

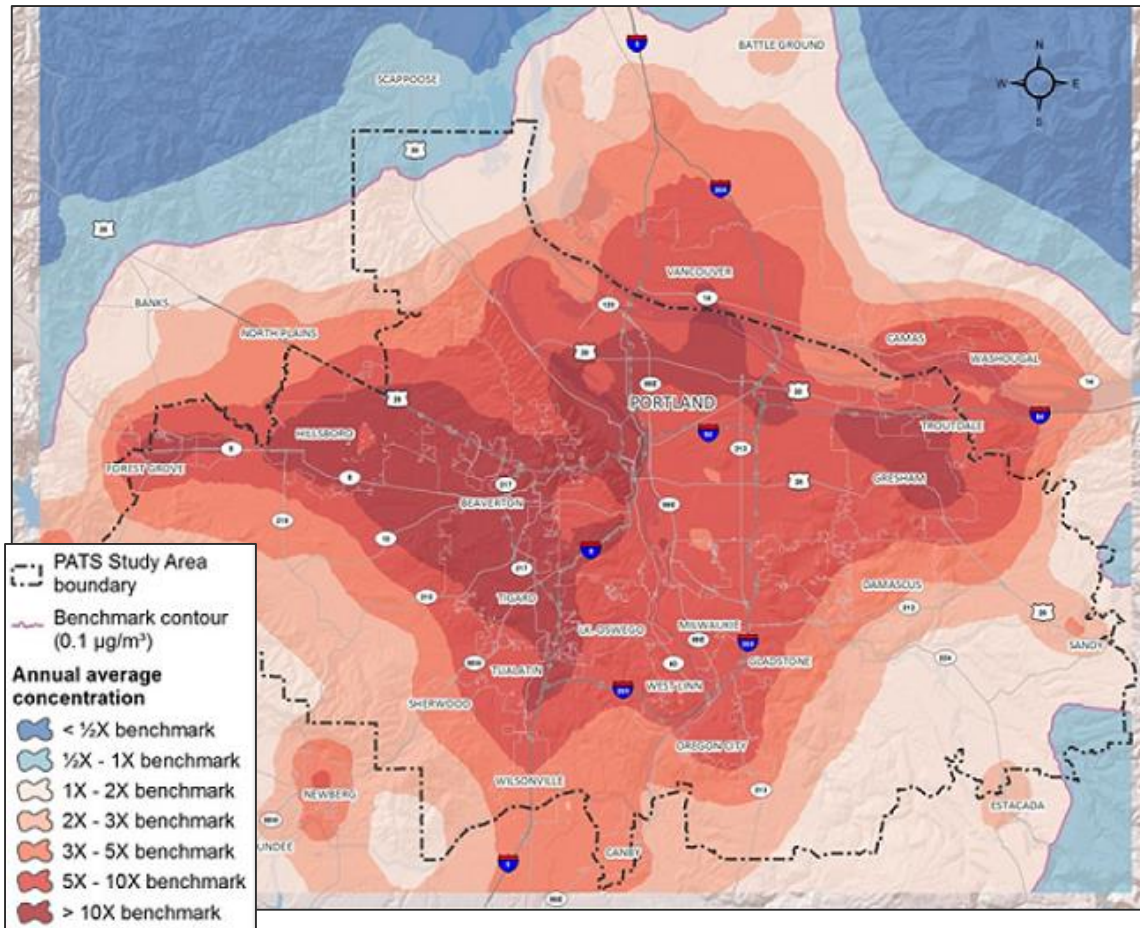
Clean Trucks Rule 2021

Public Stakeholder Meeting
June 24, 2021

Agenda Topics

- **Background**
- **CARB Advanced Clean Trucks rule**
- **CARB Low NOx Omnibus rule**
- **Next steps**

Diesel Background – Impacts



- Diesel PM causes cancer and other health effects
- Diesel trucks are a major contributor to smog-forming pollution
- Diesel engine exhaust disproportionately impacts communities of color
- Transportation, including freight, is the largest source of GHG emissions in Oregon

