

# OZONE MAINTENANCE PLAN OVERVIEW

---

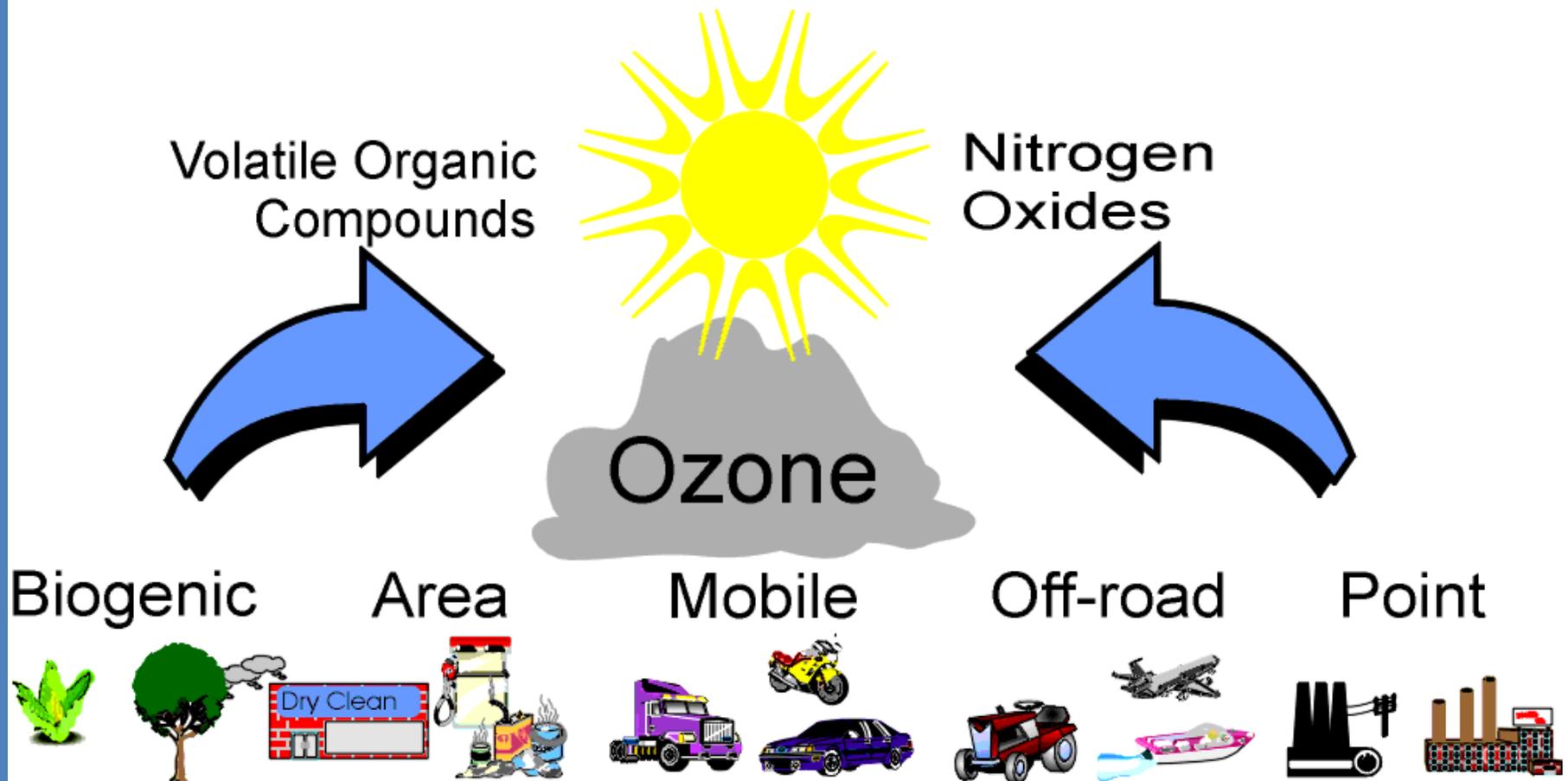
Briefing on the Ozone Redesignation  
Request and Maintenance Plan Related to  
the 2008 Ozone Standard

Jane Posey  
TPB Transportation Engineer

TPB Technical Committee  
April 7, 2017

Agenda Item #11

# How is Ground Level Ozone Formed?



# Good News!

---

- Ozone levels in the Washington Region have steadily declined for the last several decades
- The Washington DC-MD-VA Region is in compliance with EPA's 2008 Ozone Standard
- In order to be officially “in attainment” of the Standard, the States must request redesignation to attainment and submit a “Maintenance Plan” to show how the Region will maintain its attainment of the standard

