

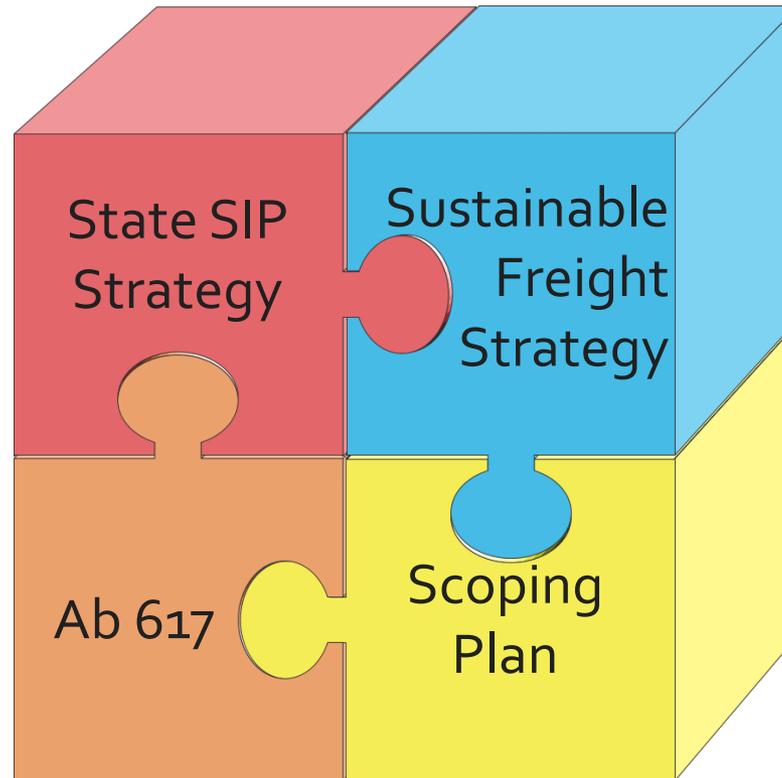
# Implementation of State SIP Strategy and South Coast AQMP

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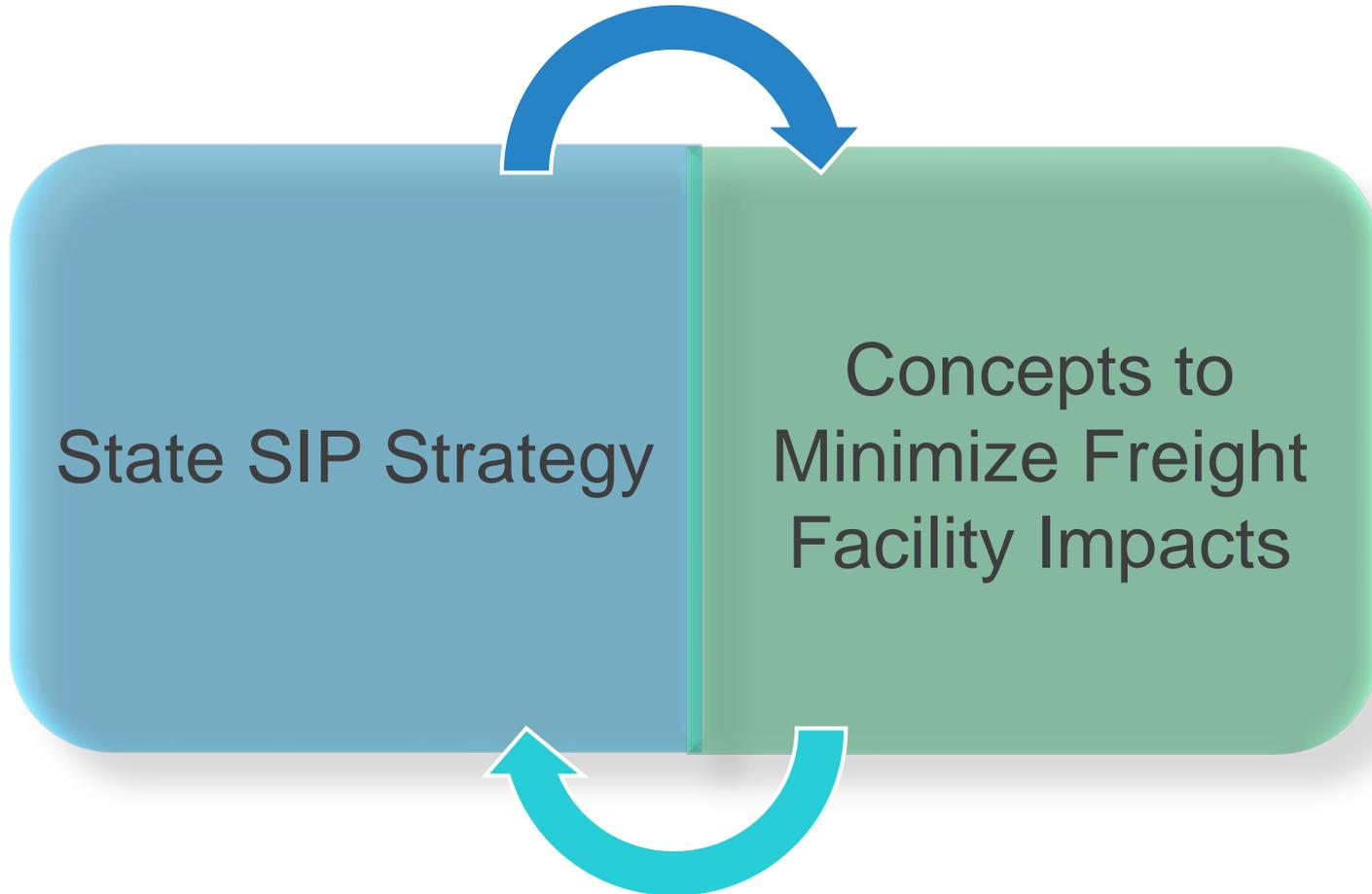
## Concepts to Minimize the Community Health Impacts from Large Freight Facilities

