

# Update on California Actions to Minimize Community Health Impacts from Freight



California Air Resources Board Meeting

March 21, 2019

# Path Forward on Freight

**Tighten CARB rules & add facility infrastructure/compliance**

**Support district facility-based measures & port initiatives**

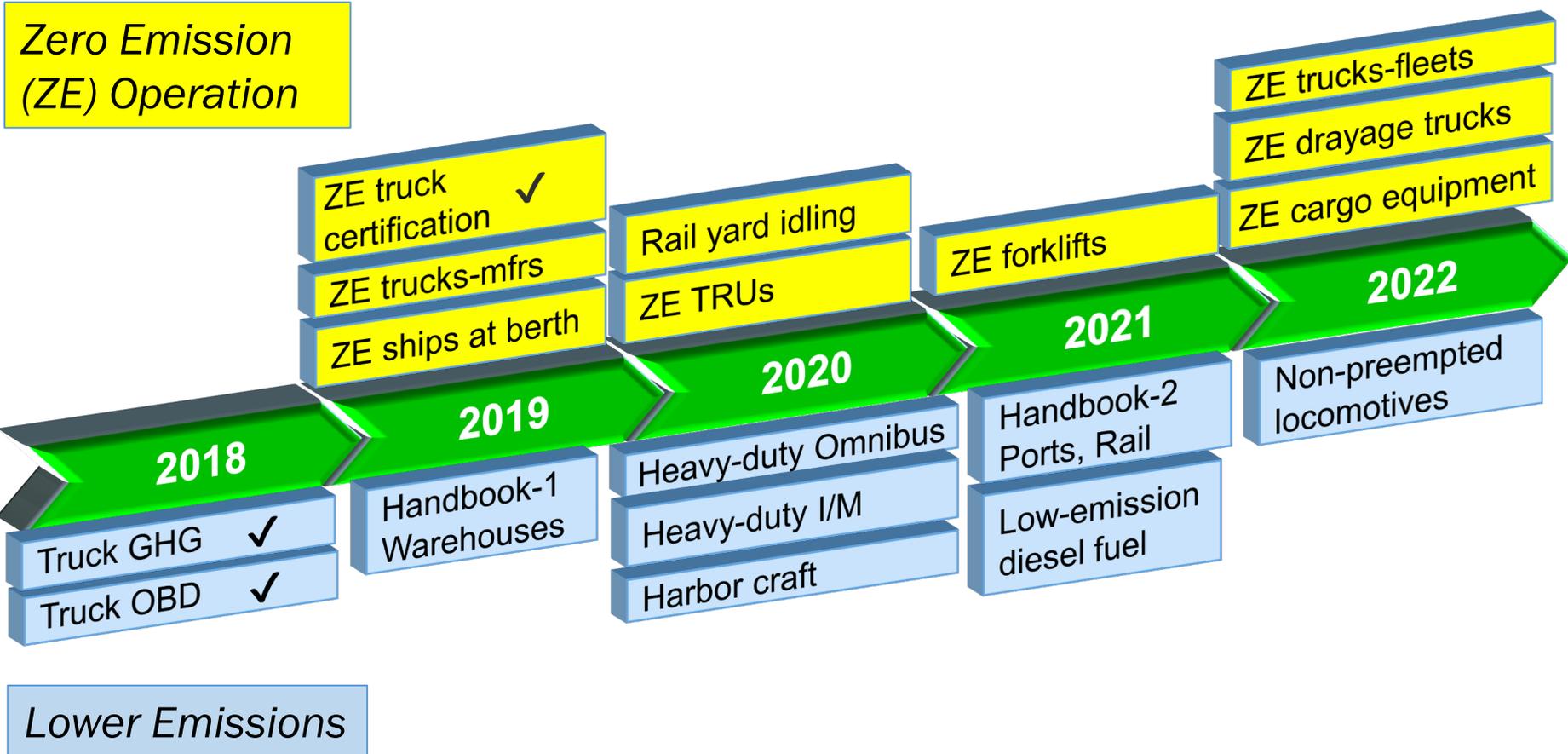
**Protect communities near freight facilities**

**Pursue stricter federal & international standards**

**Coordinate & expand incentives for freight transition to zero emission operations**

# New CARB Freight Actions

(1<sup>st</sup> Board hearing dates shown)

