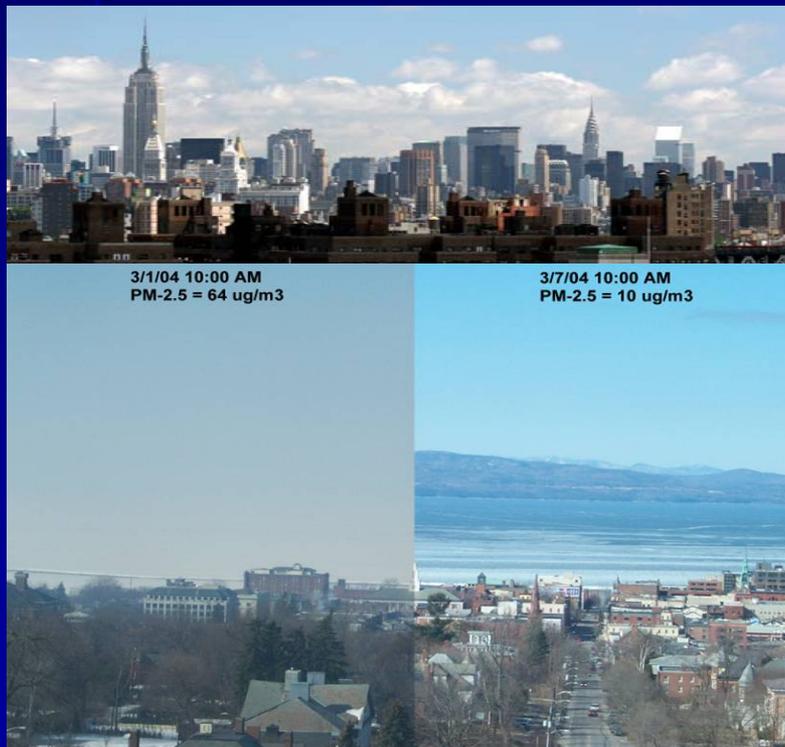




# PM NAAQS: Scope and Methods Plan for Urban Visibility Impact Assessment

Consultation with  
Clean Air Scientific Advisory Committee



Office of Air Quality Planning  
and Standards

U.S. EPA

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# Overview: Design of Urban Visibility Impact Assessment

- Builds on information in ISA and from previous reviews and assessments
- Considers different standard structure approaches to address PM-related urban haze
  - Historical approach –  $PM_{2.5}$  mass concentration
  - Alternative approaches
    - algorithm approach – site-specific PM mass equivalent to nationally uniform PM light extinction (composition and relative humidity dependent)
    - direct measurement approach – PM light extinction (can accommodate various size ranges e.g.,  $PM_{10}$  or  $PM_{2.5}$ )



# Overview: Design of Urban Visibility Impact Assessment (cont.)

- Explores appropriate averaging time(s)
  - Historical approach – 24 hour average; sub-daily 4-8 hour period afternoon hours considered
  - Alternative approach – considers range from 1 hour minimum to maximum of all daylight hours
- Considers possible constraints to address some attributes (e.g., maximum relative humidities)



# Overview: Design of Urban Visibility Impact Assessment (cont.)

- Focuses on selected urban areas
  - Utilize high time resolution, PM speciation data, where available
  - Consider alternative use of urban optimized algorithm
- Characterizes PM-related urban visibility conditions for:
  - Recent ambient air concentrations (2005 -2007)
  - Simulations of air quality to “just meet” current or alternative standards



# Overview: Design of Urban Visibility Impact Assessment (cont.)

- Explores a range of urban visual air quality (VAQ) conditions considered appropriate for public welfare protection based on:
  - Levels identified from existing and/or additional public preference/value surveys of urban haze
  - Frequency of occurrence (e.g., 98<sup>th</sup> percentile over 3 years)



# Areas of Ongoing Standards Development and Assessment Design Refinement

- Evaluating technical merits of alternative approaches to standard structure:  $PM_{2.5}$  mass concentration compared to  $PM$  light extinction
- Evaluating ways to assess urban visibility conditions
  - Utility of developing a refined algorithm to relate  $PM$  to light extinction for urban use
  - Importance of and mechanisms for including  $PM_{10-2.5}$  contributions in addition to  $PM_{2.5}$  contributions
  - Appropriate use of limited hourly time resolution  $PM$  mass, species and visibility data in urban areas



# Areas of Ongoing Standards Development and Assessment Design Refinement (cont.)

- Evaluating options for conducting a quantitative visual air quality (VAQ) impact assessment
  - Utility of alternative approaches for conducting additional public preference studies
  - Appropriateness of including collection of monetary valuation data



# Supplemental Slides

# Major Components of PM Urban Visibility Assessment

