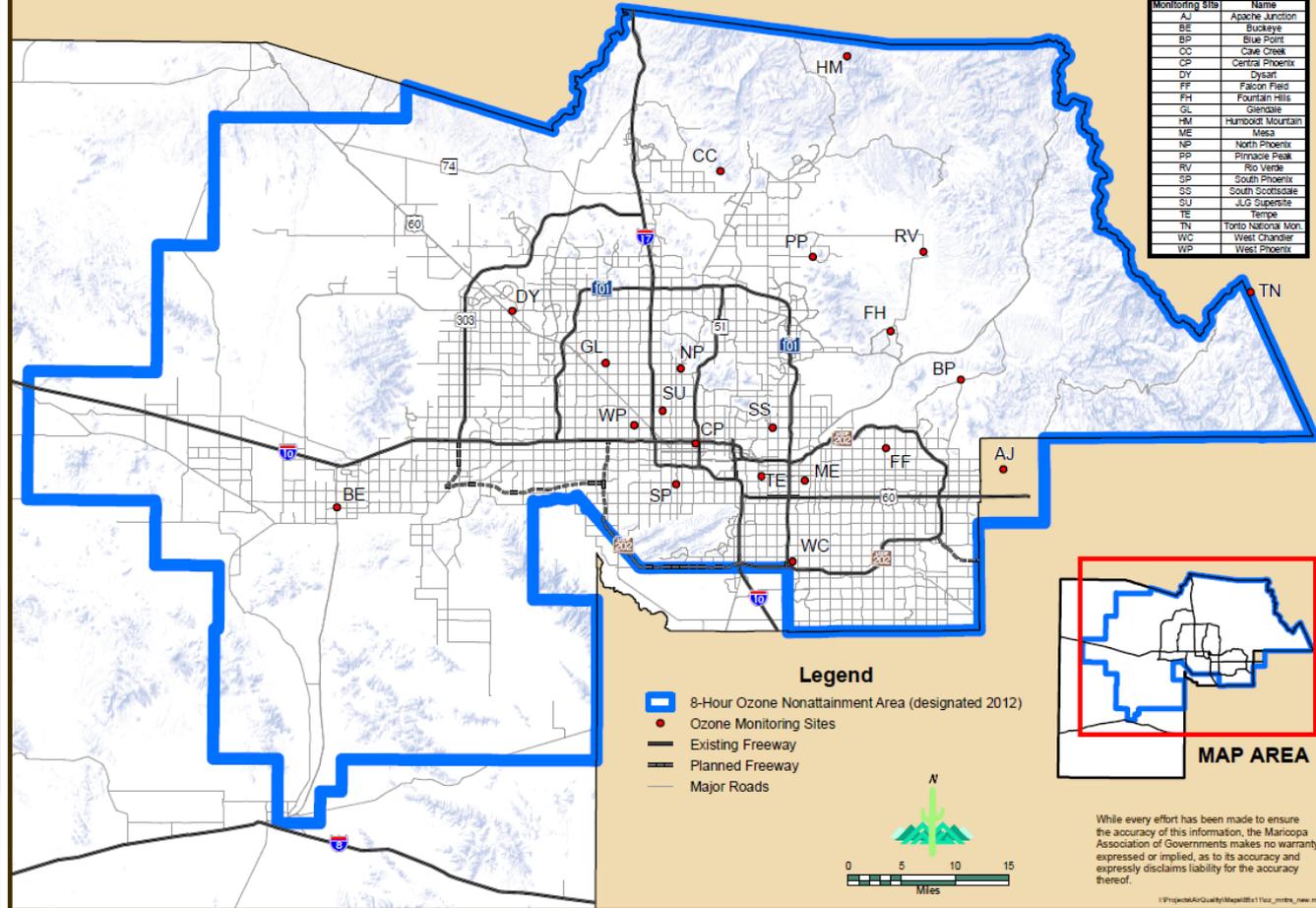
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Moderate Area Plan Requirements

- Moderate Area Plan for the 2008 ozone standard of 0.075 parts per million is due January 1, 2017.
- At least a 15 percent reduction in volatile organic compound emissions over a six year period (2012-2017).
- Attainment date is 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 prior 2017 ozone season.
- Region will need three years of clean data at the monitors in 2017 to meet the standard (2015-2017 monitoring data).



