



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

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



# Community Air Risk Evaluation (CARE) Program Overview

## Cumulative Impacts Working Group Meeting

Philip Martien, Ph.D.

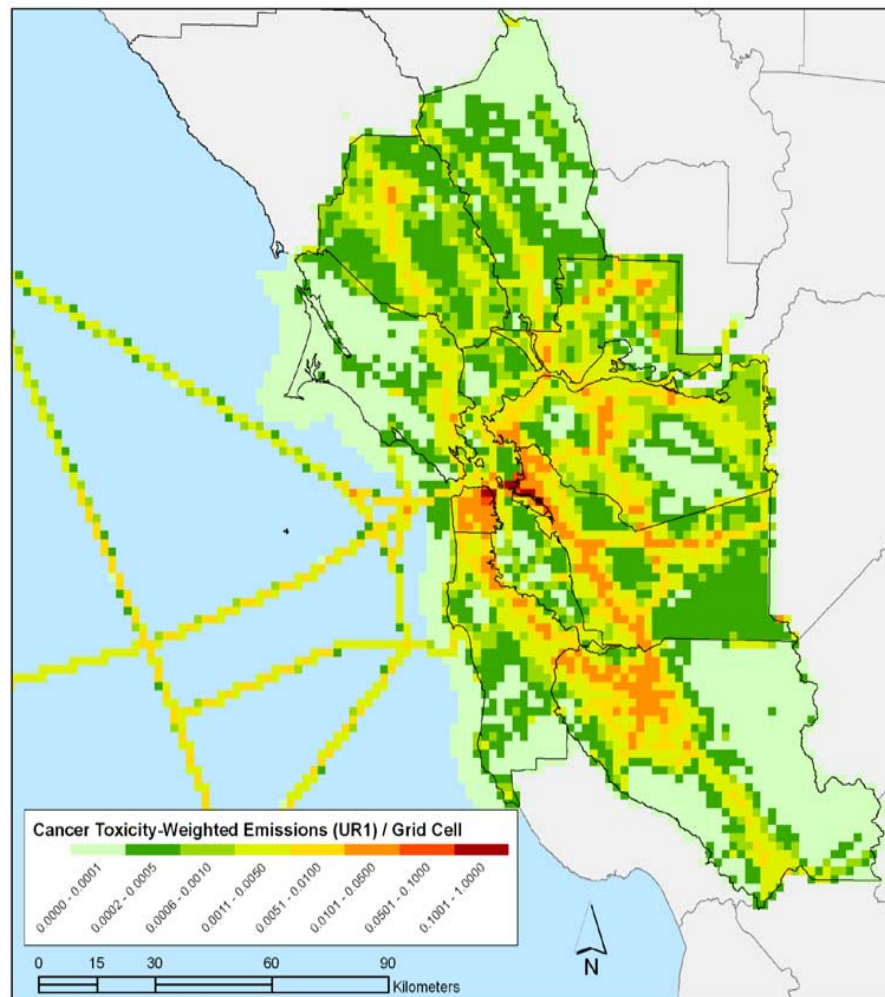
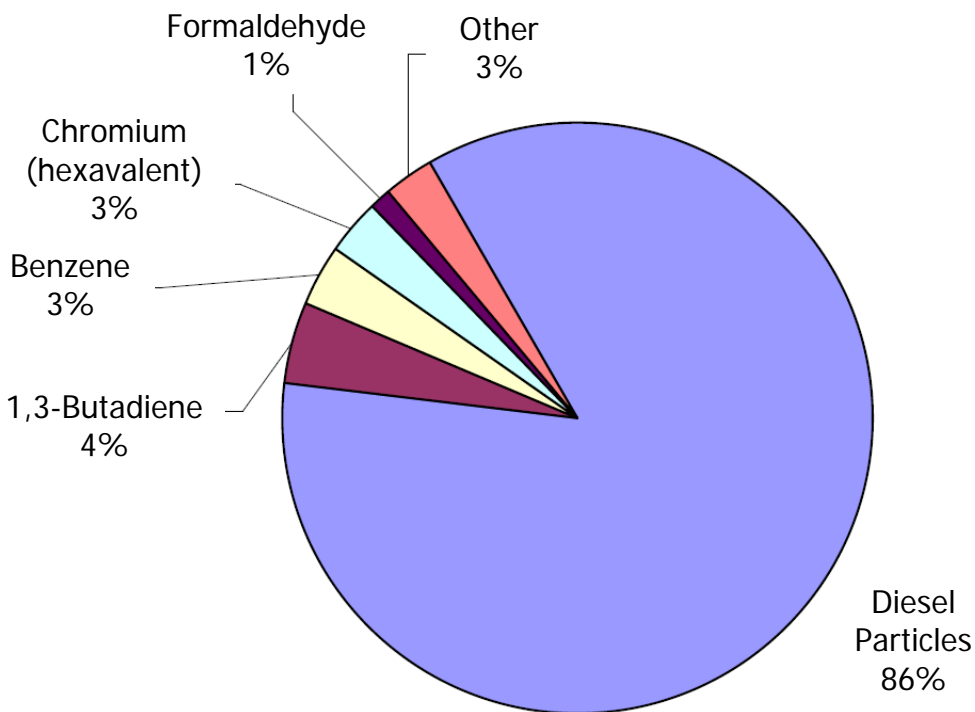
Bay Area Air Quality Management District  
March 5, 2009

