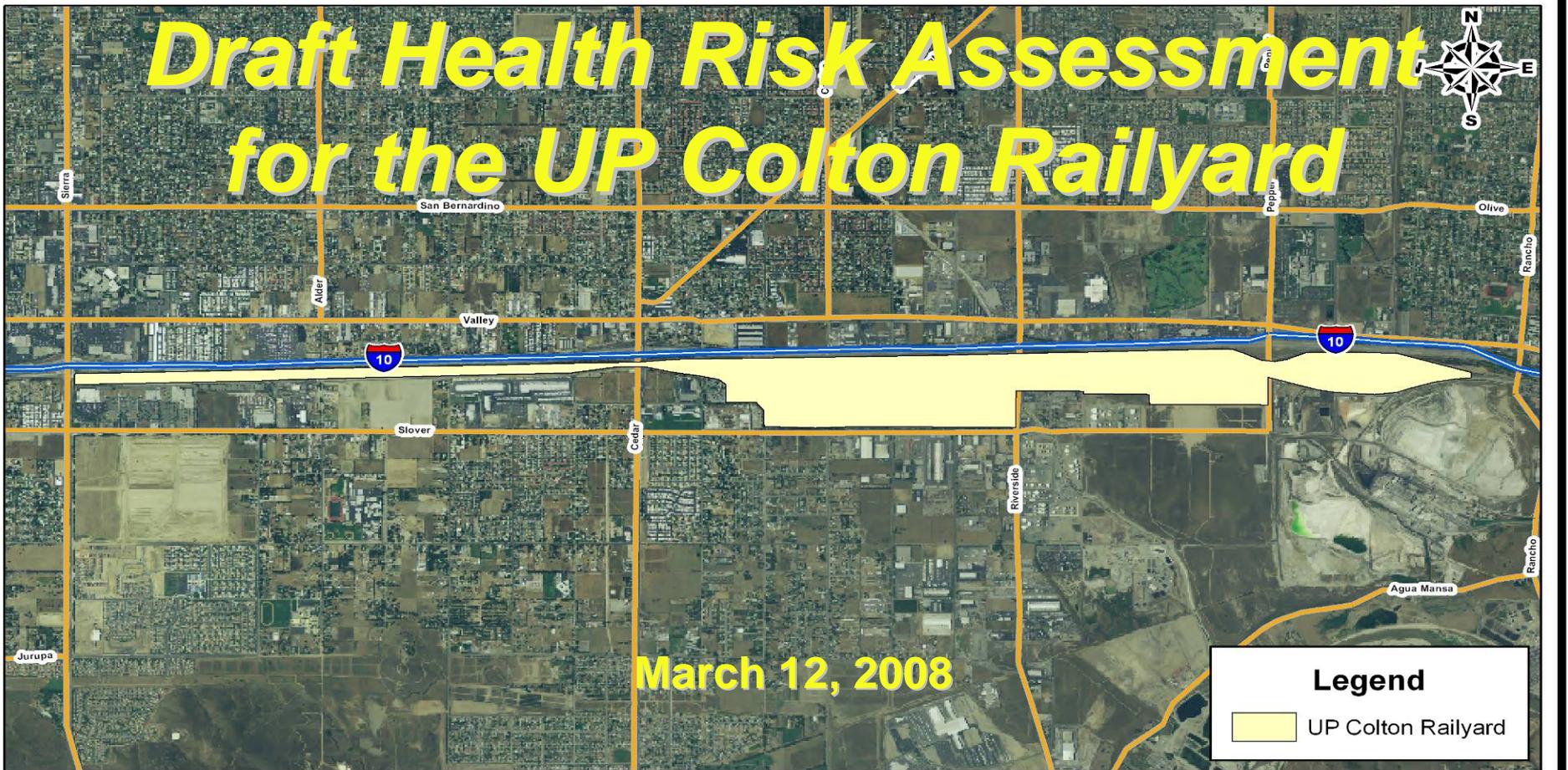
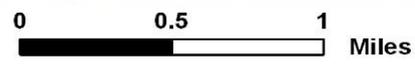


