

# Housing and Freeways: How Close is Too Close?

*A Policy Overview*

Diane Bailey

Natural Resources Defense Council

New Partners for Smart Growth

February 3<sup>rd</sup>, 2012

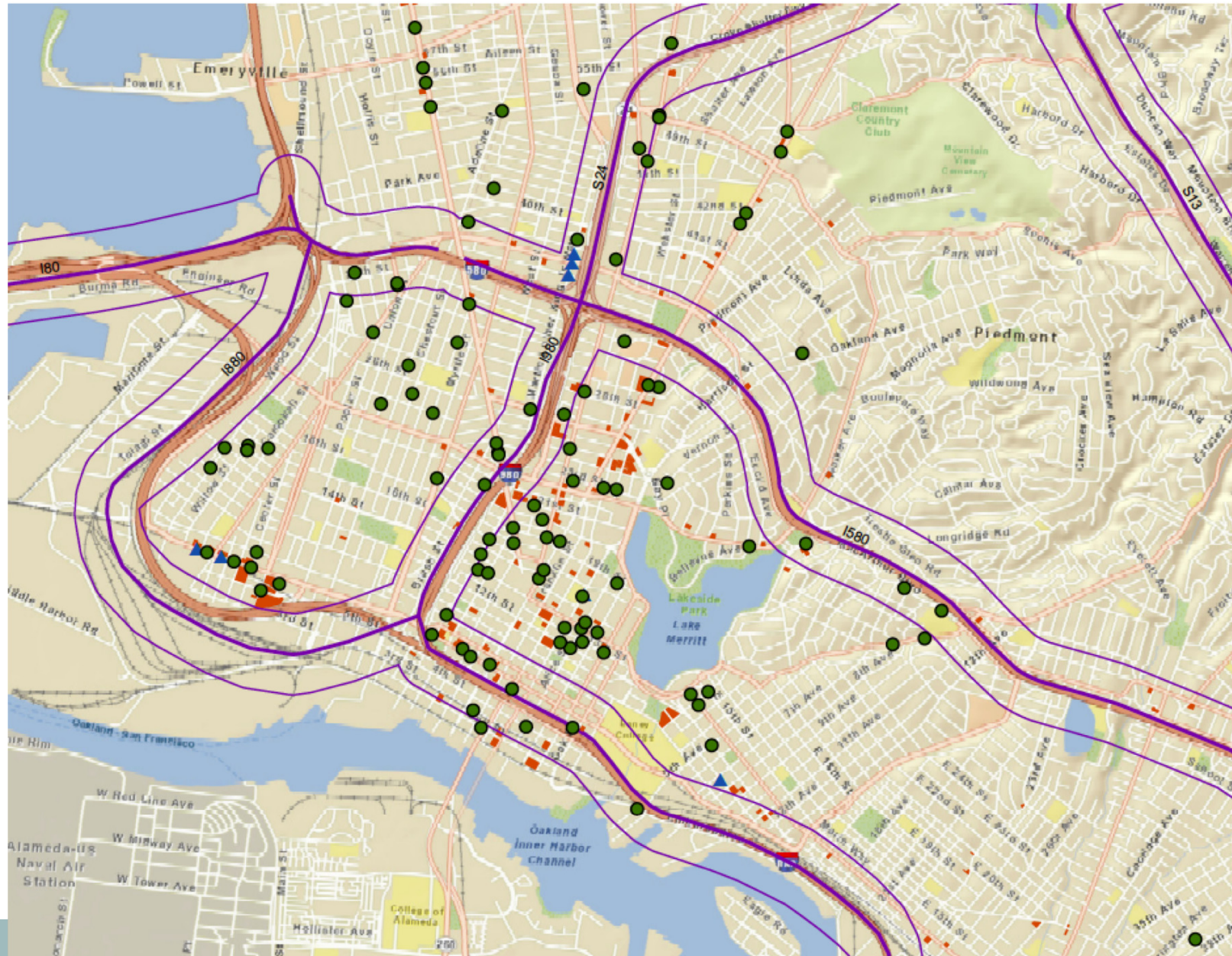


# Housing Proximity to Freeways Can Be a Major Health Hazard

- Placing housing (or any sensitive site) too close to major sources of air pollution makes people sick.
  - How close?
  - How sick?
  - Why the focus on freeways?
- We want dense, walkable, transit friendly communities; this is good for public health.
- No need to sacrifice: There are good policies that balance these issues.



