



San Diego County Air Pollution Control District

**Warehouse Working Group (WWG) Meeting
September 3**

2024






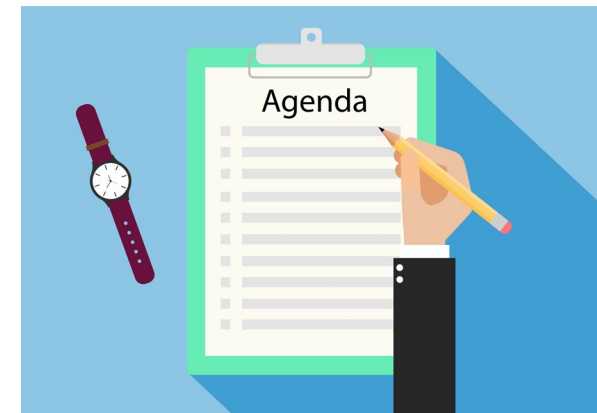
Meeting Announcements

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



Overview

- Attendance & Introductions (5 min)
- June Meeting Summary (5 min)
- SANDAG Commercial Vehicle Survey (30 min) 
- SCAQMD WAIRE Program Update (30 min) 
- Caltrans Truck Counts vs Modeled Data (10 min)
- Other Suggested Datasets (10 min) 
- Non-agenda / Participant Comments (5 min)
- Action Items / Next Meeting (5 min)



Attendance and Introductions



WWG June Meeting Recap

- 6/3/24

- APCD Truck Trip Rate Analysis

- Comments:

- Recommend not using SANDAG's 2016 base year modeled data
- Truck trip rates should be verified with actual data
- Analysis for smaller vehicles (GVWR < 8,500 lbs)
- Community residents' concerns about the heavy-duty truck traffic from warehouses



Commercial Vehicle Survey

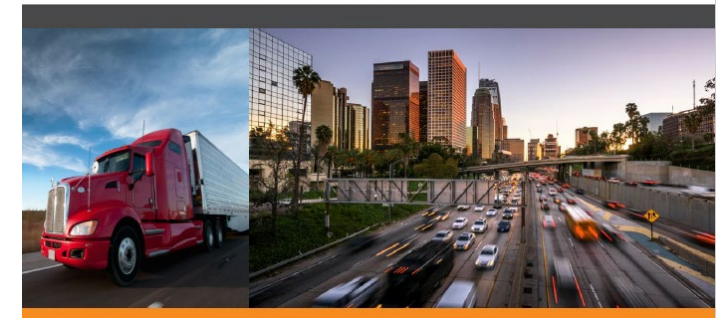
- Consists of Three Parts
 - Establishment survey
 - Passive GPS travel diary
 - GPS travel diary of Transportation Network Company (TNC)
- <https://www.sandag.org/-/media/SANDAG/Documents/PDF/data-and-research/applied-research-and-performance-monitoring/surveys/commercial-vehicle-survey-report-2022.pdf>



San Diego Association of Governments

**SANDAG 2022
COMMERCIAL VEHICLE
SURVEY**

November 22, 2023



55 Railroad Row
White River Junction, VT 05001
802.296.4999
www.rsginc.com



Trip and Tour Summary

TABLE 1: TRIP AND TOUR SUMMARY TABLE FOR CVS AND TNC SAMPLE

VARIABLE	STATISTIC	CVS SURVEY	TNC SURVEY
Trips: Distance	Mean (Miles)	9.5	4.7
Tours: Distance	Mean (Miles)	47.2	51.3
Tours: Number of Stops (Excluding Return to Base)	Mean (# Stops)	4.0	10.4
Tours: Single Stop Tours (vs. Multistop)	Proportion	0.28	0.02
Trips: Stop Duration	Mean (Minutes)	37.9	32.8
Tours: Tour Duration	Mean (Minutes)	225.8	427.4
Tours/Employee/Day	Proportion	0.25	N/A
Trips/Tour/Day (Stops/Tour/Day)	Proportion	4.0	10.4



