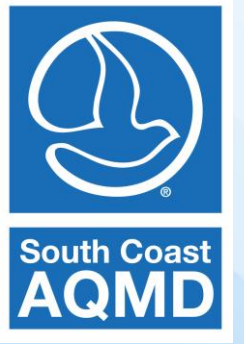


Agenda Item 5

South Coast AQMD's Proposed Draft Mobile Source Measures

**2022 Air Quality Management Plan (AQMP)
Control Measures Workshop – Afternoon Session**

November 10, 2021



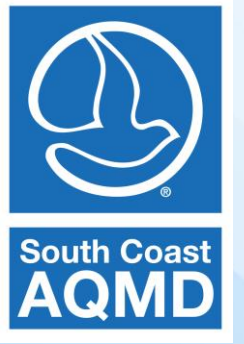
EGM-01 Emission Reductions from New Development and Redevelopment Projects

EGM-01 Emission Reductions from New Development and Redevelopment Projects

- Source Category
 - Identify emission reduction opportunities from new development and redevelopment of commercial, residential, and industrial projects otherwise not included in other Facility Based Mobile Source Measures identified in the 2016 AQMP
- Proposed Approach
 - In 2018, Governing Board directed staff to continue to develop rule concepts, timelines, and cost-benefit estimates
 - Staff held seven WGMs. Based on WGM discussions, staff prepared an RFP to investigate approaches to identify potential cost of reducing construction emissions from new development and redevelopment projects.

EGM-01 Emission Reductions from New Development and Redevelopment Projects (Cont'd)

- Proposed Approach (Cont'd)
 - RFP released in Fall of 2019 for a 60-day period; no proposals were received, and no contract was awarded
 - EGM-01 remains a priority among the other FBMSMs
- Emission Reductions
 - To be determined

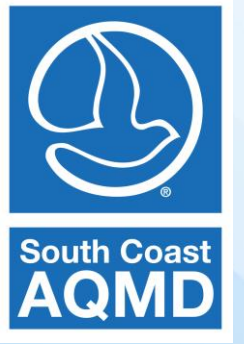


EGM-02 Projects Subject to General Conformity Requirements

EGM-02 Projects Subject to General Conformity Requirements

- Source Category
 - U.S. EPA's General Conformity Regulation requires that federal agencies do not cause or contribute to a violation of the NAAQS or interfere with the purpose of a SIP, TIP or FIP* to attain or maintain the NAAQS (40 CFR Parts 51 and 93)
 - Project-related emissions include on-road and off-road mobile, and stationary sources
 - 2012 and 2016 AQMPs established a set-aside account to accommodate projects subject to general conformity on a first-come-first-serve basis
- Proposed Approach
 - Establish a new mechanism, ultimately through rulemaking process, to address general conformity project emissions and eliminate the SIP set-aside account
- Emissions Reductions
 - Depends on specific projects and source categories affected

* SIP - State Implementation Plan; TIP - Tribal Implementation Plan; FIP - Federal Implementation Plan



EGM-03 Clean Construction Policy

EGM-03 Clean Construction Policy



- Source Category

- Identify potential approaches for emissions reductions that can be implemented during construction activities for new and redevelopment projects. The Clean Construction Policy will be available as a voluntary measure for reference and implementation for construction activities.

- Proposed Approach

- Hierarchy:

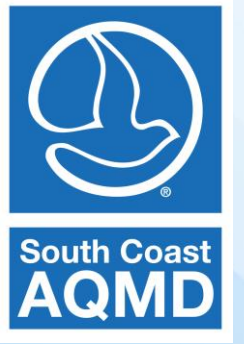
- Zero-emissions construction equipment and haul and material delivery trucks
- Direct, on-site emission reductions
- Emission reductions outside the area of the project for regional pollutants
- Use emission reduction credits from other non-new source review programs
 - Emission reduction credits would be the least favorable approach for any project
 - Seek direct emission reductions prior to utilization of any off-site or indirect emission reduction opportunity (e.g., emission reduction credits)

