

Transportation Pollution, Neighborhood Health and Smart Growth: How Close is TOO Close?

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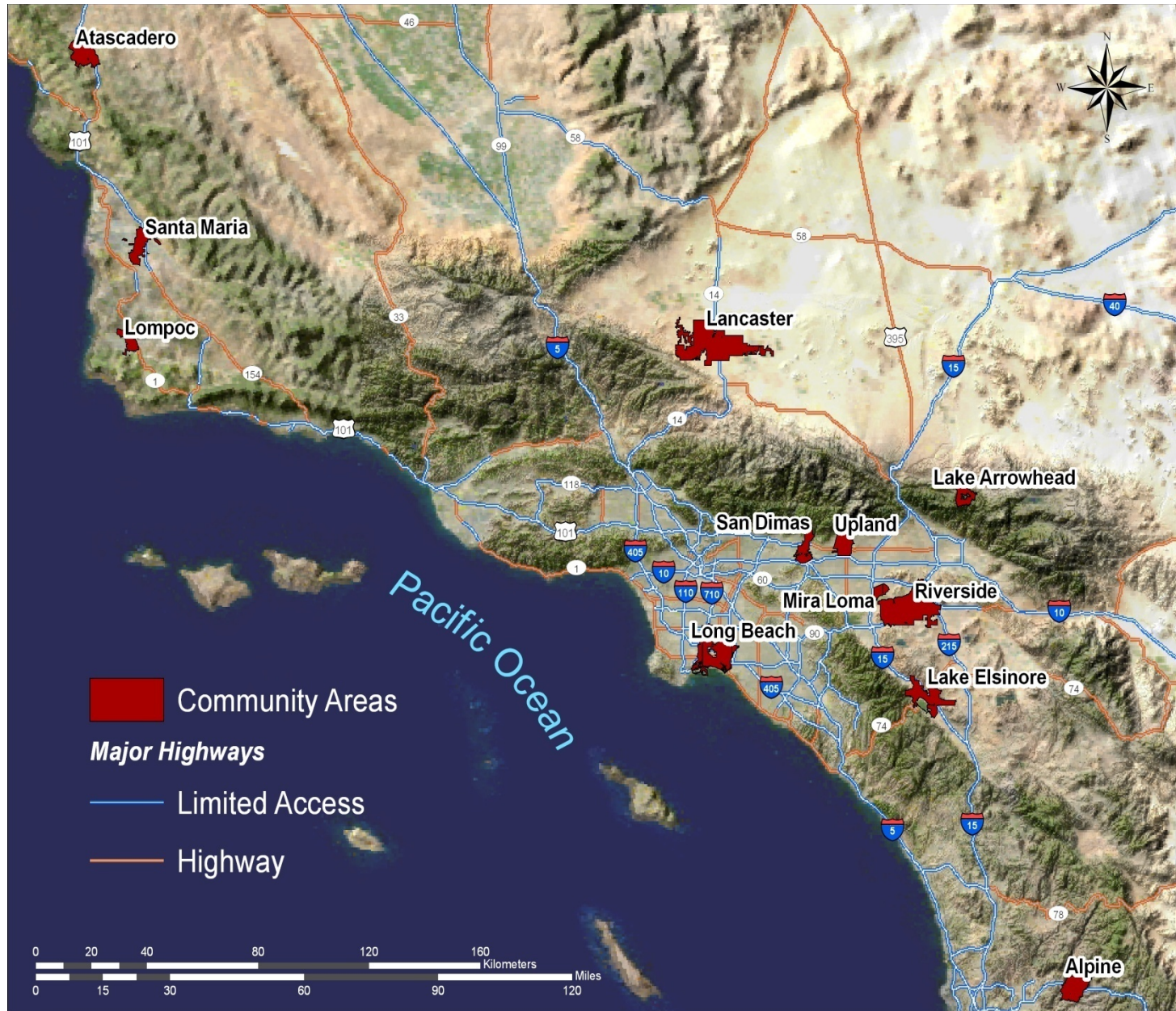
Southern California Environmental Health Sciences Center

- Group of scientists at USC and UCLA who do research on the health effects of air pollution
- Conduct the USC Children's Health Study
- My role:
 - Direct community outreach and engagement

Why we are here today – when building transportation systems or siting schools or building transit-oriented development, we want to protect our health... our children’s health... our grandchildren’s health..

