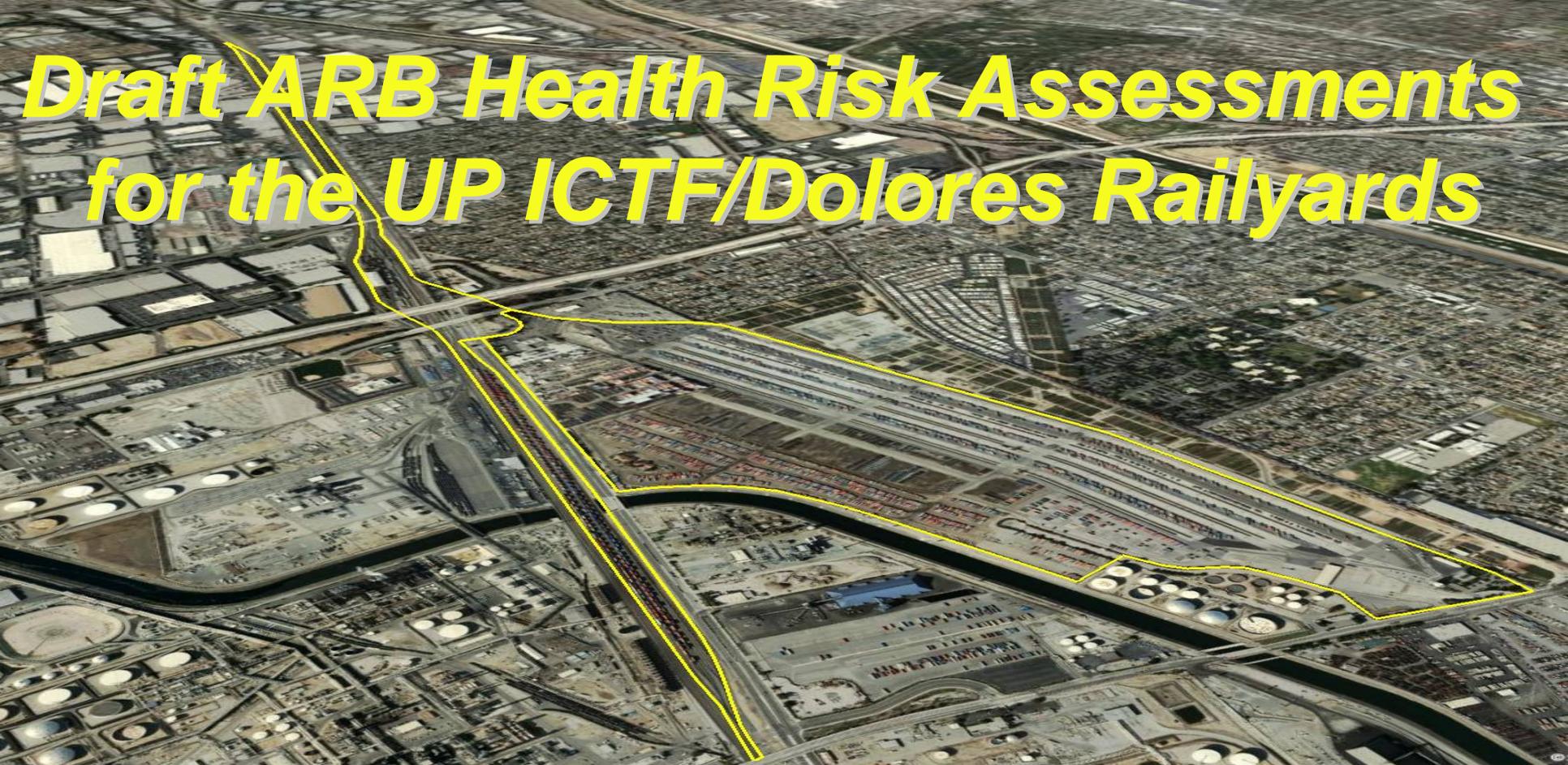


Draft ARB Health Risk Assessments for the UP ICTF/Dolores Railyards



California Environmental Protection Agency

 **Air Resources Board**



March 18, 2008

Presentation Overview

- Meeting Purpose/Public Review Period
- Background
- Methodology for Preparing the Draft Assessments
- Results of the Draft Assessments
- Actions to Reduce Health Risks
- Next Steps



