

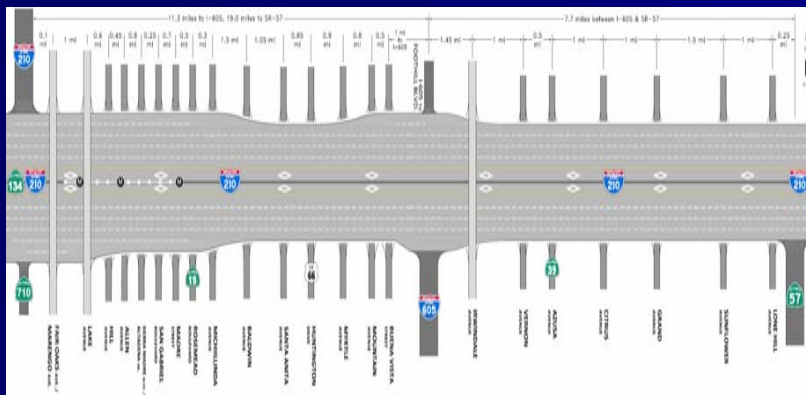
# PRESENTATION



## Metro's Streets & Freeways Subcommittee



### Los Angeles County Metro's 2011 Interstate 210 Truck Origin & Destination (O-D) Study



Presented by:

**Fred Minagar**

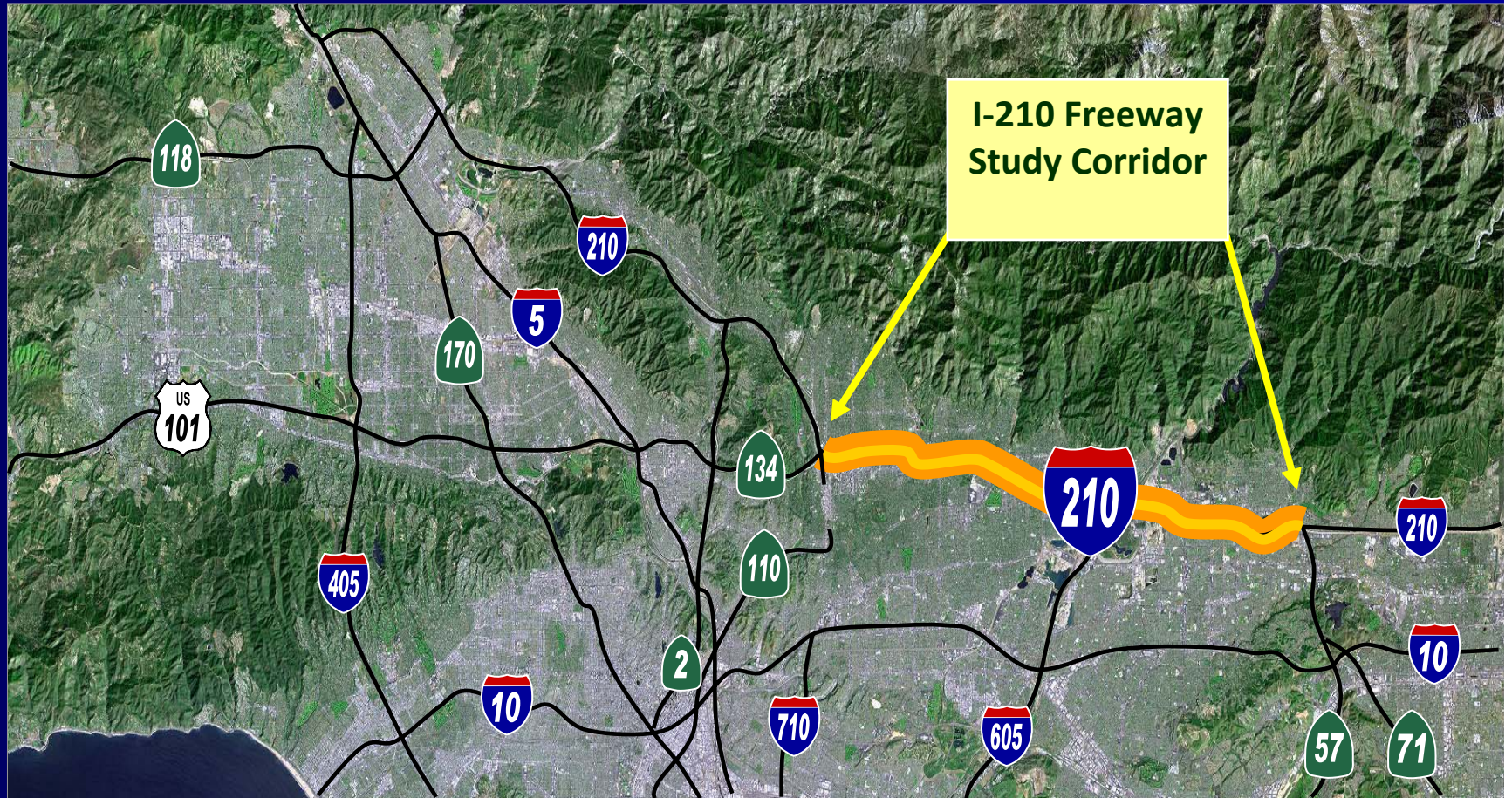


**MINAGAR & ASSOCIATES, INC.**

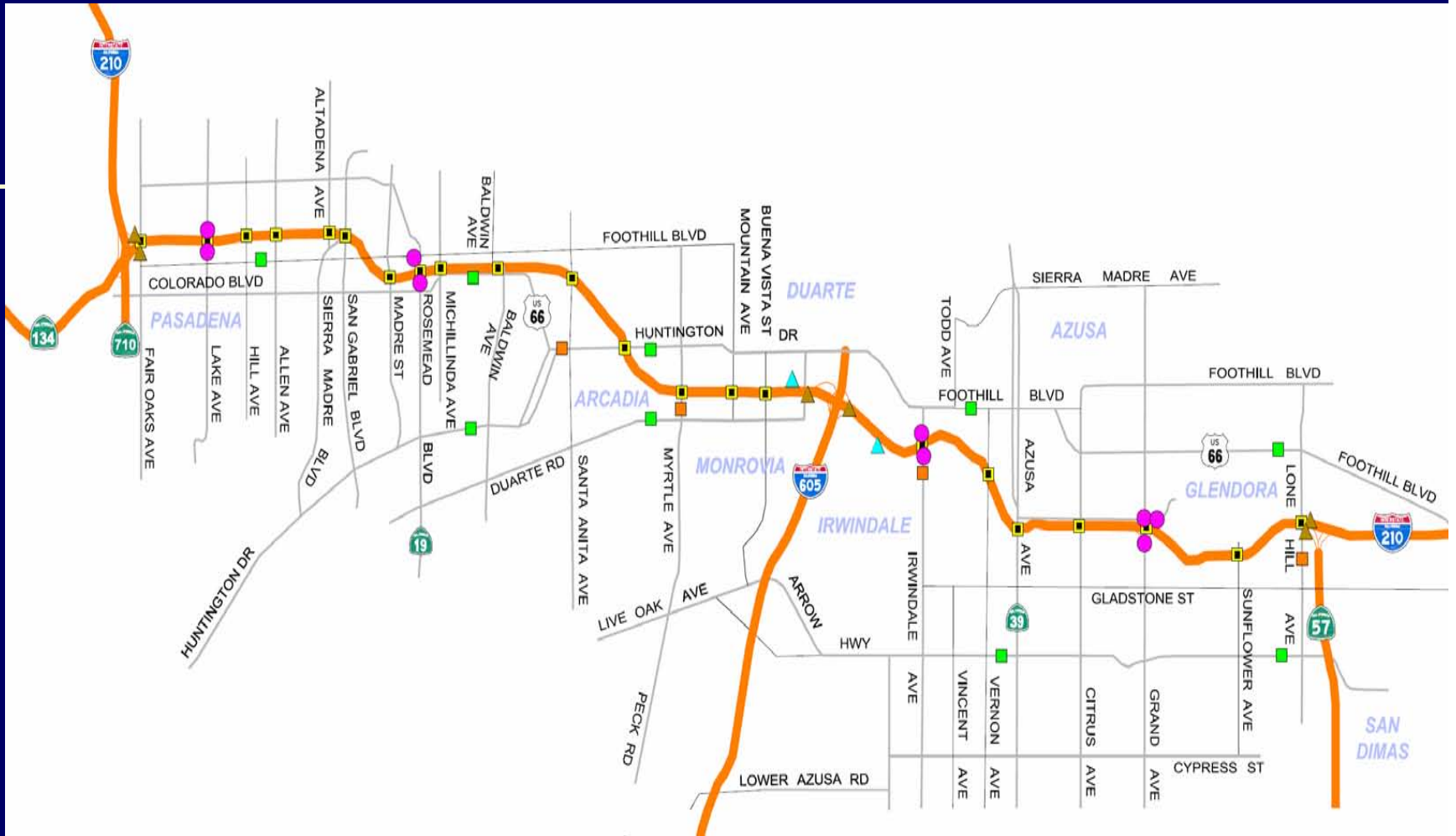
18 Years of Excellence

October 20, 2011

# I-210 Truck Origin Destination Study Corridor Limits



# Project Map



**LEGEND:**

- Arterial Interchange at I-210
- Vehicle Classification Count (1-Day)
- Vehicle Classification Count (7-Day)
- Ramp Intersection Turning Movement Count
- ▲ Freeway Mainline Video Vehicle Classification Counts
- ▲ Freeway Mainline Manual Truck Volume Counts





# 1. Project Overview

- Study Purpose and Need
- Interstate 210 Background
- Study Methodology
- Key Findings of I-210 Truck O-D Study