# How Close? An example from Oakland



# How Sick? Known Health effects of Traffic Proximity

- Health impacts are mainly driven by fine PM; other pollutants (“traffic soup”) add to the health burden.
  - Asthma
  - Decreased lung function
  - Cancer
  - Heart disease
  - Mortality (Heart attack, stroke, pneumonia, acute respiratory & stunted lung growth)
  - Low birthweight, preterm birth, and birth defects
- Dramatically elevated pollutant levels associated with these impacts are typically found within 500 feet of busy roadways, but can extend much further under certain conditions (e.g. inversions).
- As vehicles become cleaner, will near roadway areas become safe? Fine PM from break & tire wear + roadway dust may remain a problem.

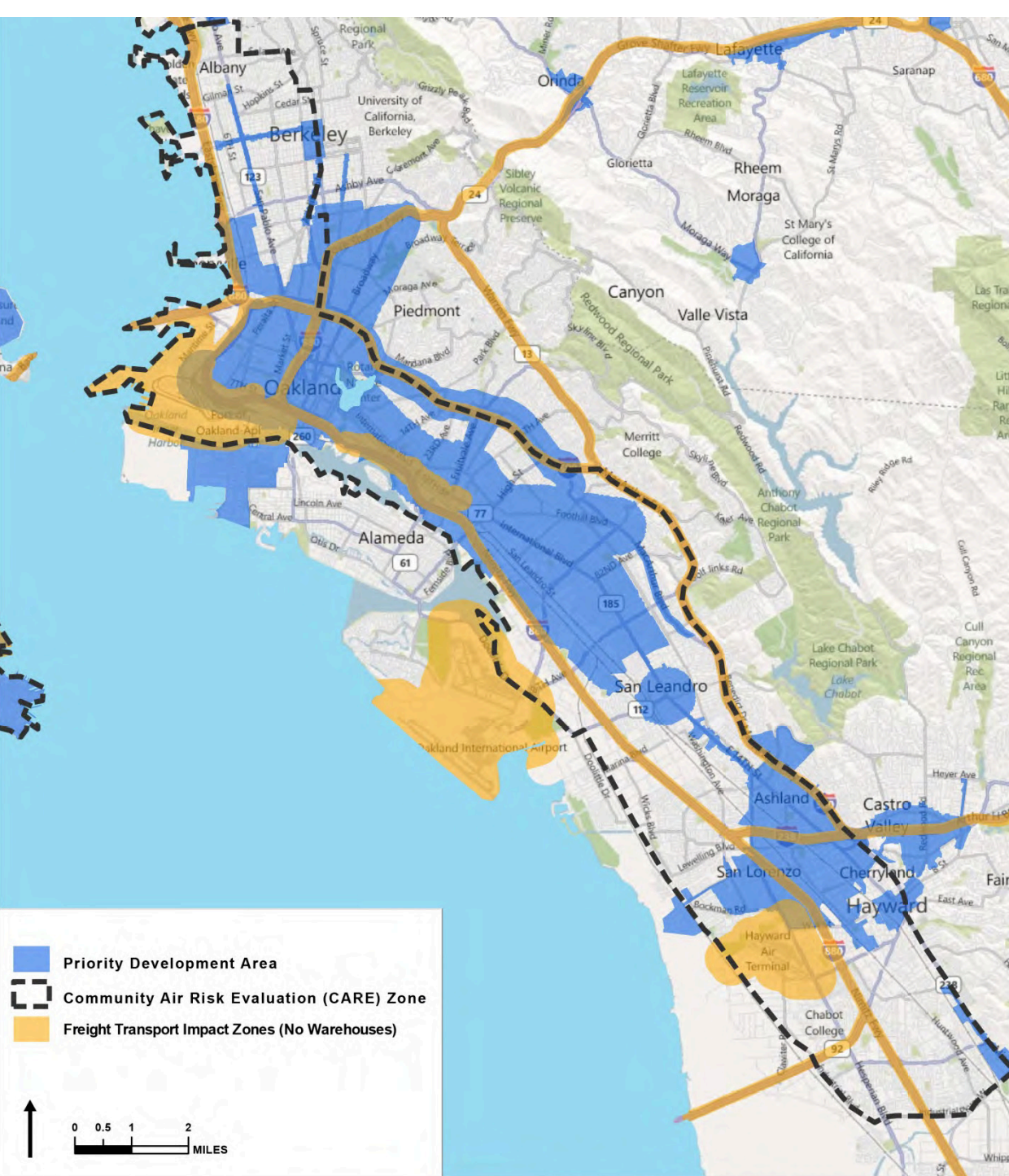
# Why Focus on Freeways?

