



# 11<sup>th</sup> Annual New Partners for Smart Growth

## Strategies for Balancing Housing & Near-Road Risk”

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# Smart Growth: Why it's Important to Air Districts

- Numerous Benefits of Smart Growth to Air Quality:
  - A well located and designed TOD/infill project may generate 40% to 75% less VMT than the typical suburban development.
  - Less VMT = less air pollution (including GHG's, ozone precursors and PM)
  - Assist in attainment of State and federal Ambient Air Quality Standards
- Critical to meet State GHG reduction goals
- Critical to break the cycle of un-sustainable development



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# How Do We Achieve Healthy TOD ?

## Air District Perspective

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- Provide technical support to local gov't, developers
- Research epidemiological/EPA/ARB studies to set standards
- Identify a uniform methodology for analyzing potential adverse impacts
- Provide the necessary analytical tools for lead agencies
- Identify source specific mitigation strategies
- Support community-wide planning
- Collaborate with regional, local agencies on community-wide planning in PDA communities



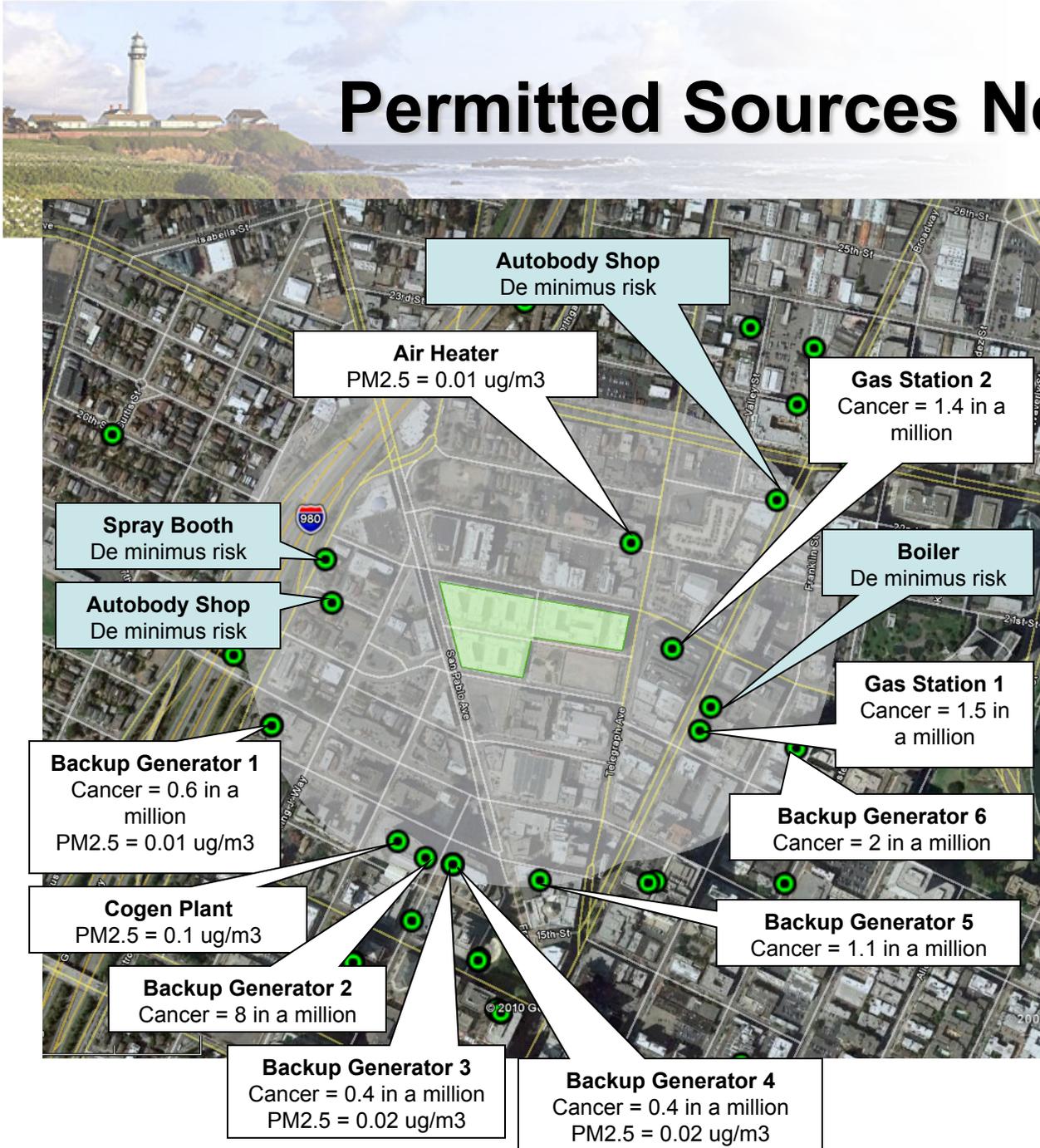
# Public Health Impacts of Pollution Near Freeways

