

Update on the Development of the San Joaquin Valley PM2.5 SIP and Consideration of Contingency Measures

September 28, 2017



Update on SJV PM Attainment Strategy

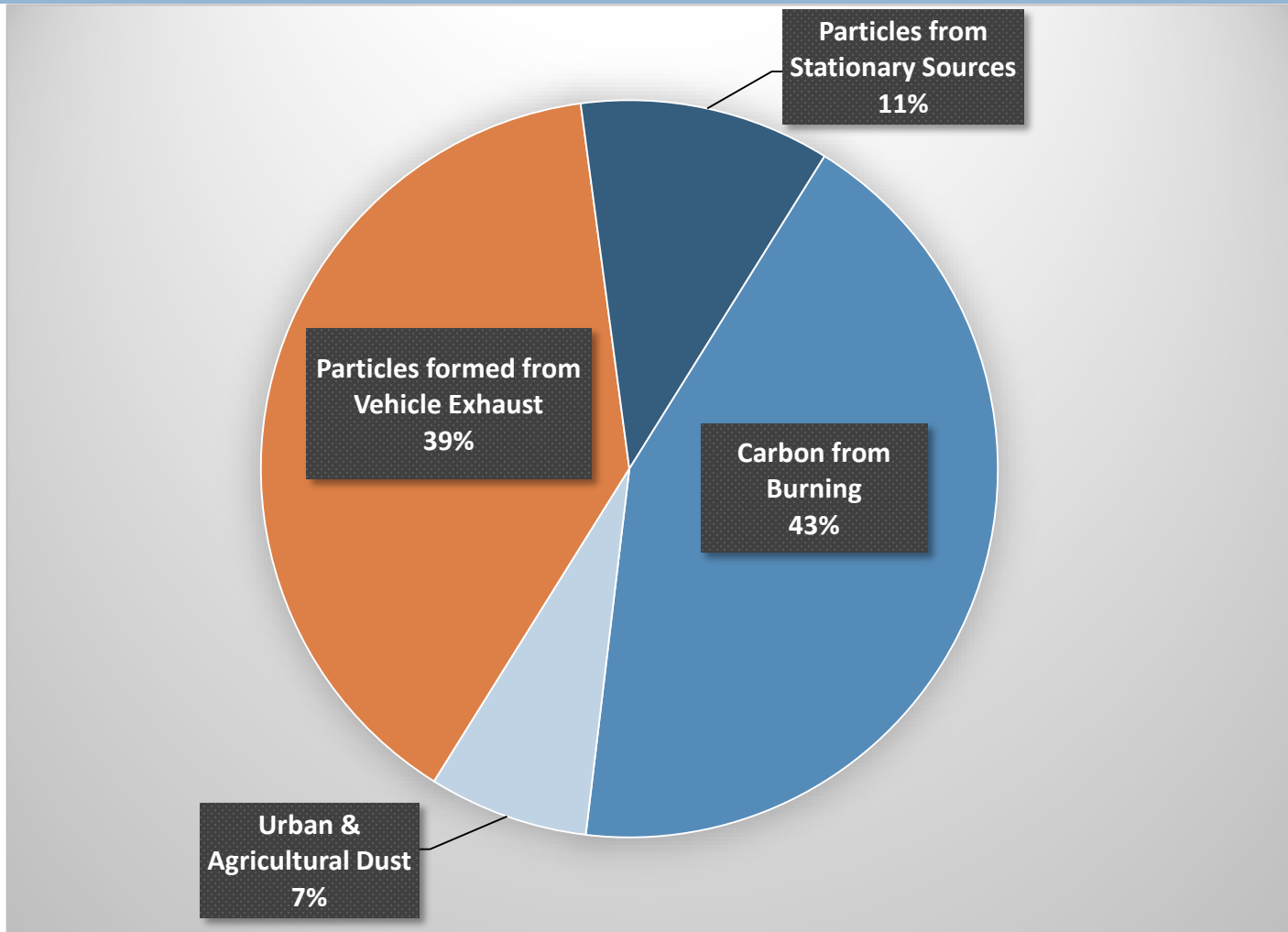
October Board Direction

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- Identify near-term reductions from stationary and mobile sources
- Develop comprehensive attainment strategy to meet all PM2.5 standards
- Recognize shared responsibility between CARB and the District in meeting the PM2.5 standards
- Provide opportunity for further public input on developing the Valley's PM2.5 SIP

What's in the Valley's Air?

