



Bay Area Air Quality Management District

**Land Use, Transportation,
and Air Quality:
Making Healthier Decisions**

October 27, 2009

Henry Hilken
Director of Planning and Research
Bay Area Air Quality Management District

Bay Area Air District Overview

- Jurisdiction over air quality in 9 Bay Area counties, 101 cities
- Governed by Board of Directors composed of 22 elected officials
- Total Bay Area population over 7 million
- Over 160 million daily vehicles miles traveled

NINE COUNTY JURISDICTION OF THE BAAQMD



A faded background image of the Golden Gate Bridge in San Francisco, California, spanning across the water under a clear sky.

Who Does What

■ State

- California Air Resources Board: Regulates motor vehicles and implements AB 32 to reduce GHGs

■ Regional

- BAAQMD: Regulates stationary sources and provides incentives and grants for transportation and land use emission reductions
- ABAG: Implements FOCUS and Regional Housing Needs Allocation
- MTC: Regional transportation planning and programming
- BCDC: Regulates shoreline development
- Joint Policy Committee: Coordinates the four regional agencies

■ Local Governments: Land use planning and approval

Air Pollution & Transportation

Mobile Sources
Are Largest
Contributor to
Air Pollution

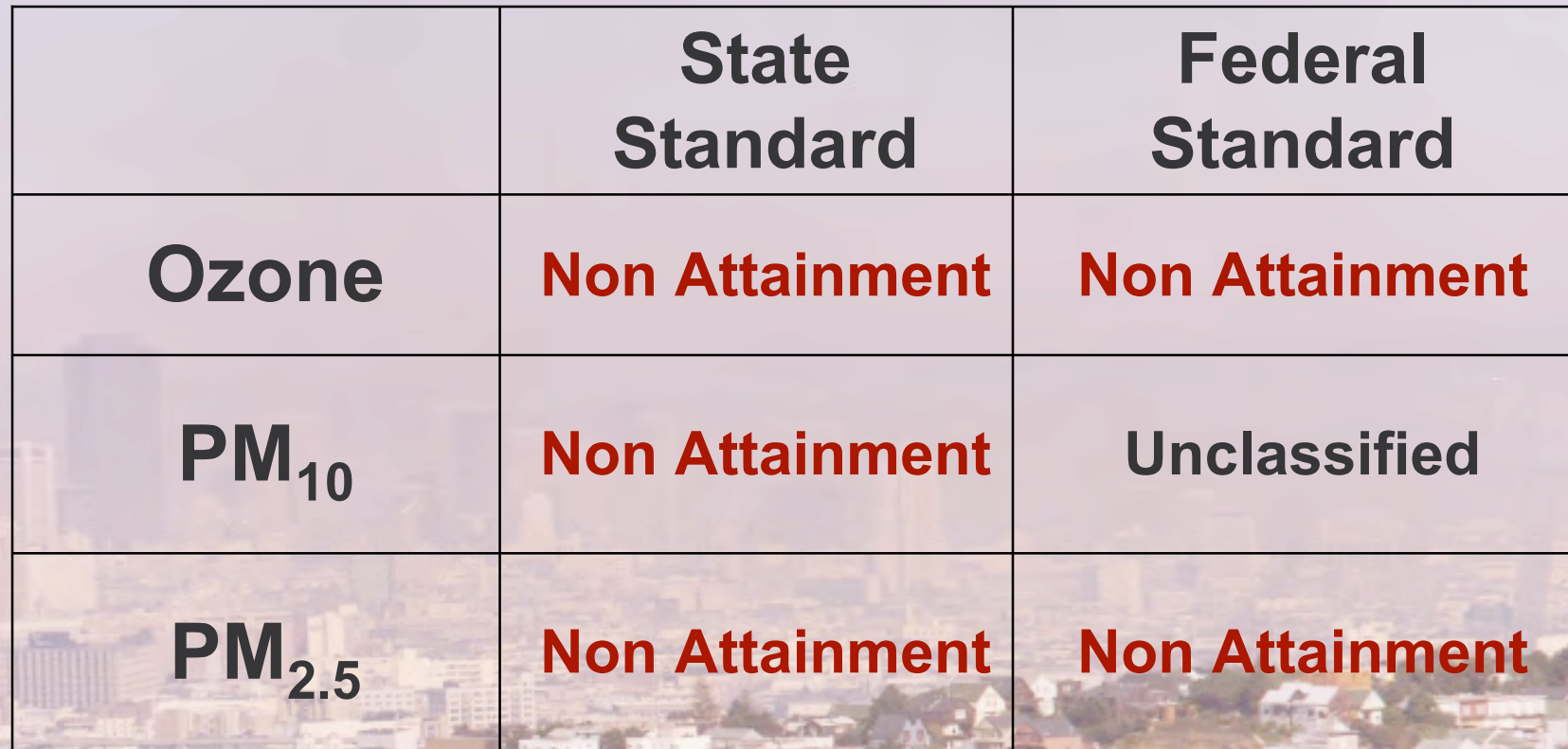


Pollutant	Emissions Inventory % from Transportation
NO _x	87%
ROG	56%
TAC (86% DPM)	43%
PM _{2.5}	46%
GHG	41%



