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AIR QUALITY
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DISTRICT

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



Community Air Risk Evaluation (CARE) Program: MTC Minority Advisory Committee Meeting

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Bay Area Air Quality Management District
September 9, 2008



Overview

- CARE Program Overview
- CARE Findings
 - Regional-scale Findings
 - Local-scale Findings
- CARE Mitigation Action Plan
- Next Steps

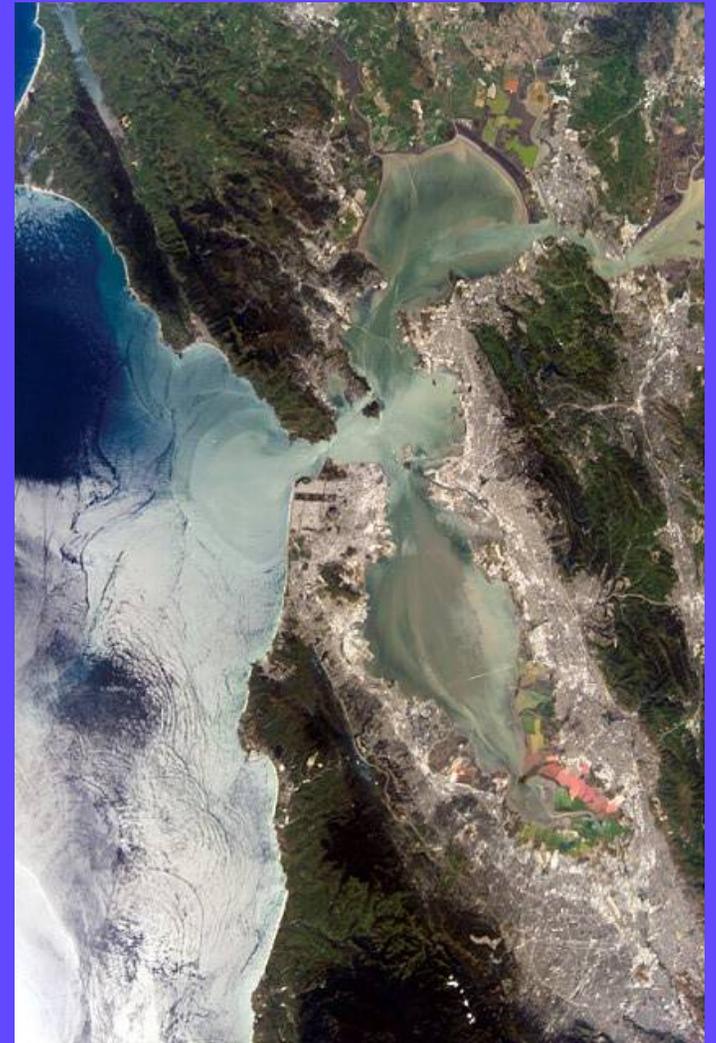
BAAQMD Background

- Regional Air Pollution Control Agency
- Programs to reduce regional smog and particulate matter
- Air quality monitoring
- Community Air Risk Evaluation (CARE) program



CARE Program Objectives

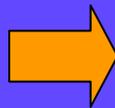
- Evaluate regional and community cancer and non-cancer health risk from ambient toxic air contaminants (TAC)
- Focus health risk mitigation measures on locations with higher risk levels and sensitive populations



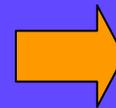
From Emissions of Toxic Air Contaminants to Health Effects



