



## **Department of the Environment**

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# Why MDE Can't Agree to the Proposed Safety Margin Concept

*or ... Why Every Ounce of NO<sub>x</sub> Emission Reductions From Mobile Source  
Emission Reduction Measures are Needed to Meet Current and Future Air  
Quality Standards and to Protect Public Health*



Tad Aburn - Air Director, MDE



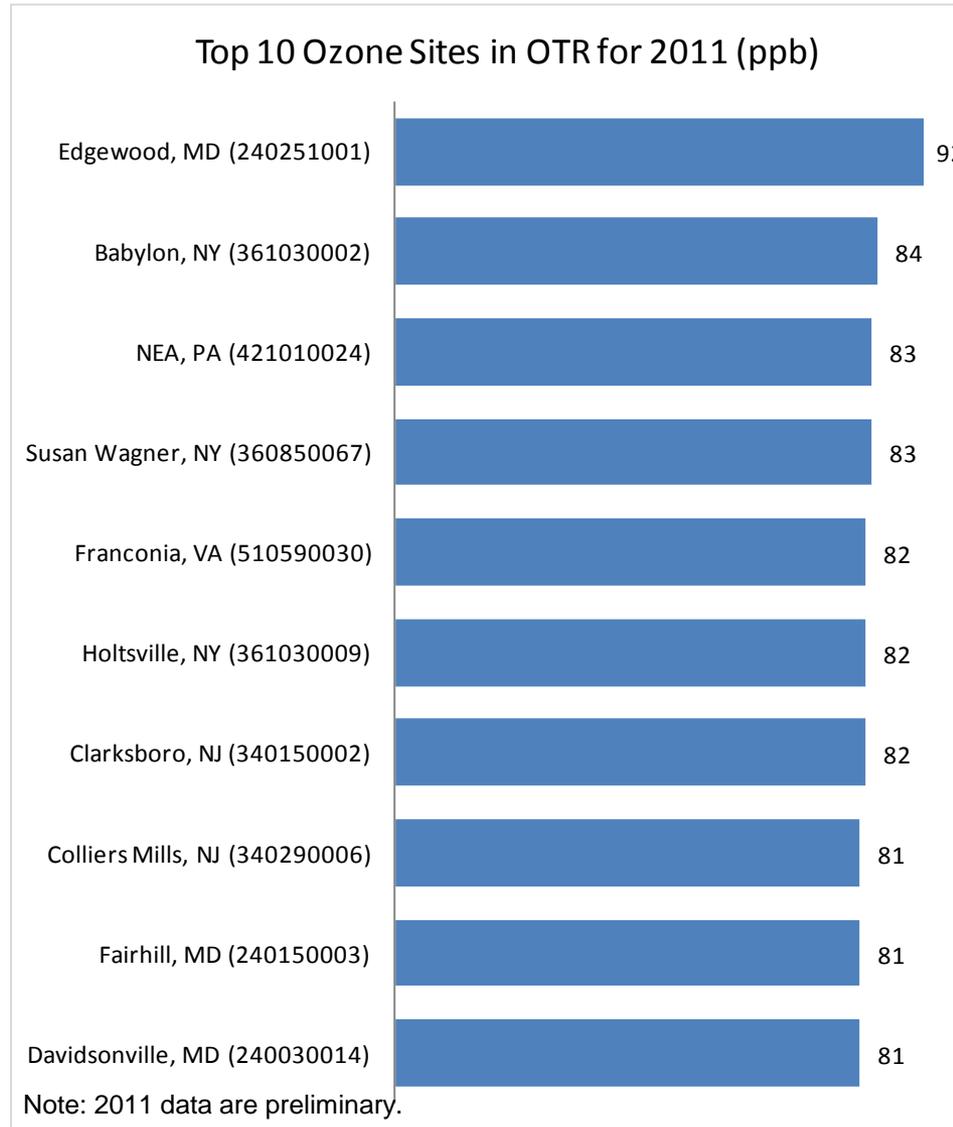
# Topics

- MDE's concerns over the safety margin concept
- Modeling that shows that even deeper NO<sub>x</sub> reductions from mobile sources, power plants and other sources will be needed to meet the 75 ppb ozone standard by 2015 to 2018
  - There is no “surplus” – We actually need more reductions than are currently planned for
- What MDE can agree to in terms of a safety margin or later budget amendments to address technical changes like MOVES





