Rail Yards and Intermodal Facilities
Facility-Based Mobile Source Measures



South Coast AQMD

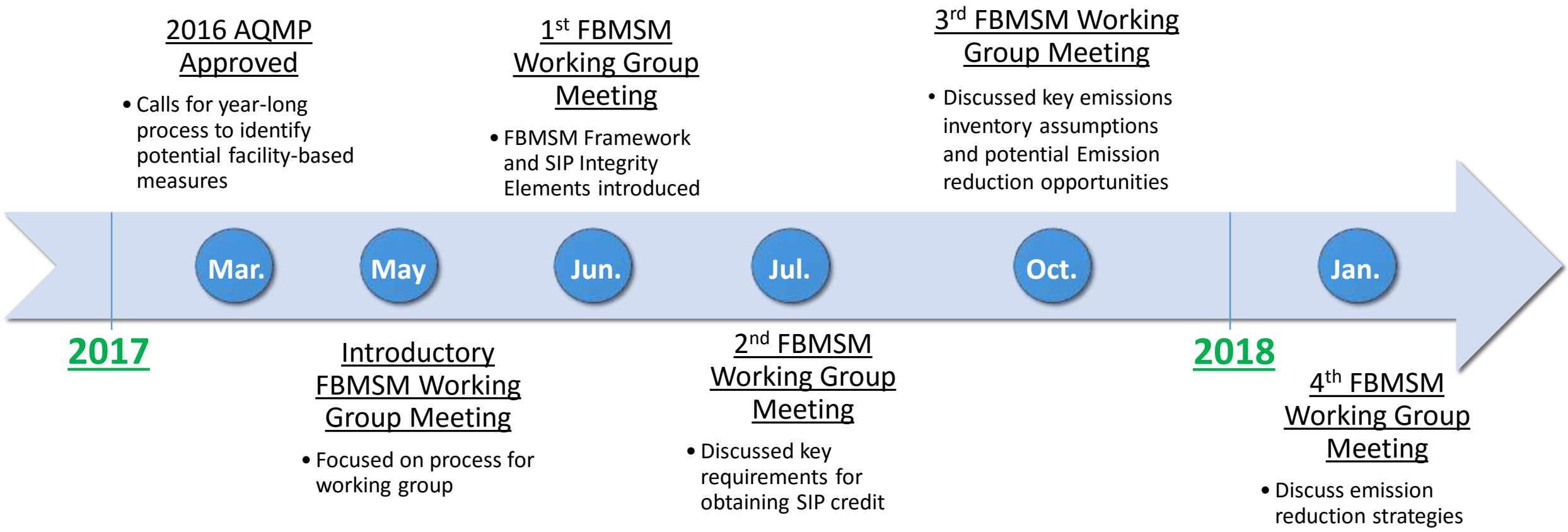
4th Working Group Meeting
January 18, 2018

FBMSM

Agenda

- Background
- Railyards and Intermodal Facilities Emissions Inventory
- Emission Reduction Opportunities
- Emission Reduction Strategies
- Next Steps

