Do We Need to Think Beyond Conformity?

A Special Project by MDE and DDOE
With MWCOG staff support

February 11, 2014

Shared Challenges:

1. **OZONE NONATTAINMENT**

Region does not meet current 75 ppb ozone standard and is unlikely to meet the standard by 2015 deadline

2. **CLIMATE CHANGE**

MWCOG & jurisdictions have GHG reduction goals for 2020 and 2050 that will be difficult to meet

Purpose of the Special Project:

TO BEGIN A *NEW* CONVERSATION ABOUT IMPORTANT POLICY ISSUES

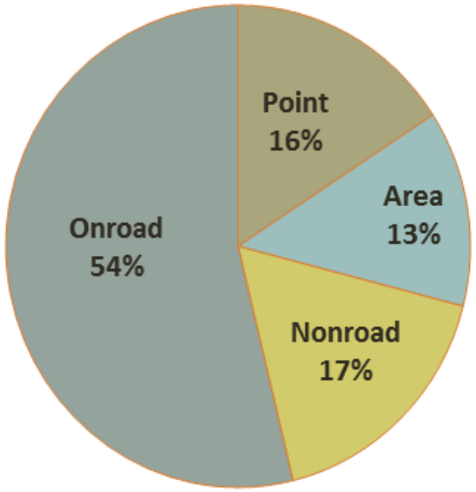
Project Questions:

- What air quality goals should be considered to meet current and future health standards?
- What CO2 goals are needed to meet regional GHG reduction goals for climate change mitigation?
- What mobile sector strategies are available to *efficiently* help meet air quality and climate change goals?

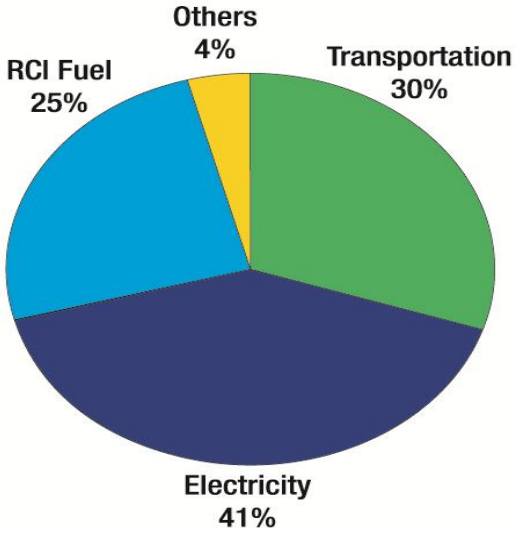
Why the Mobile Sector?

The Mobile Sector is a major source of NOx and GHG emissions:

2011 NEI NO_x for the DC-MD-VA Region



Metropolitan Washington Greenhouse Gas Emissions: 2005



Notes:
RCI fuel includes residential, commercial, and industrial natural gas, home heating oil, nonroad diesel, and aviation fuel.
Other sources include methane from wastewater treatment and landfills, as well as high global-warming-potential gases used as refrigerants and solvents.