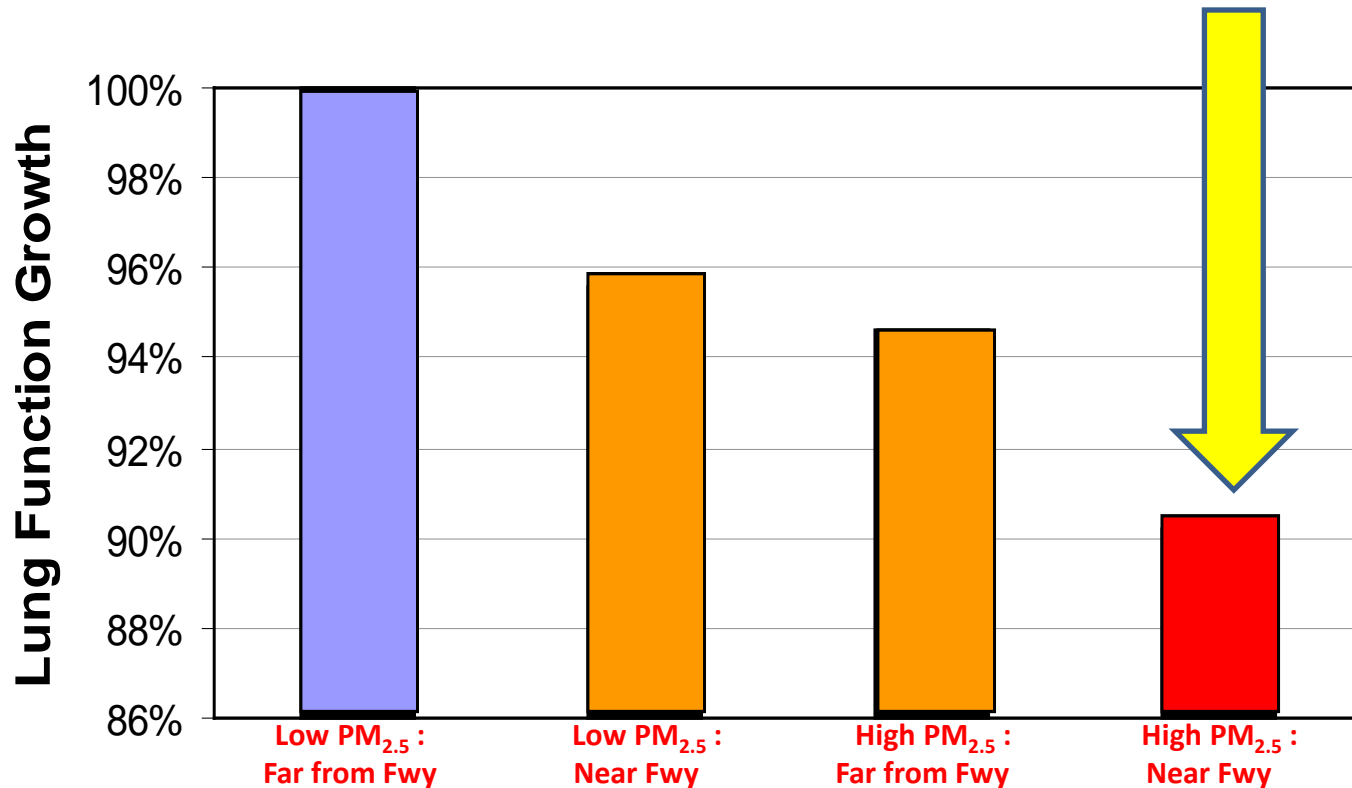


The (Original) USC Children's Health Study Cohort



Proximity To Traffic Matters

Lungs of children who live in areas with bad regional air pollution and near freeway traffic are impacted the most



