



An Update on Transport



Tad Aburn, Air Director, MDE
MWAQC AQCPAC Meeting - June 16, 2014

Background: Lots of Pressure on Transport

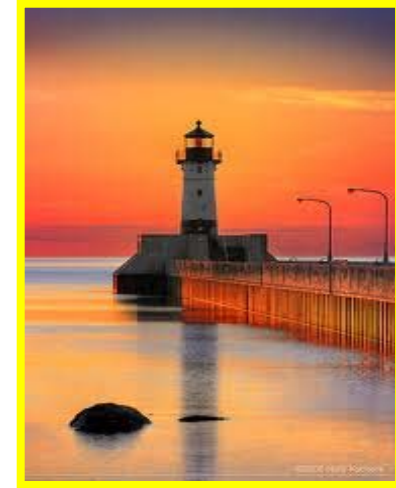
- Many, many balls in the air ...
 - Supreme Court has recently acted
 - Not real clear on what happens next , but has already had a noticeable impact
 - “Expand the OTR” Petition under Section 176A of the Clean Air Act (CAA)
 - Challenges to EPA over large nonattainment areas (CAA Section 107)
 - Challenges to EPA over “Good Neighbor” SIPs (CAA Section 110A2D)
 - EPA’s Transport Rule Process
 - A collaborative effort between upwind and downwind states to address the ozone transport issue
 - Some states looking at Section 126 Petitions





The Other CAA Transport Tools

- The Supreme Court decision helps clarify EPA authority, but it is likely to take years before anything new is required as a result of the decision
- There are other legal actions provided for under the CAA that an individual state or a group of states can initiate:
 - Giant non-attainment areas (Section 107)
 - Section 126 Petitions against stationary sources
 - Section 110A2D “Good Neighbor” requirements
 - Section 176A Petition to create a new, much larger “Ozone Transport Region”





Things Have Really Heated Up

- Supreme Court has acted – Very strong message
- 176A Petition submitted by 9 Governors in 2013
- Delaware lead challenge over large nonattainment areas to be heard in DC Circuit in next few months
- Maryland and Connecticut challenge over EPA approvals of SIPs without good neighbor provisions to be heard soon in DC and 4th Circuit Courts
 - Most recent action was a challenge over EPA proposed approval of Virginia SIP
- EPA Transport Rule and/or CSAPR or CSAPR 2 are soon to be decided upon by EPA
- Discussions between upwind and downwind states to see if a more “collaborative” solution is possible has started
- Power plant interests have expressed an interest in resolving some major issues

The Supreme Court Decision

- In simple terms, agreed with very little of the DC Circuits decision on the Cross State Air Pollution Rule (CSAPR) and how the “Good Neighbor” provisions of the Clean Air Act should work
- Strongly confirmed that EPA has ample authority to require reductions in upwind states to help out downwind states
- Maryland is very happy about this decision as ozone being transported into the State is often already above the current ozone standard





The Supreme Court Decision (Continued)

- Still quite a bit of uncertainty about what happens next ... but likely short term actions include:
 - The stay on the CSAPR rule will be lifted
 - The old EPA policy (based upon the DC Circuit decision) that states did not yet owe “Good Neighbor” SIPs will be reversed
 - These SIPs were due in 2011
 - Sanction clocks and FIPs (Federal Implementation Plans) are likely
 - EPA will move ahead with a new “Transport Rule” in the Winter to address the current (75 ppb) ozone standard
 - Unfortunately, this litigation has been going on for so long that the CSAPR rule was designed for the older (85 ppb) ozone standard
 - Makes it more likely that other actions (176, 110, 126, Collaboration) may be successful



The Section 176 Petition

- Allows a state – or a group of states – to petition EPA to expand the current Ozone Transport Region
- 9 Governors submitted a 176 Petition on December 10, 2013
 - Would add 9 new states to the Ozone Transport Region (OTR)
 - There are tougher mandatory control requirements for states in the OTR
 - Statewide NO_x RACT and New Source Review, enhanced inspection and maintenance and more
 - EPA has 18 months to act on the Petition