- Health studies consistently show that living near highways has serious health consequences
  - Children living near a busy highway more likely to develop asthma and wheezing, suffer increased asthma attacks.
  - Exposure to traffic-related pollution, especially fine PM, significantly increases risk of heart attacks and premature death.
  - Pregnant women exposed to high levels of pollution from cars and trucks are more likely to experience problems with baby's development, such as low birth weight.
- Pre-term and early childhood exposures to carcinogens are ten times more important than previously estimated
- UC-Davis CHARGE Study demonstrates a connection between traffic pollution and autism.
- Pre-natal effects- Early development lung function and pre-natal exposure to fine PM.



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# Permitted Sources Near The Uptown



Source	PM2.5 (ug/m3)	CEQA Threshold
Generator 1	0.01	0.30
Cogen	0.1	
Generator 3	0.02	
Generator 4	0.02	
Air Heater	0.01	

Source	Cancer (cases per million)	CEQA Threshold
Generator 1	0.6	10
Generator 2	8	
Generator 3	0.4	
Generator 4	0.4	
Generator 5	1.1	
Generator 6	2	
Gas Station 1	1.5	
Gas Station 2	1.4	



# Reduction Measures

## Risk Reduction Measures

- Provide Safe Distances
  - Roadways
  - Diesel Generators
  - Gas Stations
- Phase Development
  - Future effect of regulations
- Install Air Filtration Devices
  - HVAC systems
  - Retrofitting existing buildings
- Plant Trees
  - Lining roadways and residencies
- Site Design
  - Limiting ground floor residential
  - Building design and air intake
  - Planned residential separation between existing and new sources

