

Development and Assessment of Environmental Indicators: Application to Mobile Source Impacts on Emissions, Air Quality, Exposure and Health Outcomes

U.S. EPA Workshop on
Public Health Impacts of Risk Management
Decisions

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 - SEARCH monitoring data
 - Funding for ASACA
- Georgia EPD
 - Monitoring data

Outline

- Develop and assess air quality and health indicators of the impact of mobile sources
 - Mobile sources in Atlanta for 1998-2004
 - Varying detail and complexity
- Test integrated indicators
 - Impact on air quality and **cardiovascular health**
- Assess indicators for outcomes associated with mobile source emissions and policies
- Evaluate using an independent data set for 2005-2009

Hospitals and Monitors

- 41 hospitals

air monitors

- 5 CO

- 6 NO₂/NO_x

- 5 SO₂

- 11 O₃

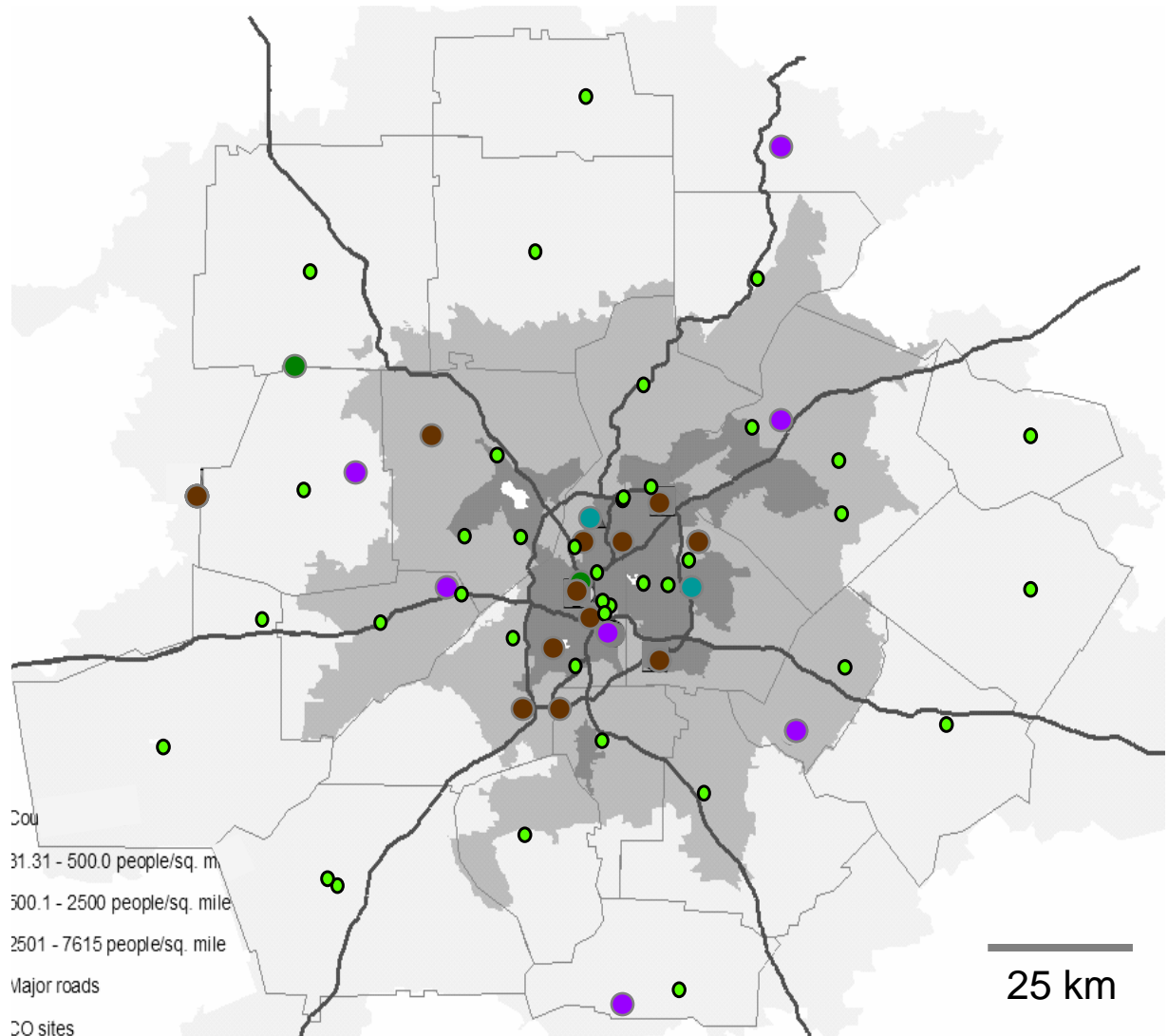
- 12 PM_{2.5} mass
(5 composition)