The Giant Nonattainment Area

- Would include all of the “contributing” areas in a large non-

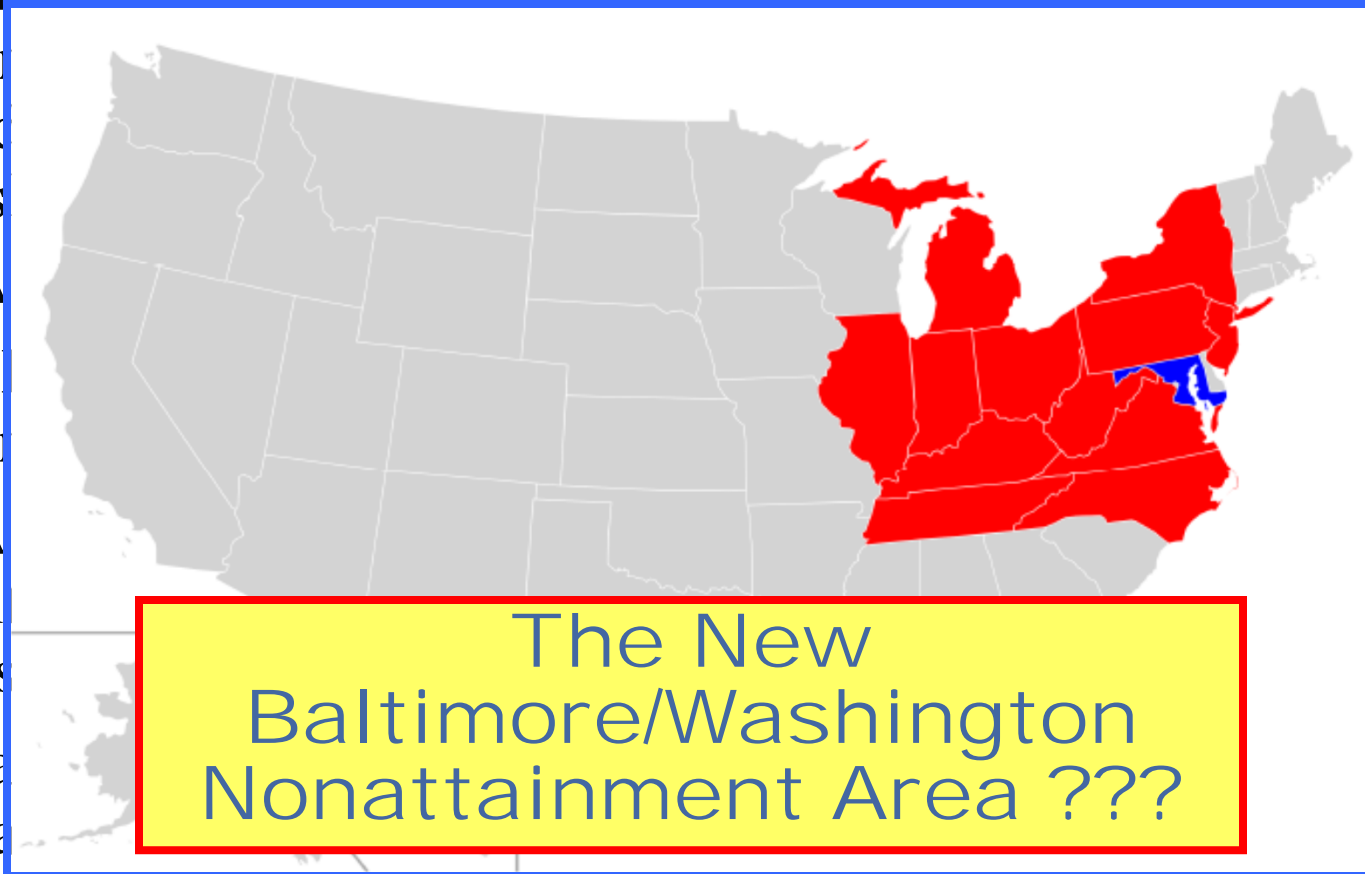
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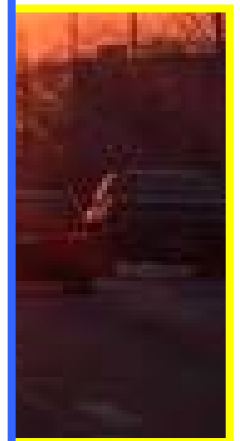
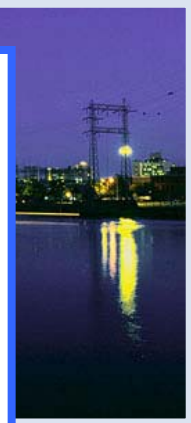
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- EPA tradit

