

# Warehouse Indirect Source Rule



South Coast  
AQMD

Working Group Meeting  
March 22, 2019

FBMSM

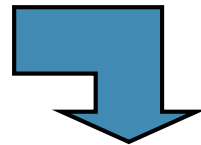
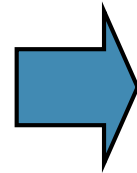
# Agenda

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1. Welcome and Introductions
2. Review - Menu of Potential Rule Options and Key Constraints
3. Deeper Dive on Some Potential Regulatory Concepts - Facility Caps and Fleet Crediting Program
4. Other Potential Rule Components - Compliance Options, Applicability, and Reporting
5. Open Discussion
6. Next Steps and Wrap-Up

# Menu of Potential Compliance Options for a Warehouse ISR

- Staff exploring potential Indirect Source Rule options
- Structure of proposed rule
- Stringency of proposed rule



Board-directed economic impact study recently initiated

Research into potential air quality benefits underway

## Menu of Potential ISR Compliance Options

### Facility Caps

- XX% below baseline emissions (*SJVAPCD approach*)
- <XX pounds of emissions per day per facility
- <XX pounds of emissions per goods throughput unit or sq. ft.

### SOON Program Approach

- Indirect sources must apply for incentive funds and use them if available (e.g., warehouse operators that own fleets must apply for funding to replace trucks and use it if awarded)

### Local Govt. Measure

- Local govt. programs/ordinances can be put directly into SIP (e.g., ordinance requiring new warehouses install alt. fueling infrastructure)
- Similar approach available in Rule 2202

### Fleet Crediting Program

- Clean fleets generate credits managed through a bank and ISR facilities must obtain and retire credit
- Potential for localized overlay

### Voluntary Fleet Certification Program

- Fleet owners may certify that fleets are cleaner than required by CARB regulation
- Facility owners required to use XX level of certified fleets

### Onsite Best Management Practices

- Utilize ZE/NZE equipment onsite
- ZE/NZE fueling/charging infrastructure
- Solar/energy storage

### Mitigation Fee

- Pay a mitigation fee if other compliance options not chosen
- Collected funds are used to incentivize ZE/NZE equipment

# Key Constraints

*"We want a strong ISR,  
with zero emissions"*



**Truck Emissions  
Must Be Reduced**

*"Warehouses commonly  
don't control trucks."*



**Air District Does Not Have  
Authority To Directly  
Regulate Private Trucks**



\*Bloomington Example

# Warehouse Operation Can Be Highly Segmented

*Beneficial Cargo Owner (BCO) exerts direct control over goods flow*  
*Warehouse operator may have control only within the fenceline\**



\*Slide demonstrates one example of a warehouse and BCO's relationship with trucks.

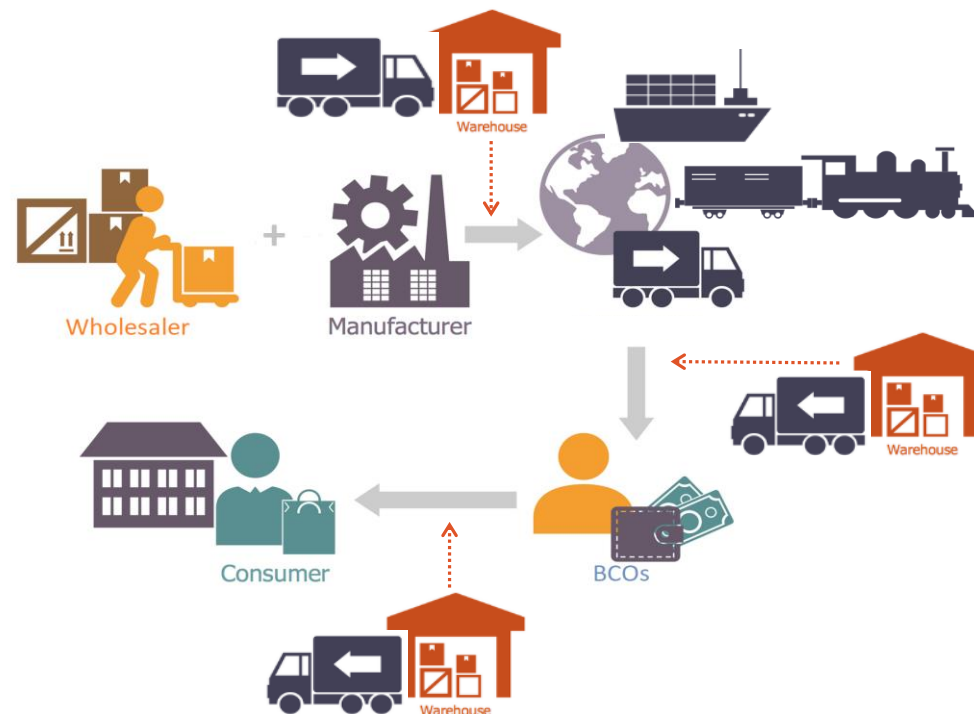
# Not All Warehouses Are Alike

## Classifications in ITE and SCAG Studies:

- General Purpose Warehouse/Storage<sup>1,2</sup>
- General Purpose Distribution Center<sup>2</sup>
- Retail Fulfillment Center<sup>1,2</sup>
- Transload Facility<sup>1,2</sup>
- Crossdock Transload Facility<sup>2</sup>
- Truck Terminal for Less-Than-Truckload Trucks<sup>2</sup>
- Short-Term Storage<sup>1</sup>
- Cold Storage<sup>1</sup>
- Parcel Hub<sup>1</sup>

