

## DOCKETED

<b>Docket Number:</b>	17-ALT-01
<b>Project Title:</b>	2018-2019 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program
<b>TN #:</b>	221700
<b>Document Title:</b>	WCC AFICC Overview
<b>Description:</b>	Overview of West Coast Collaborative Alternative Fuel Infrastructure Corridor Coalition. Submitted on behalf of Jon Mikulin, Environmental Protection Specialist, United States Environmental Protection Agency Region 9.
<b>Filer:</b>	Jacob Orenberg
<b>Organization:</b>	United States Environmental Protection Agency
<b>Submitter Role:</b>	Public Agency
<b>Submission Date:</b>	11/8/2017 10:23:37 AM
<b>Docketed Date:</b>	11/8/2017



**National Clean Diesel Campaign**



**REGION 9**



**REGION 10**



**WEST COAST COLLABORATIVE**

A public-private partnership to reduce diesel emissions

**John Mikulin**

**Technology & Partnerships Office – Air Division**

**US EPA, Region 9**

*California Energy Commission*

*Alternative & Renewable Fuel & Vehicle Technology Advisory Committee*

*November 7, 2017*

# Agenda

## **1) West Coast Collaborative (WCC)**

- a) West Coast M/HD Diesel Emissions
- b) Partnership Opportunities
- c) Diesel Emissions Reduction Act (DERA)
- d) Other air quality and clean energy funding

## **2) M/HD Alternative Fuel Corridors**

- a) FHWA Corridor Nominations
- b) FAST Act Funding
- c) WCC M/HD Alternative Fuel Infrastructure Corridor Coalition (AFICC)



## National Clean Diesel Campaign



### Regional Clean Diesel Collaboratives

❖ EPA Regions 9 & 10  
 → AK, AZ, CA, HI, ID, NV, OR, WA, Pacific Islands & 419 Native Tribes

❖ Public-Private Partnership

❖ Over 1,000 Partners



**WEST COAST COLLABORATIVE**  
 A public-private partnership to reduce diesel emissions.





# West Coast Collaborative Goals

- 1) Help meet National Ambient Air Quality Standards (NAAQS).
- 2) Reduce of diesel particulate emissions in impacted communities.
- 3) Support Greenhouse Gas (GHG) Reductions.
- 4) Support technology advancement to increase energy efficiency, energy security, and clean energy production.