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Bakersfield 2015 Annual Average Composition

SIP Modeling for the Valley

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- Over 80 modeling runs conducted to assess contributing sources and needed reductions
- Demonstrates need for comprehensive reductions from stationary and mobile sources
- Evaluates how sensitive pollutant concentrations are to changes in emissions

Reductions from Mobile Sources

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- Current mobile program will reduce NO_x in the Valley over 157 tpd
- Additional 32 tpd reductions from new measures
 - Low NO_x engine standards
 - Zero emission mobile equipment
 - Heavy-duty I&M program
 - Low emission diesel fuel
- New ag equipment measure

New State SIP Measures for Agricultural Equipment

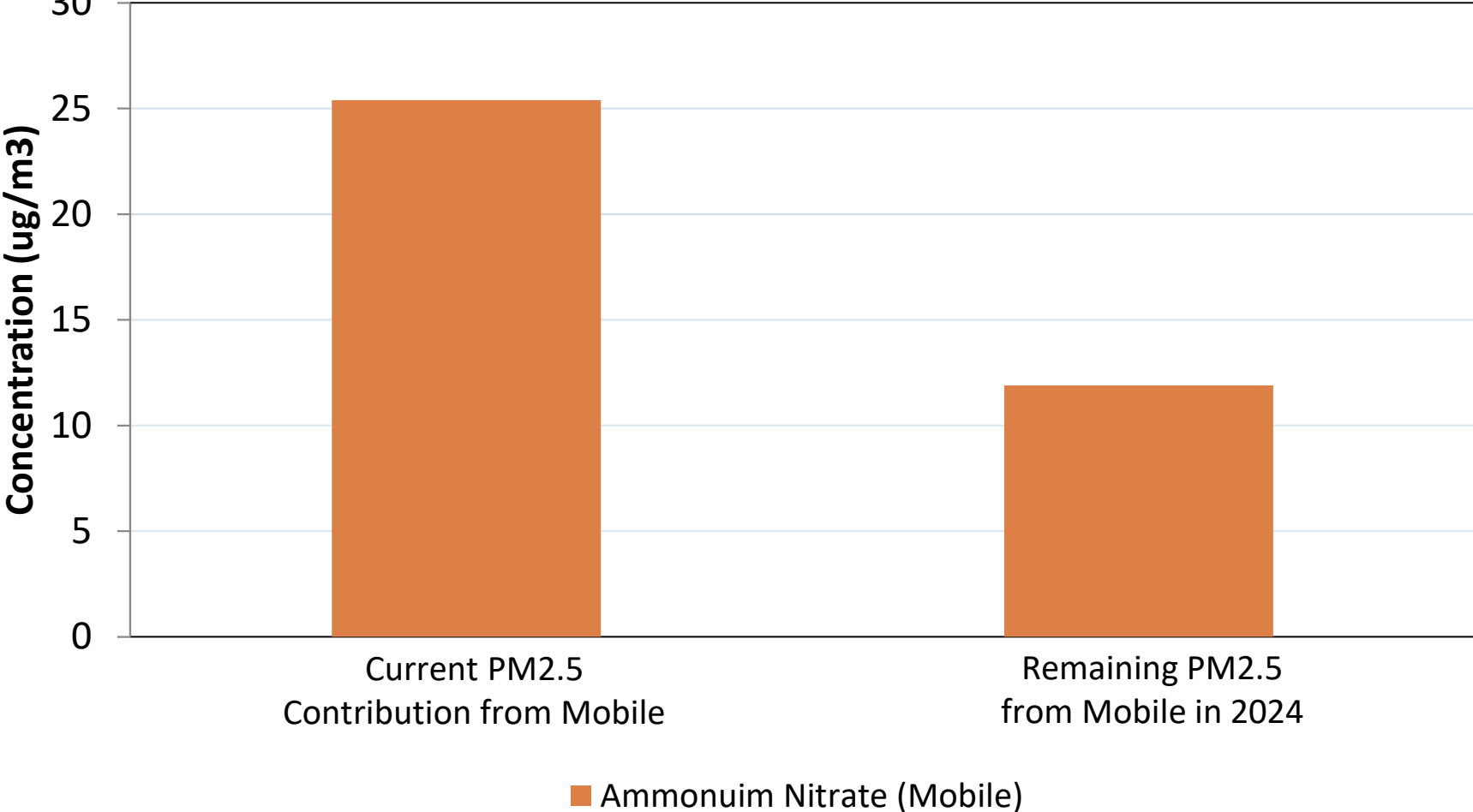
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- Accelerating turnover of older tractors
 - Incentive measures coupled with regulatory commitment
- Electrifying farm utility vehicles
- Significant new state funds for agricultural equipment
 - \$135 million statewide