Purpose and Public Review

➤ Purpose of meeting:

- Present draft analyses and explain results
- Initiate process for review and comment
- Explain emission reduction efforts underway

➤ After tonight's meeting:

- Opportunity for comments within 30 days
- Consultation to obtain your ideas on possible future emission reduction actions



Health Risk Assessment Timelines

Draft Health Risk Assessments Completed in 2007		Draft Health Risk Assessments Released in 2008	
Railyard	Railroad	Railyard	Railroad
Commerce/Eastern	BNSF	Colton	UP
Hobart	BNSF	ICTF/Dolores	UP
Richmond	BNSF	Industry	UP
Stockton	BNSF	Oakland	UP
Watson	BNSF	Barstow	BNSF
Commerce	UP	San Bernardino	BNSF
LATC	UP	San Diego	BNSF
Mira Loma	UP		
Stockton	UP		
Sheila	BNSF		

Background

- **Part of our commitment to address pollution impacts on communities**
 - Implements the ARB Goods Movement Plan
 - Required by the ARB/UP/BNSF Railroad Agreement
- **State's goals**
 - Reduce exposure to diesel PM as quickly as possible
 - Reduce risks by at least 85 percent by 2020
 - Obtain aggressive emission reductions needed to attain air quality standards



Purpose of the Assessments

- Identify pollution sources in the railyards
- Determine exposures to the public
- Estimate the health risks
- Put the railyard risks into perspective with other sources
- Provide information needed to reduce the risks

