Identifying Impacted Communities: Methods & Updates

Phil Martien, Ph.D.
Bay Area Air Quality Management District
CARE Task Force Meeting
June 5, 2012
Overview

• Review Air District’s current method for developing impacted communities map

• Why update current maps?
  – Updated data available
  – New datasets to consider
  – New methods to consider

• Next steps
Clean Air Communities Initiative

**MONITORING**
- Ambient Monitoring Network
- Community Monitoring
- Local Measurement Studies
- Collaborate with Universities and Community Research Monitoring Programs
- Photochemical Monitoring
- General Aviation Airport Sampling
- Near Roadway Monitoring

**MODELING & ASSESSMENT**
- Regional and Local Modeling
- Regional and Local Exposure and Health Impacts Assessment
- Permit Modeling and Risk Assessment

**OUTREACH/EDUCATION**
- Public Engagement Policy and Plan
- Collaborate with Local Governments
- Collaborate with Health Departments
- Collaborate with Transportation Agencies
- Community Meetings
- Resource Teams
- Collaborate with Community Groups
- Wood Smoke Outreach

**REGULATIONS, PLANS, & GUIDELINES**

**ENFORCEMENT**
- Diesel Enforcement Program
- Inspection/Enforcement of District Regulations
- Enforcement of CARB Regulations
- Respond to Complaints
- Inspection of Grantees

**OUTREACH & EDUCATION**
- Collaborate with Local Governments
- Public Engagement Policy and Plan
- Community Meetings
- Resource Teams
- Collaborate with Community Groups
- Wood Smoke Outreach

**COMMUNITIES**

**EXPOSURE & HEALTH ASSESSMENT**

**GRANTS & INCENTIVES**
- Carl Moyer Program
- TFCA
- Mobile Source Incentive Fund
- I-Bond/Goods Movement
- Bay Area Clean Air Foundation

**PLANNING & GUIDELINES**
- CEQA Guidelines
- Community Risk Reduction Plans
- 2010 Clean Air Plan
- PM Strategy
- General Plan Guidelines
- SB375/SCS
- Climate Protection Program/ GHG Co-Benefits
- Healthy Community Development Guidelines

**REGULATIONS**
- NSR / Permits
- 2588 Hot Spots Program
- Source Specific Rules
- Wood Smoke Rule
- Back-up Generators
- Indirect Source Rule
Current Mapping Criteria

• Areas with high exposures to toxic air contaminants
  – Youth
  – Seniors

• Areas with high emissions of toxic air contaminants

• Areas with low family Income
Emissions and Modeled Air Toxics (2005)

Risk-weighted Emissions  Modeled Air Toxics Risk
Mapping Inputs

- Modeled exposure of sensitive populations (youth & senior) to major cancer-causing compounds (top 50%)
- Cancer-risk-weighted emissions (top 25%)
- Family income (more than 40% of population under 185% federal poverty level)
Apply Mapping Inputs

- Identify top 50% exposures of youth & seniors (yellow or orange cells)
- Within one grid cell from a top 25% emissions (red outline cell) AND
- Intersect low-income areas
- How to draw lines on a map?
Mapping Methods

- Construct boundaries along major roads or highways that encompass areas identified
- Use knowledge of local areas to make adjustments
- Refine boundaries with community input and feedback, or when new data are available
Impacted Communities

- Concord
- Richmond/San Pablo
- Western Alameda County
- San Jose
- Redwood City/East Palo Alto
- Eastern San Francisco
Why Update Current Maps?

- Updated data are available
  - 2010 US Census
  - 2015 toxic emissions and modeling

- Consider using additional data
  - Exposures to pollutants in addition to toxic compounds: fine particles, ozone—using Air District regional modeling
  - Socio-economic and health outcome data

- Consider using new methods
Next Steps

• Develop draft revised mapping method
  – Consider presentations and input from today’s meeting and ensuing discussions

• Share revised draft mapping method; seek input (Sep 2012)

• Share revised draft maps using updated method; seek input (Oct/Nov 2012)

• Complete late 2012