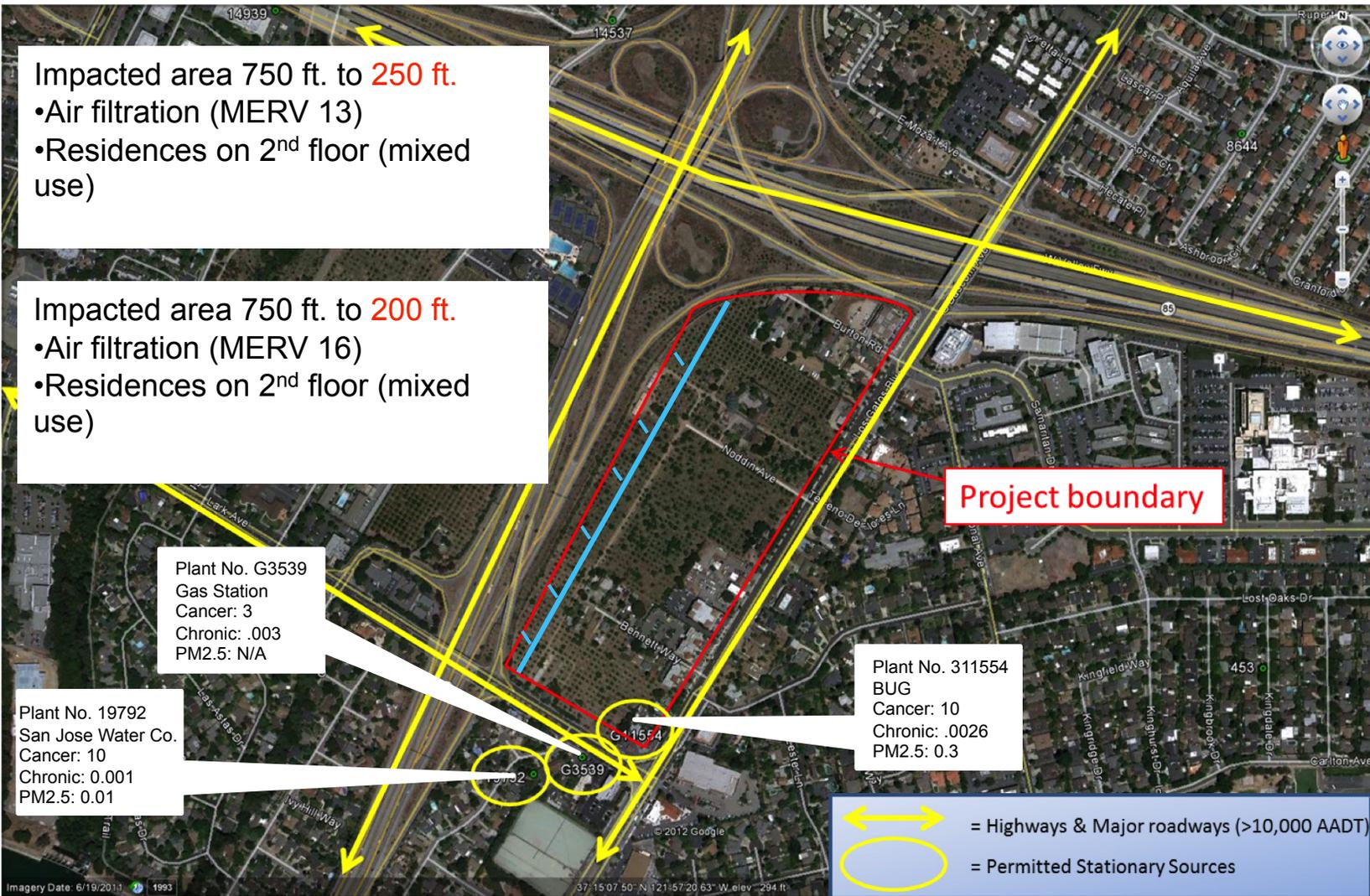
## Emission Reduction Measures

- Replace or Retrofit Diesel Generators
  - Electric Grid plug-in for construction
  - Best Available Control Technologies for new and old
- Electrify Loading Docks
  - Reducing excessive time trucks spent in idle
- Refrigeration Units
  - Install TRUs to reduce primary engine use
- Alternative Fuels
  - Hybrid electrical technologies
  - Propane and natural gas powered equipment and vehicles
- Limited Equipment Idling
  - Exceed current regulation maximum to two minutes

# Health Risk Screening: Project Analysis



# Mitigation Strategies



# How Close is too Close?

New housing less than 75 ft.  
from I-880

High traffic, truck volume

- 216,000 vehicles/day

- 23,000 trucks/day

@ 100'

- Risk = 111/million

- PM Conc = .619 mg/m<sup>3</sup>





# Supporting Healthy Infill: Local Governments

- **City of San Francisco, Article 38 Ordinance**
  - Requires new development near freeways to assess and reduce exposure risks through building design and air filtration
- **City of Oakland, Standard Conditions of Approval**
  - Requires projects with significant risk impacts to conduct health risk assessment or implement air quality measures (redesign layout, air filtration)
- **City of San Jose, 2040 General Plan Policies**
  - Contains initiatives to reduce exposure, including air modeling requirements for residential projects near freeways, install air filtration in existing schools and residences, encourage tree planting
- **City of Richmond, General Plan Community Health and Wellness Element**
  - Element emphasizes link between health and community design; policies include developing Sensitive Use Location Guidelines and a Truck Route Study