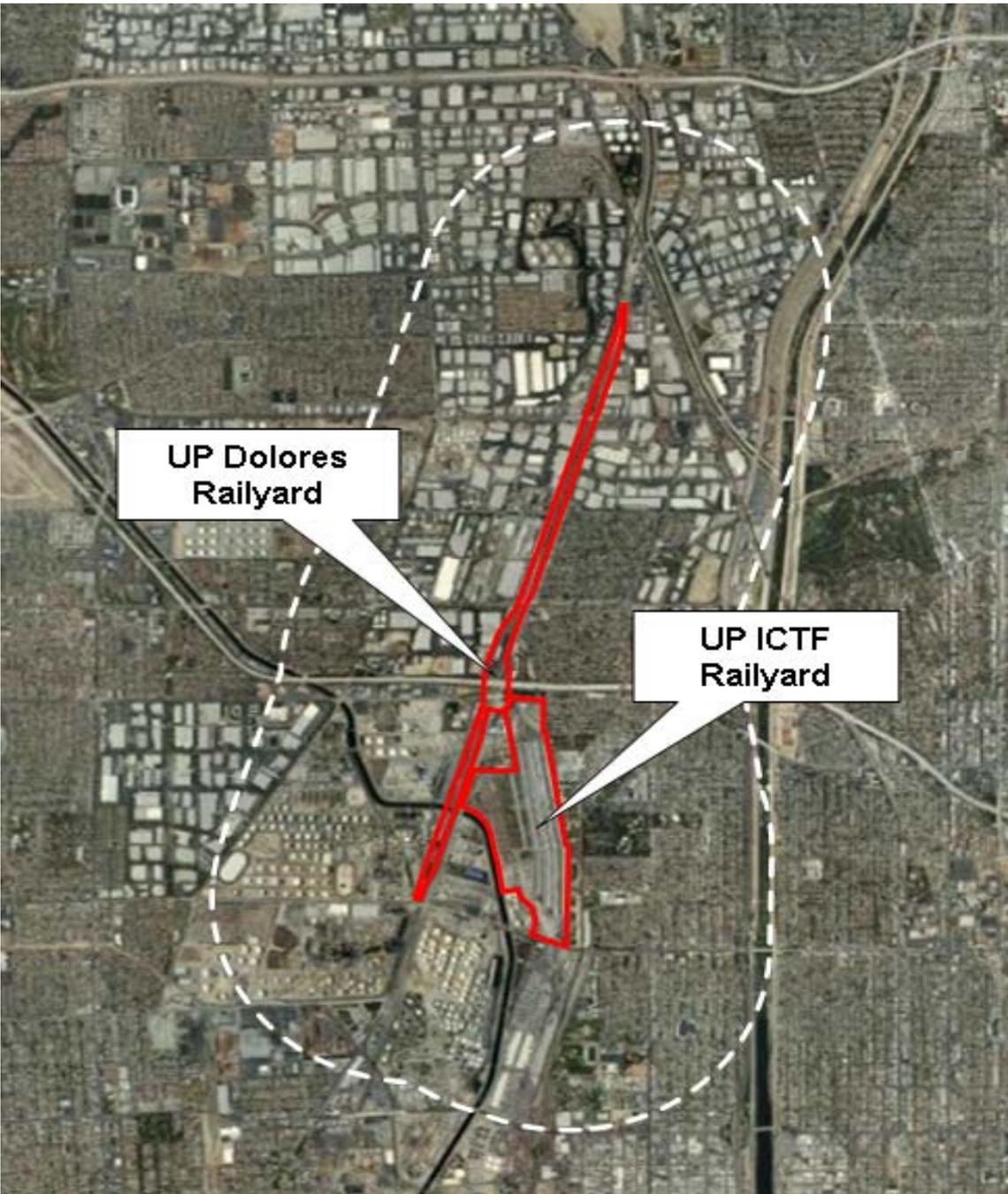


Scope of the Study

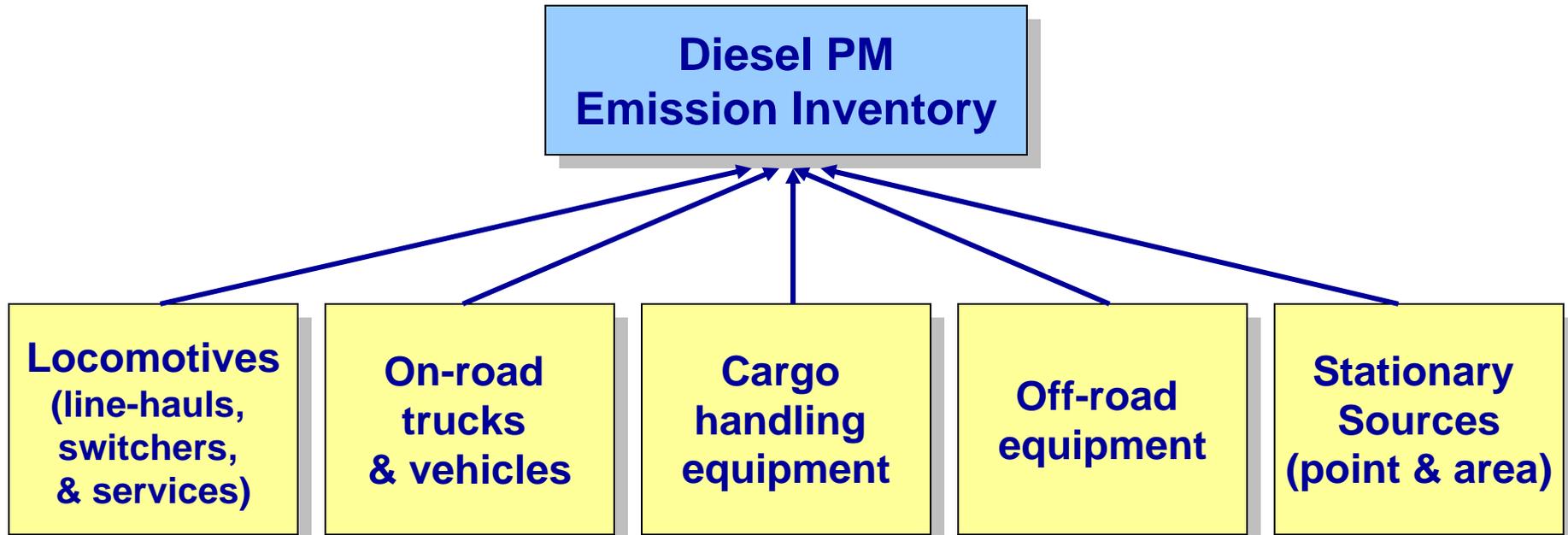
- **Health impacts:**
 - Baseline emission inventory
 - Air dispersion modeling
 - Health risk assessment for the railyard
 - Health risk assessment for significant diesel sources surrounding the community
- **Focus on diesel PM** - other toxics evaluated (TACs small relative to diesel PM)



