

Healthy Communities by Design

November 15–17, 2010 • Redlands and Loma Linda, CA

Addressing Environmental Risk Factors through Community Action Plan

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Justice



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Unhealthy Communities by Design



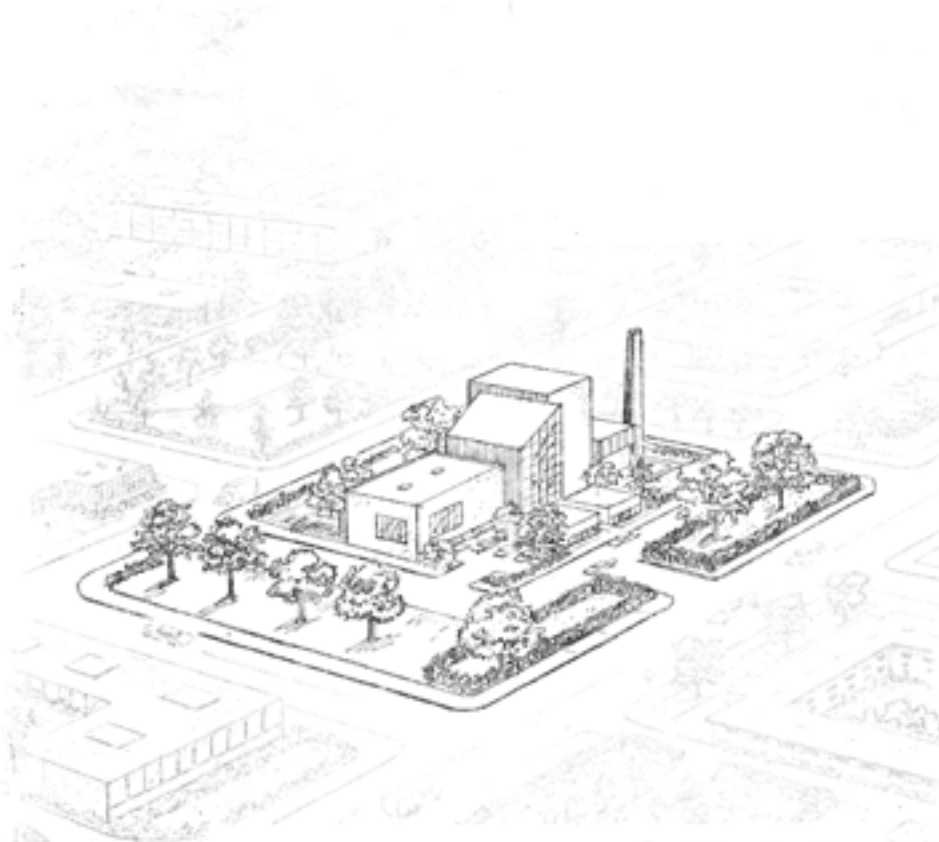


09/26/2003





04/05/2004



WaStE To ENeRGY

CALIFORNIA WASTE MANAGEMENT BOARD

Technical Information Series

Chapter 3a

Political Difficulties Facing Waste-to-Energy
Conversion Plant Siting

"All socioeconomic groupings tend to resent the nearby siting of major facilities, but the middle and upper socioeconomic strata possess better resources to effectuate their opposition"





