

Warehouse Truck Study Informational Session

South Coast Air Quality Management District

January 25, 2012

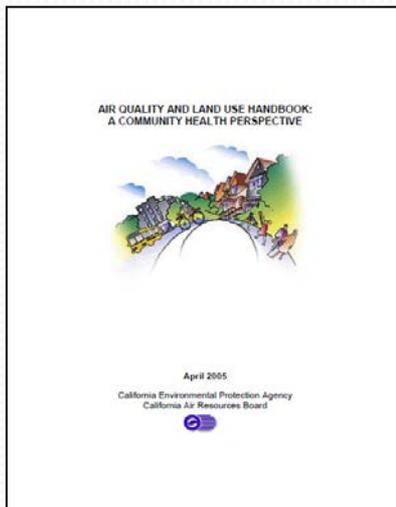
Purpose of Warehouse Truck Trip Study

- Warehouses and distribution centers attract a number of heavy duty diesel trucks on a daily basis
- Estimated trip rate is used in CEQA analysis to determine potential transportation and air quality impacts for new warehouses
- Warehouse projects may not have a tenant at time of CEQA approval, therefore CEQA requires a reasonable worst case analysis
- Study will provide additional data to determine appropriate trip rate



Need for Study – Air Quality Impacts

- Most heavy duty trucks are diesel
- Exposure to Diesel Particulate Matter (DPM) can cause adverse health effects
 - DPM designated as a carcinogen by state
 - DPM also causes non-carcinogenic health impacts

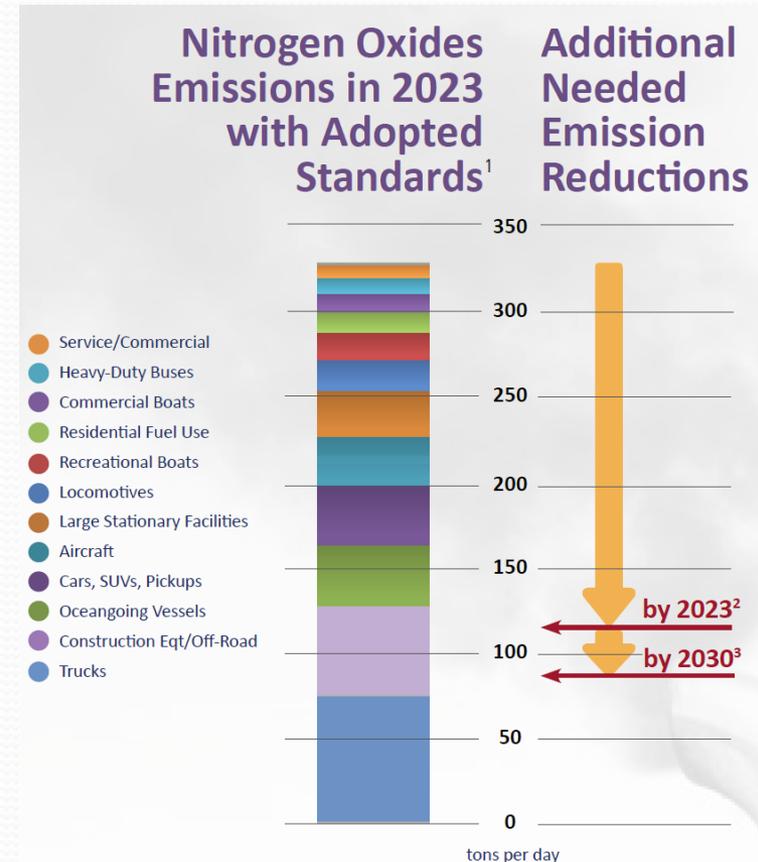
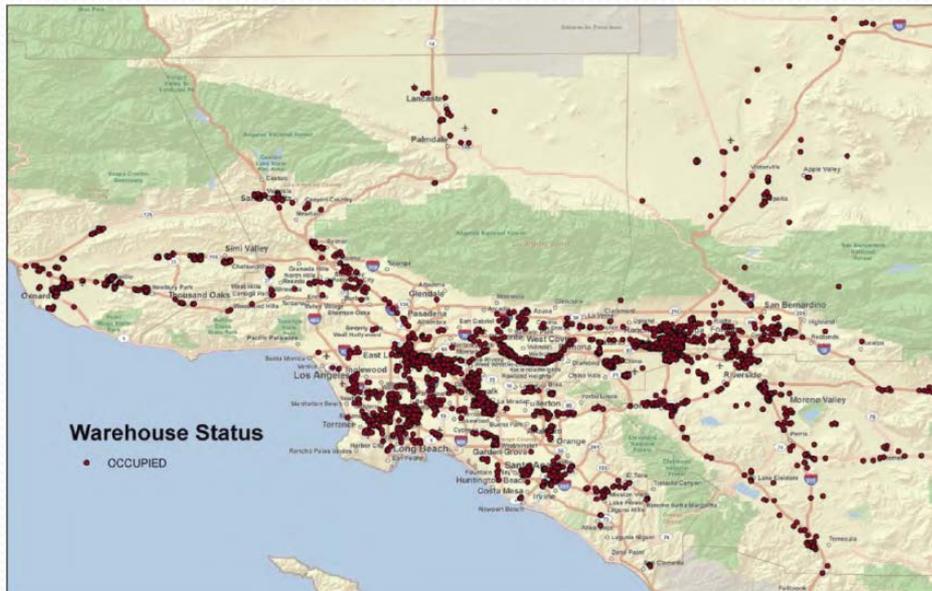