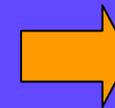
Emissions



Concentrations



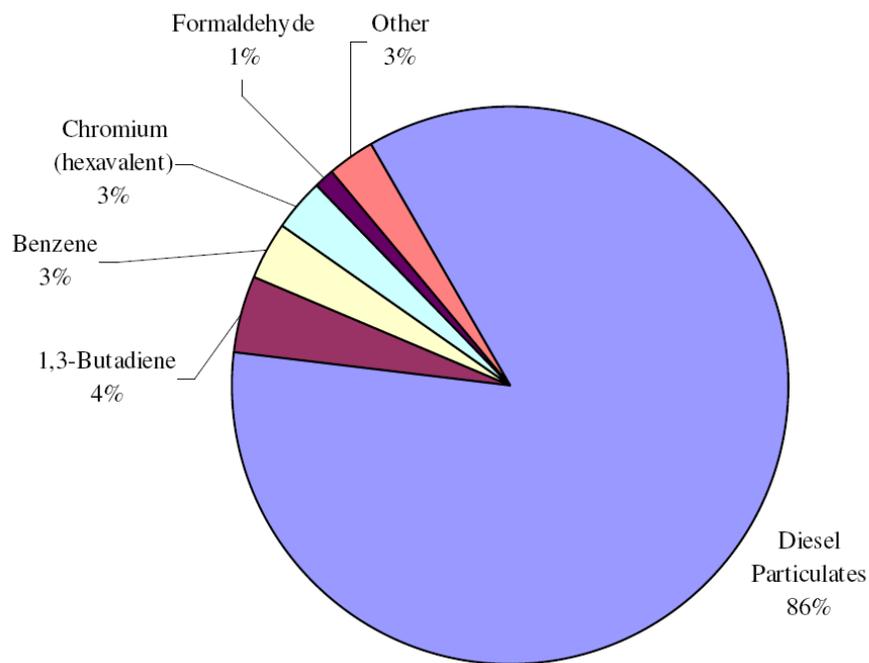
Exposure



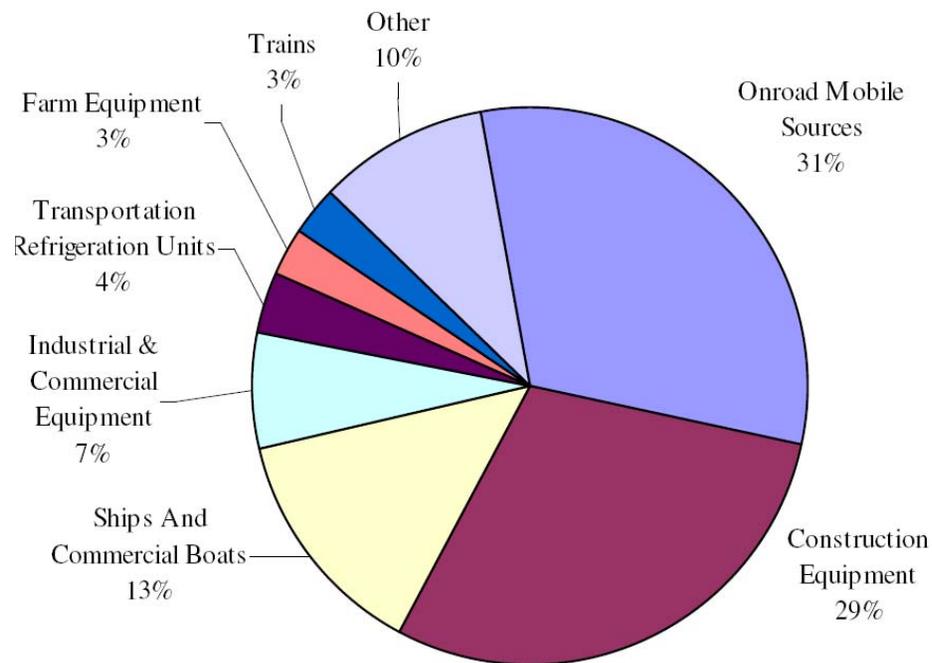
Health Effects

Cancer Toxicity-Weighted Emissions: Bay Area (2005)

