Improvements to Air Quality

Dallas Baker, P.E., BCEE
MDEQ Air Director

September 22, 2016
State Implementation Plan (SIP)

- Legal Authority
- Resources
- Source Surveillance
- Enforcement
- Permits
- Emergency Episode
- Air Quality Monitoring
- Control Strategy Demonstration
- Emission Limiting Rules and Regs
- New Source Review
- Voluntary and Non-traditional Measures
- Mobile Measures and Fuels

Source: epa.gov
LEAD (Pb)
8-Hour Ozone Nonattainment Areas (2008 Standard) (75 ppb)

Nonattainment areas are indicated by color. When only a portion of a county is shown in color, it indicates that only that part of the county is within a nonattainment area boundary.

For the Ozone (2008 Standard) Memphis, TN-MS-AR nonattainment area, the Mississippi portion was redesignated on May 9, 2016 and the Arkansas portion was redesignated on May 25, 2016. The Tennessee portion has not been redesignated. The entire area is not considered in maintenance until all states in a multi-state area are redesignated.
Mississippi 10 Year Ozone Trends
2006 - 2015

Design Values (PPB)

Year

Bolivar County
DeSoto County
Hancock County
Harrison County
Harrison County
Hancock County
Jackson County
Lauderdale County
Lee County
Yalobusha
Standard

70 ppb
Memphis Area 8-Hour Ozone Data 2005-2015

![Graph showing trend of Memphis Area 8-Hour Ozone Data from 2005 to 2015 with various locations represented by different lines and markers.]

- DeSoto
- Shelby - Orgill
- Shelby - Frayser
- Shelby - Shelby Farms
- Crittenden

Year

Design Value (ppb)

Values range from 65 to 95.

There is a question mark near the year 2011, indicating a possible inquiry or uncertainty about the data from that year.
In addition, from 1990 to 2011, emissions of air toxics declined by over 60 percent. These reductions are driven by federal and state implementation of stationary and mobile source regulations.

*2015 emissions will be released later in 2016. Wildfire data excluded for all pollutants except for NH₃ pre-2002; PM emissions also exclude miscellaneous emissions (i.e., agricultural dust and prescribed fire data). Visit the emissions trends website to learn more.
AIR QUALITY IMPROVES AS AMERICA GROWS

Nationally, concentrations of the criteria air pollutants have dropped significantly since 1990:

- Carbon Monoxide (CO) 8-Hour, ↓ 77%
- Lead (Pb) 3-Month Average, ↓ 99%
- Nitrogen Dioxide (NO₂) Annual, ↓ 54%
- Nitrogen Dioxide (NO₂) 1-Hour, ↓ 47%
- Ozone (O₃) 8-Hour, ↓ 22%
- Particulate Matter 10 microns (PM₁₀) 24-Hour, ↓ 39%
- Particulate Matter 2.5 microns (PM₂.5) Annual, ↓ 37%
- Particulate Matter 2.5 microns (PM₂.5) 24-Hour, ↓ 37%
- Sulfur Dioxide (SO₂) 1-Hour, ↓ 81%

During this same period the U.S. economy continued to grow, Americans drove more miles and population and energy use increased.
Vehicle Emissions vs. Miles Traveled

Source: epa.gov/clean-air-act-overview/progress-cleaning-air-and-improving-peoples-health#interstate
Fuel Economy Trends

Benefits
Total Number of Days Reaching Unhealthy for Sensitive Groups or Above on the Air Quality Index
(Among 35 major U.S. Cities, for Ozone and PM$_{2.5}$ Combined)
OUTLOOK FOR OZONE IS ENCOURAGING
OUTLOOK FOR OZONE IS ENCOURAGING
State Implementation Plan (SIP)

- Legal Authority
- Resources
- Source Surveillance
- Enforcement
- Permitting
- Emergency Episode
- Air Quality Monitoring
- Control Strategy Demonstration
- Emission Limiting Rules and Regs
- New Source Review
- Voluntary and Non-traditional Measures
- Mobile Measures and Fuels

Source: epa.gov
Dallas Baker, P.E., BCEE
MDEQ Air Director

dbaker@deq.ms.gov / 601.961.5670

THANKS FOR YOUR ATTENTION!