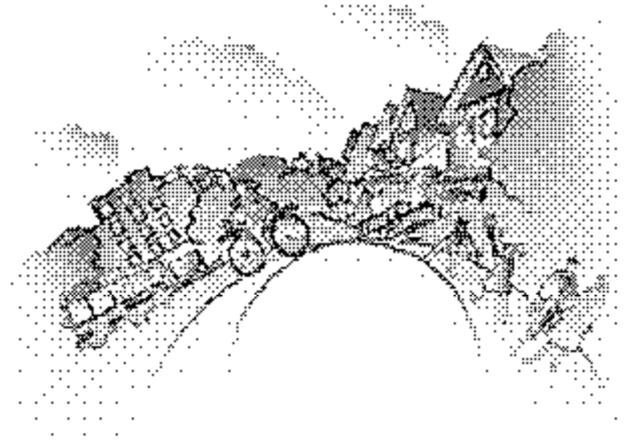


# Proposed Air Quality and Land Use Handbook: A Community Health Perspective

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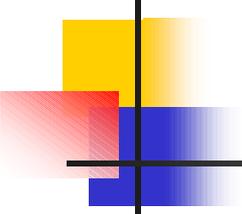


ARB Board Meeting  
El Monte, CA  
April 28, 2005

California Environmental Protection Agency

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 **Air Resources Board**



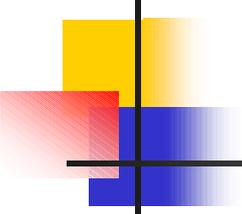
# Outline of Presentation

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- Development of Handbook
- Discussion of the Handbook Recommendations
- Issues, Outreach, and Updates
- Staff Recommendations for Board Action

# Development of Handbook





# Background

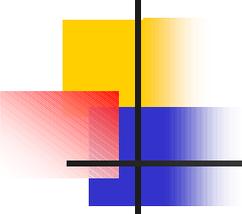
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- ARB's Environmental Justice Policies included a commitment to develop guidance on land use issues
- ARB's Environmental Justice Stakeholders Group initiated work
- Our community assessment work and toxic tours highlighted concerns

# ARB Community Studies Showed Land Use Connection

- Some past land use decisions have resulted in elevated localized exposures
- High levels monitored at homes “next door” to chrome plating facilities
- Chrome plater study in Barrio Logan demonstrated the importance of distance

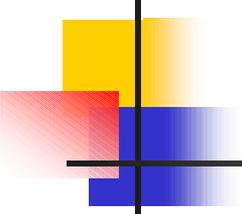




# Traffic Studies Linked Health Effects to Proximity

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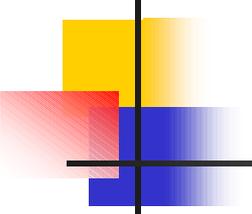
- Numerous studies show elevated health risk near high traffic -- especially truck traffic
- Respiratory effects found in children include reduced lung function, increased asthma symptoms, and hospitalizations
- Diesel particulate matter contributes to cancer risk and premature mortality



# Focus on “Sensitive Land Uses”

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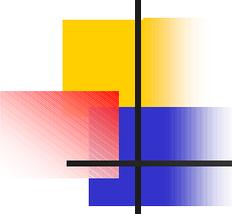
- Some groups are especially sensitive to air pollution -- children, the elderly, those with existing illnesses
- We focused on where these groups spend much of their time -- residences, schools, daycare centers
- Preventative action can be taken when siting new sensitive land uses



# Land Use Agencies Can Help

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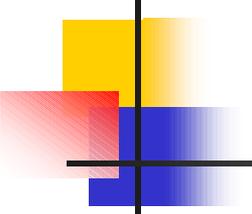
- Local air agencies require permits for air pollution sources -- this is not generally the case for sensitive land uses
- Local land use agencies are responsible for land use planning and permitting
- Land use agencies have authority to consider air quality along with other factors



# Land Use Decisions Are Complex

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- Land use agencies must balance multiple goals -- air quality is one
- Housing, transportation, economic development, and other quality of life issues are all important considerations
- We hope that with careful evaluation, concepts like transit-oriented development can be compatible with both regional and community air quality goals