By Pollutant

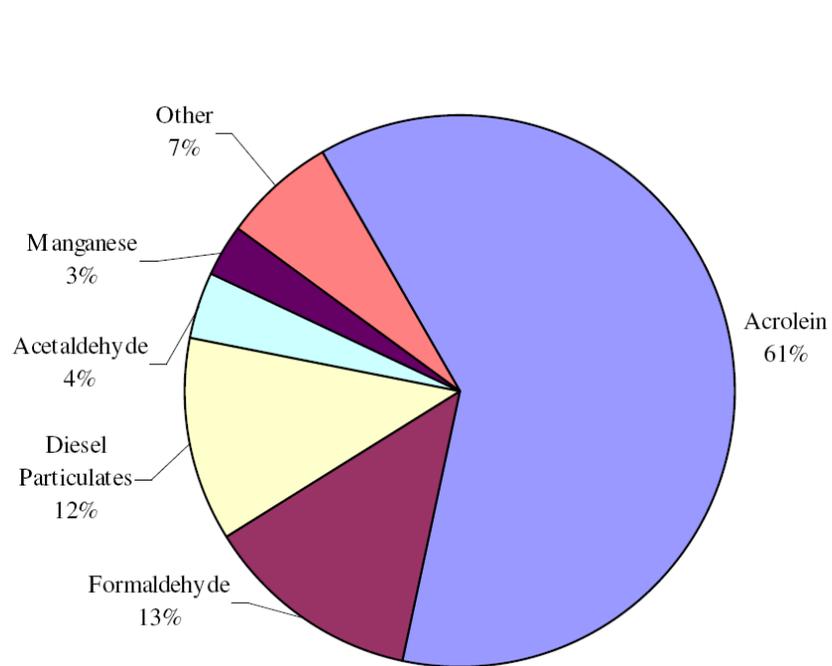


By Source Category

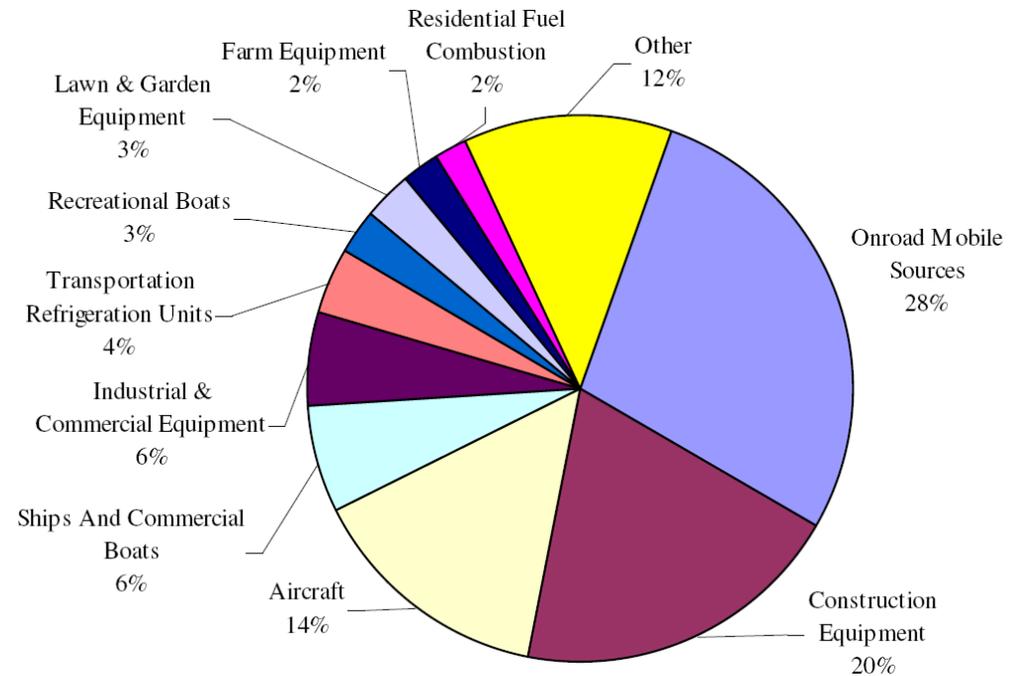


Chronic, Non-Cancer Toxicity-Weighted Emissions (2005)