# What is a Maintenance Plan?

---

- A Maintenance Plan outlines how an area will maintain its attainment of a federal air quality standard for 10 years into the future.
- A revision to the Maintenance Plan is required within 8 years of approval of the original Maintenance Plan to address maintenance for years 11-20 after an area is redesignated
- A Maintenance Plan has a Contingency Element which contains actions that an area is required to take in the event that the area exceeds the attainment level of emissions

# Ozone Standards

---

## Previous 1997 Standard

- 84 ppb
- Promulgated July, 1997
- Designation as “moderate” non-attainment in 2004
- Attainment SIP and mobile budgets developed by MWAQC in 2007.
- Mobile budgets found adequate for use in conformity by EPA in February, 2013
  - These mobile budgets in use today

## Previous 2008 Standard

- 75 ppb
- Promulgated March, 2008
- Designation as “marginal” non-attainment in July, 2012
- No attainment SIP, no new mobile budgets
  - Marginal non-attainment areas do not require attainment SIP or mobile budget development



Maintenance Plan is for this Standard

## Current 2015 Standard

- 70 ppb
- Promulgated October, 2015
- Designations expected by October 1, 2017
- Expect “marginal” non-attainment designation as recommended by States
  - No attainment SIP, no new mobile budgets



# Ozone Monitor Locations

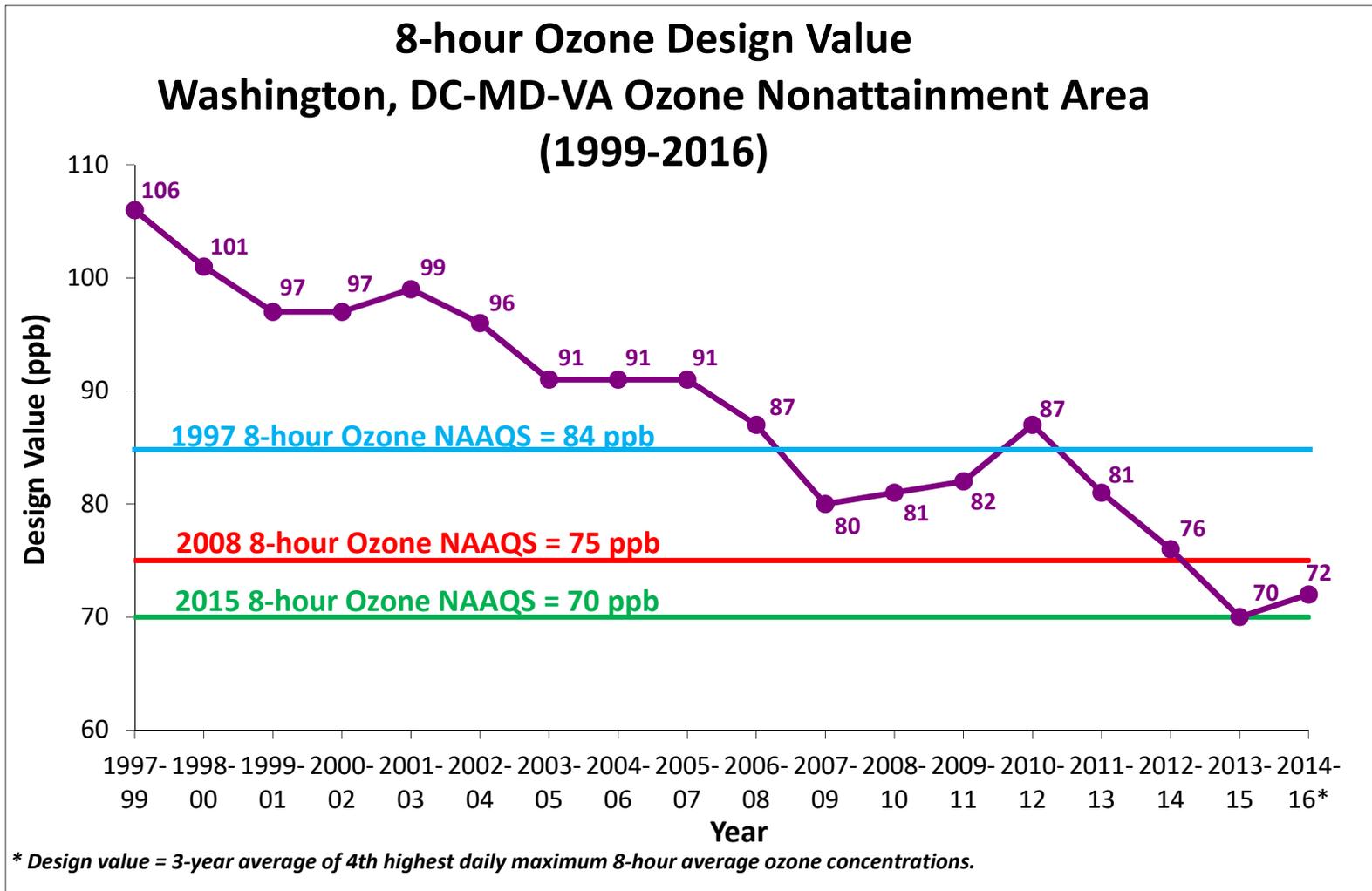
## Metropolitan Washington Ozone Monitors Washington, DC, MD, VA