- ***Local Impacts***
 - Some warehouse / distribution centers are located in or near residential neighborhoods
 - CARB Land Use Guidance

Need for Study - Air Quality Impacts

- **Regional Impacts**

- Trucks emit Nitrogen Oxides (NOx)
- NOx reacts in atmosphere to form ozone and PM_{2.5}
- Basin in non-attainment for both

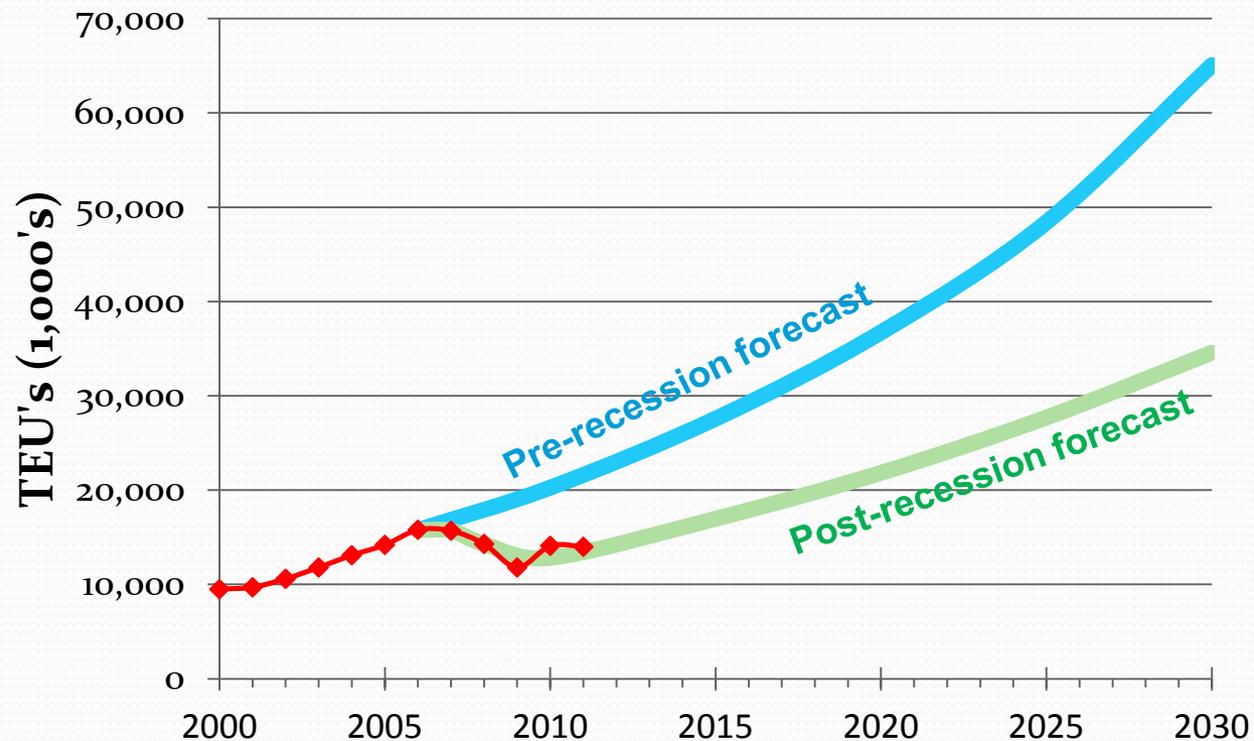
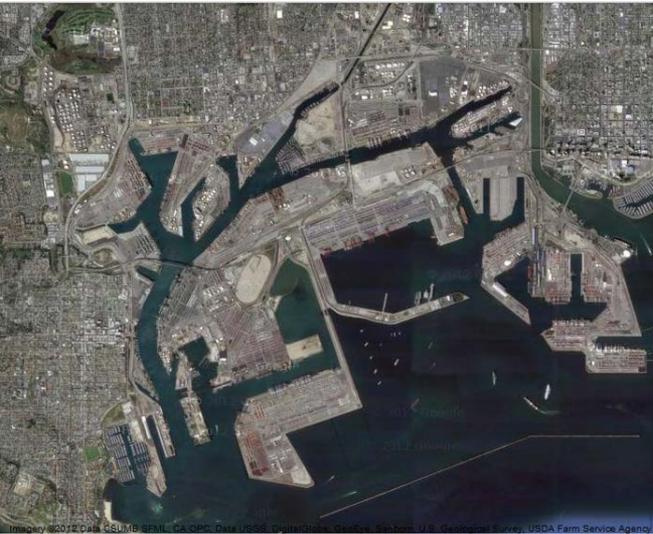