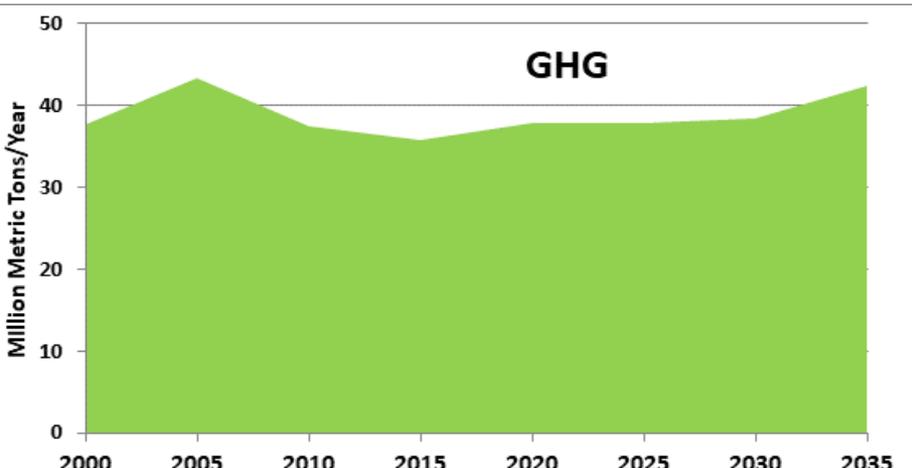
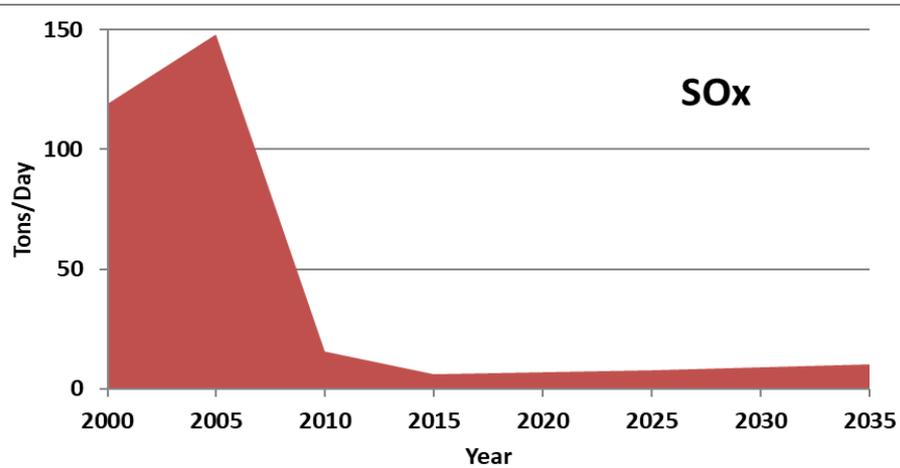
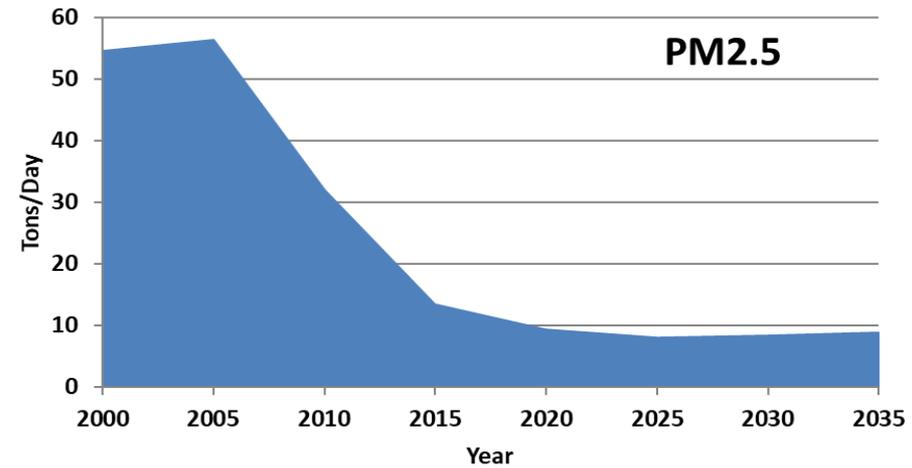
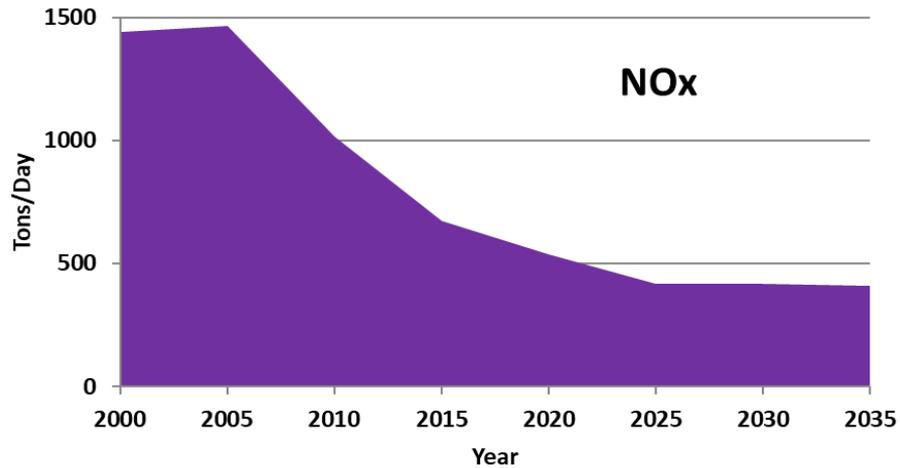