*Picture: Pre-1980 school bus exhaust*





**National Clean Diesel Campaign**



**REGION 9**



**REGION 10**

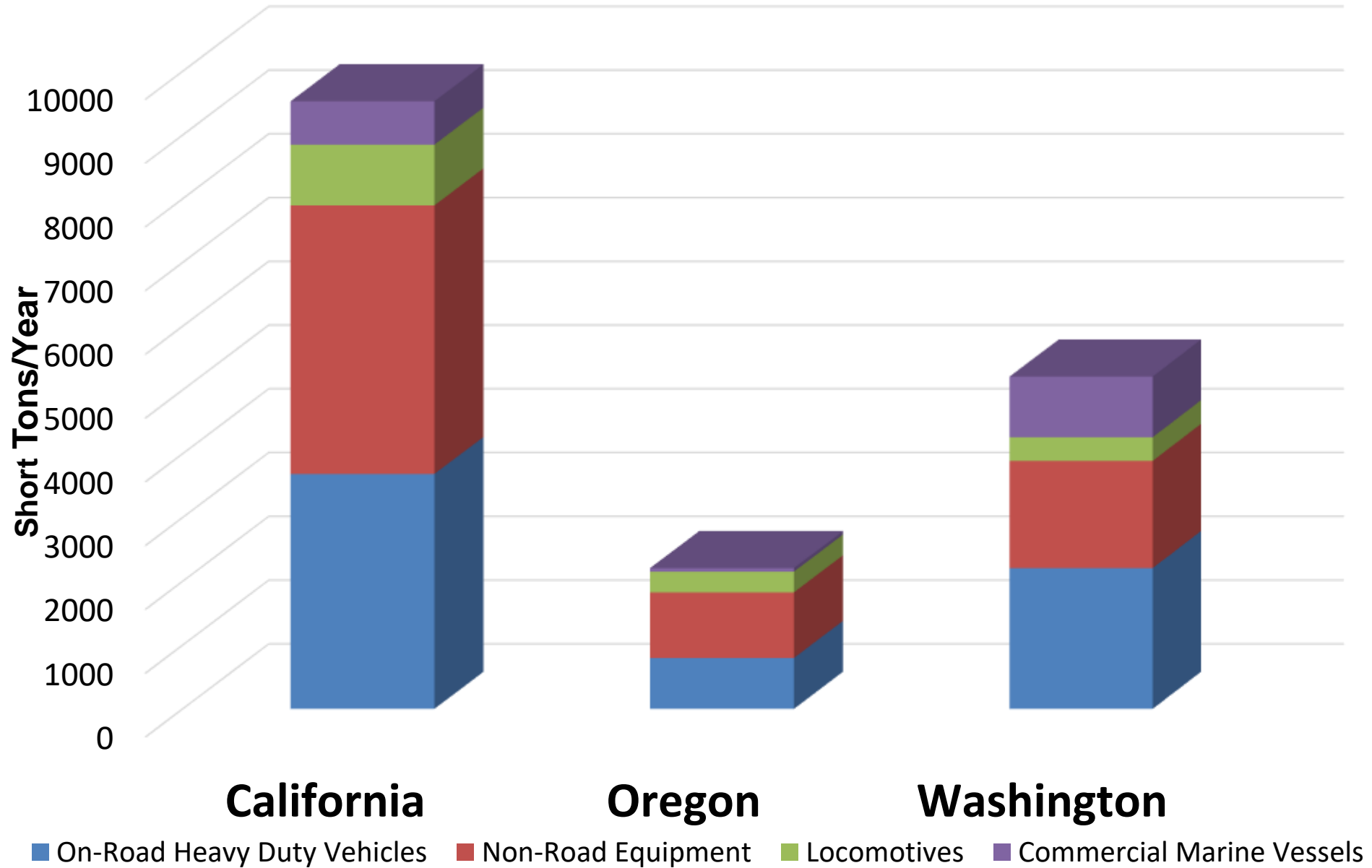


**WEST COAST COLLABORATIVE**

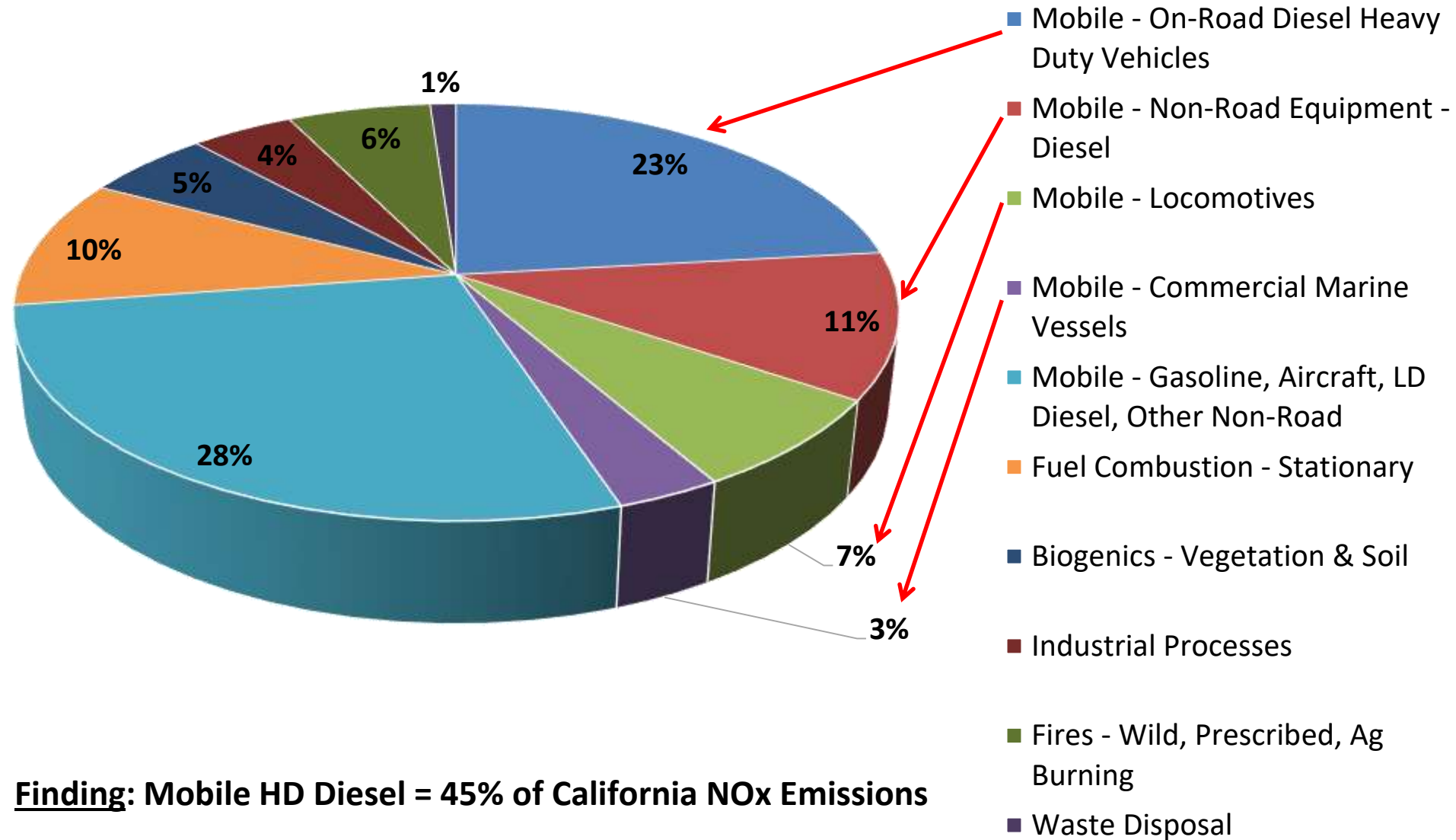
A public-private partnership to reduce diesel emissions