# Draft Health Risk Assessment for the UP Colton Railyard



**Legend**

 UP Colton Railyard



California Environmental Protection Agency

 Air Resources Board



# Presentation Overview

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



# Purpose and Public Review

## ➤ Purpose of tonight's meeting:

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

## ➤ After tonight's meeting, there will be:

- 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		

# 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 are to:**
  - Reduce exposure to diesel PM as quickly as possible
  - Reduce risks by at least 85 percent by 2020
  - Obtain the 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 Draft Assessments

- **Two major parts:**
  - Health risk assessment for the railyard
  - Health risk assessment for significant diesel sources surrounding the community
- **Separate report for each railyard**
- **Focus on diesel PM-** other toxics evaluated, TACs small relative to diesel PM

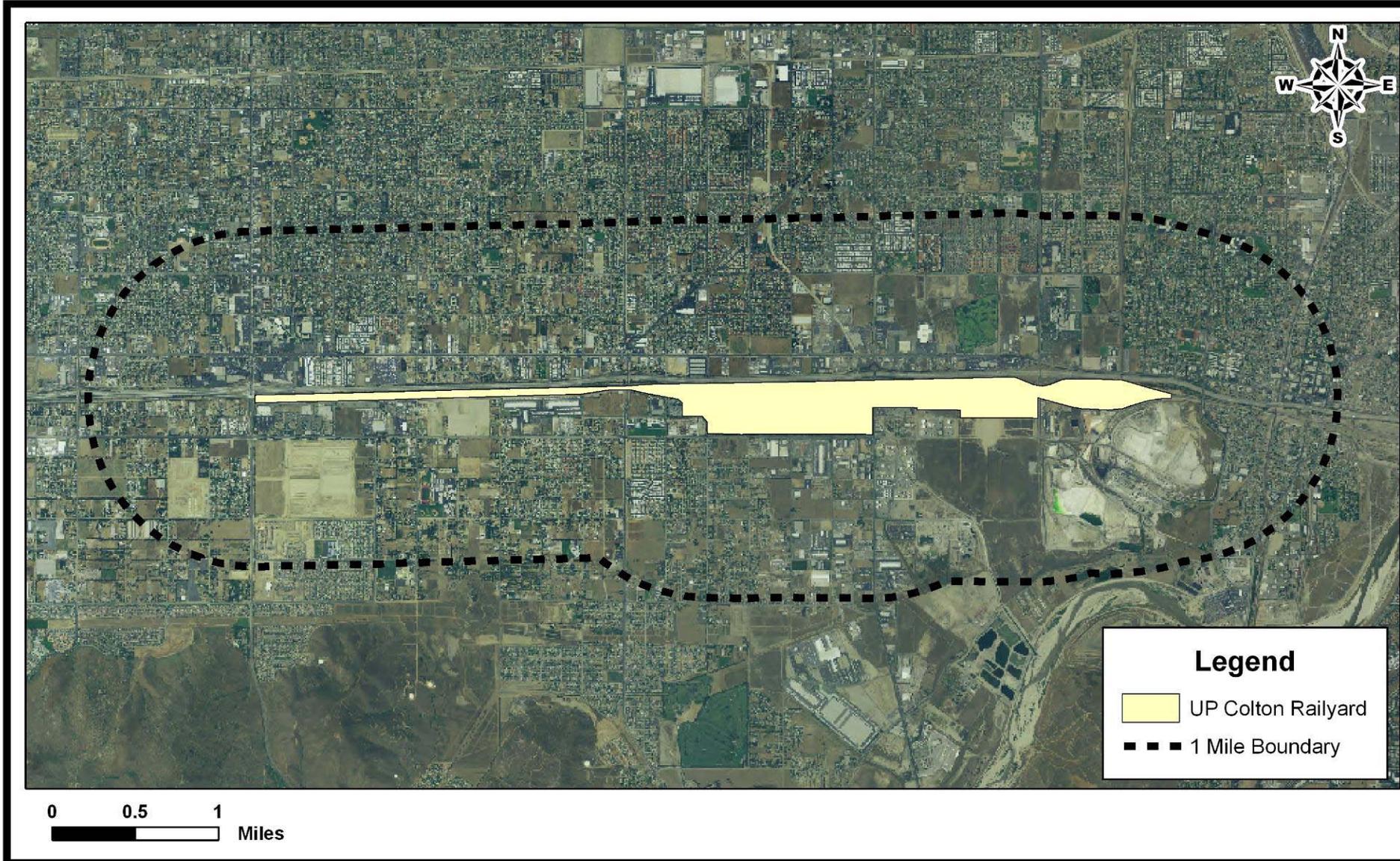


# **Railyard Risk Assessment Methodology**

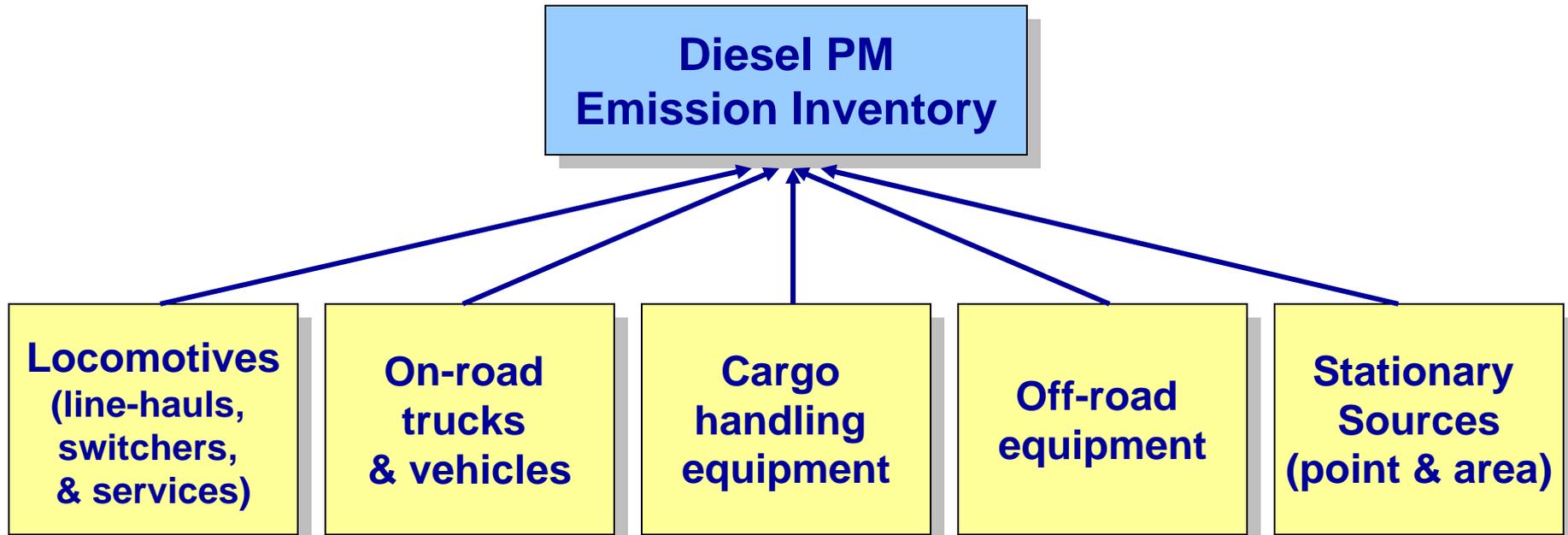
- **Prepare the best possible baseline emissions inventory**
- **Complete air dispersion modeling**
- **Provide estimates of health risks**
- **Determine other sources of risks**