EGM-03 Clean Construction Policy (Cont'd)

- Proposed Approach (Cont'd)
 - Off-Road
 - Use the cleanest commercially available off-road construction equipment. At minimum, all diesel-powered equipment must meet Tier-4 final standards unless technology is not commercially available
 - Generators – meet the 0.01 g/bhp-hr standard for PM, or equipped with BACT
 - On-Road
 - Use the cleanest commercially available vehicles. At minimum, all diesel-fueled vehicles at least 14,000 pounds must meet the 2010 engine standards
 - Use renewable diesel fuel for at least 90 percent of diesel fuel demand
 - Periodic technology assessment to identify and require implementation of newer and cleaner construction equipment and/or trucks that have become available over a project's construction time period (e.g., through CARB's Tier 5 for off-road and ACT and Low NOx Omnibus for on-road)

EGM-03 Clean Construction Policy (Cont'd)

- **Best Management Practices/Design Considerations**
 - Maintain an equipment inventory
 - Reduce idling time to 2 minutes
 - Maintain a buffer zone between truck traffic and sensitive receptors
 - Design site entrances and exits to limit idling of haul and material trucks
 - Construction staging areas located as far away as feasible from sensitive receptors
 - Keep check-in points inside a project site such that no haul and material delivery trucks are queuing outside
 - Designate haul truck trip routes to avoid sensitive land uses (e.g., homes and schools)
 - Schedule construction activities in close proximity to sensitive receptors to occur outside operational hours of those sensitive land uses
 - Minimize construction duration by 10% in disadvantaged community areas



MOB-01 Emission Reductions at Commercial Marine Ports

MOB-01 Emission Reductions at Commercial Marine Ports

- Source Category

- All mobile sources related to port operations, including drayage trucks, ocean-going vessels, locomotives, cargo handling equipment, and harbor craft

- Background

- 2016 AQMP Facility Based Mobile Source Measure for Marine Ports

- Sought to obtain SIP credit for implementation of measures described in the 2017 San Pedro Bay Ports Clean Air Action Plan (CAAP) Update
- May 2018 Board direction: Pursue Ports MOU and report back to Board
- August 2021 Board direction: Continue exclusively pursuing MOU for another four months; if an MOU is not developed and fully executed within that time, begin internal development of a potential Indirect Source Rule (ISR). Begin external work on ISR after six months.



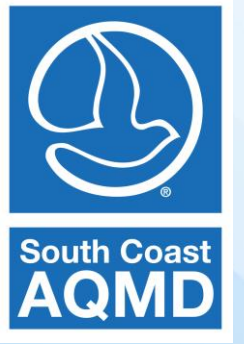
(Photo credit: Barrett Ward on Unsplash.com)

MOB-01 Emission Reductions at Commercial Marine Ports (Cont'd)

- Background (continued)
 - Port FBMSM included in AB 617 Community Emissions Reduction Plan (CERP) for Wilmington, Carson, West Long Beach
- Proposed Approach
 - Similar approach as 2016 AQMP: Evaluate opportunities for voluntary actions first, and if unsuccessful, pursue regulatory approach
 - Proposed measure expected to be influenced by current FBMSM underway from 2016 AQMP
- Emissions Reductions
 - To be determined