Diesel Background – Strategy



Replace and retire the oldest diesel engines

Adopt new and cleaner technologies

Support owners and operators transition their fleets

Oregon's Strategy to Address GHG Emissions from Transportation



MULTI-STATE MEDIUM- AND HEAVY-DUTY ZERO EMISSION VEHICLE

MEMORANDUM OF UNDERSTANDING

WHEREAS, the Signatory States and the District of Columbia¹ recognize the importance of state leadership and coordinated state action to ensure national progress in the effort to reduce greenhouse gas (GHG) emissions and stabilize global warming;

WHEREAS, the Signatory States have statutory obligations or otherwise seek to significantly reduce statewide GHG emissions by 2050, consistent with science-based targets;

WHEREAS, transportation is now the nation's largest source of GHG emissions, and, after light-duty vehicles, medium- and heavy-duty trucks are the next largest source of transportation sector GHG emissions;

WHEREAS, the Signatory States have a statutory obligation to provide their citizens with air quality that complies with national health-based air quality standards, which are required to be protective of health and the environment with an adequate margin of safety;

WHEREAS, fossil fuel related emissions from medium- and heavy-duty vehicles (MHDVs) are a major source of nitrogen oxides (NOx), particulate matter, and toxic air emissions, which are preventing many densely populated areas from achieving compliance with federal ambient air quality standards;

WHEREAS, emissions from MHDVs are a widely acknowledged, but unaddressed, environmental justice problem that directly and disproportionately impacts disadvantaged communities located near freight corridors, ports and distribution centers;



Statewide Transportation Strategy: A 2050 Vision for Greenhouse Gas Reduction



Multi-Agency Implementation Work Plan

June 2020 - June 2022

OREGON DEPARTMENT OF TRANSPORTATION, OREGON DEPARTMENT OF LAND CONSERVATION AND DEVELOPMENT, OREGON DEPARTMENT OF ENERGY, OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY



Governor's Executive Order 20-04

Adopt by reference – California’s Advanced Clean Trucks Rule

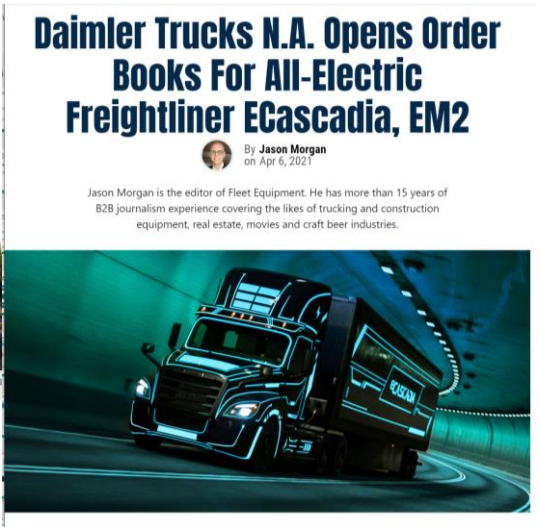
Class 2b-3	Class 4-8	Class 7-8 Tractors
		

Electric trucking commitments



 Corporate Fleets
 Manufacturers

Source: https://www.mjbradley.com/sites/default/files/EDF_EV_Market_Report_January_2021_Update_0.pdf



