



**San Diego County Air Pollution Control District**

**Warehouse Working Group (WWG) Meeting  
October 7**

---

2024



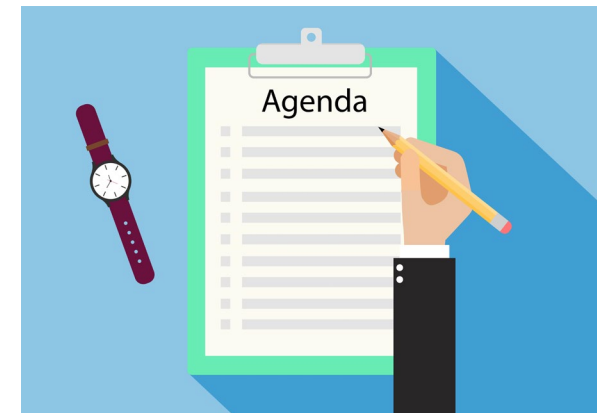
# Meeting Announcements

- Participants muted
- Save questions and comments until end of each section



# Overview

- Attendance & Introductions (5 min)
- September Meeting Summary (5 min)
- Updated Truck Trip Rate Analysis (40 min)
- Baseline Emissions and Reductions (40 min)
- EPA's Approval of SCAQMD Rule 2305 & Assembly Bill 98 (10 min)
- Next Steps (5 min)
- Non-agenda / Participant Comments (5 min)

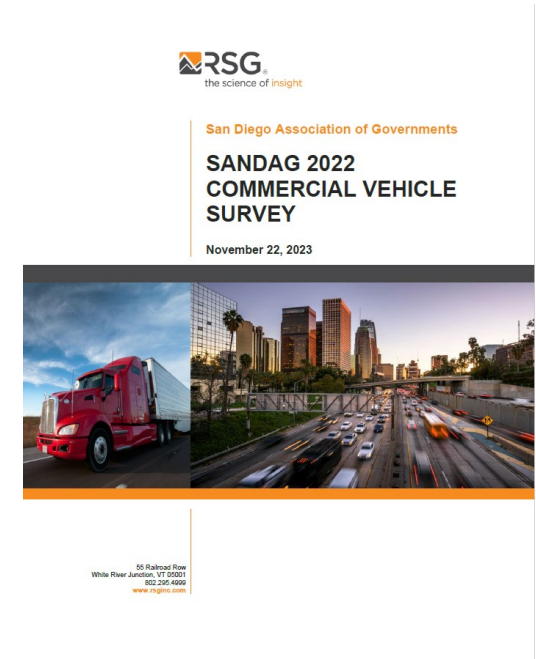


# Attendance and Introductions



# WWG September Meeting Recap

- SANDAG 2022 Commercial Vehicle Survey
- SCAQMD WAIRE Program Implementation Update
- Caltrans Truck Counts vs SANDAG Modeled Data
- Other Suggested Datasets
- Comments:
  - Implementation of ZE trucks for short trip operations
  - Existing District staff for ISR implementation
  - Warehouse industry may be receptive to investing in ZE technologies
  - Reporting rates for Rule 2305 are unexpectedly low
  - Operators choosing to move into smaller warehouses