Fleet Size

TABLE 11: AVERAGE VEHICLE FLEET SIZE, BY VEHICLE TYPE AND INDUSTRY GROUPS

GROUP	AVERAGE FLEET SIZE PER ESTABLISHMENT		
	LCV	SUT	MUT
1. Agriculture/Mining	1.29	0.33	0.32
2. Manufacturing	1.16	0.54	0.29
3. Industrial/Utilities	6.98	1.69	1.36
4. Retail	0.65	0.56	0.32
5. Wholesale	1.83	0.62	0.57
6. Construction	2.92	0.98	2.23
7. Transportation	4.23	1.35	2.36
8. Info/FIRE/Professional Services	1.71	0.96	0.26
9. Education/Public/Other Services	4.03	2.11	0.84
10. Medical/Health Services	1.69	0.29	0.01
11. Leisure/Accommodations and Food	0.95	0.15	0.02



Deliveries by Origin

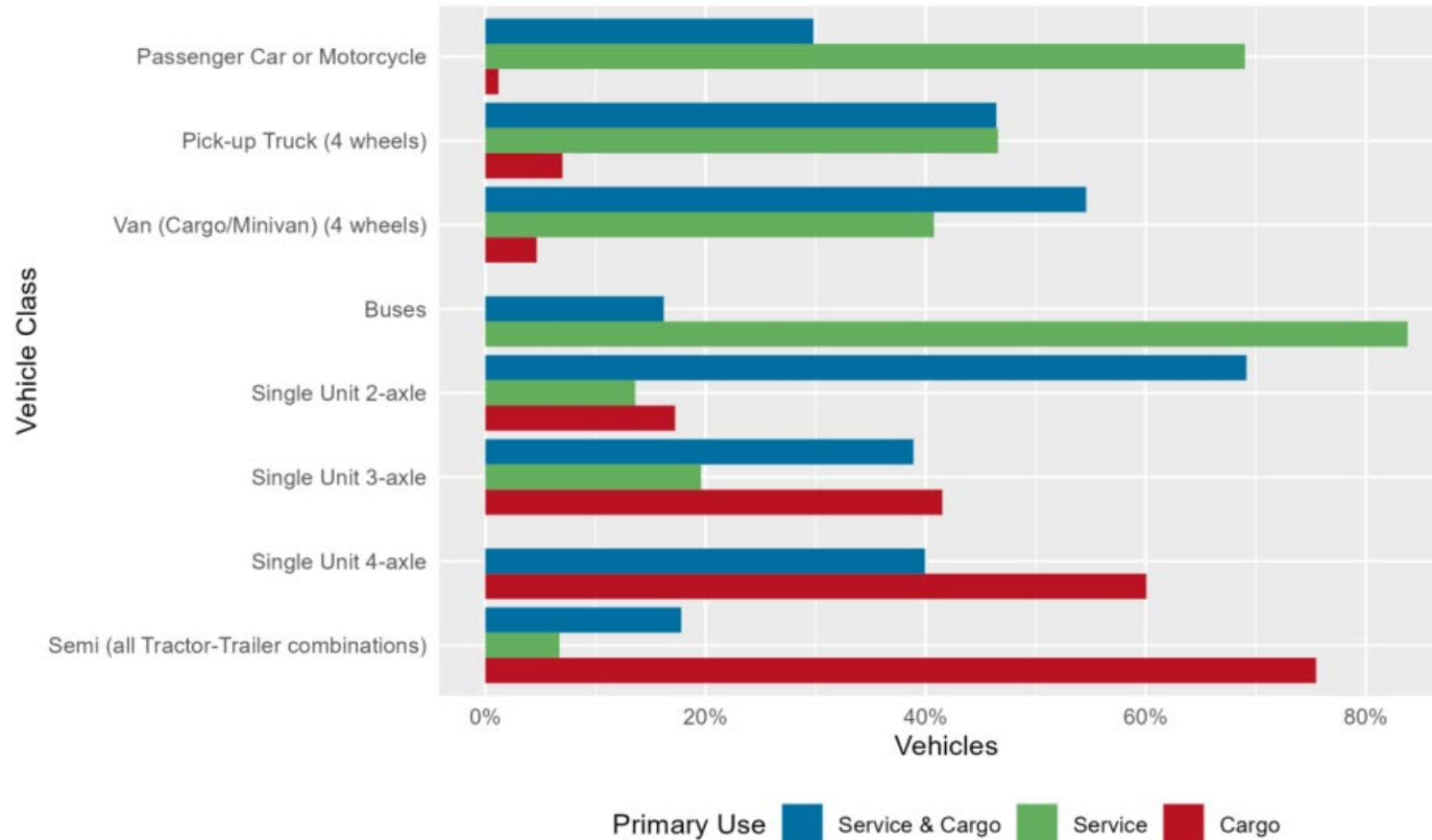
TABLE 13: AVERAGE WEEKDAY DELIVERIES BY SHIPMENT ORIGIN

INDUSTRY GROUP	SHIPMENT ORIGIN						Total
	Warehouse	Port/Airport/Terminal	Manufacturing	Retail Outlet	Service Business	Other	
Agriculture/Mining	1.0	0.0	0.2	0.1	0.2	1.0	2.6
Retail	1.5	0.1	0.3	0.2	0.2	3.2	5.5
Manufacturing	1.2	0.2	0.6	0.1	0.1	1.2	3.4
Education/Other public services	1.0	0.0	0.1	0.2	0.4	1.7	3.5
Medical/Health Services	0.5	0.0	0.1	0.0	0.1	2.1	2.8
