



U.S. EPA

Engagement on Air Quality along the U.S.-Mexico Border

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Overview

- U.S.-Mexico border strategy for EPA's Office of Air and Radiation
 - Foundation
 - Key goals
 - Potential activities
 - Next steps

- Multi-pollutant air quality management
 - Background
 - Case studies
 - Pilot program concept
 - Next steps



Existing Foundation

- EPA and SEMARNAT, in consultation with local and regional stakeholders, have a history of cross-border collaboration to help improve air quality and public health outcomes along the Mexico-U.S. border
- EPA Regions 6 and 9 have been leading this work on behalf of EPA to build a foundation of productive partnerships and shared progress
- EPA's Office of Air and Radiation ("OAR" – HQ for air) is working to play a more active role in supporting cross-border collaboration on air quality management by building on the existing foundation



EPA-OAR's Key Goals

1. Strengthen partnerships and improve information-sharing and information quality
 - Expand and adapt cross-border partnerships and programs
 - Exchange data more efficiently
2. Improve air quality monitoring
 - Provide technical assistance and capacity-building
3. Achieve emission reductions and improve air quality on both sides of the border
 - Develop new programs and/or refine existing programs to accelerate emission reductions



Ongoing Activities in Support of Goals

- Engage existing contacts and establish new relationships to improve understanding of issues and capacities
 - Across EPA, SEMARNAT counterparts
 - State, regional, local, tribal governments
 - NGOs and academia
- Participation in development of Border 2020 successor program
 - November 5-6 federal meeting in Mexico City
 - Preliminary shared bilateral priorities
 - Vehicles – inspections, emissions
 - Air quality monitoring
 - Programs and technologies that improve air quality



Potential Activities in Support of Goals

- Expand EPA's 'SmartWay' pilot program on truck freight efficiency across the border
- Improve and sustain air quality monitoring
 - Support installation of monitors at U.S. consulates
 - Identify Mexican partner(s) to collaborate with to install and help support sustained operation of monitors
 - Expand use of compact, low-cost sensors to fill data gaps
- Develop and implement a multi-pollutant pilot program in partnership with a border city pair in a shared urban airshed (for example, Calexico/Mexicali)



Next Steps for EPA-OAR

- Continue learning from stakeholders about regional and local issues and priorities
- Explore stakeholder interest in the possibility of a pilot program on multi-pollutant air quality management
- Reconvene with SEMARNAT counterparts to refine preliminary priorities in advance of stakeholder consultations for Border 2020 successor program



