

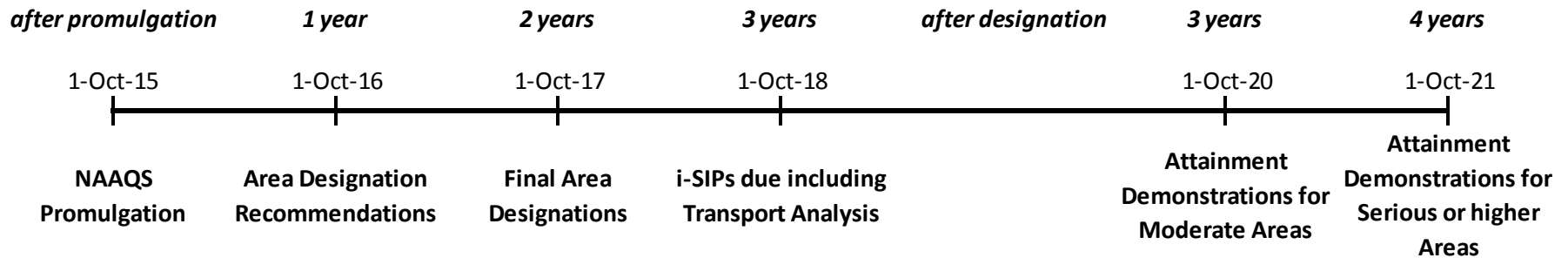
# State Perspective on USB Technical and Scientific Information Needed to Support SIP Planning