Leisure/Accommodations and Food	1.9	0.0	0.2	0.1	0.4	0.8	3.2
Info/FIRE/Professional services	0.7	0.0	0.1	0.2	0.2	1.5	2.8
Industrial/Utilities	2.2	0.2	0.9	0.3	0.1	1.3	5.1
Wholesale	1.3	0.2	0.6	0.1	0.1	1.2	3.6
Transportation	1.6	0.9	0.3	0.1	0.2	1.4	4.5
Construction	1.4	0.0	0.8	0.3	0.0	1.3	3.9
Total	1.2	0.1	0.3	0.2	0.2	1.6	3.6



Vehicles by Use

FIGURE 11: VEHICLE PRIMARY USE, BY VEHICLE CLASS, CVS SAMPLE



Average Trip Distance

TABLE 17: AVERAGE TRIP DISTANCE AND TRAVEL TIME, BY VEHICLE TYPE

VEHICLE CLASS	SURVEY TRIPS	TRIPS*	MEDIAN DIST. (MI)	MEAN DIST. (MI)	MEAN DIST. (MI)*	MEDIAN TIME (MIN)	MEAN TIME (MIN)	MEAN TIME (MIN)*
Light	7,971	906,609	3.8	9.1	8.6	9.7	13.4	12.8
Medium	1,588	567,656	3.7	8.0	7.0	9.6	12.4	11.0
Heavy	1,128	190,773	7.3	15.0	14.0	13.2	19.0	18.6
All Vehicles	10,687	1,665,038	4.1	9.5	8.7	10.0	13.8	12.8

**Indicates a weighted field*



Summary

- Trip and Tour Summary
- Fleet Size
- Deliveries by Origin
- Vehicles by Use
- Average Trip Distance
- Estimate Truck Trip Rates
- Estimate Baseline Emissions and Reductions