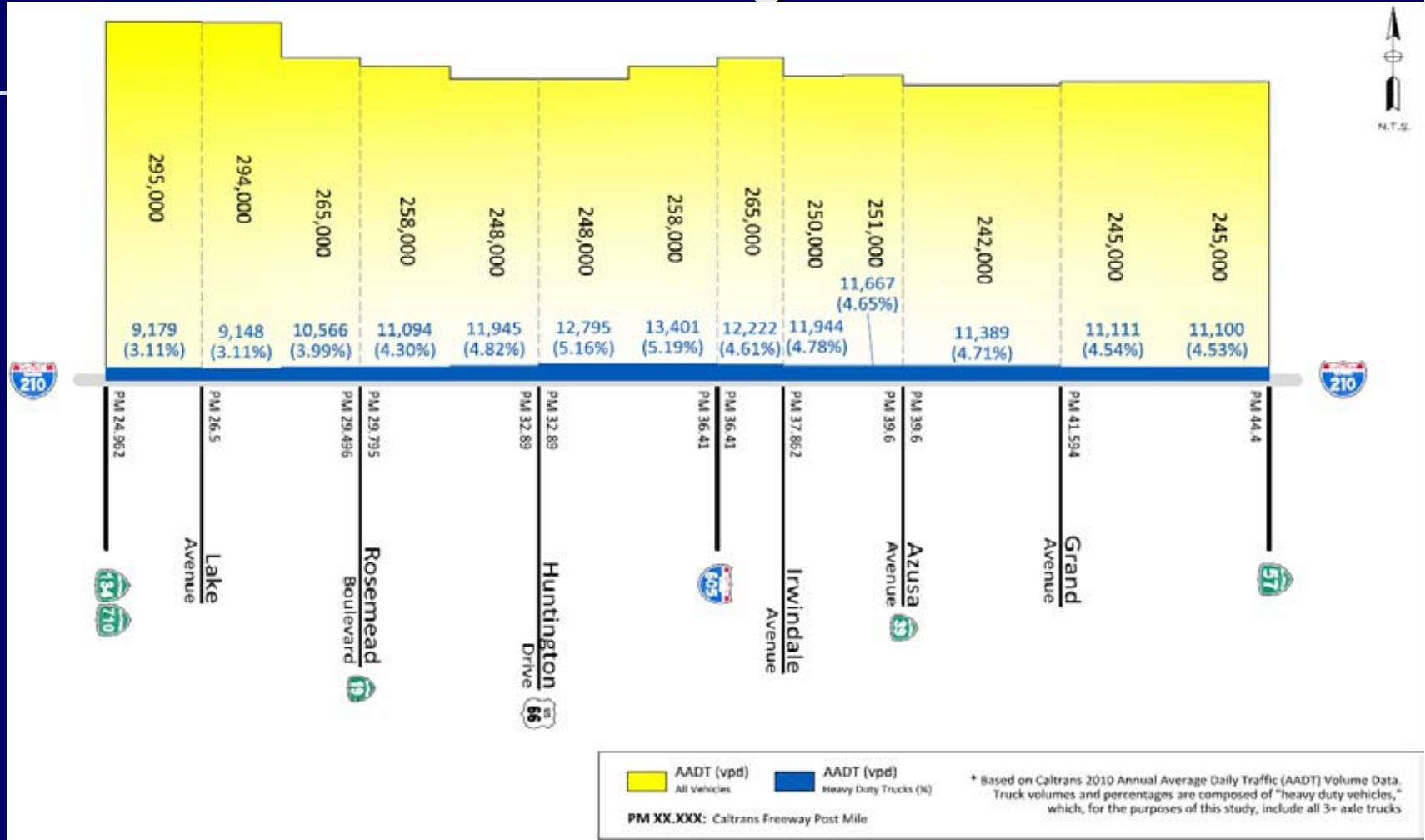
## 2. Literature Review & Existing Data Collection

- Literature Review
- Caltrans 2010 Traffic Data





# Caltrans 2010 Annual ADT Volumes & HDT Volume Percentages on I-210



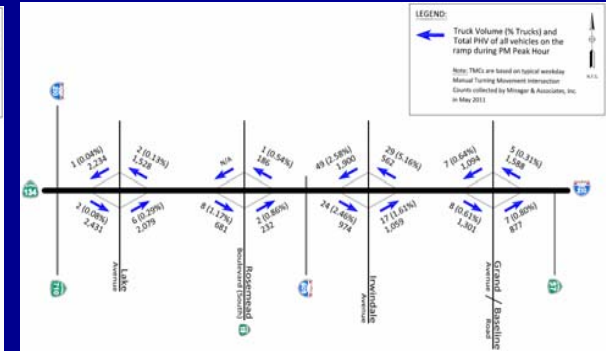
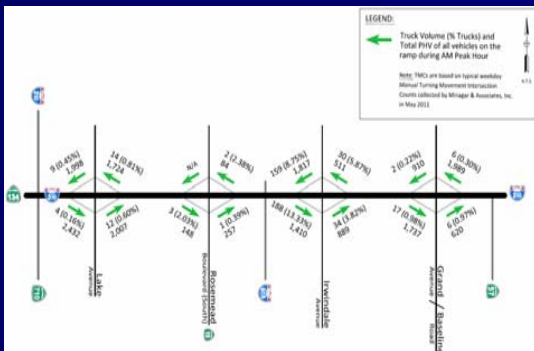
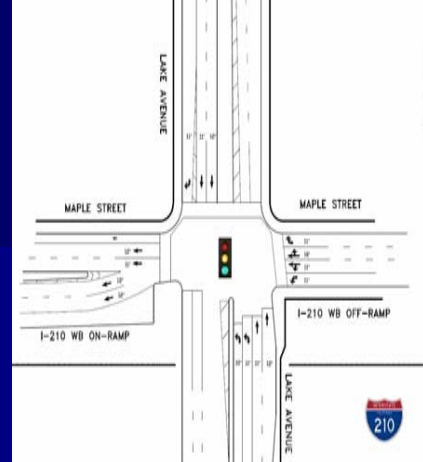
### 3. Field Data Collection