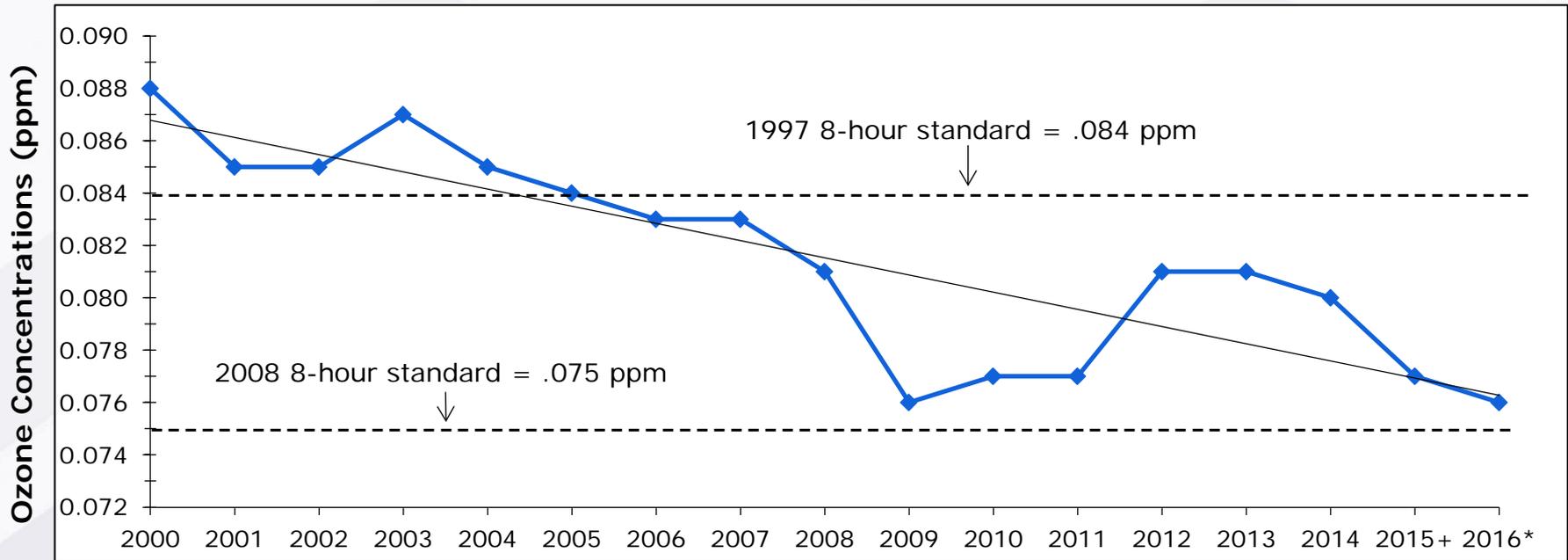
EIGHT-HOUR OZONE NONATTAINMENT AREA AND OZONE MONITORING SITES



Monitoring Site	Name
AJ	Apache Junction
BE	Buckeye
BP	Buck Point
CC	Cave Creek
CP	Central Phoenix
DY	Dysart
FF	Falcon Field
FH	Fountain Hills
GL	Glendale
HM	Huntcoot Mountain
ME	Mesa
NP	North Phoenix
PP	Pinnacle Peak
RV	Rio Verde
SP	South Phoenix
SS	South Scottsdale
SU	JUG Superette Tempe
TE	Tempe
TN	Tonto National Mon.
WC	West Chandler
WP	West Phoenix

Eight-Hour Ozone Monitoring Data

Highest 3-Year Average of the 4th Highest 8-Hour Ozone Concentration in the Maricopa Nonattainment Area



+ Exceedances from the June 20, 2015 exceptional event have been removed. EPA concurrence of the exceptional event is pending.