# CARB strategies already implemented to cut freight emissions and health risk

Trucks	Ships	Locomotives	Equipment	Harbor Craft
<ul style="list-style-type: none"> <li>•Fuel/engine</li> <li>•In-use trucks/turnover</li> <li>•GHG limits</li> <li>•Idling and smoke limits</li> <li>•In-use compliance</li> </ul>	<ul style="list-style-type: none"> <li>•Fuel</li> <li>•At berth reductions</li> <li>•Ship incinerator ban</li> </ul>	<ul style="list-style-type: none"> <li>•Fuel</li> <li>•Fleet emission limits for South Coast</li> <li>•Diesel soot reduction at rail yards</li> </ul>	<ul style="list-style-type: none"> <li>•Fuel/engine</li> <li>•Port &amp; rail equipment</li> <li>•Forklifts</li> <li>•Airport equipment</li> <li>•Transport refrigerators</li> </ul>	<ul style="list-style-type: none"> <li>•Fuel</li> <li>•Harbor craft engines</li> </ul>

**Incentives to demonstrate & deploy cleaner models**

# Progress in Reducing Freight Emissions Statewide (2000-2035)



# But Freight Impacts are Still Significant



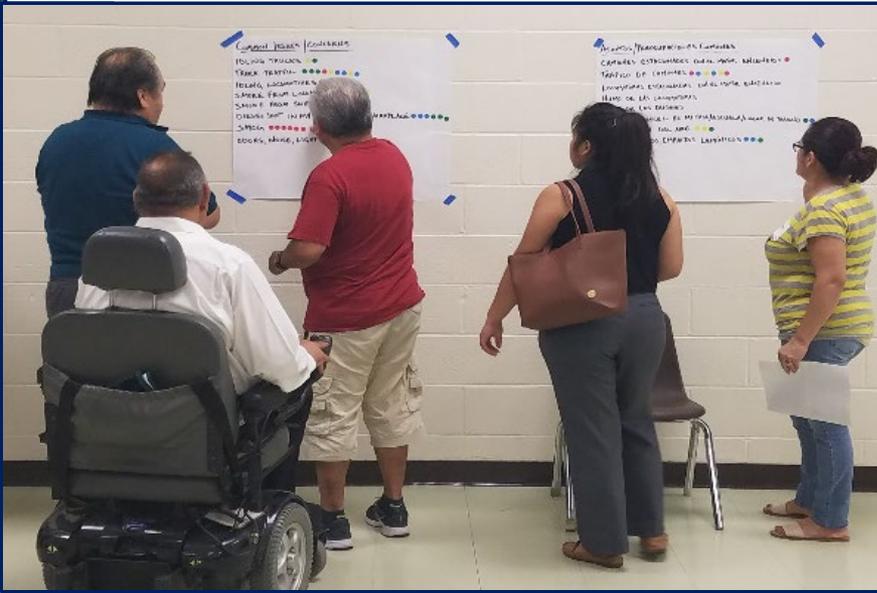
~1/3 of economy/jobs, ~1/2 of air pollution

## Freight Impacts:

- Elevated cancer risks in communities near hubs
- Premature death, cardiac and respiratory disease
- Largest contributor to unhealthy levels of regional fine particulate and ozone pollution
- Rising greenhouse gas emissions

# Public Engagement

- Input from communities, agencies, industry
- Monthly meetings with CA Cleaner Freight Coalition
- Industry workgroups



# CARB Freight Actions Designed to Meet Multiple Objectives



**Cut community health risk**  
(support AB 617 emission reductions)



**Attain regional air standards**  
(support State Implementation Plan)



**Mitigate climate change**  
(support Scoping Plan and SLCP Plan)

# Progress on Freight Actions Underway

- |                                    |   |
|------------------------------------|---|
| 1. Freight Handbook                | 7. Zero-emission demonstrations               |
| 2. Cleaner trucks (new and in-use) | 8. Freight regulations reporting system       |
| 3. Ocean going vessels at berth    | 9. California Sustainable Freight Action Plan |
| 4. Transport refrigeration units   | 10. Advocacy with other agencies              |
| 5. Rail yards and locomotives      | 11. South Coast facility measures             |
| 6. Harbor craft                    |   |

# Freight Handbook

- Guidance on siting, design, construction & operation of freight facilities to minimize impacts
- Strategies to reduce emissions and exposure, plus support community participation