UP ICTF and Dolores Railyard and one-mile off-site boundary



Railyard Emissions Inventory



Summary of UP ICTF/Dolores Railyards 2005 Diesel PM Emissions

Facility-wide Source Types	Tons per year	Percentage
Locomotives*	9.8	42 %
Switch Locomotives	5.6	24%
Line Haul Locomotives	3.0	13%
Service/Maintenance	1.2	5%
On-Road HHD Trucks**	7.5	32 %
Cargo Handling Equipment	4.4	18 %
Heavy Equipment and Transport Refrigeration Units (TRUs)	1.9	8 %
Other and Stationary Sources	< 0.06	< 1%
Total	23.7	100 %

* Including off-site operations, 1.8 tons from flat switching activities within 0.5 miles from railyards.

** Including off-site operations, 1.6 tons from HHD trucks within 0.5 miles from railyards.

Non-Railyard DPM Emission Inventory (within one-mile boundary)

- Focus on diesel PM sources
- On-road trucks and stationary sources
- SCAG* and EMFAC-2007 (mobile), CEIDARS** (stationary)



* Southern California Association of Governments

** California Emission Inventory Data and Reporting System

Summary of Nearby Non-Railyards Diesel PM Emission Inventory

Sources	Tons per Year
Heavy Heavy Duty Diesel Trucks	48
Stationary Sources	2.1
San Pedro Branch Rail Line	~0.5
Total	50.6



Comparison of Local Diesel PM Sources with Regional Sources

(tons per year in 2005)

Sources	Locomotive	Cargo Handling Equipment	On-Road Trucks	Others	Total
South Coast Air Basin	300	500	2,000	5,000	7,800
Port of LA/Long Beach	97	119	523	1,157*	1,900
UP ICTF/Dolores Railyards	9.8	4.4	7.5	1.9	23.7
Nearby Roadways	—	—	48	—	48