 WAREHOUSES

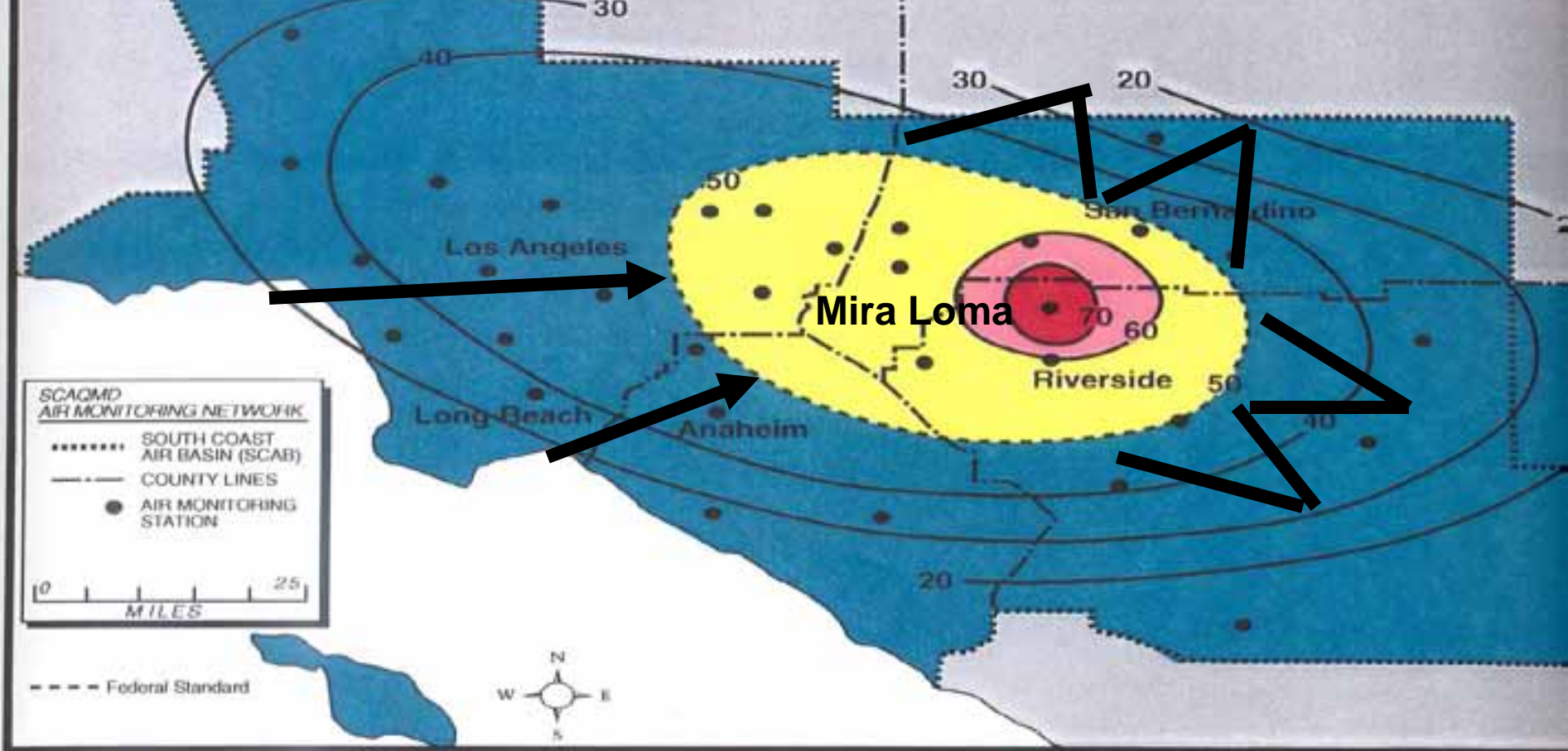
 MIRA LOMA VILLAGE

Healthy Communities by Design

- **Community Planning is key**
- **Environmental Risk Factors**
- **Case Study**
- **Develop a Community Action Plan to Reduce Exposure**