- Legal initia



- Briefs are in
- Case expected to be scheduled soon





CAA “Good Neighbor” Provisions

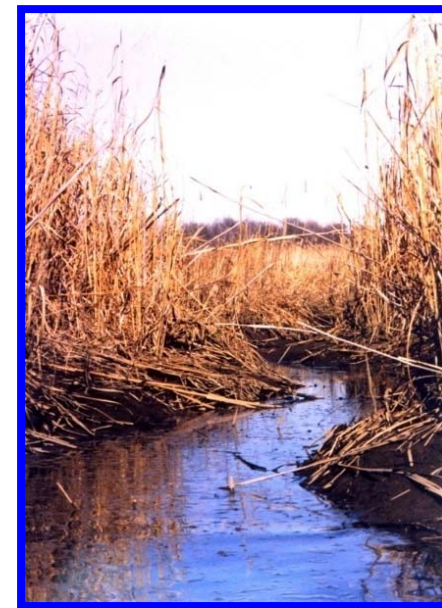
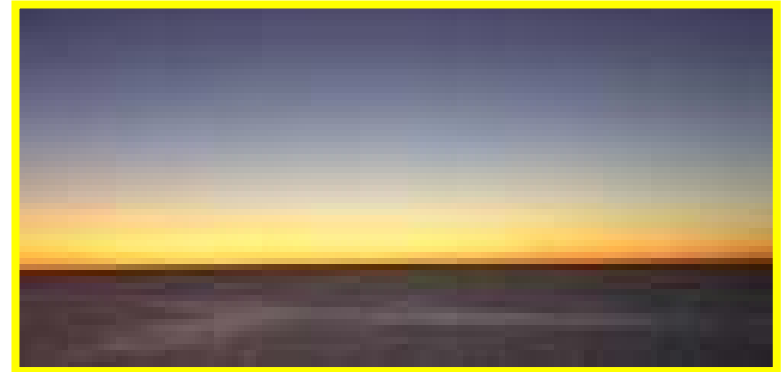
- Section 110A2D requires upwind states to include control measures in their SIPs to address transport
 - These SIPs were due in 2011
- EPA interpreted the DC Circuit Court action on CSAPR to mean that states did not owe these SIPs until EPA told them what to do
- Maryland and Connecticut began to challenge EPA actions on this issue in 2012
 - Challenges include a 28 State Completeness Finding and the SIPs in TN, KY and VA
- The Supreme Court Decision did not agree with the DC Circuit Court on this issue





Section 126 Petitions

- The classic upwind transport tool
- States can petition EPA to require controls on specific (or groups of) stationary sources that contribute to non-attainment in downwind areas
- Many OTC states have used Section 126 petitions in the past
- DC Circuit Court action made 126 petitions difficult
- Supreme Court decision removes some of those difficulties
- Several states are now considering a 126 Petition



Recent Discussions – A Collaboration?

- On August 6, 2013- Approximately 30 Air Directors began a “technical” collaboration on ozone transport in the East
- More recently, preliminary discussions between Commissioners in upwind and downwind states has started
- Technical work to date indicates that a solution may be within reach



What Does the Current Modeling Tell Us?