*Ocean going vessels and harbor craft



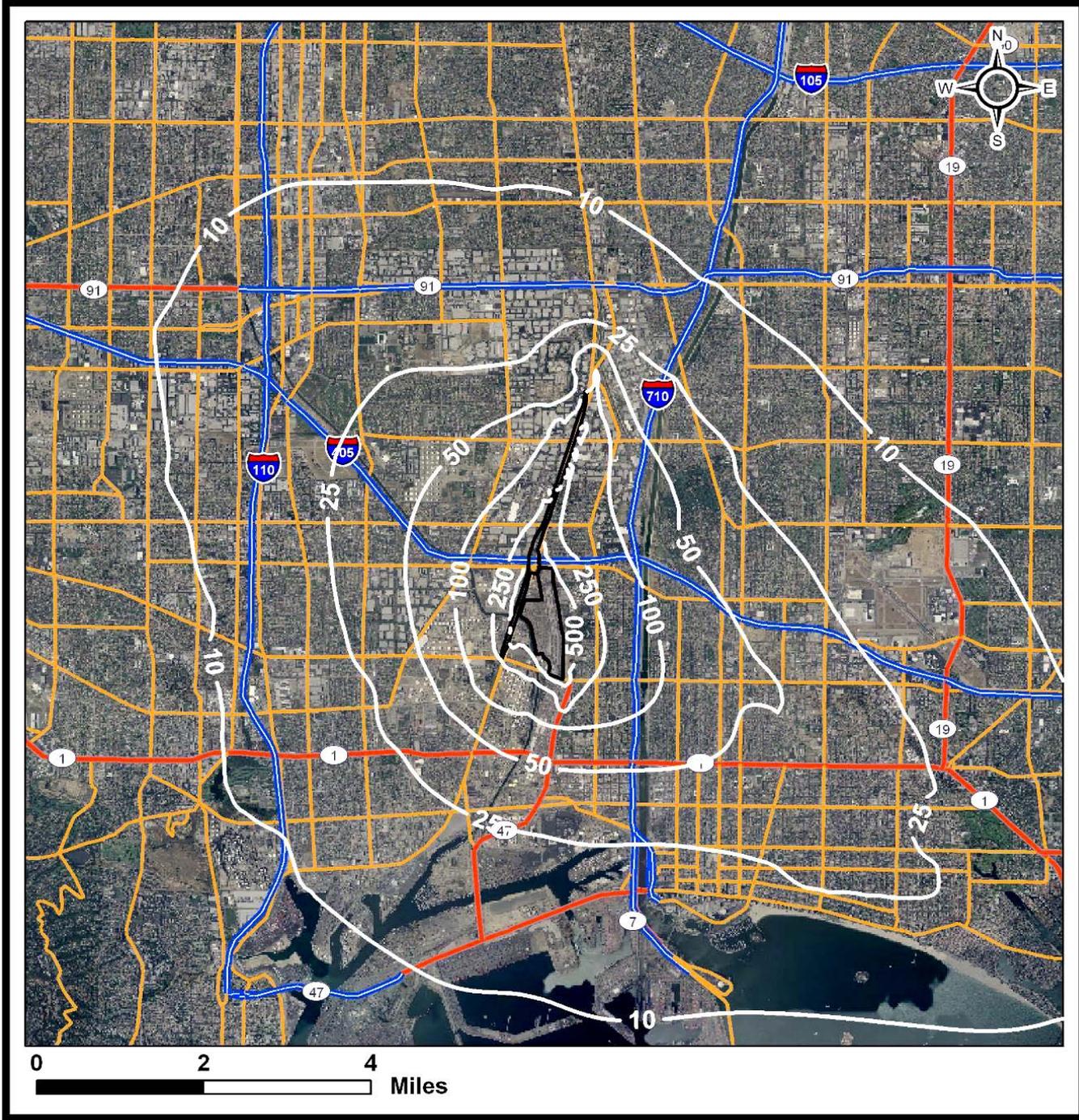
Estimated Health Risks

- Combine air dispersion modeling results with toxicity data to estimate health risks
- Determine risks for cancer and non-cancer effects
- Express results as “chances per million” for cancer and a “hazard index” for non-cancer impacts
- Toxicity based on the published data by the Office of Environmental Health Hazard Assessment (OEHHA)