PM2.5 Benefits of Mobile Program

24-Hour Standard

Fresno 24-Hour PM2.5 Concentration



Stationary Sources

- District considering new measures
 - More stringent residential wood burning rule
 - Controls on new under-fired charbroiling operations
 - Enhanced Conservation Management Practices
 - Lower NO_x limits for boilers, process heaters, and stationary IC engines
 - Ultra low-NO_x flares
 - Electrification of ag irrigation pumps

Carbon Particles

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- Accounts for about 43% of annual PM2.5 levels
- Localized impacts
- Significant sources
 - Wood smoke from fireplaces and woodstoves
 - Restaurant under-fired charbroilers
 - Agricultural burning

Relative Cost of Reducing PM2.5

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New Funding Available

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- Funding specific to the Valley
 - \$80 million – Community Emission Reduction Plans
- Funding available statewide from GGFR and other programs
 - \$135 million – Ag Diesel Engine Replacement & Upgrade
 - \$180 million – Hybrid Truck & Bus Incentive Project
 - \$100 million – EFMP, School Buses, Transportation Equity
 - \$140 million – Freight Hubs/Ports
 - \$140 million – California Vehicle Rebate Program

Reducing Wood Smoke

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- Existing program
 - Use of registered wood burning devices at PM_{2.5} levels up to 65 ug/m³
 - Fireplaces and unregistered devices prohibited above 20 ug/m³ level
 - Incentives for clean burning devices
- Proposed strategy
 - Restrict use of registered wood burning devices above 35 ug/m³
 - Fireplaces and unregistered devices restricted above 12 ug/m³
 - Expand incentivized use of cleaner burning devices