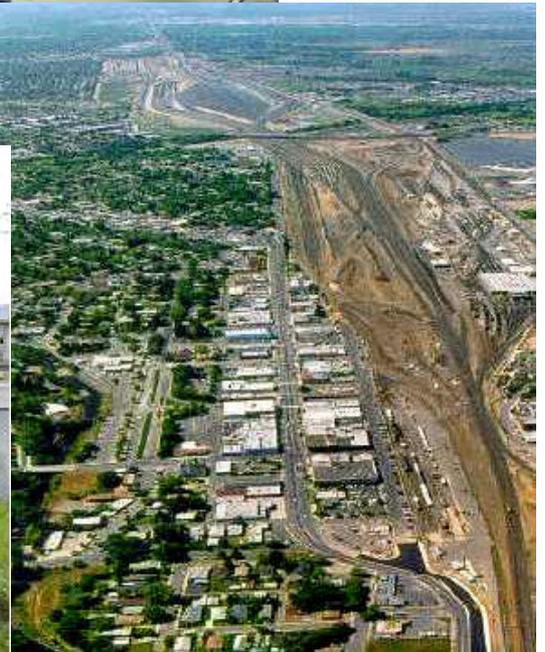
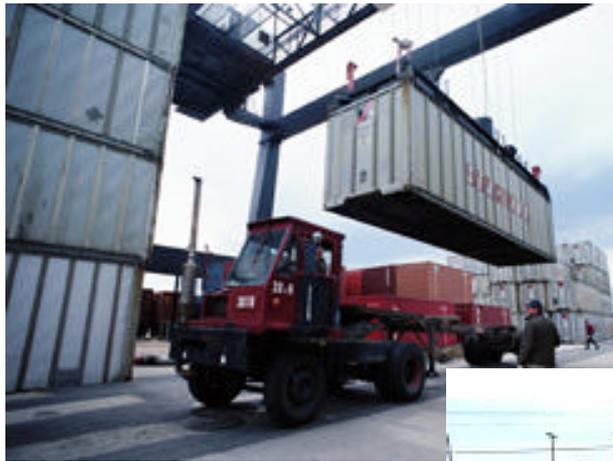


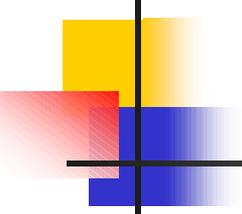
# Approach Taken With Air Quality and Land Use Handbook

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- Handbook is advisory -- it is intended to provide land use decision-makers with information on air quality and potential health impacts
- Encourages appropriate separation when siting new sensitive land uses -- this complements control programs to reduce existing health risk
- Provides recommendations, but these do not substitute for more site specific information when it exists

# Discussion of Handbook Recommendations

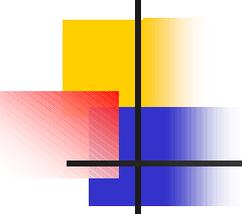




# Development of Recommendations

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- Evaluated available scientific information on health effects and impacts of distance
- Used cancer risk analyses and information on non-cancer health effects
- Identified data limitations and uncertainties
- Recognized that uniform risk-based threshold is impractical
- Tailored recommendations to minimize highest exposure for each individual category

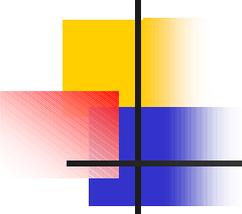


# Summary of Recommendations

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- Avoid siting new sensitive land uses closer than the following distances

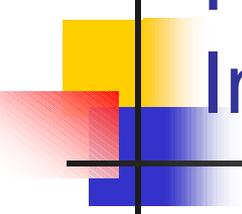
<u>Source Category</u>	<u>Distance</u>
Freeways & High Traffic Roads	500 feet
Distribution Centers	1,000 feet
Major Service/Maintenance Rail Yard	1,000 feet
Chrome Platers	1,000 feet
Perc Drycleaners	300-500 feet
Gas Dispensing Facilities	300 feet



# Summary of Recommendations (cont.)

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- General Recommendations
  - Ports
  - Refineries
  - Sources of dust problems and odor complaints