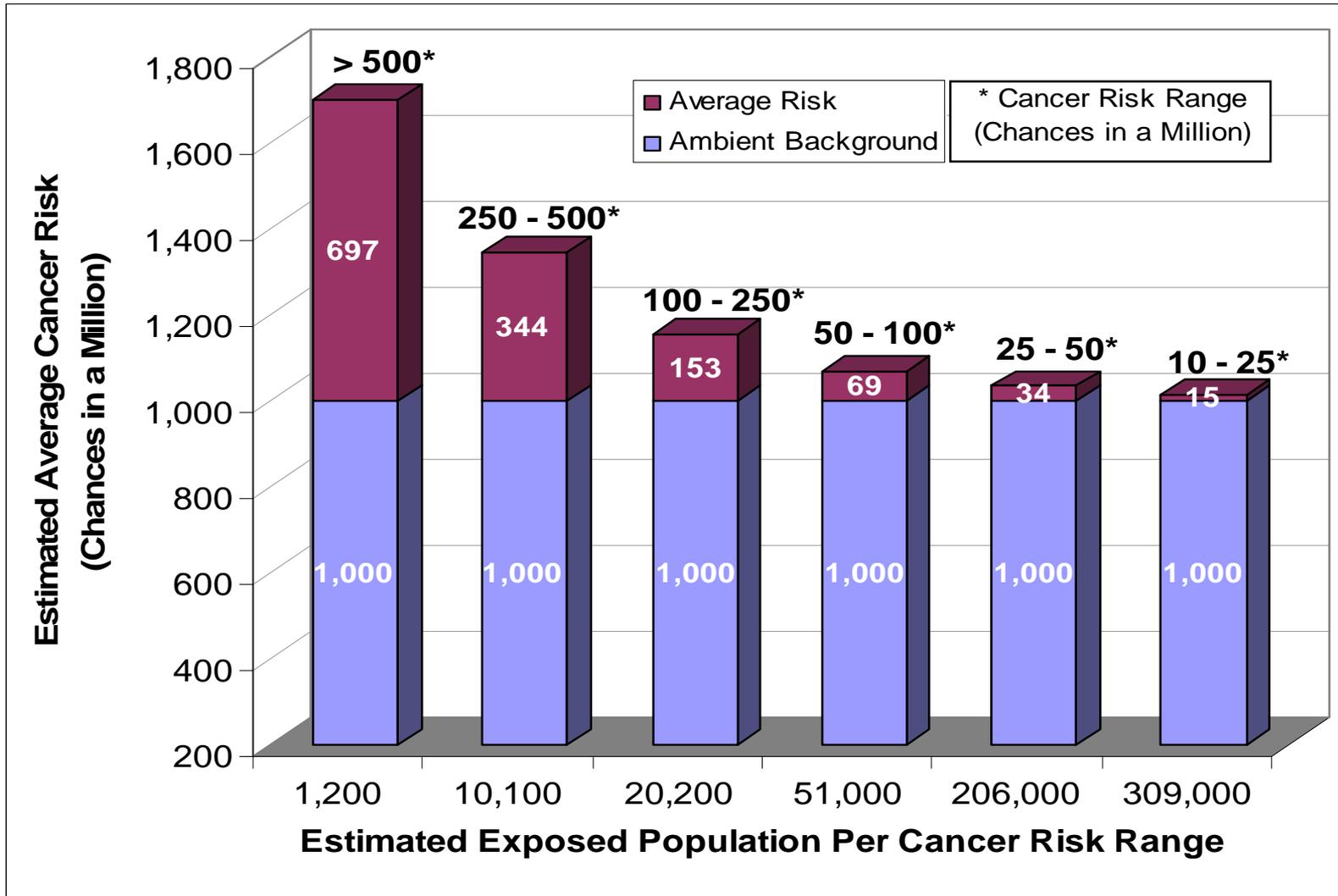


Estimated Potential Cancer Risks

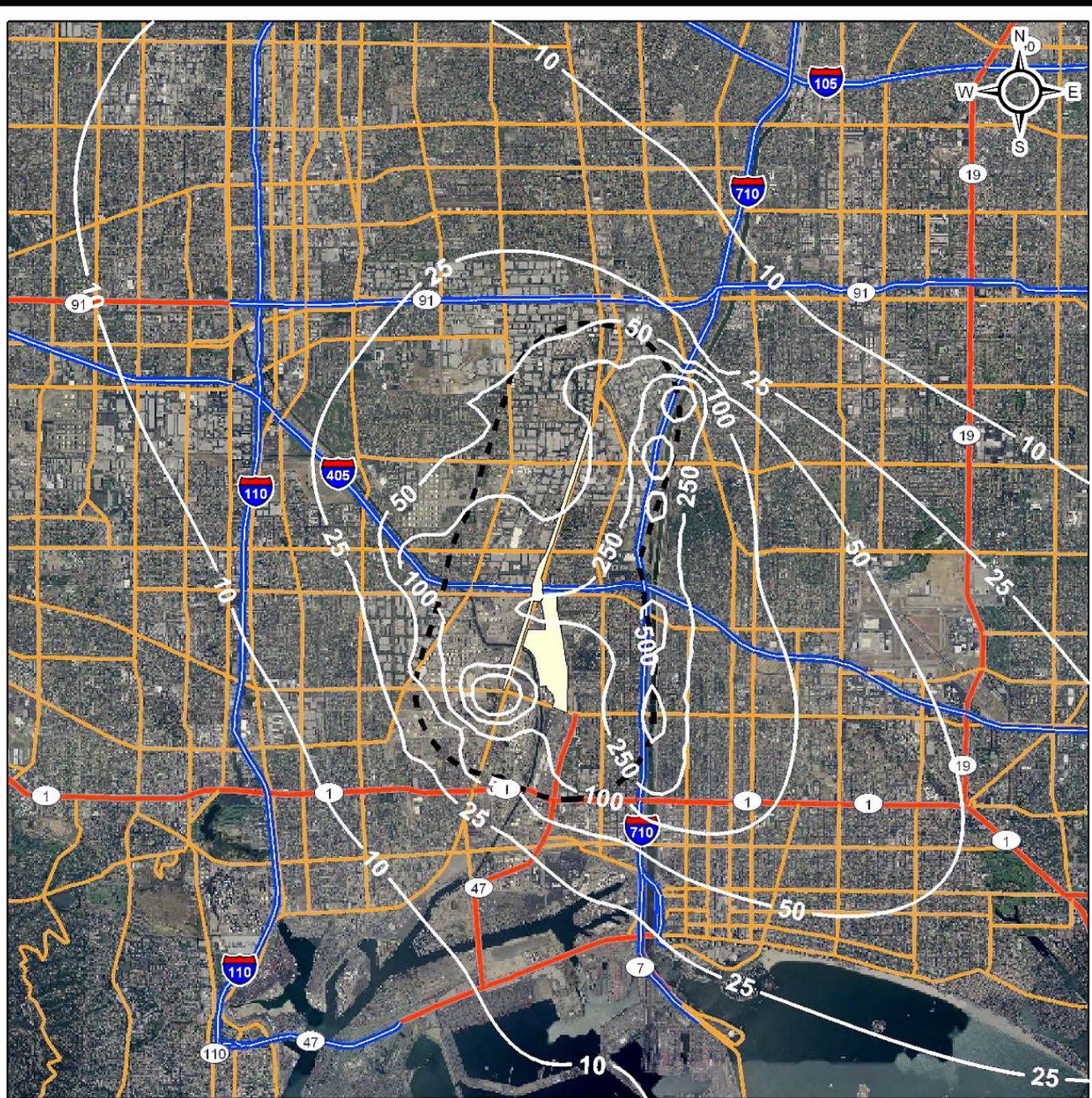
UP ICTF/Dolores Railyards



Estimated Cancer Risks



**Estimated
Potential
Cancer Risks
Non-Railyard
Sources**



0 2 4 Miles

Actions to Reduce Health Risks



Approach to Reducing Emissions

➤ **ARB regulations**

- Fuels (CARB diesel fuel)
- Cargo handling equipment
- Transport refrigeration units
- Heavy-duty diesel on-road trucks and off-road vehicles

➤ **Voluntary agreements**

- 1998 South Coast Air Basin
- 2005 Statewide

➤ **Railroad yard locomotive replacement program**

➤ **U.S. EPA regulation**

- Locomotives

➤ **Funding programs**

- Carl Moyer Incentives
- Proposition 1B: Goods movement emission reduction program



Benefits of California Railyard Diesel PM Emission Reduction Measures

➤ 2005-2007

- CARB diesel fuel for intrastate locomotives