Presented by Frank Forsgren  
Nevada Division of Environmental Protection

Background Ozone Science Assessment  
Workshop

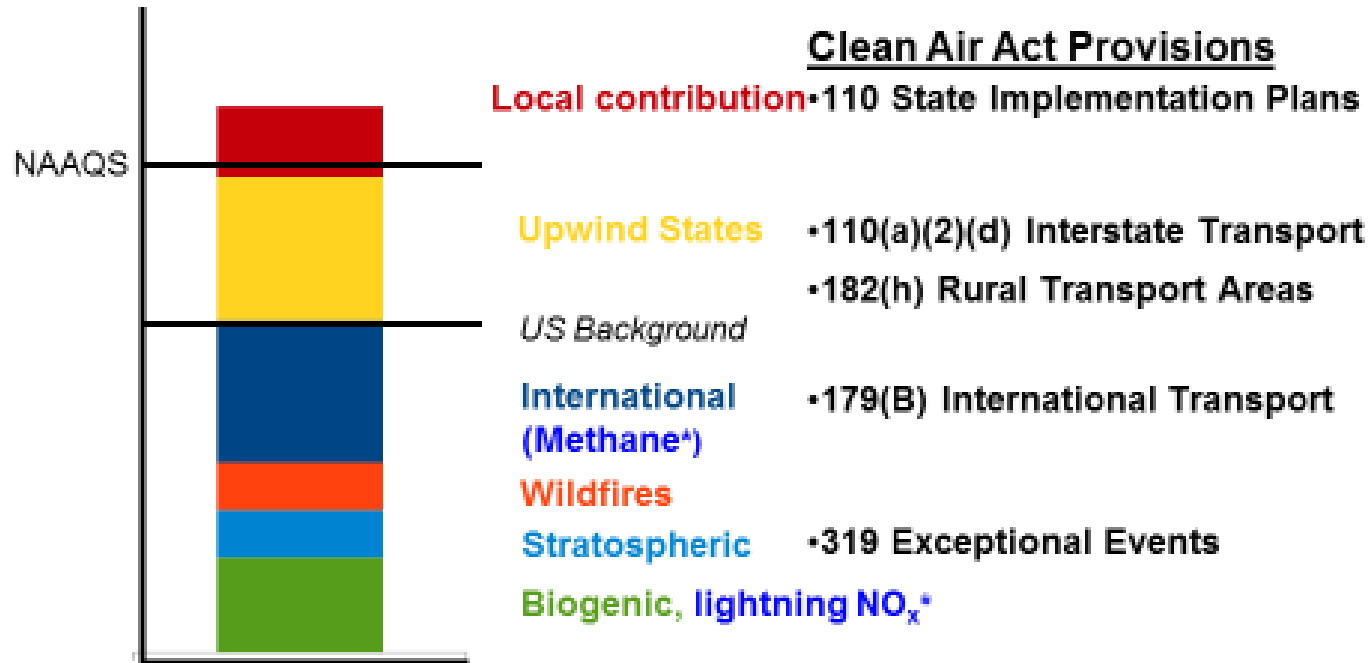
Denver, CO  
March 28 – 29, 2017

# Regulatory Requirements of the 2015 Ozone NAAQS



# Air Quality Management Requires Source Apportionment

*(every state, every site has a different source mix in space and time)*

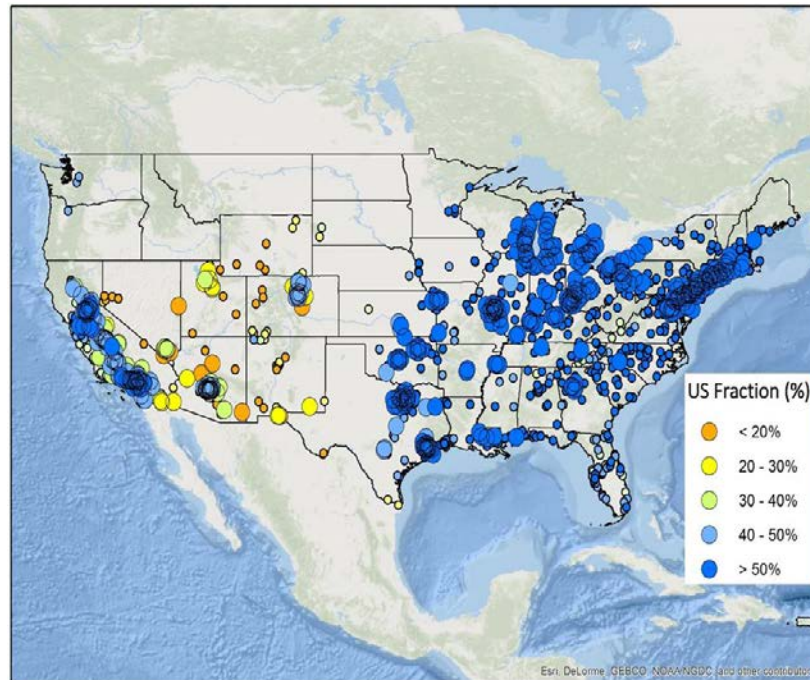


We need to be able to describe the sources that contribute to *each day, especially each exceedance day.*

*\*Adapted from T. Keating, U.S. EPA*

**Fig 1b. Conceptual diagram showing sources contributing to daily O3 for a hypothetical receptor location. Adapted from a presentation by Terry Keating, US EPA.**

# The Role of USB in the West



From EPA Background Ozone Workshop presentation Feb 24-25, 2016  
2017 source appointment modeling for proposed Cross-State Air Pollution Update Rule

- Ultimately States want to know how emissions sources under their control contribute to monitored ozone concentrations and in the cases where those contributions are significant, how to design effective emission control strategies.

# Needs to Support SIP Planning

- Refine USB estimates
  - Identify range of contribution to USB by component
    - Natural sources, *stratospheric intrusion*, *wildfires*, and international transport
    - Identify tools to support EE demonstrations and make broadly available
  - Identify the temporal variability of contributions to USB
    - Seasonal average versus design value versus MDA8/hourly assessments
  - Assess long-term effects of the increasing trend in tropospheric ozone concentrations and effects of climatic variability (El Niño/La Niña) on USB

# Needs to Support SIP Planning

- Enhance modeling assessments of USB
  - Evaluate which global models are best suited to inform CONUS models
  - Identify uncertainties in international emission inventories and test for significance to identify where improvements will have greatest effect
  - Routinely run models to assess USB for both current and future conditions
  - Conduct additional Model Performance Evaluations
    - By individual monitors with finer temporal resolution
    - Of events contributing to USB

# Needs to Support SIP Planning

- Support evaluation of control strategies
  - How do contributions from long-range transport and stratospheric intrusions interact with and influence local ozone formation?
  - How important is the variability in space and time of the transition from NO<sub>x</sub>-limited to VOC-limited conditions for the development of control strategies in western urban and rural areas?

Thank you.