- Most of the land use policies in CA that address air quality and public health cover much more than freeways.
- Freeways are one of the most pressing concerns of all air pollution sources when it comes to housing because millions of people live in close enough proximity, where we know significant health hazards exist.
- Freeways slice through many communities; they are hard to avoid.
- The California Air Resources Board, several large air districts (Sacramento, Bay Area, South Coast) and a handful of cities (San Francisco, Oakland, LA, San Diego) have or are developing policies to safeguard new residents from freeway pollution.



# At a Crossroads in Our Region's Health: Freight Transport and the Future of Community Health in the San Francisco Bay Area

- Only ¼ of the land in PDAs is impacted by freight transport hazards like freeways.
- Much of this land could likely still be developed for housing with appropriate mitigation.



FREIGHT TRANSPORT IMPACT ZONES,  
EXCLUDING DISTRIBUTION CENTERS AND WAREHOUSES  
ALAMEDA COUNTY

Pacific Institute

# Policies that Reduce Health Impacts of Developments Near Freeways in CA

- CARB 2005 guidelines recommend “safe distances” pollution sources and “sensitive receptors” (children & the elderly), incl. a 500 ft buffer for busy freeways.
- Air districts soon followed with similar guidance.
  - South Coast guidelines are similar to CARB; they provide helpful information but are unenforceable.
  - Sacramento AQMD added CEQA based policy in 2008
    - Health assessments for housing sites within 500 feet of busy roads
    - Public reporting of cancer risks (+ threshold for further review: 276/ million)
  - Bay Area AQMD CEQA update, 2010

AIR QUALITY AND LAND USE HANDBOOK:  
A COMMUNITY HEALTH PERSPECTIVE



April 2005

California Environmental Protection Agency  
California Air Resources Board





# Example: 3 Housing Sites within 1,000 feet of a freeway How is the air?



**3884 MLK Blvd.**  
**(market rate housing)**

**MacArthur Transit village**  
**(market rate + affordable housing)**

**3701 MLK Blvd.**  
**(affordable housing)**



# Three examples near MacArthur BART

**3884 MLK Blvd. (market rate housing)**  
~300 ft W of 24, PM & Cancer risks below threshold



**MacArthur Transit village (market rate & affordable housing)**



**3701 MLK Blvd. (affordable housing)**



~200 ft E (Downwind) of 24  
PM close to threshold, cancer risk well above (almost 30/million) -> Mitigate

~500 ft N of 580 & ~500 ft W of 24  
PM below threshold, cancer risk above  
-> Mitigate

# City of Oakland: Standard Housing Conditions, “SCA 94”

- 2010 Housing element update included “SCA 94” requiring mitigation or an HRA for sites within 1000 feet of busy roads that exceed BAAQMD thresholds.
- Mitigations include:
  - Redesign site layout
  - Put sensitive receptors away from pollution
  - Plant vegetation
  - Install a MERV13 HVAC filtration system
  - Locate air intake away from pollution
  - Install indoor air quality monitors
  - Maintain and repair air filtration equipment

(Or conduct a Health Risk Assessment)