# Updated Truck Trip Rate Analysis

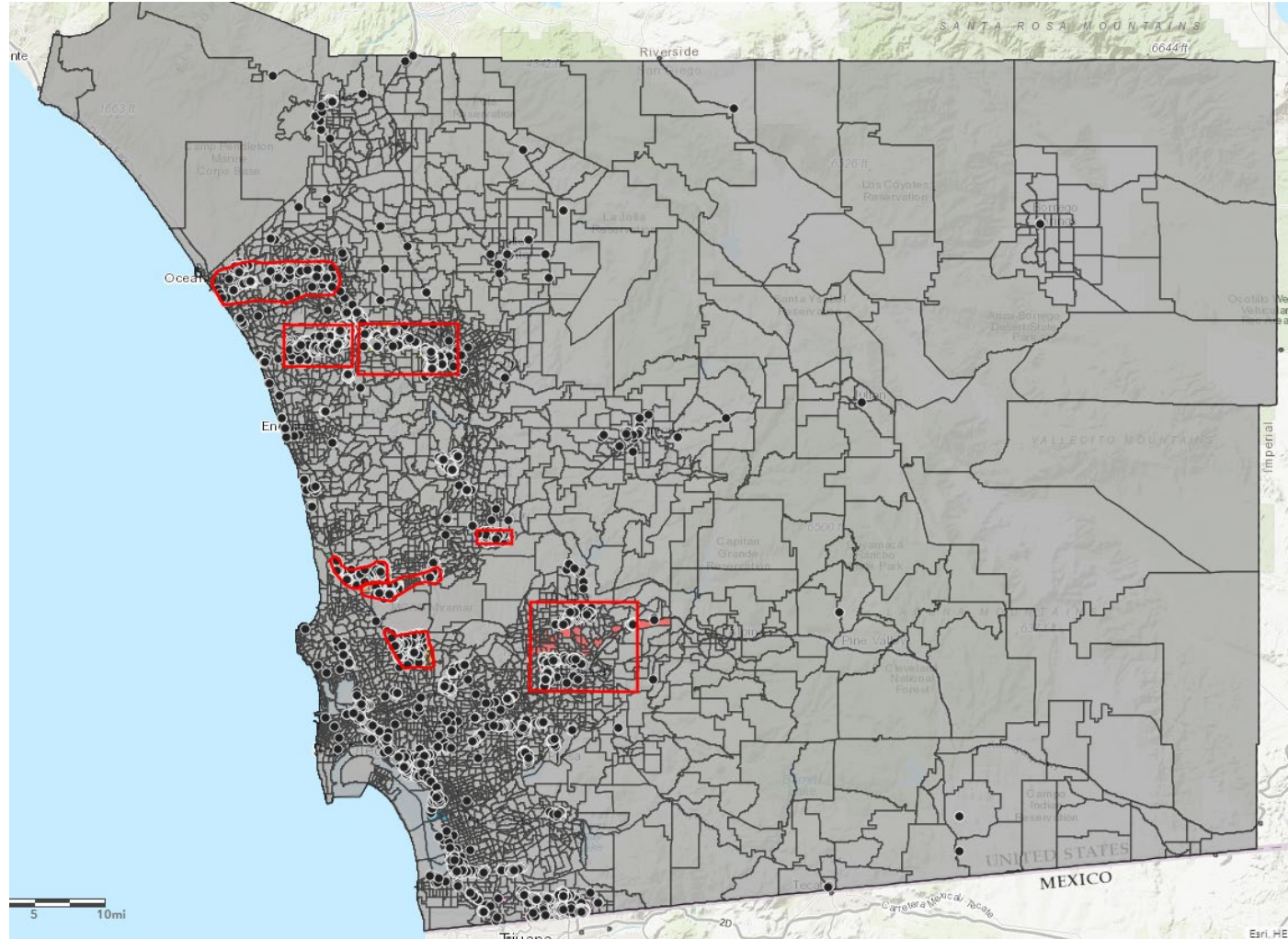


# Datasets and Methodology

- Warehouse inventory (CoStar)
- SANDAG Activity-Based Model (ABM2+)
  - 2016 base year
  - 2021 Regional Plan
  - Heavy-duty truck volumes along freeways and street segments
- GIS Map
  - Include CoStar and SANDAG data
  - Warehouse clusters throughout region
  - Identify street segments near warehouses
  - Estimate truck trip rates