# West Coast M/HD Diesel Emissions

# West Coast Diesel PM2.5 Primary



# California - NOx (%)

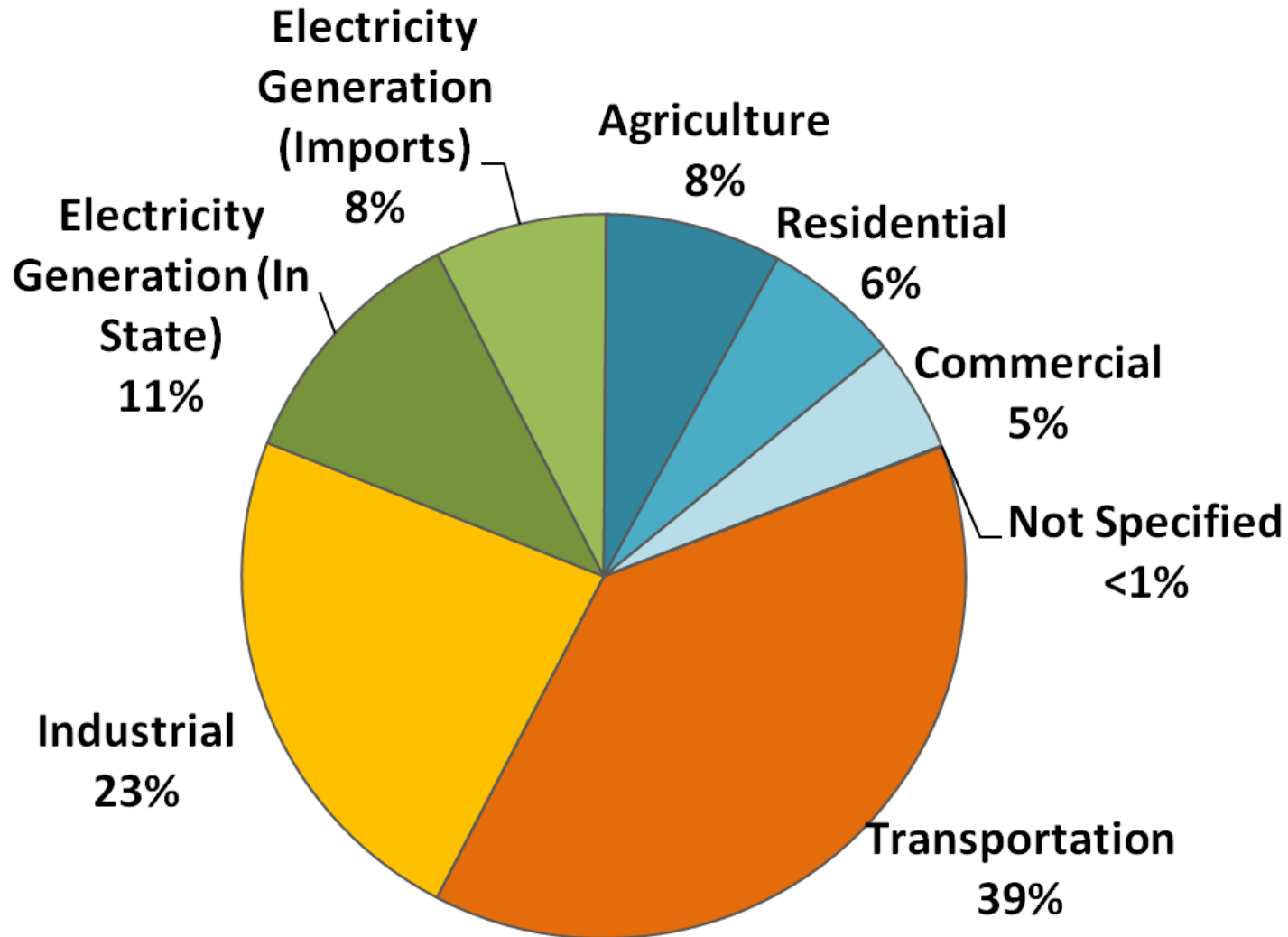


**Finding: Mobile HD Diesel = 45% of California NOx Emissions**

**Note** - Solvents + Miscellaneous + Dust + Bulk Terminals < 1%



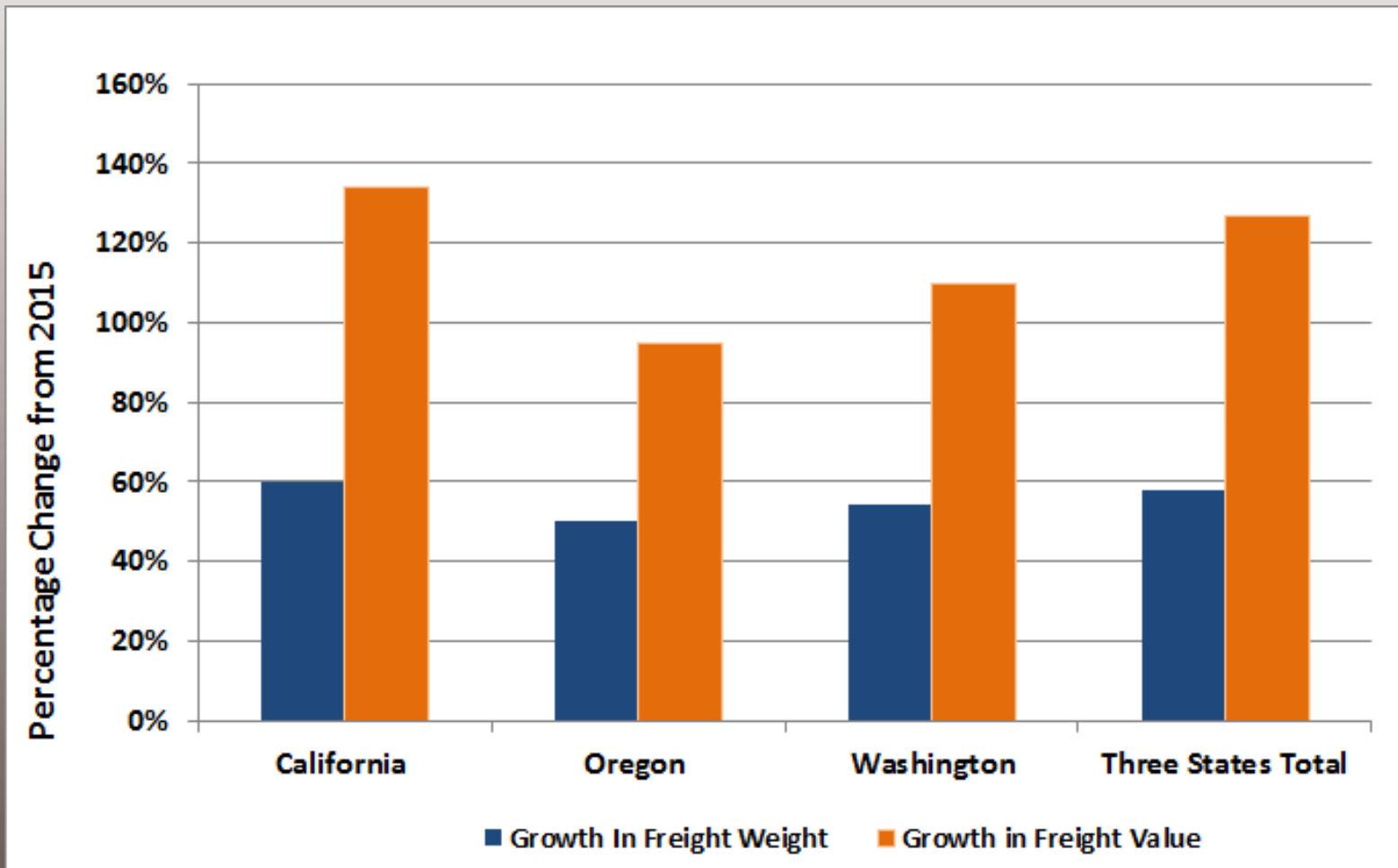