- Intersection Turning Movement Counts
- Freeway Ramp Intersection TMCs
- Freeway Interchange Truck Split Traffic Counts
- Arterial Vehicle Classification Machine Counts
- Freeway Vehicle Classification Video Counts
- Key Findings of Field Data Collection

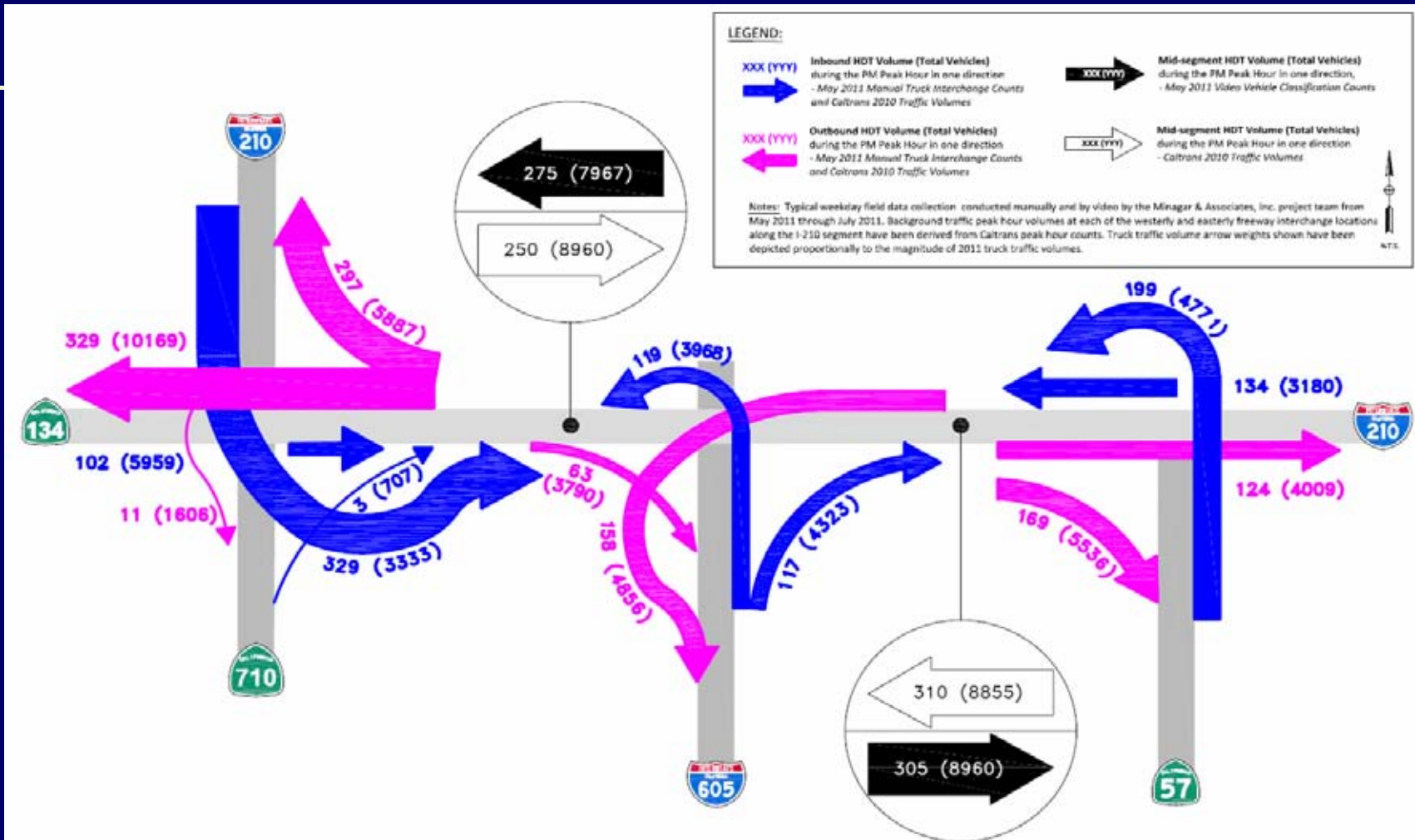


# Field Data Collection



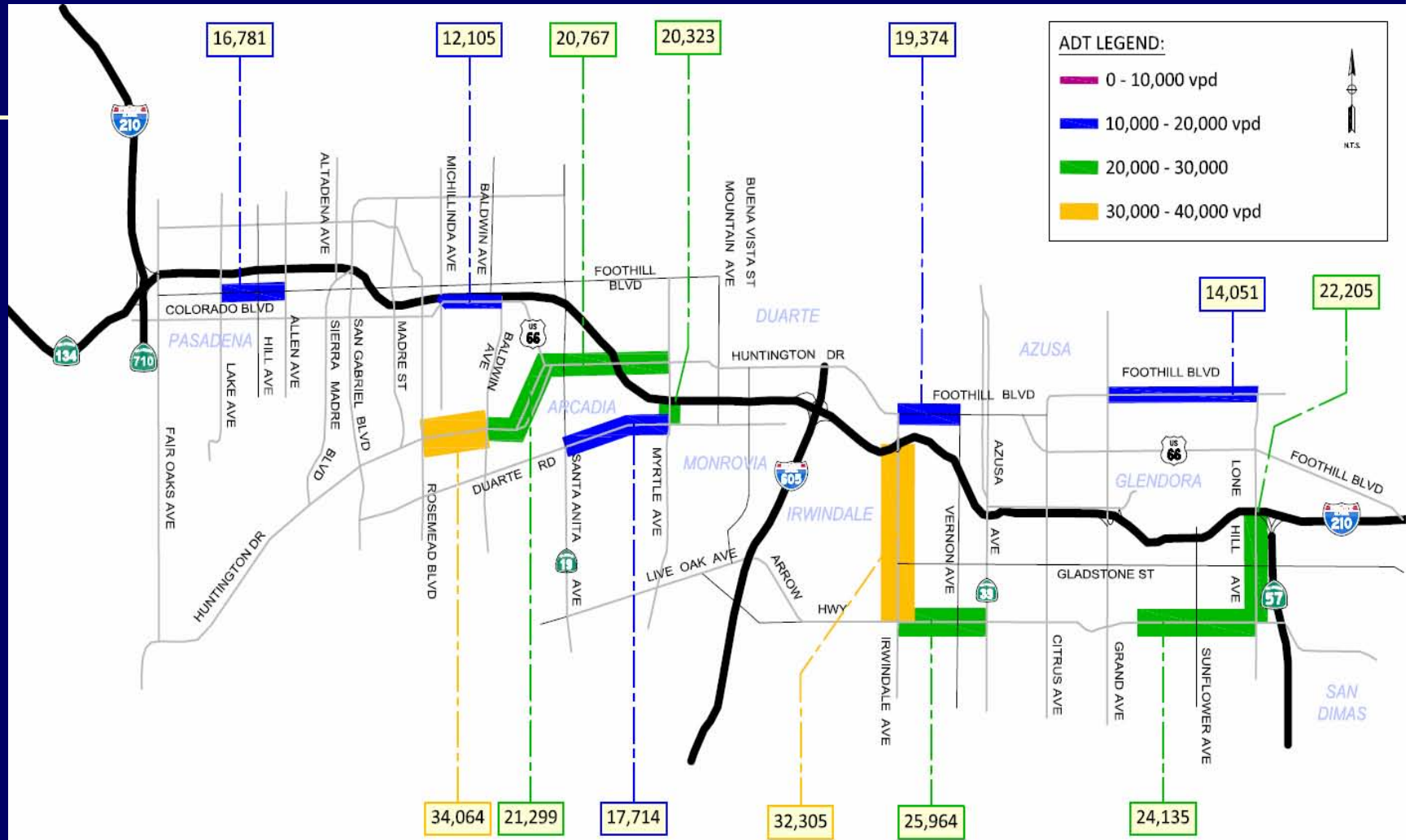


# PM Peak Inbound/Outbound Truck Volume Splits at I-210 Freeway Interchanges





# 2011 Average Daily Traffic (ADT) Volumes on Major Arterials Adjacent to I-210

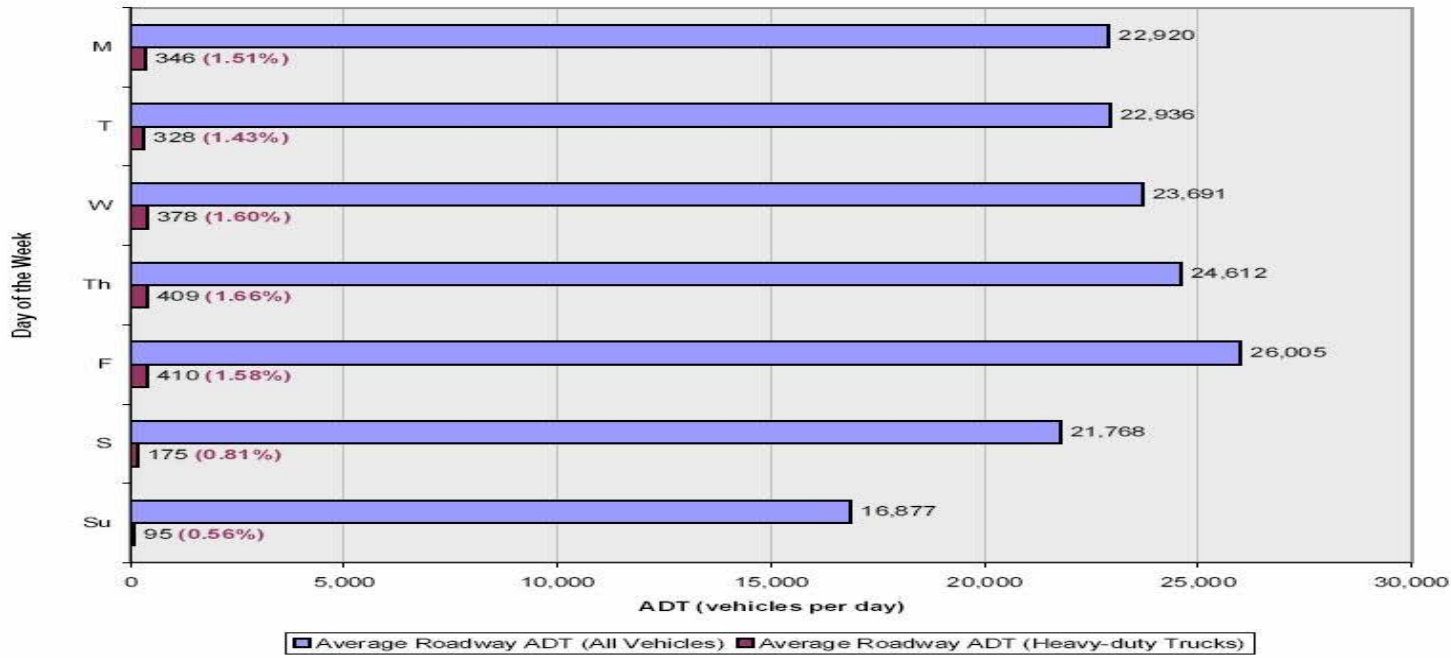




# Weekly Traffic Volume Fluctuations on Major Arterials Adjacent to I-210

No.	Location Description	ADT	Day						
			M	T	W	Th	F	S	Su
12	Huntington Drive west of Santa Anita Ave.	All	19,470	20,517	20,509	21,759	24,238	21,399	15,708
		HDT	84	76	84	113	195	64	37
13	Myrtle Avenue between I-210 EB On/Off-Ramps and Duarte Avenue	All	20,155	20,071	19,456	20,174	21,755	18,837	14,821
		HDT	568	544	621	651	683	347	206