- The Air Directors technical collaboration started off by looking at a mutually agreeable future case scenario (called “Phase 1”)
- The Phase 1 Scenario looked at where we would be in 2018 if:
 - The EPA Tier 3 and Low Sulfur Fuel program is effectively implemented
 - The potential changes in the EGU sector from shutdowns and fuel switching driven by MATS, low cost natural gas and other factors were included
 - The potential changes in the ICI Boiler sector driven by Boiler MACT and low cost natural gas were also included



OTC Modeling - Scenarios 7 and 7B

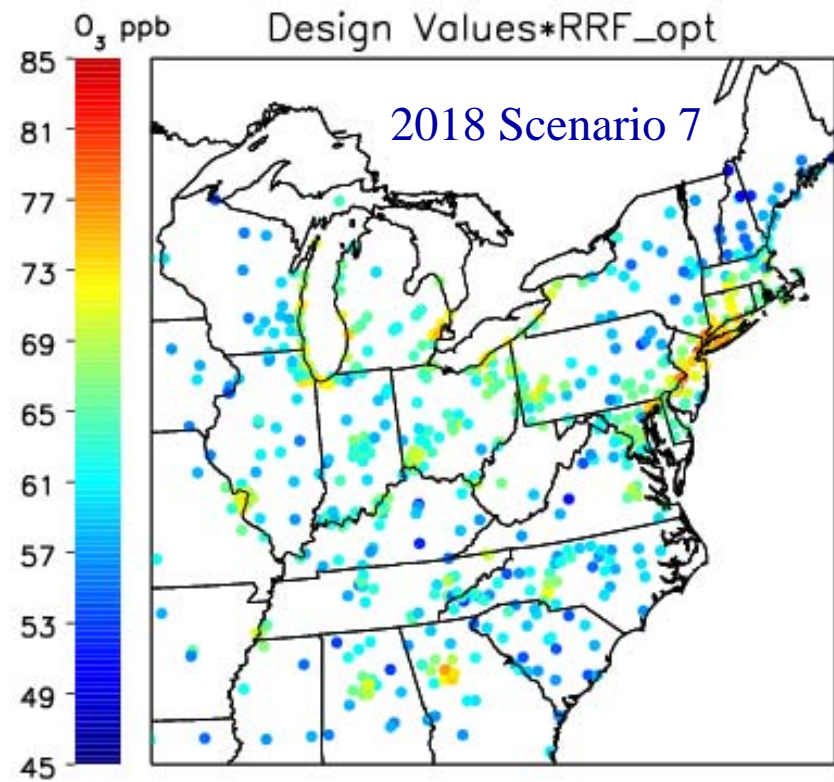
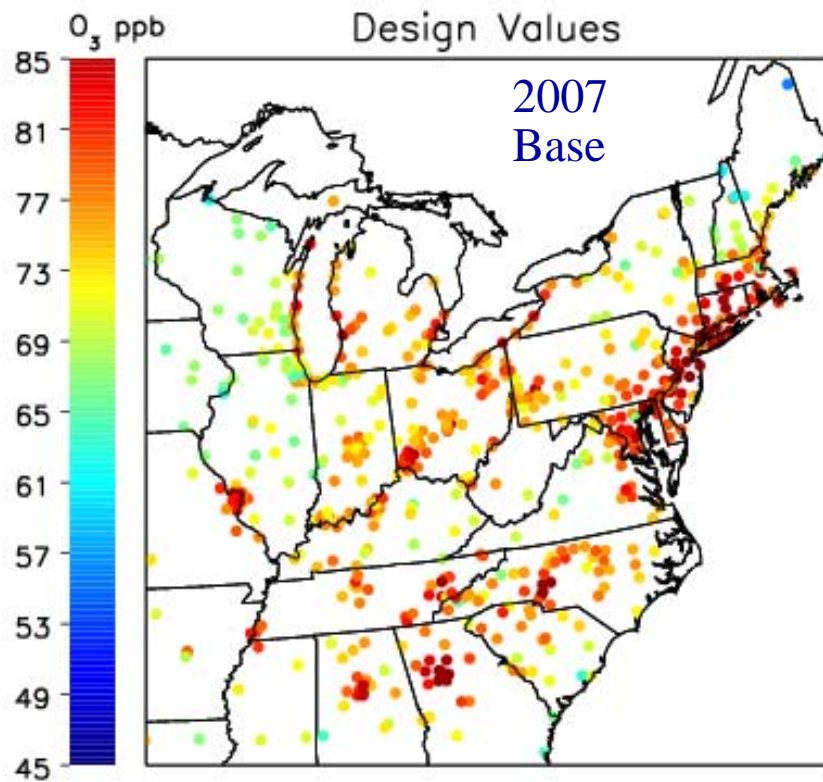
- Preliminary sensitivity runs to try and get a general feel for how the “Phase 1” collaborative strategy will help reduce ozone
- Are being updated ... but do provide very important ... policy relevant ... information
- Tells us:
 - If all changes expected through 2018 actually happen ... we could be close for the 75 ppb ozone standard
 - Identifies one major issue to resolve on upwind power plants
- Midwest and Southern states have also completed preliminary modeling
 - Generally reaches the same conclusions