# California GHG Emissions



**2015 Total CA Emissions: 440.4 MMTCO<sub>2</sub>e**

Source: CARB (2017) <https://www.arb.ca.gov/cc/inventory/data/data.htm>

# Estimated Growth in Freight by 2045





# Partnership Opportunities

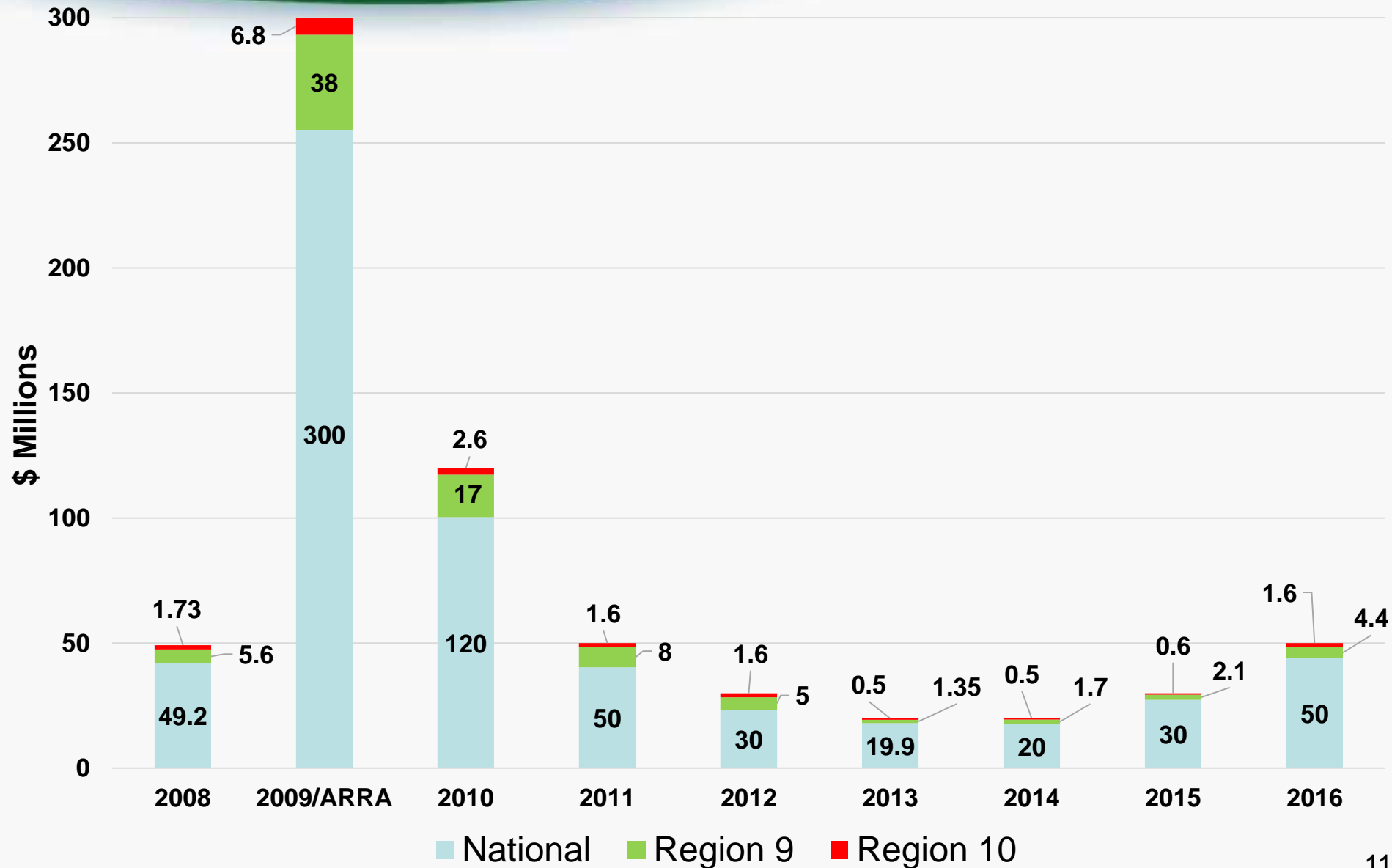
## 1) WCC Announcements & Events

- a) Join/Sign Up – <http://westcoastcollaborative.org/>
- b) Participate in WCC Sector Work Groups (ad hoc, teleconference)
- c) Participate in WCC Partner-hosted events (e.g., GTSE 4/17-19/18)
- d) Participate in WCC Partners Meetings (biennial, in-person)