## Others:

- Deconsolidation/Consolidation Center
- Import Facility
- Industry-specific category, e.g., grocery DC



Warehouse Economic Study Will Identify Appropriate Classifications for Study Purposes

<sup>1</sup> Listed in the 2016 ITE study on high-cube warehouse vehicle trip generation; <sup>2</sup> Listed in the 2018 SCAG study on industrial warehouses

# Warehouse Inventory In SCAQMD

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## **Data source: CoStar real estate subscription database**

- Used in SCAG's 2018 Industrial Warehouse Study (2014 data)

## **Preliminary charts of 2019 CoStar data for SCAQMD** *(next slides)*

- Count and rentable buildable area (RBA) of existing properties
- Range of estimates based on SCAG classification (lower bound) and a larger universe including flex use and light distribution (upper bound)
- 4-county breakdown for large properties (100,000+ sqft)
- Information to be refined and used in warehouse economic study

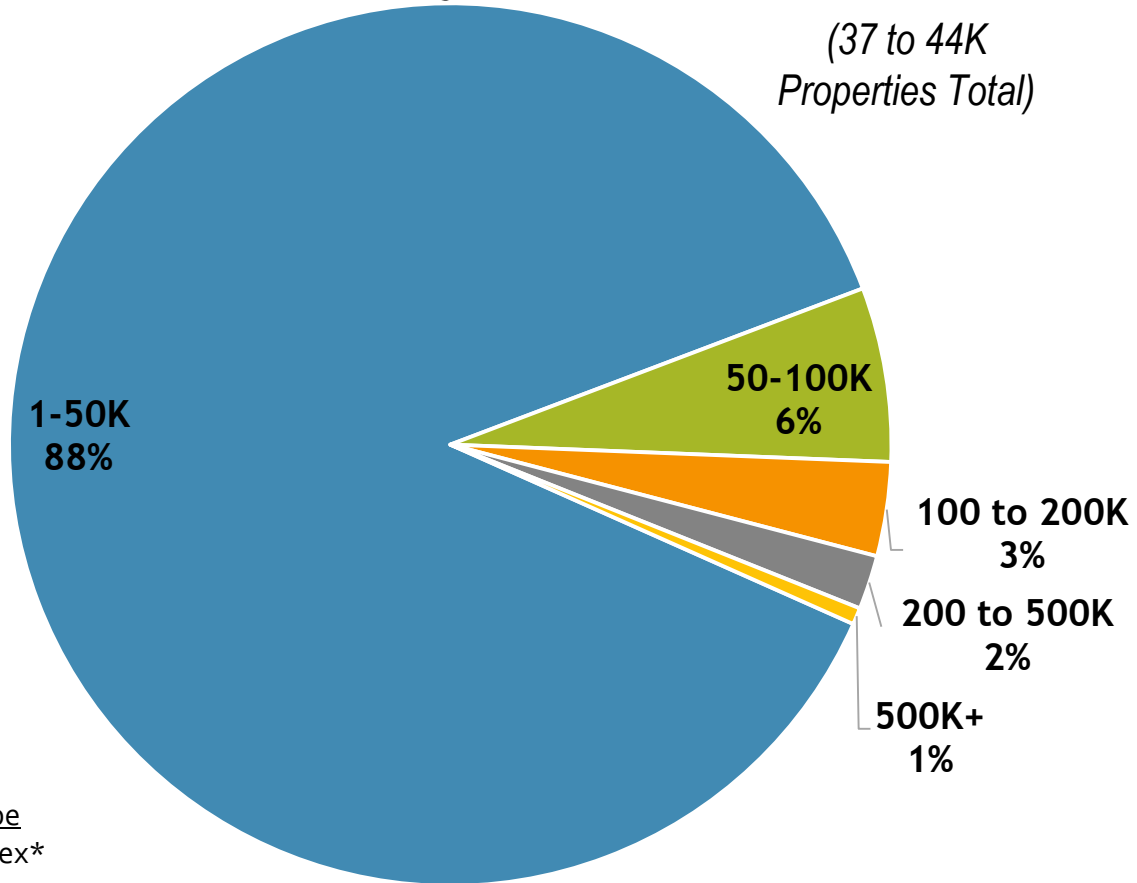


# Existing SCAQMD Warehouses

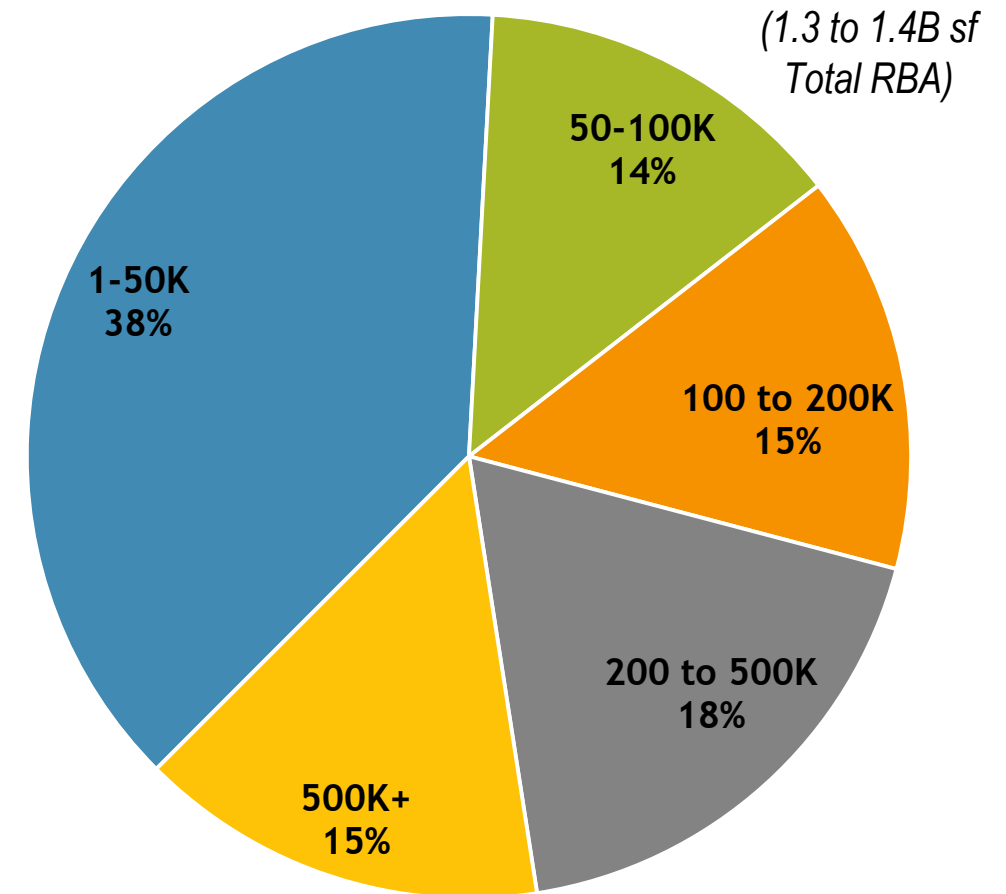
## Number of Properties and Total Rentable Buildable Area

Source: CoStar 2019

### Property Count



### Rentable Buildable Area



Filters:

Property Type

Industrial, Flex\*

Secondary Type

Distribution, Light Distribution\*, Refrigeration/Cold Storage, Truck Terminal, Warehouse