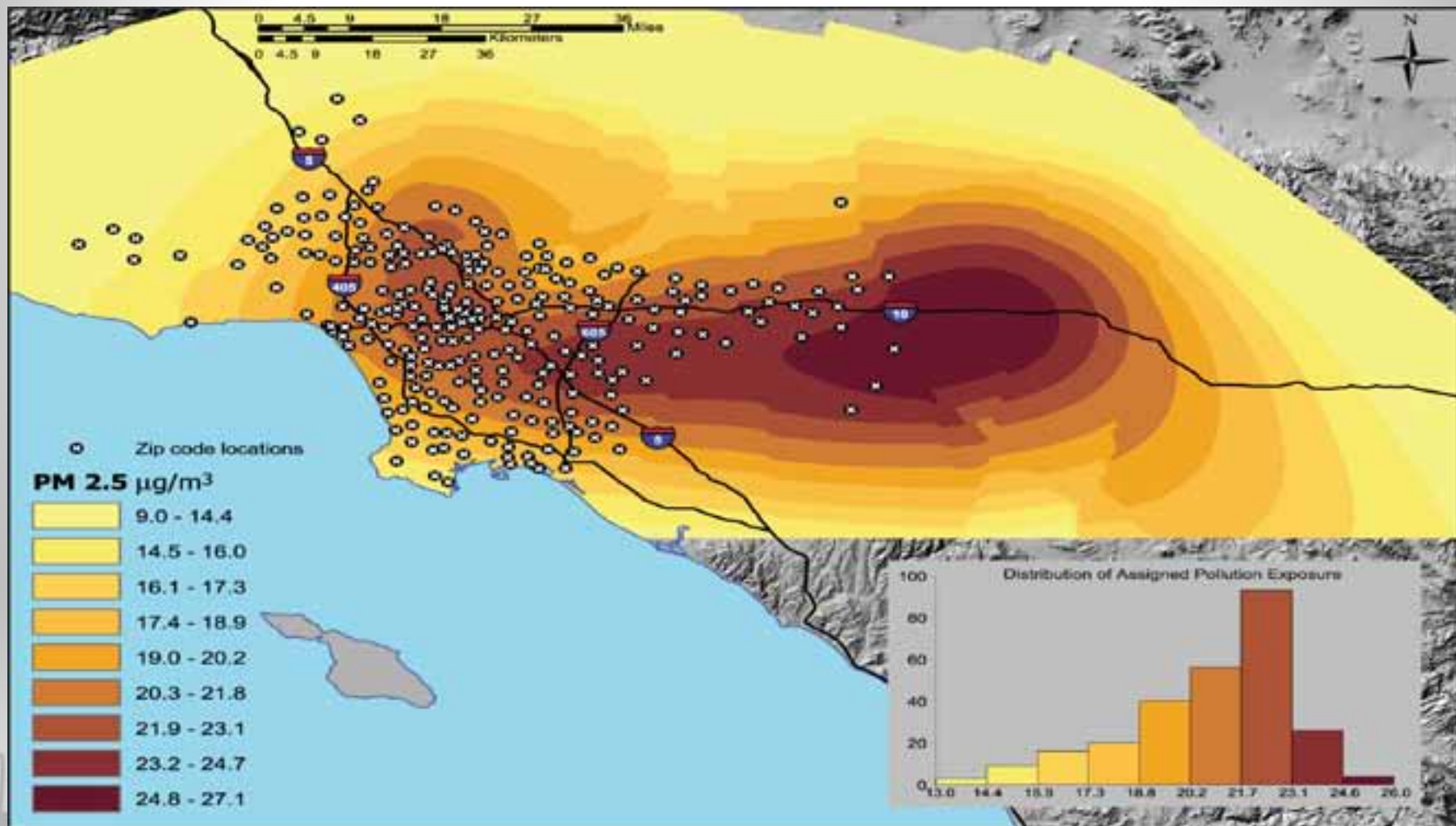


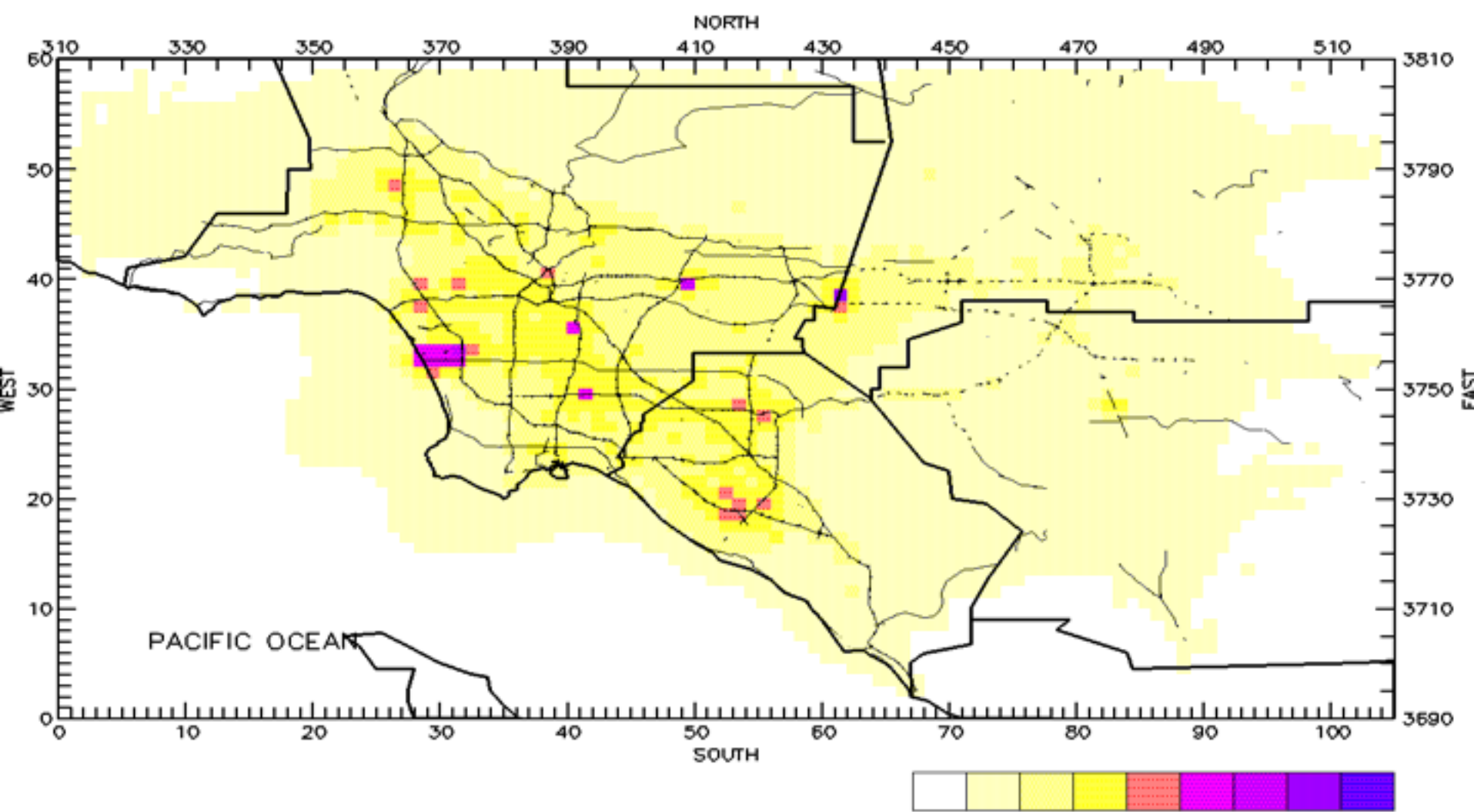
■ NOT EXCEEDED