March 22, 2018  
Riverside, CA

# Integrated Planning



# Presentation Agenda



# Implementation of the State SIP Strategy and South Coast AQMP



# SIP Mobile Source Strategy

Table 2: Proposed New SIP Measures and Schedule

Proposed Measure	Agency	Action	Implementation Begins
<b>On-Road Light-Duty</b>			
Advanced Clean Cars 2	ARB	2020 – 2021	2026
Lower In-Use Emission Performance Assessment	ARB / BAR	n/a	ongoing
Further Deployment of Cleaner Technologies*	ARB / SCAQMD / U.S. EPA	ongoing	2016
<b>On-Road Heavy-Duty</b>			
Lower In-Use Emission Performance Level	ARB	2017 – 2020	2018 +
Low-NOx Engine Standard – California Action	ARB	2019	2023
Low-NOx Engine Standard – Federal Action*	U.S. EPA	2019	2024
Medium and Heavy-Duty GHG Phase 2	ARB / U.S. EPA	2017 – 2019	2018 +
Innovative Clean Transit	ARB	2017	2018
Last Mile Delivery	ARB	2018	2020
Innovative Technology Certification Flexibility	ARB	2016	2017
Zero-Emission Airport Shuttle Buses	ARB	2018	2023
Incentive Funding to Achieve Further Emission Reductions from On-Road Heavy-Duty Vehicles	ARB / SCAQMD	ongoing	2016
Further Deployment of Cleaner Technologies*	ARB / SCAQMD / U.S. EPA	ongoing	2016
<b>Off-Road Federal and International Sources</b>			
More Stringent National Locomotive Emission Standards *	U.S. EPA	2017	2023
Tier 4 Vessel Standards *	ARB / IMO	2016 – 2018	2025
Incentivize Low Emission Efficient Ship Visits	ARB	2018 – 2020	2018 +
At-Berth Regulation Amendments	ARB	2017 – 2018	2023
Further Deployment of Cleaner Technologies*	ARB / SCAQMD / U.S. EPA	ongoing	2016
<b>Off-Road Equipment</b>			
Zero-Emission Off-Road Forklift Regulation Phase 1	ARB	2020	2023
Zero-Emission Off-Road Emission Reduction Assessment	ARB	2025 +	--
Zero-Emission Off-Road Worksite Emission Reduction Assessment	ARB	tbd	--
Zero-Emission Airport Ground Support Equipment	ARB	2018	2023
Small Off-Road Engines	ARB	2018 – 2020	2022
Transport Refrigeration Units Used for Cold Storage	ARB	2018 – 2019	2020 +
Low-Emission Diesel Requirement	ARB	by 2020	2023
Further Deployment of Cleaner Technologies*	ARB / SCAQMD / U.S. EPA	ongoing	2016
<b>Consumer Products</b>			
Consumer Products Program	ARB	2019 – 2021	2020 +

\* Request U.S. EPA approval under the provisions of Section 182(e)(5) of the Clean Air Act allowing for reliance on anticipated development of new control techniques or improvement of existing control technologies. Also includes identification of needed funding, infrastructure development, and actions/resources required from other agencies

- 184 tpd of NOx reductions from existing regulations in 2031
- 111 tpd of NOx reductions from new measures
- 14 new regulatory actions
- Advanced technology deployment

# Tracking Progress in Three Areas

- I. Rule development
- II. Advanced technology deployment
- III. Reductions achieved

Multiple metrics for each area



# Rule Development

## Metric

- Initiation of regulatory development process
  - Workshop held
  - Stakeholder working group convened
  - ISOR released, etc.
- Board action by scheduled date

## Current Status

- ✓ Development process initiated for 11 of 14 regulatory measures
  - ✓ Two regulatory measures adopted
- ✓ South Coast Incentive Measure considered earlier today

# Heavy-Duty Vehicle Measures

## Rules adopted

- ✓ Innovative Technology Certification Flexibility
- ✓ Medium and Heavy-Duty GHG Phase 2

## Development started:

- Low-NOx Engine Standard
- Lower In-Use Emission Performance Level
- Innovative Clean Transit
- Advanced Clean Trucks
- Zero-emission Airport Shuttle Buses



# Off-Road Measures



Development started:

- Small Off-Road Equipment (SORE) Amendments
- Ships At-Berth Amendments
- Transport Refrigeration Units (TRUs)

