



# **Draft Emissions Inventory – Annual PM<sub>2.5</sub> SIP**

Sunil Kumar

MWAQC Meeting

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# Emissions Inventory Requirements

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- Base Year 2002 Annual Inventory
  - NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, VOC, NH<sub>3</sub>
  
- Attainment Year 2009 Annual Inventories (Controlled & Uncontrolled)
  - NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>2.5</sub>

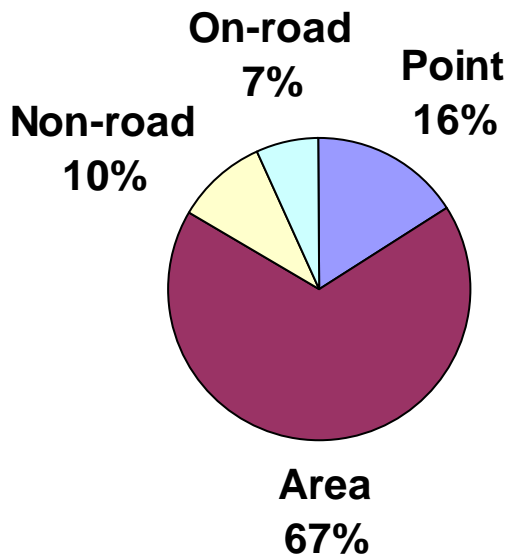


# Draft BY 2002 Emissions Inventory

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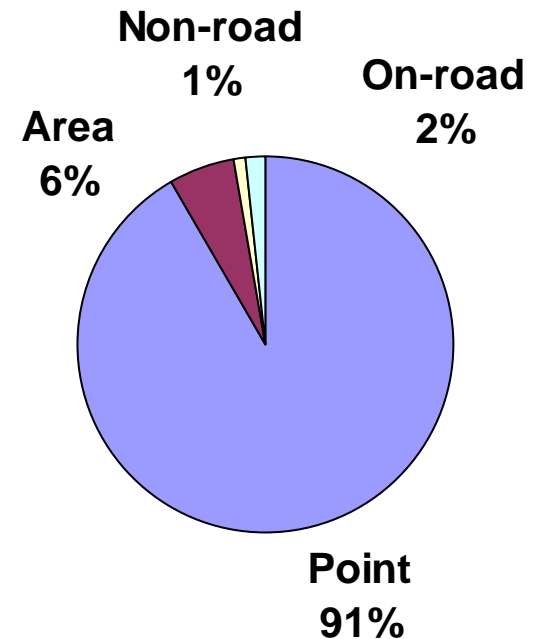
## PM2.5