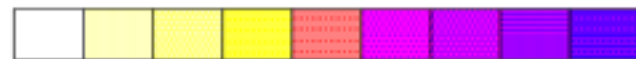
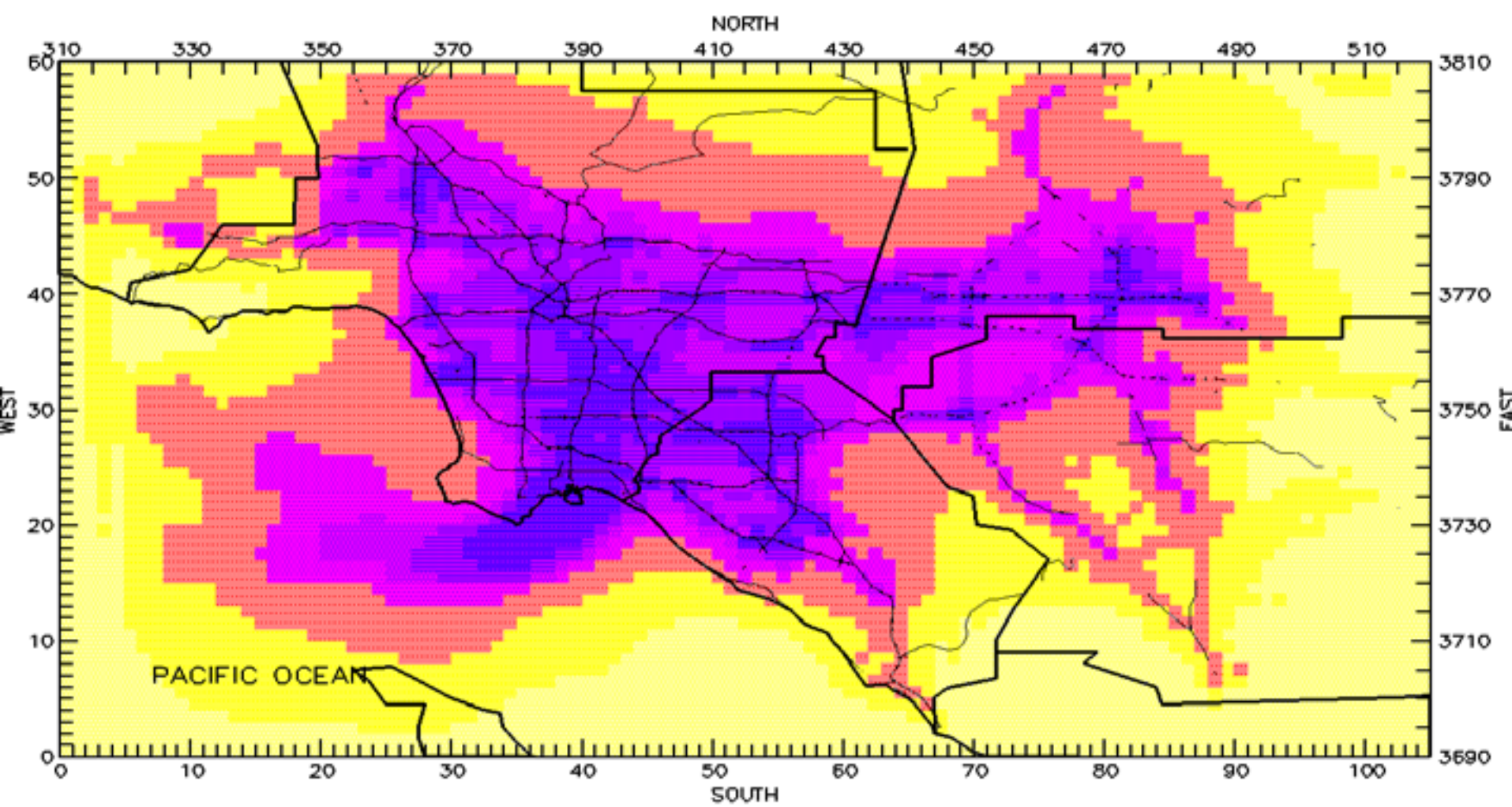
■ 50 - 60