Fresno, California

# Handbook: Objectives



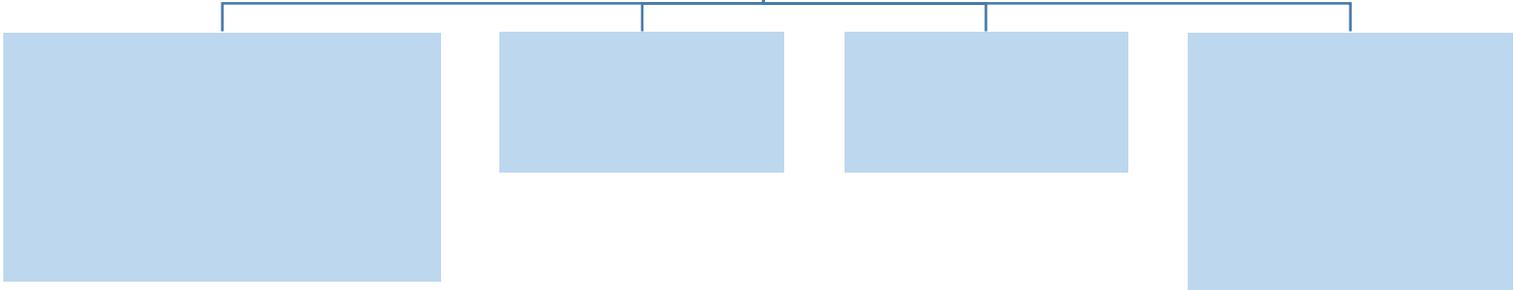
- Respond to community requests for “official” CARB recommendations that advocates can use locally
- Inform local decision makers of tools available to avoid/mitigate pollution
- Share “best practices” with facility developers
- Make a compelling case for facilities designed from the ground up to support zero-emission operations

# Handbook: Structure

Main document:



Modules:



Next public meetings: Spring 2019

# Cleaner Trucks

- ZE Advanced Clean Trucks  
*To be implemented concurrently:*
  - Phase 1: Manufacturer sales %
  - Phase 2: Fleet purchase %
- Heavy-duty Omnibus regulation for new engines
- Heavy-duty Inspection & Maintenance
- Next public meetings:  
April 2019



# Ocean Going Vessels At-Berth

- Require more visits to reduce emissions at berth
  - Include more visits, vessel types, ports
  - Hold ports, terminals, technology providers accountable for doing their part too
- Next public meetings: May 2019