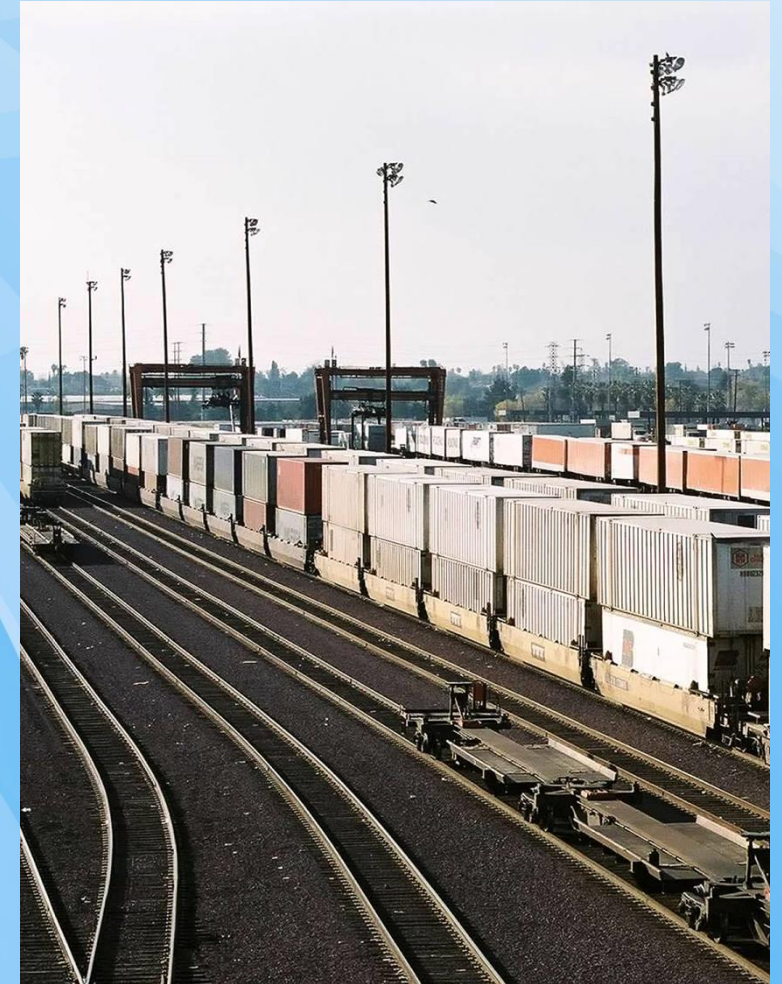
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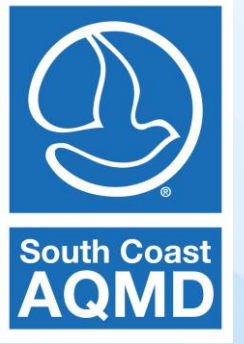


MOB-02 Emission Reductions at Rail Yards and Intermodal Facilities

MOB-02 Emission Reductions at Rail Yards and Intermodal Facilities

- **Source Category**
 - Rail yards and intermodal facilities are facilities where mobile sources and equipment are used for conveying goods
- **Background**
 - Proposed Rule 2306 is being developed and will partially implement MOB-02 by focusing on new intermodal facilities related to freight
 - Future rulemaking activities will focus on existing intermodal facilities
 - AB 617 Community Emissions Reduction Plan (CERP) goals for multiple communities
- **Proposed Approach**
 - Will be developed during the rulemaking process
 - Seeks implementation of the cleanest technologies
- **Emissions Reductions**
 - To be determined





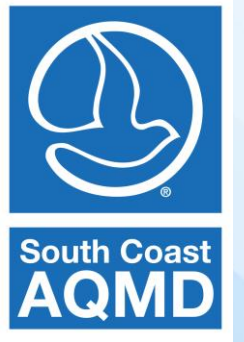
MOB-03 Emission Reductions at Warehouse Distribution Centers

MOB-03 Emission Reductions at Warehouse Distribution Centers

- Source Category
 - Mobile emissions sources attracted to warehouses such as on-road trucks and cargo handling equipment
- Regulatory Background
 - Rule 2305 – Warehouse Indirect Source Rule adopted May 7, 2021
 - Applies to owners and operators of new and existing warehouses $\geq 100,000$ square feet
 - Rule sunsets when 70 ppb ozone standards are met (state and federal)
 - Implements AB 617 CERP goals for multiple communities
- Proposed Approach
 - As program is implemented and compliance approaches are chosen by industry, emission reduction patterns will emerge. Historical data can then be used to evaluate potential future quantified SIP creditability
 - Evaluate whether Rule 2305 applicability should be expanded (e.g., smaller warehouses) and/or whether rule stringency should be increased in the future
- Emissions Reductions (from current rule)