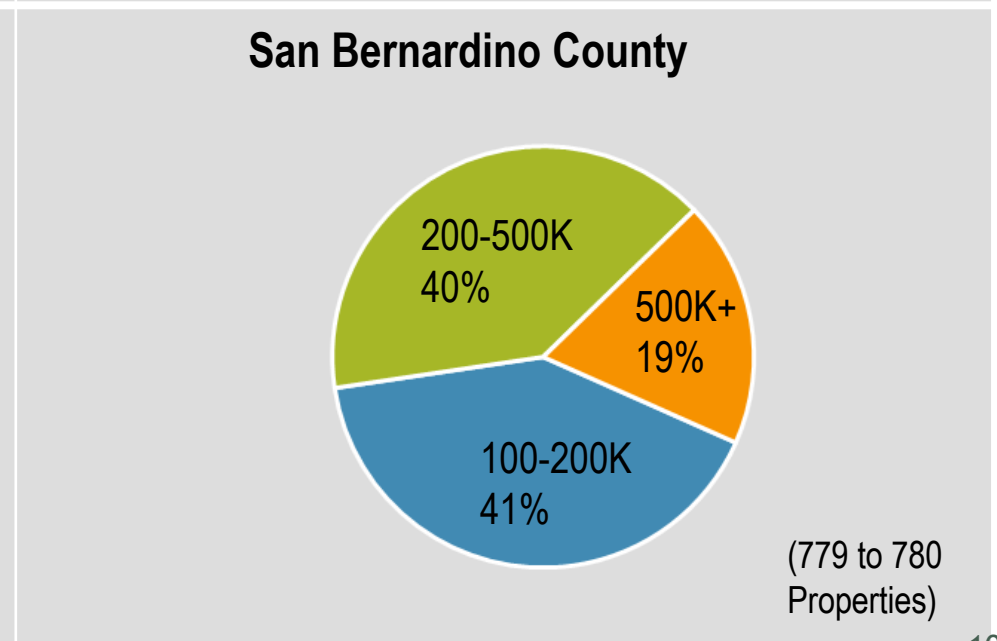
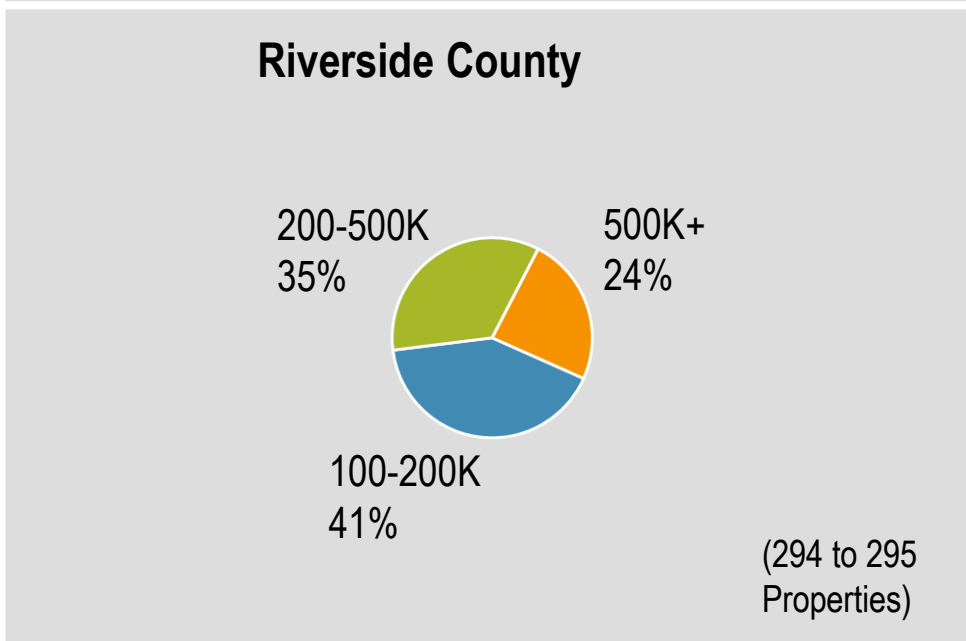
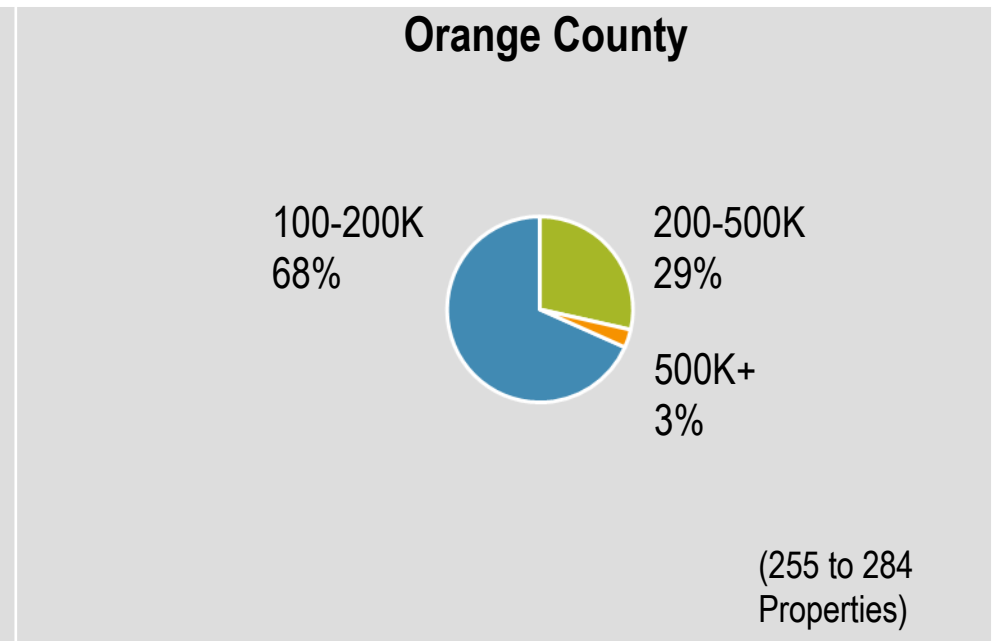
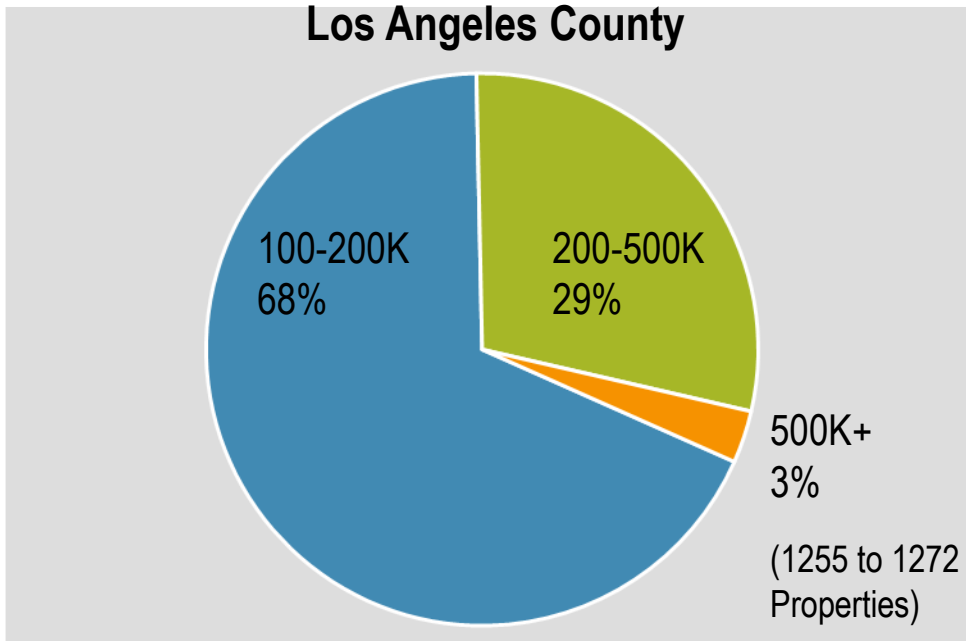
(\* Included in high-end value)