■ 60 - 70

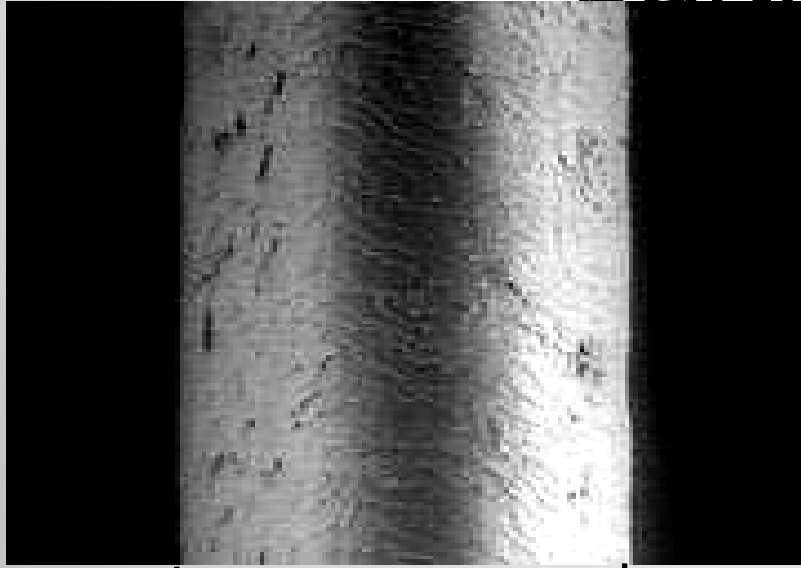
■ OVER 70 $\mu\text{g}/\text{m}^3$





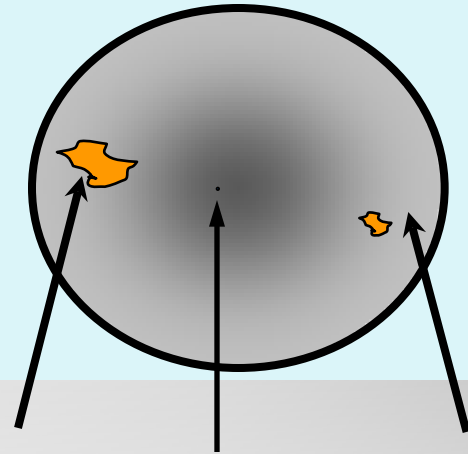
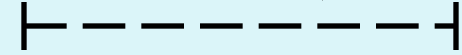


How small are these particles?



Human Hair
(60 μm diameter)

Hair cross section (60 μm)

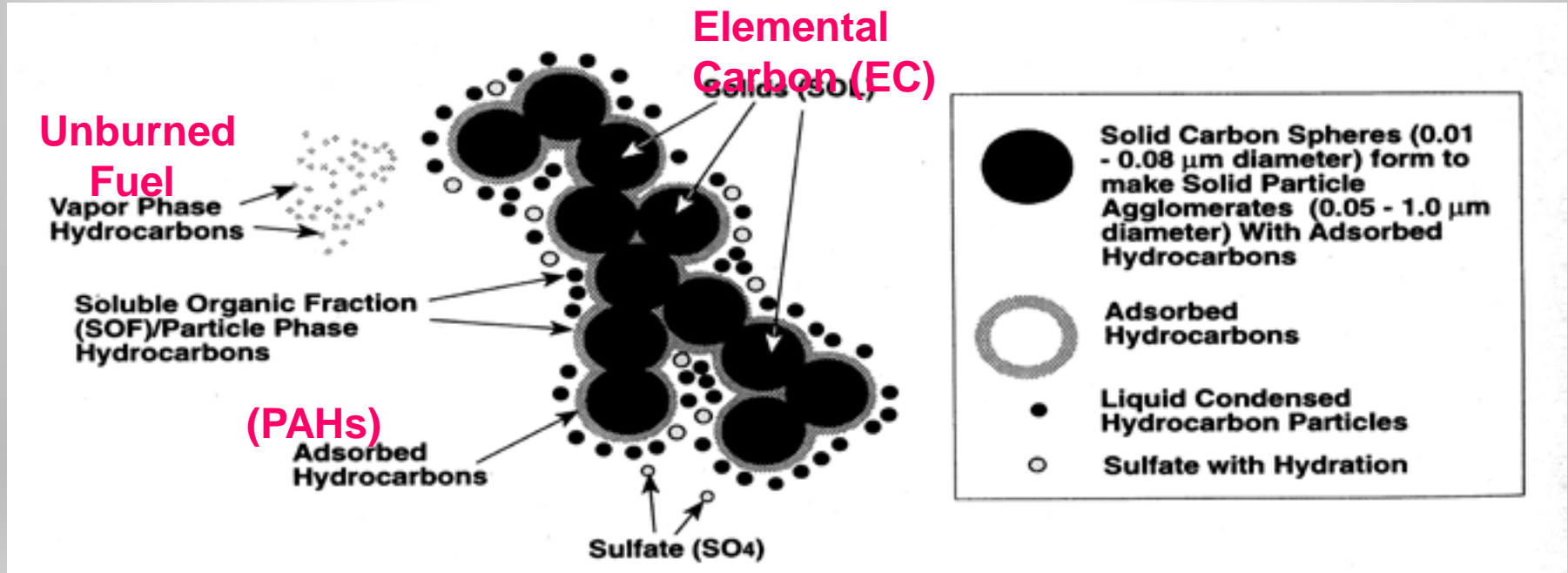


PM10
(10 μm)

PM0.1
(0.1 μm)

PM2.5
(2.5 μm)

Diesel Particles



Health Effects Institute,
1995

Air Monitoring in the Inland Valleys

§ **Highest levels of PM₁₀ in the Nation**

§ **Highest levels of PM_{2.5} in the Nation**

§ **Highest levels of ozone (smog)
pollution**



§ Western end of the Inland Valley has the 4th* highest levels of particulate pollution in the world only after—

Jakarta, Indonesia;
Calcutta, India; and
Bangkok, Thailand.