Adopt by reference – California’s Advanced Clean Trucks Rule

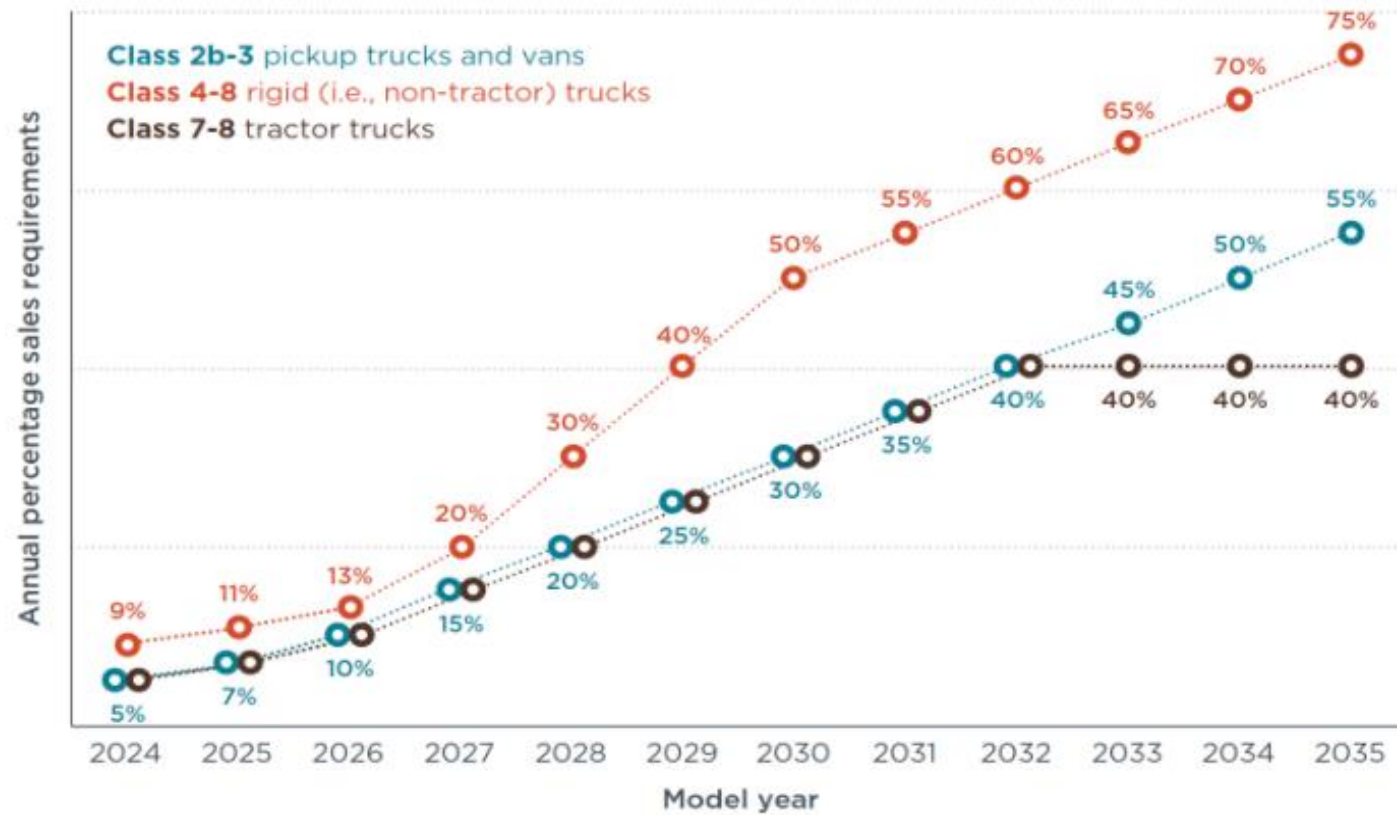


Figure 1: Zero-emission sales percentage schedule by vehicle group and model year.

Source: <https://theicct.org/sites/default/files/publications/CA-HDV-EV-policy-update-jul212020.pdf>

Fleet Reporting Requirement

- One-time reporting requirement on existing fleet operations. Affects:
 - Fleet owners, with 50 or more trucks with a facility in Oregon
 - Large employers (gross annual revenue above \$50M)
 - State, local and federal government agencies
 - Brokers that dispatch 50 or more vehicles that operate in Oregon
- Collect vehicle usage information to:
 - Support future ZEV fleet rules
 - Better assess infrastructure needs



Image courtesy of Shutterstock

Adopt by reference – CARB's Heavy-Duty Low NOx Omnibus Rule

- Heavy-Duty Low NOx Program Elements
 - Lower NOx and PM_{2.5} standards for new truck engines
 - Useful Life and Warranty Periods
 - Testing
 - Other Elements



Adopt by reference – Low NOx Rule Oxides of Nitrogen Standards

Model Years	MDDE/LHDD/MHDD/HHDD ^a				MDOE/HDO ^a
	FTP ^b	RMC-SET ^b	LLC ^b	Idling (g/hr)	FTP ^b
Current	0.2	0.2	n/a	30	0.2
2024 - 2026	0.05	0.05	0.2	10	0.05
2027 and later ^c	0.02	0.02	0.05	10	0.02

^a MDDE: Medium-duty diesel engines 10,001-14,000 lbs. GVWR,
 LHDD: Light heavy-duty diesel engines 14,001-19,500 lbs. GVWR,
 MHDD: Medium heavy-duty diesel engines 19,501-33,000 lbs. GVWR,
 HHDD: Heavy heavy-duty diesel engines >33,000 lbs. GVWR,
 MDOE: Medium-duty Otto-cycle engines 10,001-14,000 lbs. GVWR, and
 HDO: Heavy-duty Otto-cycle engines >10,000 lbs. GVWR.