Need for Study – CEQA Analysis

- AQMD staff recommends new warehouse projects evaluate potential air quality impacts for:
 - Criteria Pollutants
 - Regional impacts (entire truck trip length)
 - Localized impacts (truck travel onsite and to closest freeway)
 - Health Risks
 - Diesel exhaust
- AQMD has adopted *daily* regional and local thresholds recommended for use by other lead agencies
 - Staff recommends an analysis that captures potential unless project will place limits on project to what was analyzed in EIR

Need for Study – Container Growth

- Port container traffic is predicted to grow nearly 3-fold in the next 20 years.

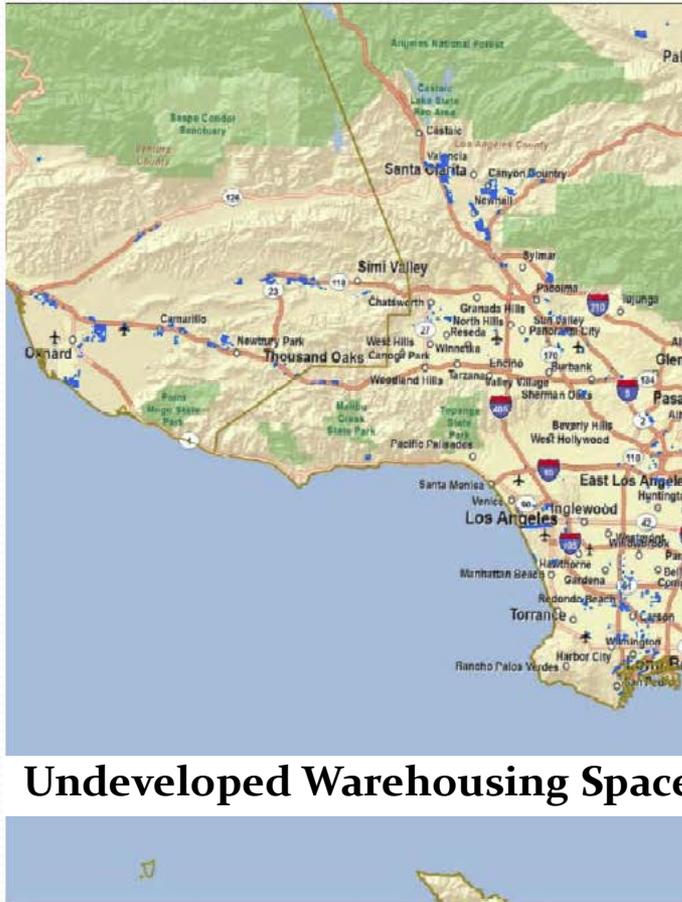


<http://www.portoflosangeles.org/maritime/stats.asp>

<http://www.polb.com/economics/stats/default.asp>

http://www.portoflosangeles.org/pdf/SPB_Container_Forecast_Update_2009.pdf

Need for Study - Warehouse Growth

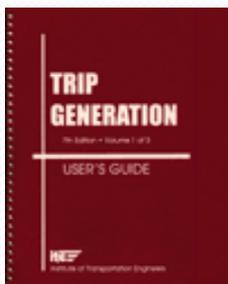


Undeveloped Warehousing Space

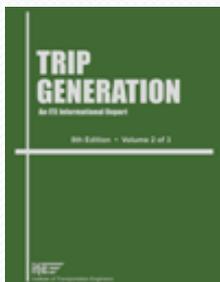
Year	Warehouse Space (MSF)
2009	838
2035	1,250
New growth in next 25 years	412

