

# San Joaquin Valley Supplement to the 2016 State Strategy for the State Implementation Plan

October 25, 2018

# Timing

SJV Moderate  
Annual  $12 \mu\text{g}/\text{m}^3$   
PM2.5 SIP  
October 2016

SJV  
Comprehensive  
PM2.5 Plan  
January 2019

March 2017  
2016 State  
SIP Strategy

October 2018  
Valley State  
SIP Strategy

# Board Action

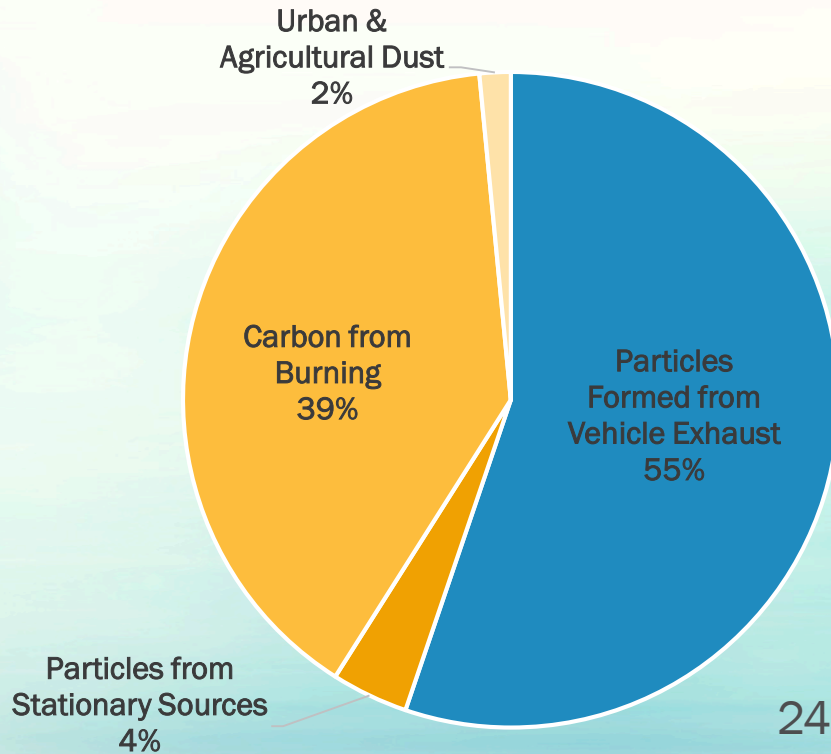
## Today

- SJV Supplement to the State SIP Strategy including CARB commitments

## January

- San Joaquin Valley APCD Comprehensive PM2.5 Plan including District commitments

# What's in the Valley's Air



~45% Primary PM2.5  
~55% Secondary PM2.5

24-hr average  
Fresno 2013

# Shared Responsibilities

## FEDERAL



### US EPA

Sets & enforces national air quality standards.  
Regulates interstate transportation.



TRAINS



PLANES



SHIPS

## STATE



Regulates mobile sources of air pollution,  
greenhouse gases & consumer products.



CARS



TRUCKS



BUSES

## LOCAL



### Local Air Districts

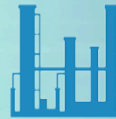
Regulates stationary & local  
sources of air pollution.