Shore Power

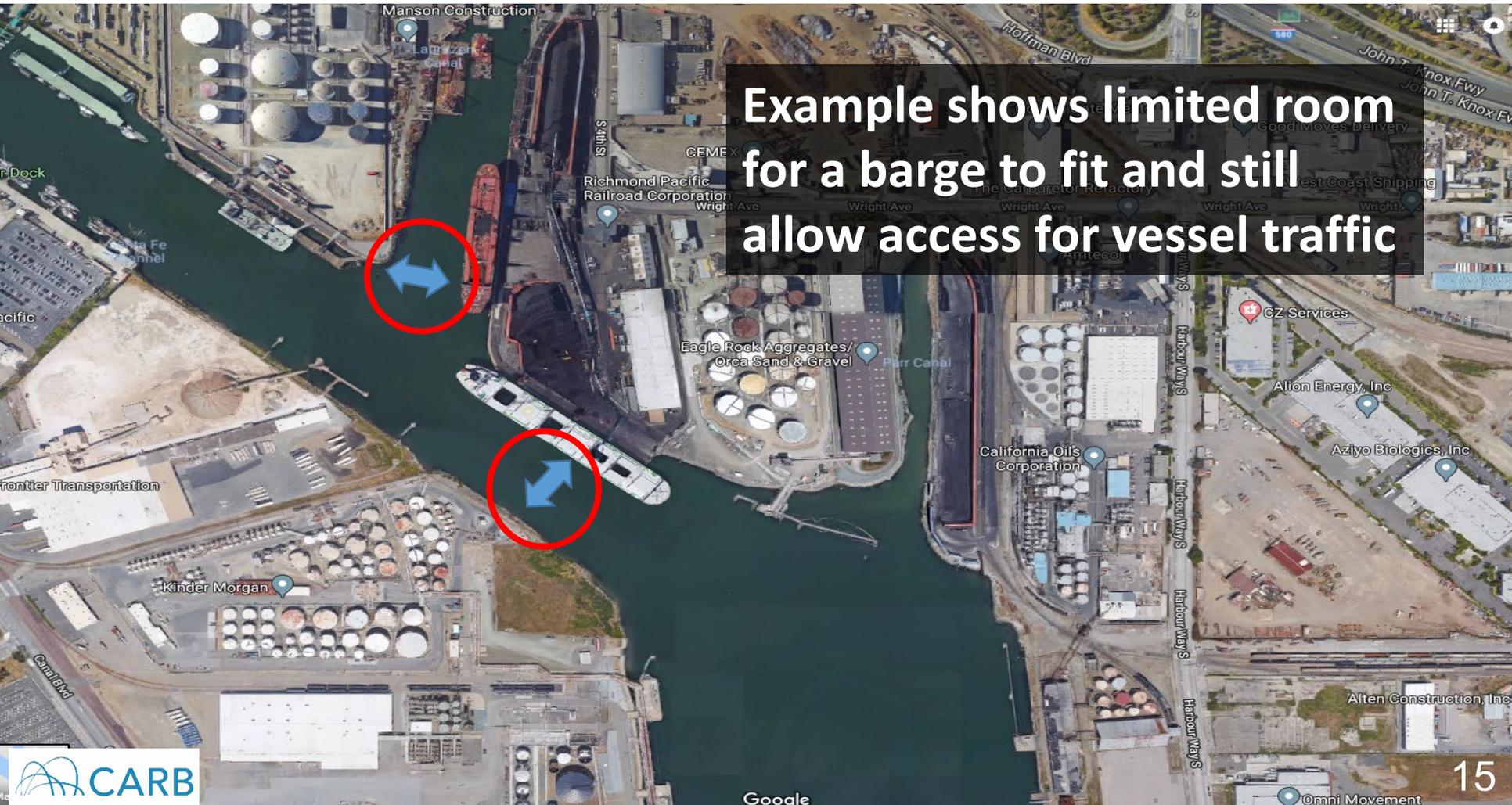


AMECS Barge-based  
Capture & Control



ShoreKat Land-based  
Capture & Control

# Vessels: Berth by Berth Analysis to Identify Feasible Control Options



# Vessels: Potential Reductions at Berth

## Diesel PM cancer risk

~ 70% in Bay Area

~ 60% in South Coast

## NOx

~ 6 tpd statewide

~ 3 tpd in South Coast



# Transport Refrigeration Units (TRU)

- Focus on transitioning to ZE operation
  - ZE truck TRUs
  - Plug-in trailer TRUs when stationary
  - Facility infrastructure
  - Electronic tracking
- Next public meetings: Mid-2019



# TRU: Identifying Infrastructure Needs

- Require facilities to expand plug-in infrastructure to allow for ZE operation if TRUs are stationary
  - Evaluate facilities and locations needed



# TRU: Operations at Cold Storage Warehouses Pose Elevated Risks

- Near-source cancer risks at high-activity facilities (~1,000 in a million)
- Facilities often sited in clusters