Background – Warehouse Trip Rates

- Numerous studies on warehouse trip rates in past decade



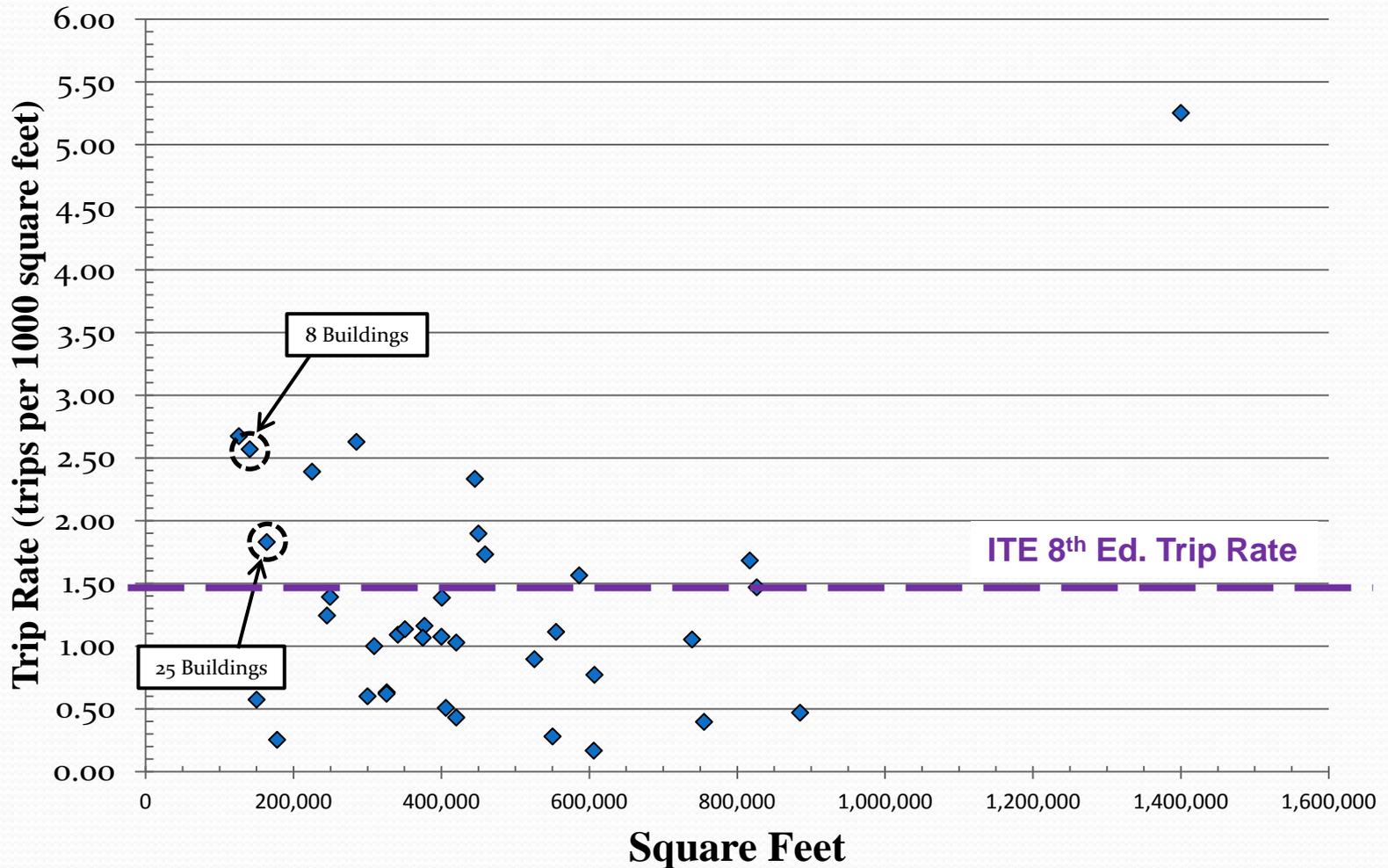
Study	Average Trip Rate (trips/TSF)
ITE 7th Edition¹	4.96
Fontana	1.97
NAIOP San Bernardino/Riverside	1.1
NAIOP Western Riverside	1.11
Westside Industrial Park #1	1.83
Westside Industrial Park #2	2.57
Fresno	0.66
Visalia	1.26
ITE 8th Edition²	1.44