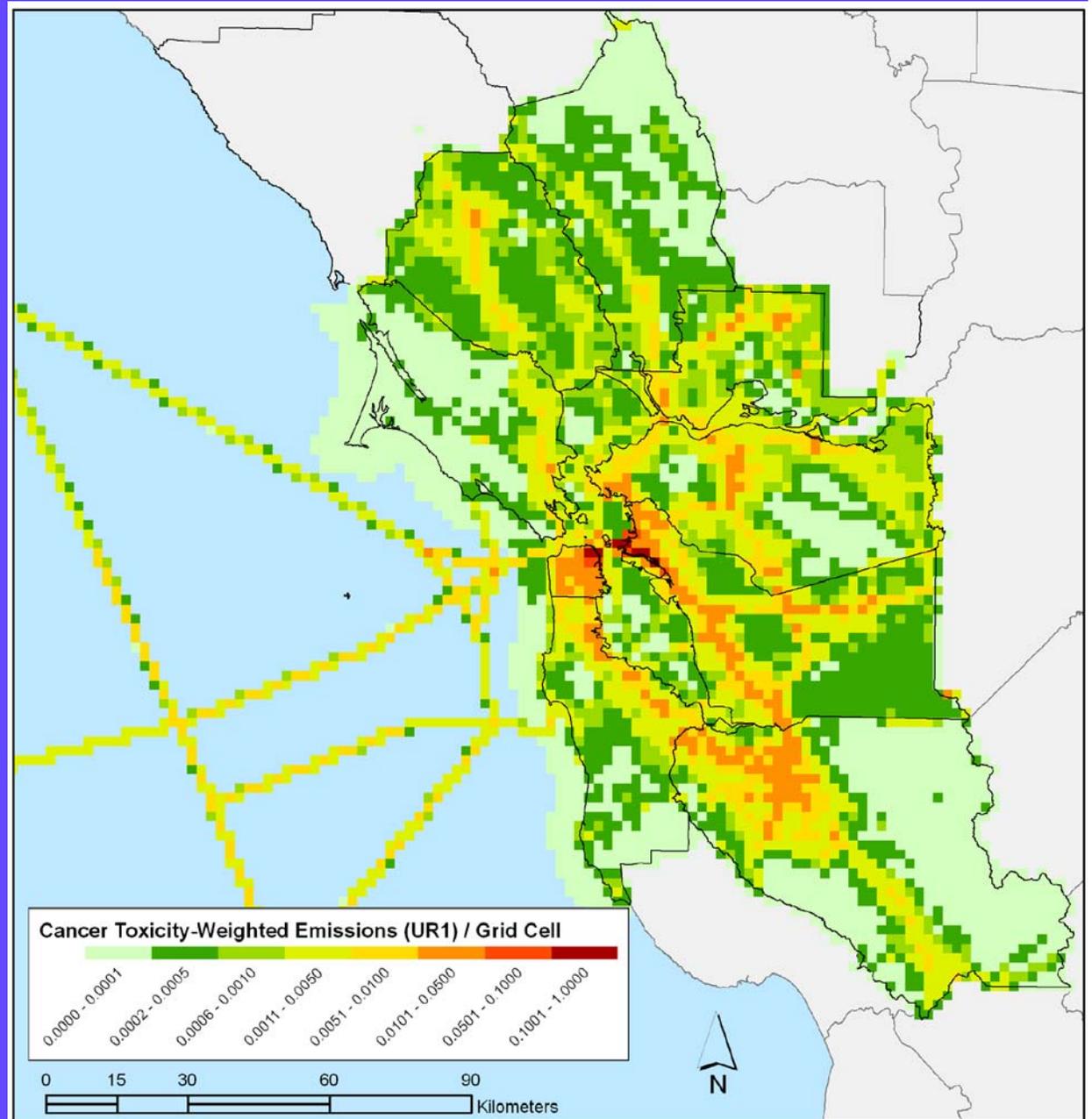
By Pollutant



By Source Category