Modeled Design Values

Before Scenario 7

After Scenario 7





Maryland Design Values

... Before and after Scenario 7

| County | Design Value 2007 | After Scenario 7 2018 |
|------------------|----------------------|--------------------------|
| Anne Arundel | 85.7 | 68 |
| Baltimore | 77.3 | 65 |
| Baltimore | 83.3 | 71 |
| Calvert | 78 | 61 |
| Carroll | 82.3 | 66 |
| Cecil | 89 | 74 |
| Charles | 80.7 | 62 |
| Frederick | 80.3 | 65 |
| Garrett | 73.3 | 63 |
| Harford | 90.7 | 76 |
| Harford | 87.3 | 74 |
| Kent | 81.3 | 66 |
| Montgomery | 82.7 | 68 |
| Prince George's | 82 | 67 |
| Prince George's | 85.3 | 68 |
| Washington | 76.7 | 62 |
| Baltimore (City) | 67 | 57 |



Scenario 7 Screening Modeling Results High Values - OTR State

| State | 2018 Scenario 7 | State | 2018 Scenario 7 |
|-------|-----------------|----------|-----------------|
| CT | 76 | NJ | 78* |
| DE | 69 | NY | 77 |
| DC | 70 | PA | 79 |
| ME | 65 | RI | 66 |
| MD | 76 | VT | 57 |
| MA | 72 | VA (OTR) | 70 |
| NH | 62 | | |

* NJ's highest monitor (85 ppb) is being evaluated for performance

Scenario 7 Screening Modeling Results High Values – Other States

| State | 2018 Scenario 7 |
|--------------------------------------|-----------------|
| Illinois Cook County | 73 |
| Kentucky Jefferson County | 68 |
| North Carolina Mecklenburg County | 72 |
| Georgia DeKalb County | 77 |
| Indiana Lake County | 75 |