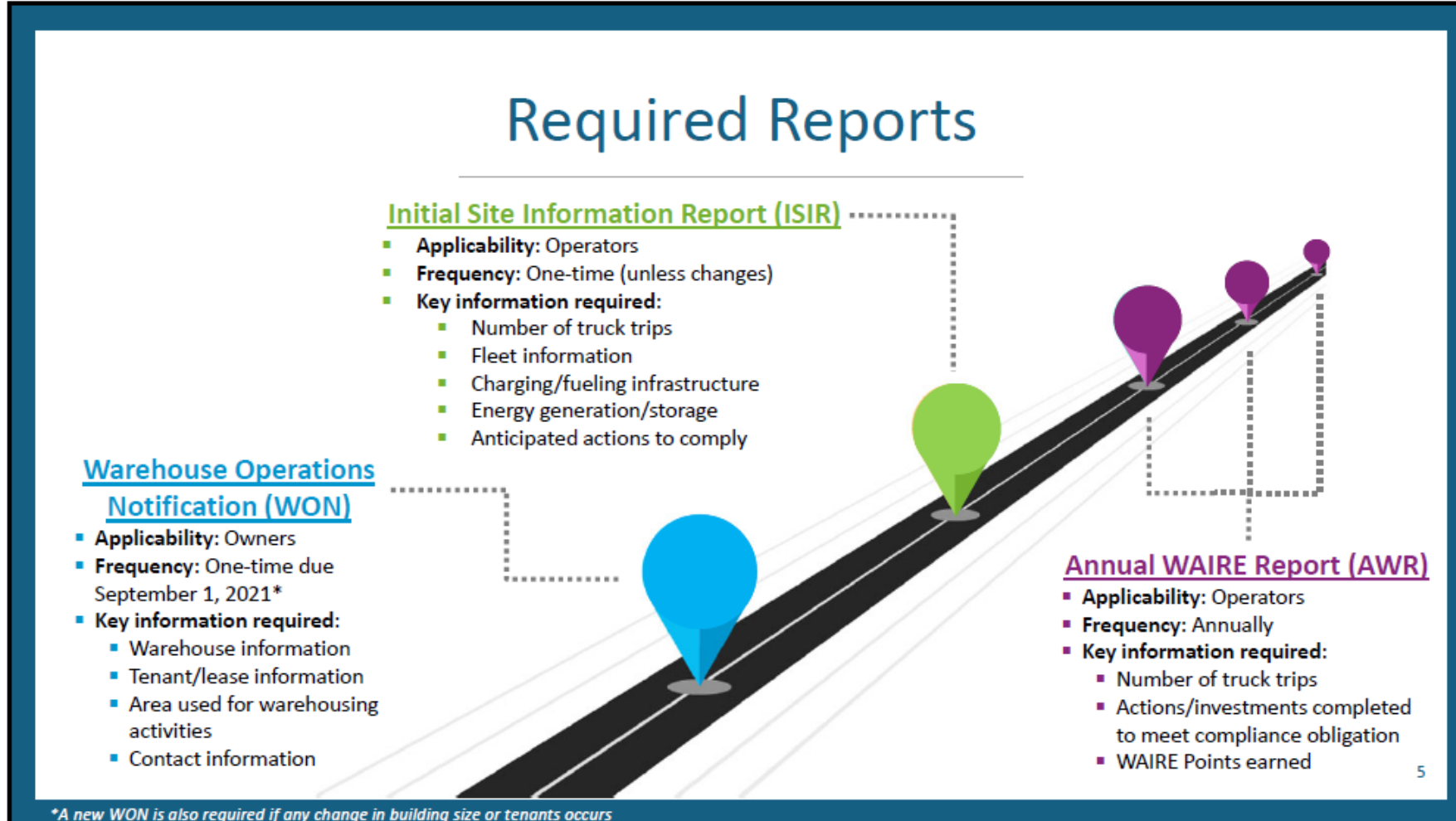


Question or Comments

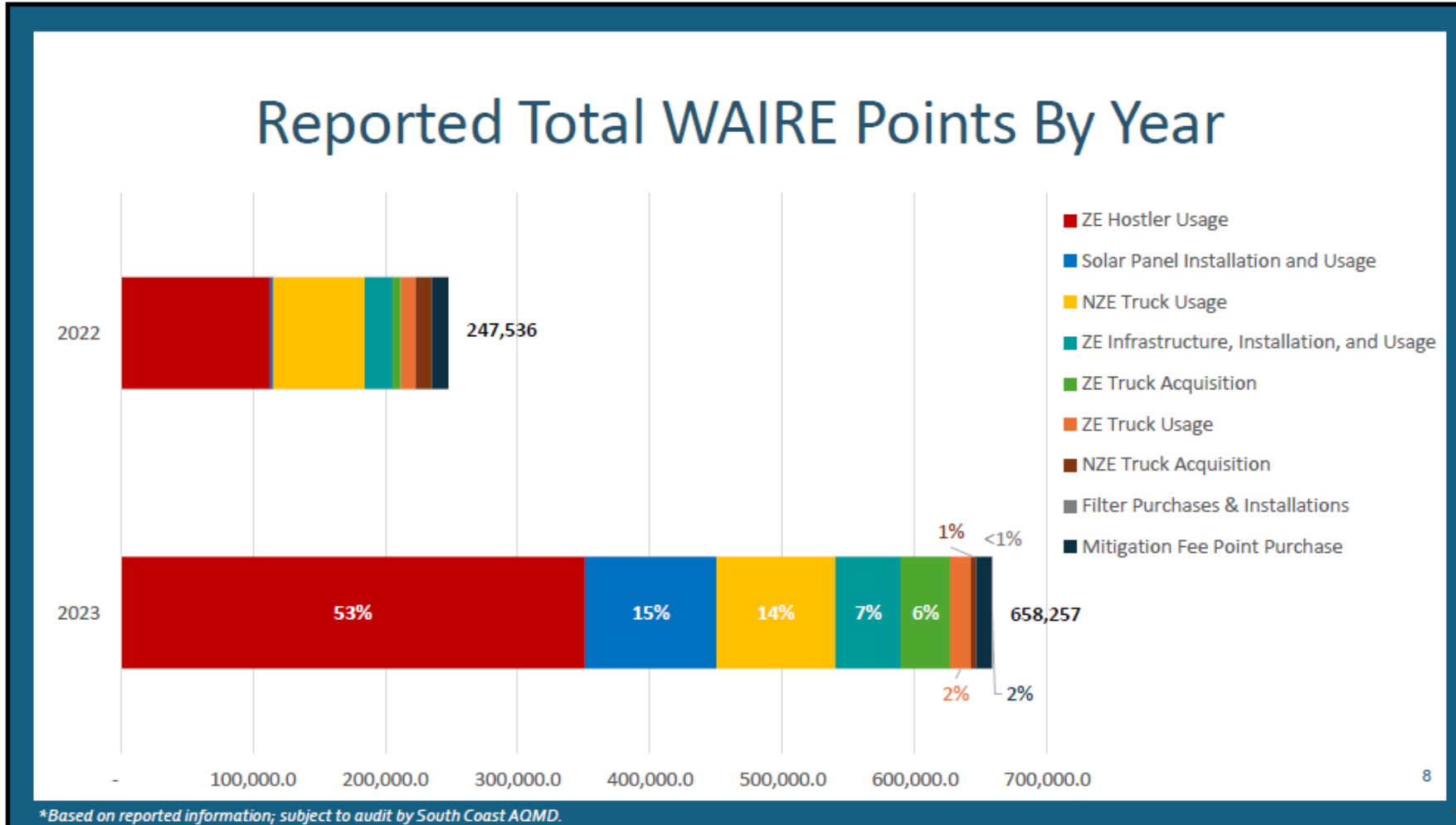
- 'Raise hand' feature or dial *9
- 'Chat' feature



WAIRE - Required Reports



Reported WAIRE Points



Deploying Zero Emissions

Deploying Zero Emissions

Results based on reported information since rule adoption; subject to audit by South Coast AQMD.

** Includes charging infrastructure for Vehicles, TRUs, & H₂ fueling stations*

*** Includes hours from new hostler acquisitions as well as existing hostlers in the fleet*

WAIRE Menu Category	Instances Reported	Count of Facilities
ZE Infrastructure Energization*	302 units	84
ZE Vehicle Charging	20,599,583 kWh dispensed	159
ZE TRU Charging	1,558,154 kWh dispensed	13
ZE Class 8 Truck Acquisition	186 units	26
ZE Class 4-7 Truck Acquisition	53 units	9
ZE Class 2b-3 Truck Acquisition	387 units	15
ZE Hostler Acquisition	189 units	96
ZE Class 8 Truck Visits	239,399 visits	185
ZE Class 4-7 Truck Visits	21,376 visits	53
ZE Class 2b-3 Truck Visits	126,810 visits	43
ZE Hostler Usage**	1,721,772 hours	130
H2 Fueling Station Usage	119,350 Kg of dispensed H2	4