# CARE Program Objectives

- Evaluate regional and community cancer and non-cancer health risks from ambient toxic air contaminants
- Identify sensitive populations
- Focus health risk mitigation measures on locations with higher risk levels and sensitive populations



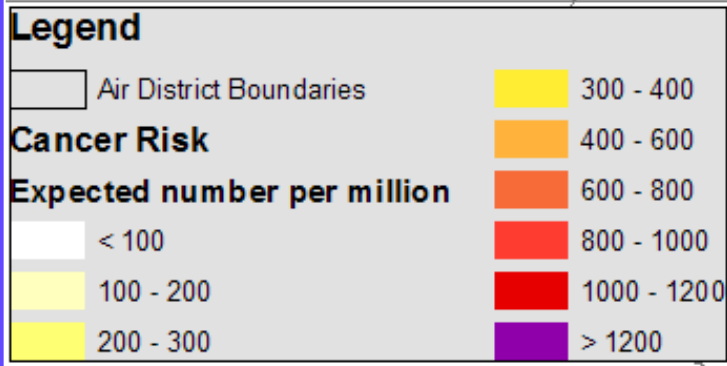
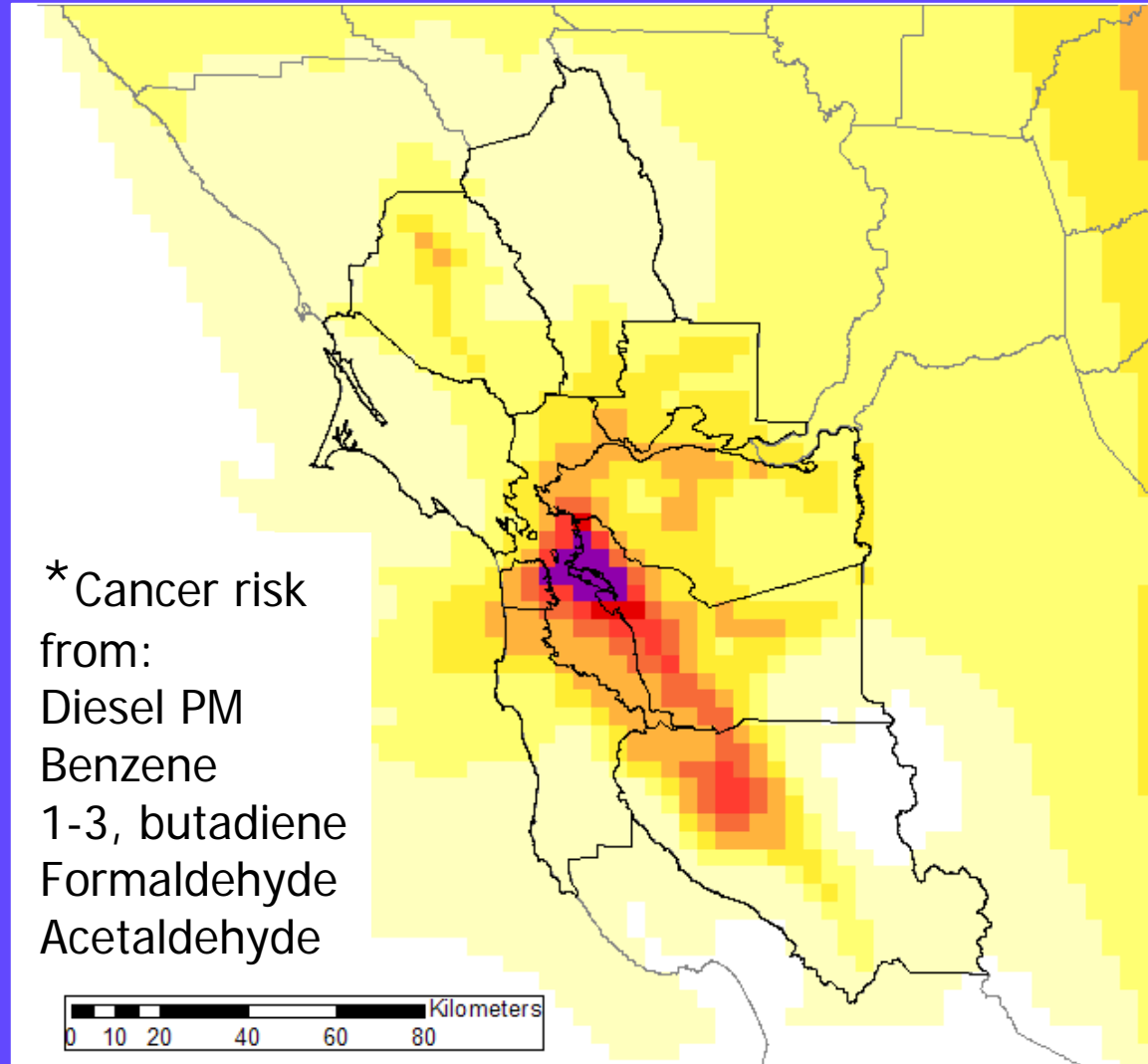
# Cancer Toxicity-Weighted Emissions: Bay Area (2005)