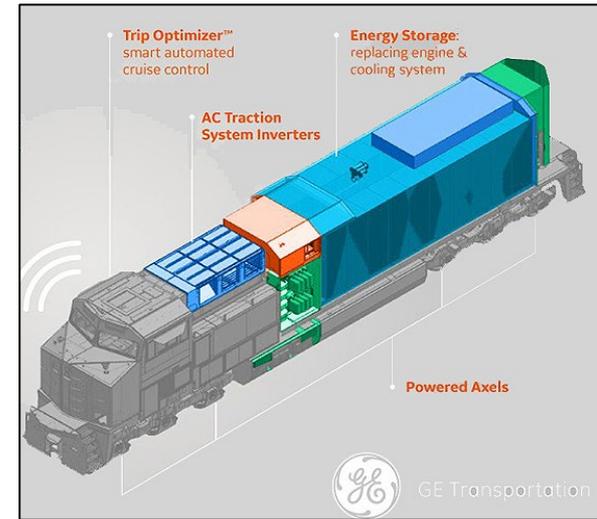


*Example:  
Salinas CA*

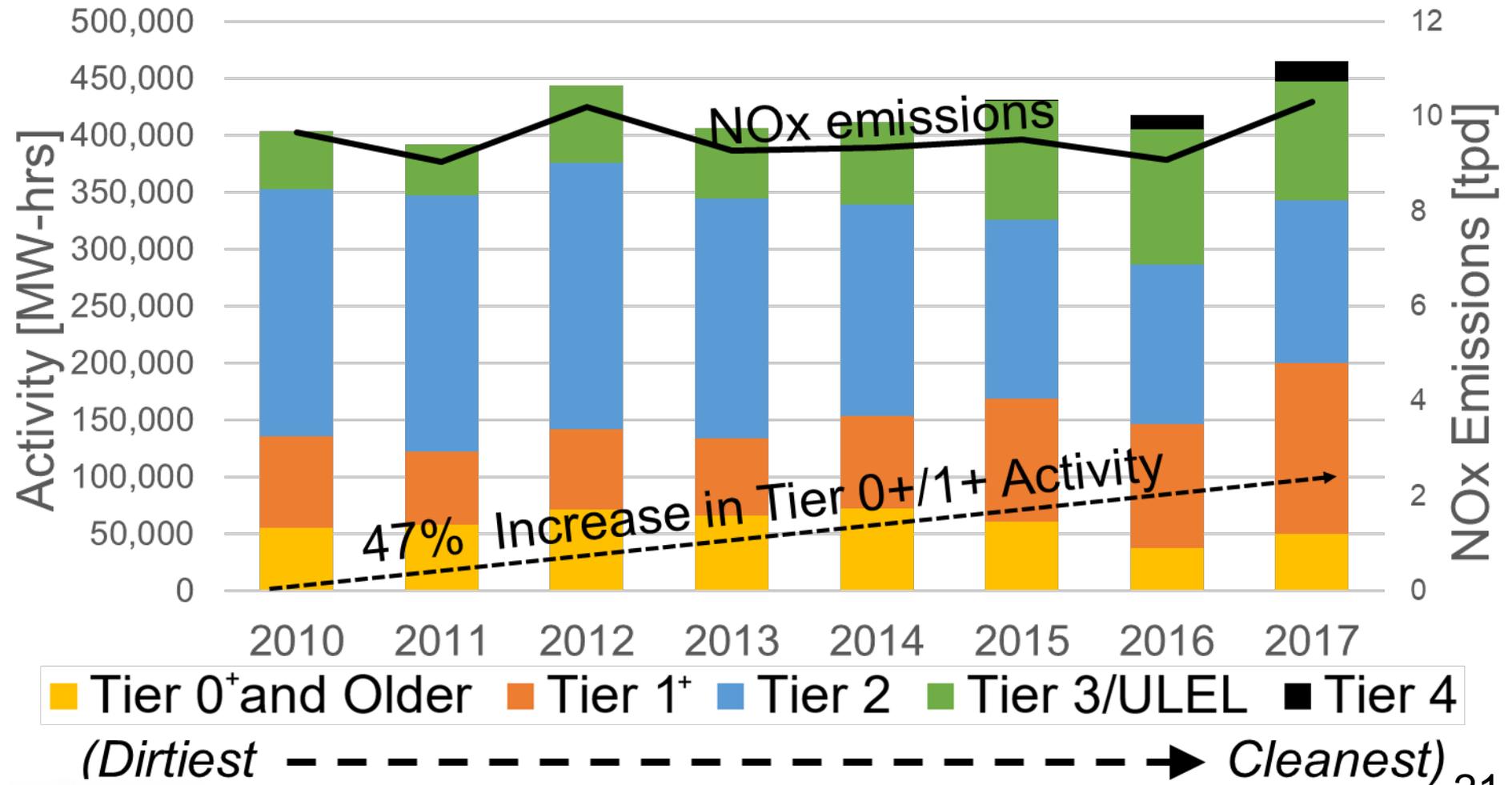


# Rail Yards and Locomotives

- Staff working to consolidate two new regulatory measures
- UP and BNSF are complying with the 1998 Agreement
- ZE demo projects & Tier 4 grants in progress
- Next public meetings: Late 2019



# Rail Yards: Activity of Older Locomotives Increasing in South Coast



# Harbor Craft

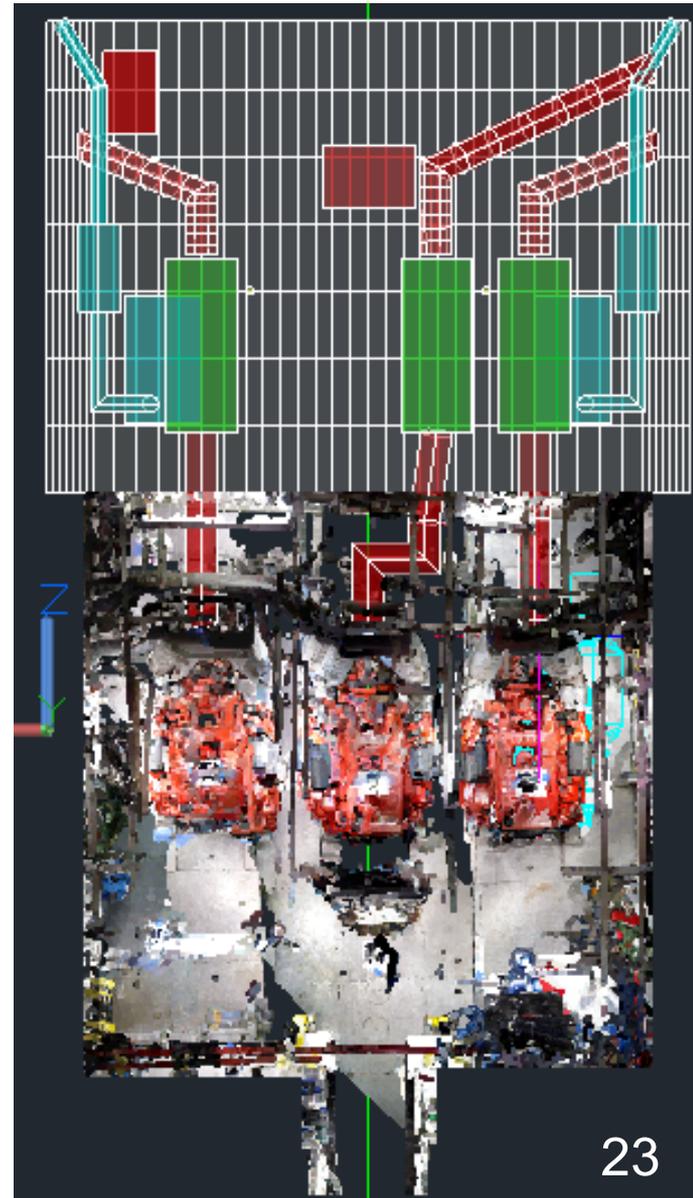
- Focus on cleaner combustion for in-use and new engines
- Support introduction of zero-emission technologies in ferries, excursion, other
- Next public meetings: Spring 2019