# Existing SCAQMD Warehouses over 100K Square Feet

## Number of Properties by Size

Source: CoStar 2019

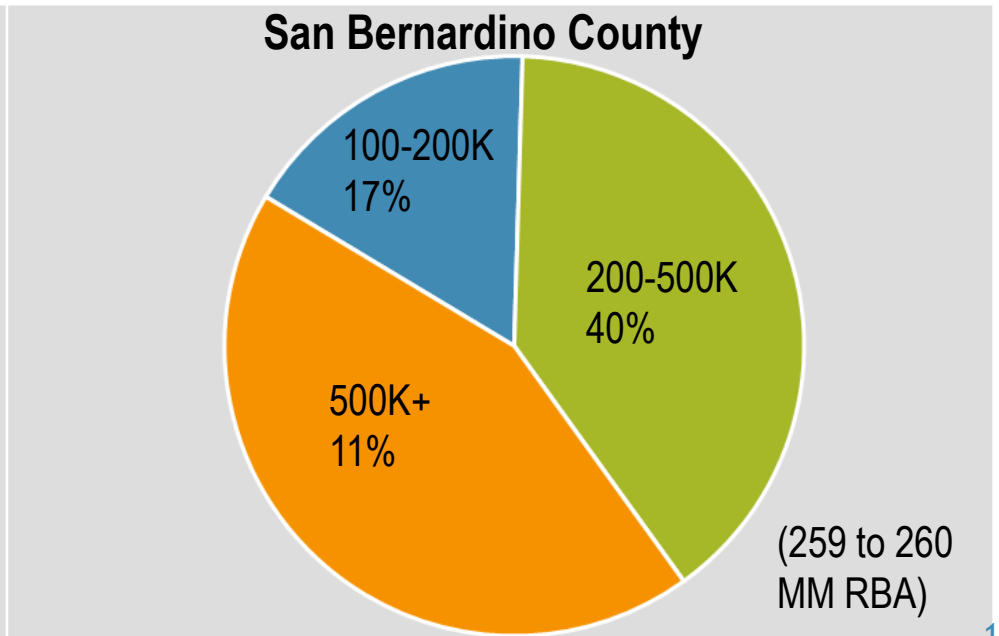
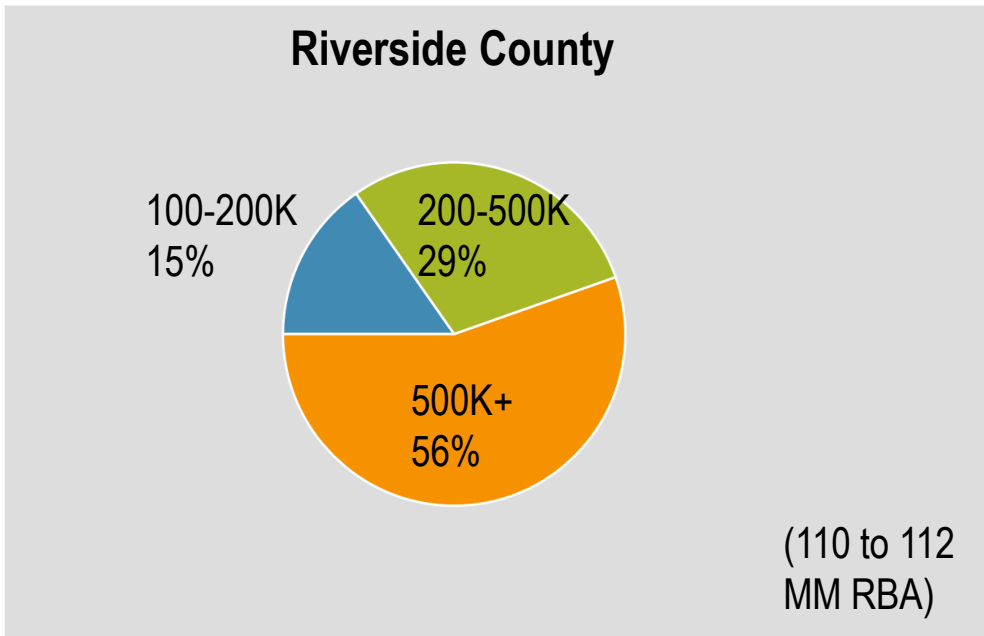
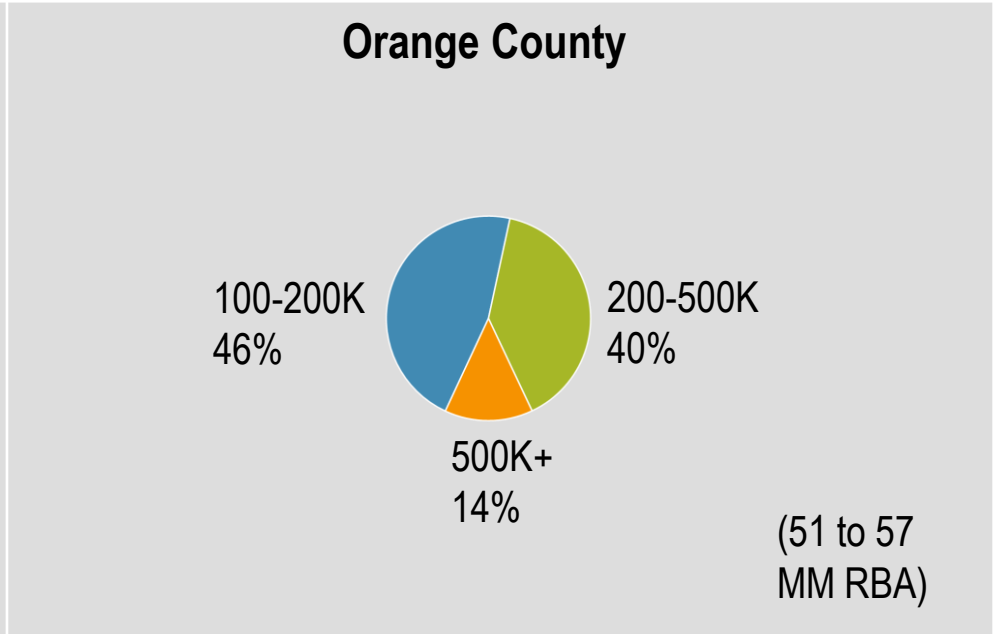