BY 2002 Emissions = 25843.77 tpy



## SO2

BY 2002 Emissions = 223328.56 tpy



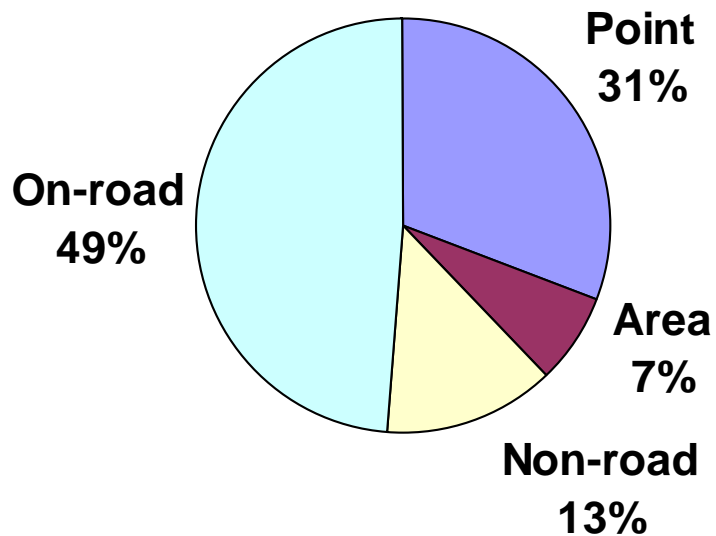


# Draft BY 2002 Emissions Inventory

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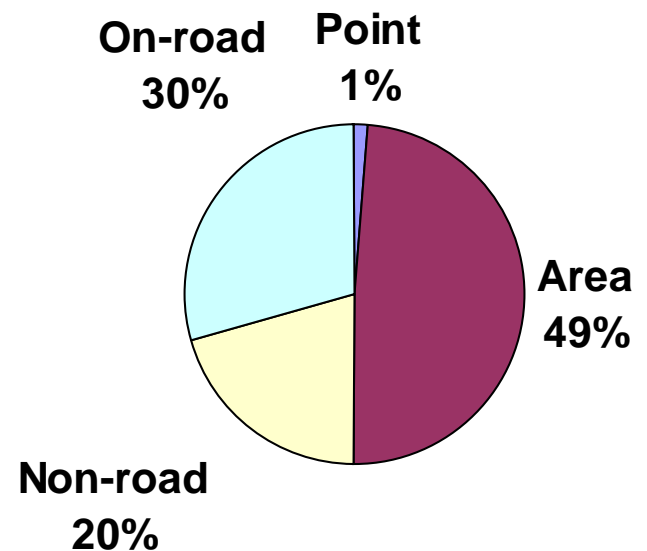
## NOx

BY 2002 Emissions = 199594.00 tpy



## VOC

BY 2002 Emissions = 148781.83 tpy



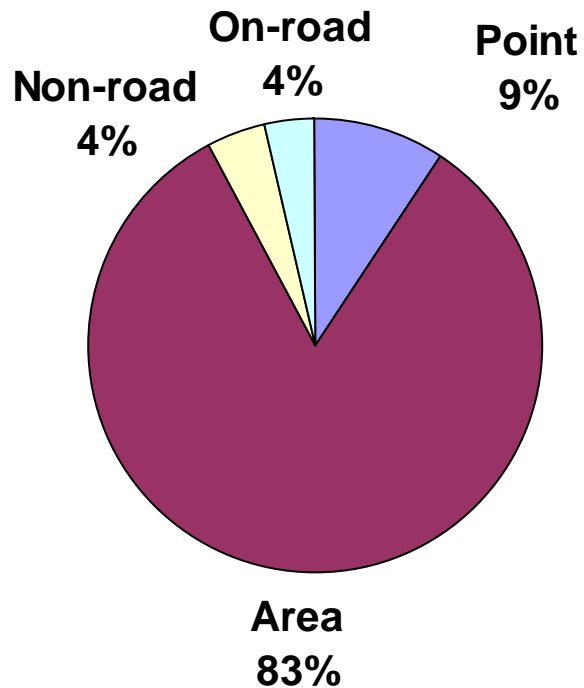


# Draft BY 2002 Emissions Inventory

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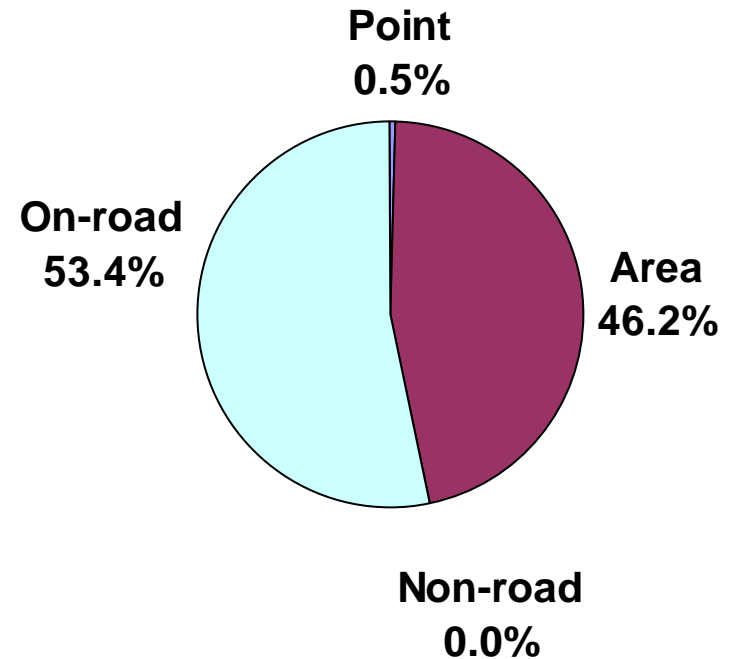
## PM10