Petitioned U.S. EPA for more stringent locomotives emission standards

# Advanced Technology Deployment

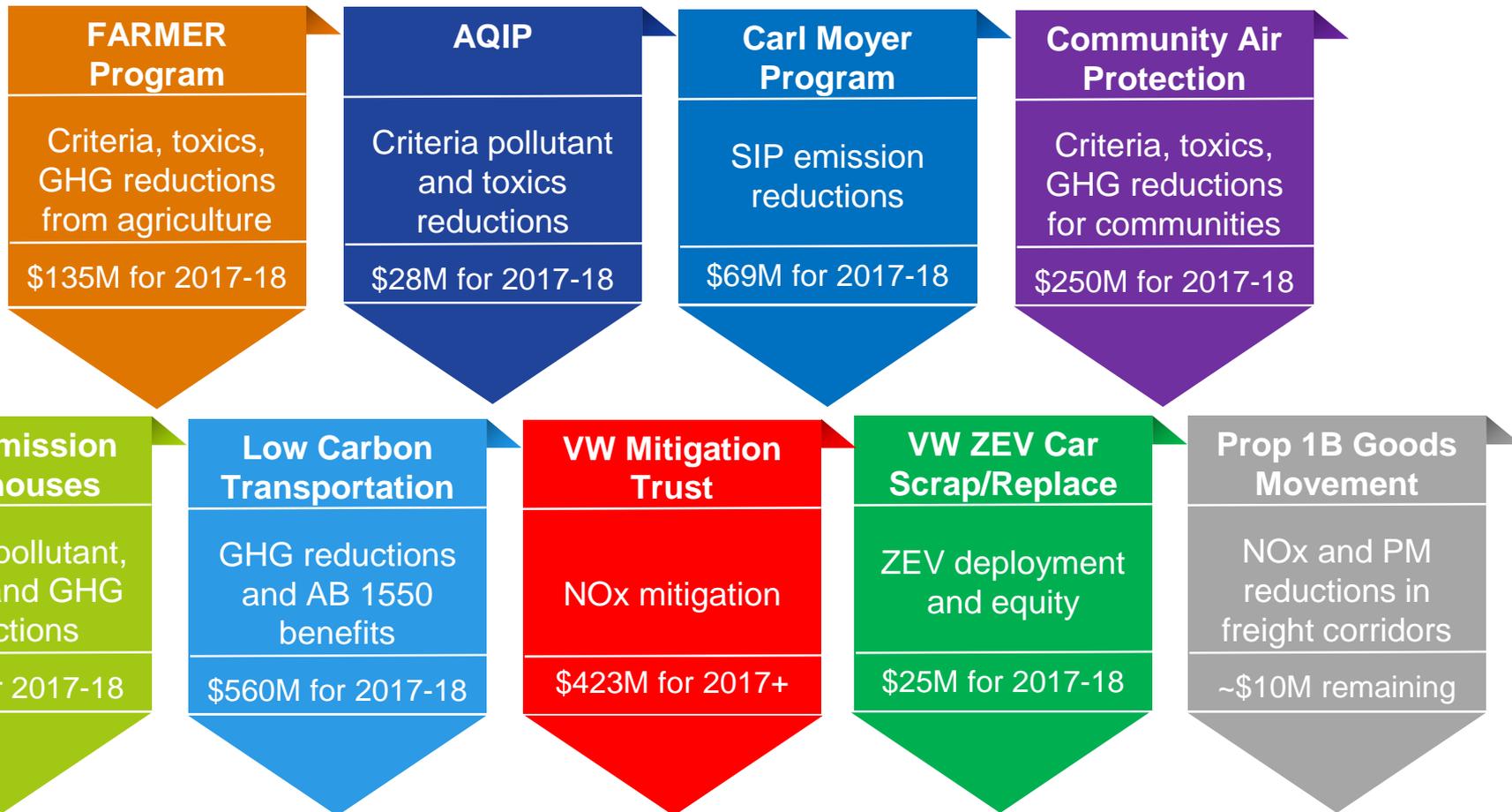
## Metric

- Securing new incentive funds
- Count of equipment deployed
- New regulatory actions or emission control strategies

## Current Status

- ✓ Substantial first-year allocation of over \$1B in incentive funds
- ✓ Identifying additional freight actions

# Incentive Funding Secured



# Reductions Achieved

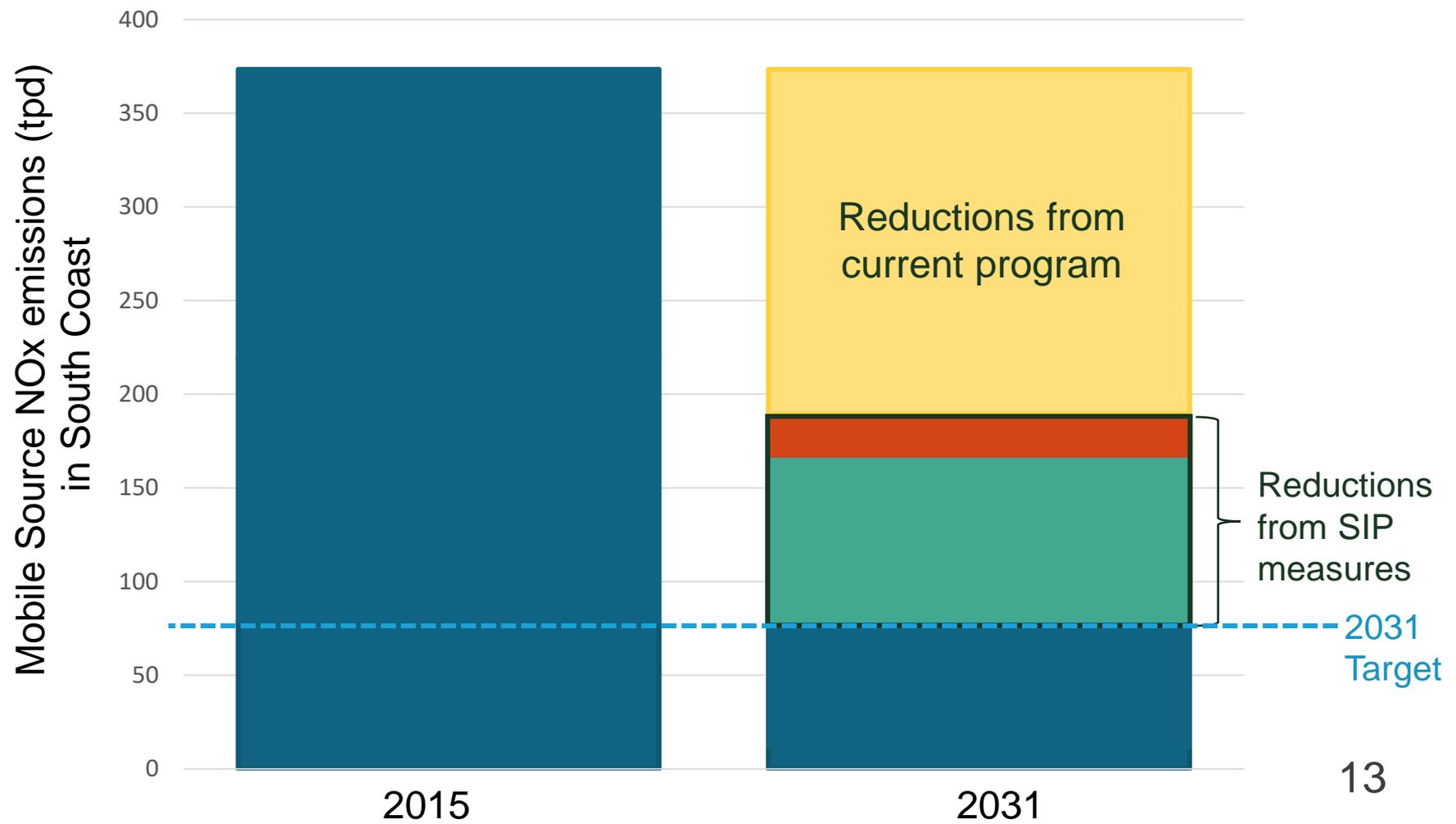
## Metric

- Evaluating pace of emission reductions
  - Existing rules
  - New regulations and actions