# Range of Average Air Toxic Cancer Risk\* In California Today

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- **Regional Risk**

- Urban Air 500-1000/million

- **Localized Risk**

- Freeways 300-1700/million

- Rail Yards up to 500/million

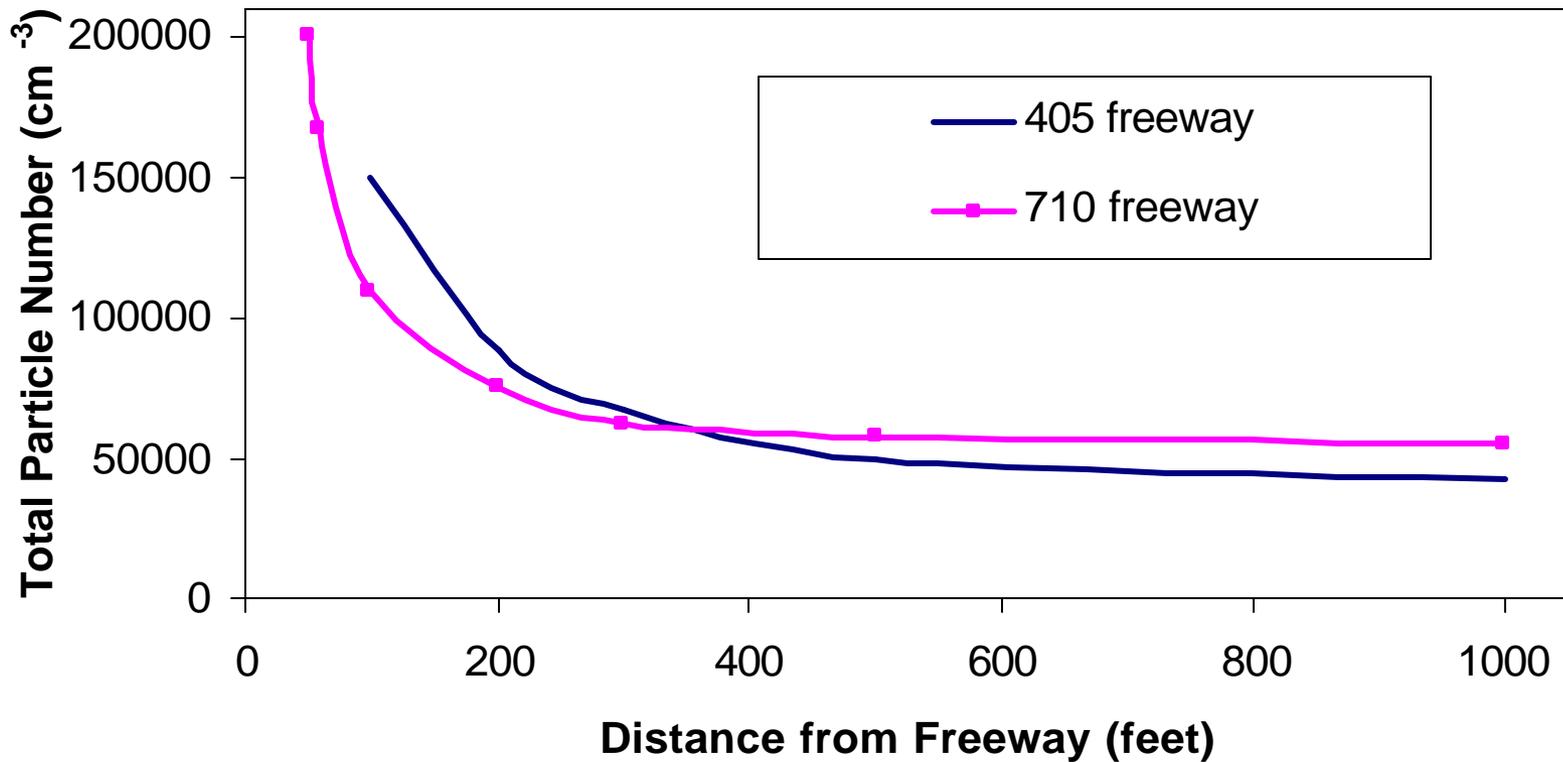
- Chrome Platers 10-100/million

- Perc Dry Cleaners 15-50/million

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*\*Localized risk is calculated independently from regional risk*

# Freeway Exposure Falls Rapidly With Distance



# Freeways and High Traffic Roads

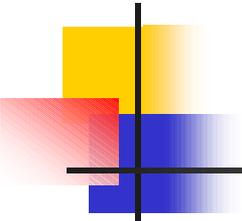


- Recommendation
  - Avoid siting within 500 feet
- Key Factors
  - Living close to high traffic volume roads and associated vehicle-related diesel PM emissions can lead to localized health risk above regional levels
  - Close proximity increases both exposure and the potential for adverse health effects

# Distribution Centers



- Recommendation
  - Avoid siting within 1,000 feet
- Key Factors
  - Distribution centers are significant sources of diesel particulate matter from trucks that travel in and out of these facilities
  - Truck refrigeration units also generate diesel PM



# Rail Yards

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- Recommendation

- Avoid siting within 1,000 feet
- Within 1 mile of yard, consider possible siting limitations and mitigation

- Key Factors

- Major rail yards can generate significant amounts of diesel PM emissions
- Risk adjacent to service and maintenance areas was highest in Roseville Study