14	Irwindale Avenue south of I-210 EB On/Off-Ramps	All	30,373	30,646	32,796	33,469	34,239	25,540	19,384
		HDT	494	464	541	594	516	105	51
15	Lone Hill Avenue between I-210 EB On/Off-Ramps and Gladstone Street	All	21,681	20,508	22,004	23,046	23,787	21,297	17,595
		HDT	239	227	266	277	246	185	86
Average Roadway ADT		All	22,920	22,936	23,691	24,612	26,005	21,768	16,877
		HDT	346	328	378	409	410	175	95
		% HDT	1.51%	1.43%	1.60%	1.66%	1.58%	0.81%	0.56%

Average Weekly Roadway ADT (7-Day) on Major Arterials Adjacent to Interstate 210



\*Based upon 7-day, 24-hour Roadway Vehicle Classification Counts collected by the project team in May 2011  
HDT = Heavy-duty vehicles (i.e. 3+ Axle, FHWA Class 6 or higher)





## 4. Surveys of Local Freight Operators, Warehouses & Distribution Centers

- Approach & List of Survey Respondents
- Type of Facility
- Type of Trucks Serviced
- Truck Trip Volumes, O-D
- Commodities
- Seasonality
- % of Truck Trips Entirely Within LA LAC
- Increasing/Decreasing Truck Use on the I-210 Fwy
- Comments on the Operating Conditions of the I-210 Fwy