- 2005 railyard agreement

≈15-20%

➤ 2005-2010 (measures above plus)

- 1998 NOx locomotive fleet average agreement (in South Coast Air Basin)
- ARB cargo handling equipment regulation
- ARB on-road heavy-duty truck regulation
- ARB transport refrigeration unit regulation
- ARB port and intermodal railyard drayage truck regulation

≈50-65%

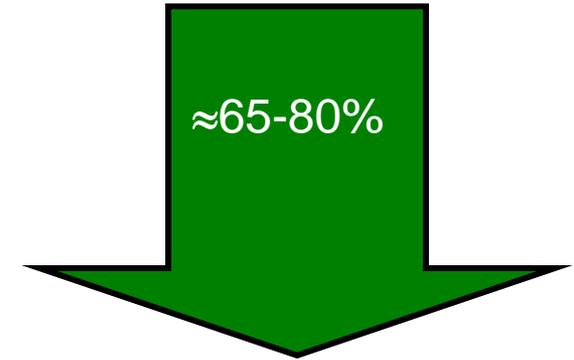


Additional and Possible Measures

➤ 2005-2020:

- U.S. EPA locomotive regulation (March 14, 2008)
- California replacement of switch locomotives

≈65-80%



Next Steps

- Begin public comment period
- Review the draft assessments
- Submit written comments to ARB (by April 21)
- Meet with interested stakeholders
- Evaluate any additional feasible mitigation measures



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 - **<http://www.arb.ca.gov/railyard/hra/hra.htm>**