Commercial Charbroilers

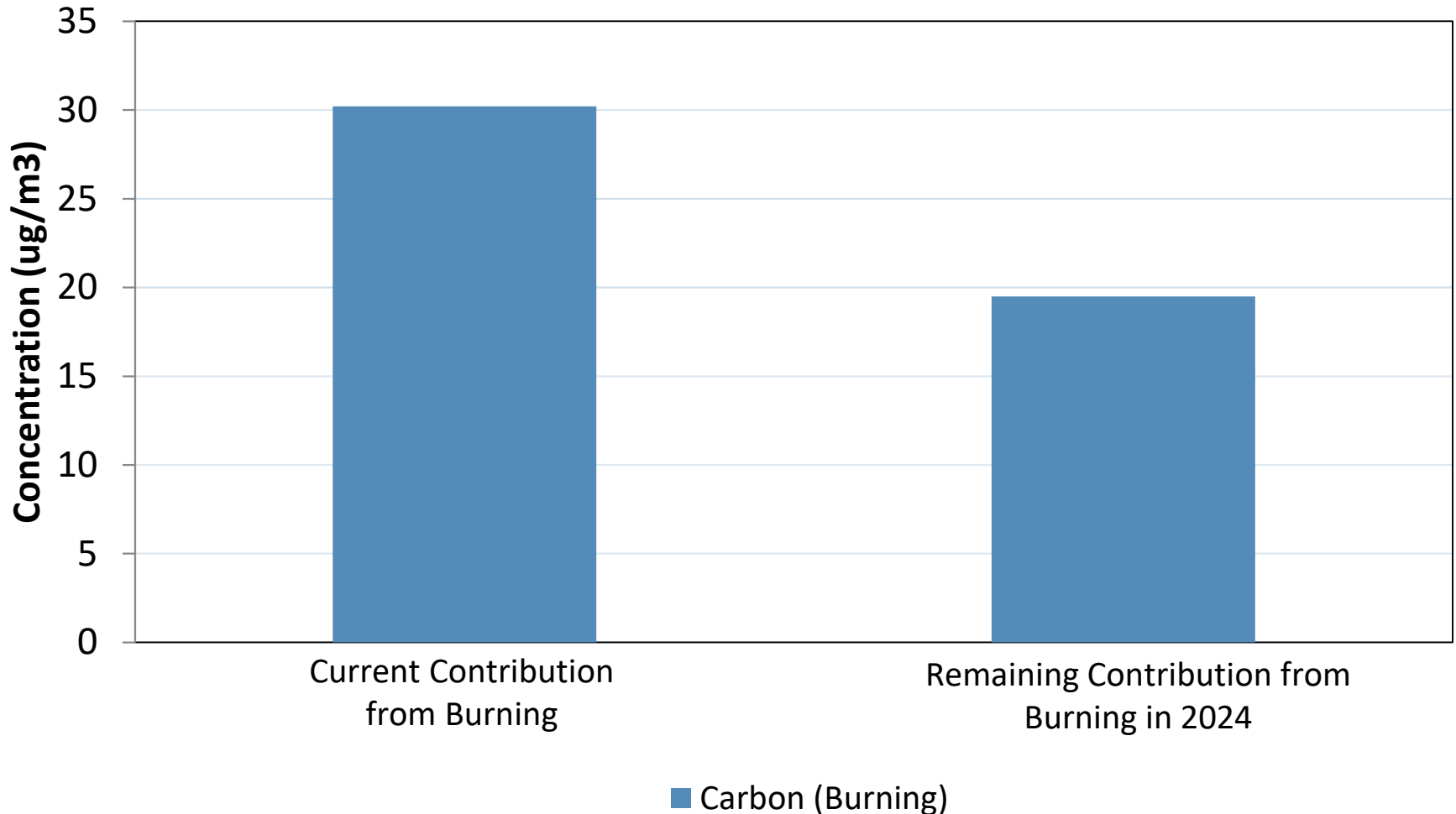
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- Existing program
 - Emission controls on chain-driven charbroilers
 - Pilot program to demonstrate technologies for controlling emissions from under-fired charbroilers
- Proposed strategy
 - Controls on new restaurants
 - Incentivize retrofit controls at large restaurants in Fresno and Bakersfield