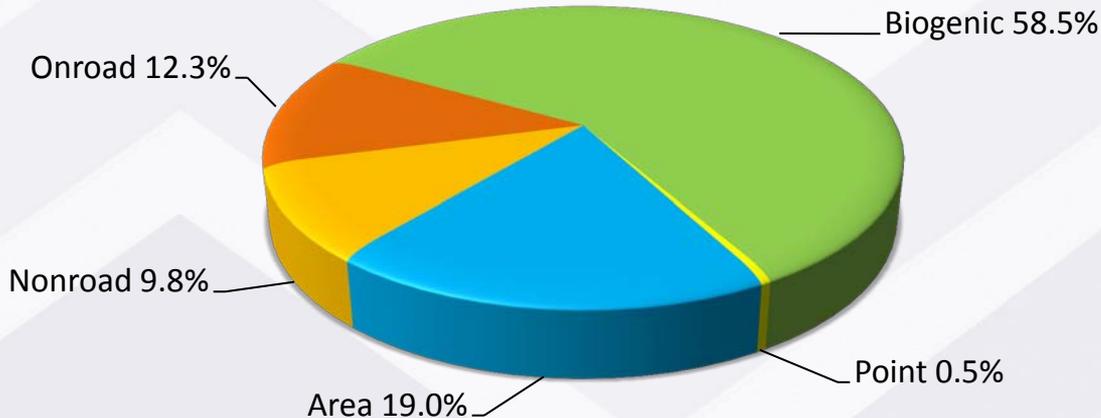
* The 2016 values are based on preliminary data through August 31, 2016.

Note: Due to mathematical rounding, values greater than or equal to 0.085 ppm are necessary to exceed the 0.080 ppm standard.

Sources: 2000-2008: MAG Eight-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa Nonattainment Area, February 2009;
2009-2015: Environmental Protection Agency Air Quality System; 2016: Arizona Department of Environmental Quality, Maricopa County, Pinal County.

2011 Ozone Season-Day VOC Emissions in the Maricopa Nonattainment Area

Volatile Organic Compounds (VOC) Emissions = 599.87 tons/day



Sources

Point: Manufacturing and electrical power generating facilities

Area: Solvents and coatings use, fuel storage and transport, waste treatment and disposal, industrial/chemical processes, residential/industrial fuel combustion and wildfires

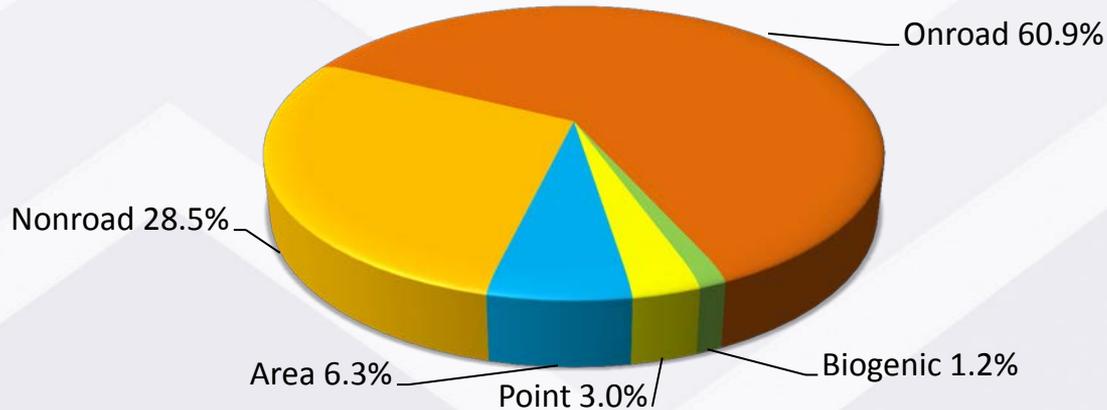
Onroad: Cars and trucks

Nonroad: Commercial, industrial, construction, mining, lawn and garden, farm and recreational equipment, aircraft and locomotives