1 All Warehouses

2 High Cube Warehouses only

Background – Trip Rate Data



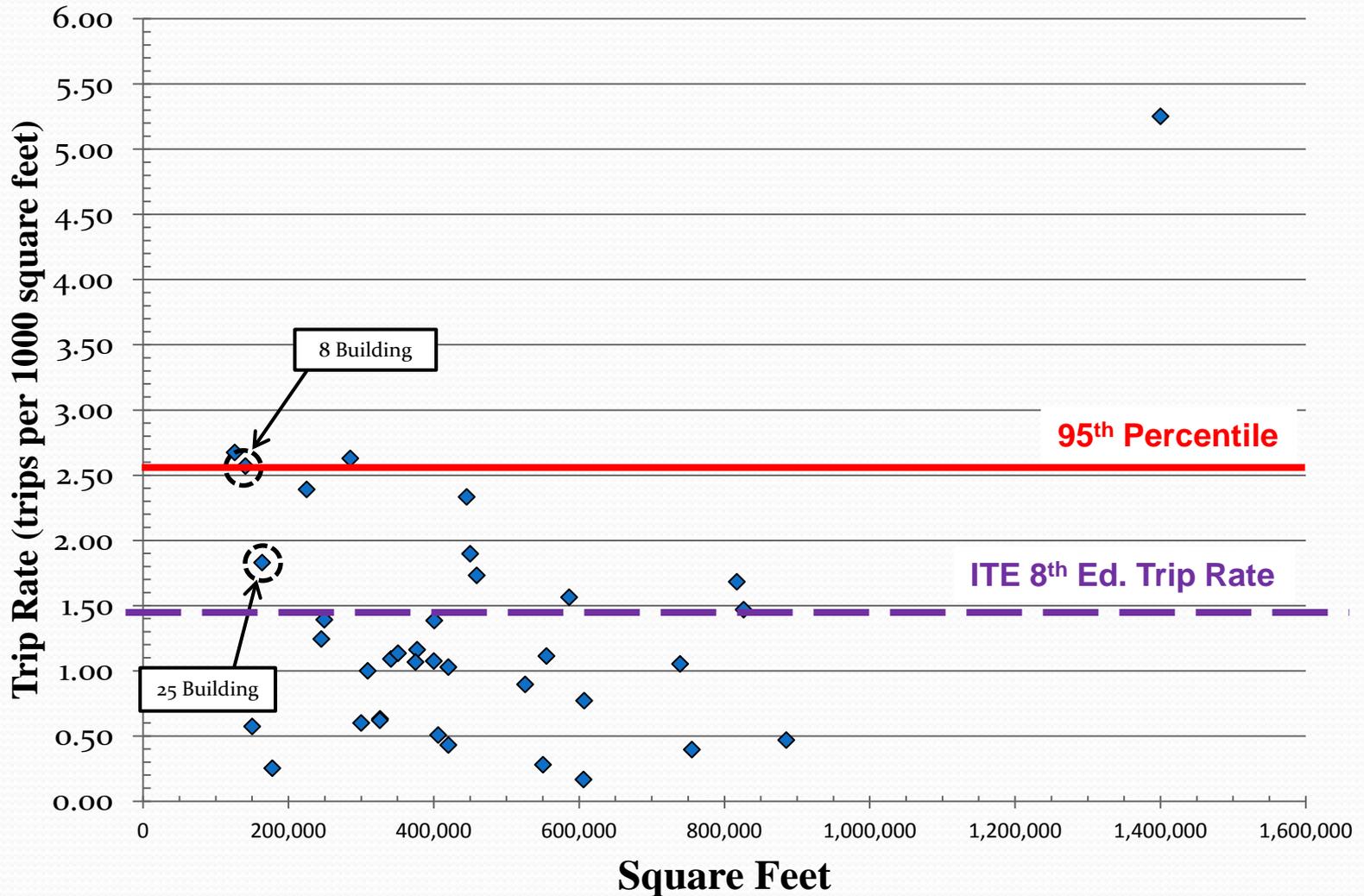
Background - Trip Rate Data

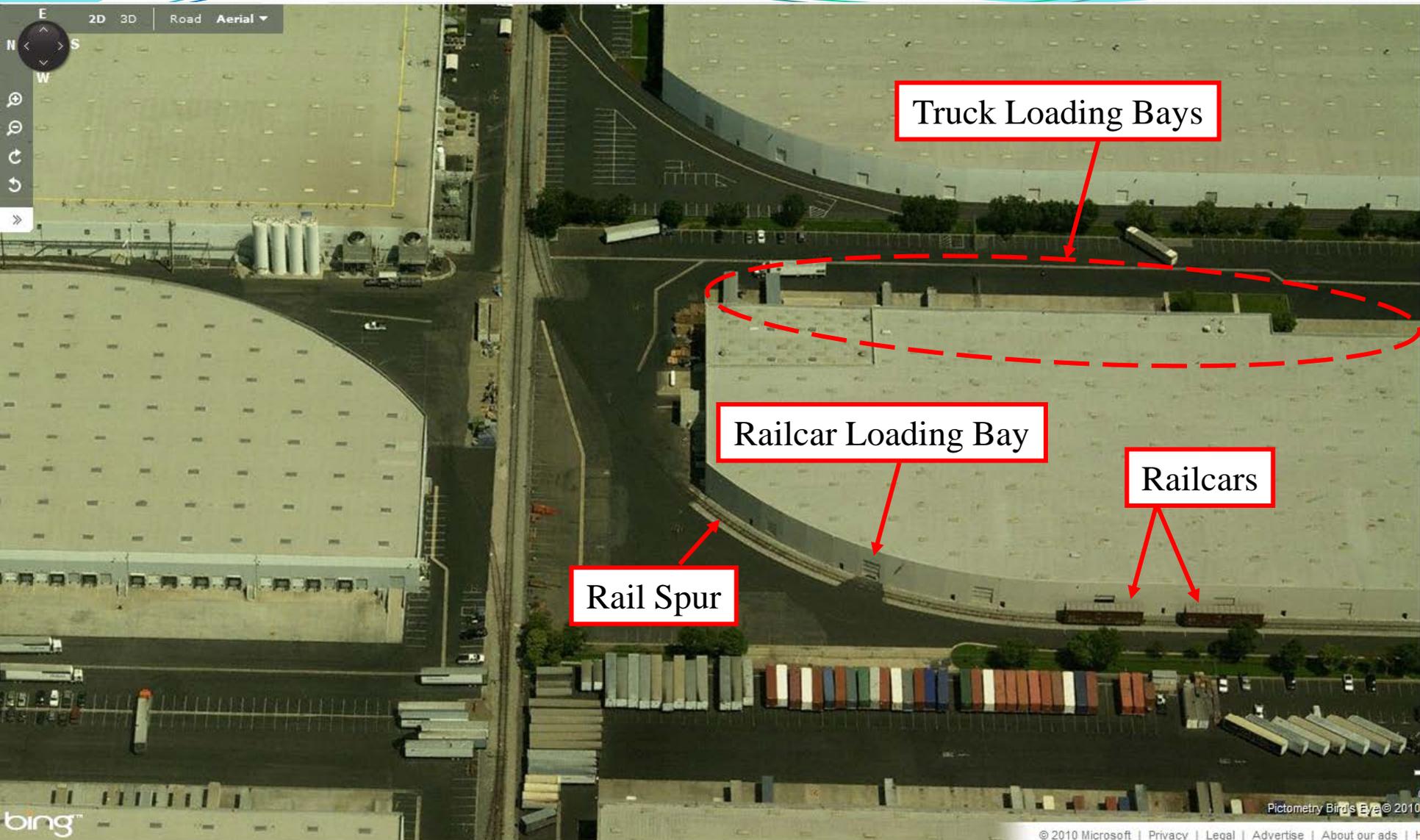
- Trip rate varies widely
- Cause of variation unclear
 - Data collection season
 - Type of warehouse
 - Size of warehouse
 - Number of docks
 - Duration of data collection studies
 - Potential vacancy of warehouses
 - Availability of rail access
 - Other