Year	2023	2031	2037
NOx (tpd)	0.1-3.7	2.5-4.0	To be determined



MOB-04 Emission Reductions at Commercial Airports

MOB-04 Emission Reductions at Commercial Airports

- Source Category
 - Non-aircraft emissions sources related to commercial airports such as ground support equipment, shuttle buses, and heavy-duty trucks
- Regulatory Background
 - Facility Based Mobile Source Measures (FBMSM) for Commercial Airports was adopted on December 6, 2019.
 - Memoranda Of Understanding (MOUs) with five commercial airports
 - South Coast AQMD maintains enforceable commitment
- Proposed Approach
 - MOUs with commercial airports
 - Work with commercial airports to identify additional feasible measures through 2037
- Emissions Reductions



Year	2023	2031	2037
NOx (tpd)	0.52	0.37	To be determined

MOB-05 Accelerated Retirement of Older Light-Duty
and Medium-Duty Vehicles

MOB-06 Accelerated Retirement of Older On-Road
Heavy-Duty Vehicles

MOB-07 On-Road Mobile Source Emission Reduction
Credit Generation Program

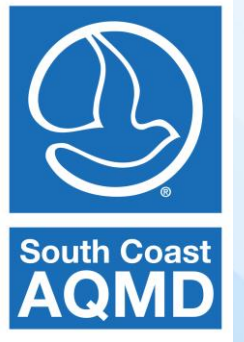
On-Road Mobile Source Measures

Control Measure	Title	Source Category*	Baseline Inventory (tpd)	Method of Control
MOB-05 [^]	Accelerated Retirement of Older Light-Duty and Medium-Duty Vehicles	LD/MD (≤ 8,500 lbs)	2018: NO _x 52.4, VOC 65.0 2037: NO _x 13.2, VOC 24.8	Replace Your Ride Program <ul style="list-style-type: none"> • Up to \$4,500 for ZEVs/PHEVs • Up to \$5,000 for DACs • Up to \$2,000 for chargers • Scrappage of old vehicles required
MOB-06 [^]	Accelerated Retirement of Older On-Road Heavy-Duty Vehicles	LHD/MHD/HHD (>8,500 lbs)	2018: NO _x 96.8, PM _{2.5} 2.9 2037: NO _x 43.2, PM _{2.5} 1.7	Trade-Up Program <ul style="list-style-type: none"> • Three-way exchange • Scrappage of older trucks required • Pilot project for drayage trucks underway
MOB-07	On-Road Mobile Source Emission Reduction Credit Generation Program [#]	MHD/HHD (≥14,001 lbs)	2018: NO _x 83.0, PM _{2.5} 2.5 2037: NO _x 41.7, PM _{2.5} 1.4	<ul style="list-style-type: none"> • Rule 1612 – Credits for Clean On-Road vehicles • Rule 1612.1 – Mobile Source Credit Generation Pilot Program

*LD/MD – Light-Duty/Medium-Duty; LHD- Light Heavy-Duty; MHD – Medium Heavy-Duty; HHD – Heavy Heavy-Duty

[^] Implement AB 617 Community Emissions Reduction Plan (CERP) goals for multiple communities

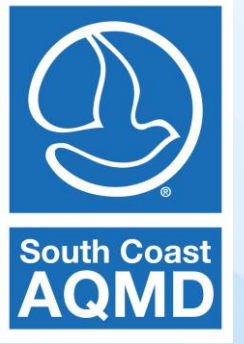
[#] Potential for achieving reductions ahead of CARB’s proposed ACF rule. ACF rule could potentially ensure emission reductions are permanent.