Biogenic: Natural vegetation

2011 Ozone Season-Day NOx Emissions in the Maricopa Nonattainment Area

Nitrogen Oxides (NOx) Emissions = 253.86 tons/day



Sources

Point: Manufacturing and electrical power generating facilities

Area: Waste treatment and disposal, industrial/chemical processes, residential/industrial fuel combustion and wildfires

Onroad: Cars and trucks

Nonroad: Commercial, industrial, construction, mining, lawn and garden, farm and recreational equipment, aircraft and locomotives

Biogenic: Natural vegetation

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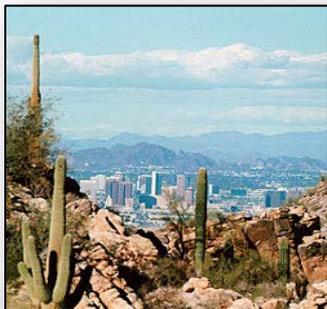
Reasonably Available Control Measures

- Plan includes 93 existing control measures approved by EPA in prior air quality plans and existing federal control measures.
- Reasonably Available Control Measure Demonstration
 - Measures were compared to EPA's Menu of Control Measures and Sacramento Metropolitan Air Quality Management District measures.
 - Results indicate that no new or strengthened measures were necessary to demonstrate attainment or meet reasonable further progress requirements.



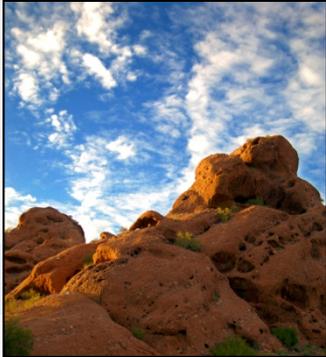
Attainment Demonstration

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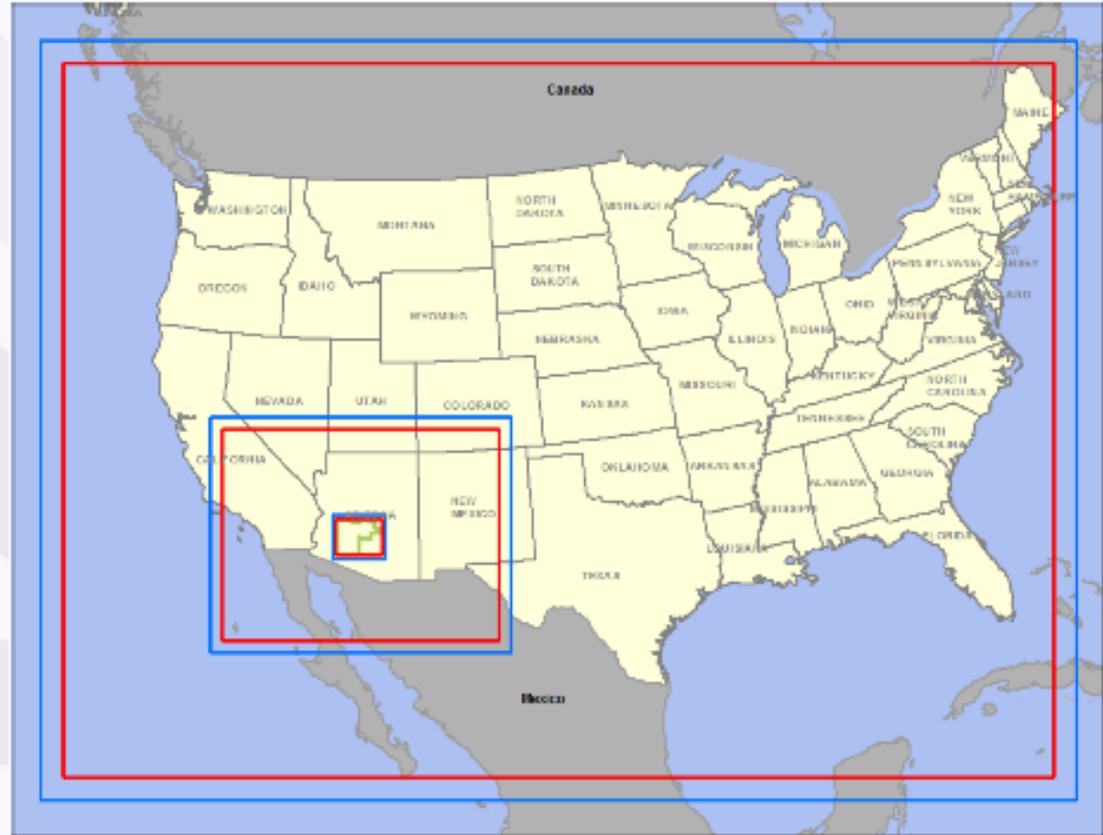