# The Top 10 – or Maybe the Bottom 10 - List





# A Strategy to Meet the 75 ppb O<sub>3</sub> Standard

- Preliminary OTC modeling
- Combines very aggressive super-regional controls through federal rules with aggressive local controls just in the OTC states

**“Scenario 4” – Strong federal measures for EGUs, Cars, Cement Kilns, ICI Boilers, Marine Engines and Locomotives – plus – strong additional local measures just in the OTC states**

## Domain-Wide NO<sub>x</sub> Reductions

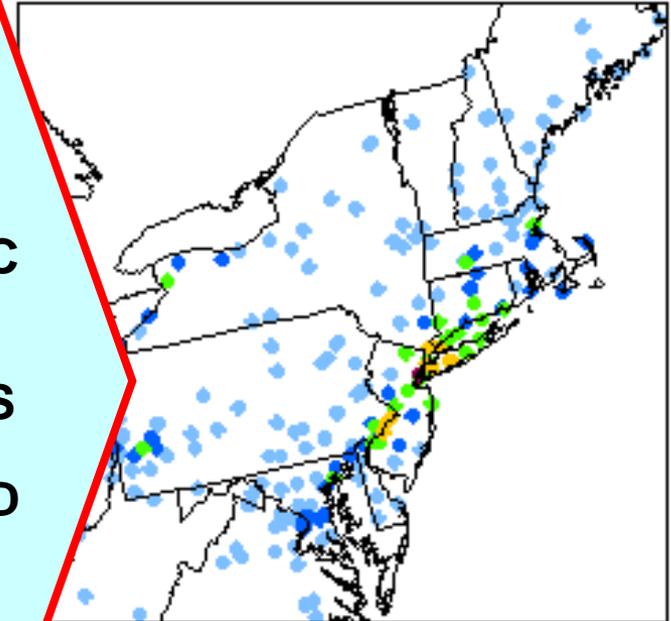
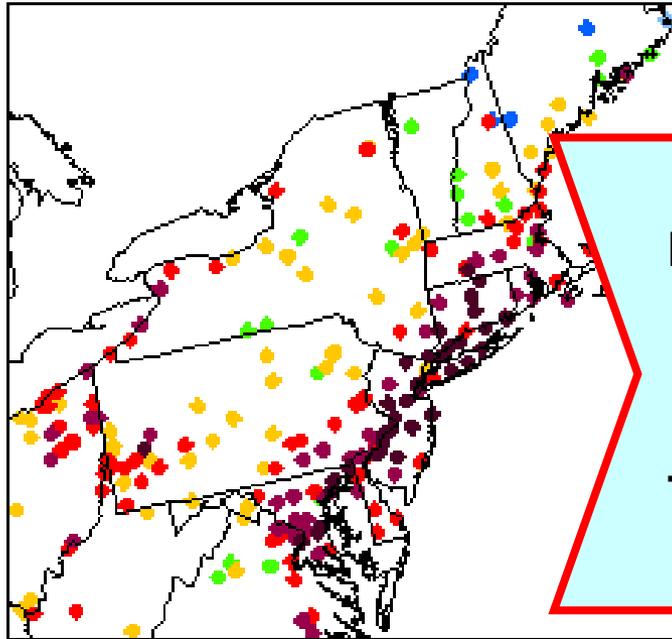
- EGU: 65% from 2007
  - OTC/LADCO 2009 recommendation
- Onroad: 70% from 2007
  - Estimate of Tier 2 fleet turnover & LEV3