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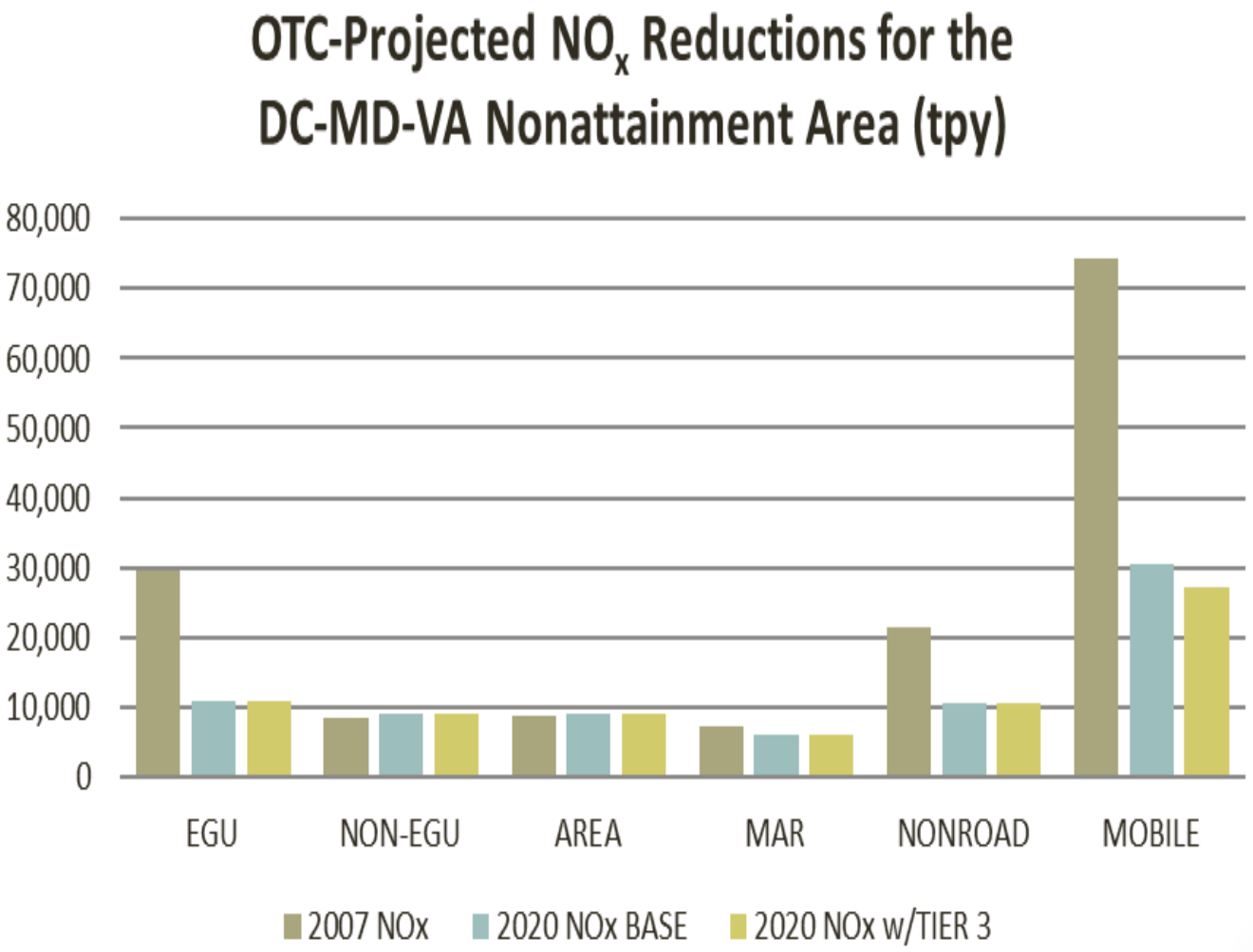
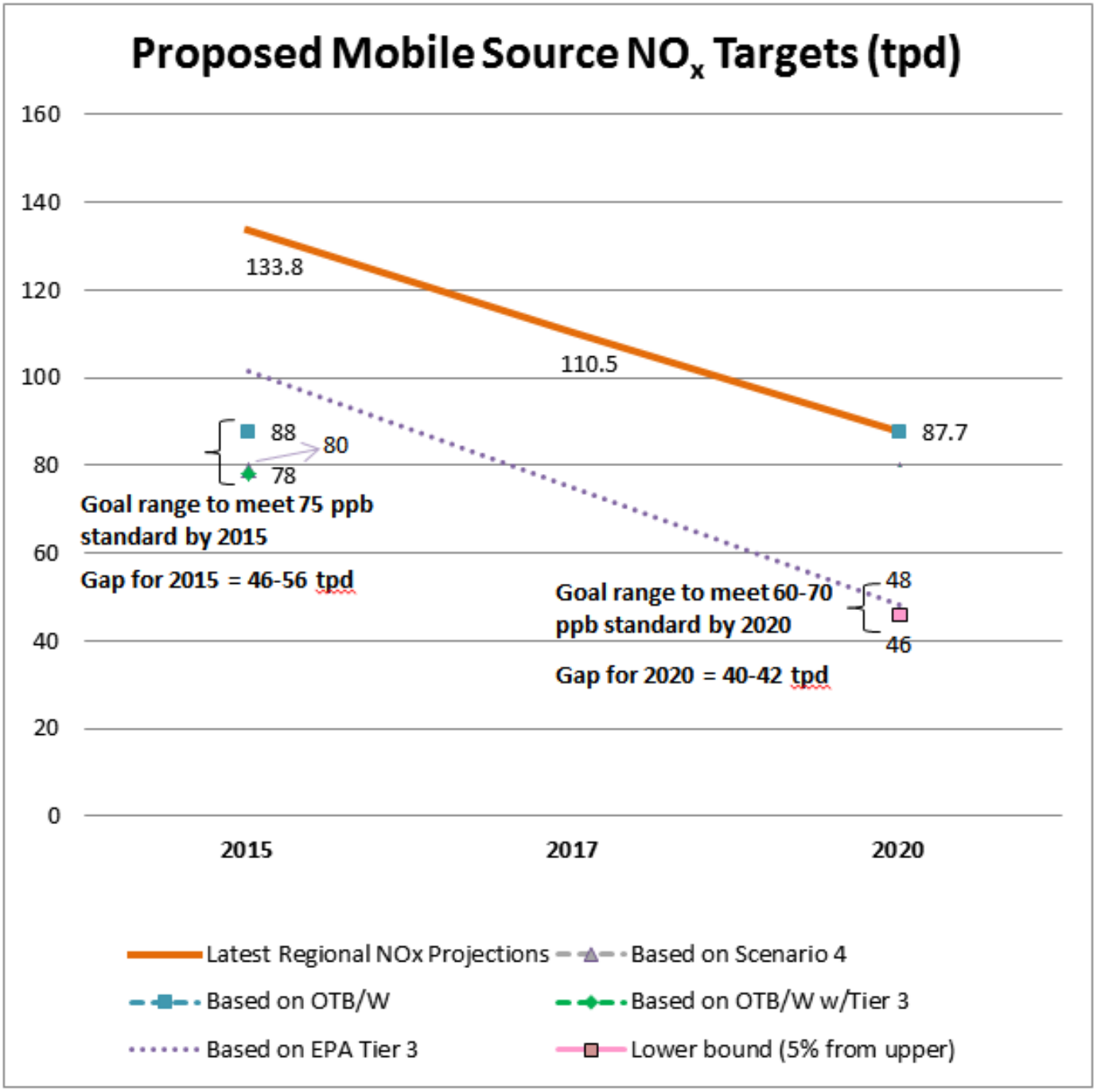