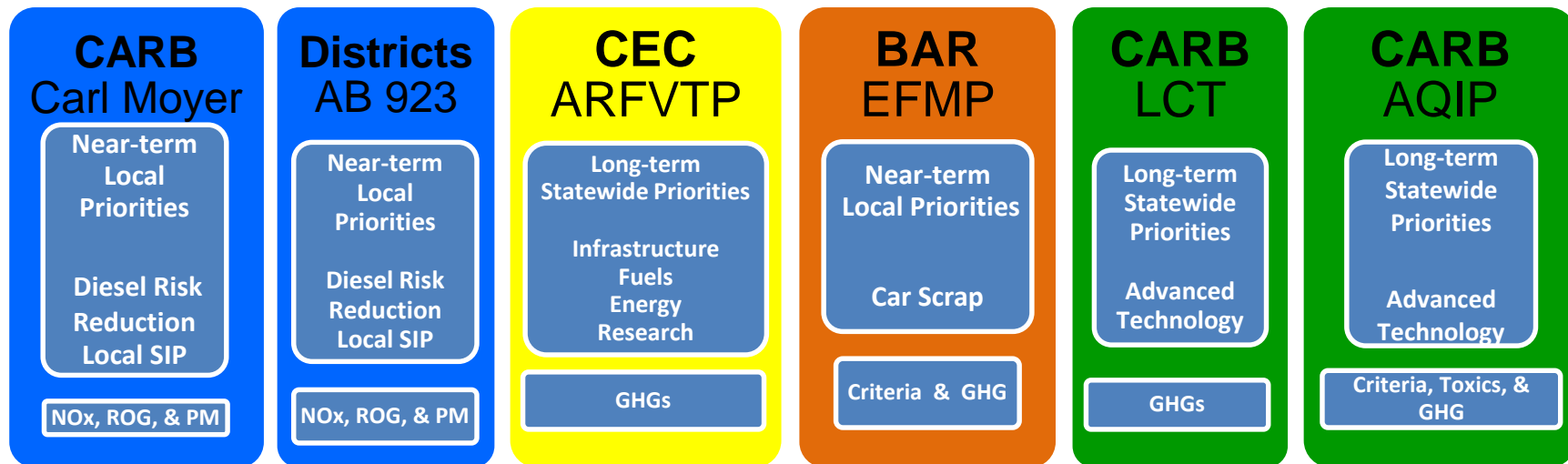
## 2) Diesel Emissions Reduction Act (DERA)

- a) Support DERA implementation
- b) Sign Up – <https://www.epa.gov/cleandiesel/e-mail-updates>
- c) Apply for Grants - <https://www.epa.gov/cleandiesel/clean-diesel-national-grants>
- d) Apply for Rebates - <https://www.epa.gov/cleandiesel/clean-diesel-rebates>

# DERA National Funding



# California Mobile Source Incentive Programs (2017)



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>CARB Carl Moyer</b>	\$69M/yr									\$48M/yr
<b>Air Districts AB 923</b>	\$50M/yr									?
<b>CARB AQIP</b>	\$25M/yr									?
<b>CARB Low Carbon Transportation</b>	\$200M	\$90M	\$363M	\$363M*	?	?	?	?	?	?
<b>CEC ARFVTP</b>	\$100M/yr									?
<b>BAR EFMP</b>	\$35M/yr									?
<b>CARB GMERP/Prop 1B</b>	\$240M									

\*FY17-18 Governor's Budget Proposal

# VW Diesel Settlement



- ZEV Investment Plans = \$800M in CA; \$1.2B in other 49 states
  - Focused on LD ZEV education and infrastructure deployment w/ some potential to support LD ICEV-to-ZEV replacements in CA.
- NOx Mitigation Trust = \$2.7B nationwide (over 10 yrs)
  - California = \$381.28M
  - Oregon = \$68.24M
  - Washington = \$103.96M
- NOx mitigation funds could be used for M/HD diesel-to-AFV replacements and repowers, including:
  - Class 4-8 trucks
  - Buses – school, shuttle and transit
  - Forklifts and other cargo handling equipment
  - Airport ground support equipment
  - Harbor craft
  - Switch locomotives