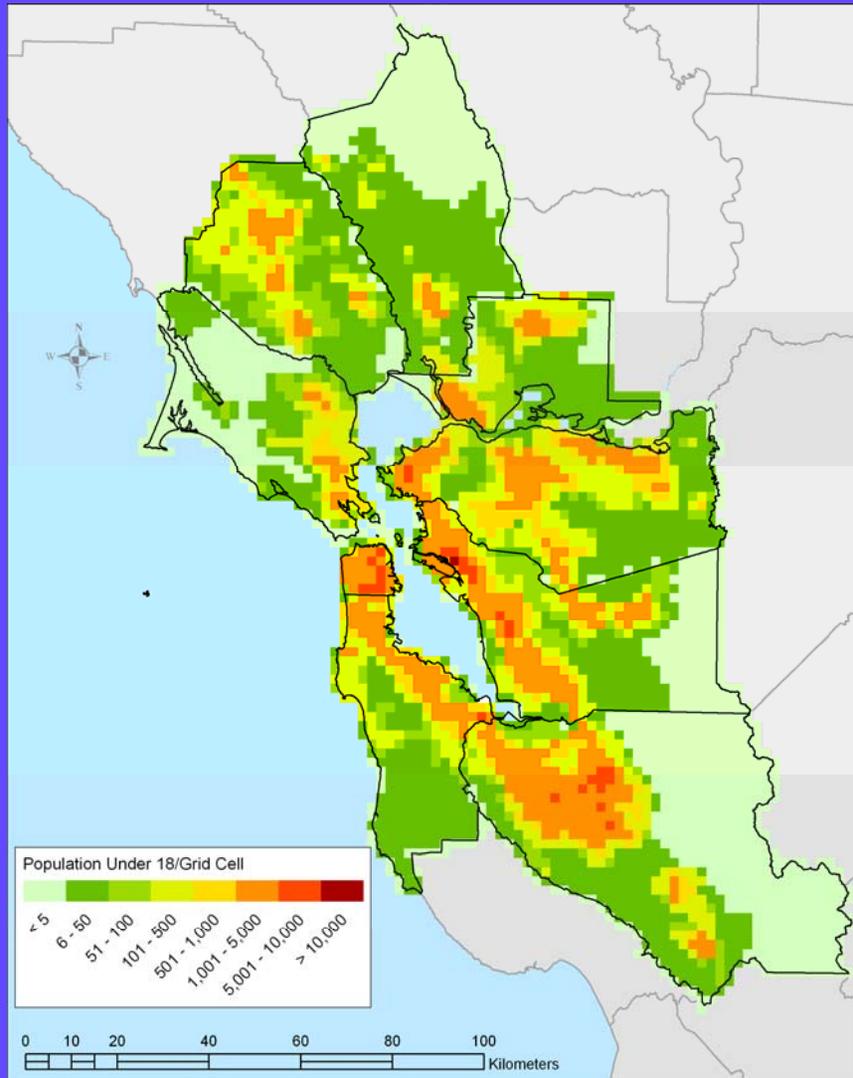
Total Cancer Risk- Weighted Emissions: Year 2005