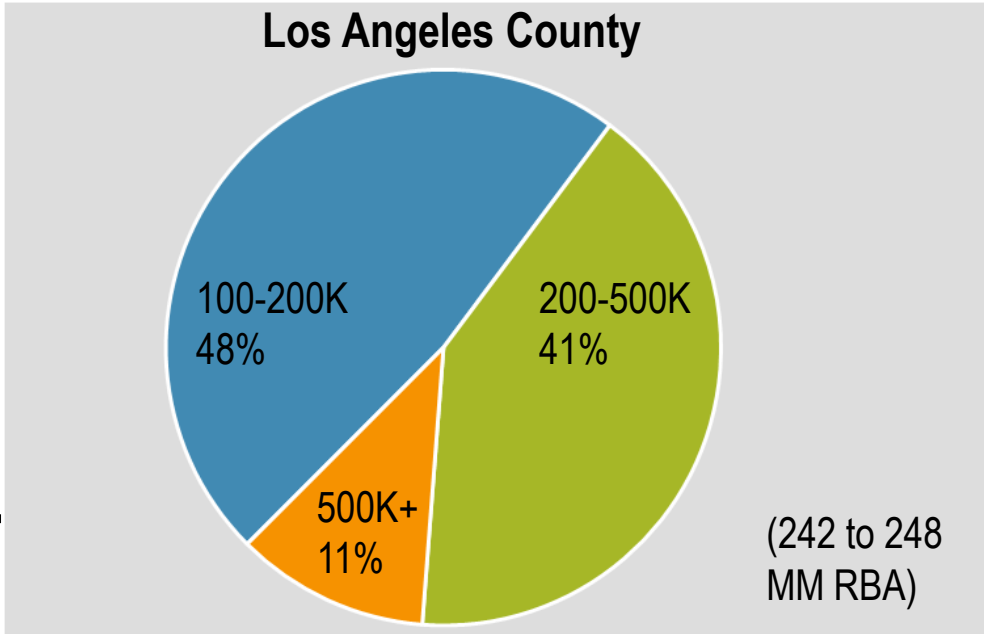
Filters:  
Property Type  
 Industrial, Flex\*  
Secondary Type  
 Distribution, Light Distribution\*,  
 Refrigeration/Cold Storage,  
 Truck Terminal, Warehouse  
 (\* Included in high-end value)