# Other Air & Energy Funding



- BAAQMD MSIF & TFCA (fees) = ~\$33M/yr
- SMAQMD (fees) = ~\$4M/yr
- SJVAPCD TAP (fees) = ~\$5M/yr
- SCAQMD TAO (fees) = ~\$10M/yr
- WDOE Clean Diesel Program (State Appropriations + DERA) = ~\$1M/yr
- US DOE VTO & FCTO (Federal Appropriations) = ~\$400M/yr
- USDA NRCS (Farm Bill) = ~\$30M/yr
- US EPA Targeted Air Shed (Federal Appropriations) = ~\$30M/yr
- US EPA Clean Air Technology Initiative (CAA 105) = ~\$1M/yr
- *TBD federal infrastructure funding = ~\$1T...?*



**National Clean Diesel Campaign**



**REGION 9**



**REGION 10**



**WEST COAST COLLABORATIVE**

A public-private partnership to reduce diesel emissions

# M/HD Alternative Fuel Corridors

# FAST Act: Section 1413

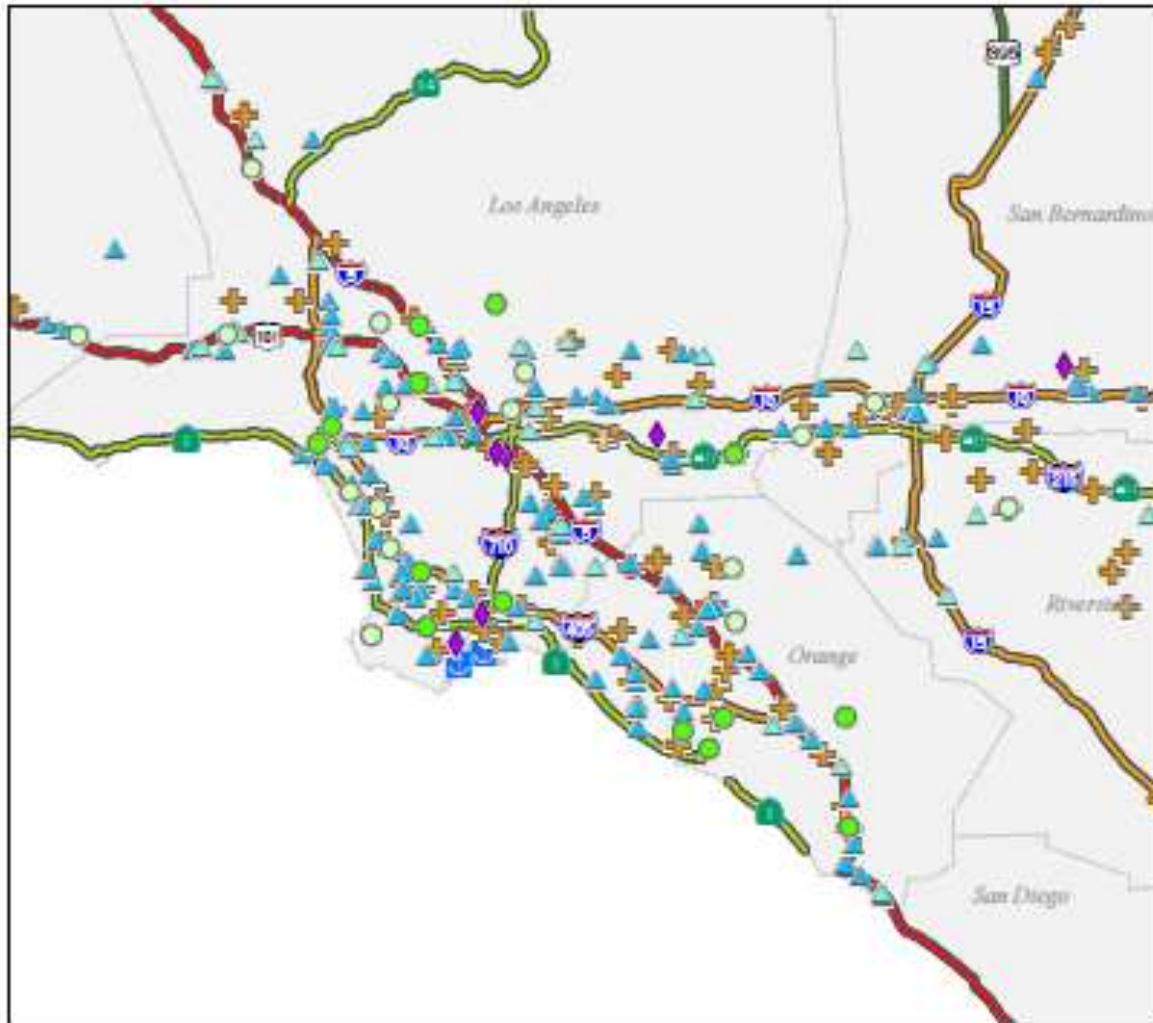
## Alternative Fuel Corridor Designations

- **National electric vehicle charging, hydrogen, propane, and natural gas fueling corridors.**
  - Directs US DOT to designate alternative fuel corridors that identify the near and long-term need for, and location of fueling infrastructure at strategic locations along major national highways to ***improve the mobility of passenger and commercial vehicles that employ electric, hydrogen fuel cell, propane, and natural gas fueling technologies*** across the United States.