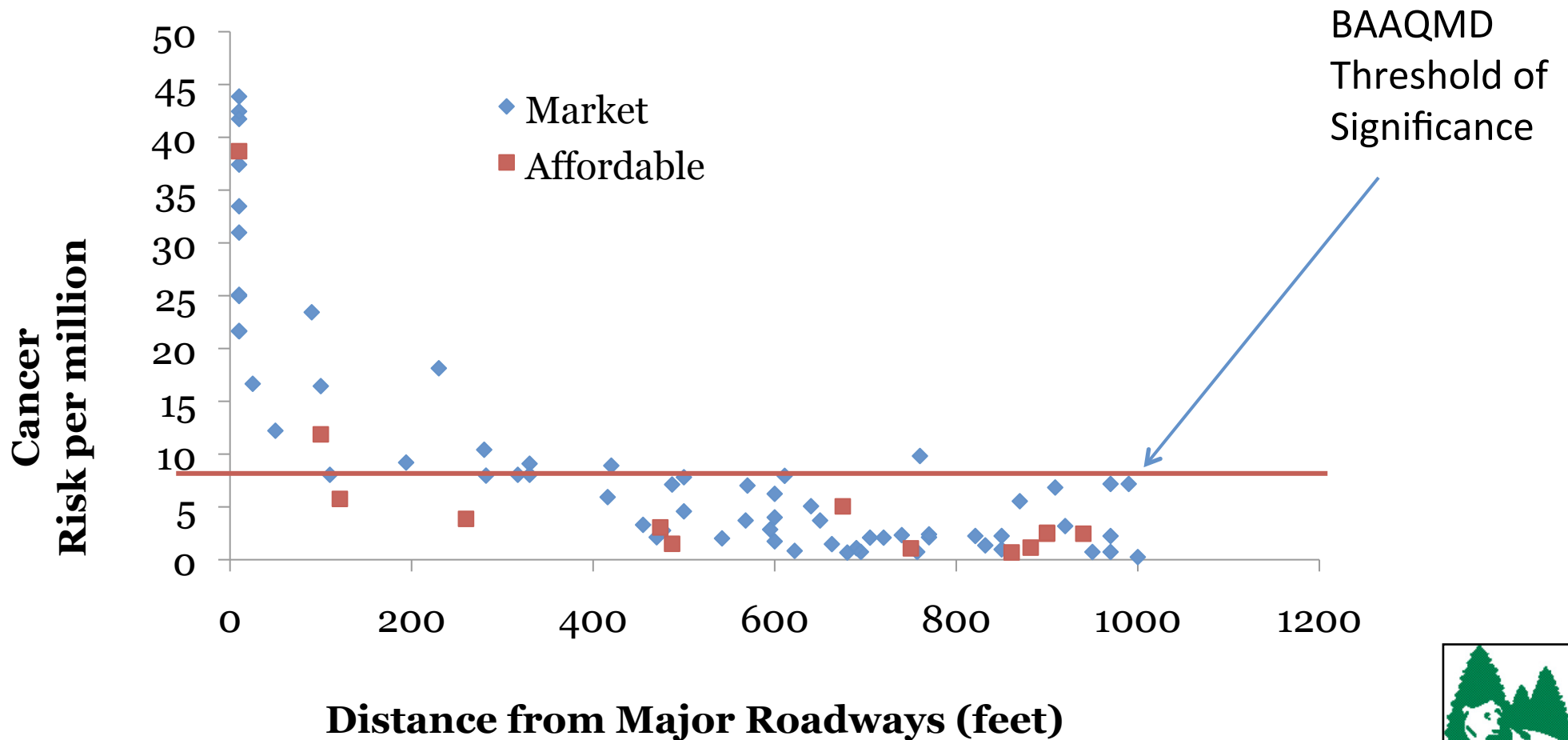
# San Francisco: A Progressive Approach

- A 2008 public health ordinance requires modeling for fine PM levels at housing sites within 500 feet of busy roads\*
- Roadway fine PM levels  $> 0.2\mu\text{g}/\text{m}^3$  call for mitigation:
  - The project must be moved away from the elevated hazard area,
  - The hazard must be lessened (e.g. traffic controls),
  - **Or** air filters must be installed.
  - Disclosure: Impacted renters or buyers must be informed of the hazard.





# San Francisco Housing Developments (2004- 2010)



# Formulating the Best Policy

## Maximize:

- Health-protections
- Property that can be developed for housing
- Certainty to developers
- Equitable treatment between affordable and market rate housing

## Minimize:

- Significant level of staff time, money, and expertise\*
- Reliance on strapped local government
- Assumption that any project can be mitigated to a healthy level\*\*



# Conclusions



- Many health protective policies already exist, but a comprehensive statewide approach is preferable to ensure that all residents are protected.
- A simple buffer approach is inappropriate due to significant site variations, and a widely supported desire to maximize infill.
- A thoughtful approach with screening and potential for mitigation will maximize infill while addressing serious health concerns.
- What about existing incompatible land uses?