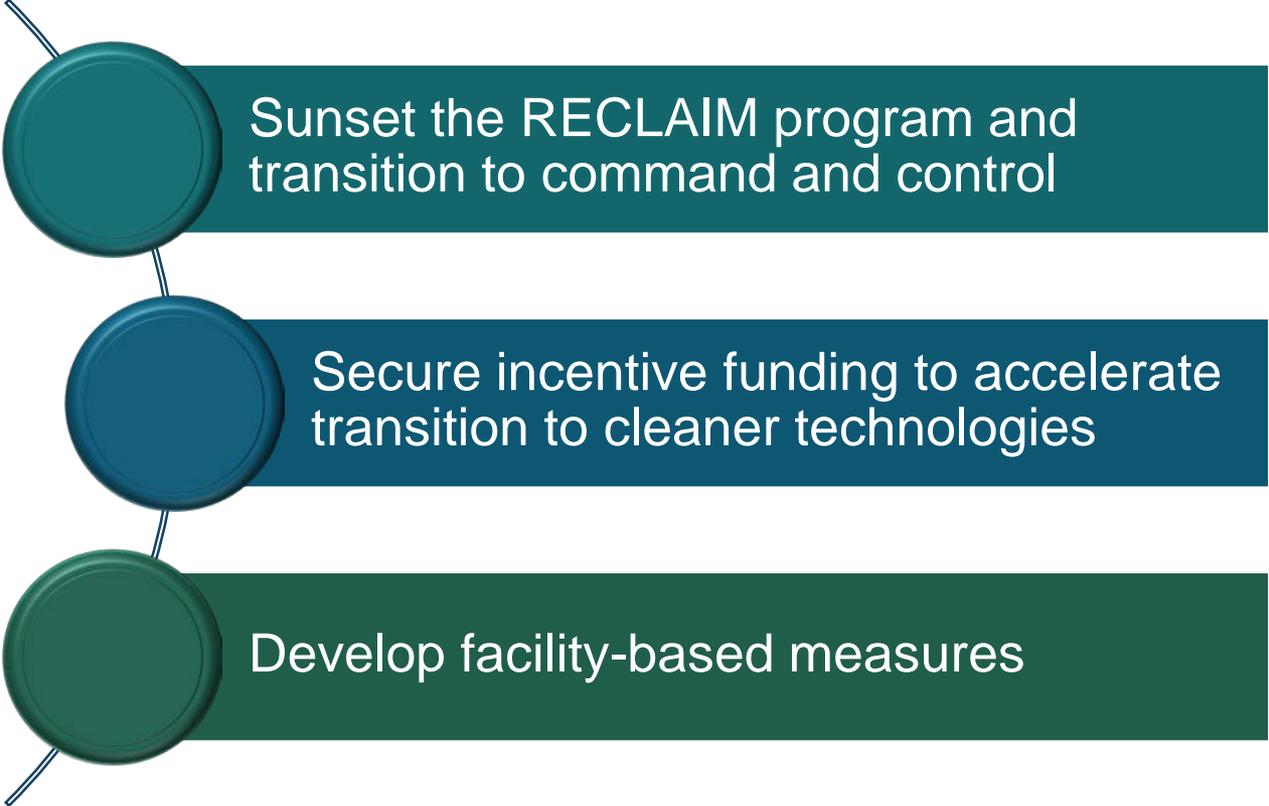
## Current Status

- ✓ Early actions lay foundation for emission reductions from future measures
- ✓ On pace for achieving emission reductions

# Implementation Phases and Emission Reductions



# South Coast AQMP Commitments



Sunset the RECLAIM program and transition to command and control

Secure incentive funding to accelerate transition to cleaner technologies

Develop facility-based measures

# RECLAIM Transition

Actions on RECLAIM that provide NOx reductions:

**2016**

Shutdown credits surrendered



**2018**

No new RECLAIM sources



Credits frozen as sources exit



Develop transition Plan



Develop BARCT-level regulations



# Securing New Funding: South Coast

District Voluntary Incentive Program

AB 134 - Budget Act of 2017

Volkswagen Settlement fund

# Facility-Based Measures

## South Coast Staff Recommendations

South Coast Board will consider these recommendations in April

	Voluntary Measures	Regulatory Measures
Ports	MOUs	If needed, evaluate ISR
Airports	MOUs and CAAP	If needed, ISR requiring CAAP
Rail Yards	MOUs	Required CAAP, additional options
Warehouses	CEQA Mitigation Fund, Guidance Document, Green Delivery	ISR , Fleet Certification, additional options
New / Redevelopment	Guidance Document, CEQA Mitigation Fund, Expand charging / alt-fueling infrastructure	ISR , Fleet Certification, additional options

# Concepts to Reduce the Community Health Impacts from Large Freight Facilities



# Objectives for Freight Transport



Cut community health risk



Attain regional air standards



Mitigate climate change

CALIFORNIA  
**SUSTAINABLE  
FREIGHT**  
ACTION PLAN



- Zero-emission (ZE) operation
- Efficiency
- Economy/competitiveness

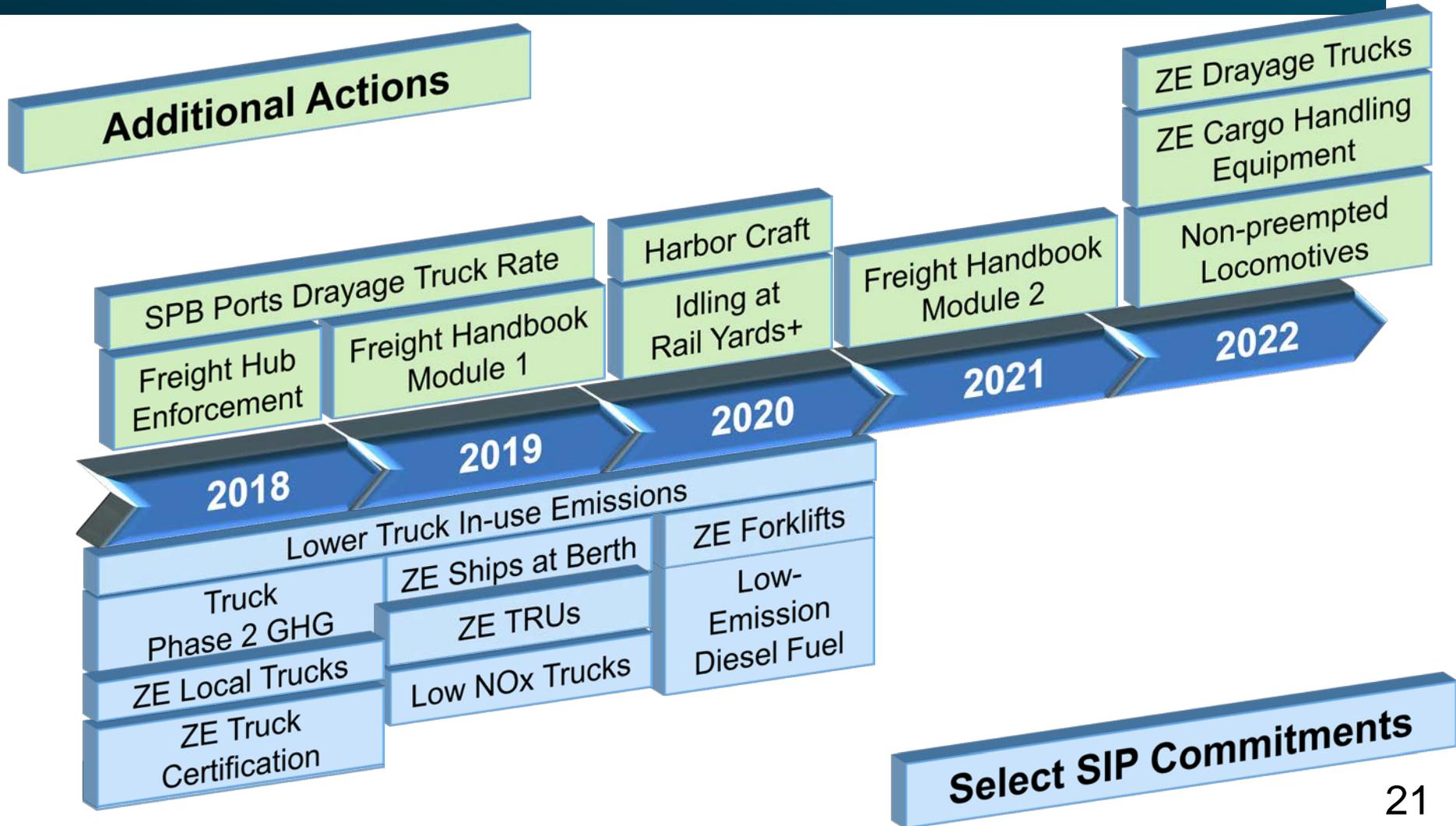
# Board Direction on Freight (March 2017)