Regional Pollution

	State Standard	Federal Standard
Ozone	Non Attainment	Non Attainment
PM ₁₀	Non Attainment	Unclassified
PM _{2.5}	Non Attainment	Non Attainment

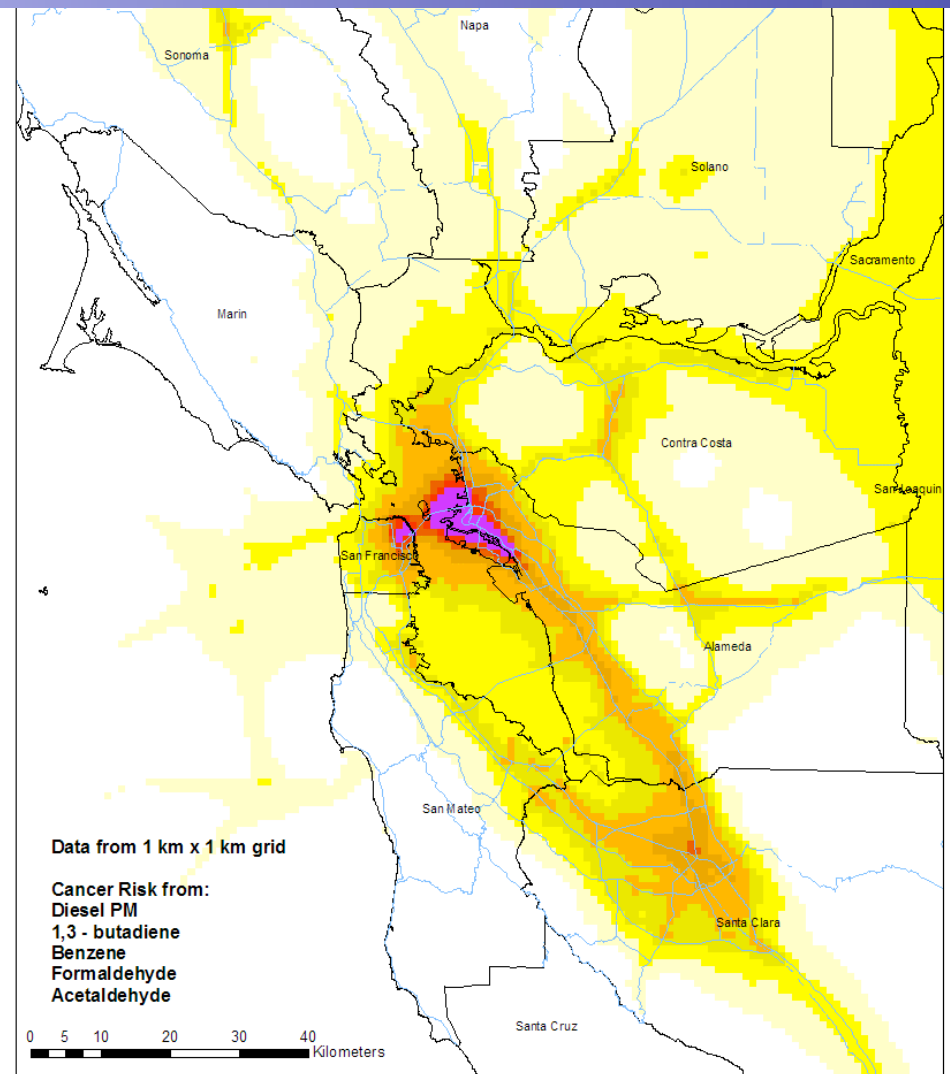
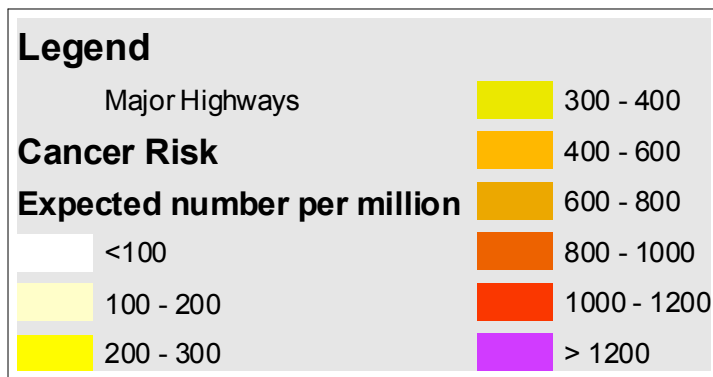