# UP Colton Railyard with one-mile off-site boundary



# Prepare Railyard Emissions Inventory



# Summary of UP Colton Railyard 2005 Diesel PM Emissions

DIESEL PM EMISSION SOURCES	UP Colton Railyard		Off-site Emissions**	
	Tons/Year	Percentage	Tons/Year	Percentage
<b>LOCOMOTIVES</b>	<b>16.30</b>	<b>99%</b>	-	-
- Switch Locomotives (conducting yard operations)	10.2	62%	-	-
- Freight & Through Trains	3.5	21%	-	-
- Service/Testing/Refueling	2.6	16%	-	-
<b>YARD TRUCKS</b>	<b>0.19</b>	<b>1%</b>	-	-
<b>OTHERS (Heavy Equipment and Emergency Generators)</b>	<b>0.05</b>	<b>0.3%</b>	-	-
<b>OFF-SITE MOBILE SOURCES (e.g., heavy duty trucks, etc.)</b>	-	-	<b>42</b>	<b>97 %</b>
<b>OFF-SITE STATIONARY SOURCES (e.g., public facilities, public utilities, etc.)</b>	-	-	<b>1.5</b>	<b>3%</b>
<b>TOTAL</b>	<b>16.54*</b>	<b>100%</b>	<b>43.5**</b>	<b>100%</b>

# Non-Railyard Emission Inventories

- Focus on diesel PM sources
- On road trucks and stationary sources
- EMFAC-2007, CEIDARS



# Summary of Nearby Non-Railyards Diesel PM Emission Inventory

Sources	Tons per year
Mobile Sources	42
Stationary Sources	1.5
<b>TOTAL</b>	<b>43.5</b>



# Comparison of Local Diesel PM Sources with Regional Sources

(tons per year in 2005)

Sources	Locomotive	Cargo Handling Equipment	On-Road Trucks	Other (e.g. Ships, Refrig. Trailers)	Total
South Coast Air Basin	300	500	2,000	5,000	7,800
Port of LA/Long Beach	20	170	40	1,570	1,800
UP Colton Railyard	16.3	0.0	0.19	0.05	16.5
Nearby Roadways	--	--	43.5	--	43.5