# Model-Estimated Cancer Risk\*

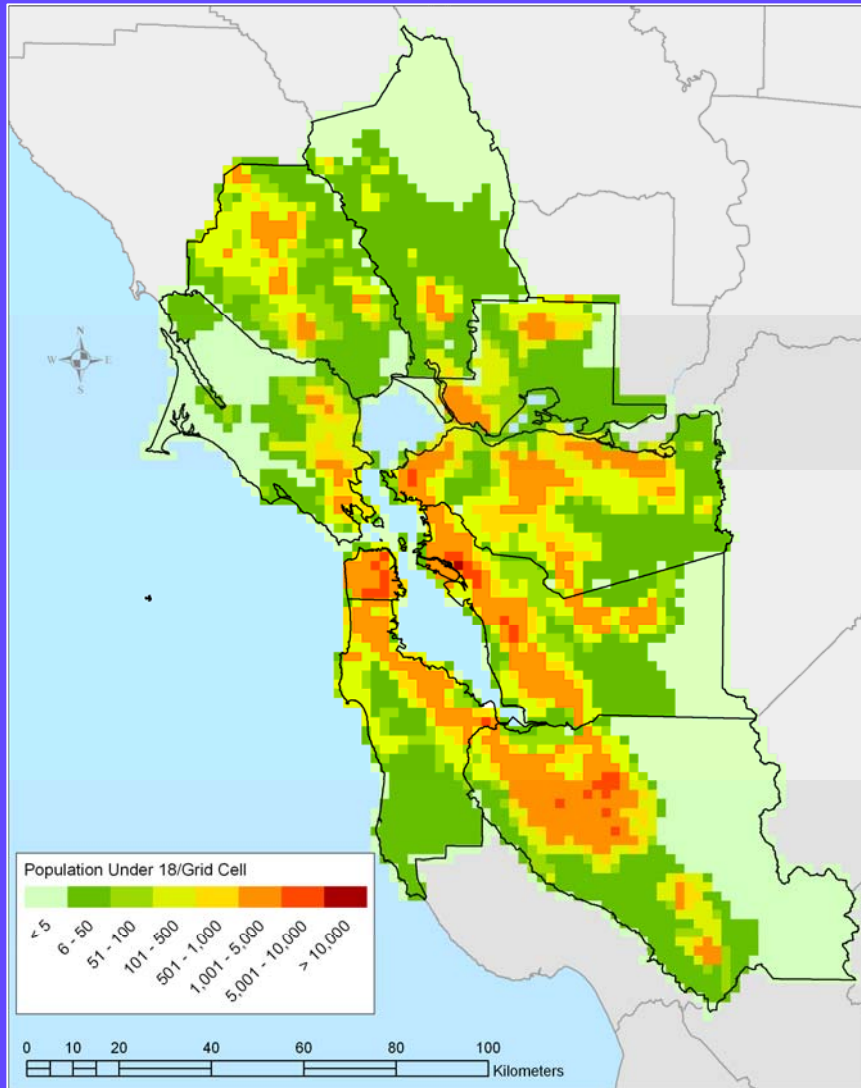
Based on year 2005 emissions

- Expected cancer incidents per million people – 70 year exposure
- Modeled concentrations weighted by health risk of each compound