Modeling of Toxic Risk

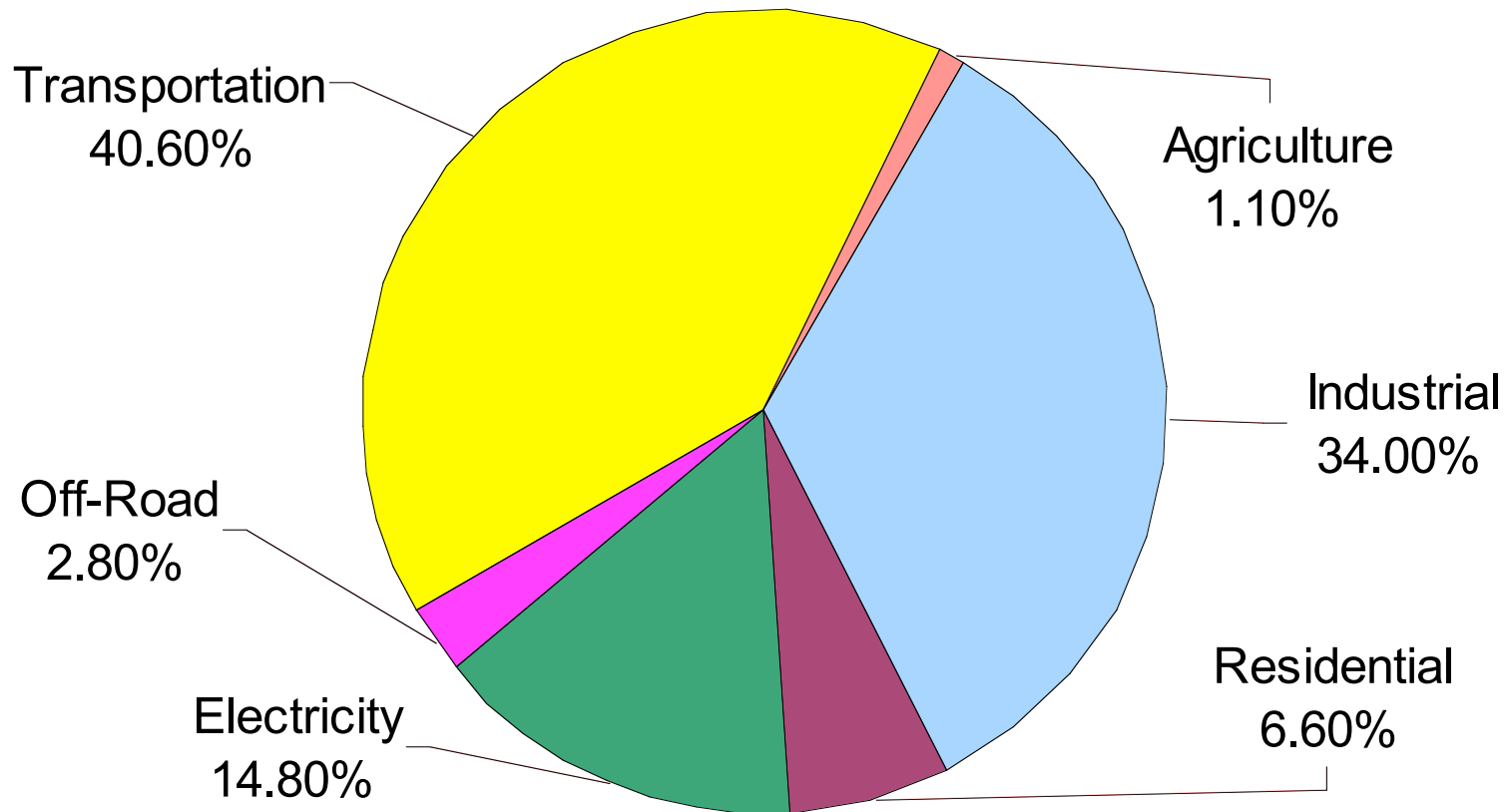
High Risk Aligned with Roadways

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



Sources of GHG Emissions

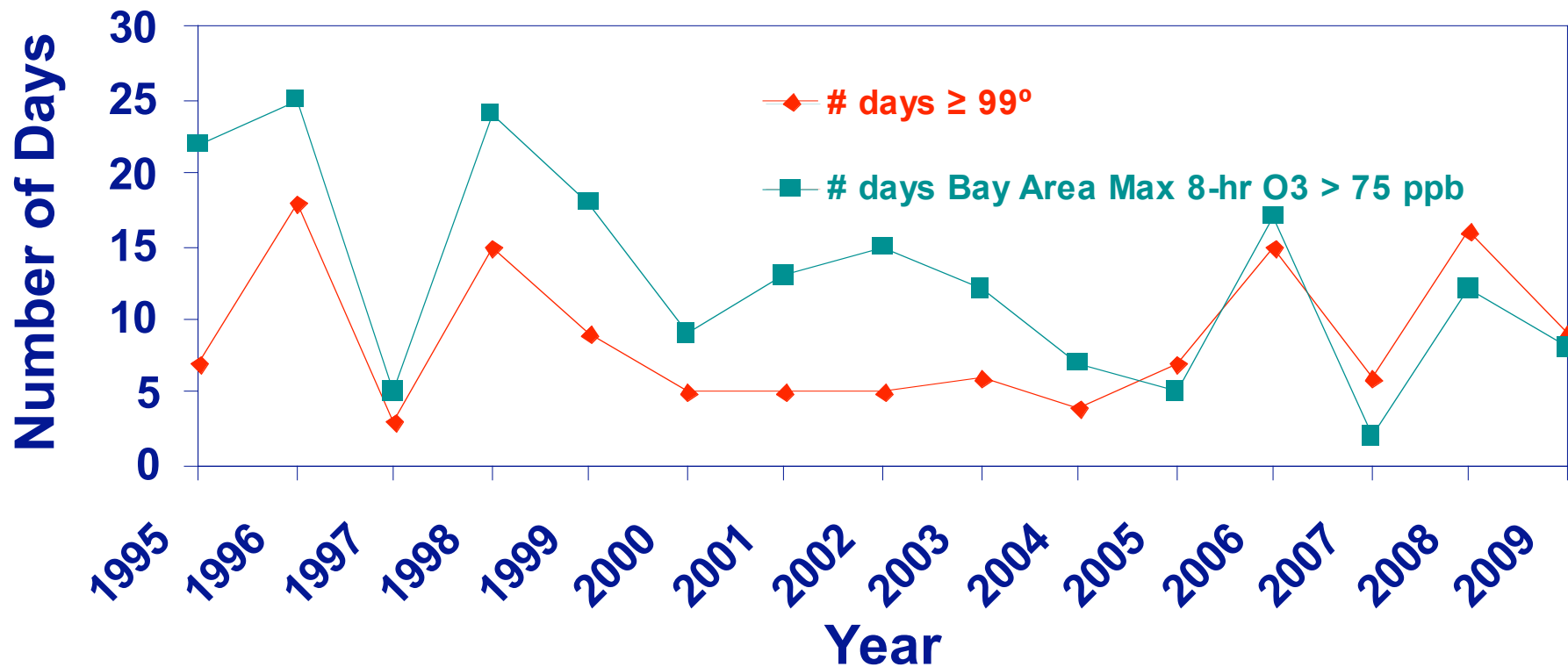
2007 Greenhouse Gas Emissions By Source for SF Bay Area