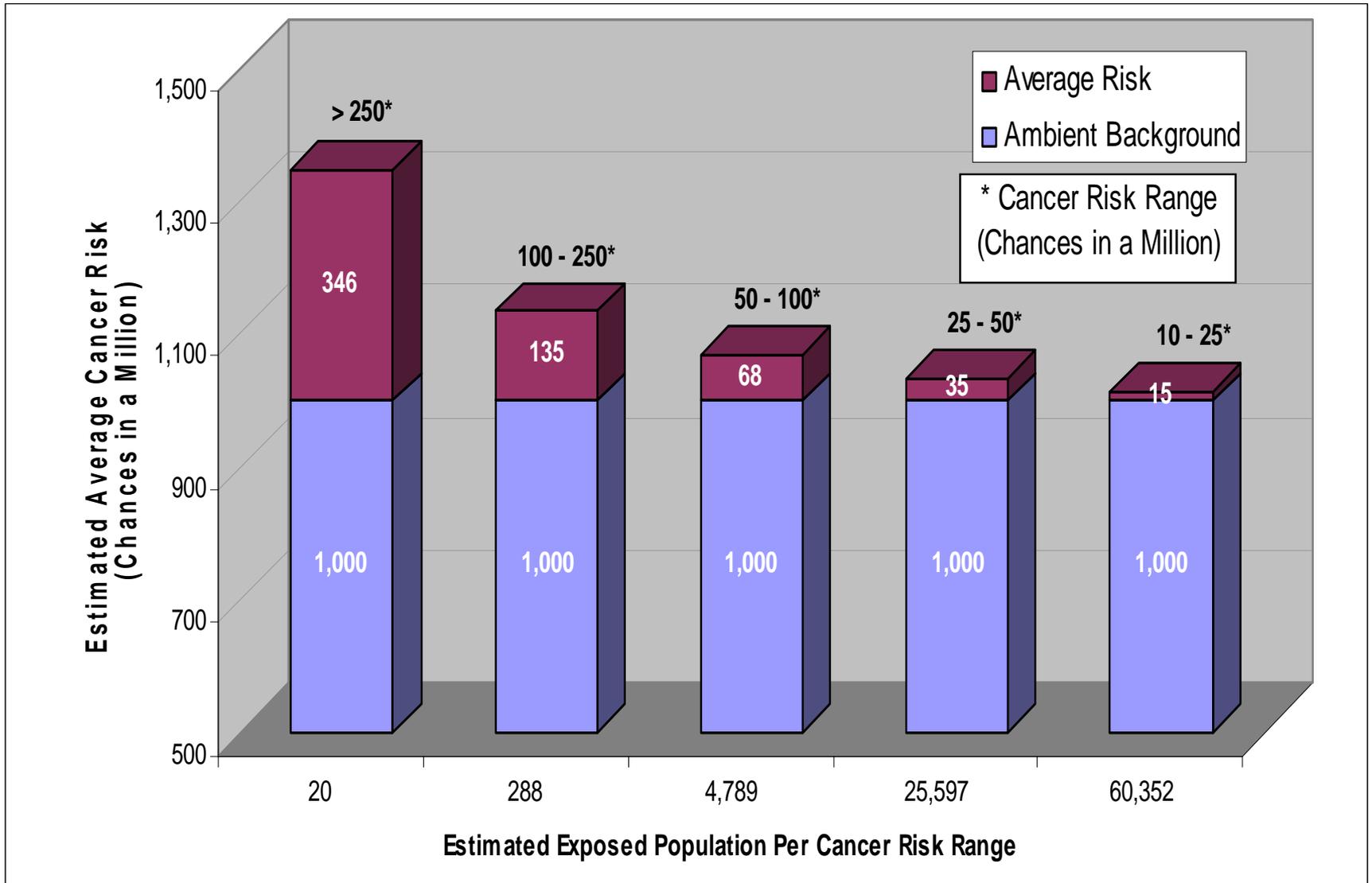


# Estimated Health Risks

- **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**
- **Use toxicity data provided by the California Office of Environmental Health Hazard Assessment**