Data sets used in SOPHIA

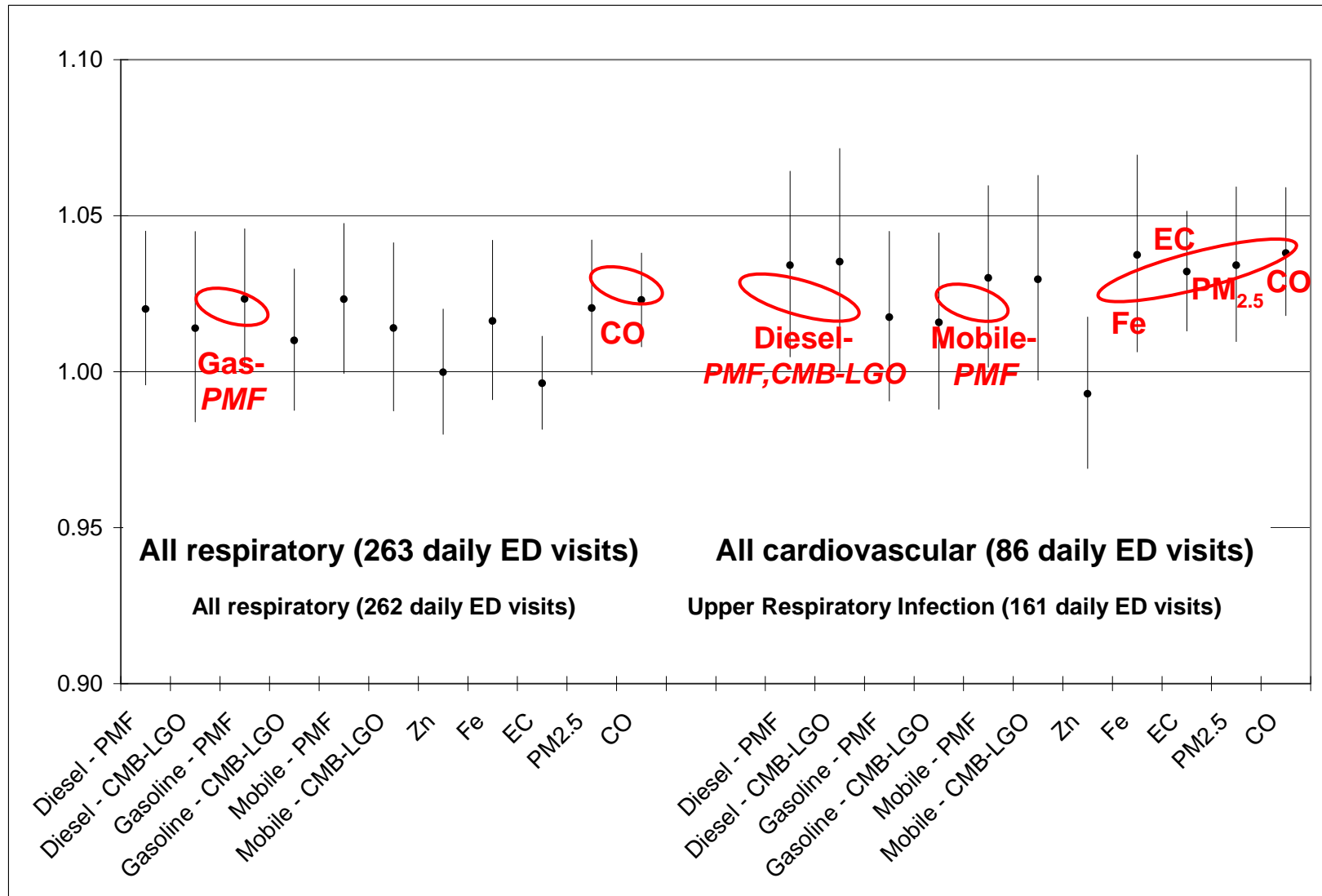
➤ SEARCH

➤ ASACA

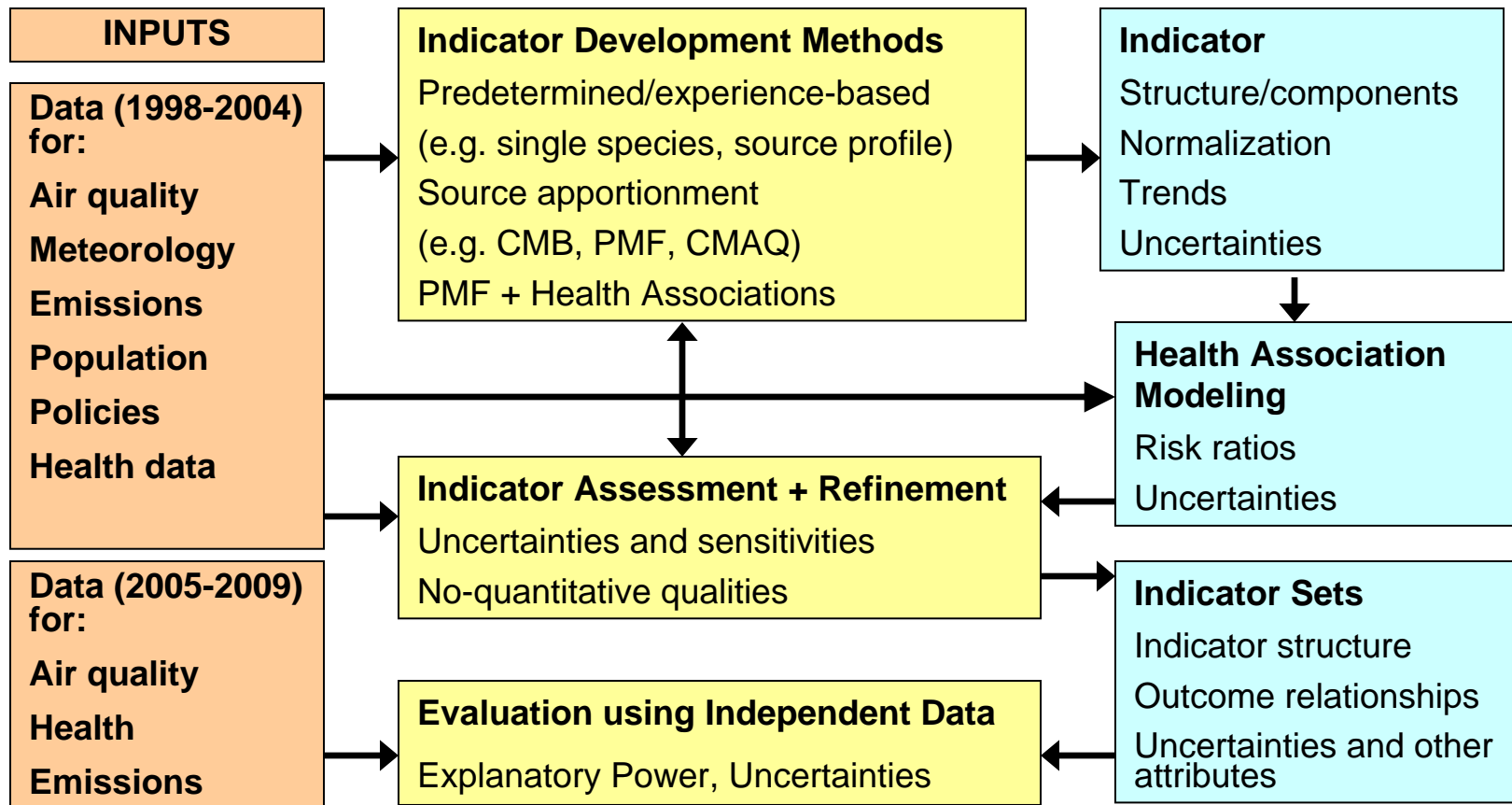
➤ STN



Mobile Source Indicator Risk Ratios



Approach



Indicator Set

Indicator Set		
<u>Indicator</u> <ul style="list-style-type: none">• Species concentrations• Meteorology• Source/integrated measure of impact• Population	<u>Associated outcomes</u> <ul style="list-style-type: none">• CVD hospital admissions• Other pollutant concentrations• Pollutant exposures• Emissions	<u>Attributes and Uncertainties</u> <ul style="list-style-type: none">• Indicators• Outcomes