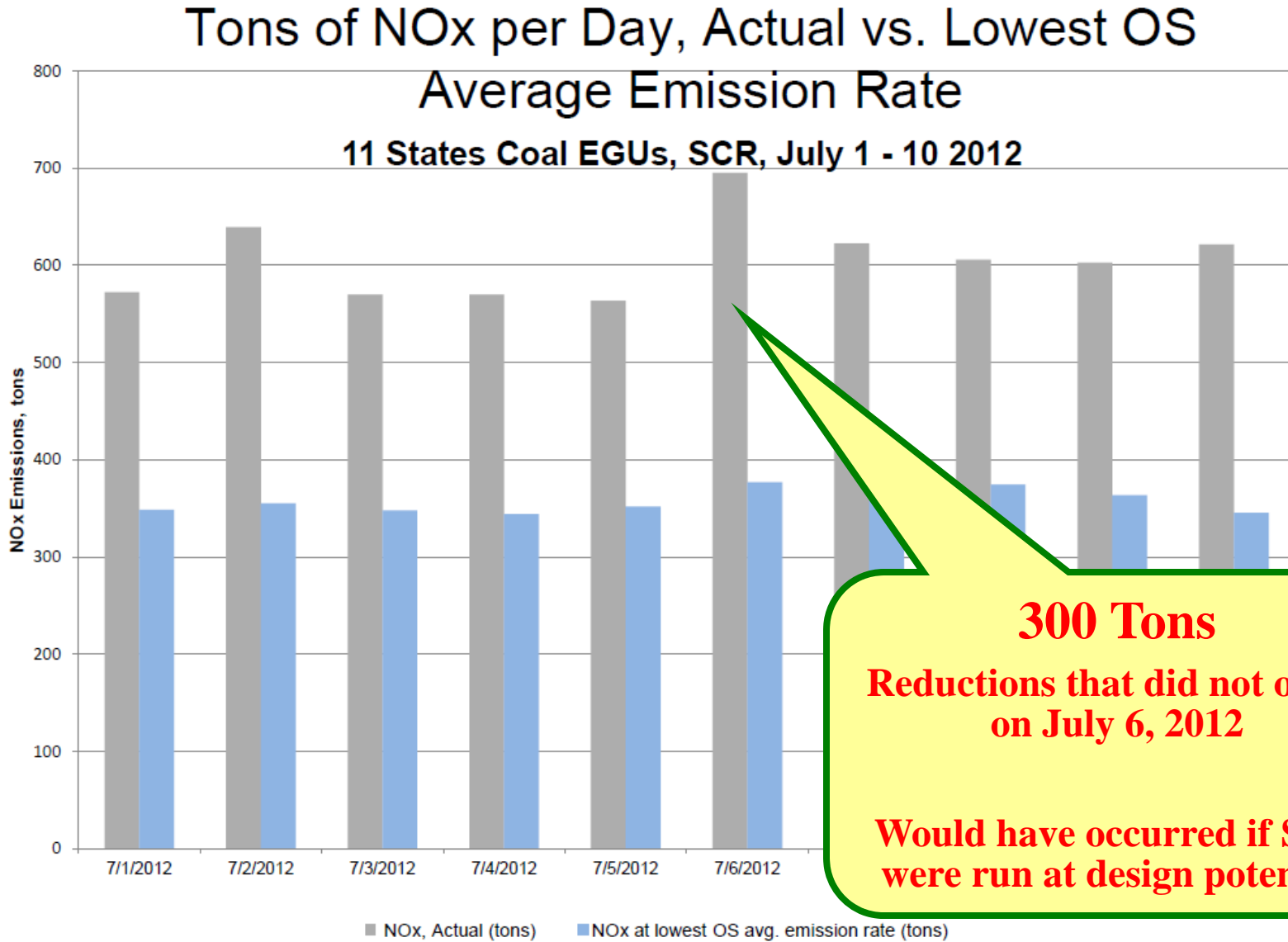
Bottom Line

- Current modeling tells us that significant progress will be made if the Phase 1 scenario is implemented
- We will be very close to attaining the 75 ppb standard
 - More to do for next standard
- So what is the problem?
- All of the modeling runs assume power plants in the East are actually running their controls
 - Data shows that this is just not true
 - A major area to focus on





Tons Not Achieved – 11 State Total



300 Tons
Reductions that did not occur
on July 6, 2012

Would have occurred if SCR
were run at design potential

Addressing This Issue

- Upwind states and power plant interests have expressed an interest in finding a mutually agreeable fix to the issue of not running pollution controls
- Some states have already begun to work with EGUs in their state to insure pollution controls are run
- The potential emission reductions are huge
 - About 300 tons of NO_x per day
 - About double the benefit we will get from the Tier 3 mobile source rule in 2018
- Fixing this issue would be a major breakthrough



Pushing a State Driven Solution?