**Monitor Names**

- 1. Takoma Park
- 2. River Terrace
- 3. McMillian
- 4. Prince George's County Equestrian Center
- 5. Beltsville
- 6. Rockville
- 7. Southern Maryland
- 8. Frederick
- 9. Calvert
- 10. Alexandria
- 11. Aurora Hills
- 12. Long Park
- 13. Ashburn
- 14. Franconia

# Ozone Levels



# Why Redesignation Request and Maintenance Plan?

---

- Closes the book on the 2008 ozone standard
- Official recognition and public awareness:
  - Ozone levels in compliance with 2008 standard
  - Control measures such as cleaner engines, controls on power plants, diesel retrofit measures are working
- Reduces a significant obstacle for locating new industries (economic development)
- Replaces old Motor Vehicle Emissions Budgets still being used in air quality conformity analyses
  - The current mobile budget was developed for the 1997 ozone standard using the now outdated Mobile6 emissions model
  - New mobile budgets will be significantly lower



# Elements of Redesignation Request and Maintenance Plan

---

## Air Quality Data

- Ozone data to show compliance with the 2008 ozone standard (3 year average: 2013-2015)

## Emissions Inventories (Point, Area, Non-road, On-road Mobile Sources)

- 2011 Base Year
- 2014 Attainment Year
- 2025 Intermediate Year
- 2030 Final Maintenance Year (must be at least 10 years beyond EPA's date of Redesignation for an area, which is expected in 2018 for this Maintenance Plan)



# Elements of Redesignation Request and Maintenance Plan (cont.)

---

## Motor Vehicle Emissions Budgets (MVEBs)

- Mobile emissions ceilings for transportation conformity (2014, 2025, 2030)

## Contingency Measures

- In case region exceeds ozone standard in future, these measures would be implemented

# Mobile Emissions Budgets

## Uncertainties In Inventory Estimates \*

- Changes to EPA Emissions Model (MOVES)
  - Possible rollback of assumed federal control programs (Tier 3, Light Duty and Heavy Duty Vehicle GHG regs, etc.) ( MOVES2010 to MOVES2014 >50↓ in VOC and NOx in 2040)
- Changes to EPA Emissions Model (MOVES)
  - Methodology (Mobile to MOVES: > 100%↑ in NOx in 2040)
- Aging vehicle fleet
  - VIN Data updated every 3 years: next 2017
  - 2008 to 2014 VIN Data showed an increasingly aging fleet and an increasing percentage of larger vehicles
- Updates to Cooperative Forecasts- economic growth

\*Uncertainties = elements out of TPB control that can lead to mobile budget exceedances