^b Units are in g/bhp-hr

^c For HHDD standards beyond 2027 are higher at full useful life to allow for deterioration

Adopt by reference – Low NOx Rule Warranty Requirements

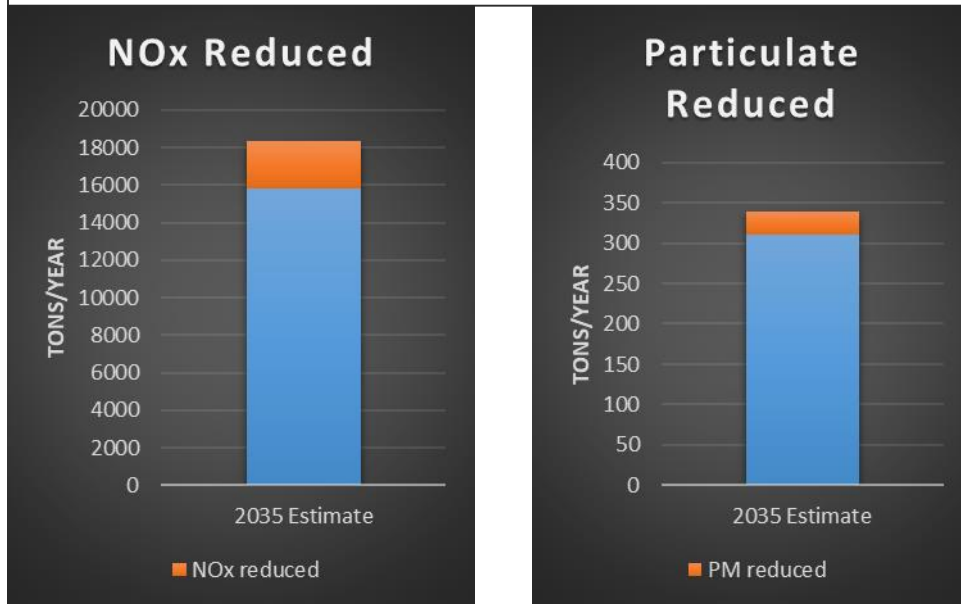
Table 4. Current and Proposed Warranty Periods

Model Year	Warranty (miles)			
	LHDD	MHDD	HHDD	HDO
June 2018 Step 1 Warranty 2022-2026	110,000 5 years	150,000 5 years	350,000 5 years	50,000* 5 years
2027-2030	150,000 7 years/ 7,000 hours	220,000 7 years/ 11,000 hours	450,000 7 years/ 22,000 hours	110,000 7 years/ 6,000 hours
2031 and Subsequent	210,000 10 years/ 10,000 hours	280,000 10 years/ 14,000 hours	600,000 10 years/ 30,000 hours	160,000 10 years/ 8,000 hours

* Not included under Step 1 Warranty, but current periods are shown here for completeness.