- Photochemical grid modeling was conducted for 153 days in the ozone season.
- A subset of the 93 control measures was used for the attainment demonstration.
- Plan demonstrates attainment of the standard in 2017 with a design value of 0.0756 parts per million or 0.075 after truncation.
- A Weight-of-the-Evidence analysis was conducted to support the attainment demonstration.

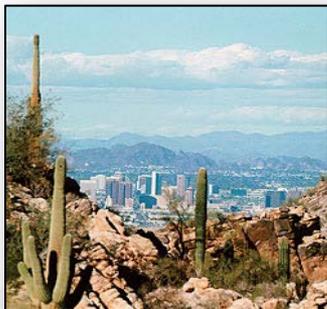
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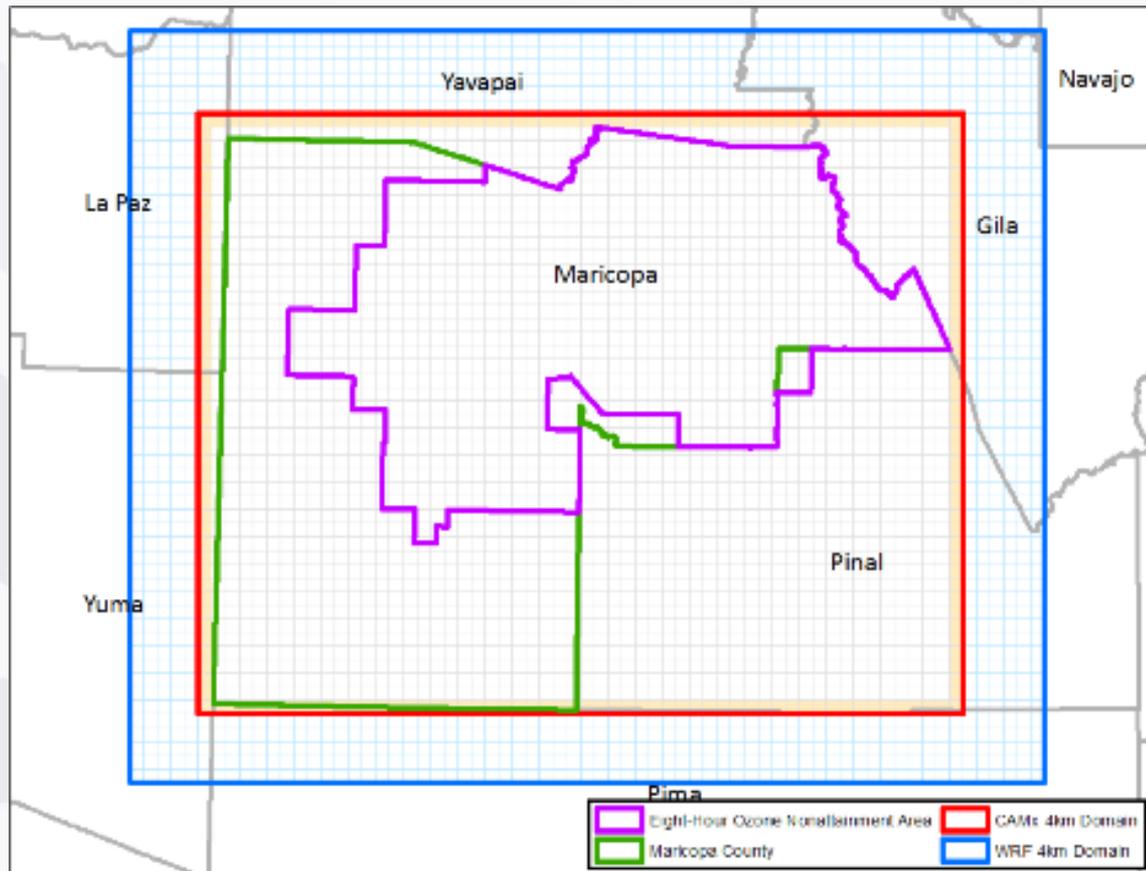
Modeling Domains