MOB-08 Extended Exchange Program
MOB-09 Further Emission Reductions from Passenger
Locomotives
MOB-10 Off-Road Mobile Source Emission Reduction
Credit Generation Program

Off-Road Mobile Source Measures

Control Measure	Title	Source Category	Baseline Inventory (tpd)	Method of Control
MOB-08	Extended Exchange Program	Small Off-Road Engines/Larger Diesel Lawn and Garden Equipment	2018 - NOx 20.5, VOC 63.5 2037 - NOx 16.0, VOC 67.0	<ul style="list-style-type: none"> • Electric Lawn Mower Rebate Program (up to \$250) • Commercial Electric Lawn and Garden Equipment Exchange Program (up to 75% buy-down) • Battery Buy-Down Rebate (up to 75%)
MOB-09	Further Emission Reductions from Passenger Locomotives	Passenger Locomotive Engines	2018 - NOx 1.0, PM2.5 0.02 2037 - NOx 0.5, PM2.5 0.01	<ul style="list-style-type: none"> • Replace or repower locomotives with Tier 4 or cleaner locomotives/engines
MOB-10	Off-Road Mobile Source Emission Reduction Credit Generation Program	Off-Road Construction, Industrial, Ground Support, Drilling Equipment	2018 - NOx 35.6, PM2.5 1.8 2037 - NOx 15.5, PM2.5 0.7	<ul style="list-style-type: none"> • Rule 1620 – Credits for Clean Off-Road Mobile Equipment

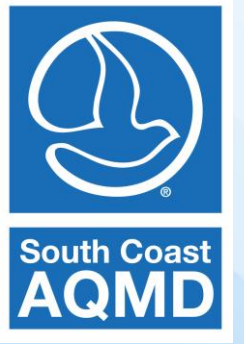


MOB-11 Emission Reductions from Incentives Programs

MOB-11 Emission Reductions from Incentives Programs

- Source Category
 - On-road and off-road mobile source vehicles and equipment
- Proposed Approach
 - Implementation of incentive programs to accelerate deployment of new, cleaner technologies
 - Coordinate and fund fueling/charging infrastructure
- Key Existing Incentive Programs
 - Carl Moyer - \$650M; 8,700 vehicles/equipment since 1998
 - Prop 1B - \$486M; 7,500 vehicles/equipment since 2009
 - Lower Emission School Bus - \$325M; 5,200 vehicles since 2001
 - Community Air Protection Program
 - Volkswagen Environment Mitigation Trust Program
- Implement AB 617 Community Emissions Reduction Plan (CERP) goals for multiple communities
- Emissions Reductions
 - To be determined

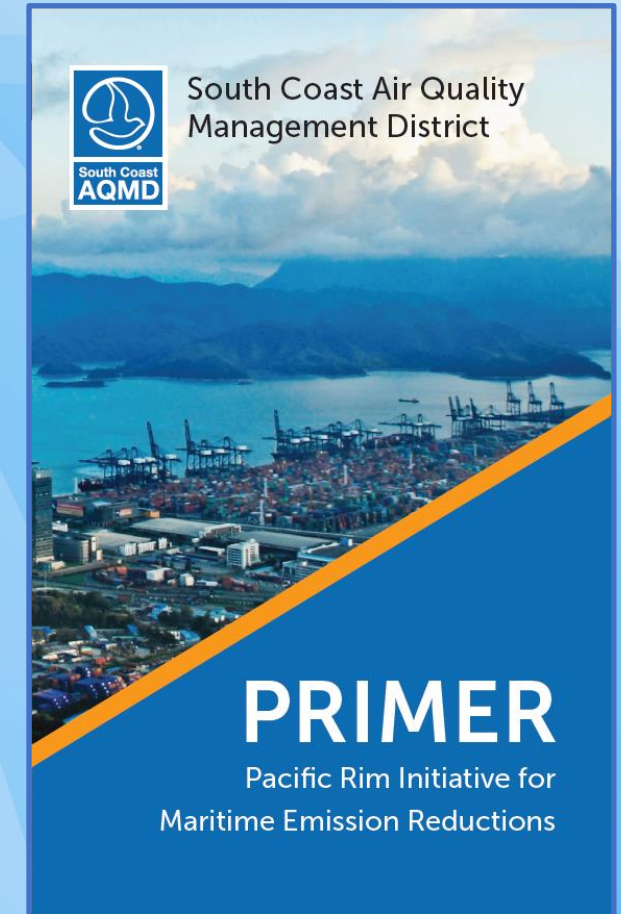




MOB-12 Emission Reductions from Pacific Rim Initiative for Maritime (PRIMER)