BY 2002 Emissions = 67446.34 tpy



## NH3

BY 2002 Emissions = 7952.22 tpy





# Significant Sources – BY 2002 PM2.5 & precursors Emissions

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## ■ **PM2.5**

- Power Plants & Other Industries
- Open Burning - Land Clearing Debris
- Residential wood combustion: Woodstoves
- Road Construction
- Nonroad Construction & Mining Equipments
- Lawn & Garden Equipments

## ■ **NOx**

- Motor vehicles
- Power Plants & Other Industries
- Nonroad Construction & Mining Equipments
- Lawn & Garden Equipments



# Significant Sources – BY 2002 PM<sub>2.5</sub> & precursors Emissions

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## ■ **SO<sub>2</sub>**

- Power Plants & Other Industries
- Coal Combustion – Industrial
- Coal Combustion – Commercial/Institutional
- Residential Distillate Oil Combustion

## ■ **VOC**

- Motor vehicles
- Commercial & Consumer Solvent Use
- Surface Coating
- Portable Fuel Containers
- Gasoline Storage
- Lawn & Garden Equipments



# Significant Sources – BY 2002 PM2.5 & precursors Emissions

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## ■ **PM10**

- Power Plants & Other Industries
- Open Burning - Land Clearing Debris
- Residential wood combustion: Woodstoves
- Road Construction
- Nonroad Construction & Mining Equipments
- Lawn & Garden Equipments