# Harbor Craft: Measuring Engine Space for Upgrade (Cal Maritime Academy)



3D scanner  
with laser



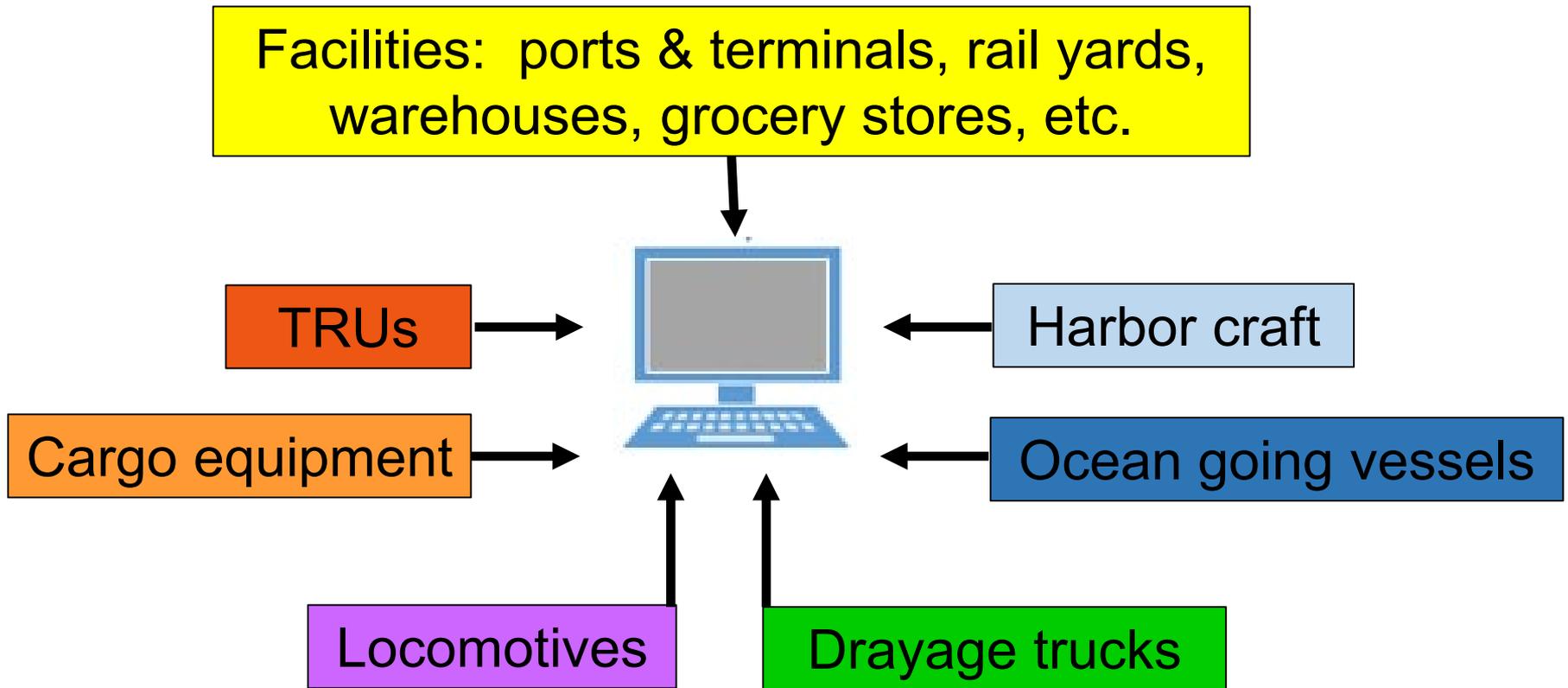
# Recent Freight Facility Funding

- \$205 million in CARB grants for zero/near-zero emission equipment and infrastructure at facilities
- 11 projects are located in disadvantaged communities
- Projects range from electric locomotives, trucks and TRUs to a hybrid tugboat and electric cranes and forklifts