## Domain-Wide VOC Reductions

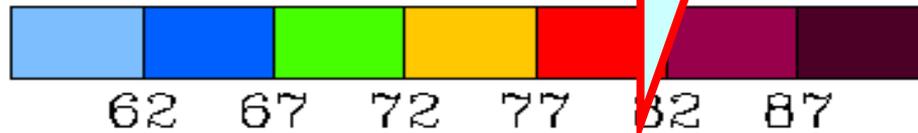
- 30% EGU & On-road sectors from 2007

## OTR Only: Extra 5% NO<sub>x</sub>

# Will Scenario 4 Get Us to 75 ppb?



**PRELIMINARY OTC  
MODELING,  
"SCENARIO 4,"  
GENERALLY GETS  
US TO THE  
75 PPB STANDARD**





# Scenario 4 – The Toughest Monitors

**2020**

Monitor		2005–09	Sc. 4
Bayonne	NJ	85	80
White Plains	NY	86	73
Camden	NJ	88	73
Bristol	PA	90	72
Greenwich	CT	86	72
Babylon	NY	88	71
NEA	PA	88	70
NYC-Queens	NY	86	72
Clarksboro	NJ	86	69
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Edgewood	MD	91	66
Chicopee	MA	88	65

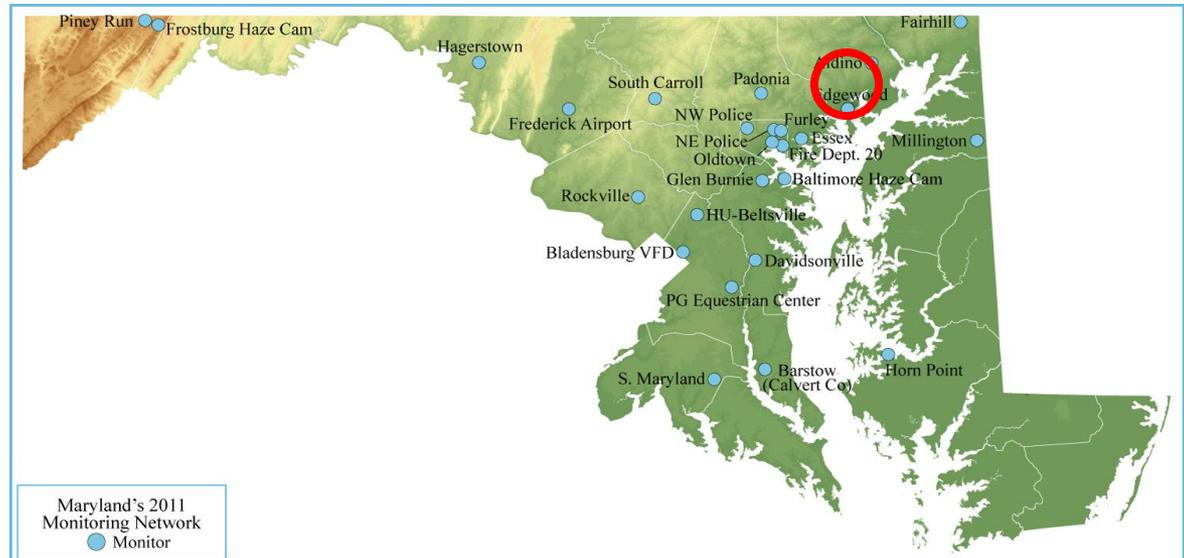
# So ... Are There Surplus Reductions?

- Absolutely not !!!
- Deeper reductions than those shown in the TPB material are needed in the 2015 to 2018 timeframe to attain the 75 ppb ozone standard
- TPB material shows a 2017 NOx level of 41,709 tpy
- Level need for attaining the 75 ppb ozone standard will be somewhere in the 32,000 to 37,000 tpy range
  - To attain the 75 ppb standard there is actually a fairly large shortfall !!!