- What could come out of a collaborative effort between upwind and downwind states
 - Modeling tells us that the 2018 Scenario analyzed by Air Directors will drive major progress
- EPA's process is likely to change and evolve slowly because of the Supreme Court
 - EPA efforts are often challenged
- In 2015 ... Areas like Baltimore owe attainment SIPs and modeling
- All states owe "Good Neighbor" SIPs
 - They were actually due in 2011
- Maryland is pushing ...very hard ... on "A package of complementary attainment and Good Neighbor SIPs" to be finalized in late 2014 or early 2015
 - Interest from upwind states and power plant owners is growing



Timing

- January to December 2014
 - Technical collaboration and stakeholder discussions continue
- Mid-2014
 - Commissioner level discussions
- End of 2014
 - Technical work to support “Complementary Package of SIPs” complete
 - Other legal actions as needed
- Spring 2015 - States submit SIPs
 - Attainment and Good Neighbor SIPs





Is it All Upwind Power Plants?

How can AQCPAC have a real impact

- There is a misperception that transport is all about power plants
 - That simply is not true
- Maryland is the largest contributor to VAs ozone problems
- Virginia is the largest contributor to MDs ozone problems
- Those contributions are driven by cars and other mobile sources, not power plants
- MDE has been pushing the mobile source issue very hard for the past 2 years
 - We are funding a special project through MWAQC to look at these issues
- AQCPAC should get involved



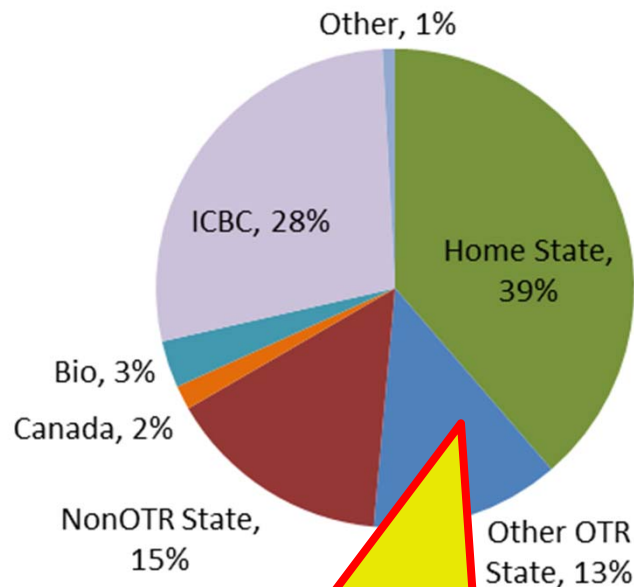


Edgewood Maryland

Private Sector Ozone Modeling For 2018

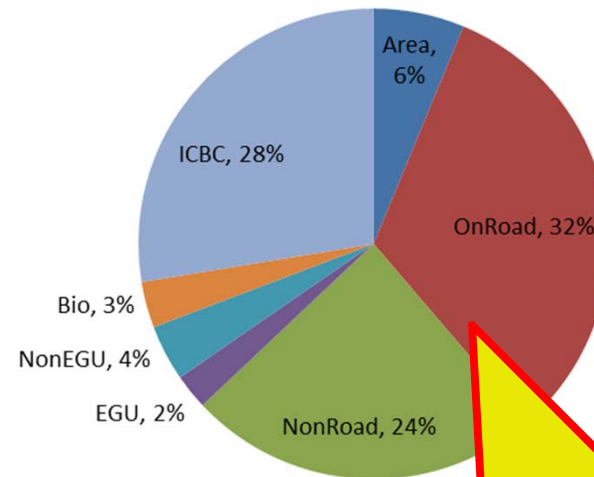
New photochemical modeling tools now allow us to work backwards through the model to determine which sources are contributing the most

Harford MD Projected Ozone 2018



Maryland and Northern Virginia dominate contribution at Edgewood

Harford MD 2018 Ozone Contribution by Sector



On-Road mobile sources and Nonroad mobile sources dominate that 2018 contribution