World Health Organization, as cited by California Public Interest Research Group, CalPIRG, Citizens' Agenda, Vo. 13, No. 3; pg 4, Fall 1997.

* The recent industrialization of China has created extreme pollution in China above the local levels.

Health Research:

Hundreds of studies have linked the diesel pollution to a range of illnesses



- ✓ Heart disease Diabetes
- ✓ Asthma attacks Low Birth Weight
- ✓ Lung cancer Brain Tumors
- ✓ And Premature Death



California Cases/Year due to PM2.5 *

Premature Deaths	8,200
Hospitalizations	4,200
Asthma & Lower Respiratory Symptoms	210,000
Lost Work Days	1,400,000
Minor Restricted Activity Days	7,500,000

By Comparison....

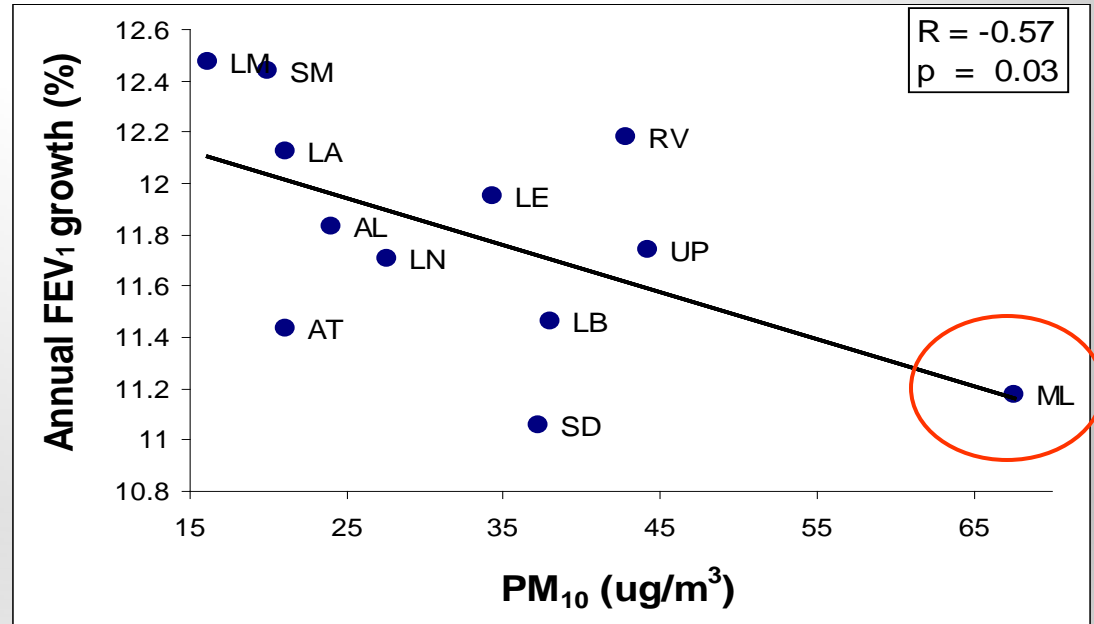
Deaths by Car Accidents	3,200
Murders	2,000



USC Children's Health Study

n University of Southern California (USC), Children's Health Study found children in the Mira Loma area to have the **slowest lung growth** and

weakest lung capacity.
2 "Association between Air Pollution and Lung Function Growth in Southern California Children", American Journal of Respiratory and Critical Care Medicine; Gauderman, W. James; McConnell Rob; et al, Department of Preventive Medicine, University of Southern California School of Medicine, Los Angeles.



CANCER RISK: People living near BNSF Railway operations in San Bernardino face a much greater railyard-related cancer risk than people living near any of 15 other rail operations examined in state studies.

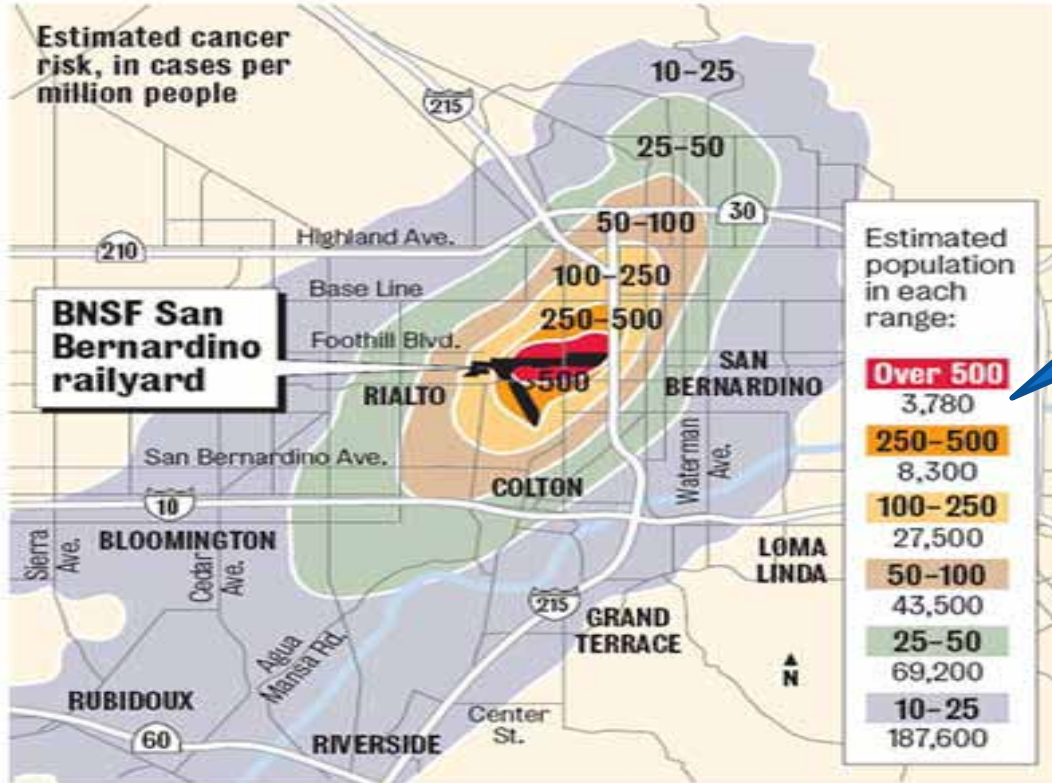
Railyard	Company	Max cancer risk to resident*
San Bernardino	BNSF Railway	3,300
Four railyards in the city of Commerce	BNSF & UP	Less than 1,000
Container transfer facility Long Beach & Carson	Union Pacific	800
Oakland	UP	460
Barstow	BNSF	450
City of Industry	UP	450
Los Angeles Transportation Center	UP	250
Watson Railyard, Wilmington	BNSF	174
Colton	UP	150
Stockton	UP	150
Stockton	UP	120
Mira Loma auto railyard	UP	100
Richmond	BNSF	100
San Diego	BNSF	70