Attaining the current ozone standard (OTC and EPA Modeling)

- Ozone Transport Commission (OTC) did modeling to determine NOx levels needed to reach ozone attainment by 2020
- Control measures included point, area, off-road and on-road mobile sources
- Highest reductions are expected in the EGU Point (63%), off-road (51%), and on-road mobile sectors (64%)

Why Here at TAC & MWAQC?

- States are already pushing hard on transport
- Transportation conformity has worked
- YET more controls are needed to reduce low-level NOx


Proposed Mobile Source NOx Targets (tpd)
160
140
120
100
80
60
40
20
0
133.8
110.5
87.7
88
80
78
Goal range to meet 75 ppb standard by 2015
Gap for 2015 = 46-56 tpd
48
46
Goal range to meet 60-70 ppb standard by 2020
Gap for 2020 = 40-42 tpd
2015
2017
2020
Latest Regional NOx Projections
Based on Scenario 4
Based on OTB/W
Based on OTB/W w/Tier 3
Based on EPA Tier 3
Lower bound (5% from upper)

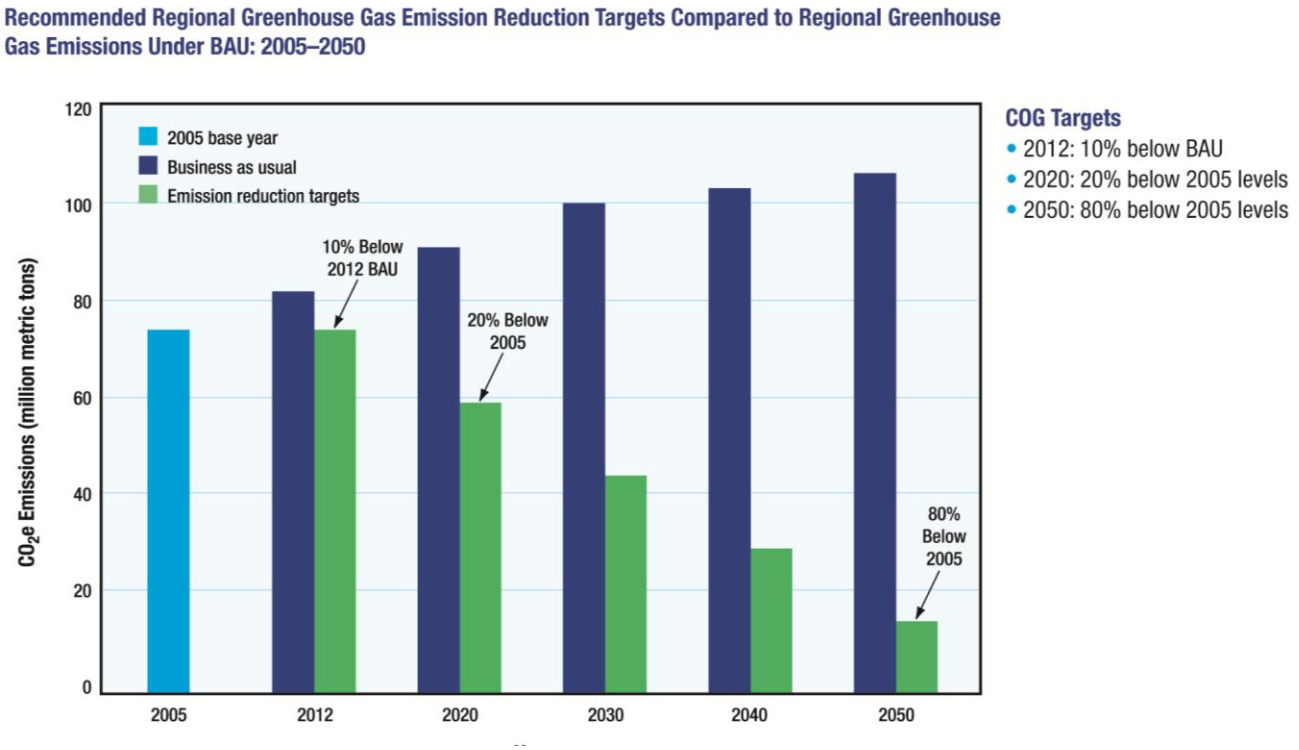
Mobile NOx Levels for Ozone Standard Attainment

	2015	2020
COG-TPB Mobile EI Projections	134 tpd	88 tpd
NOx Levels for achieving ozone standards	78 to 88 tpd*	46 to 48 tpd*
GAP	56 to 46 tpd	42 to 40 tpd

**Range addresses uncertainties in attainment modeling.*

- Derived by applying % reductions from attainment modeling to COG-TPB mobile NO_x projections