FIREPLACES



FACTORIES



REFINERIES



POWER PLANTS

# Regulatory Foundation Set by 2016 State SIP Strategy

## Measures

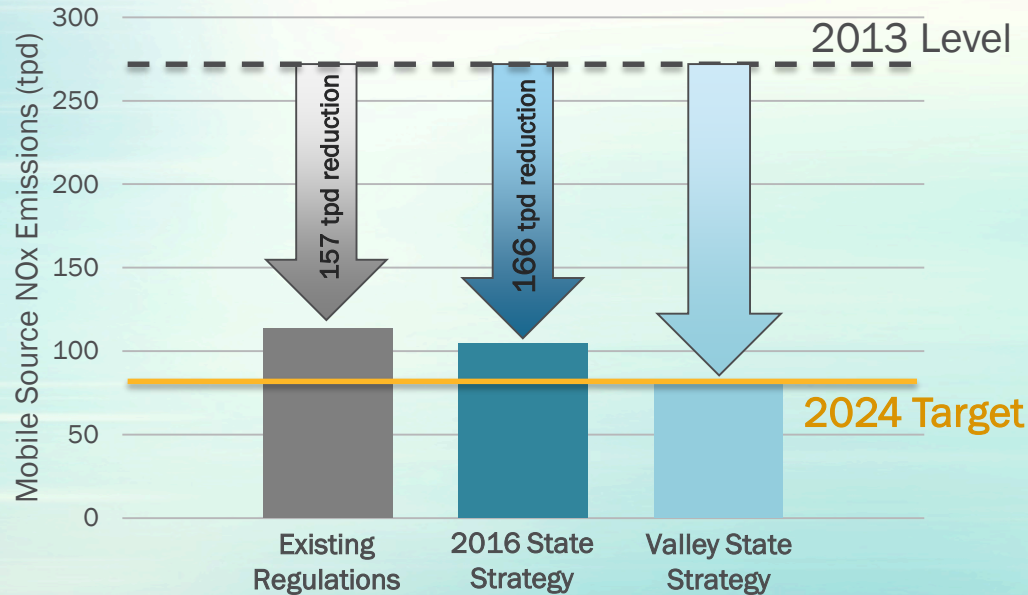
### 2016 State SIP Strategy Measures

Advanced Clean Cars 2  
Lower In-Use Emission Performance Level  
Low-NOx Engine Standard – California Action  
Low-NOx Engine Standard – Federal Action  
Innovative Clean Transit  
Advanced Clean Local Trucks (Last Mile Delivery)  
Zero-Emission Airport Shuttle Buses  
More Stringent National Locomotive Emission Standards  
Zero-Emission Off-Road Forklift Regulation Phase 1  
Zero-Emission Airport Ground Support Equipment  
Small Off-Road Engines  
Transport Refrigeration Units Used for Cold Storage  
Low-Emission Diesel Fuel Requirement

- Commitment: 8 tpd NOx reductions in 2031 from measures under CARB's direct regulatory authority
- Benefits quantified for 2025 and 2031, based on natural rate of fleet turnover to cleaner equipment
- Natural turnover by 2031 must be accelerated to meet PM2.5 attainment deadlines



# Accelerated Turnover is Needed to Meet PM2.5 Standards in the Valley



~ 90% regulations and ongoing programs

~ 10% new incentives

# State Commitment for the Valley PM2.5

Measures	2024	
	NOx (tpd)	PM2.5 (tpd)
Current Control Program	157	4.6
Measures		
2016 State SIP Strategy Measures	9	0.1
Proposed New State Measures for the Valley	23	0.8
Aggregate Emission Reduction Commitment	32	0.9



# Updated 2016 State SIP Strategy Measures

- Adopted measures
  - Lower Opacity Limits for Heavy-Duty Vehicles
  - Amended Warranty Requirements for Heavy-Duty Vehicles
- Expanded measures from 2016 State SIP Strategy
  - Heavy-Duty I/M
  - Reduced ZEV Brake and Tire Wear
- Commitment to initiate public process