## ■ **NH3**

- Motor Vehicles
- Agricultural Production - Livestock



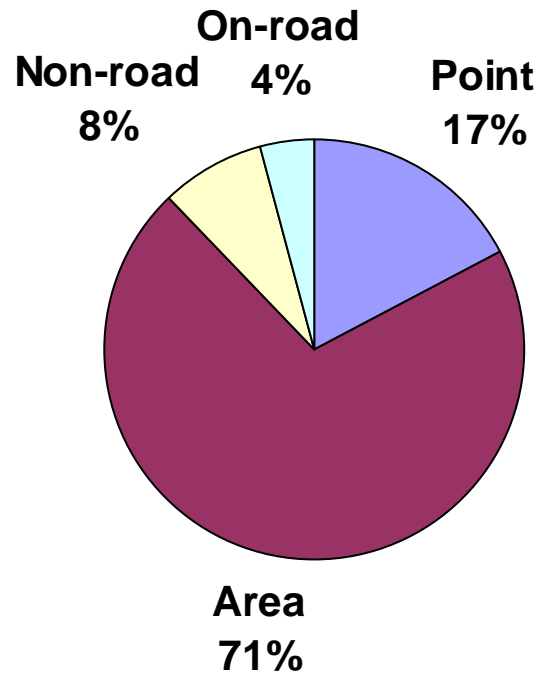


# Draft AY 2009 Emissions Inventory

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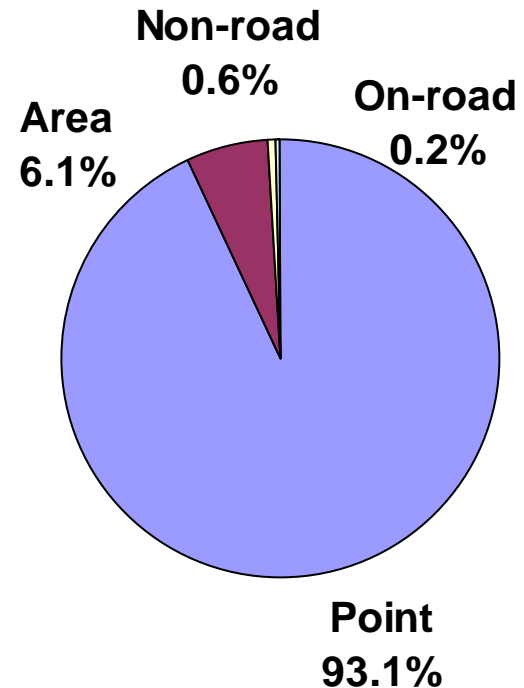
## PM2.5

AY 2009 Emissions = 27158.50 tpy



## SO2

AY 2009 Emissions = 231855.61 tpy



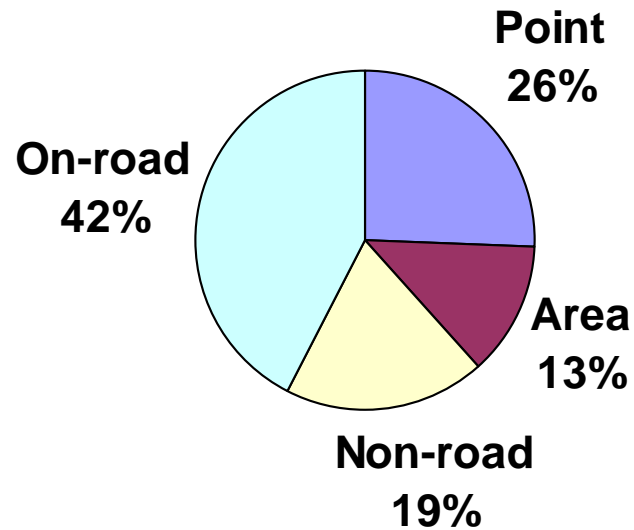


# Draft AY 2009 Emissions Inventory

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## NO<sub>x</sub>

AY 2009 Emissions = 123024.63 tpy





# Significant Sources – AY 2009 PM2.5 & precursors Emissions

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## ■ **PM2.5**

- Power Plants & Other Industries
- Open Burning - Land Clearing Debris
- Residential wood combustion: Woodstoves
- Road Construction
- Nonroad Construction & Mining Equipments
- Lawn & Garden Equipments

## ■ **NOx**

- Motor vehicles
- Power Plants & Other Industries
- Nonroad Construction & Mining Equipments
- Lawn & Garden Equipments