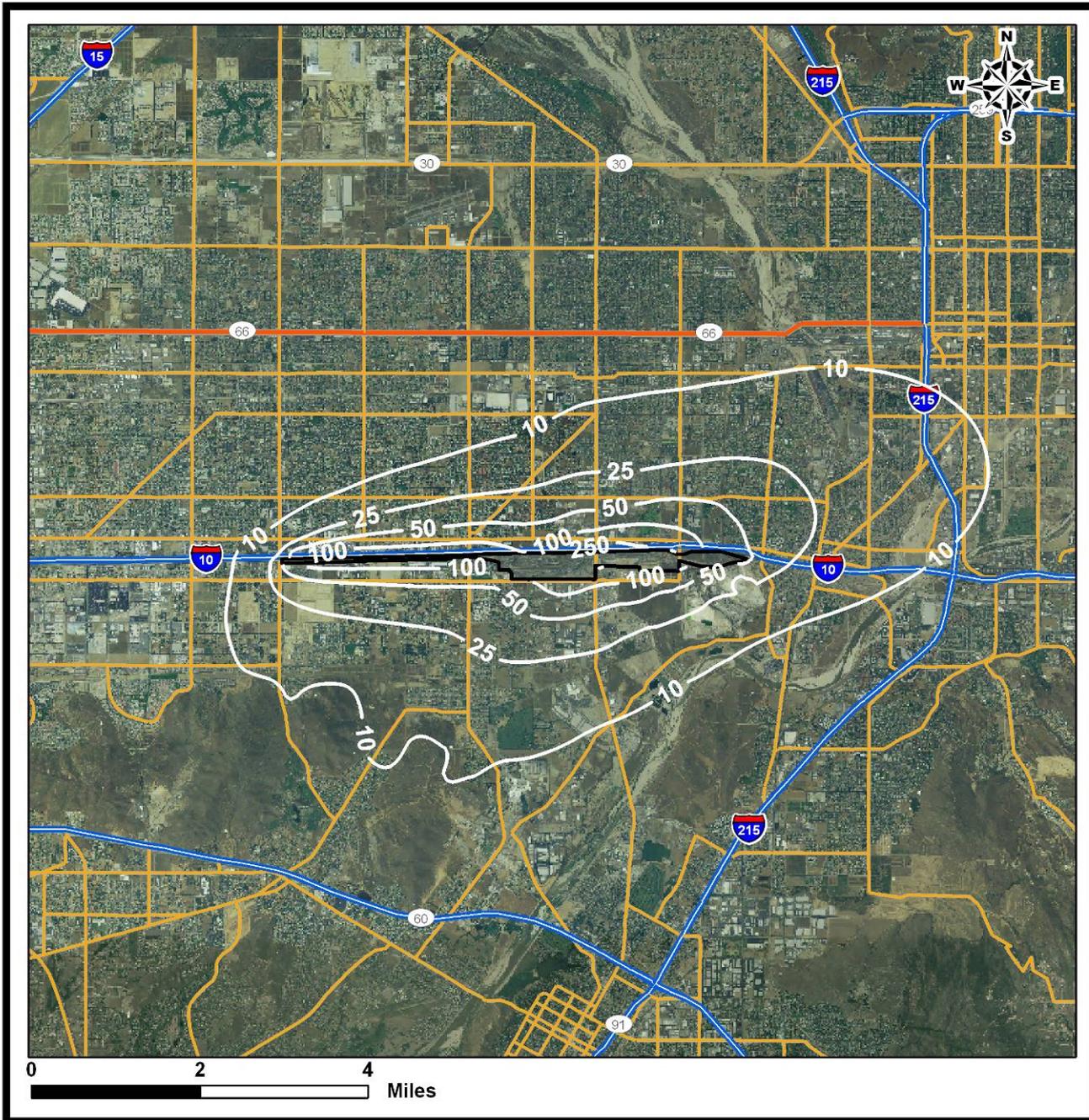


# UP Colton Railyard



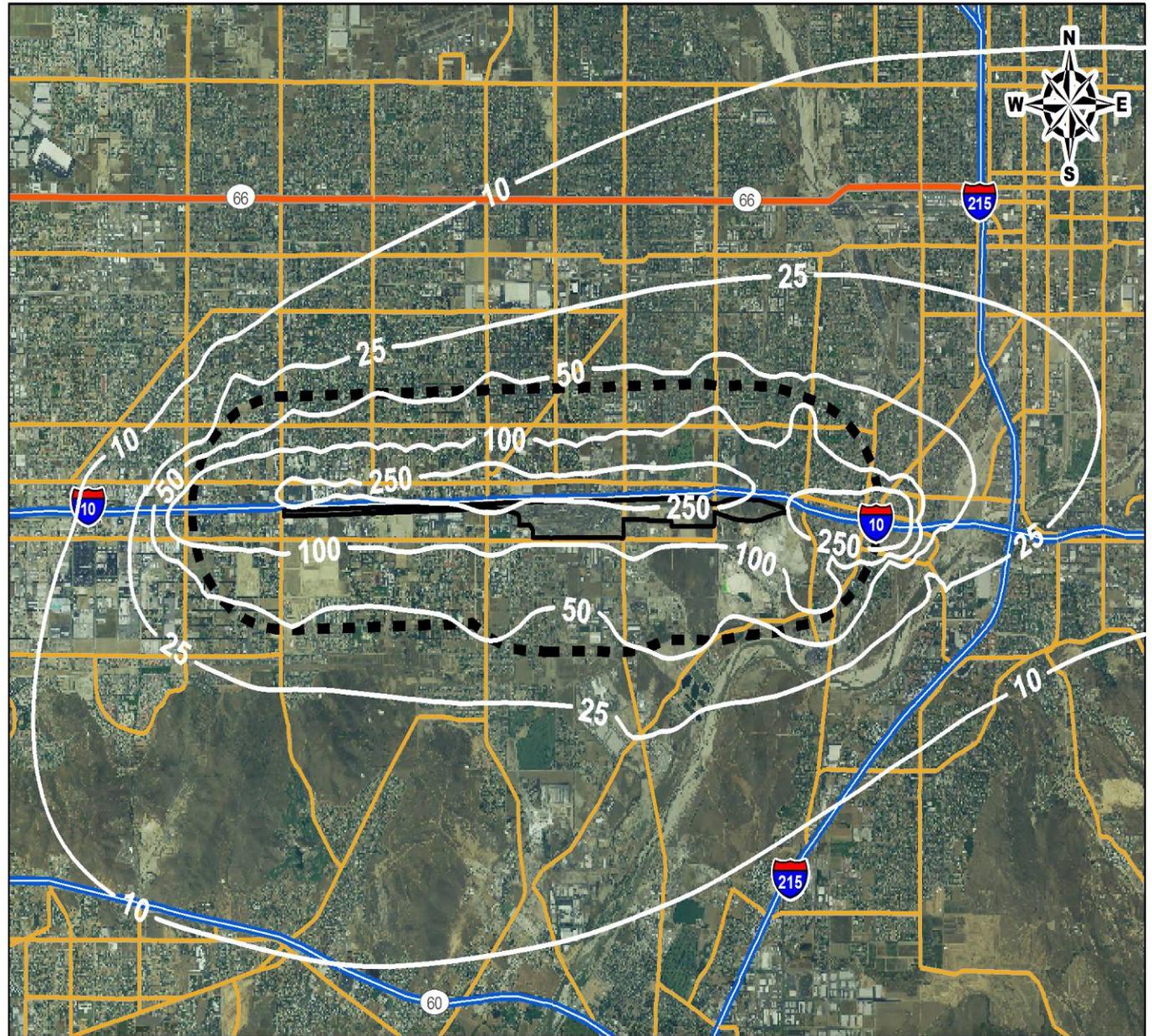
# Estimated Potential Cancer Risks

## UP Colton Railyard



# Estimated Potential Cancer Risks

## Non-Railyard Sources (Off-Site)



0 2 4 Miles

# Actions to Reduce Health Risks



# Approach to Reducing Emissions

- **ARB regulations**
  - Fuels
  - Cargo handling equipment
  - Transport refrigeration units
  - Heavy-duty diesel on-road trucks and off-road vehicles
- **U.S. EPA regulation**
  - Locomotives
- **Voluntary agreements**
  - 1998 South Coast/2005 Statewide
- **Railroad yard locomotive replacement program**
- **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 (Additional Measures)