# Additional Measures Proposed Today

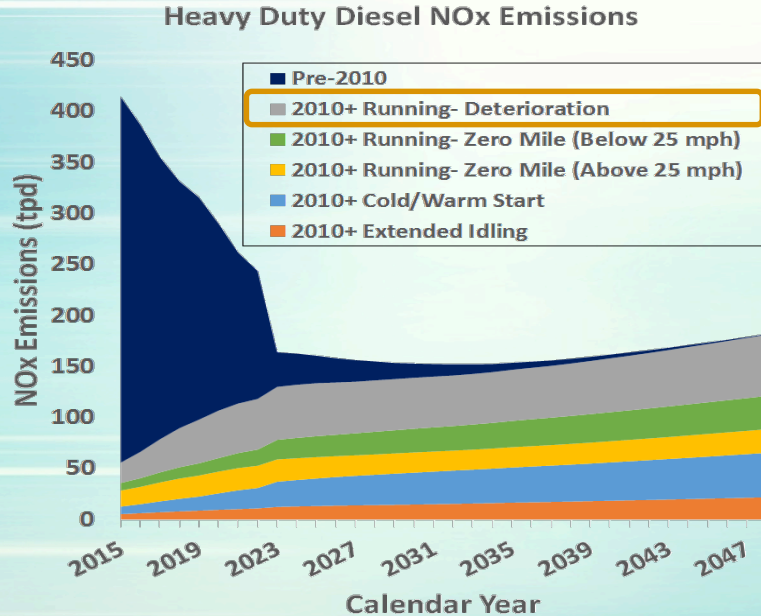
Measures	Public Process Begins	Action	Implementation Begins	NOx (tpd) 2024	PM2.5 (tpd) 2024
<b>Proposed New State Measures for the Valley</b>					
Accelerated Turnover of Trucks and Buses					
Incentive Projects	--	--	Ongoing	10	NYQ
SIP-Creditable Measure	2018	by 2021			
Accelerated Turnover of Agricultural Equipment					
Incentive Projects	--	--	Ongoing	11	0.8
SIP-Creditable Measure	2018	by 2020			
Cleaner In-Use Agricultural Equipment	2019	2025	2030	NYQ	NYQ
Accelerated Turnover of Off-Road Equipment					
Incentive Projects	--	--	Ongoing	2	NYQ
SIP-Creditable Measure	2020	by 2021			
<b>Total Reductions from Proposed State Measures for the Valley</b>				<b>23</b>	<b>0.8</b>

# On-Road Heavy-Duty Vehicles

- Regulatory measures will provide significant NOx reductions in 2024
  - Heavy-Duty Vehicle Inspection and Maintenance Program
- Accelerate turnover to achieve additional 10 tpd of NOx reductions
  - Incentivize ~ 33,000 trucks and buses



# Importance of Heavy-Duty I/M



- Majority of pre-2010 model year engines will be retired by 2023 due to Truck and Bus Regulation
- In 2023 and beyond, deterioration-related NOx is the largest emissions segment
- HDVIP & PSIP target in-use truck emissions but HD I/M will go further

# Potential Heavy-Duty I/M Program

- Ensures in-use trucks are well maintained and emission control components function properly
- Staff is investigating program options:
  - OBD data collection efforts
  - Roadside emission measurement system demonstrations (e.g. PEAQS)
  - Repair durability and repair cost studies





# Agricultural Sector



- Ag industry has a successful history of securing funding and exceeding SIP targets
- Since 2009, public/private investment of more than \$500 million to turn over >6,600 tractors
- Accelerate turnover to achieve 11 tpd of NO<sub>x</sub> reductions, approximately 12,000 tractors

# Importance of FARMER Program

- Incentives specifically for agricultural equipment and trucks
- Allocated funding:
  - 2017-18: \$135 million statewide, \$108 million of that for the Valley
  - 2018-19: \$132 million statewide, District allocations still pending





# Off-Road Equipment

- Accelerate turnover to achieve 2 tpd of NOx reductions
- Incentivize oil drilling workover rigs, construction equipment, TRUs, forklifts, and other types of equipment



# Funding Critical to Achieving Reductions

Measures	Estimated Equipment Turnover	Estimated Cost
<b>Proposed State Measures to Incentivize Turnover</b>		
Trucks and Buses	33,000	\$3.3 billion
Agricultural Equipment	12,000	\$1.4 billion
Off-Road Equipment	4,500	\$170 million
<b>Total needed over next 6 – 7 years</b>		<b>\$4.9 billion*</b>

\* Approximately \$1 billion is currently identified for incentive turnover in the Valley

# Path Forward

- Timely action on regulatory commitments is key
- Ongoing incentive money needed
- Effective implementation and enforcement of Truck & Bus, Heavy-Duty I/M, and other measures to ensure real emission reductions are achieved

# Staff Recommendation

**San Joaquin Valley  
Supplement to the 2016 State  
Strategy for the State  
Implementation Plan**

SEPTEMBER 21, 2018



Adopt the Valley State SIP Strategy:

- Commitment to begin the measure public process and take action on measures by dates specified
- Aggregate commitment to achieve 32 tpd of NO<sub>x</sub> and 0.9 tpd of PM<sub>2.5</sub> emission reductions in the San Joaquin Valley by 2024 and 2025

# Next Steps

- Submit the Valley State SIP Strategy to EPA
- Work with the District to complete the Comprehensive PM2.5 Plan
- Return to the Board in January with District element