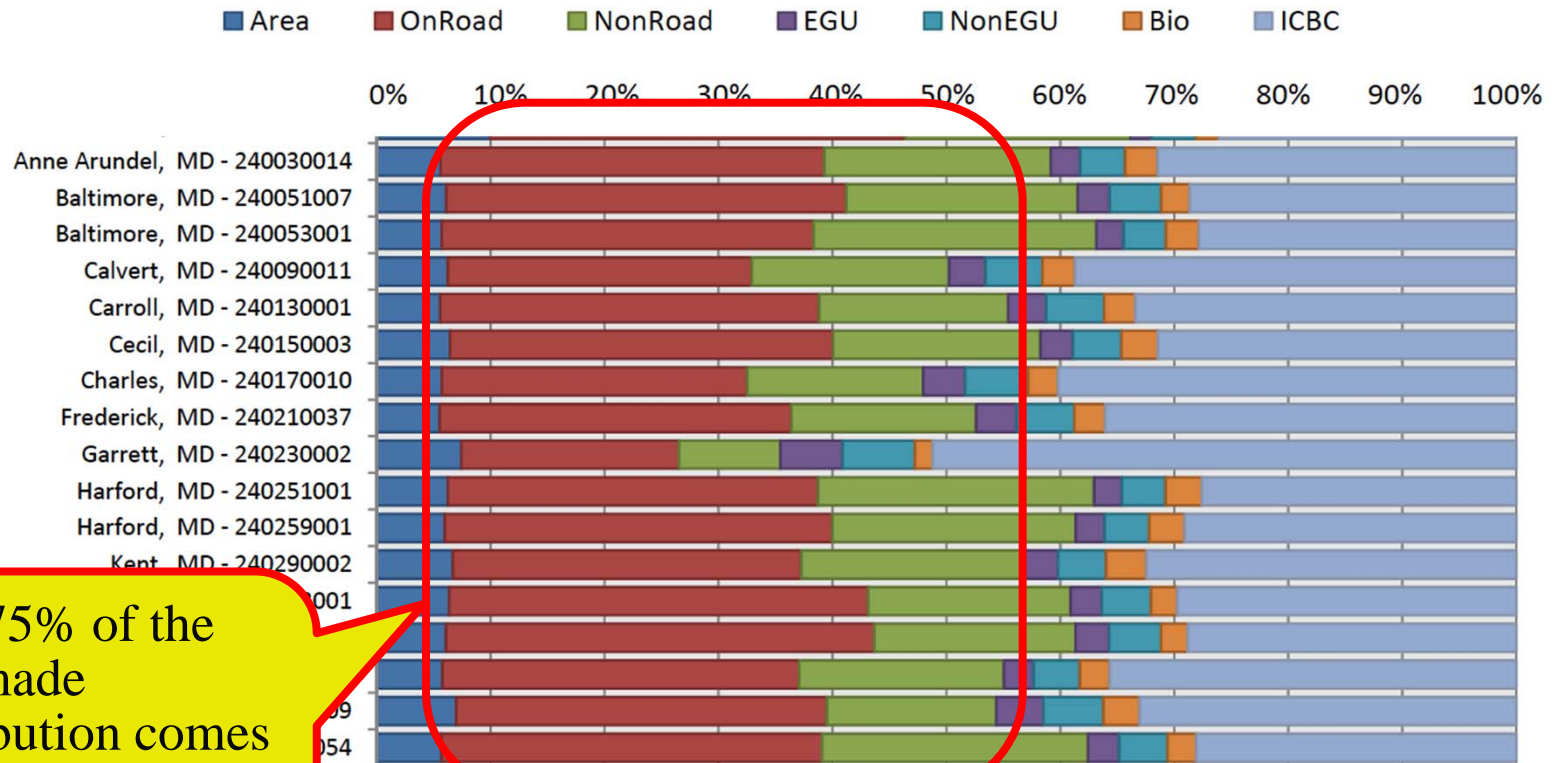


Our Own Preliminary Modeling

Ozone Modeling For 2018

Draft CAMX OSAT output - Source sector contributions

Contribution by Sector to OTR Monitors (2018 projected base case from 2011)



Over 75% of the man-made contribution comes from mobile sources

Questions?