**Existing  
SCAQMD  
Warehouses  
over 100K  
Square Feet  
Rentable  
Buildable  
Area (RBA)  
by Size**

Source: CoStar 2019

Filters:  
Property Type  
 Industrial, Flex\*  
Secondary Type  
 Distribution, Light Distribution\*,  
 Refrigeration/Cold Storage,  
 Truck Terminal, Warehouse  
 (\* Included in high-end value)



# DEEPER DIVE ON SOME POTENTIAL REGULATORY CONCEPTS

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Facility Caps and Fleet Crediting

# Facility Cap Review: 3 Possible Types

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## Baseline Reduction Cap

Facilities required to reduce emissions XX% below baseline emissions

## Mass Emissions Cap

Facilities not allowed to emit more than XX lbs/day of emissions

## Efficiency Target

Facilities not allowed to emit more than XX lbs/day of emissions per throughput unit

# Facility Cap: Common Themes



Reduces emissions at/near warehouses



On-site activity monitoring required



Individual truck tracking required



Emissions estimation methodology needed



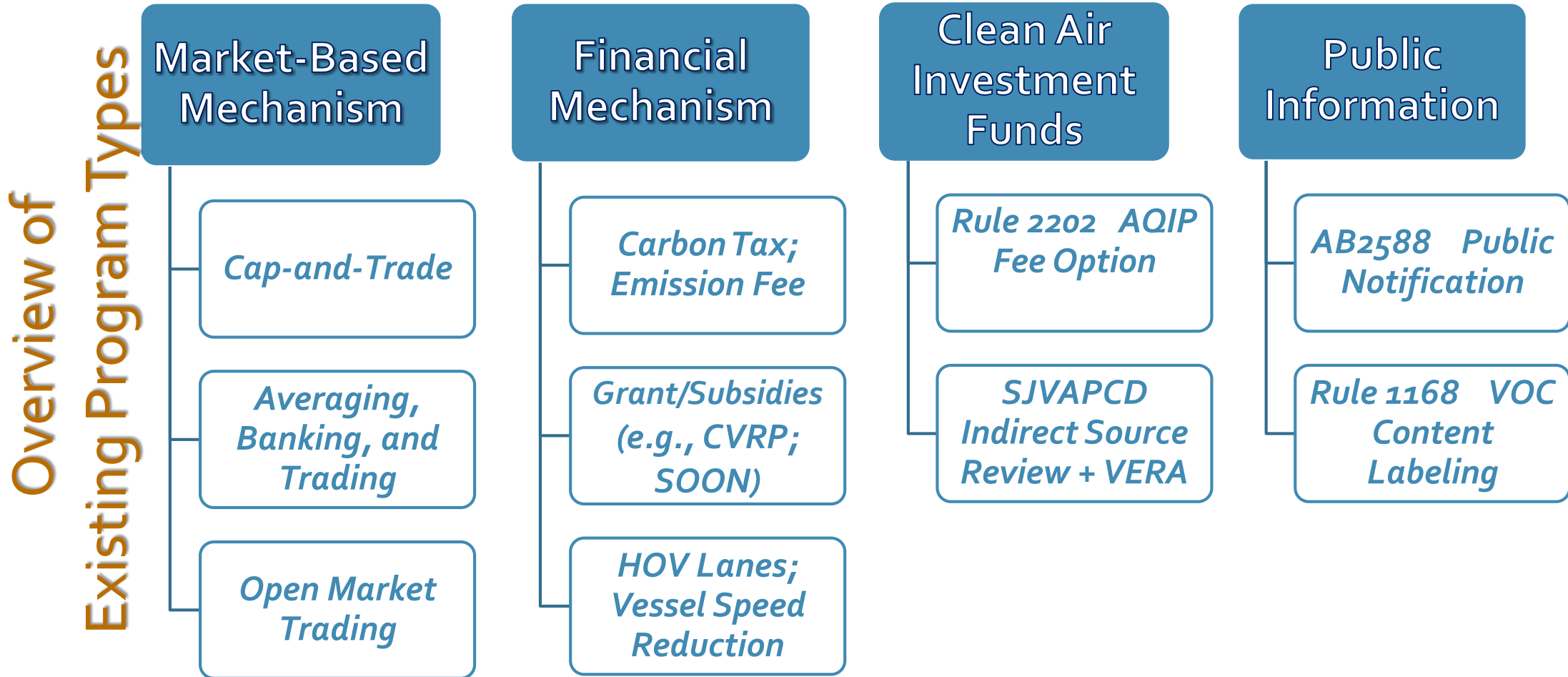
Report preparation and submittal +  
SCAQMD review and approval

# Facility Cap: Challenges

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- All subject warehouse operators would need to control the dispatching of individual trucks
  - Otherwise, facility must use alternative compliance option and/or shut the gate
  - Dispatching decisions are currently made by motor carriers in accordance with contract terms with BCOs; warehouse operators currently often lack visibility into contract
- Varied truck traffic and throughput by facility size and classification
  - Wide seasonal fluctuations of truck traffic
- Metrics for throughput not uniform
- Individual truck tracking and the associated emissions estimation/reporting by each regulated facility + SCAQMD auditing of up to thousands facilities

# Other Economic Incentive Programs Utilized in Regulations





# Market-Based Compliance Pathway?

<b>Cap-and-Trade</b>	<i>SCAQMD RECLAIM</i>	Reduce stationary source NOx and SOx emissions through credit trading among regulated facilities
	<i>CARB Cap-and-Trade</i>	Reduce stationary source GHG emissions through credit trading among regulated facilities
<b>Averaging, Banking, and Trading</b>	<i>CARB LCFS Program</i>	Reduce mobile source GHG emissions through credit trading among transportation fuel producer and importer
	<i>-US EPA GHG Standard -CARB ZEV Program</i>	Reduce mobile source GHG (and NOx) emissions through credit trading among manufacturers of cars and pickup trucks
<b>Open Market Trading</b>	<i>SCAQMD Rule 2202 "Ride Share" Program – Emission Reduction Strategies</i>	Reduce mobile source VOC, NOx, and CO emissions through large employers' acquiring and retiring emission reduction credits, generated from emission reduction credit programs