- Resolutions directed that

*“...within 12 months, staff shall return to the Board with concepts for an Indirect Source [Review] Rule to control pollution from large freight facilities including ports, rail yards, warehouses and distribution centers, as well as any identified alternatives capable of achieving similar levels of emission reductions...”*
- Develop rules to further reduce pollution from ships and cargo equipment
- Coordinate with South Coast District on related facility-based efforts

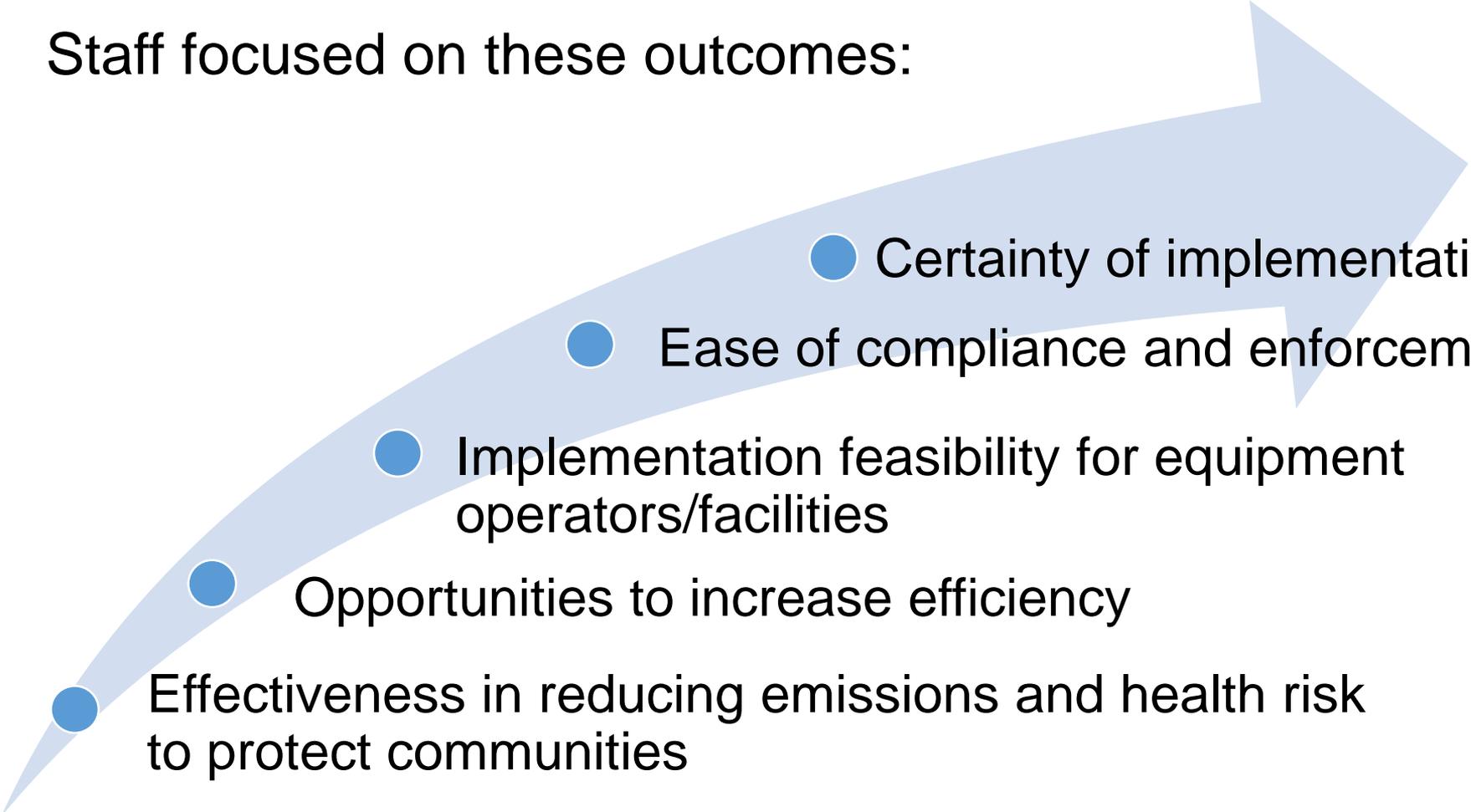
# Milestones for Freight Actions

*(Board consideration)*



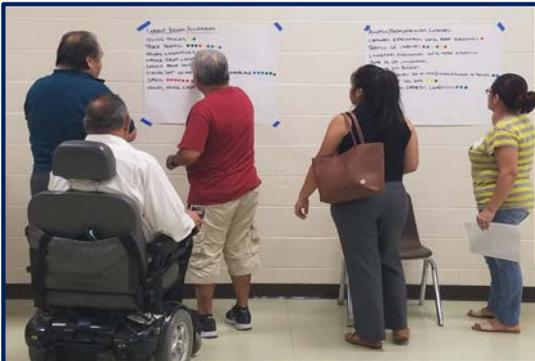
# Evaluating Concepts

Staff focused on these outcomes:

- 
- Effectiveness in reducing emissions and health risk to protect communities
  - Opportunities to increase efficiency
  - Implementation feasibility for equipment operators/facilities
  - Ease of compliance and enforcement
  - Certainty of implementation

# Public Engagement

Impacted communities and stakeholders identified concerns and contributed ideas



# Feedback at Community Meetings

**Oakland:** “Because of increased enforcement at the Port, trucks are idling all throughout West Oakland.”

**Fresno:** “Fresno has lots of rail siding and spur lines, and old technology. We don’t want old technology to get pushed [here]”