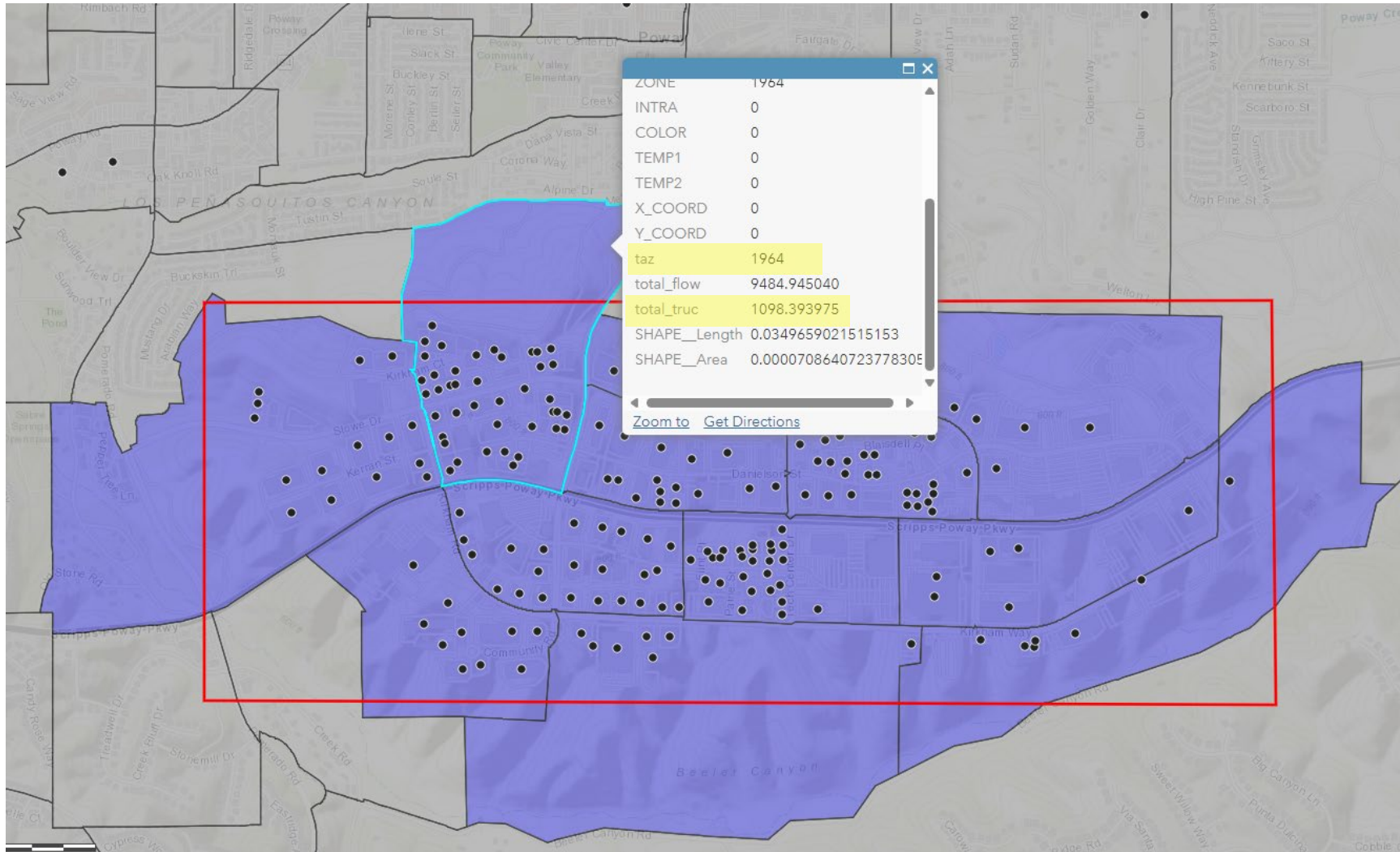


# Traffic Analysis Zone (Updated)





# Example TAZ



# Key Findings of Trip Rate Analysis

- Greater correlation between floor area and truck volume
- More conservative rates compared to former analysis
- Almost all rates  $< 1.0$  trip/1k sq ft
- Better alignment with other referenced rates



# Use of Truck Trip Rates

- Indirect Source Rule
  - Calculate truck trips
  - Applicable requirements
- Emissions Baseline
  - Nitrogen oxide (NO<sub>x</sub>)
  - Particulate matter (PM<sub>2.5</sub>)