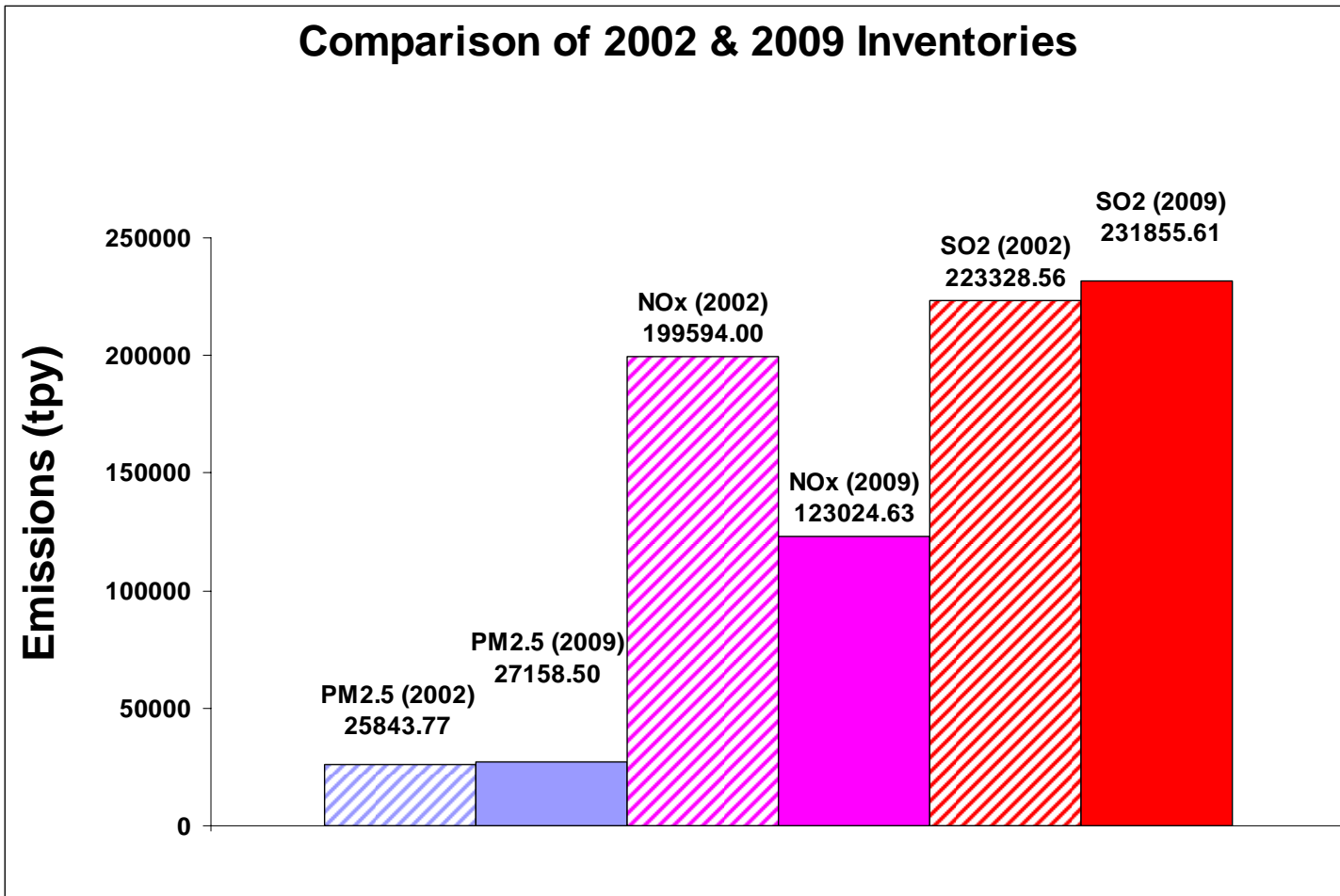
# Significant Sources – AY 2009 PM<sub>2.5</sub> & precursors Emissions

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- **S<sub>02</sub>**

- Power Plants & Other Industries
- Coal Combustion – Industrial
- Coal Combustion – Commercial/Institutional
- Residential Distillate Oil Combustion

# Comparison of 2002 & 2009 Emissions Inventories





## Control Measures (2002 – 2009)

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### ■ **Point Source**

- NOX SIP Call
- Clean Air Interstate Rule (CAIR) - VA & DC
- Maryland Healthy Air Act - MD
- Utility Reductions (Possum Point Fuel Conversion) -VA



## Control Measures (2002 – 2009)

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- **Area Source**

- Additional phase-in of reductions from National Locomotives Rule

- **Nonroad Source**

- 2004 Nonroad Heavy Duty Diesel Rule
- Additional phase-in of technology rules implemented by 2002.



## Control Measures (2002 – 2009)

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### ■ **Onroad Source**

- Heavy-Duty Diesel Engine Rule (2004)
- Heavy-Duty Diesel Engine Rule (2007)
- Tier 2 Motor Vehicle Emission Standards
- I&M Program with Cut-points