# Locations of Surveyed Truck Freight Operators, Warehouses & Distribution Centers





## 5. Truck Driver Intercept Interviews

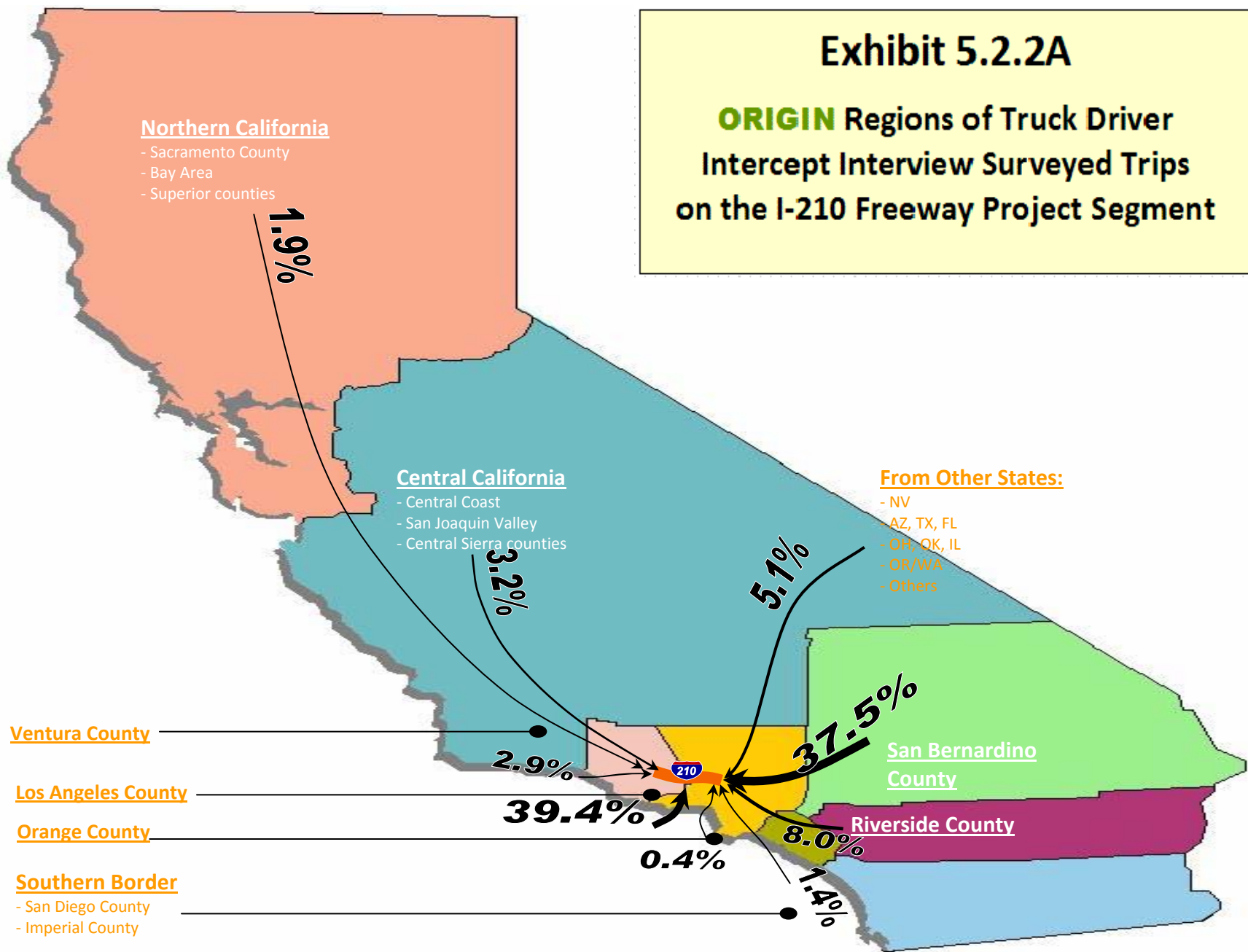
- Approach and Methodology
- Survey Findings
- Vehicle Type
- Truck Origin Location
- Truck Destination Location
- Truck Route Choice & Truck Flow Patterns
- Frequency of Chosen Route
- Reasons for Route Selection
- Commodity, Gross Vehicle Weight & Additional Comments