Source: Federal Highway Administration (2017) [https://www.fhwa.dot.gov/environment/alternative\\_fuel\\_corridors/](https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/)

# FHWA Alternative Fuel Corridor Nominations: California

Los Angeles Area



## Alternative Fuel Stations

- Existing Hydrogen Station
- Planned Hydrogen Station
- ▲ Existing DC Fast EV Charging Station
- △ Planned DC Fast EV Charging Station
- ⊕ Existing Natural Gas Station
- ⊕ Planned Natural Gas Station
- ◆ Intermodal Freight Facilities

## CSTDM VMT 2040

- < 1,205,086,470
- 1,205,086,480 - 3,848,366,780
- 3,848,366,790 - 9,653,285,450
- > 9,653,285,460
- ⚓ Port

- Total funding for planned alternative fuel stations throughout California = \$111.38M (from projects cited in FHWA nomination package)
  - **Potential federal cost-share ( $\leq 80\%$  w/ US DOT funding)  $\leq$  \$89.1M**

Source: California Department of Transportation (2016)

# **FAST Act: National Funding**

**CMAQ - Congestion Mitigation and Air Quality Improvement Program = ~\$2.4B/yr**

[https://www.fhwa.dot.gov/environment/air\\_quality/cmaq/](https://www.fhwa.dot.gov/environment/air_quality/cmaq/)

**FASTLANE - Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies = ~\$900M/yr**

<https://www.transportation.gov/buildamerica/FASTLANEgrants>

**TIGER - Transportation Investment Generating Economic Recovery = ~\$500M/yr**

<https://www.transportation.gov/tiger>

**TIFIA - Transportation Infrastructure Finance and Innovation Act = ~\$300M/yr**

<https://www.transportation.gov/buildamerica/programs-services/tifia>

**FTA Bus and Facility Competitive Grants = ~\$300M/yr**

<https://www.transit.dot.gov/funding/grants/buses-and-bus-facilities-grants-program-5339>

**FTA Low-No Bus Grants = ~\$55M/yr**

<https://www.transit.dot.gov/funding/grants/low-or-no-emission-vehicle-program-5339c>

# West Coast M/HD Alternative Fuel Corridors

- Interstate collaboration needed to develop west coast corridors for M/HD AFV fueling similar the one shown here for LD ZEVs. This would help address:
  - Air quality
  - Climate change
  - Fuel supply diversity
  - Sustainable freight, transit and public works
  - Local job creation and economic development





# **WCC AFICC Steering Team Members**

**Federal: US EPA, US DOT, US DOE**

**California: GO-Biz, Caltrans, CARB, CEC, CALCOG, CAPCOA**

**Oregon: ODOT, ODEQ, ODOE, CWCCC**

**Washington: WSDOT, WDOE, WSEO, PSCAA, PSRC**

# Leveraging FAST Act for M/HD Alternative Fuel Deployment

## WCC M/HD Alternative Fuel Infrastructure Corridor Coalition

- 1) Convene a stakeholder coalition focused on infrastructure deployment.
- 2) Coordinate workgroups to develop a multi-state infrastructure plan.
- 3) Synthesize stakeholder input into a plan document.
- 4) Use the plan as the basis for joint applications to US DOT's competitive funding programs.
- 5) Obtain federal funding assistance to help implement infrastructure in California, Oregon and Washington (i.e., natural gas, propane, electric vehicle charging and hydrogen for public and private M/HD fleets).



**National Clean Diesel Campaign**



**WEST COAST COLLABORATIVE**  
A public-private partnership to reduce diesel emissions

# ***Ideas, Comments, Questions...?***

**John Mikulin**

**Public Fleet & Trucking Sector Lead, West Coast Collaborative  
Technology & Partnerships Office – Air Division**

**US EPA, Region 9**

**(415) 972-3956**

[mikulin.john@epa.gov](mailto:mikulin.john@epa.gov)

<http://www.linkedin.com/in/johnmikulin>

<http://www.westcoastcollaborative.org/>

<http://epa.gov/cleandiesel/>