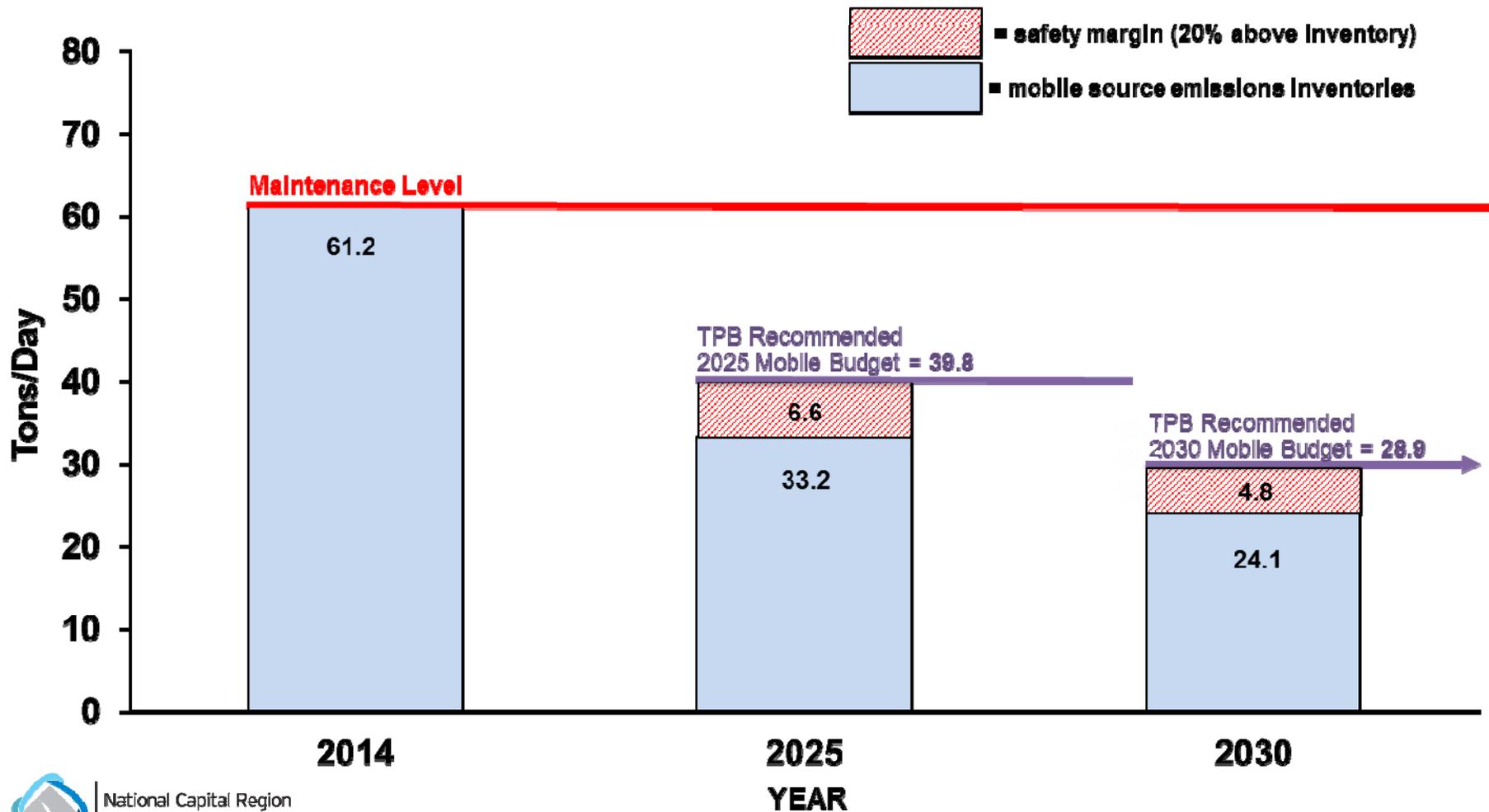
# Mobile Emissions Budgets

---

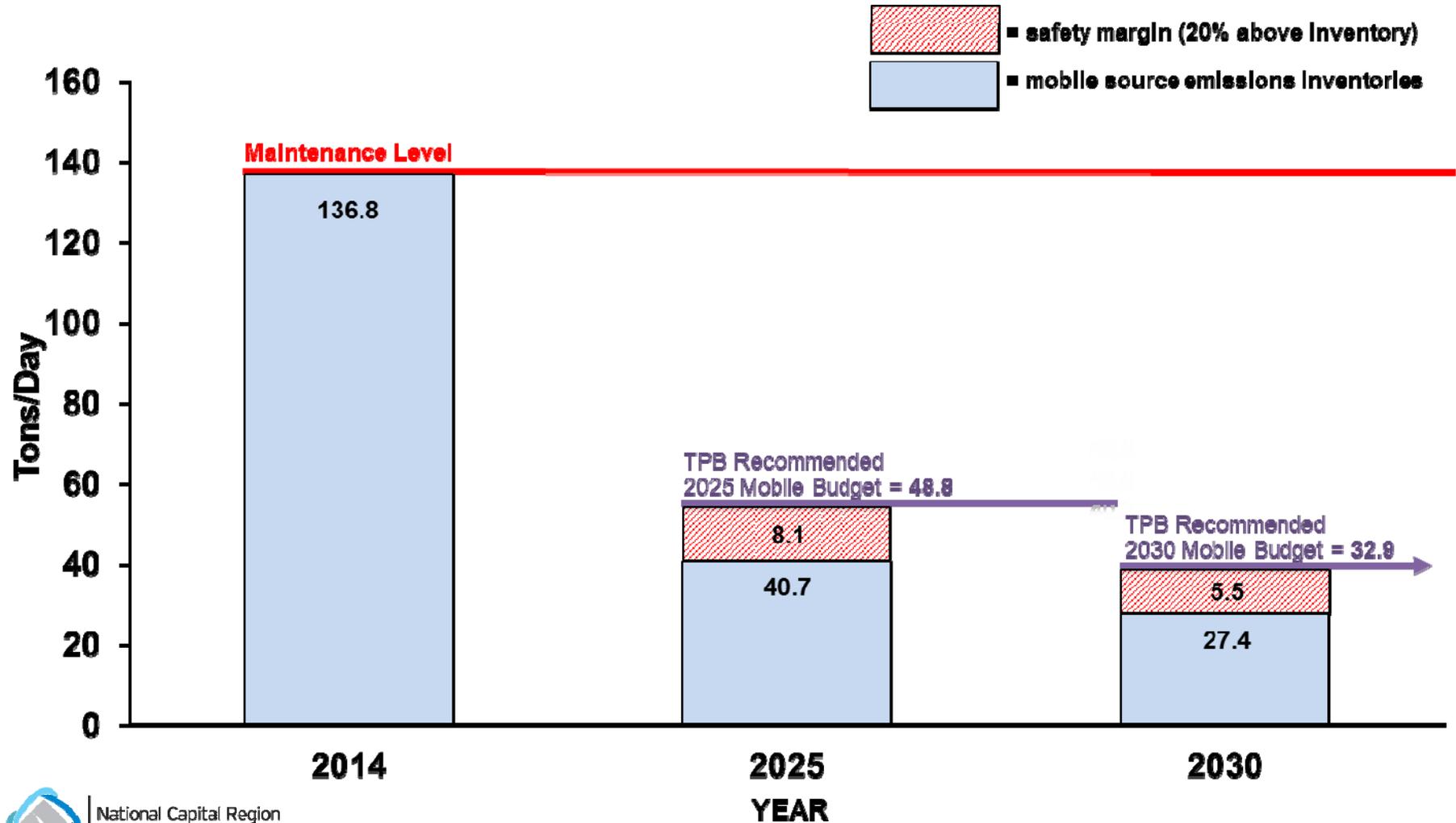
## Addressing Uncertainties

- Safety Margins
  - Explicitly defined and provided for in EPA's conformity regulations
  - Included in PM 2.5 maintenance plan approved by MWAQC in 2013
- Language in Maintenance Plan directing update of only mobile budgets portion of Maintenance Plan
  - “Apples to apples” comparison of mobile budget inputs and conformity inputs
  - Precedent in other MPOs
  - Precedent on agreement to update mobile budgets in Fine Particles Maintenance Plan

# Recommended Mobile Budgets with Safety Margins - VOC



# Recommended Mobile Budgets with Safety Margins - NOx



# Schedule

---

April	TPB Transmits Mobile Emissions Inventories to MWAQC
April-June	Finalize Draft Emissions Inventories (All Sectors) and <b>Develop Mobile Budgets</b> and Draft Maintenance Plan
July	MWAQC Approves Draft Emissions Inventories and Draft Maintenance Plan for Public Comment
August	States Post Notices for Public Hearings and Comments
Sept–Nov	Public Hearing and Comment Period
December	MWAQC Approves Final Maintenance Plan
Early 2018	States Submit Redesignation Request and Maintenance Plan to EPA

# What Happens after EPA Approves the Mobile Budgets?

---

- The Mobile Budgets in the Maintenance Plan will become effective immediately upon EPA's approval, and must be used in any subsequent conformity analysis, including one that is currently underway.
- Once approved by EPA, these Mobile Budgets must be used in the conformity analysis, constraining future mobile emissions for all years of the Long Range Plan, regardless of any changes to input assumptions (federal vehicle and fuel programs, vehicle fleet data, land activity data, etc.), until new Mobile Budgets are developed for the region and are approved by EPA.

# Contact Information

---

Jane Posey

[jposey@mwkog.org](mailto:jposey@mwkog.org)

202-962-3331

Thanks to Sunil Kumar, COG DEP staff,  
who developed several of these slides.

[mwkog.org](http://mwkog.org)

---

777 North Capitol Street NE, Suite 300  
Washington, DC 20002