**Fontana:** “We need to figure out how to manage the increasing number of trucks and warehouses in our neighborhoods.”

**Los Angeles:** “These changes can’t wait, we need earlier timelines to reduce burdens on health.”



# Facility-Based Approaches

**Enforceable agreements**

**Project design & mitigation measures**

**Incentives**

## Pros

- Air district ISRs may regulate all sources at facility
- May require infrastructure
- Can reward efficiency

**CARB & district regulations**

## Cons

- Potential for delays
- May be complex for facilities to comply and agencies to enforce

# ISR Rule Concepts *(examples)*

- Best practices or mitigation fees (San Joaquin Valley)
- Facilitywide emissions target
- Facilitywide emissions per unit of cargo
- x% zero emission operation onsite
- Facility clean air action plan staff concepts (South Coast)
- Voluntary fleet certification with facility requirement staff concepts (South Coast)

# Sector-Based Approaches

**Enforceable agreements**

**National/  
international standards**

**Incentives**

## Pros

- CARB history/expertise
- Clarity for equipment owners
- Easier to determine compliance on site

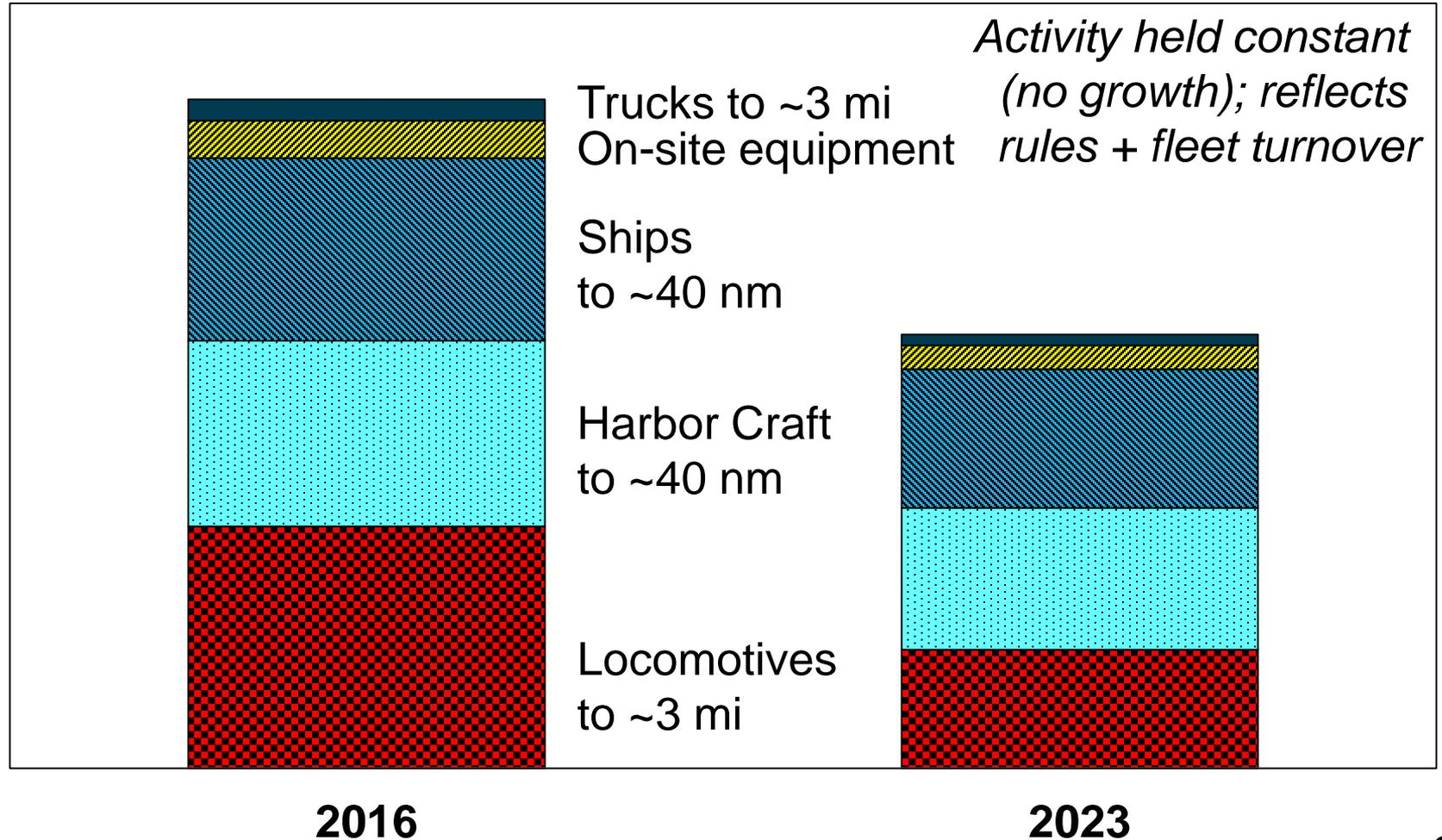
**CARB regulations**

## Cons

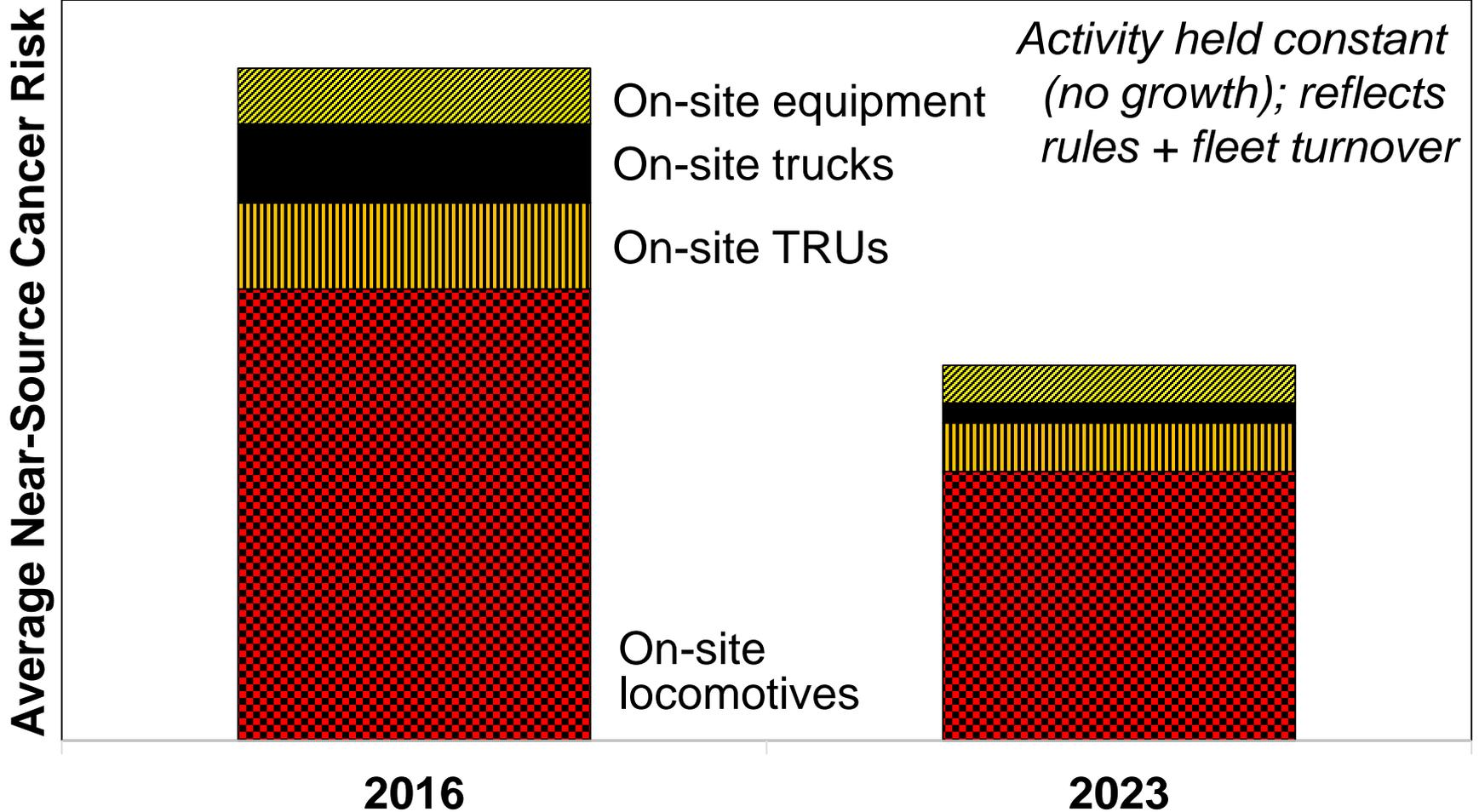
- May not address fueling, charging infrastructure
- Harder to assess total impacts from facility

