



**BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT**

*Committed to Achieving Clean Air to Protect  
the Public's Health and the Environment*



# **Overview of West Oakland Health Risk Assessments**

**Phil Martien, Ph.D.  
Bay Area Air Quality Management District  
CARE Task Force Meeting  
October 31, 2006**

# Acknowledgements

- **Presentation materials prepared by the California Air Resources Board:**
  - Cynthia Marvin, Dan Donohoue, Harold Holmes, Erik White, and others
- **Materials presented at a meeting jointly organized by**
  - ARB, BAAQMD, West Oakland Indicators Project
  - Hosted at the Port of Oakland, September 14, 2006

# Overview

- **Purpose of West Oakland Health Risk Assessments (HRAs)**
  - **Focus on diesel emissions from goods movement**
- **Basics – Uses and Limitations of HRAs**
- **Three-Part Study Plan**

# High Concentration of Diesel Sources in West Oakland

- Trucks
- Locomotives
- Ships
- Harbor craft
- Cargo handling equipment



# Risk Assessments

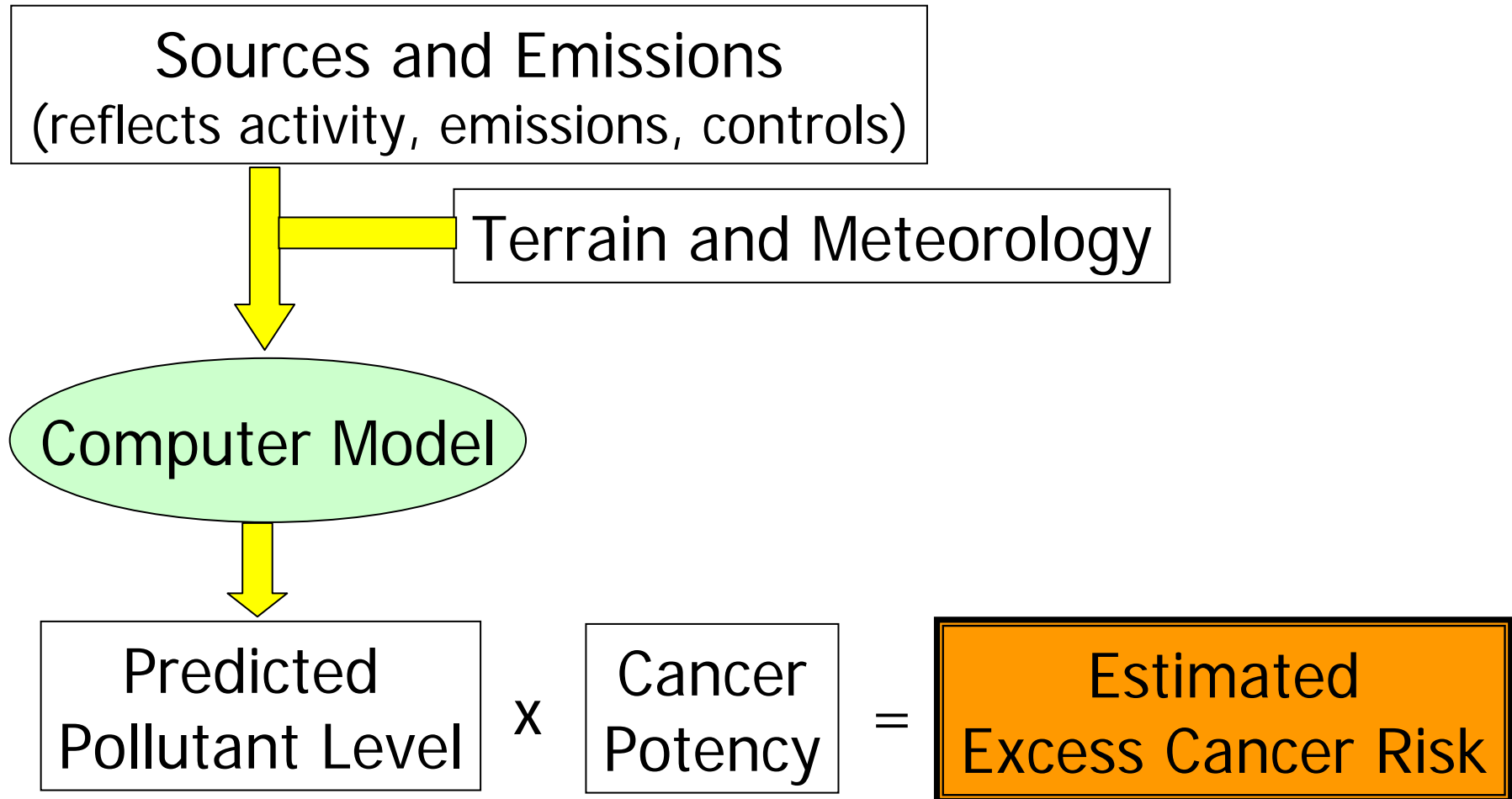
## Do:

- ⊕ Estimate the lifetime cancer risk and other health impacts
  - For specific pollutants, facilities, and sources
  - For a specific year

## Don't:

- ⊕ Measure amount of diesel PM in the air
- ⊕ Gather/use health data on local residents

# Cancer Risk: Key Inputs



# Cancer Risk: Results

- Map of areas in each cancer risk range
- Number of people exposed in each range
- Example (*from Roseville Railyard study*):

<u>Lifetime Risk</u> <u>(chances/million)</u>	<u>People</u> <u>impacted</u>
100-500	20,000
10-100	150,000

# How can the results be used?

- ❖ Compare relative risks
- ❖ Prioritize actions to reduce emissions
- ❖ Quantify existing community health risk
- ❖ Project impacts of growth
- ❖ Assess benefits of new controls
- ❖ Support push for funding and federal actions



# Overview

- Focus on diesel PM and goods movement
- Emissions in 2005
- Three complementary studies
  - Part 1: Maritime Port of Oakland
  - Part 2: Union Pacific Railyard
  - Part 3: Adjacent West Oakland
- Results for each part, plus combined impact

# Three Emission Source Areas



# Overview (continued)

- **Joint technical effort by staff from ARB, Bay Area AQMD, Port of Oakland, and Union Pacific Railroad**
- **ARB staff to develop risk impacts and prepare reports**
- **All parties participate in community outreach on results**

# Part 1: Maritime Port of Oakland



# Maritime Port of Oakland – Basis

- Assess impacts of major Northern CA port as follow-up to Ports of LA/Long Beach study
- Identify relative risks from sources and operations (example, ships at dock versus trucks on port)
- Help highlight and prioritize need for emission reductions

# Maritime Port of Oakland – Scope

- Ships and harbor craft that access the Maritime Port – operations at dock and out at least to Golden Gate Bridge
- Locomotives, trucks, cargo handling equipment, and other sources on Maritime Port property, including BNSF Railyard

# Part 2: Union Pacific Railyard



# Union Pacific Railyard – Basis

## 🌀 2005 Statewide Rail Yard Agreement

- Limit non-essential idling to 60 minutes
- Install anti-idling devices
- Use ultra-low sulfur diesel fuel
- Identify and repair smoking locomotives
- Reduce locomotive diesel PM by 20%  
in and around rail yards
- **16 new railyard risk assessments by 2008**
- Additional mitigation measures in the future



# Union Pacific Railyard – Scope

- Locomotives, trucks, cargo handling equipment, stationary engines and other sources operating on UP Railyard property
- Locomotives and trucks operating off-site that directly service the UP Railyard

# Part 3: Adjacent West Oakland



# Adjacent West Oakland – Basis

- Required under 2005 Statewide Railyard Agreement
- Expanded to look at a broader area in West Oakland
- Help prioritize need for emission reductions

# Adjacent West Oakland – Scope

- ✦ Ships and harbor craft operating in SF Bay and Oakland Inner Harbor Channel that impact West Oakland and aren't included in Port risk assessment
- ✦ Trucks, locomotives, and other key sources operating within West Oakland study area that aren't in Port or Railyard assessment

# Study Products and Process

- **Release reports**
  - Draft technical reports on results of each cancer risk assessment (3 total)
  - Summary report, including combined cancer and non-cancer health impacts
- **Hold community and technical meetings to discuss findings**
- **Finalize reports**