- 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

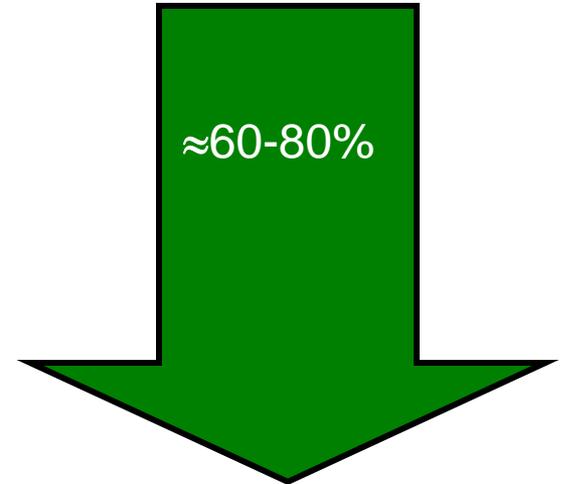
≈50-65%



# Possible Additional Measures

## ➤ 2005-2020:

- U.S. EPA locomotive rulemaking (Spring 2008)
- California replacement of switch locomotives



# Next Steps

- **Begin public comment period**
- **Review the draft assessments**
- **Submit written comments to ARB (by April 14)**
- **Meet with interested stakeholders**
- **Evaluate any additional feasible mitigation measures**

# ARB Railyard Contacts

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## ➤ ARB Railyard HRA Website:

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