* Number of cancer cases expected per million people, based on 70 years of exposure.



SOURCE: CALIFORNIA AIR RESOURCES BOARD

DANGER ZONE: A state study found that people living downwind of the BNSF railyard in San Bernardino face an increased cancer risk of as many as 2,500 cases per million people. The estimated regional cancer risk from all air pollution is 1,000 cases per million people.



3,750

SOURCE: CALIFORNIA AIR RESOURCES BOARD

THE PRESS-ENTERPRISE

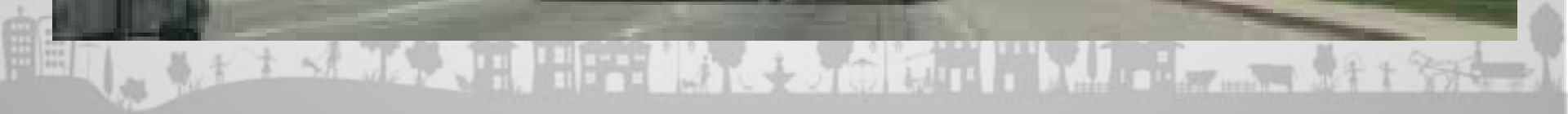














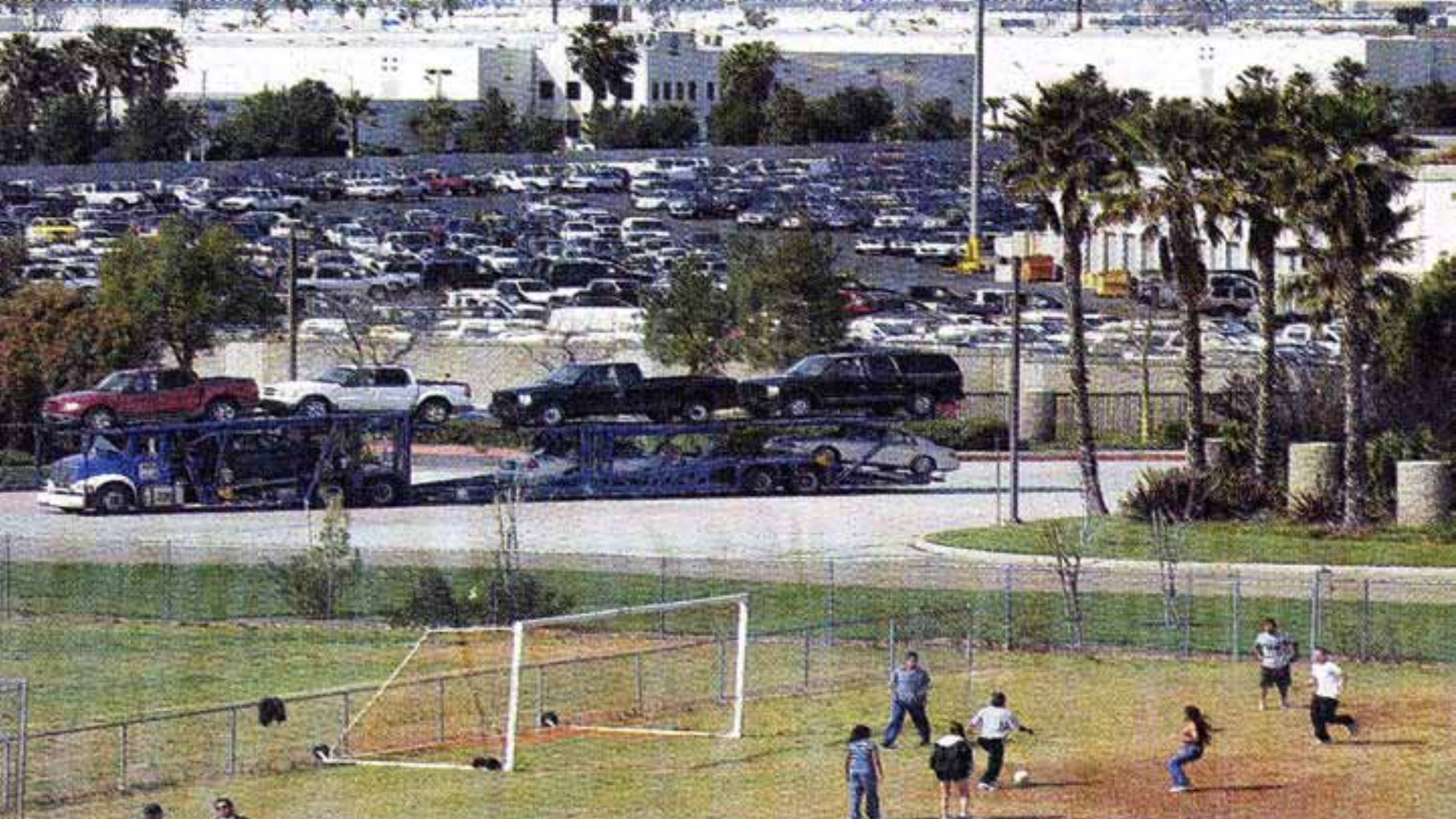


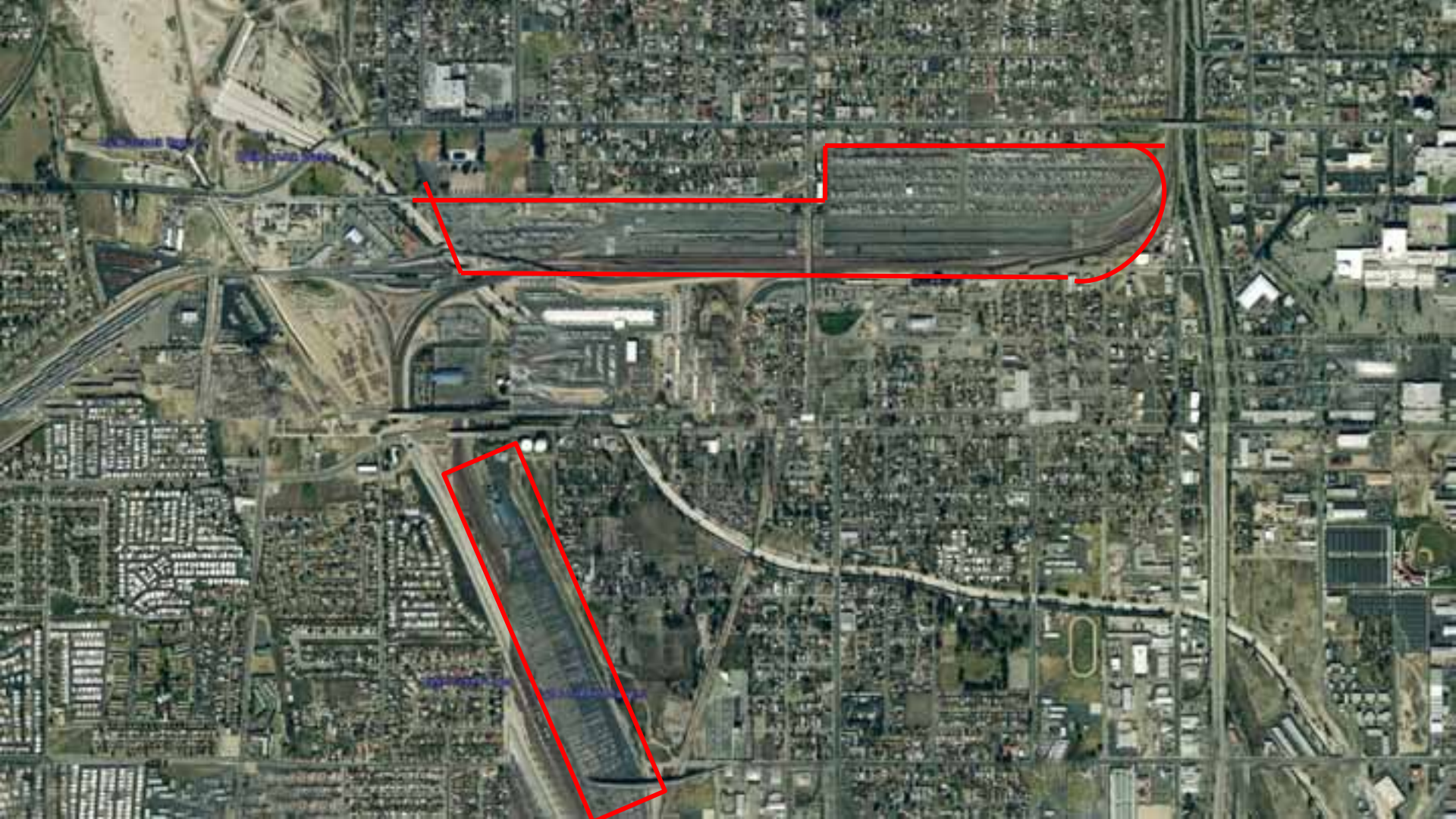


Union Pacific Auto Facility

The auto facility expanded in June of 2004 from 162 acres to 274. One of the worlds largest facility, facilitates 2-3,000 autos daily.