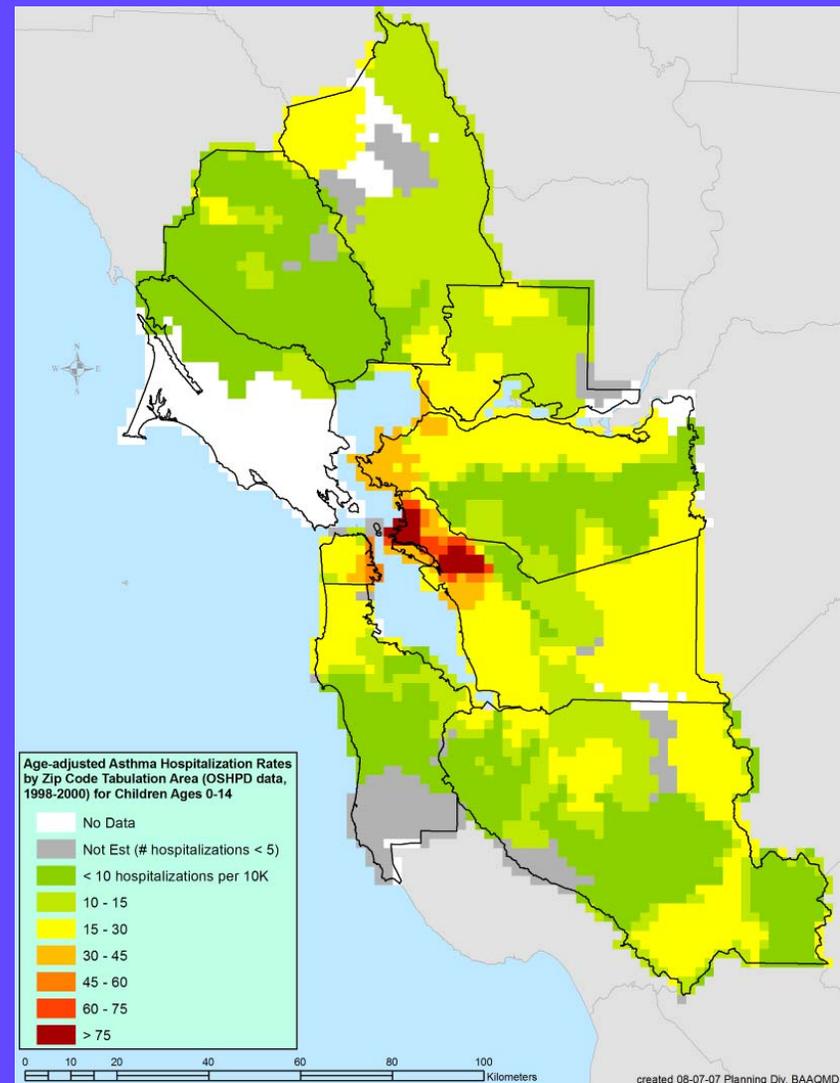
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Demographic & Health Data