# Question or Comments

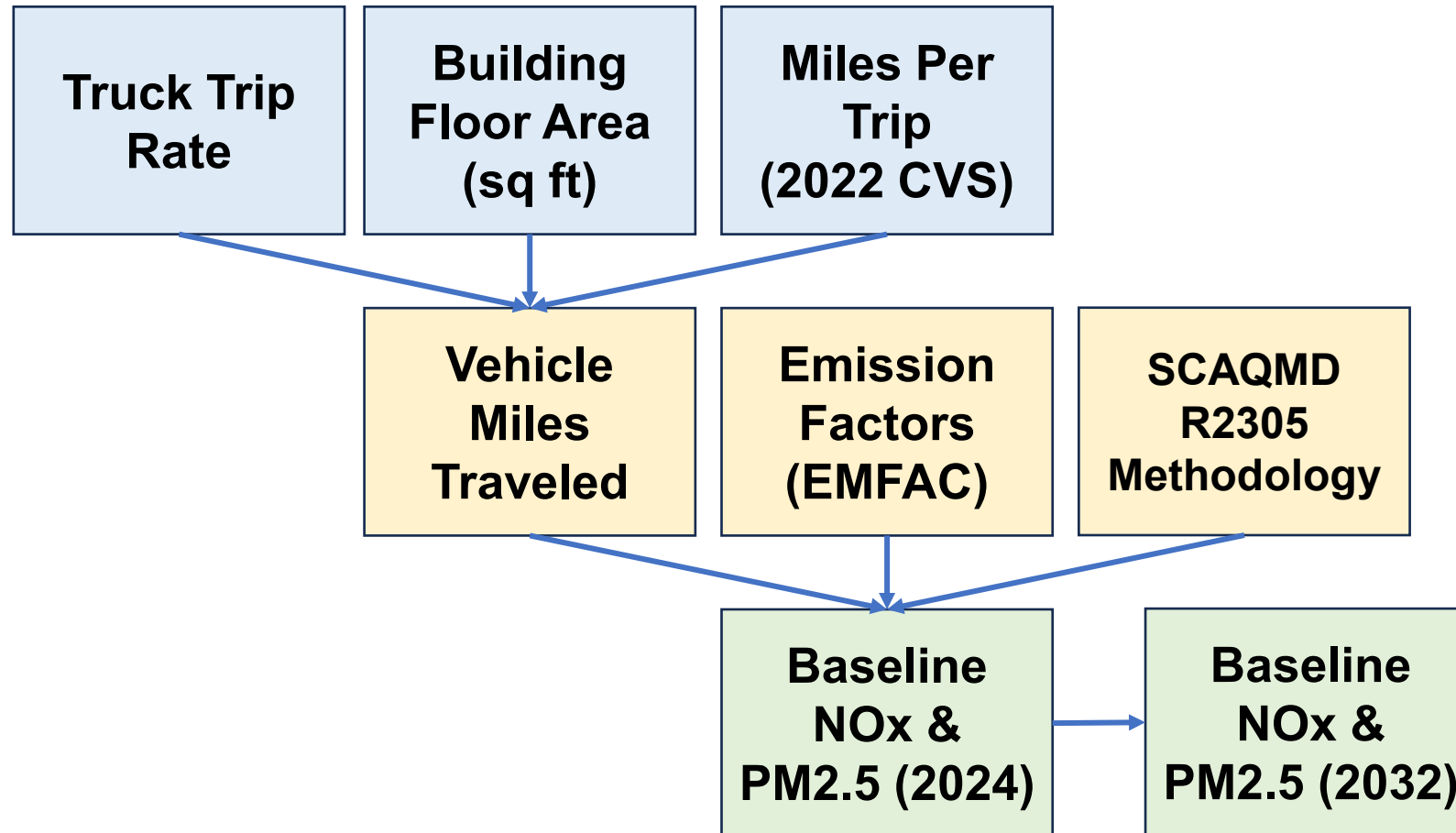
- 'Raise hand' feature or dial \*9
- 'Chat' feature
- Questions:
  - Does the District's methodology for determining truck trip rates make sense to you?
  - What other areas should the District consider in determining truck trip rates?