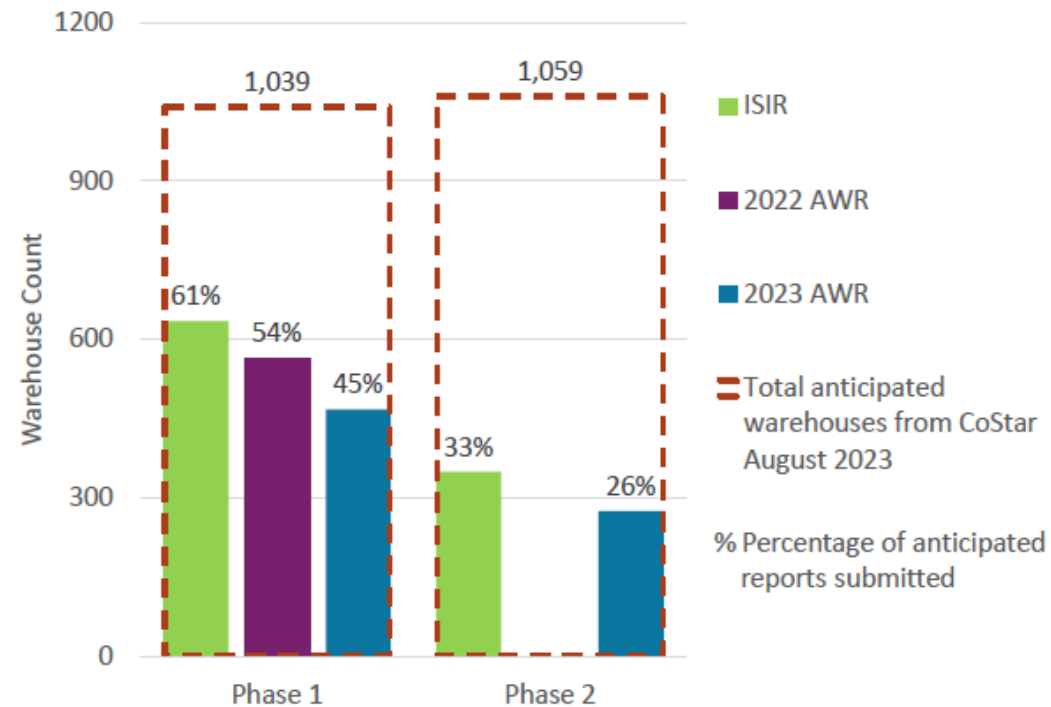
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Reporting Rates

Reporting Rates Improving, But Still Low

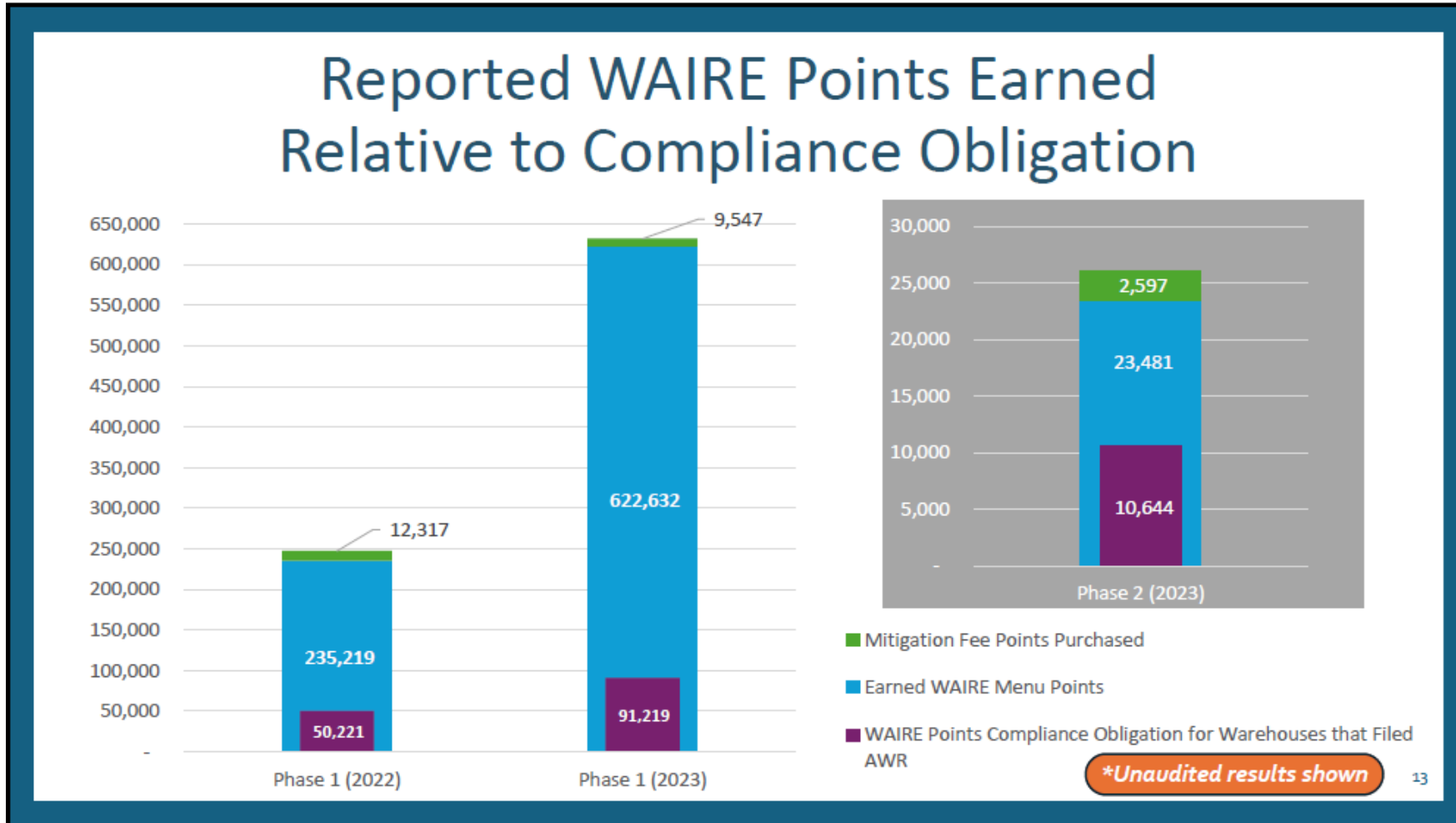
- Phase 1 reporting rates have begun improving following enforcement initiative
 - Enforcement and outreach efforts are ongoing
- All warehouse operators phased in by end of 2024
 - Phase 2 Annual WAIRE Reports were due Jan. 31, 2024
 - Phase 3 required to submit AWR in Jan. 2025