Total 102.6 Million Metric Tons CO₂e

Climate Change & Air Quality: Ozone and Temperature Trends

Days $\geq 99^\circ$ & Days Exceeding the National Ozone Standard





We Must Do Better

- Rethink how we build communities
 - Infill, TOD, mixed use
- Support transit, walking, and cycling
- Regional air quality
- Local exposure
- Greenhouse gases





Opportunities

- Co-benefits from infill and TOD
 - Reduces air pollution
 - Promotes walking and cycling
 - Creates mixed housing options
- Growing climate change awareness
 - State leadership
 - Local government actions
 - Public behavior changes
- California innovation
 - Policy
 - Technology
 - Social

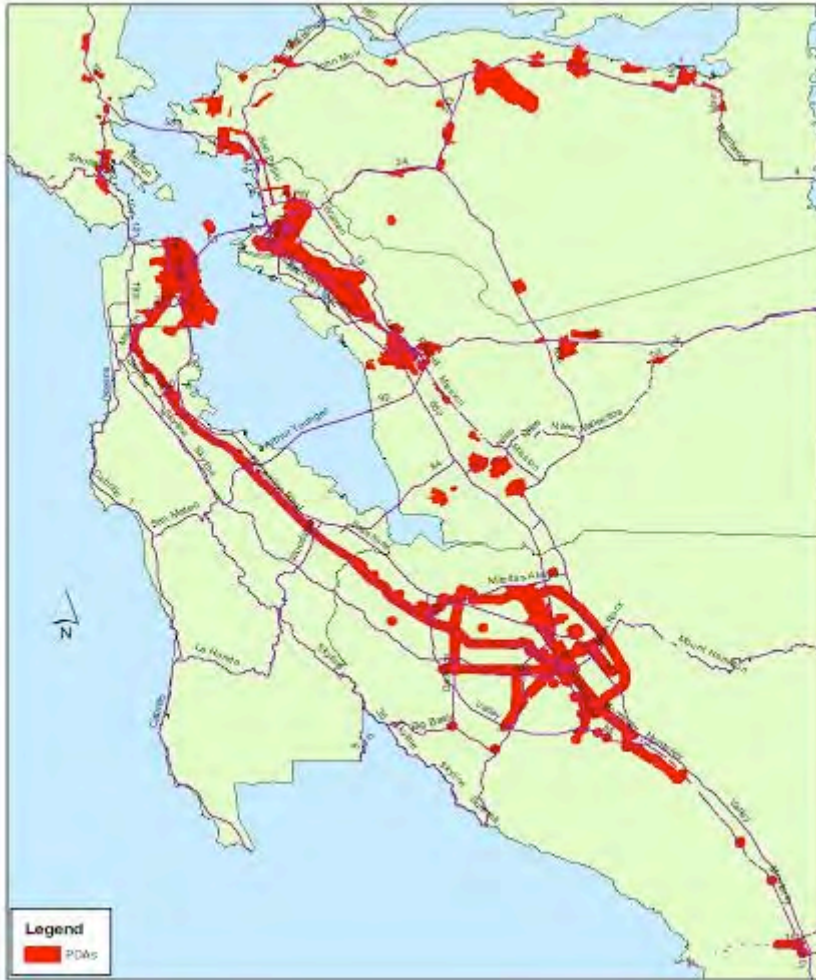


Land Use & Transportation Challenges

- Addressing land use in built environment and new development
- New technologies for cleaner, more efficient vehicles
- Fear of change
- Promoting infill while reducing minimum exposure to residents