Background – Previous FBMSM Activities

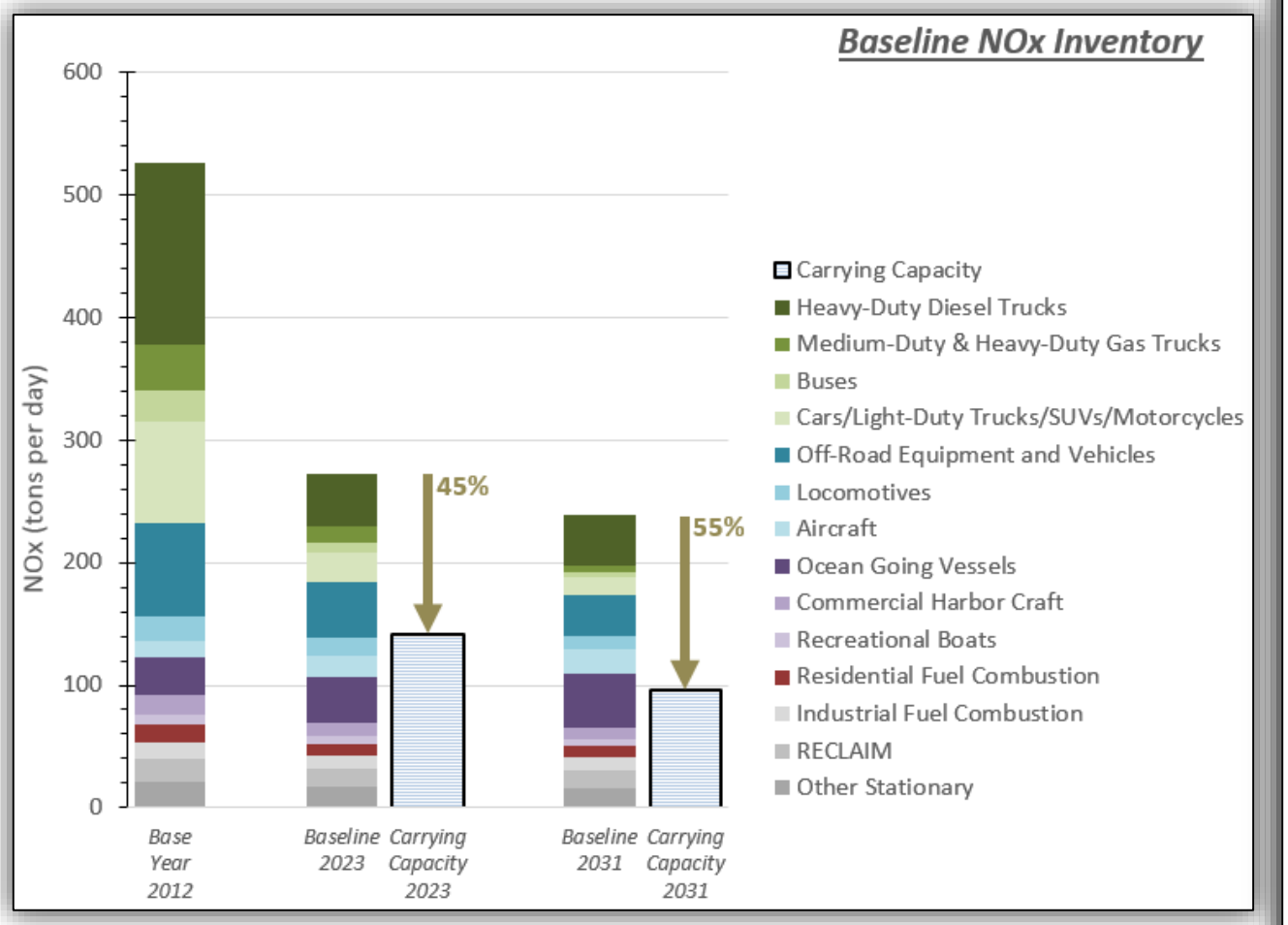


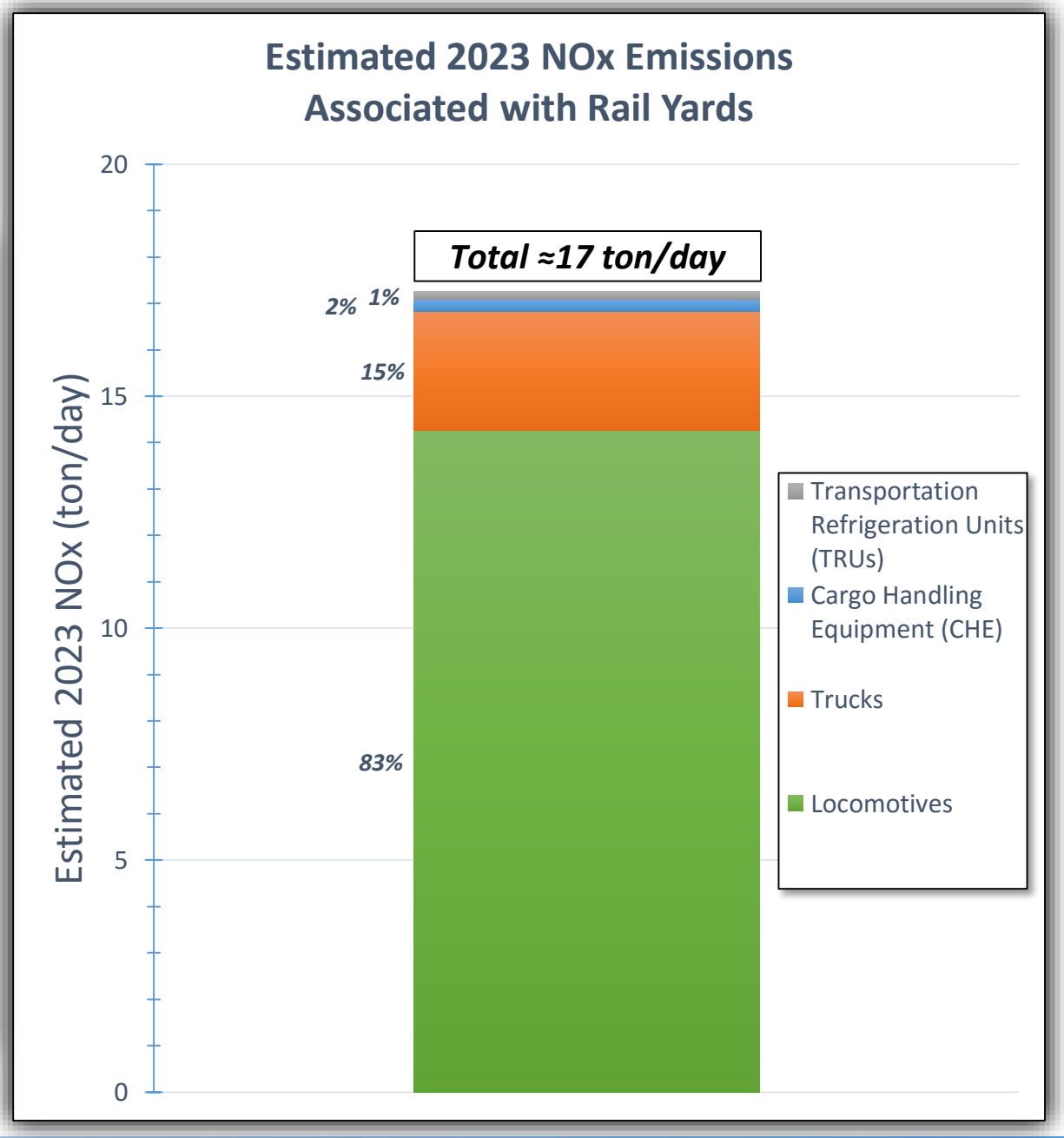
Background

Key mobile sources related to railyards and intermodal facilities:

- Locomotives
- Cargo Handling Equipment (CHE)
- Trucks
- Transport Refrigeration Units (TRUs)

Total South Coast SIP NOx Inventory





Rail Yard and Intermodal Facilities Emission Reduction Categories

Locomotives

Cargo Handling Equipment (CHE)

Trucks

Transportation Refrigeration Units (TRUs)

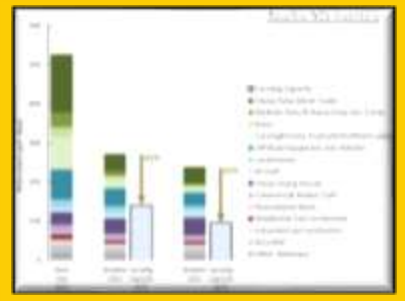
Key Considerations for Emission Reduction Mechanisms

Regulation

- Must be feasible based on cost, availability of technology, etc.
- Should avoid significant administrative or cost burdens
- Should not hinder available incentives

MOUs, Agreements, etc.

- Includes mutually agreeable emission reduction target
- Procedure to make-up shortfalls required in case target not met to be SIP creditable



Inventory Adjustment

- Requires demonstrated history of behavior (e.g., fuel use/improved efficiencies)
- Records of behavior must be available to be SIP creditable

Facilitating Measures

- Infrastructure projects (e.g., EV charging, TRU plug-in, etc.)
- Generally not SIP creditable but critical to facilitate emission reductions

Incentives

- Availability of technology
- Funding commitment
- Must demonstrate that incentivized activity meets 'integrity elements' to be SIP creditable

Potential Emission Reduction Strategies – All Sources at Rail Yards

Existing Emission Reduction Strategies

- Regulation ✓
- Incentives ✓
- Facilitating Measures
- Agreement(s)
- Inventory Refinement

Regulation

- CARB petition to EPA for more stringent national locomotive emissions standards
- SCAQMD petition to EPA for more stringent national truck standards
- Potential CARB rule for NZE trucks
- Potential CARB rule for up to 100% ZE CHE by 2030
- Potential CARB rule for ZE TRU
- Potential CARB rule for Low Emission Diesel

Incentives

- Incentive programs such as Prop.1B, Carl Moyer, etc.