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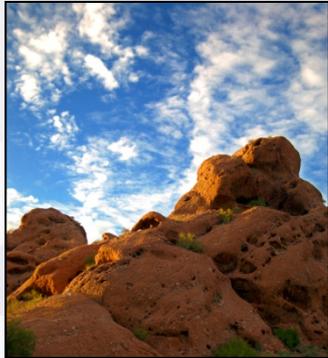


Inner Modeling Domain



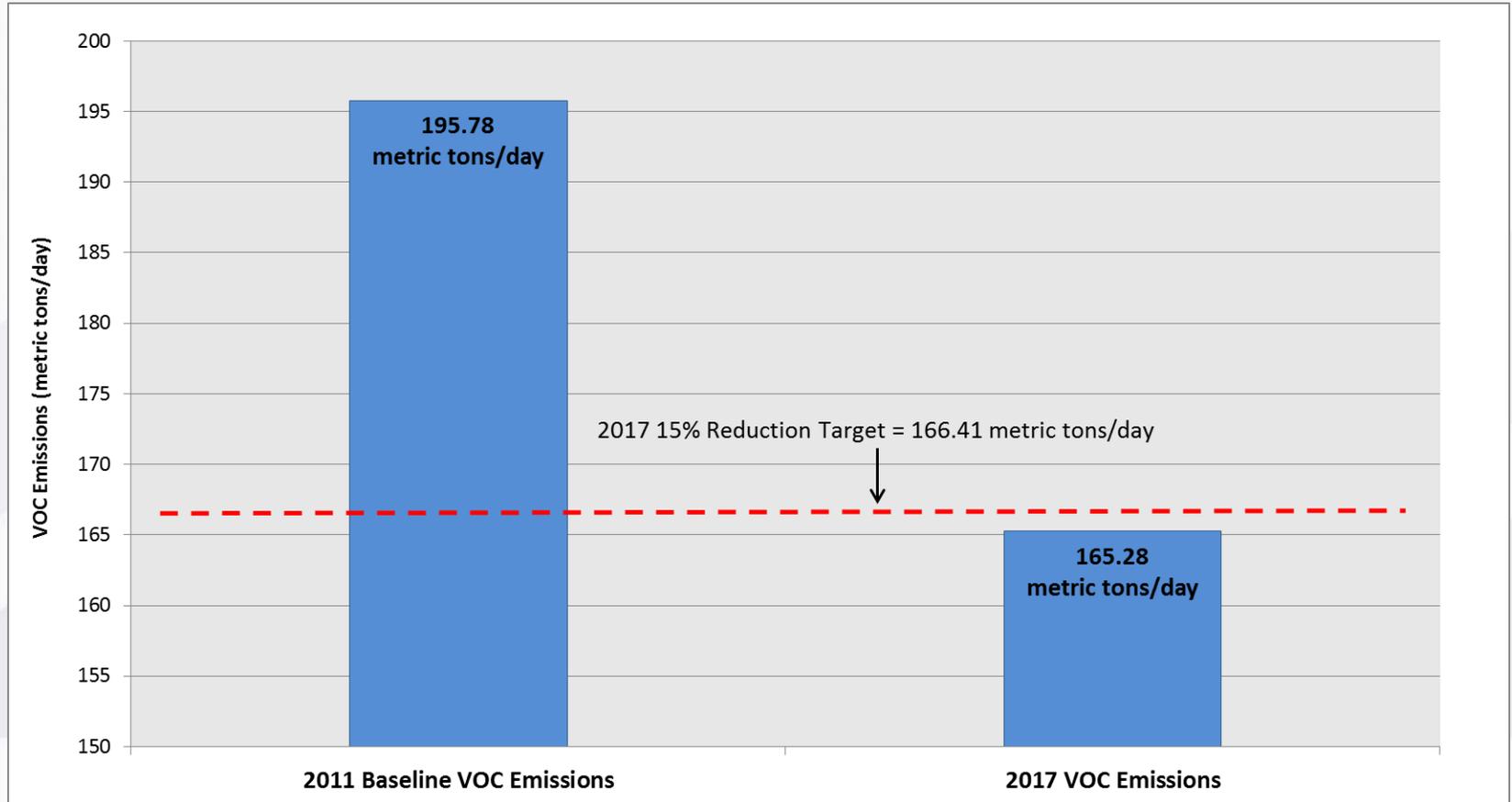
Existing Measures Used for Numeric Credit in the Attainment Demonstration