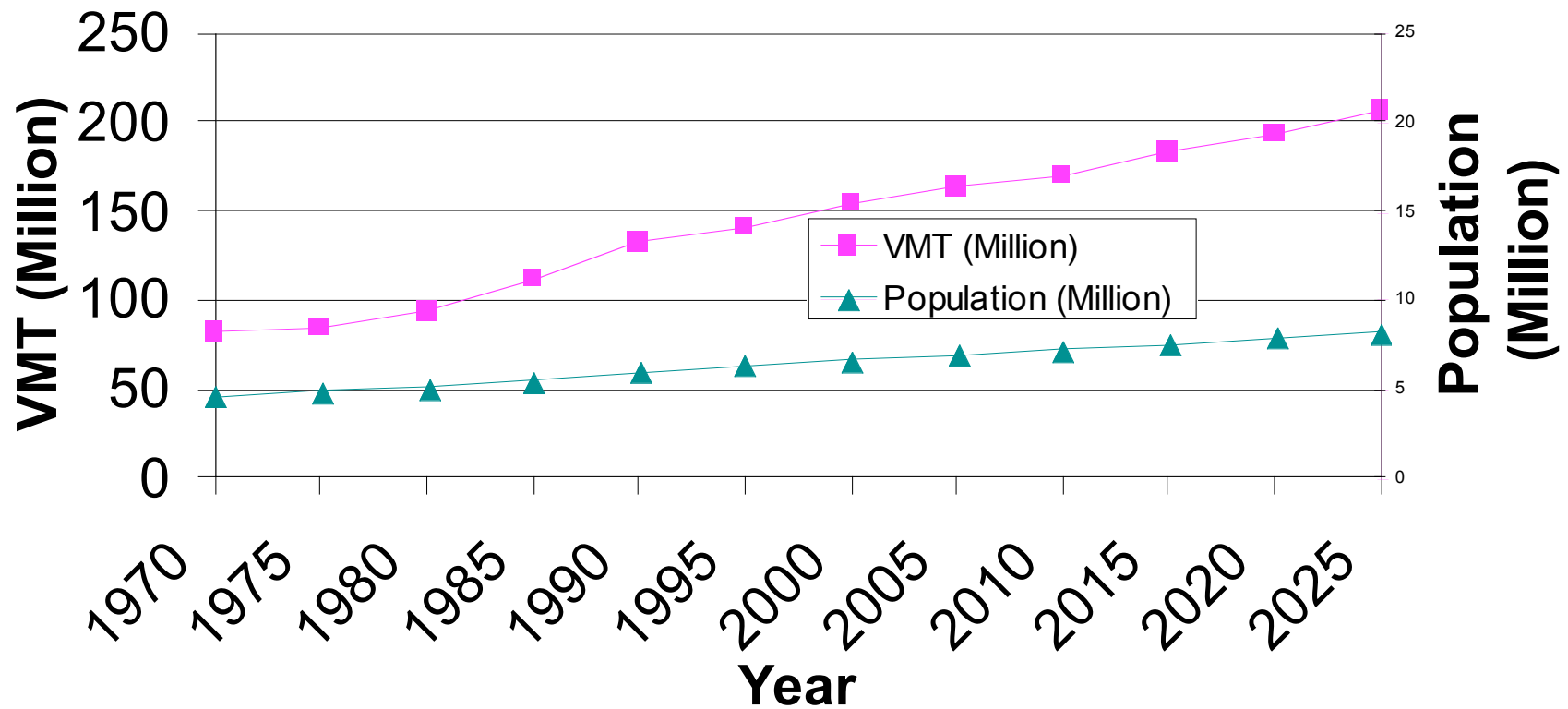


Priority Development Areas & Air Quality



VMT Challenge

Bay Area VMT and Population Trend



A faded background image of the Golden Gate Bridge in San Francisco, California, spanning across the water. The bridge's iconic orange-red towers and suspension cables are visible against a light blue sky and water.

State Senate Bill 375

- Help implement AB 32
- Regional targets for GHG emissions tied to transportation and land use.
- Set GHG reduction targets from vehicles for 2020 and 2050
- Regional agencies to develop Sustainable Communities Strategy (SCS) to meet targets
- Regional transportation funding to be consistent with SCS
- Regional transportation planning and housing element updates to be aligned

Air District Initiatives

■ CEQA Guidelines

- Guidance for local environmental review
- Support smart growth and reduce emissions from land use and transportation
- Significance thresholds for regional air quality, local exposure, and GHG

■ Indirect Source Review Rule

- Attain standards, protect public health, encourage smart growth
- Set air quality performance standards for new development
- Require on-site mitigation or off-site mitigation fee

■ Grants

- Clean vehicles, cycling, smart growth
- Incentives for PDAs

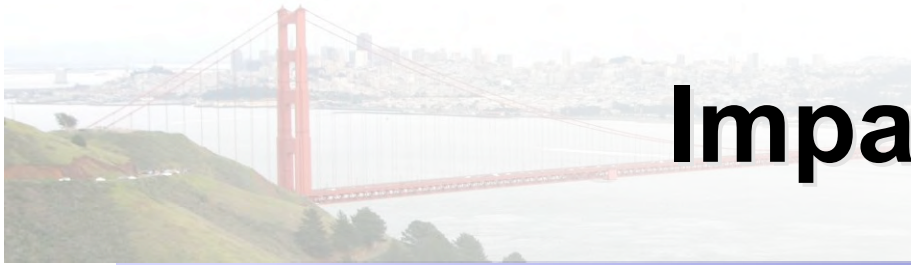


Air District Initiatives

- Climate Action Web Portal – go-to resource for local government climate actions:

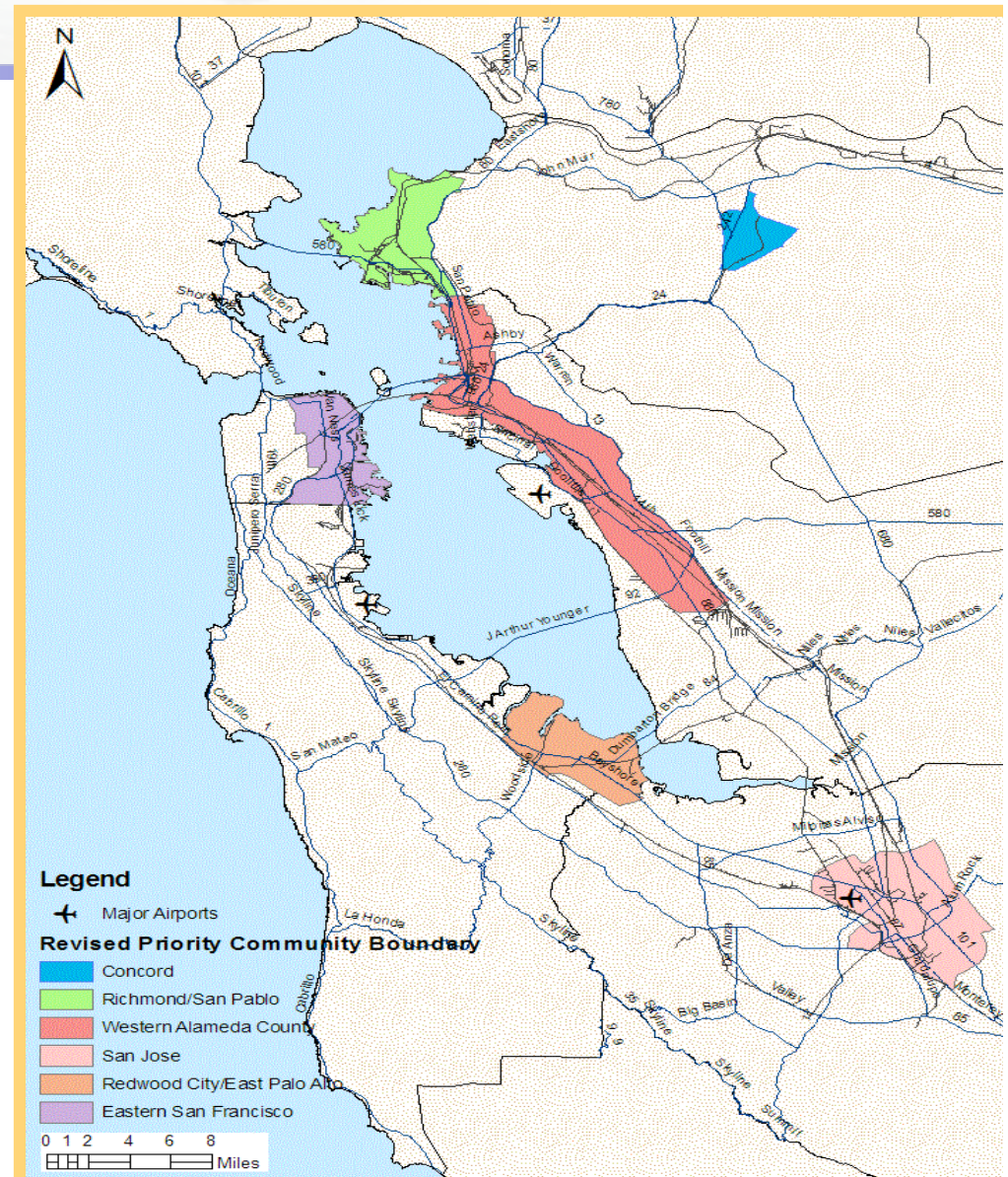
www.baaqmd.gov/climateplanning

The screenshot displays the website for the Institute for Local Government (ILG). The header includes the ILG logo and tagline "Promoting Good Government at the Local Level". Navigation tabs for "Issue Areas", "Publications", and "About ILG" are visible. A "SITE SEARCH" box is located in the top right corner. The main content area features the "San Francisco Bay Area Climate Action Portal" with a sub-header "Your gateway to climate action resources from the Bay Area and beyond." Below this, there is a section titled "Focusing on the Bay Area" with a list of links: "Bay Area Climate Action Examples", "Bay Area Climate Action Resources", and "Bay Area Events". A sidebar on the right contains several featured stories, including "Berkeley FIRST – Financing Local Solar" and "MTC Utilized for p...". The bottom of the page shows a "Featured Climate Leadership Story" with a photo of solar panels and the text "Learn how Berkeley helps residents and businesses finance solar panels — increasing renewable energy and reducing greenhouse".