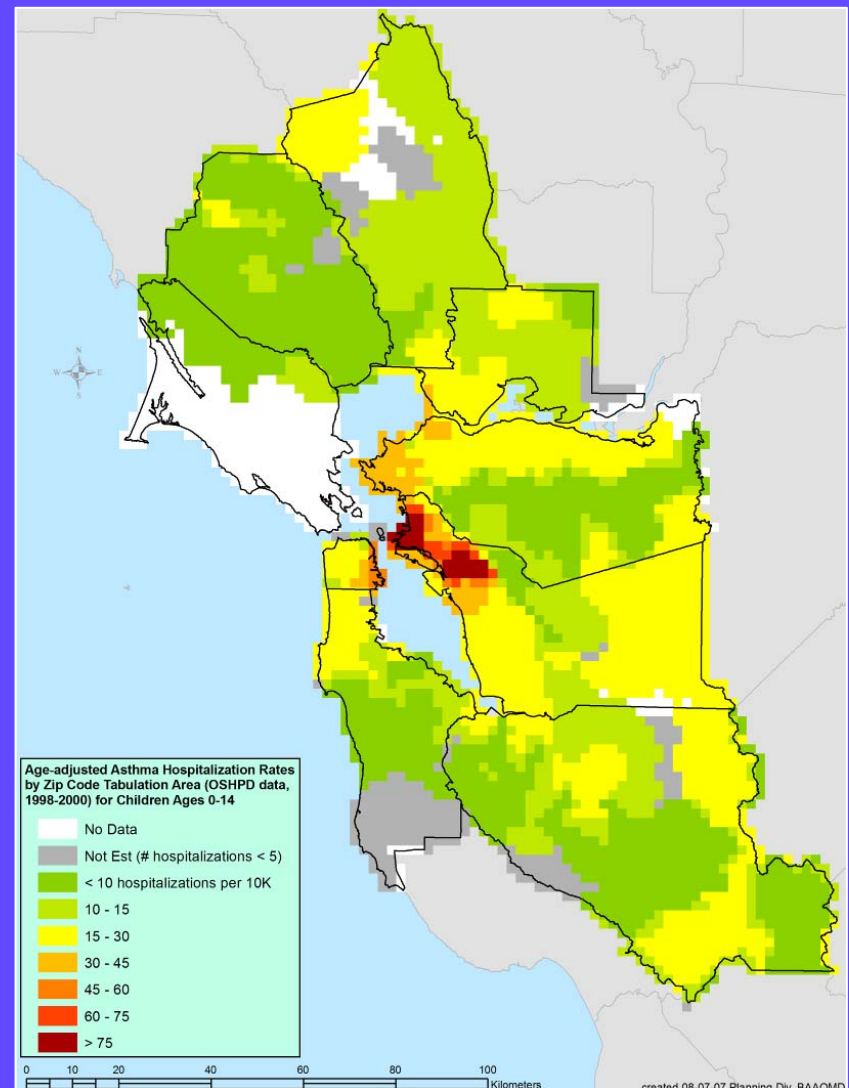


# Demographic & Health Data

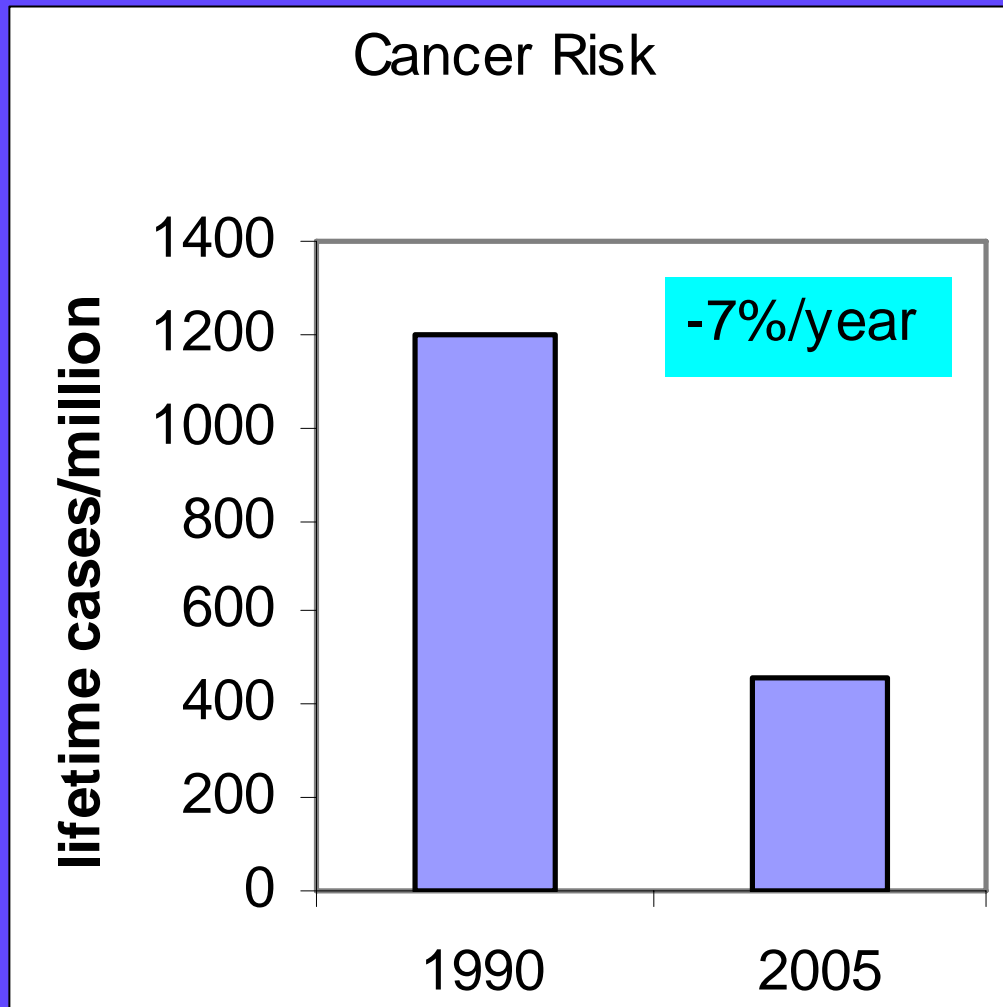
## Population under 18



## Asthma Hospitalization Rates



# Measured Trends in Toxic Air Contaminants Show Risk Reduction



- Bay Area average cancer risk from air pollutants is **decreasing**
- Risk in some locations is high compared to average
- **Local measurement studies** guided by
  - regional modeling
  - demographic & health data
  - community input