Estimated Pollutant Reductions

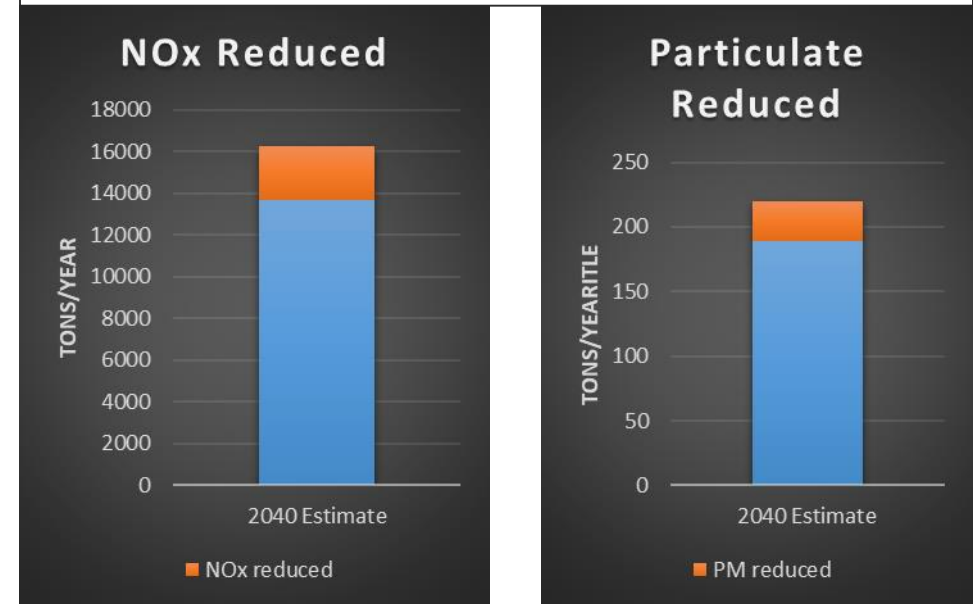
M/HD Diesel Truck Emissions - Low NOx Rule



-14%

-8%

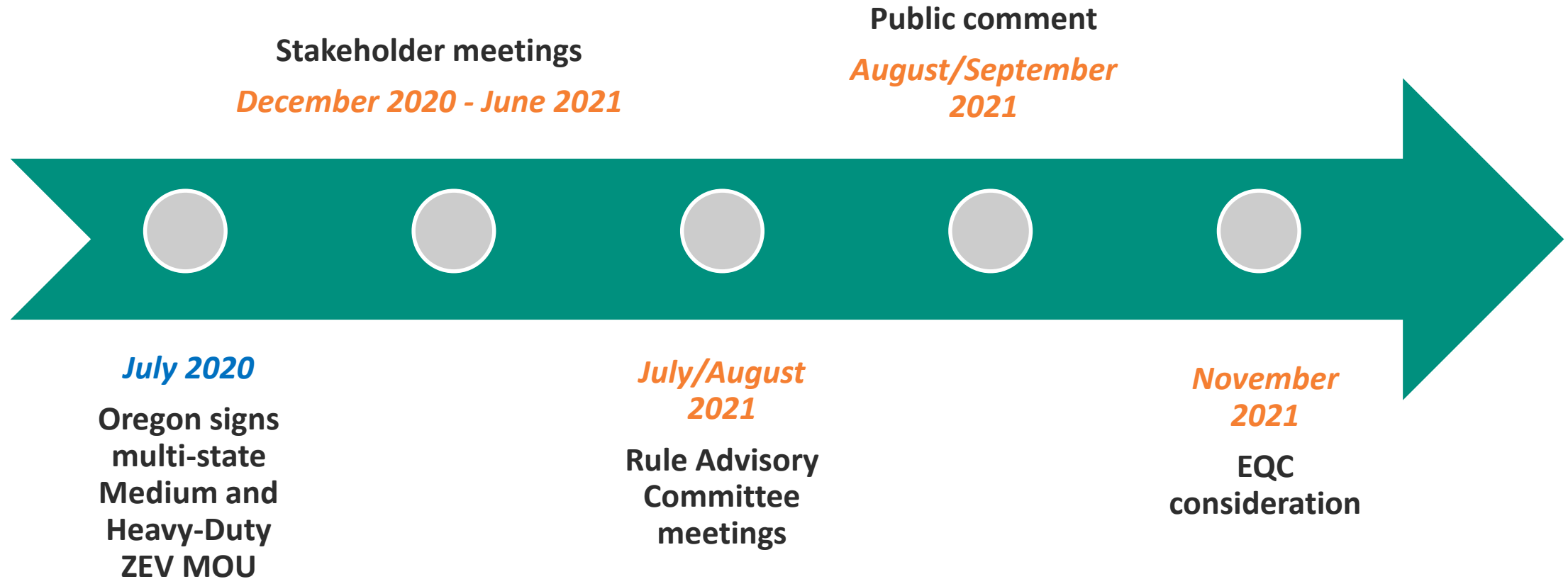
M/HD Diesel Truck Emissions - ACT Rule



-16%

-14%

Actions and next steps



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