Impacted Communities

- Air District's Community Air Risk Evaluation (CARE) program identified 6 communities disproportionately impacted by local air pollution
- Focus air quality mitigation strategies



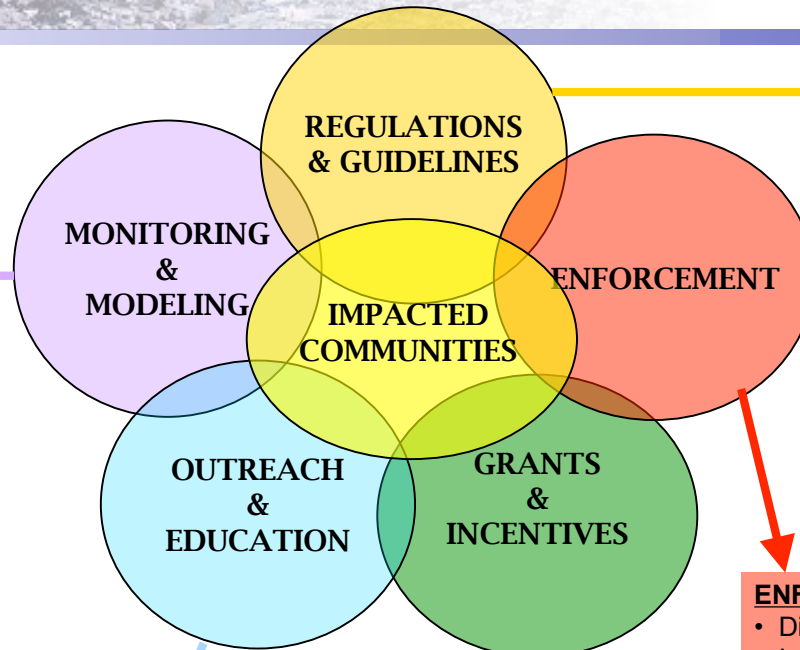
Clean Air Communities Initiative

MONITORING

- Mobile Sampling Van
- Ambient Monitoring Network
- Community Monitoring
- Local Measurement Studies
- Collaborate with Universities and Community Research Monitoring Programs
- Portable Sampling Trailers
- Photochemical Monitoring

MODELING

- Regional TAC Modeling
- Local TAC Modeling
- Regional PM and Ozone Modeling
- Permit Modeling and Risk Assessment



REGULATIONS

- Indirect Source Rule
- Toxics NSR
- 2588 Hot Spots Risk Threshold
- Source Specific Rules

GUIDELINES

- CEQA Guidelines
- 2009 Clean Air Plan
- General Plan Guidelines
- SB375/SCS
- Climate Protection Program/ GHG Co-Benefits

ENFORCEMENT

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

OUTREACH/EDUCATION

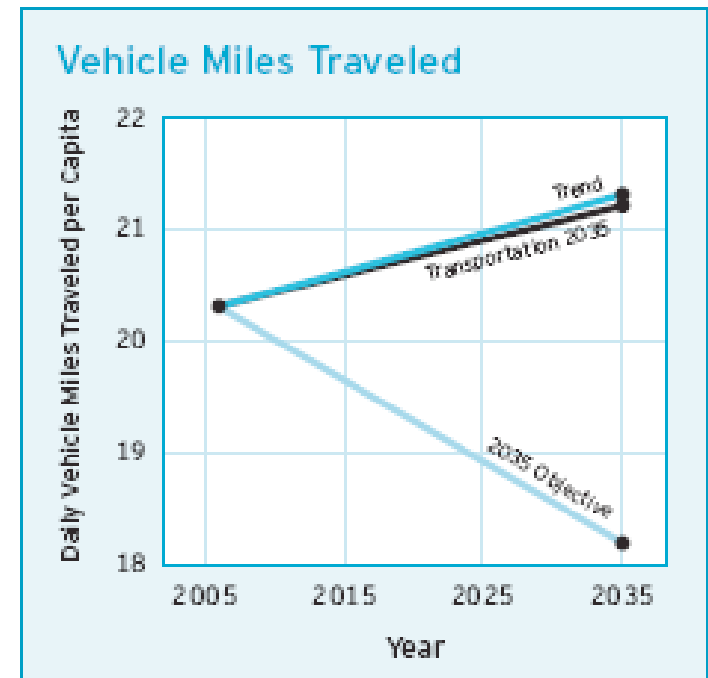
- Community Grant Program
- Collaborate with Local Governments
- Collaborate with Health Departments
- CARE Program
 - Task Force Meetings
 - Cumulative Impacts Working Group
- District Health Officer
- Community Meetings
- Resource Teams
- Collaborate with Community Groups

GRANTS/INCENTIVES

- Community Grant Program
- Bay Area Clean Air Foundation
- Carl Moyer Program
- TFCA
- I-Bond/Goods Movement
- Climate Protection Grants

Regional Transportation Plan

- Focus on pricing and land use
 - HOT Lanes
- Performance target reductions
 - Vehicle miles traveled by 10%
 - Particulate matter by 45%
 - GHGs by 40% below 1990 levels
- Transportation for Livable Communities
 - Awards incentive funds to TOD projects