# Exhibit 5.2.2A

## ORIGIN Regions of Truck Driver Intercept Interview Surveyed Trips on the I-210 Freeway Project Segment



### Northern California

- Sacramento County
- Bay Area
- Superior counties

### Central California

- Central Coast
- San Joaquin Valley
- Central Sierra counties

### From Other States:

- NV
- AZ, TX, FL
- OH, OK, IL
- OR/WA
- Others

Ventura County

Los Angeles County

Orange County

Southern Border

- San Diego County
- Imperial County

San Bernardino County

Riverside County

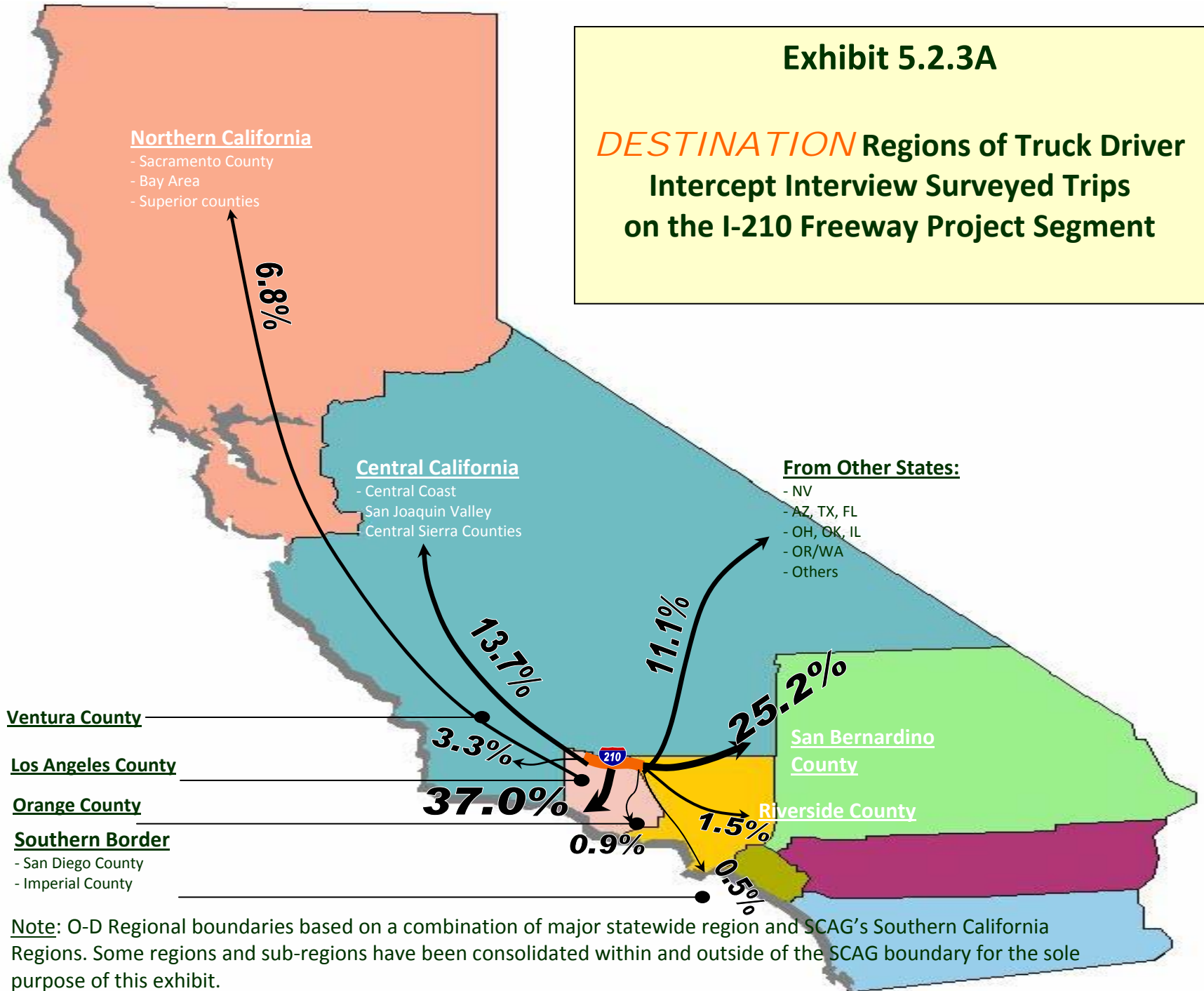


Note: O-D Regional boundaries based on a combination of major statewide region and SCAG's Southern California Regions. Some regions and sub-regions have been consolidated within and outside of the SCAG boundary for the sole purpose of this exhibit.



# Exhibit 5.2.3A

## DESTINATION Regions of Truck Driver Intercept Interview Surveyed Trips on the I-210 Freeway Project Segment



### Northern California

- Sacramento County
- Bay Area
- Superior counties

### Central California

- Central Coast
- San Joaquin Valley
- Central Sierra Counties

### From Other States:

- NV
- AZ, TX, FL
- OH, OK, IL
- OR/WA
- Others

Ventura County

Los Angeles County

Orange County

Southern Border

- San Diego County
- Imperial County

San Bernardino County

Riverside County

Note: O-D Regional boundaries based on a combination of major statewide region and SCAG's Southern California Regions. Some regions and sub-regions have been consolidated within and outside of the SCAG boundary for the sole purpose of this exhibit.





## 6. Data Management and Analysis



- Data Management Process
- Data Quality Control/Quality Assurance
- Data Expansion/Validation





## Annual Average Daily Traffic (AADT) on the I-210 Fwy Study Segment\*

All Vehicles:		258,769 vehicles per day	
■	Passenger Vehicles <sup>2</sup>	242,101	93.56% of all vehicles
■	Trucks <sup>3</sup>	16,668	6.44% of all vehicles
	- HDTs <sup>4</sup>	<b>9,330</b>	3.61% of all vehicles
			55.98% of trucks
	- Other Trucks <sup>5</sup>	7,338	2.84% of all vehicles
			44.02% of trucks

<sup>1</sup> Average ADT traversing the I-210 Freeway BW the SR-134 (Pasadena) & SR-57 (San Dimas) Fwy Interchanges in LA County

<sup>2</sup> Cars, motorcycles, & small vans and pickup trucks

<sup>3</sup> Commercial motor vehicles (CMV) with a minimum weight of 1 & 1/2 tons or more, & min. combination of 6 tires & 2 axles

<sup>4</sup> Heavy Duty Trucks. Typically, large trucks meeting or exceeding a min. weight/configuration combination of 13 tons (26,000 lbs) & 3 axles, with the primary purpose of hauling a specific commodity(ies) between origin & destination points.

<sup>5</sup> CMVs having a lighter weight &/or with lesser axle-tire combinations than HDTs. Typically consists of two-axle service & delivery trucks & RVs

*"We find that the I-210 Truck Origin and Destination Study has exceeded the project's data extraction needs, such that we may confidently estimate the behavior of heavy-duty truck traffic on the I-210 Freeway study segment by the above survey results with a confidence level of 95% and a potential margin for error of ±5."*