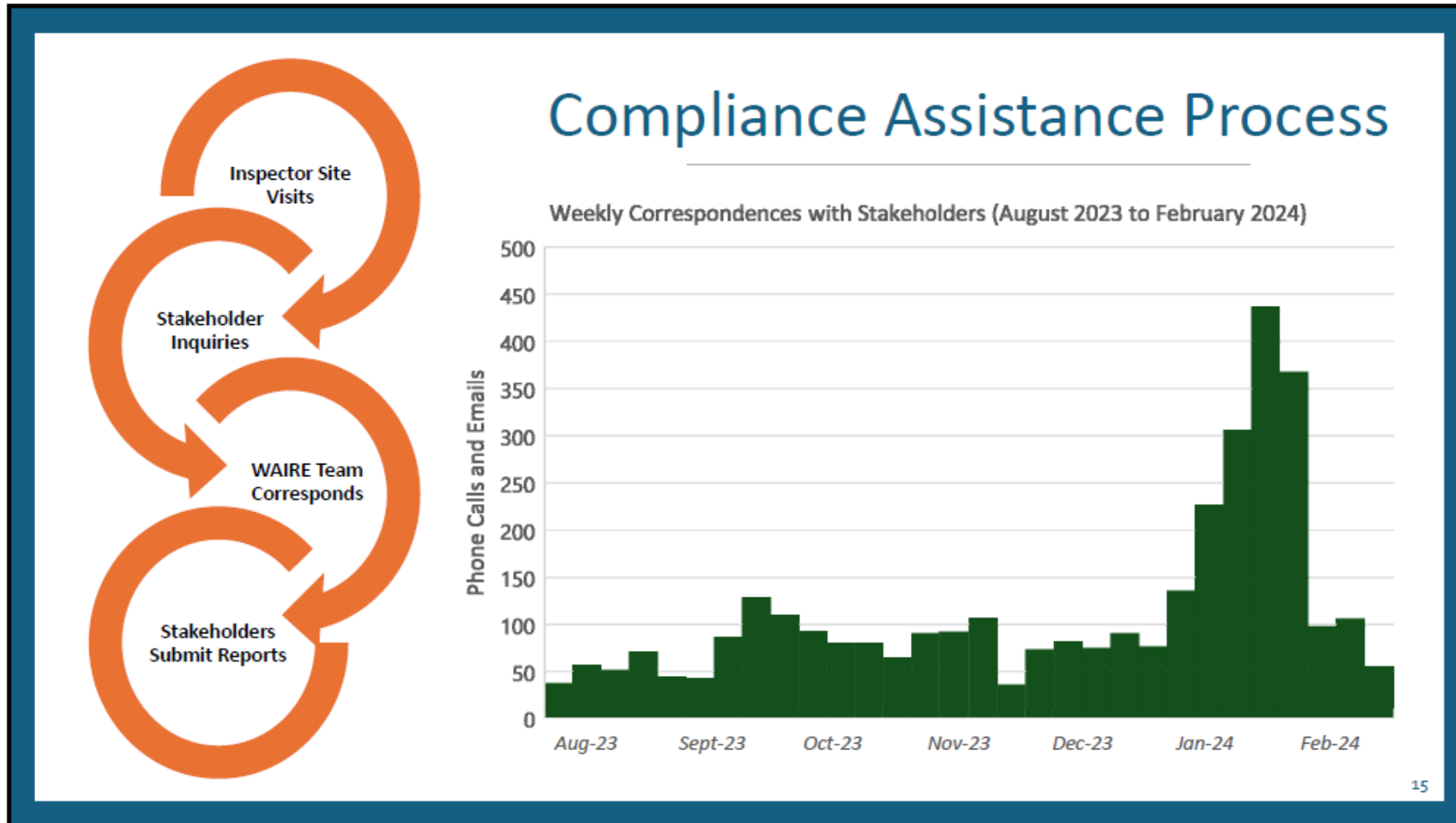
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Compliance Obligation