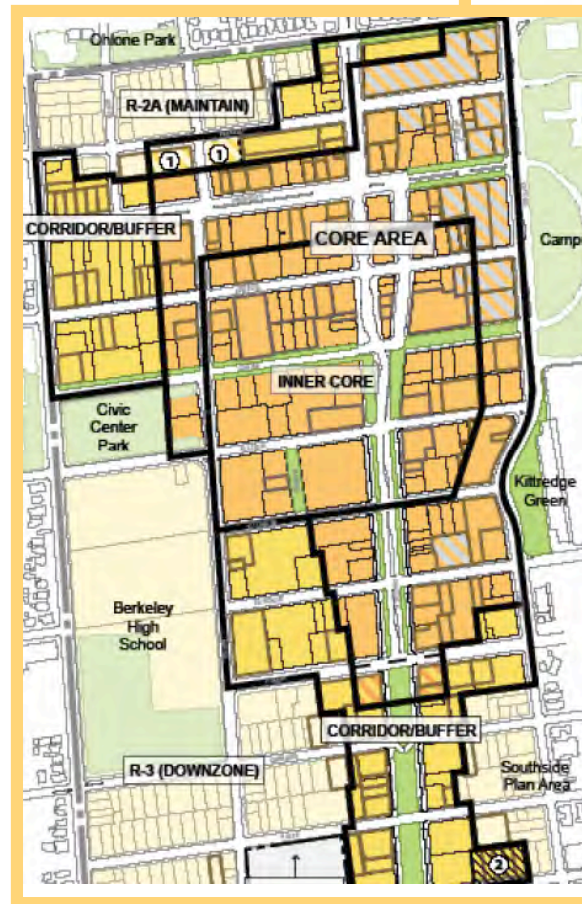
FOCUS Program

- Regional blueprint plan for Bay Area
- Focuses growth in Priority Development Areas (PDA)
- PDAs located near transit, contain mixed land uses, services, and amenities
- Can accommodate 50% of future growth on 3% of region's land area
- Incentives for planning and capital
- Key to reducing VMT



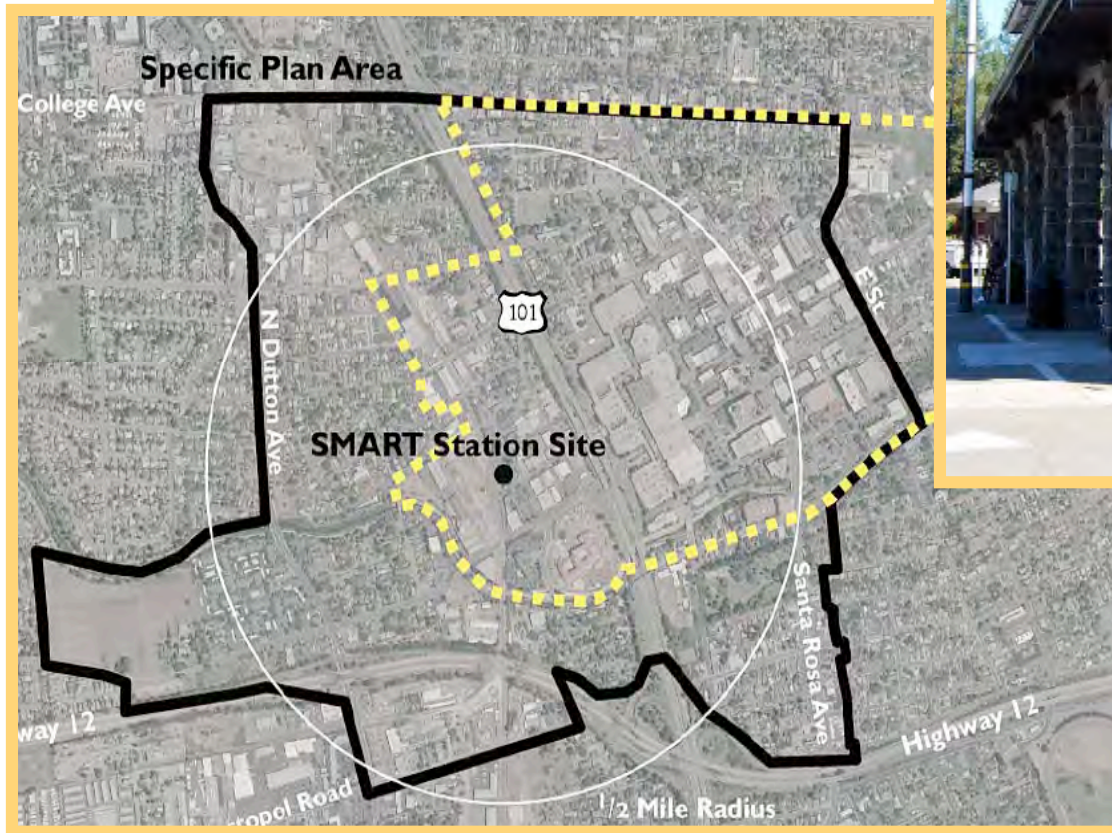
Bay Area Infill & TOD

Downtown Berkeley Area Plan



Bay Area Infill & TOD

Downtown Santa Rosa



Bay Area Infill & TOD

Downtown San Jose



San Francisco Ordinance

- San Francisco Department of Public Health developed approach for assessing and mitigating air pollution health effects on residential development near roadways
- Developed threshold of PM_{2.5} of 0.2 ug/m³ based on monitoring and studies of mortality and respiratory effects
- Recommends mitigation by installing mechanical ventilation systems with fresh air filtration in infill developments
- Adopted as a City Ordinance in November 2008.



Moving Forward

- Be bold
- Don't reinvent the wheel
- One size does not fit all
- Be positive