Population under 18



Asthma Hospitalization Rates

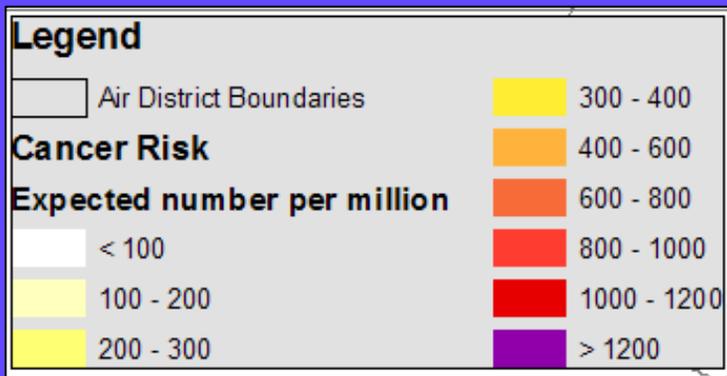


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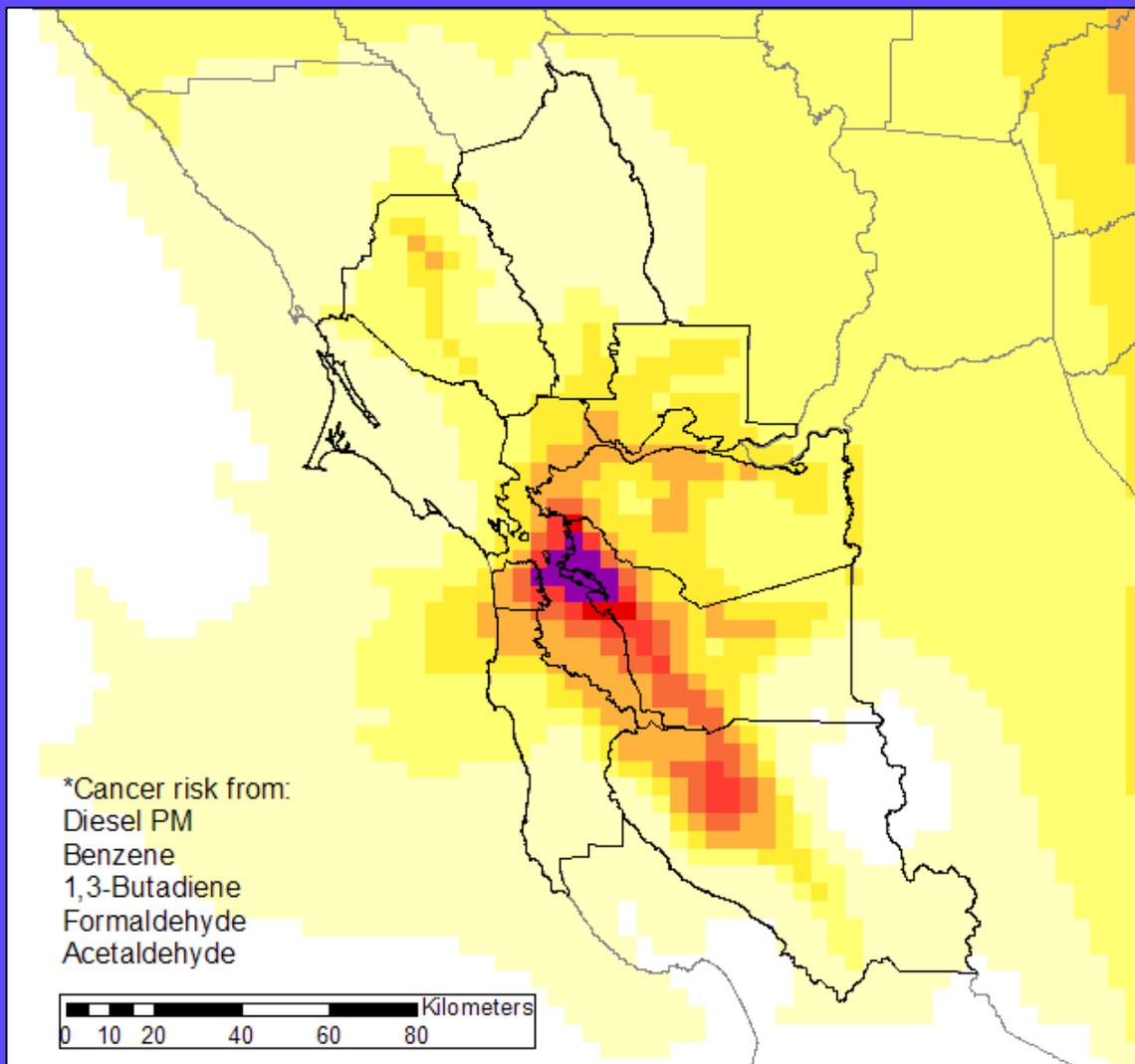
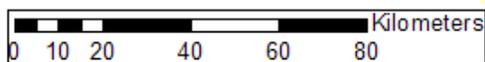
Model Estimated Cancer Risk*

Based on year 2005 emissions

- Model-estimated annual average concentrations
- Modeled concentrations weighted by health risk of each compound



*Cancer risk from:
Diesel PM
Benzene
1,3-Butadiene
Formaldehyde
Acetaldehyde



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West Oakland Health Risk Assessment Summary

- Assessment focuses on diesel PM
- Based on emissions in 2005
 - Trucks, ships, harbor craft, locomotives, cargo handling equipment, and other diesel sources
- Estimates the potential lifetime cancer risk and other health impacts based on modeled concentrations of diesel PM
- Draft summary released in March