***SCAQMD staff is exploring the concept of a hybrid "fleet crediting program" based on lessons learned from existing credit systems.***

# Fleet Crediting Program: Concept

## Credit Supply

**Truck fleets** that are cleaner than required by CARB's Truck & Bus Regulation would generate credits for sale or transfer

**Voluntary Participation**

**Warehouse operators** must acquire and retire credits based on the number of truck trips associated with the warehouse (+local overlay)

## Credit Demand

**Regulatory Requirement**

# Credit Supply by “Clean” Truck Fleets

## Sources of Initial Credit Supply

- Fleets receiving incentive funding for clean trucks
- Cleaner fleets due to other business considerations (e.g., corporate sustainability targets)

## Fleet Credit Generation as Further Incentive for Clean Truck Investment

- Credit generation can help reduce fleets' total cost of ownership for procuring clean trucks
- Incentive program currently oversubscribed; credit program creates additional funding for clean trucks

## Broad-Based Credit Generation

- NOT from regulated facilities in the program (unlike cap-and-trade or emission-averaging programs)
  - However, truck fleets owned by regulated facilities could generate fleet credits
- Smaller fleets, such as mom-and-pop independent owner/operator, can generate fleet credits without having to own/operate clean truck infrastructure
- Fleets generate credits through travel in air basin, not necessarily tied to local warehouses, therefore ensuring additional credit supply necessary for the local overlay requirements (see next slide)

# Credit Demand by Regulated Warehouse Operators

## Facility Specific Emission Reduction Obligation

- Calculation could be similar to a “baseline reduction” facility cap
- Percent emission reduction from the baseline depends on stringency of proposed rule
- Comply by regularly acquiring and retiring credits equivalent to a warehouse’s emission reduction obligation
- Facilities not allowed to ‘trade’ obligation to acquire/retire credits (unlike cap-and-trade or emission-averaging)

## Rule Stringency

- Based on air quality need, economic analysis, feasibility (correlated with fleet credit supply), etc.
- Stringency will phase in through time

## Local Overlay to Induce Emissions Reduction at/near Warehouses

- Warehouses located in close proximity to sensitive receptors or in EJ communities could be required to acquire and retire more credits (unless retired credits are generated by fleets serving the warehouse), or ensure some other localized emission reduction, and/or obtain XX percentage of credits from ZE fleets.