Multi-Pollutant Air Quality Management



Overview

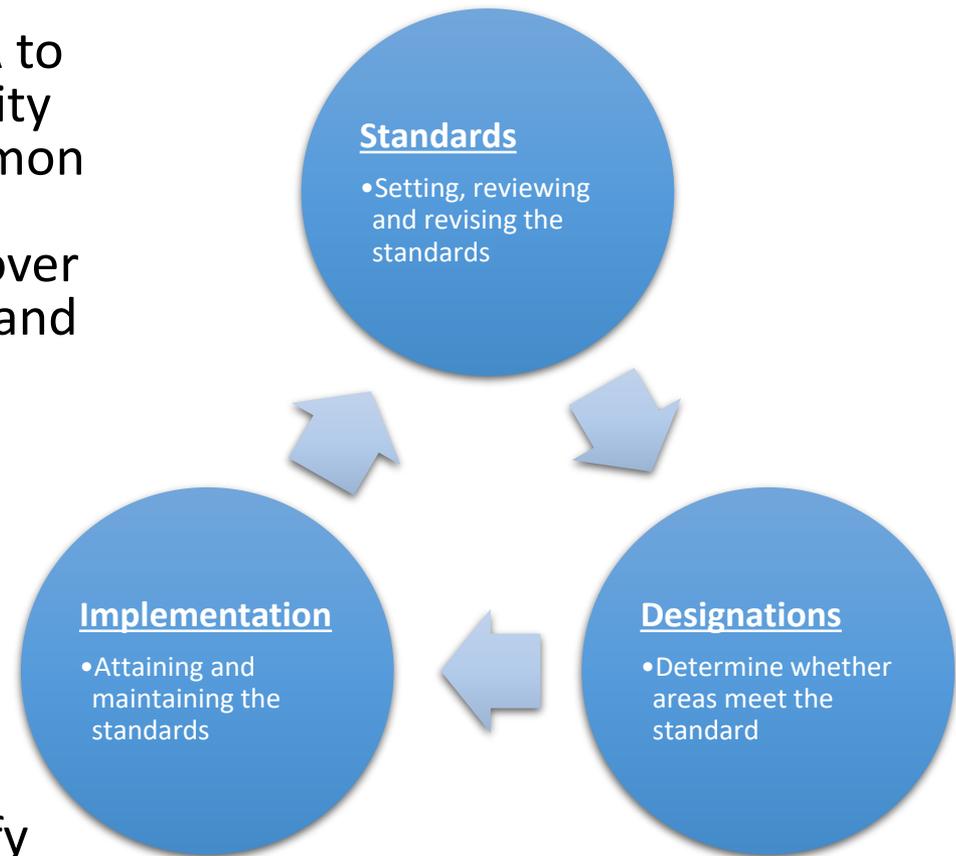


- Background
 - NAAQS
 - Multi-Pollutant
- Previous Partnerships
 - South Carolina
 - Detroit
- Current Partnership
 - Louisville
- Potential Border Project
- Next Steps



Background - NAAQS

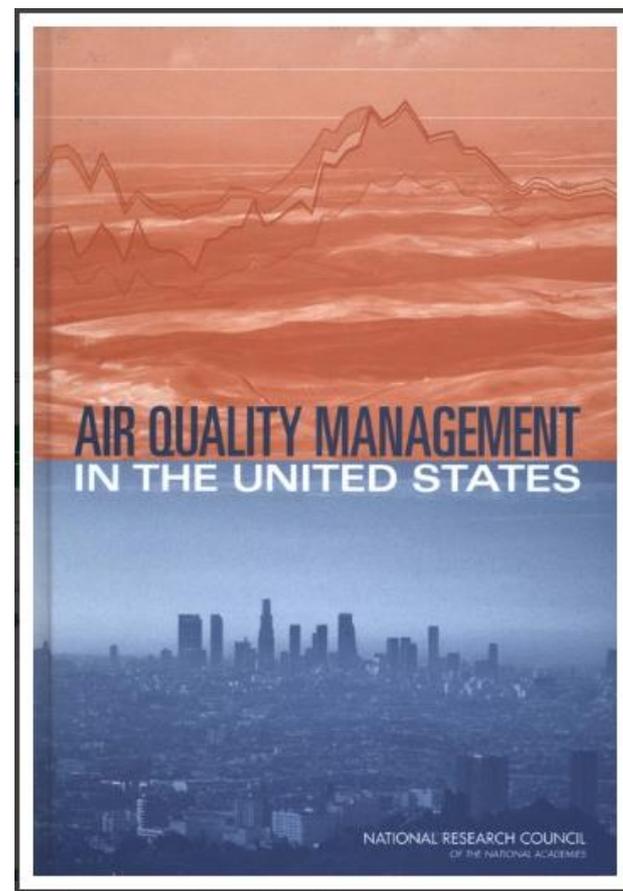
- The Clean Air Act requires EPA to set National Ambient Air Quality Standards (NAAQS) for 6 common air pollutants (criteria air pollutants) that are found all over the US, can harm your health and the environment and cause property damage.
 - Ground Level Ozone (O₃)
 - Particulate Matter (PM)
 - Carbon Monoxide (CO)
 - Lead (Pb)
 - Sulfur Dioxide (SO₂)
 - Nitrogen Dioxide (NO₂)
- NAAQS are intended to identify the air quality levels at which public health and welfare will be protected