Key Findings

- The West Oakland community is exposed to diesel PM concentrations that are almost three times the estimated background diesel PM concentrations in the Bay Area
- On-road heavy-duty trucks result in the largest contribution to the overall air-related health risk in the West Oakland community

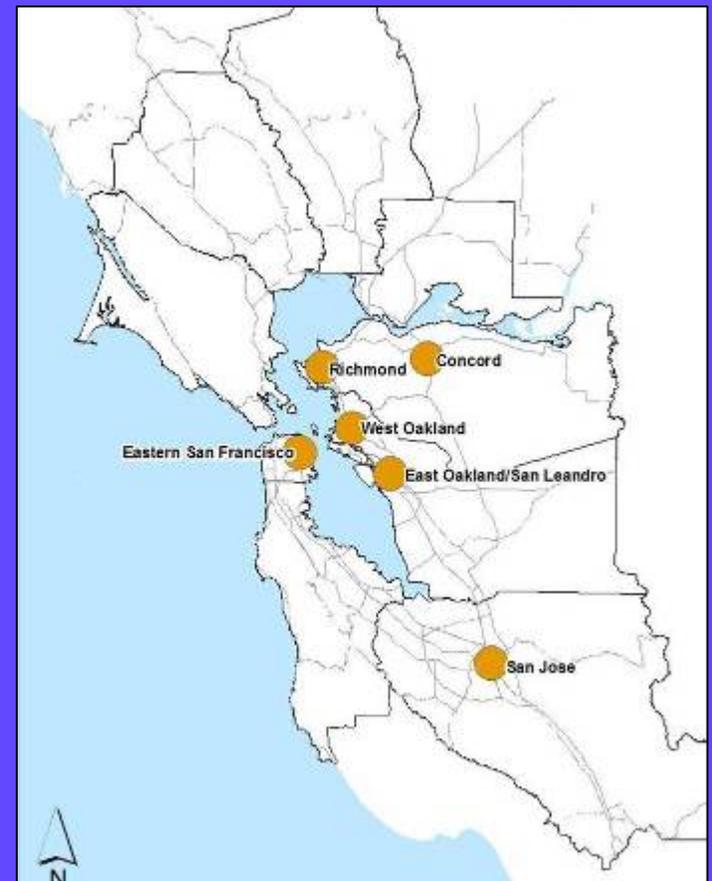


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CARE Mitigation Action Plan

- 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
 - Outreach efforts
 - Liaison with local health departments
 - Land use guidance
 - Green Ports Initiative



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Air District Incentive Funding

- Fund replacement and retrofit of heavy-duty diesel engines
- Total projected grant funding in 2008 - **\$87 million**
 - Carl Moyer - **\$11 million**
 - Goods Movement Bond (Main) - **\$35 million**
 - Goods Movement Bond (School Bus) - **\$4 million**
 - Mobile Source Incentive Fund - **\$11 million**
 - TFCA Regional - **\$16 million**
 - TFCA County Program Manager - **\$10 million**

Community Outreach

- Meet with community members in impacted areas to seek input on projects to fund through the Air District's Grant and Incentive programs
- Provide community specific information on toxic air contaminants
- Provide community specific information on past projects and emission reductions
- Six meetings during March and April 2008

Land Use Guidance

- Cities and counties have authority over local land-use decisions
- Land-use guidance will help cities and counties
 - Evaluate health impact resulting from new development projects
 - Assess the health impact to new development projects from existing toxic sources
 - Determine when mitigation is required and identify possible measures and their effectiveness
 - Assist with general plans and project-specific analysis
 - Provide tool for more informed local decision making

Next Steps

- Conduct truck survey and measurement studies
- Continue sub-regional, regional modeling
- Estimate exposures
- Continue to implement CARE Mitigation Action Plan
- Continue dialog with communities



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 - <http://www.baaqmd.gov/CARE>