Interim AQMD Staff Recommendation for CEQA Air Quality Analysis

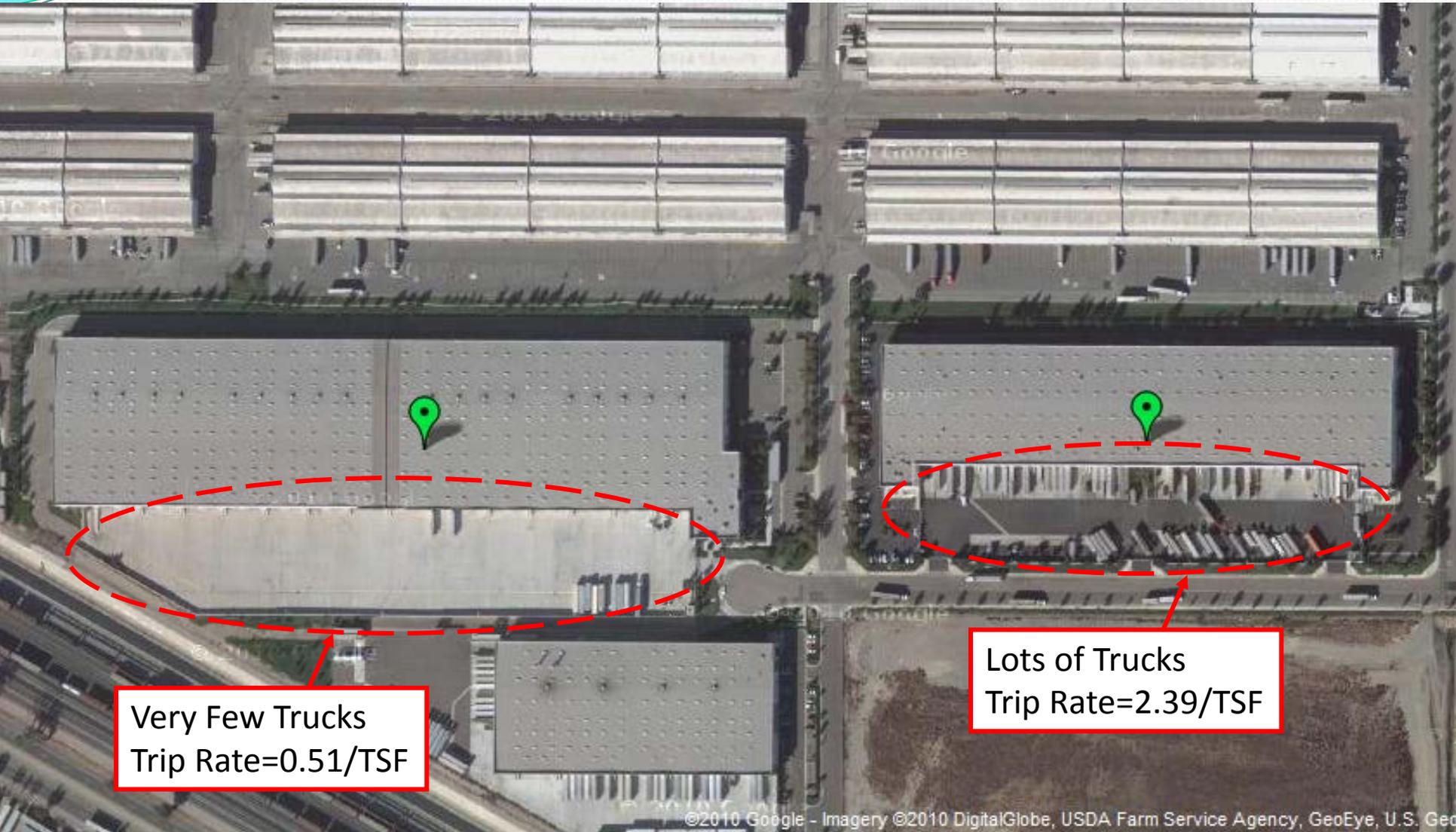
- Based on available data, AQMD staff currently recommends the 95th percentile rate for individual warehouse projects if tenant activity data is unknown
 - 95th percentile provides reasonable worst case assumption sufficient for CEQA analysis
- For general plans or other projects with >10 warehouses, AQMD staff currently recommends the ITE average rate
 - Projects with many warehouses likely to have diversity of warehouse types more similar to ITE average as a whole