# Washington's Impact on Baltimore

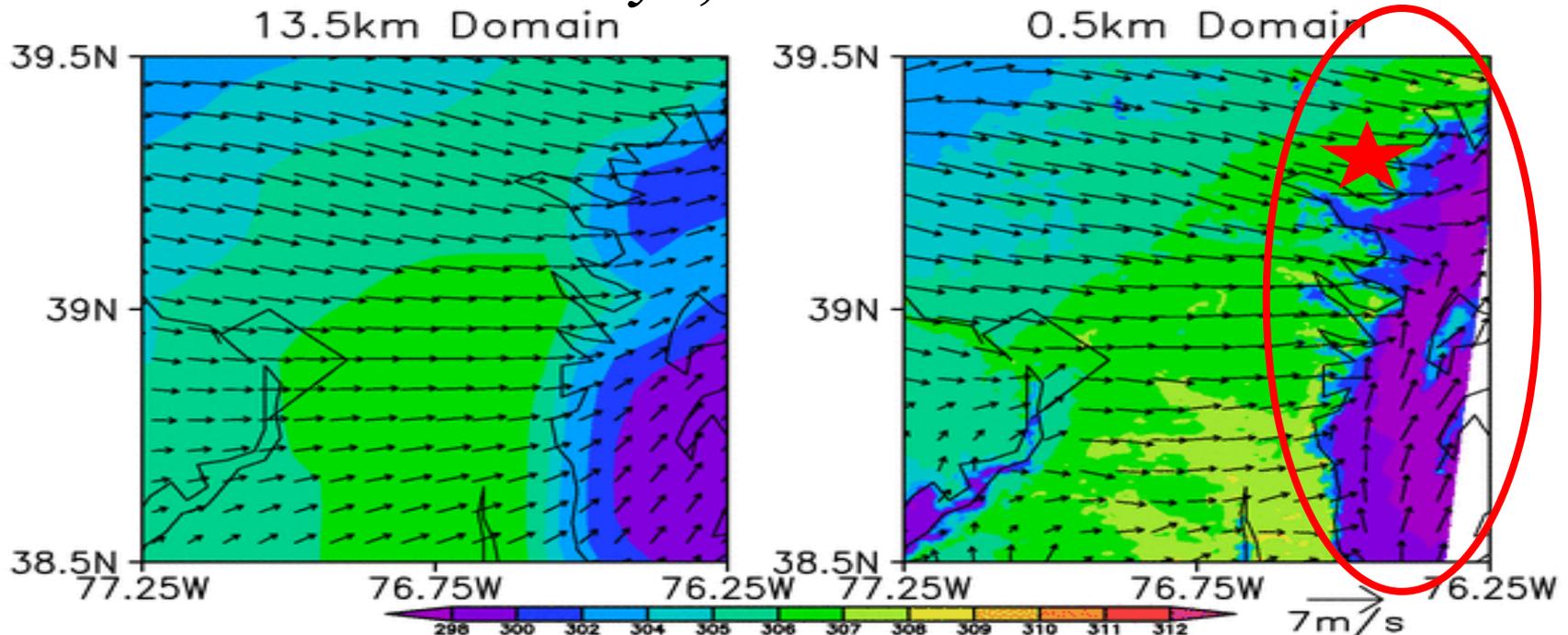
- Baltimore has a very difficult monitor in Edgewood, Maryland
  - Very close to the Chesapeake Bay
  - Last remaining problem monitor in the East for the 85 ppb ozone standard
- Recent research shows that – for ground level ozone - local transport from the Washington, DC area may significantly impact this monitor
- Research conducted by U of M and MDE to better understand how Chesapeake Bay breezes affect local air quality
- It's the Bays fault



# An example – City to City Transport

- MDE will soon (in March) move forward with a rule designed to ratchet down on mobile source NO<sub>x</sub> from the Washington DC and Baltimore areas
  - Briefed TAC on this issue a while back
  - It's all about Edgewood
- Driven by recent research on the Bay breeze and it's impact local air quality
- Started with U of M WRF (meteorological) modeling around the Bay region
- Used a courser and a finer grid - Finer grid showed very interesting results