# Seaport – Contribution to Near-Source Cancer Risk

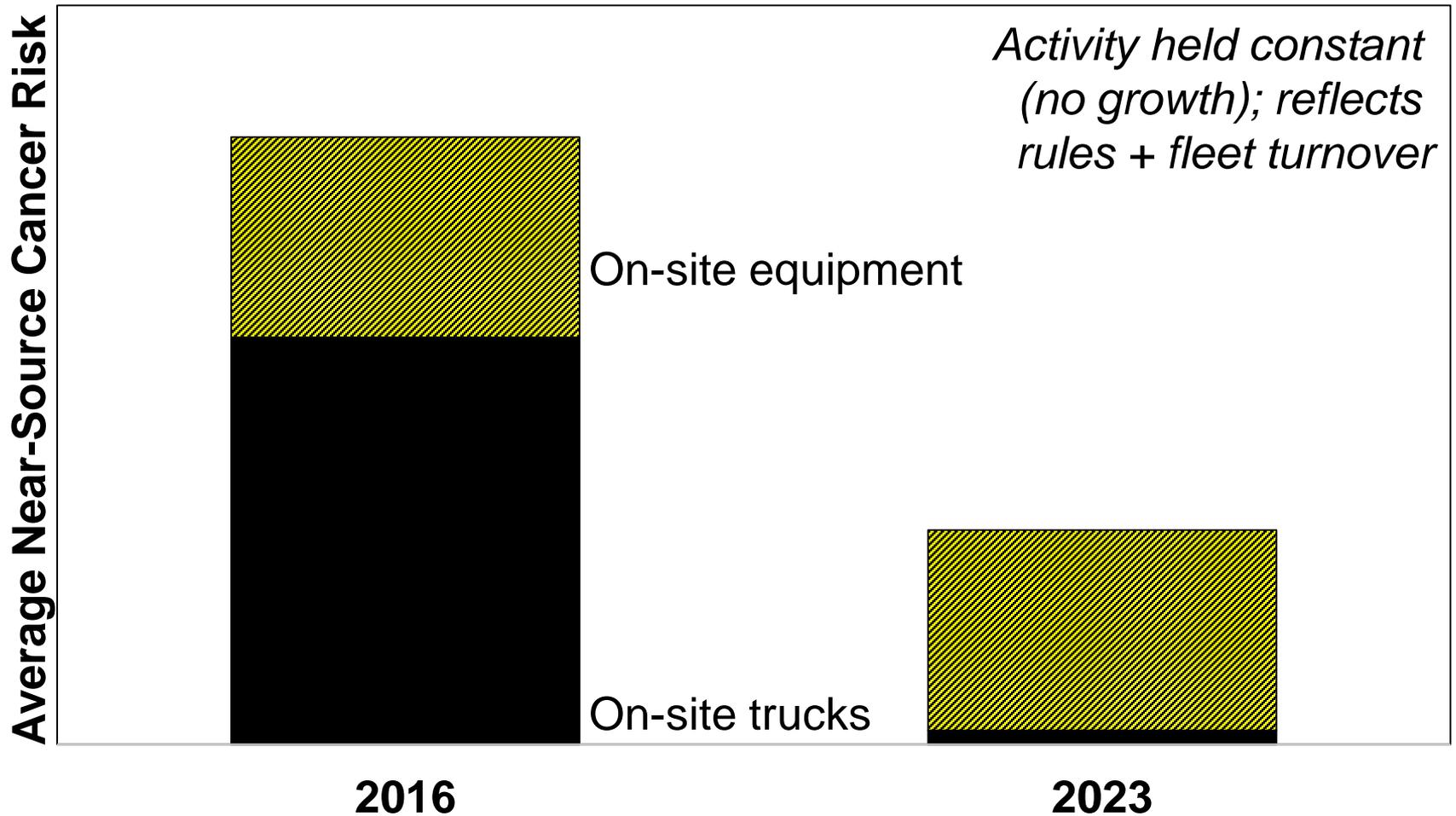
Average Near-Source Cancer Risk



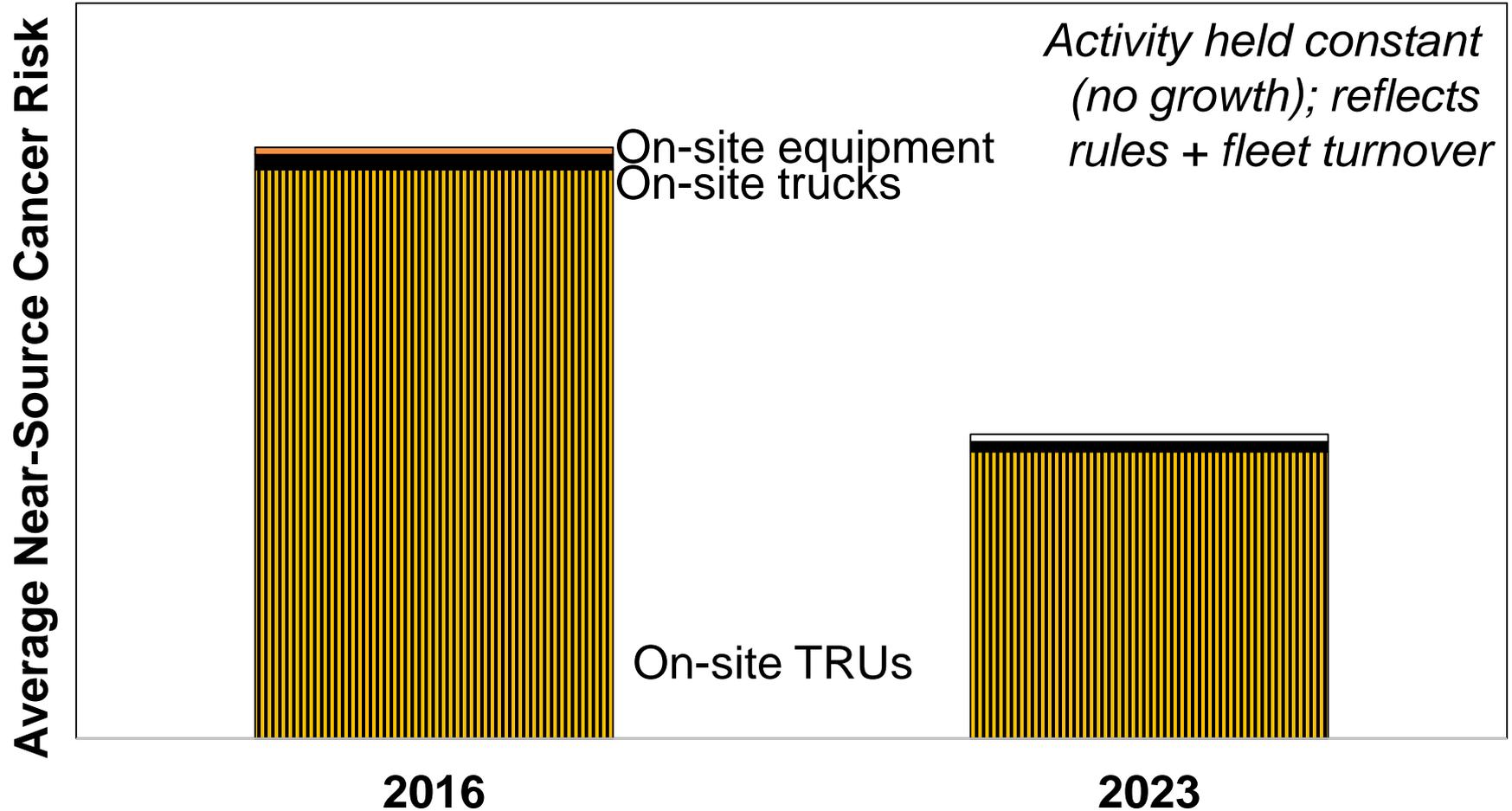
# Intermodal Rail Yard – Contribution to Near-Source Cancer Risk



# Distribution Center – Contribution to Near-Source Cancer Risk



# Cold Storage - Contribution to Near-Source Cancer Risk



# CARB Staff's Conclusion on Concepts

Most effective approach for CARB to achieve significant, enforceable reductions:

- Develop CARB freight rules using a hybrid approach affecting both equipment and facilities
  - Transition to ZE, supplemented with near-zero
  - Facility requirements for fueling/charging infrastructure and compliant equipment
  - Priorities based on community risk
- Work closely with districts to weave together CARB sector rules and any air district ISR rules

# ZE Drayage Trucks

1. Participate in the San Pedro Bay Ports' determination of drayage truck rates to incentivize ZE/near-zero emission truck trips
2. CARB rule to transition drayage trucks to ZE or ZE operation

## *Considerations:*

- Return on investment
- Cost & innovative financing
- Demonstrations underway
- Preferred access (ports, I-710)

# Harbor Craft and ZE Cargo Equipment

3. CARB rule for cleaner combustion in commercial harbor craft (in-use and new); freight-related and passenger vessels
4. CARB rule to transition cargo handling equipment to ZE

## *Considerations:*

- Return on investment
- Feasibility of Tier 4 marine retrofits
- ZE potential
- Planning/funding for infrastructure
- Labor
- Automation

# Rail Operations and Locomotives

(freight & passenger rail)