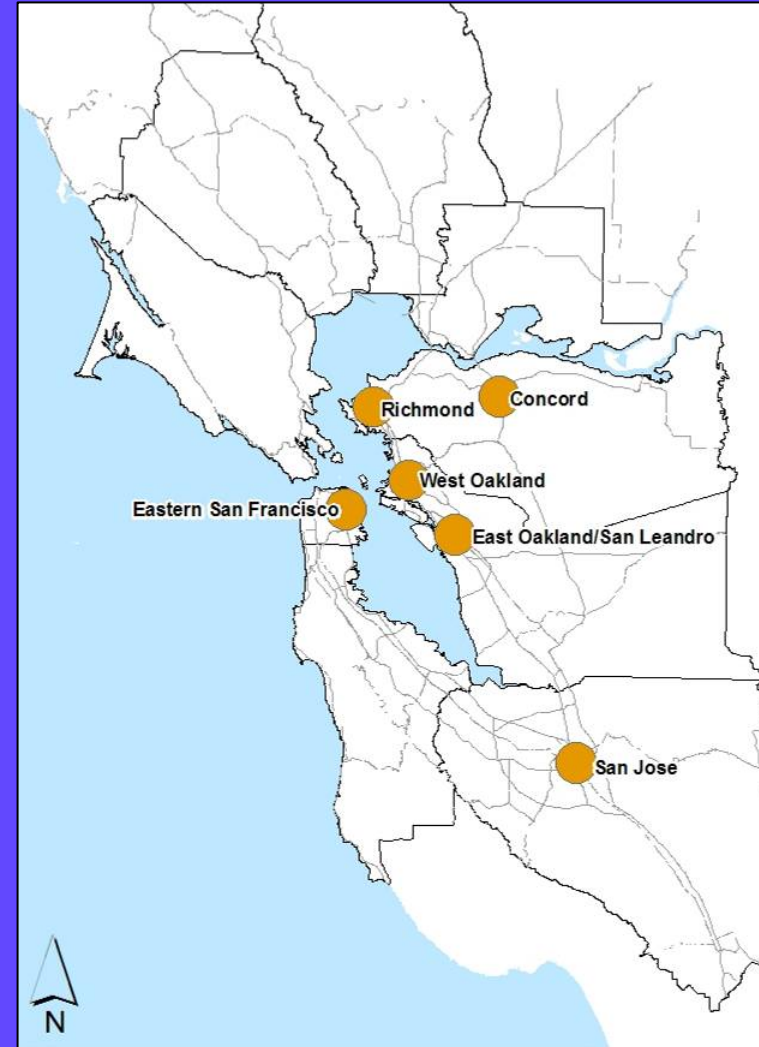
# Local Studies and Measurements

- West Oakland health risk assessment
  - Local-scale modeling
- West Oakland truck traffic survey
  - District collaboration with community
- West Oakland measurement study
  - Saturation monitoring
  - Study design and site selection underway



# CARE Mitigation Action Plan

- Focus risk reduction activities where they are most needed
- Based on maps of toxic air emissions and sensitive populations, six impacted communities were identified
  - Grant funds
  - Community outreach
  - Liaison with local health & planning departments
  - Green Ports Initiative
  - Land use considerations in risk reduction





# Grant Funds Spent in Highly Impacted Communities

Highly Impacted Community	NOx Tons	ROG Tons	PM Tons	Incentives Funding
West Oakland	331	50	20	\$7,500,000
Richmond	49	8.3	2.7	\$1,600,000
East San Francisco	21	1.4	2.2	\$1,305,00
East Oakland/ San Leandro	30	2.5	2	\$825,000
San Jose	25.5	2	1	\$800,000
Concord	1.6	0.03	0.15	\$68,000
<b>Total</b>	<b>458</b>	<b>64</b>	<b>28</b>	<b>\$12,100,000</b>

# Community Outreach

- Two rounds of community meetings in impacted areas in 2008
- Answer questions, discuss community concerns
- Seek input on projects to fund through the Air District's Grant and Incentive programs
- Provide community-specific information on toxic air contaminants and emission reductions
- Collaborate on local studies



# Land Use Considerations in Risk Reduction

- Transportation is the largest source of air pollutants
- Coordinate land use, transportation, and air quality planning to minimize impacts
- Continue focusing grants, outreach, monitoring, and enforcement
- Develop targeted regulations – Indirect Source Rule
  - Address impacts of growth on both regional and local air quality
  - Reduce greenhouse gas emissions from land use
  - Support and implement CARE program goals and priorities

# Collaboration on Cumulative Impacts

- Addressing cumulative impacts should consider many factors influencing health outcomes, involve other agencies and groups
- Collaboration with State
  - District part of Statewide process on cumulative impacts & precautionary approaches
  - Rulemaking & enforcement
- Collaboration with local officials
  - Cities and counties have authority over land-use decisions
  - County health officers are local health experts
- Collaboration with communities