Regional PM_{2.5} : Freeway Distance

Credit: Jim Gauderman, USC

Emerging Research Findings on Living Close to Heavy Traffic

CHILDREN

More likely to have:

- asthma or reduced lung function
- use more asthma medication
- wheeze more
- autism ?
- obesity?

PREGNANT WOMEN

More likely to have:

- premature or low birthweight babies
- IVF failure
- pregnancy complications

ADULTS

New studies show:

- stroke
- atherosclerosis

OLDER WOMEN

More likely to develop:

- new cases of heart disease
- cognitive impairment ?
- diabetes ?

TRANSIT ORIENTED DEVELOPMENT:
*A VARIETY OF CREDITS TO PUT COMPACT
DEVELOPMENTS NEAR TRANSIT STOPS*

Government support of TOD

Tax credits, financing help, etc

- HUD/EPA/DOT partnership
 - Sustainable communities
 - More transportation choices
 - More physical activity
- California
 - SB 375
 - Reduce greenhouse gases

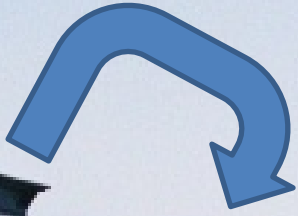
Transit-Oriented Development

Metro
Rail Stop



TOD

**A DILEMMA.... TRANSIT-ORIENTED
DEVELOPMENT MAY PLACE RESIDENTS
NEAR AUTO TRAFFIC CORRIDORS &
POLLUTION**



**From the other side of the
condo complex in L.A.!**



Photo by Alison Cook for USC

Photo by Alison Cook for USC



**Yet another view:
*From the freeway
looking UP***

Photo by Ted Soqui from
article in L.A. Weekly
entitled:
Black Lung Lofts



Rendering from Casden Properties website:

<http://www.casdenproperties.com/>



EXPOSITION BOULEVARD

500 feet

Previous Image

SEPULVEDA BOULEVARD

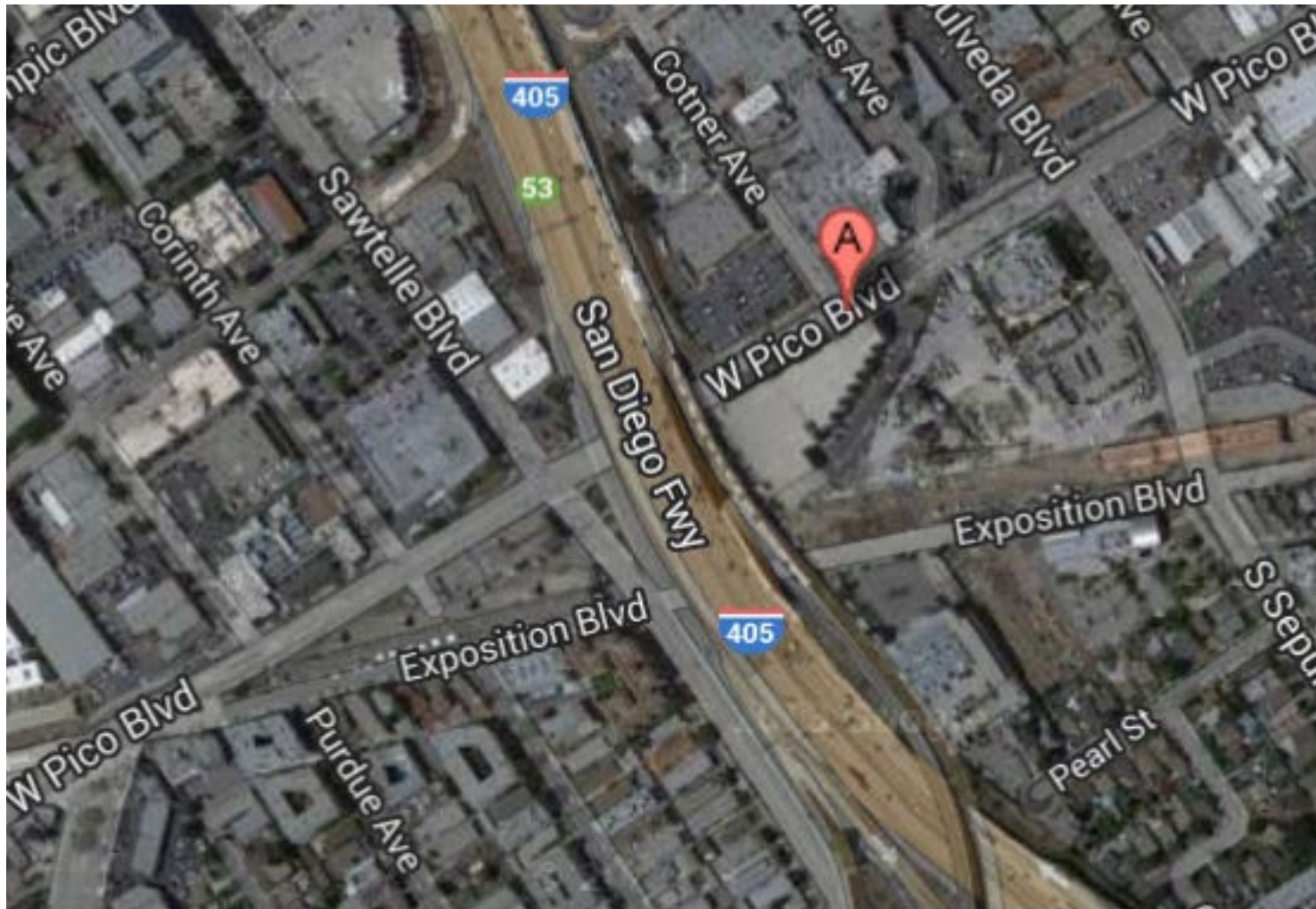
PICO BOULEVARD

Sketch from Casden Property website:
<http://www.casdenproperties.com/>



The site plan at the residential level

Compromise –
Closest houses 500' from I-405
Freeway instead of 200'



TORONTO....