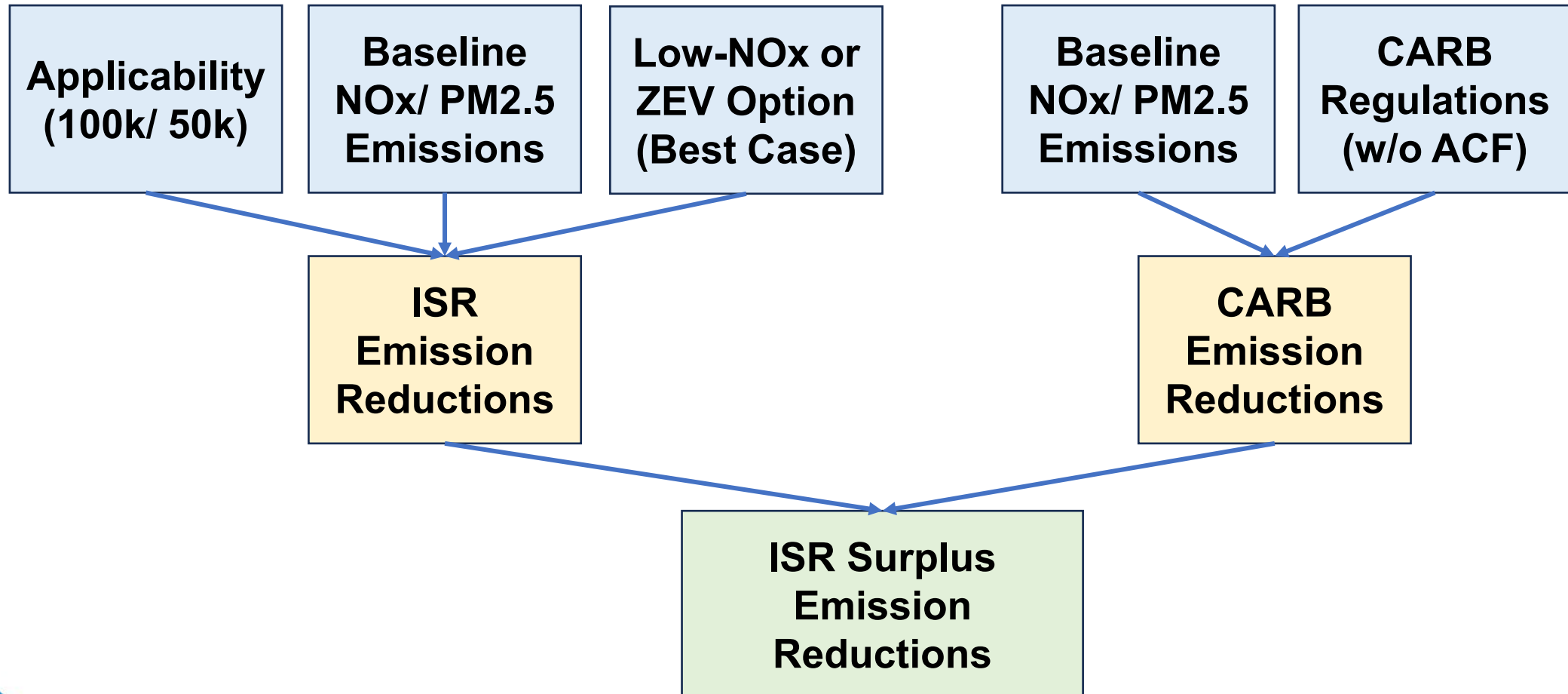
# Emissions and Reductions



# Baseline Emissions Methodology

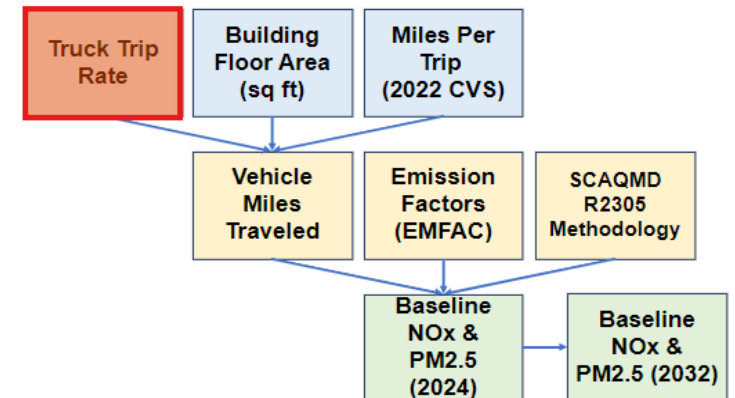


# Emissions Reduction Methodology



# Emission Calculations – Scenarios 1 & 2

- Scenario 1 – County, by size
  - Countywide
  - Truck Trip Rates for each warehouse size category
- Scenario 2 – 3 Areas, by size
  - Three areas: Portside, International Border Community (IBC), and County w/o AB 617
  - Truck Trip Rates for each warehouse size category





# Scenario 1 - County, size\*

Warehouse Floor Area (sq ft)	Class 2B to 5 Daily Truck Trip Rate (per 1k sq ft)	Class 6 to 7 Daily Truck Trip Rate (per 1k sq ft)	Class 8 Daily Truck Trip Rate (per 1k sq ft)
100k and greater	0.05	0.02	0.08
50k to 100k	0.09	0.03	0.14
25k to 50k	0.12	0.04	0.19
12.5k to 25k	0.15	0.05	0.23
Less than 12.5k	0.31	0.09	0.48

\* Preliminary estimates and subject to change.



# Emissions – Scenario 1 ( $\geq 100k$ sq ft)<sup>1,2</sup>

Area	Warehouse Count	Baseline Emissions		Surplus Reductions <sup>3</sup> Low-NOx (up to)		Surplus Reductions ZEV (up to)	
		NOx (tpy)	PM2.5 (tpy)	NOx (tpy)	PM2.5 (tpy)	NOx (tpy)	PM2.5 (tpy)
Portside	5	0.9	0.01	0.3	N/A	0.4	0.01