5. CARB rule or alternative to reduce idling from rail operations and emissions from other stationary locomotive operations
6. CARB rule or alternative to accelerate upgrade of locomotives not preempted under the Clean Air Act

## *Considerations:*

- Federally mandated activities
- Funding
- Technology for stationary locomotive control

# Freight Handbook

7. CARB handbook that identifies best practices and guidance for the siting, design, construction, and operation of freight facilities

First module: warehouses and distribution centers

8. Additional modules: seaports, rail yards, others

## *Considerations:*

- State partners
- Extensive engagement
- Freight clusters & pollution burden
- Sensitivity to local authority
- State & district CEQA guidelines

# Freight Hub Enforcement Team

9. Form a new team focused on enforcement at warehouses and distribution centers to ensure compliance at freight hubs across the state

## *Considerations:*

- Responsiveness to community concerns
- Additional enforcement partnerships
- Level playing field within the supply chain (vehicle operators, brokers, shippers, and receiving facilities)

# Next Steps

<b><u>New CARB Rules and Other Actions</u></b>	<b><u>To Board</u></b>	<b><u>Implement</u></b>
Freight Hub Enforcement Team	---	2018
San Pedro Ports' drayage truck rates	---	2018-19
Freight Handbook – Module 1	2019	2019
Harbor craft	2020	2023+
Rail yard idling and other operations	2020	2023+
Freight Handbook – Module 2+	2021+	2021+
Non-preempted locomotives	2022	2025+
ZE Cargo handling equipment	2022	2026+
ZE Drayage trucks	2022	2026-28+
Plus annual update to the Board	2019+	

# Summary: 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**