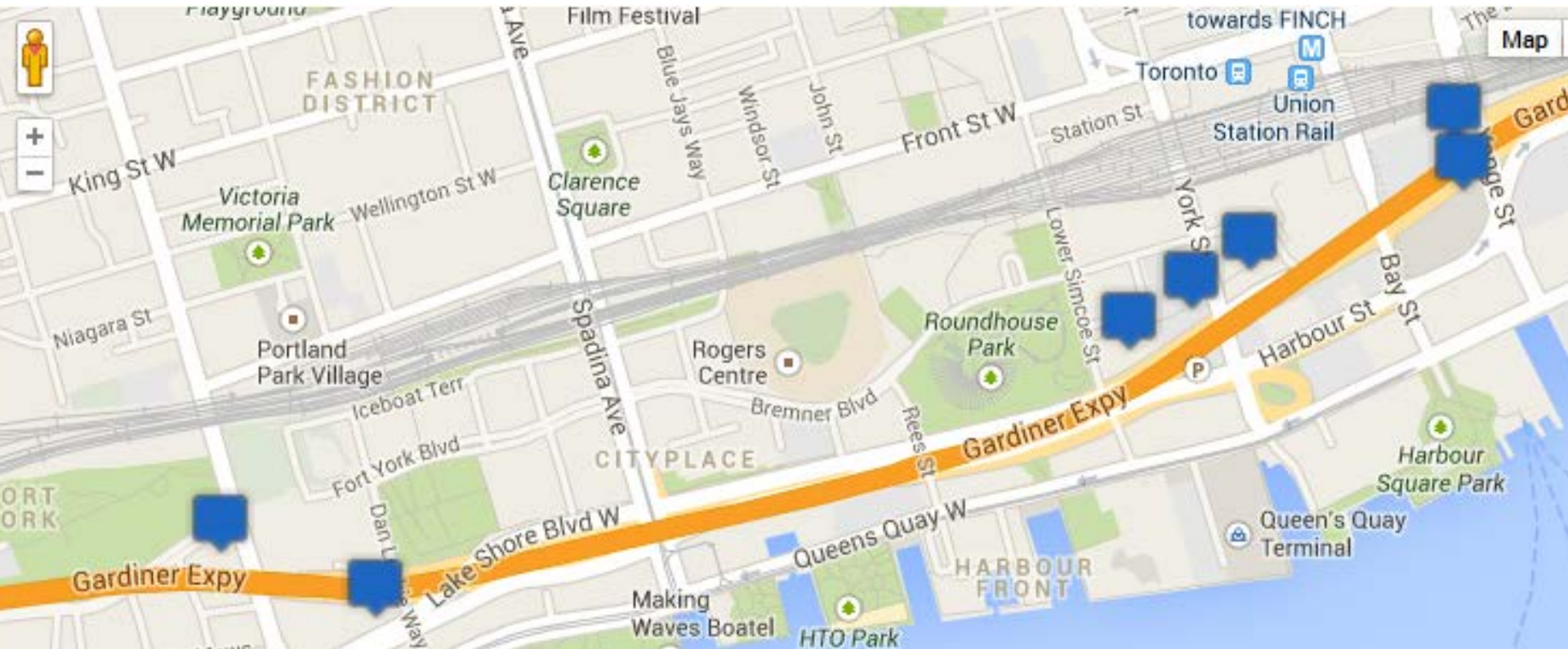


Photo from Toronto Star

**By: Amy Dempsey Staff Reporter,
Published on Sun Mar 18 2012**

- ***Toronto Star* article by Amy Dempsey, 2012**
- **“As more and more condos rise up within metres of the Gardiner, many are asking: who in their right mind would want to live just metres from an expressway?”**
- **“HOW CLOSE IS TOO CLOSE?”**