International Border	46	8.0	0.13	2.9	N/A	3.7	0.06
County w/o AB 617	192	34.5	0.55	12.5	N/A	16.0	0.28
<b>All County</b>	<b>243</b>	<b>43.4</b>	<b>0.69</b>	<b>15.8</b>	<b>N/A</b>	<b>20.1</b>	<b>0.35</b>

1. Preliminary estimates and subject to change. Assumes best case that all subject facilities implement Low-NOx or ZEV options.

2. Emission reductions from CARB regulations are conservative and do not include reductions expected from the Advanced Clean Fleets Regulation.

3. Diesel PM emission reductions are anticipated as a co-benefit from the transition of diesel fuel to natural gas combustion.



# Emissions – Scenario 1 ( $\geq 50k$ sq ft)<sup>1,2</sup>

Area	Warehouse Count	Baseline Emissions		Surplus Reductions <sup>3</sup> Low-NOx (up to)		Surplus Reductions ZEV (up to)	
		NOx (tpy)	PM2.5 (tpy)	NOx (tpy)	PM2.5 (tpy)	NOx (tpy)	PM2.5 (tpy)
Portside	29	3.5	0.06	1.3	N/A	1.6	0.03
International Border	102	14.3	0.23	5.2	N/A	6.6	0.12
County w/o AB 617	526	72.5	1.15	26.3	N/A	33.5	0.58
<b>All County</b>	<b>657</b>	<b>90.3</b>	<b>1.43</b>	<b>32.8</b>	<b>N/A</b>	<b>41.8</b>	<b>0.73</b>

1. Preliminary estimates and subject to change. Assumes best case that all subject facilities implement Low-NOx or ZEV options.