Compliance Assistance



Question or Comments

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



Caltrans AADT vs Modeled Data

- Caltrans AADT for trucks (2016)
 - Traffic counts measured at 172 freeway junctions
- SANDAG ABM2+ Truck Volumes (2016 base year)
 - Compared modeled truck volumes at 49 of those junctions
- AADT vs ABM2+ (49 junctions)
 - Total daily truck traffic count (AADT) = 303,927
 - Total daily truck volume (ABM2+) = 269,192
 - Average difference = **-11.4%**



Suggested Datasets

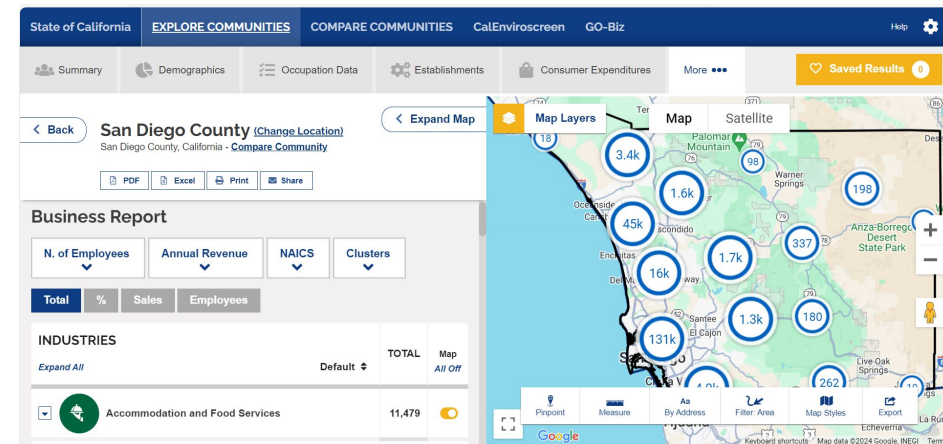
- A Meta-Study of Purchase Costs for Zero-Emission Trucks (ICCT, Feb. 2022)

➤ <https://theicct.org/wp-content/uploads/2022/02/purchase-cost-zero-emission-trucks-feb22-1.pdf>

- California GO-Biz website

➤ <https://properties.zoomprospector.com/california/community/San-Diego-County-California/06073/business>

➤ Business name, address, sales, employee count



Question or Comments

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Non-Agenda & Participant Comments

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



Next Meeting

- Monday, October 7, 2024, 3:00 p.m. to 5:00 p.m.
 - APCD Emission Analysis
 - WWG Wrap-up



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