- Project locations
- Vehicle deployment areas

# Freight Regulation Reporting System

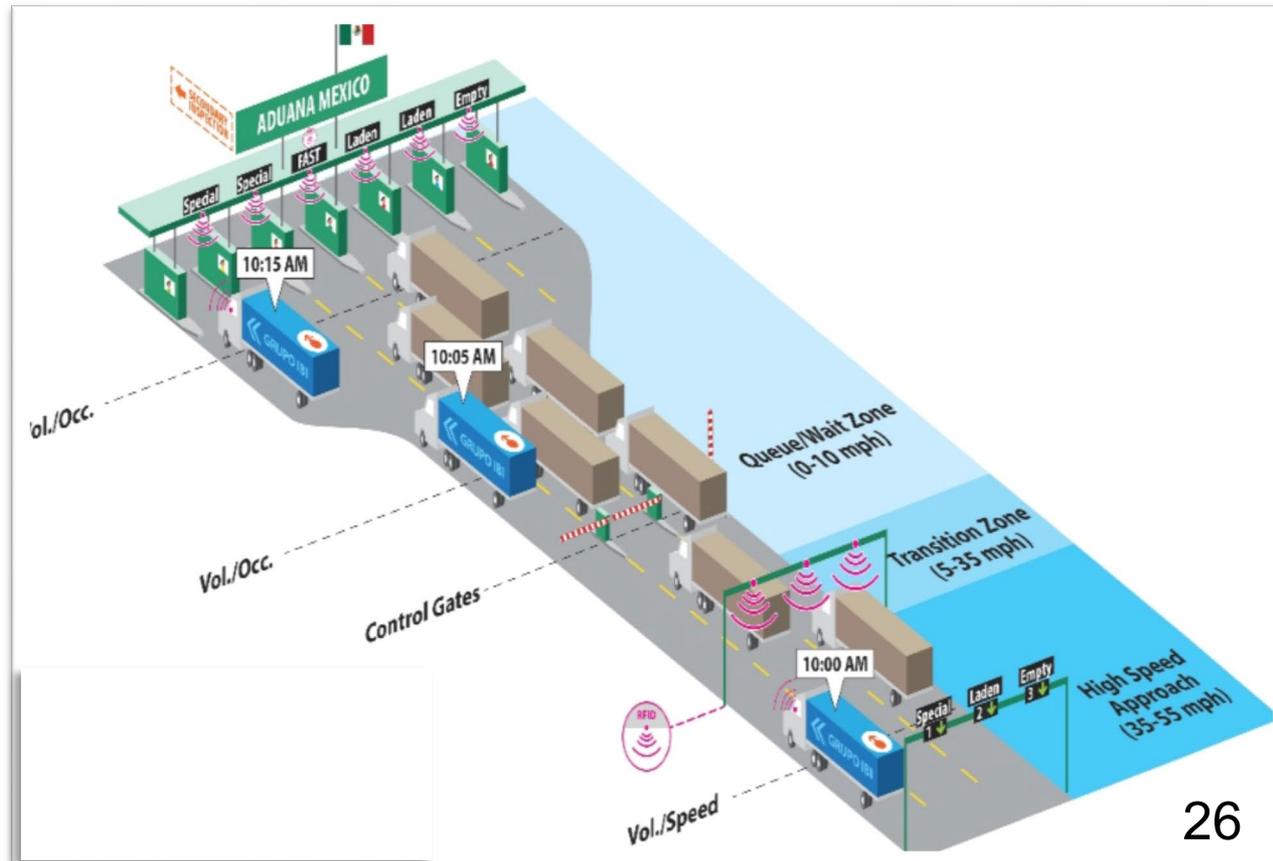


*A new web-based system for registration, compliance reporting & analysis, enforcement, and public access*

# California Sustainable Freight Action Plan

- Accelerating zero-emission operations
- Increasing efficiency
- Developing the workforce

CALIFORNIA  
SUSTAINABLE  
FREIGHT  
ACTION PLAN



# Advocacy with Other Agencies




**SAN PEDRO BAY PORTS  
 CLEAN AIR ACTION PLAN 2017**

Final  
 Clean Air Action Plan Update

**NOVEMBER 2017**

**Revised Draft  
 Seaport Air Quality  
 2020 and Beyond Plan**

December 14, 2018



Volume I of II

West  
 Oakland

**TRUCK  
 MANAGEMENT  
 PLAN**

**DRAFT**  
 PLAN for PUBLIC REVIEW  
 November 16, 2018  
 to  
 January 4, 2019

An action-based plan  
 designed to reduce  
 the effects of transport  
 trucks on local streets  
 in West Oakland




**FREIGHT PLAN**  
 California Freight  
 Mobility Plan

**California Freight Mobility Plan 2019**

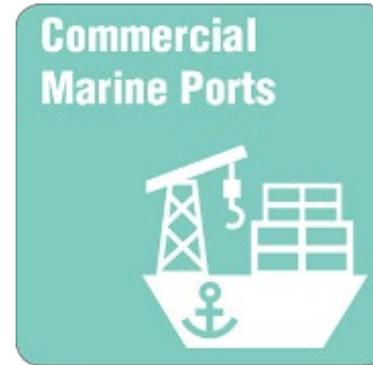
# South Coast District: Board Direction on Facility-Based Freight Measures



Rule concept  
+ econ study



Rule +  
explore MOU



MOU



MOU

# To Further Progress on Sustainable Freight

- Adoption of proposed CARB regulations
- Emphasis on strategic development of freight infrastructure with CPUC, CEC, utilities
- Continued incentives for ZE demonstration and deployment (equipment + infrastructure)
- Local political will to insist on zero-emission operations at new freight facilities