2. Emission reductions from CARB regulations are conservative and do not include reductions expected from the Advanced Clean Fleets Regulation.

3. Diesel PM emission reductions are anticipated as a co-benefit from the transition of diesel fuel to natural gas combustion.



# Scenario 2 – Portside, size\*

Warehouse Floor Area (sq ft)	Class 2B to 5 Daily Truck Trip Rate (per 1k sq ft)	Class 6 to 7 Daily Truck Trip Rate (per 1k sq ft)	Class 8 Daily Truck Trip Rate (per 1k sq ft)
100k and greater	0.11	0.03	0.17
50k to 100k	0.14	0.04	0.22
25k to 50k	0.18	0.05	0.27
12.5k to 25k	0.12	0.04	0.19
Less than 12.5k	0.30	0.09	0.46

\* Preliminary estimates and subject to change.



# Scenario 2 – IBC, size\*

Warehouse Floor Area (sq ft)	Class 2B to 5 Daily Truck Trip Rate (per 1k sq ft)	Class 6 to 7 Daily Truck Trip Rate (per 1k sq ft)	Class 8 Daily Truck Trip Rate (per 1k sq ft)
100k and greater	0.03	0.01	0.05
50k to 100k	0.05	0.02	0.08
25k to 50k	0.07	0.02	0.10
12.5k to 25k	0.10	0.03	0.16
Less than 12.5k	0.57	0.17	0.88

\* Preliminary estimates and subject to change.



# Scenario 2 – County w/o AB617, size\*

Warehouse Floor Area (sq ft)	Class 2B to 5 Daily Truck Trip Rate (per 1k sq ft)	Class 6 to 7 Daily Truck Trip Rate (per 1k sq ft)	Class 8 Daily Truck Trip Rate (per 1k sq ft)
100k and greater	0.06	0.02	0.10
50k to 100k	0.10	0.03	0.15
25k to 50k	0.12	0.04	0.19
12.5k to 25k	0.16	0.05	0.24
Less than 12.5k	0.32	0.10	0.48

\* Preliminary estimates and subject to change.



# Emissions – Scenario 2 ( $\geq 100k$ sq ft)<sup>1,2</sup>

Area	Warehouse Count	Baseline Emissions		Surplus Reductions <sup>3</sup> Low-NOx (up to)		Surplus Reductions ZEV (up to)	
		NOx (tpy)	PM2.5 (tpy)	NOx (tpy)	PM2.5 (tpy)	NOx (tpy)	PM2.5 (tpy)
Portside	5	1.9	0.03	0.7	N/A	0.9	0.01
International Border	46	4.6	0.07	1.7	N/A	2.1	0.04
County w/o AB 617	192	41.0	0.65	14.9	N/A	19.0	0.33
<b>All County</b>	<b>243</b>	<b>47.5</b>	<b>0.75</b>	<b>17.2</b>	<b>N/A</b>	<b>22.0</b>	<b>0.38</b>

1. Preliminary estimates and subject to change. Assumes best case that all subject facilities implement Low-NOx or ZEV options.

2. Emission reductions from CARB regulations are conservative and do not include reductions expected from the Advanced Clean Fleets Regulation.

3. Diesel PM emission reductions are anticipated as a co-benefit from the transition of diesel fuel to natural gas combustion.



# Emissions – Scenario 2 ( $\geq 50k$ sq ft)<sup>1,2</sup>

Area	Warehouse Count	Baseline Emissions		Surplus Reductions <sup>3</sup> Low-NOx (up to)		Surplus Reductions ZEV (up to)	
		NOx (tpy)	PM2.5 (tpy)	NOx (tpy)	PM2.5 (tpy)	NOx (tpy)	PM2.5 (tpy)
Portside	29	5.8	0.09	2.1	N/A	2.7	0.05
International Border	102	8.3	0.13	3.0	N/A	3.9	0.07
County w/o AB 617	526	82.1	1.30	29.8	N/A	38.0	0.66
<b>All County</b>	<b>657</b>	<b>96.2</b>	<b>1.53</b>	<b>34.9</b>	<b>N/A</b>	<b>44.5</b>	<b>0.78</b>

1. Preliminary estimates and subject to change. Assumes best case that all subject facilities implement Low-NOx or ZEV options.