# Fleet Crediting Program Management

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- Need to build in fail-safe price levels and regular reporting to the Board to ensure functioning of market
- Either SCAQMD, CARB, or an independent 3<sup>rd</sup> party would act as a credit manager
  - Fleet verification
  - Crediting program management
  - Transaction price monitoring
  - Tracking fleet credit generation and incentive funding to ensure no double counting of emission reductions for SIP purposes

# Fleet Crediting Program: SIP Credit

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- Fleet credits  $\neq$  SIP credits
  - Conversion by SCAQMD/CARB likely needed
    - Remove double counting from other programs (e.g., Carl Moyer)
- SIP credits likely obtained through the fleets, not the warehouses
- General ISR SIP creditability and the interaction with other facility based measures will be discussed in more detail in a future meeting

# Fleet Crediting Program: Challenges

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- Complexity of setting up and administering a new crediting program
  - Simpler compliance for industry than pure facility caps
    - Warehouse operators would not need to track individual trucks and prepare emission reduction reports; fleet tracking part of crediting program management
- Market stability would be key:
  - Credit supply depends on truck fleet's voluntary participation
    - Credit price needs to be sufficiently high to attract participation beyond those fleets receiving current level of incentive grant funding
    - Built-in mechanism needed to prevent excessive windfall and ensure market liquidity
  - Credit demand would depend on rule stringency, as well as availability and facility use of other compliance options

# OTHER POTENTIAL RULE COMPONENTS

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Compliance Options, Applicability, and Reporting



# Rule Structure Would Include Multiple Compliance Options

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- A** Option(s) to Reduce Warehousing Related Truck Emissions\*
- B** Warehouse Onsite/Near-Site Measures
- C** Mitigation Fee

\* Not limited to facility cap or fleet crediting program options

# Other Compliance Options

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## Warehouse Onsite/ Near-Site Measures

- Emission reductions achieved from ZE onsite equipment, e.g. hostlers, forklifts, etc., can be credited towards a facility's emission reduction obligation
- Onsite ZE truck charging/fueling infrastructure installations also creditable (calculations method to be defined)

## Mitigation Fee

- Based on a facility's remaining emission reduction obligation
- Cost of obtaining emissions reduction through incentive grant funding programs, inclusive of administrative cost
- Funds would be spent in areas where facilities paid the fee

# Potential Rule Applicability Under All Combination of ISR Options

- Rule could apply to operators of warehouses whose operations average more than XX one-way truck trips/day
  - No requirements on owners of warehouses
- Rule could not apply to operators of warehouses that are explicitly covered by a SIP-credited MOU (e.g., MOUs for airports or ports)
- Potentially could include warehouse-similar land uses like truck terminals and peel-off yards
  - Land uses used for transfer of containerized goods delivered by trucks
  - Concern raised by AB 617 community steering committees about these land uses that perform similar function as warehouses



BCO's Role  
in Rule  
Compliance?

# Example Thresholds For All ISR Options

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- Reporting required for warehouses above XX threshold
  - Potential threshold: 50 one-way truck trips/day
    - Equal to ~100,000 sq. ft. default\* transload warehouse
    - Equal to ~50,000 sq. ft. default\* cold-storage warehouse
  - Facility must report annual average number of daily truck trips
  - Fleet/truck reporting?
- Emission reduction obligation required for warehouses above YY threshold
  - Potential threshold: 100 one-way truck trips/day
    - Equal to ~200,000 sq. ft. default\* transload warehouse
    - Equal to ~100,000 sq. ft. default\* cold-storage warehouse
  - Potential phase-in of threshold to start program with a smaller universe of facilities
- Reporting potentially required before emission reduction obligations

# Open Discussion Topics

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- What are your utmost concern regarding facility caps and/or fleet crediting program concepts? Is your concern inherent to the concept itself, or can it be addressed by carefully designing the rule option(s)?
- What are the best ways to ensure the reduction of warehousing related emissions would occur at the highly impacted communities?
- What are some important considerations for using onsite/near-site infrastructure installations as a compliance option, given they do not directly reduce but only facilitate warehousing related emission reductions?
- How might the economic study consider the structure of the rule (e.g., fleet credit vs. facility caps, etc.)?

# Next Steps

## CONTINUE OUTREACH EFFORT

- *COMMUNITY*: AB 617 meetings; ISR community town hall meeting(s)?
- *INDUSTRY*: warehousing facility visits; trade associations representing various logistics industries
- *OTHERS*: e.g., Ports

## NEXT WORKING GROUP

- Spring, 2019

## PROPOSED RULE ADOPTION

- Currently scheduled for December 2019
- Regular status updates to the Mobile Source Committee

# SCAQMD Staff Contacts

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