Background – Multi-Pollutant

- EPA's Office of Air Quality Planning and Standards (OAQPS) is responsible for a broad set of air quality management activities:
 - Setting standards
 - Evaluating air quality
 - Evaluating cost-effective control strategies
- OAQPS generally approaches air quality management (AQM) one NAAQS pollutant at a time based largely on the 1990 Clean Air Act Amendments
- 2004 National Research Council (NRC) report* recommended EPA transition from a "pollutant-by-pollutant" approach to a "multi-pollutant, risk-based approach" to managing air quality
- OAQPS is supportive of a comprehensive, multi-pollutant (MP) treatment of our nation's air quality problems



* "Air Quality Management in the United States" (National Research Council, 2004)



Background – Multi-Pollutant Assessment Process*





Detroit Case Study (2008)

- **Partners:** EPA, Michigan Department of Environmental Quality (MDEQ), the Southeast Michigan Council of Governments (SEMCOG) & the Lake Michigan Air Directors Consortium (LADCO)
- **Goals:** Assess and compare two contrasting air quality control strategies
 - “Status Quo” approach – controls selected separately to address O₃ & PM nonattainment
 - “Multi-pollutant, risk-based” approach – aimed at further reducing population risk from exposure to O₃, PM and select air toxics while still addressing ozone and PM nonattainment
- **Results** showed the multi-pollutant approach:
 - Achieved the same or greater reductions of PM and O₃
 - Improved air quality regionally and across the Detroit urban core for multiple pollutants
 - Produced ~2x greater monetized benefits for PM and O₃
 - Reduced non-cancer risk
 - Resulted in greater net benefits & was more cost effective



EPA/South Carolina Project (2013)

- **Partners:** EPA, South Carolina (SC) Department of Health and Environmental Control & local community and business leaders in 10 upstate South Carolina counties
- **Goals:**
 - Develop and analyze a multi-pollutant, risk-based AQM strategy
 - To maximize both health benefits and air quality improvements, identify and evaluate a local control strategy targeting emissions of O₃, PM & their precursors while also reducing air toxics of concern for communities
- **Results** demonstrated improving air quality in areas already attaining the NAAQS can yield significant health benefits





Louisville Project (2019/2020)

- **Partners:** EPA, Louisville Metro Air Pollution Control District (LMAPCD) & Louisville Metro Department of Public Health and Wellness (LMPHW)



- **Goals:**
 - Identify local- and state-level emission reduction measures that address multiple pollutants, with a focus on attainment of the 2015 O₃ NAAQS
 - Build a plan to achieve and maintain compliance of all NAAQS
 - Demonstrate that the selected strategies can reduce health risk from exposure to O₃, PM and selected air toxics
 - Integrate existing health risk-based pollution control programs into a multi-pollutant air quality management plan
 - Build institutional capacity among LMAPCD and LMPHW to perform air quality modeling and health benefit analysis projects
- **Results *pending***



Potential MP Border Project

- Conduct a multi-pollutant analysis project for a border city pair
 - San Diego / Tijuana
 - Imperial / Mexicali
 - El Paso / Ciudad Juarez
- Selection criteria may include:
 - Availability of information
 - Level of engagement by local officials
 - Severity of the multi-pollutant air quality problem
 - Opportunities for success in improving air quality
 - Current status of air quality assessment and management
- Project Goal - demonstrate that a multi-disciplinary team from different organizations can manage air quality in a border city pair by implementing a risk-based approach to reducing public health risk from multiple pollutants.





Potential Border Project Next Steps

- Determine feasibility of multi-pollutant project along a border city pair
 - Engage with regional, state, local & municipal stakeholders regarding
 - Level of interest
 - Current state of air quality
 - Availability of information
 - Tour monitoring sites
 - View Port(s) of Entry



Thank you!



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