2. Emission reductions from CARB regulations are conservative and do not include reductions expected from the Advanced Clean Fleets Regulation.

3. Diesel PM emission reductions are anticipated as a co-benefit from the transition of diesel fuel to natural gas combustion.





# County Emissions Summary<sup>1,2</sup>

Scenario	Applicability Threshold (sq ft)	Warehouse Count	Baseline Emissions		Surplus Reductions <sup>3</sup> Low-NOx (up to)		Surplus Reductions ZEV (up to)	
			NOx (tpy)	PM2.5 (tpy)	NOx (tpy)	PM2.5 (tpy)	NOx (tpy)	PM2.5 (tpy)
1	≥100k	243	43.4	0.69	15.8	N/A	20.1	0.35
1	≥50k	657	90.3	1.43	32.8	N/A	41.8	0.73
2	≥100k	243	47.5	0.75	17.2	N/A	22.0	0.38
2	≥50k	657	96.2	1.53	34.9	N/A	44.5	0.78

1. Preliminary estimates and subject to change. Assumes best case that all subject facilities implement Low-NOx or ZEV options.

2. Emission reductions from CARB regulations are conservative and do not include reductions expected from the Advanced Clean Fleets Regulation.

3. Diesel PM emission reductions are anticipated as a co-benefit from the transition of diesel fuel to natural gas combustion.



# Key Findings of Emissions Analysis

- Scenarios 1 & 2 have similar results
- Refined emission reduction estimates are lower than anticipated in 2022 RAQS and ISR Framework
- Conservative estimates
  - Baseline NOx and PM2.5 emissions
  - Emission reductions from CARB regulations
- Best case control scenarios (Low-NOx/ ZEV)
- Surplus emission reductions may decrease



# Question or Comments

- 'Raise hand' feature or dial \*9
- 'Chat' feature
- Questions:
  - What made sense or confused you?
  - Do you agree with staff's preliminary findings?



# SCAQMD R2305 Approval & AB 98



# EPA's Approval of Rule 2305

- EPA approved SCAQMD Rule 2305 as a SIP strengthening (9/11/24)
- Rule is federally enforceable
- Identified certain deficiencies related to enforceability
  - Two ambiguous definitions, sunset clause, and two instances of unbounded director's discretion.
- Cannot assign SIP credit for reductions
- Potential lawsuit challenging the approval



# Assembly Bill 98 (Carrillo and Reyes)

- Passed by CA legislature late August
- Governor Newsom signed bill on Sept. 29
- New and expanded warehouses – all sizes
- Building standards for new/expanded warehouses
- Minimize impacts on certain sensitive receptors
- Minimum distance between homes and warehouses with buffers
- By 2030, forklifts and specific equipment zero-emission



# Question or Comments

- 'Raise hand' feature or dial \*9
- 'Chat' feature



# Next Steps

- Truck trip rates, baseline emissions, emission reductions
- ISR Framework Supplement
- Evaluate regulatory and non-regulatory strategies
- Planning and Policy Committee/ Governing Board Update
- Refine cost-effectiveness and prepare public health benefits (SIA) and CEQA analyses (if ISR rulemaking is directed)





# Non-Agenda & Participant Comments

- 'Raise hand' feature or dial \*9
- 'Chat' feature



# Staff Contacts

- Randy Consolacion, Associate Engineer
  - [Randy.Consolacion@sdapcd.org](mailto:Randy.Consolacion@sdapcd.org)
  - (858) 586-2752
- Nick Cormier, Rule Development Supervisor
  - [Nick.Cormier@sdapcd.org](mailto:Nick.Cormier@sdapcd.org)
  - (858) 586-2798