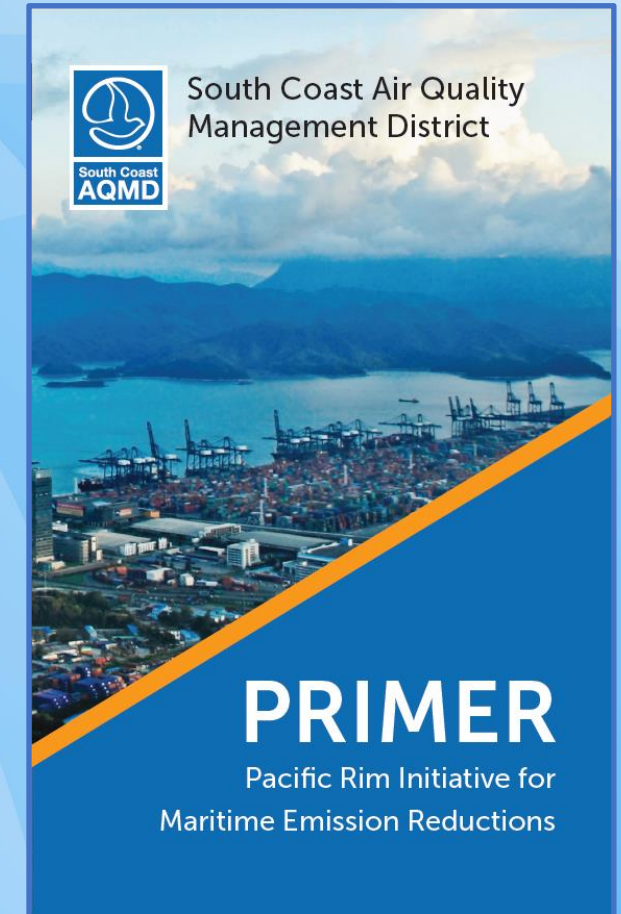
MOB-12 Emission Reductions from Pacific Rim Initiative for Maritime (PRIMER)

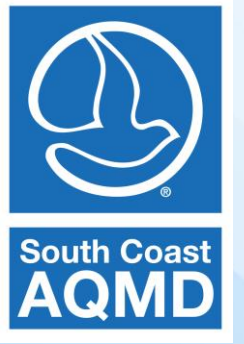
- Source Category
 - Ocean-going vessels that frequently visit the San Pedro Bay Ports (SPBP) and other Pacific Rim ports
- Background
 - 2016 State Implementation Plan Measure to Incentivize Low Emission Efficient Ship Visits
 - Pursue partnerships with other jurisdictions and ports along the Pacific shipping corridor to develop a “green lane” concept with multiple small incentives for cleaner vessels
 - 2016 AQMP Facility Based Mobile Source Measure for Commercial Marine Ports
 - 2017 SPBP CAAP Update: potential to coordinate incentives with regulatory agencies and/or other ports on the same vessel service strings



MOB-12 Pacific Rim Initiative for Maritime Emission Reductions (cont.)