Benefits of Controls on Burning 24-Hour Standard

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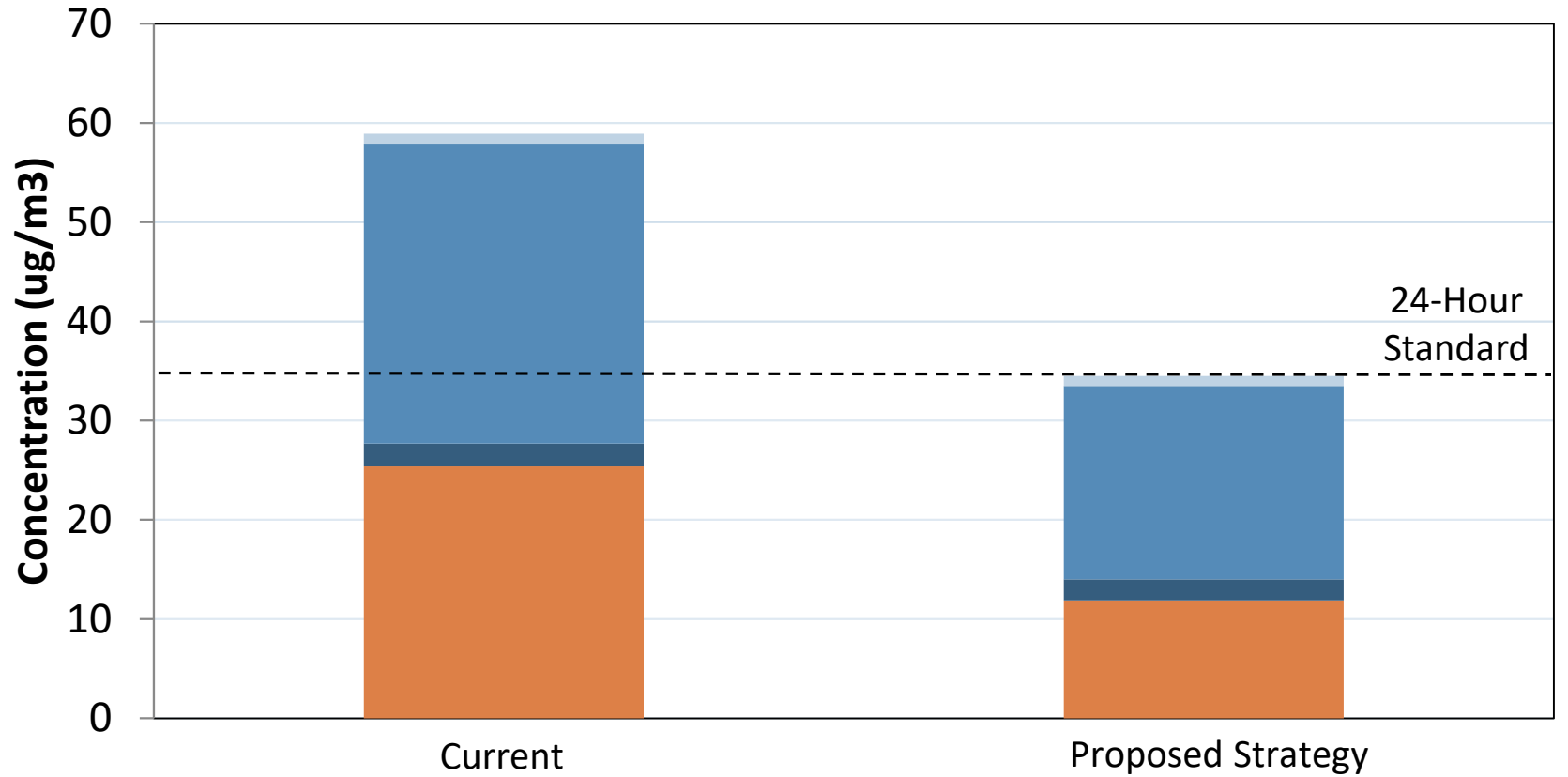
Fresno 24-Hour PM2.5 Concentration



