

*Mobility. Environment. Community. Economy. Technology*



I-710 Corridor Project EIR/EIS

*metro.net*

# I-710 Corridor Project Air Quality and Health Risk Assessment

Julia Lester, PhD  
ENVIRON International Corporation

Corridor Advisory Committee  
October 15, 2008



# Introduction

- The purpose of the proposed I-710 Corridor Project is to:
  - Improve air quality and public health
  - Improve traffic safety
  - Address design deficiencies
  - Alleviate traffic congestion
  - Address projected growth in population, employment, and economic activities related to goods movement
- An Air Quality and Health Risk Assessment (AQ/HRA) measures the Project's ability to improve air quality and public health

# What are the Goals of Air Quality and Health Risk Assessment?

- **Evaluate current and projected ambient air concentrations of certain pollutants for the Project**
- **Evaluate the current and projected health risks from air toxics, such as diesel particulate matter (DPM) for the Project**

# Types of Air Pollutants in This Analysis

## Criteria Pollutants

- Carbon monoxide (CO),
- Oxides of Nitrogen (NO<sub>x</sub>) including Nitrogen Dioxide (NO<sub>2</sub>)
- Volatile Organic Compounds (VOC)
- Particulate Matter < 10 microns (PM<sub>10</sub>) and 2.5 microns (PM<sub>2.5</sub>)
  - PM generally results from fuel combustion and road dust
  - Diesel particulate matter is all PM from diesel engines
- Sulfur dioxide (SO<sub>2</sub>) and Sulfates (SO<sub>4</sub>)

# Types of Air Pollutants in This Analysis (cont.)

## Toxic Air Contaminants (TACs)

- Diesel PM (DPM) and agency-identified compounds (based on California Air Resources Board and U.S. Environmental Protection Agency guidance)

## Greenhouse Gases (GHG)

- Carbon dioxide (CO<sub>2</sub>)
- Methane (CH<sub>4</sub>)
- Nitrous oxide (N<sub>2</sub>O)
- Other Kyoto Protocol species, if applicable

# What are the Governing State / Federal Regulations For Air Quality / Health Risk Assessments?

- **California Environmental Quality Act (CEQA)**
- **National Environmental Policy Act (NEPA)**
- **Federal and State Transportation Conformity Requirements**

# What is Unique about the I-710 Corridor Project's Approach to Air Quality and Public Health?

- **Community input during the MCS identified air quality and public health as prime project objectives.**
- **First highway project in the state of California to propose an expanded Health Risk Assessment**
- **The I-710 Project is both a transportation and a goods movement project**
  - **Transportation projects: historically more focused air quality analyses**
  - **Goods movement projects: recent heightened scrutiny and more extensive analyses**
    - **New regulatory environment**
    - **High-profile examples: TraPac, Middle Harbor**

# AQ/HRA Report Part I: CEQA/NEPA

- For the Project operations (e.g., traffic), the AQ/HRA will evaluate changes in:
  - Criteria pollutant and toxics emissions
  - Criteria pollutant concentration levels (air quality)
  - Cancer risks and non-cancer health impacts from toxics
  - PM<sub>2.5</sub> mortality and morbidity impacts
- Project-related construction air quality impacts
- Greenhouse gases
- Cumulative impacts
  - Qualitative analysis of the effect of the Project in conjunction with impacts from existing air quality conditions (2007 AQMP, MATES III) and known related future local projects

# AQ/HRA Report Part II: Conformity/Hotspots

- **Required by the Federal Clean Air Act to ensure transportation projects conform with regional air quality attainment status or plans**
  - **CO**
    - **Quantitative analysis of near-roadway impacts**
  - **PM<sub>2.5</sub>/PM<sub>10</sub>:**
    - **Qualitative analysis of near-roadway impacts per latest guidance**
    - **New guidance on quantitative determinations may be issued**

# AQ/HRA Development Outreach Process

- **Meet with Agency Air Technical Working Group**
  - **Members:** USEPA, Federal Highways Administration, SCAQMD, CARB, California Attorney General's office, US Army Corps of Engineers, California Office of Environmental Health and H A, funding partners
  - **Purpose:** Develop consensus on key technical issues
- **Meet with Environmental Subject Working Group**
  - **Members:** Corridor-wide representation determined by Project Committee and Local Advisory Committees
  - **Purpose:** Solicit input from community stakeholders on environmental studies, including the AQ/HRA
- **Develop draft AQ/HRA protocols**

# Questions?