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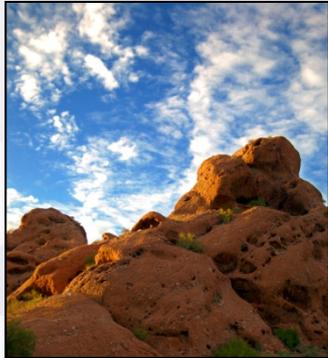
- **Summer Fuel Reformulation: California Phase 2 and Federal Phase II Reformulated Gasoline with 7 psi from May 1 through September 30**
- **Phased-In Emission Test Cutpoints**
- **One-Time Waiver from Vehicle Emissions Test**
- **Tougher Enforcement of Vehicle Registration and Emissions Test Compliance**
- **Expansion of Area A Boundaries**
- **Gross Polluter Option for I/M Program Waivers**
- **Coordinated Traffic Signal Systems**
- **Develop Intelligent Transportation Systems**
- **Federal Tier 2 and Tier 3 Motor Vehicle Emissions and Fuel Standards**
- **Federal Phase 1 and 2 Light-Duty and Phase 1 Heavy-Duty Greenhouse Gas Rules**
- **Federal Nonroad Equipment Standards**
- **Federal Heavy Duty Diesel Vehicle Emissions Standards**
- **Federal Portable Fuel Container Rules**

Rate of Progress Plan – 15% Reduction in VOC Emissions



Contingency Measures

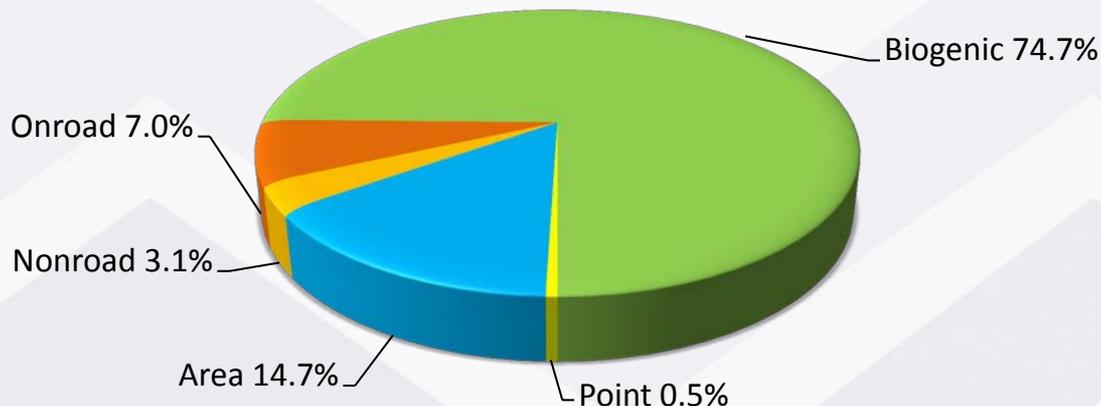
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- Required to be implemented without further action if the area fails to attain the standard or make reasonable further progress.
- Required to represent one-year's worth of progress, which is a 3 percent reduction in the 2011 base year NOx or VOC emissions.
- Existing measures in the plan provide continuing emission reduction benefits of 3.86 percent above and beyond attainment that are used to meet the contingency requirements.