Washington Metropolitan Region GHG Reduction Goals

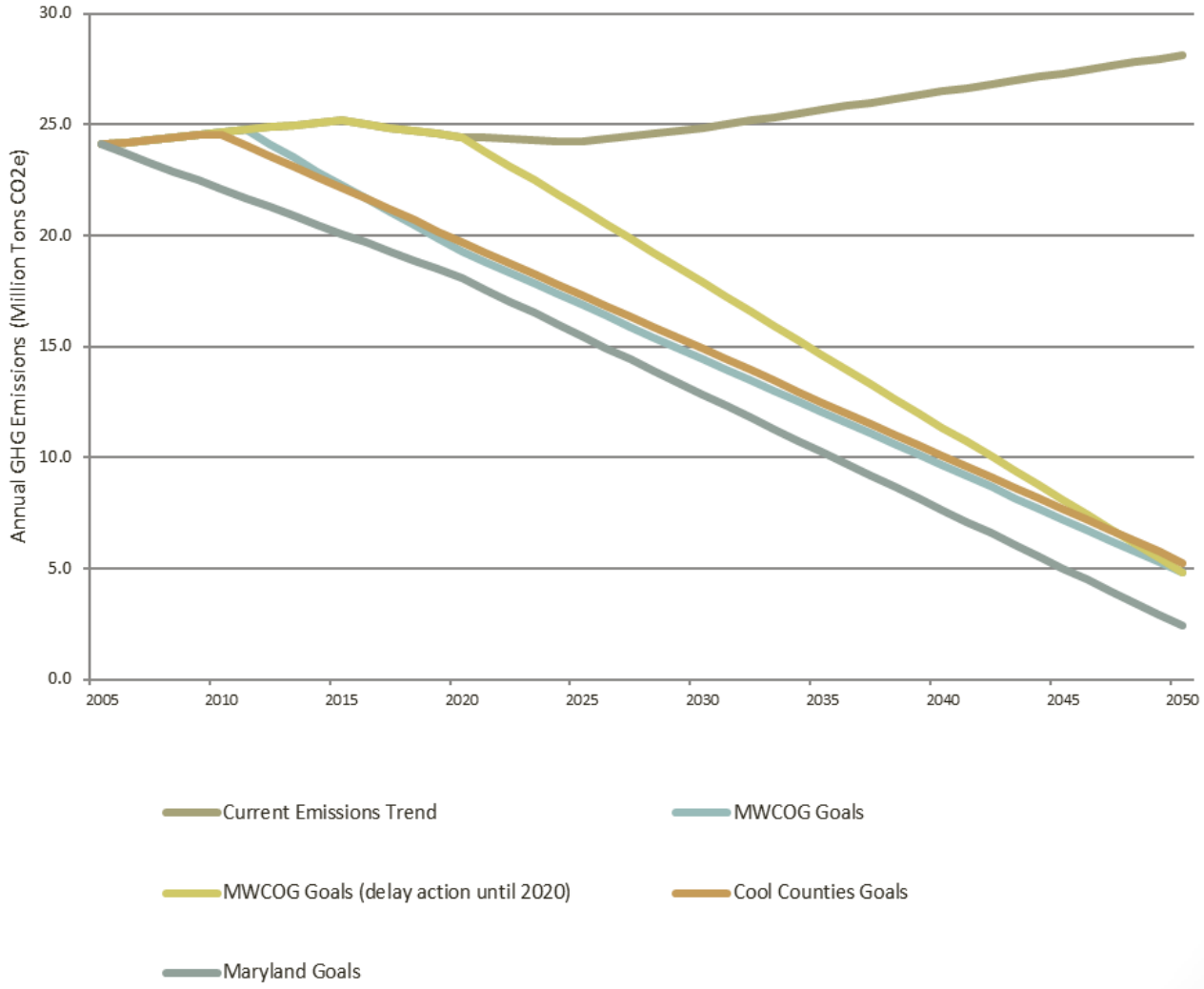


What Would It Take (WWIT) Scenario (2010) applied regional GHG reduction goals to transportation sector.

Reduce 20% by 2020 and 80% by 2050

Regional GHG Goals / Projected Regional Mobile Emissions

Figure 4: Regional Mobile Sector Emissions



GHG Emissions Gap Analysis

GHG Emission Reductions to Meet the MWCOG Climate Change Goals (million tons CO2e)				
Year	2020	2030	2040	2050
Current Estimates	24.4	24.8	26.5	28.1
MWCOG Goal	19.3	14.5	9.6	4.8
Gap	5.1	10.3	16.9	23.3

Current Estimates based on data from 2013 CLRP Performance Analysis: http://www.mwcog.org/clrp/performance/air_quality.asp

Connecting to Regional Goals

Regional Transportation Priorities Plan supports strategies that reduce NOx and GHG emissions

Region Forward