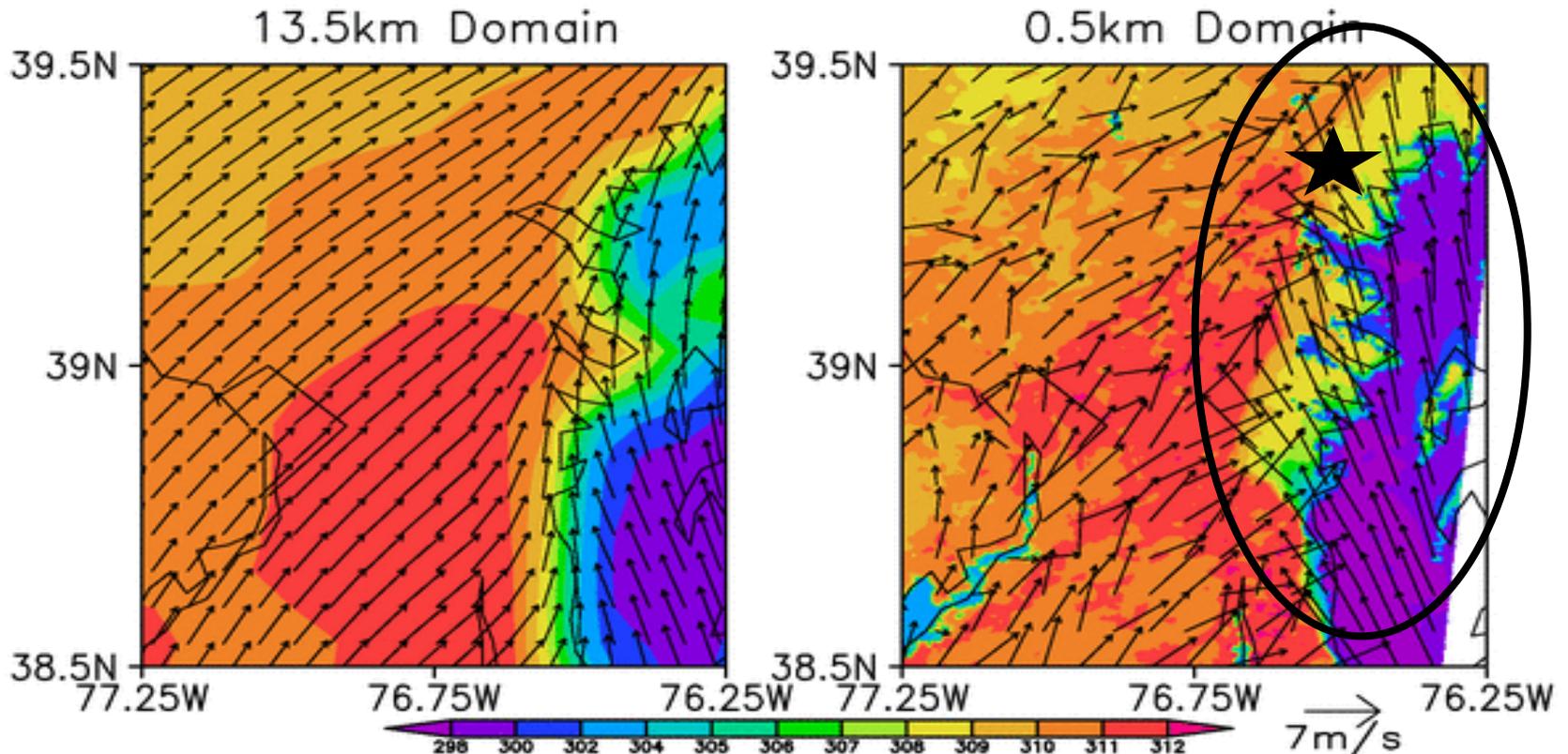
*July 9, 2007 – 9 am*



# Mobile Source Pollution - Bending Back to the West

- Dominant DC/Baltimore local source of NO<sub>x</sub> is mobile sources
- Washington area mobile NO<sub>x</sub> emissions are 50% higher than Baltimore's
- The Washington and Baltimore mobile source NO<sub>x</sub> emissions seem to be the reason that Edgewood is always several ppb higher