Gardiner Expressway, Toronto

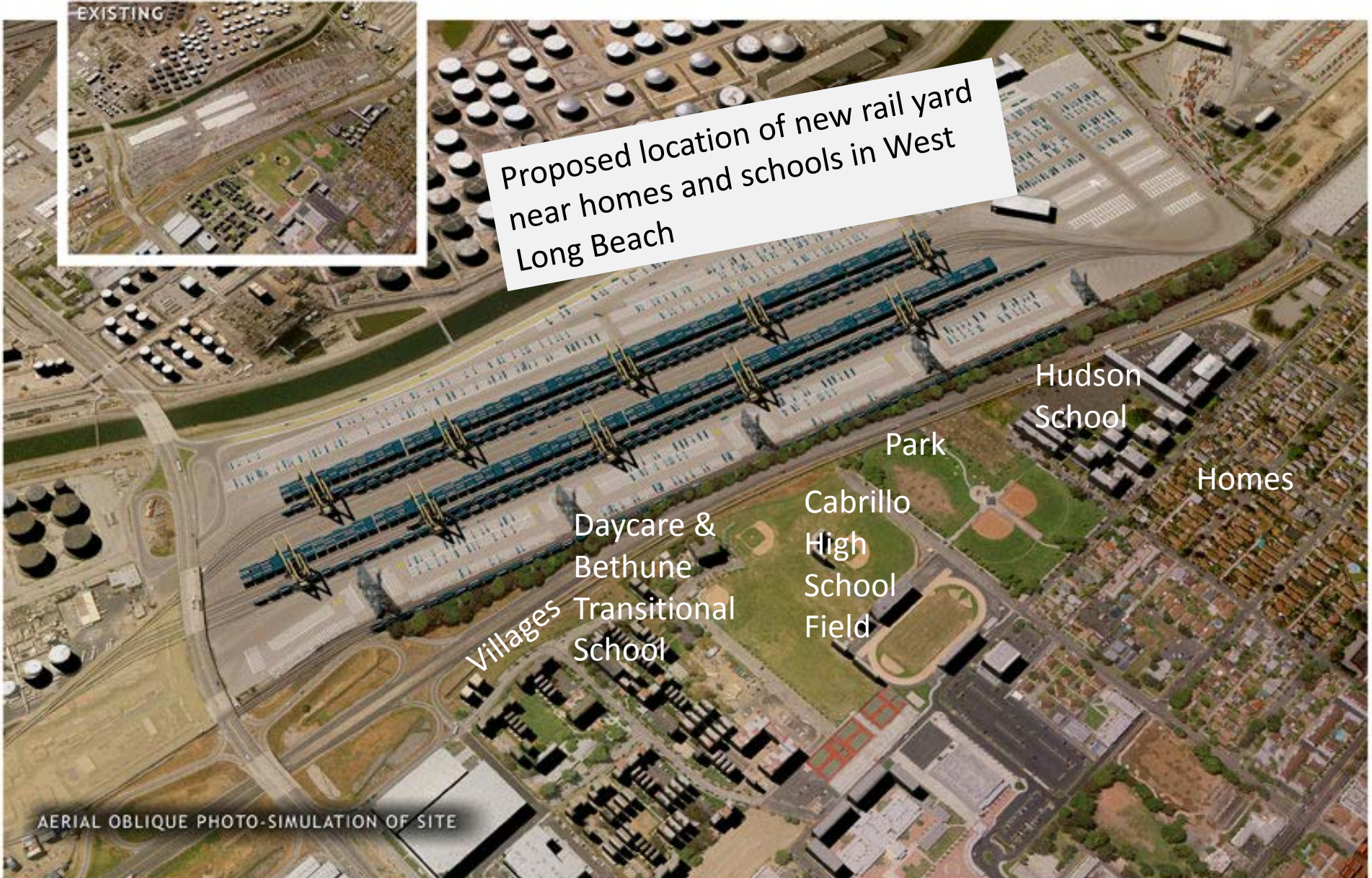


**SITING FACILITIES WITH DIESEL
EXHAUST POLLUTION NEXT TO
SCHOOLS AND HOMES**

Approved
Site,
Southern
California
International
Gateway
(SCIG)
BNSF Railway



A PORT OF LOS ANGELES PROPOSAL



Proposed location of new rail yard near homes and schools in West Long Beach

Hudson School

Park

Homes

Cabrillo High School Field

Daycare & Bethune Transitional School

Villages

AERIAL OBLIQUE PHOTO-SIMULATION OF SITE

**THE BURDEN OF DISEASE....
SOLUTIONS?**

Estimated cases of asthma

- Perez, McConnell et al estimated that:
 - 27,100 cases of childhood asthma (8% of annual total) in LA County were at least partly attributable to pollution associated with residential location within 75 m of a major road
 - ~ 300 feet
 - Perez L et al. **Near-roadway pollution and childhood asthma: implications for developing "win-win" compact urban development and clean vehicle strategies.** [Environ Health Perspect.](#) 2012 Nov;120(11):1619-26. doi: 10.1289/ehp.1104785. Epub 2012 Sep 5.

Solutions?

- Zoning changes at local level to prohibit major projects close to highways and freeways
- Federal and state guidelines on siting should be widely publicized
- Real estate disclosures about air pollution health effects needed if closer than 500-1000 feet of the freeway/highway
- Mitigations?
 - Buffers? Trees? Filters?