1633

DEVELOPMENT

CENTER

7:30-5:30



09/26/2002



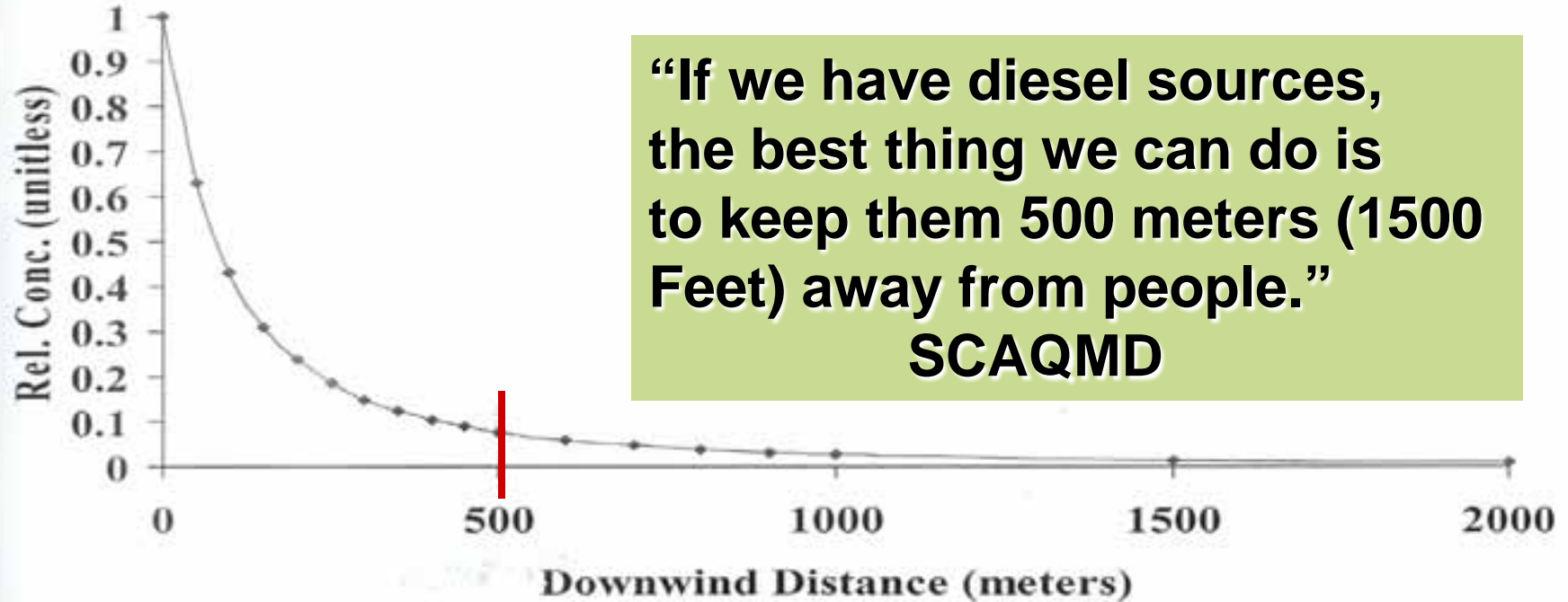








Sensitivity of Concentrations to Downwind Distance



**“If we have diesel sources,
the best thing we can do is
to keep them 500 meters (1500
Feet) away from people.”
SCAQMD**

POLLUTION DISPERSION AROUND A BUSY ROAD

TYPES OF POLLUTANTS

FINE PARTICLES



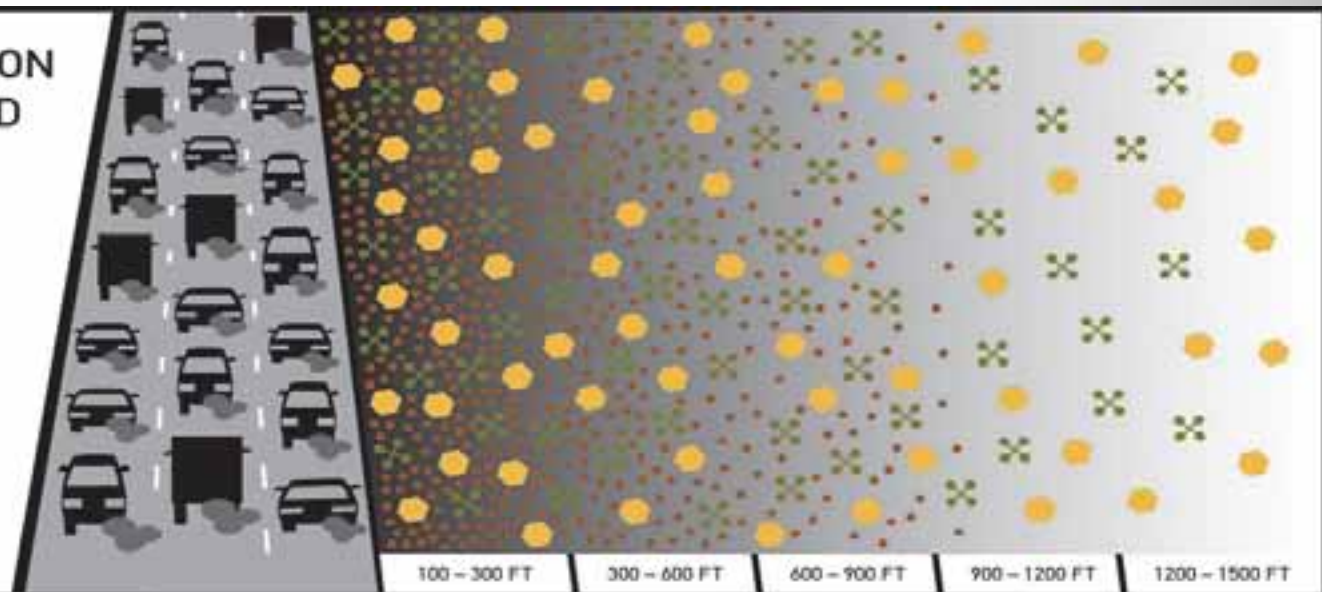
NITROGEN DIOXIDE



ULTRAFINE PARTICLES



DISTANCE FROM THE SOURCE



1500 FEET
LUNG DEVELOPMENT



500 - 1500 FEET
CHILDREN'S ASTHMA

EXAMPLE DISTANCES WHERE HEALTH EFFECTS ARE FOUND



400 FEET
CHRONIC HEART DISEASE



300 FEET
ADULT LUNG DISEASE



300 FEET
ADULT HEART ATTACKS





5th Street Rock
Crusher

Robertson's
RediMix

Arroyo Valley
High School

OmniTran
S

Ramona Allesandro
School

5th Street

Park and Child
Care Center

BNSF Rail yard

Trucking
facility

Historic
Depot

I-215

Rail yard
Auto
Distribution

5th Street Rock
Crusher

Arroyo Valley
High School

Casa Ramona Academy

Robertson's
Cement

Ramona Allesandro
School

Mt. Vernon

OmniTrans

5th Street

Prieto Auto Body

Park and Child
Care Center

I-215

GATE

BNSF Rail yard

Historic
Depot

Trucking
facility



Philadelphia Ave

Inland Ave

Cabernet Dr

Hopkins St

C St

Iberia St

Mira Loma

Dules Dr

Proposed Inland Port

Village

San Sevalne Way

Webash Dr

Harrell St

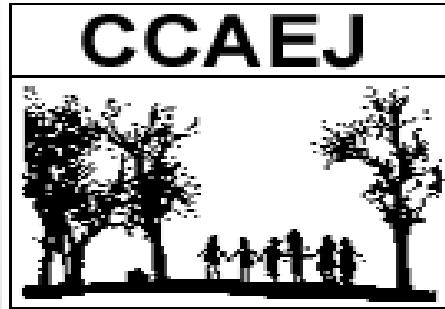
Van Buren Blvd

ave



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