Potential Additional Emission Reduction Strategies

- Regulation ✓
- Incentives
- Facilitating ✓ Measures
- Agreement(s) ✓
- Inventory Refinement

Facilitating Measures

- Operational efficiency improvements such as, facility reconfigurations, fuel efficiency improvements, and reduced load testing, etc.

Agreement

- Possibility for additional agreements that go beyond existing locomotive agreements

Regulation

- (Next slide)

Potential Indirect Source Regulatory Approach

- Clean Air Action Plan for each facility
  - Facilities would prepare emissions inventory and action plan, and would need to reduce NOx emissions by specific target with implementation dates by 2023 & 2031
  - Facility-specific emission reduction target of XX% could potentially be applied depending on type of operations, or instead a rail company-wide target could be established
- Potential strategies that could be used in Clean Air Action Plans
  - Utilize truck Fleet Certification program proposed for warehouses
  - Preferentially route cleaner line-haul locomotives
  - Use cleanest switchers available
  - Install hood technology to control some onsite locomotive emissions
  - Use ZE/NZE Cargo Handling Equipment (e.g., ZE hostlers, wide-span gantry, etc.)
  - Increase use of ZE Transportation Refrigeration Units
  - Etc.
- Other compliance options possible
  - Mitigation fees, facility reconfigurations to reduce emissions/exposure, etc.

Potential ISR Concept at Rail Yards - Two Components

Fleet Component

- Voluntary certification program
- Truck fleet could voluntarily certify that their construction activity in the air basin is XX% cleaner than Truck and Bus Rule on average
- Fleets that don't certify are assumed to only operate 2010 trucks starting in 2023
- Voluntary certification program would begin sometime between 2020-2023

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Facility Component

- Indirect Source Rule
- Facilities would be required to ensure that truck fleets serving their facility are XX% cleaner than the Truck and Bus rule on average
- Facilities must record every truck that visits the facility and which fleet it belongs too
- Facility average based on fleet certification levels
- Full implementation would begin by 2023

Expected Benefits of Proposed Fleet Certification + ISR for Rail Yards

- Voluntary for fleets Participating fleets would be eligible for incentive funding
- Fleet certification program would not interfere with other truck regulations
- Fleet certification program would be available for other programs (e.g., CEQA and other FBMSM)
- Facilities would not be required to track truck emission level compliance
  - Example: 100% of trucks visiting a facility could be 2010 trucks as long as average of all fleets serving the facility meet the ISR requirement
- Facility ISR requirement could be supported by substantiating studies (e.g., cost-effectiveness, availability of incentives, feasibility, etc.), and could be modified as conditions change
- ISR could include mitigation fee or other options

Considerations for Proposed Rail Yard Regulatory Approach

- Locomotives are primary source of emissions associated with rail yards
  - SIP inventory already assumes ~40-50% Tier 4 line-haul locomotives in 2023
    - Only ~3% Tier 4 line-haul locomotives used in 2016
    - No Tier 4 locomotives currently included in 2023 inventory for Metrolink
  - Depending on technologies used, trucks may have lower NOx emissions than locomotives (and lower for other pollutants like GHGs)
- Depending on structure of any potential rule, harmonization with Interstate Commerce Commission Termination Act may be required
- Potential synergy with AB 617
- Incentives will continue to be a critical element to introduce cleaner equipment

Next Steps

- Report to Mobile Source Committee on February 16, 2018
- Present proposed Emission reduction strategies to the Governing Board on March 2, 2018 and seek further direction

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Questions or Comments?

Discussion Period

- Question 1: What types and levels of incentives would be needed to have greater number of cleaner locomotives in South Coast (e.g., tier 4, alt. fuel)?
- Question 2: What are the benefits/drawbacks of a voluntary agreement (e.g., MOU) vs. a regulatory approach?
- Question 3: What additional or replacement strategies should SCAQMD consider and why would they be better?