2017 Ozone Season-Day VOC Emissions in the Maricopa Nonattainment Area

Volatile Organic Compounds (VOC) Emissions = 652.80 metric tons/day



Sources

Point: Manufacturing and electrical power generating facilities

Area: Solvents and coatings use, fuel storage and transport, waste treatment and disposal, industrial/chemical processes, residential/industrial fuel combustion and wildfires

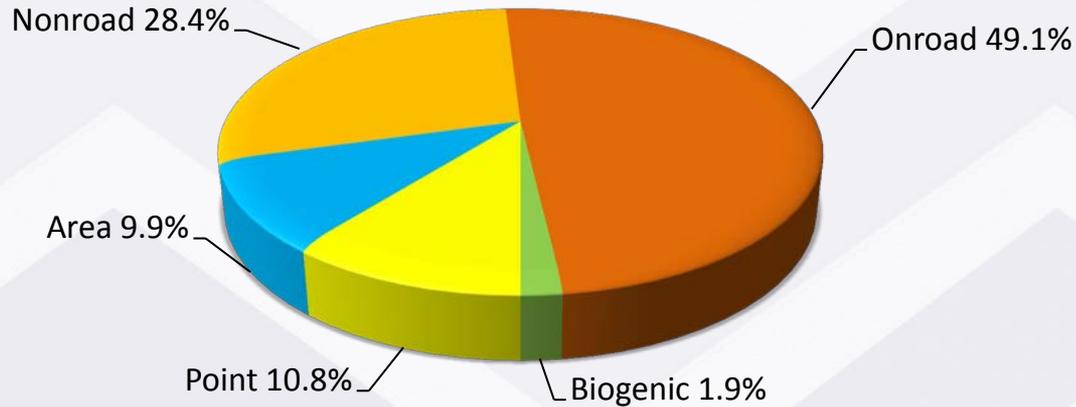
Onroad: Cars and trucks

Nonroad: Commercial, industrial, construction, mining, lawn and garden, farm and recreational equipment, aircraft and locomotives

Biogenic: Natural vegetation

2017 Ozone Season-Day NOx Emissions in the Maricopa Nonattainment Area

Nitrogen Oxides (NOx) Emissions = 127.66 metric tons/day



Sources

Point: Manufacturing and electrical power generating facilities

Area: Waste treatment and disposal, industrial/chemical processes, residential/industrial fuel combustion and wildfires

Onroad: Cars and trucks

Nonroad: Commercial, industrial, construction, mining, lawn and garden, farm and recreational equipment, aircraft and locomotives

Biogenic: Natural vegetation

Motor Vehicle Emissions Budgets for Conformity

- 2017 budget for volatile organic compounds=45.7 metric tons per day.
- 2017 budget for nitrogen oxide emissions=62.7 metric tons per day.



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MAG 2017 Moderate Area Plan Schedule

- September 16, 2016-Draft plan available for public review.
- October 17, 2016-Public hearing.
- October 27, 2016-MAG Air Quality Technical Advisory Committee recommendation.
- November 9, 2016-MAG Management Committee recommendation.
- December 7, 2016-MAG Regional Council adoption of the plan.
- December 16, 2016-MAG submission of the plan to ADEQ and EPA.



Opportunity for Additional Public Comments on the MAG 2017 Moderate Area Plan

Additional public comments on the plan will also be accepted at the following meetings:

- **MAG Air Quality Technical Advisory Committee Meeting on October 27, 2016 at 1:30 p.m.**
- **MAG Management Committee Meeting on November 9, 2016 at 12:00 noon.**
- **MAG Regional Council Meeting on December 7, 2016 at 11:30 a.m.**





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