Benefits of Strategy

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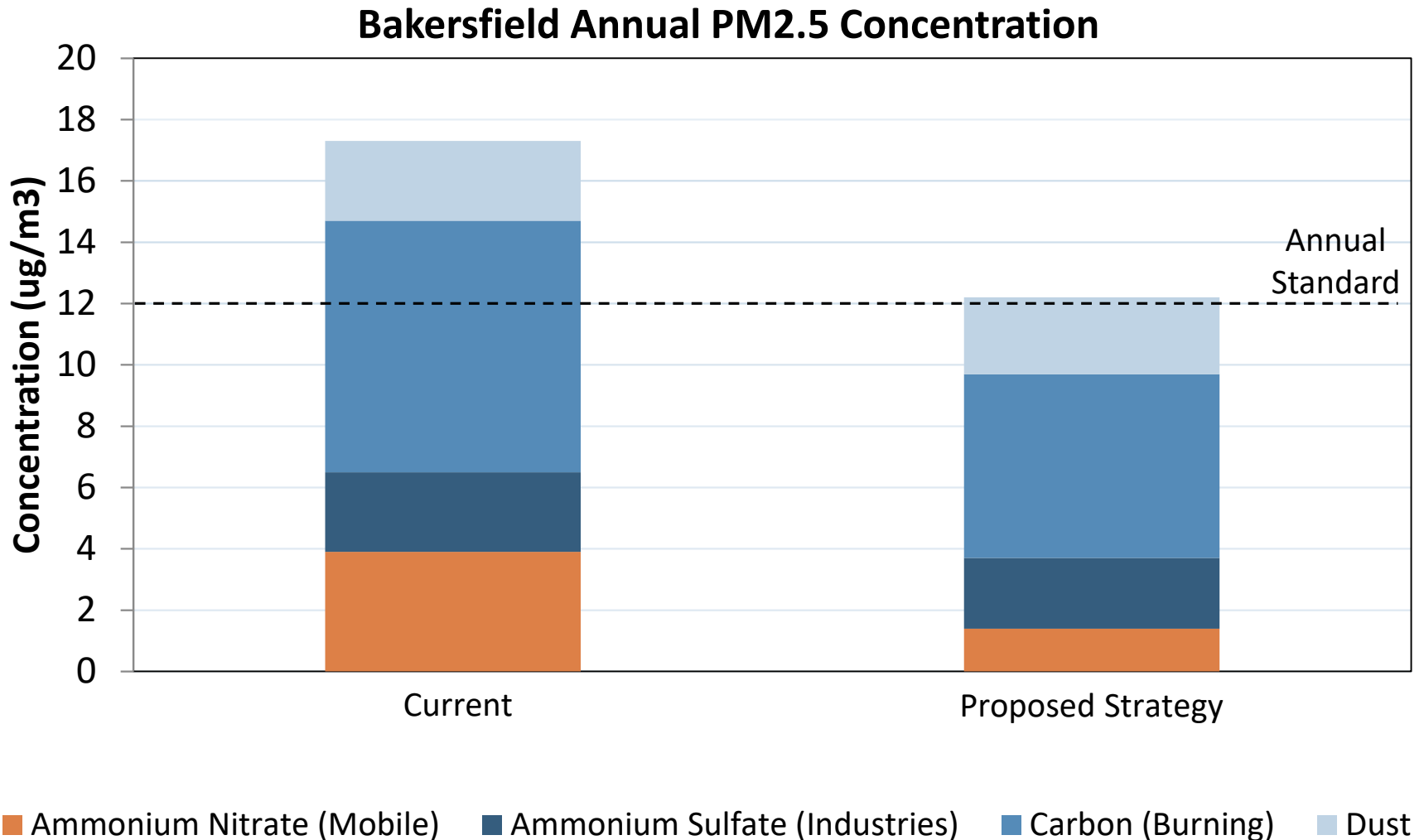
Fresno 24-Hour PM2.5 Concentration



Ammonium Nitrate (Mobile) Ammonium Sulfate (Industries) Carbon (Burning) Dust

Strategy Impact on Annual PM2.5 Levels

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Strategy to Attain the Annual Standard

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- Continue to work with District to close small remaining attainment gap
- Additional fugitive dust controls
 - Enhance Conservation Management Practices to reduce dust from fallow lands and cropland tilling
 - Upgrade almond harvesting equipment with dust control technology

Action on SJV PM Contingency SIP

Consideration of PM2.5 Contingency Measures

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- EPA approved contingency SIP in 2014
- EPA later withdrew approval due to court decision of reliance on waiver measures not submitted to SIP
- CARB submitted waiver measures into the SIP
- SIP revision addresses pending sanctions

Next Steps

- Staff will submit contingency measure
- December 2017: District consideration of Comprehensive PM2.5 SIP
- March 2018: CARB consideration of Comprehensive PM2.5 SIP
- Ongoing: Outreach and workshops