Warehouse Trip Rates Data



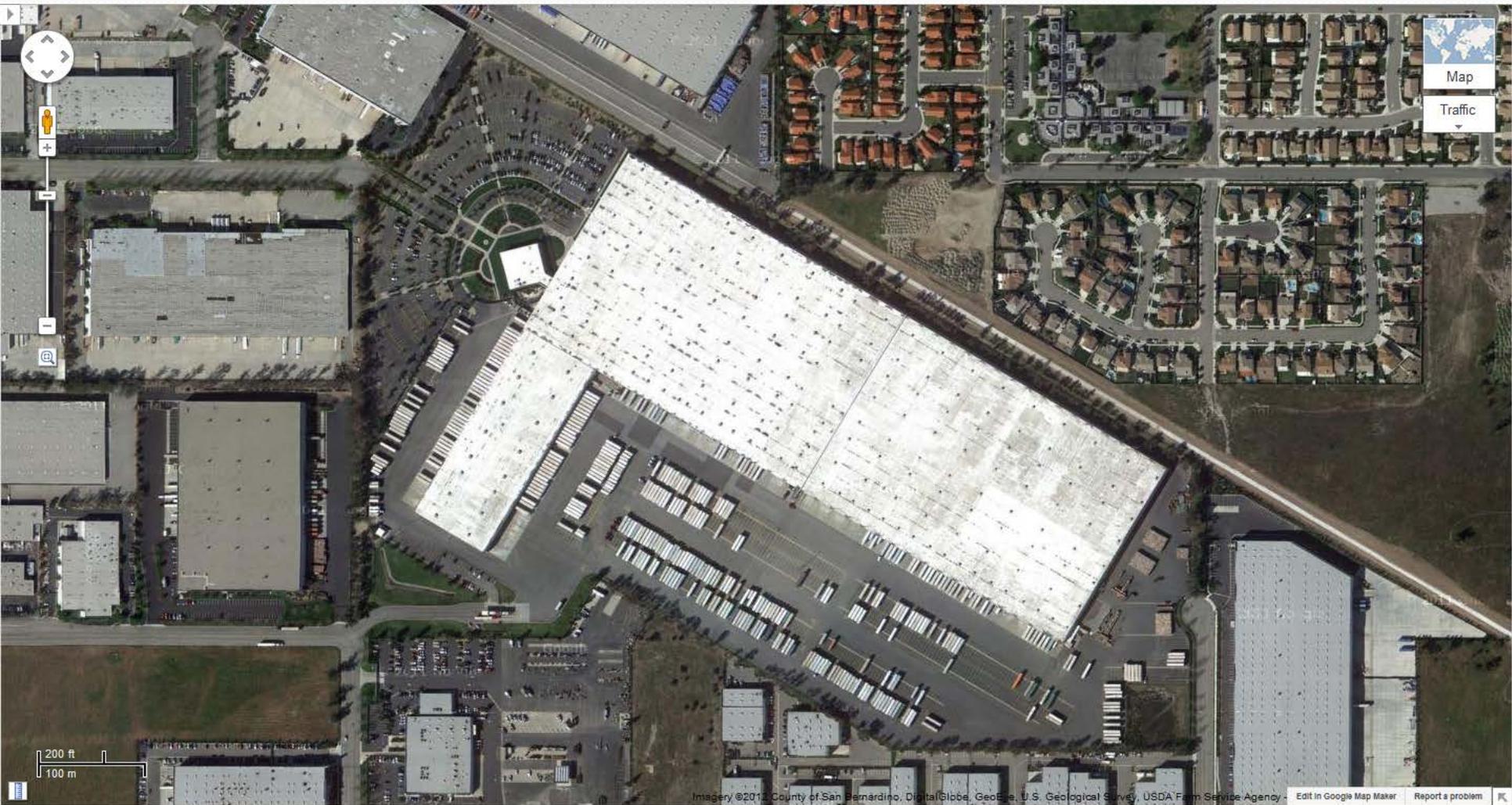


Oblique aerial photograph showing an example of a facility evaluated in the NAIOP San Bernardino County Truck Study. The truck trip rate for this facility was 1.13/TSF



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Aerial photograph showing an example of two facilities evaluated in the NAIOP Riverside County Truck Study.



Aerial photograph showing a 1.4 million square foot warehouse in Fontana.
The trip rate is 5.25/TSF

Data Gaps in Warehouse Trip Rates

- Cause of variability in trips rates
- Largest warehouses (>1M sq. ft.) not well represented
- Specifics of warehouse operations often missing
- Small sample size (68 buildings total)

AQMD Warehouse Trip Study Design

- Methodology
 - Contractor will review existing trip generation studies
 - Contractor will count trucks using strips/tubes for approximately 100 location-days
 - Currently scoping sites throughout AQMD
 - Contractor will also conduct business surveys to determine nature and activity level of warehouse operations with truck counts
 - Business survey and truck counts will be compiled to yield AQMD-specific warehouse trip rate
 - More than one rate possible depending on data

AQMD Warehouse Trip Study Design

- Focus of study will be to collect data from diverse array of warehouse types
 - Warehouse size
 - Warehouse type
 - Warehouse location
 - Warehouse operator
 - Etc.
- Study will include recommendations for future work