- Background (continued)
 - Measures included in AB 617 Community Emissions Reduction Plan (CERP) for Wilmington, Carson, West Long Beach
- Proposed Approach
 - Work with local authorities in Pacific Rim port regions to coordinate incentives for Tier II+ and Tier III OGVs
 - Demonstrate Tier II+ retrofit technologies for in-service vessel fleet
 - Work with the San Pedro Bay Ports to coordinate PRIMER with the current Green Ship Incentives and the 2017 CAAP measure to implement a Clean Ship Program
- Emissions Reductions
 - To be determined





MOB-13 Fugitive VOC Emissions from Tanker Vessels

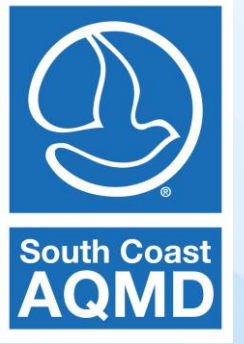
MOB-13 Fugitive VOC Emissions from Tanker Vessels

- Source Category
 - Fugitive VOC emissions from tanker vessels during marine transit of crude oil and other petroleum products
- Regulatory Background
 - Rule 1142 covers loading, lightering, ballasting and housekeeping events for marine tanker vessels but emissions related to transit and unloading events are not subject to the regulation
 - Measure included in AB 617 Community Emissions Reduction Plan (CERP) for Wilmington, Carson, West Long Beach
- Estimated Emissions Inventory
 - 7.8 tpd VOC in 2018



MOB-13 Fugitive VOC Emissions from Tanker Vessels (Cont'd)

- Proposed Approach
 - Inspection, monitoring and reporting requirements
 - Inspect pressure vacuum (P/V) valves for proper seating before entering South Coast AQMD waters
 - Monitor cargo tanks pressure
 - Take Toxic Vapor Analyzer (TVA) readings for each P/V valve before entering the South Coast AQMD waters
 - Report any vapor release incidents or any leaks detected with TVA
 - Spray the decks with seawater to prevent vapor releases
 - Work with the industry to evaluate and identify lower emission P/V valves
- Emissions Reductions
 - To be determined



MOB-14 Rule 2202 / Telecommuting

MOB-14 Rule 2202 / Telecommuting

- **Source Category**

- Employers with more than 250 employees required to mitigate commute trips into worksite:
 - Rule compliance options include:
 - Air Quality Investment Program (AQIP)
 - Emission Reduction Strategies (ERS)
 - Employee Commute Reduction Program (ECRP)

- **Emissions Inventory**

	2018	2037
POLLUTANT INVENTORY (TPD IN SUMMER)	VOC- 51.9	VOC- 20.1
	NOx- 39.9	NOx- 11.2
	CO- 515.0	CO- 232.9

Totals for all light duty cars and trucks emissions in the basin. Emissions covered by the rule are only a portion of this total

MOB-14 Rule 2202 / Telecommuting

- Proposed Approach
 - During COVID-19, many employers incorporated telecommuting practices
 - Effective way of eliminating emissions caused by employee commute trips
 - Rule 2202 currently allows credit for telecommuting under ECRP option
 - Future rule amendments may include:
 - Larger focus on telecommuting strategies
 - Provide additional incentives for employers to adopt telecommuting policies
- Emissions Reduction and Cost Effectiveness
 - TBD

MOB-15 Zero-Emission Infrastructure for Mobile Sources



- Source Category
 - Seek to assess and facilitate infrastructure needs for zero-emission on-road and off-road mobile sources
- Background
 - AB 2127 Report by Energy Commission found that ~157,000 50+kW stations will be needed statewide by 2030 for MD/HD fleet
 - AB 8 Report by CARB found that 1,000 H₂ stations will be needed statewide by 2030 to support 1 million fuel cell vehicles (mainly light duty)
 - Substantially more ZE infrastructure would be needed to achieve 2037 ozone standard
 - Measure would implement AB 617 Community Emissions Reduction Plan (CERP) goals for multiple communities
- Proposed Approach
 - Evaluate resource needs of zero emission infrastructure for mobile sources, including the cumulative needs for ZE technologies in stationary applications
 - Identify policy approaches, in coordination with other entities, that South Coast AQMD can pursue to rapidly increase availability and affordability of ZE infrastructure

Q & A and Public Comments

For ZOOM:

- Click on the “Raise Hand” button.

For TELEPHONE:

- Dial *9 on your keypad