# Chrome Plating Operations

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- Recommendation
  - Avoid siting within 1,000 feet
- Key Factors
  - Chrome plating operations and fugitive dust emissions can pose a health risk to nearby individuals
  - Due to variability in chrome operations we recommend 1,000 feet as a precautionary measure

# Dry Cleaners Using Perc

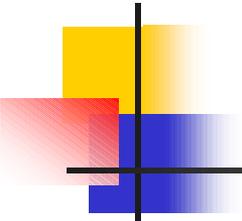


- Recommendation
  - Avoid siting within 300-500 feet
  - Do not co-locate in the same building with sensitive land use
- Key Factors
  - Perc emissions from large, well-controlled dry cleaners still have potential for significant risk to nearby individuals
  - Complete phase out of perc in southern California will not occur until 2020

# Gasoline Dispensing Facilities



- Recommendation
  - Avoid siting within 300 feet
  - 50 foot separation for typical facilities
- Key Factors
  - Typical existing facilities have a risk less than 10 in a million at 50 feet
  - Trend is much higher throughput which could pose a greater risk

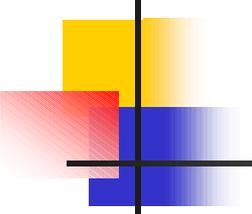


# Ports

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- Recommendation
  - Avoid siting immediately downwind
- Key Factors
  - The number and concentration of diesel engines make ports one of the largest sources of diesel particulate in the state
  - Risk analyses are pending but on an emissions basis alone localized impacts would be expected



# Administration Ports Initiatives

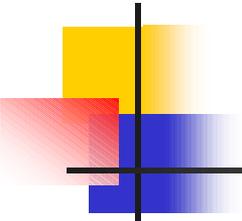
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- A joint agency effort by Cal/EPA and Business, Transportation, and Housing is underway
- Mitigation of environmental and community impacts is part of the goal
- ARB is developing a ports and locomotive plan to identify strategies to reduce emissions -- this includes analyses of the relative impact of the key emission sources

# Refineries



- Refineries
  - Avoid siting immediately downwind
- Key Factors
  - Refineries are large industrial sources of emissions and emit a variety of potentially toxic air pollutants
  - Although facility risk assessments show a low cancer risk, there are limited data on non-cancer effects of pollutants emitted from these facilities



# Odor and Dust

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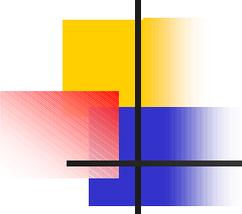


- Key Factors

- Exposure to unpleasant odors and dust can result in nausea and headache
- Facilities or operations with odors and dust may also be sources of air toxics

# Issues, Outreach, and Updates

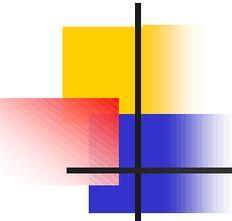




# Issues

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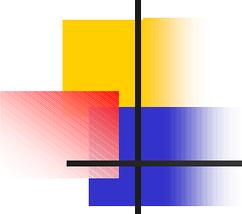
- Public Health
  - Community desires to address cumulative impacts more directly and comprehensively
- Housing and Transportation
  - Concern that consideration of localized air impacts will result in fewer opportunities for new housing, infill projects, and transit-oriented development



# Department of Housing and Community Development Concerns

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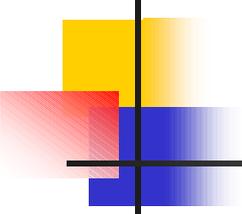
- Regulatory standards
- Conditional use permits
- Permit review process
- Qualified recommendations
- Distance from freeways and high traffic roads
- Planning agency resources



# Outreach Plan

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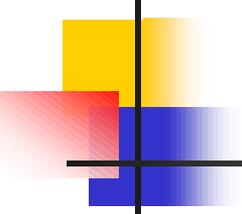
- Partner with local air districts to:
  - Encourage land use agencies to consider Handbook recommendations
  - Provide technical assistance to local government agencies
  - Bay Area, South Coast, and San Diego Districts have already agreed to collaborate



# Information Updates

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- Ongoing effort to update technical information on air pollution sources and their impacts
- Work with air districts to incorporate results of community assessment pilot programs and special studies
- Ongoing development of cumulative assessment tools



# Staff Recommendations for Board Action

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- Approve the Handbook
- Direct staff to distribute the Handbook to local elected officials, land use-related agencies, and interested stakeholders
- Direct staff to work with CAPCOA on outreach