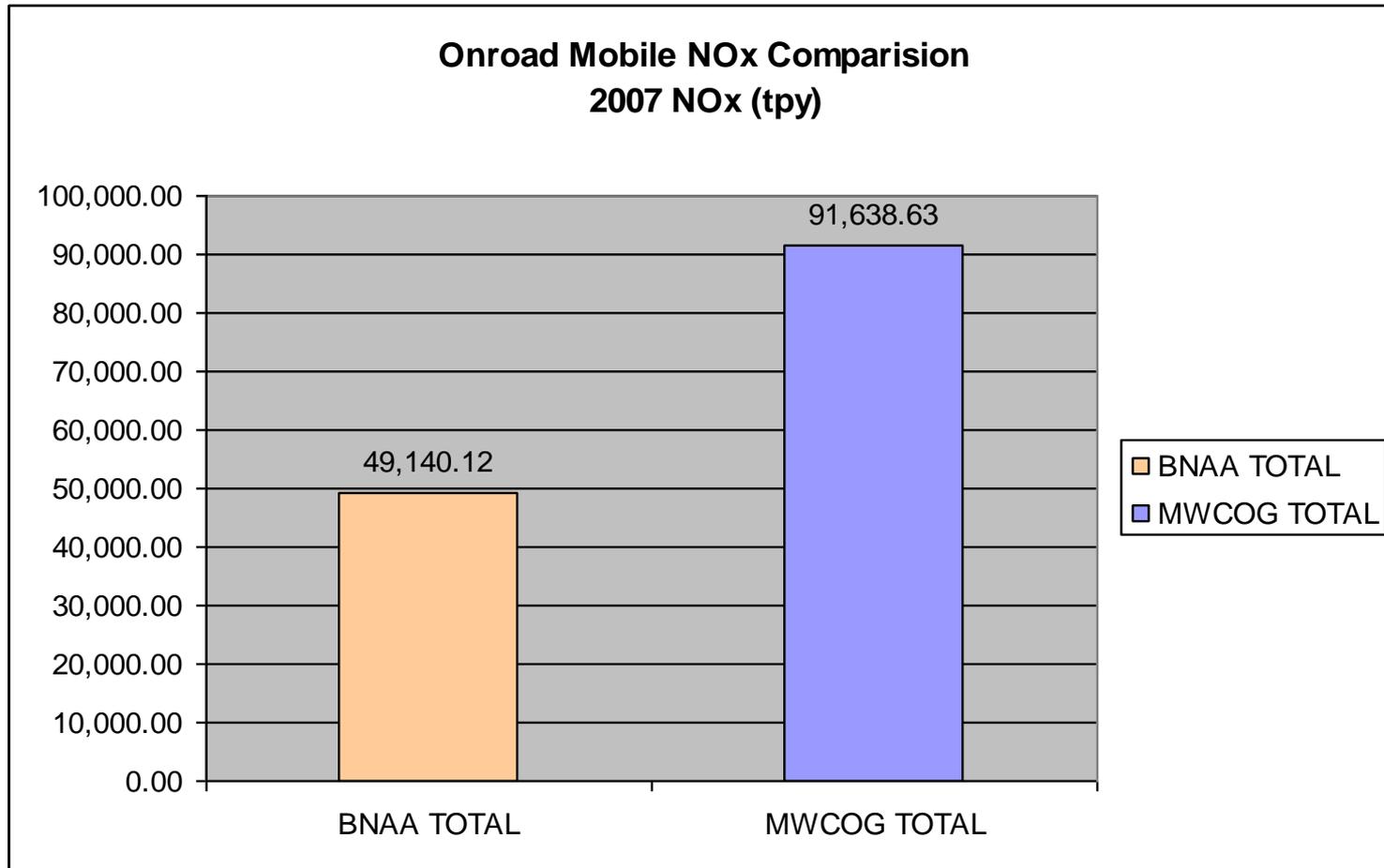
*July 9, 2007 – 2 pm*



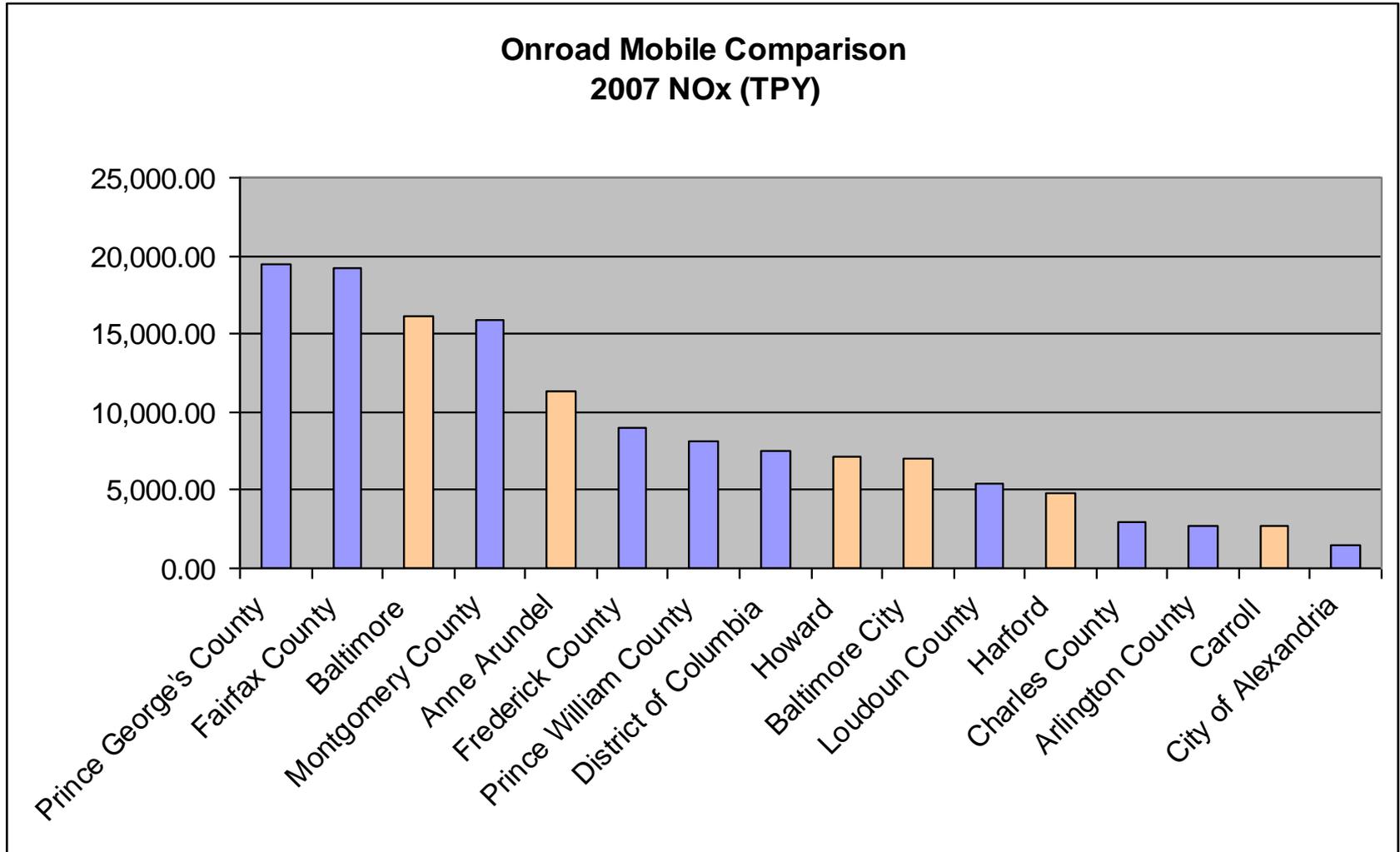


# Mobile Source NOx Emissions ...

*... in the Washington/Baltimore CSA*



# Mobile Source NOx Emissions ...



# What MDE Can Agree To #1

- MDE believes it is very appropriate to amend SIP conformity budgets in the future to insure apples to apples tests between the SIP and the TIP/CLRP
  - Transitioning to MOVES is a good example
- This will require significant coordination and cooperation between air quality and transportation planning groups in the DC area



# What MDE Can Agree To #2

- Creating a safety margin by actually creating surplus reductions is very appropriate
  - Regional adoption of CAL LEV program?
  - Adoption of TERMS where the credits for those TERMS are kept in reserve for a rainy day?
  - Other creative ideas?

