



OREGON MODELING STEERING COMMITTEE
MWVCOG Conference Room
100 High St. SE, Suite 200, Salem Or
Wednesday, April 20, 2016
1:00 pm to 4:00 pm

Agenda

- | | | |
|---|--------------------------|--------|
| 1. Welcome and Introductions | <i>Brian Dunn, Chair</i> | 10 min |
| 2. Conferences | | 5 min |
| <ul style="list-style-type: none"> • Innovations in Travel Demand Modeling, May 1-4, 2016, Denver CO • Improving Traffic Data Collection, Analysis and Use, May 1-4,2016, Miami, FL • Community Transportation Association EXPO, May 22-27, Portland, OR • Exploring Data and Metrics of Value at the Intersection of Health Care and Transportation, June 6-7, Washington, DC • Association for Commuter Transportation International Conference, July 31-August 3, Portland, OR • Use of Scenario Planning in Transportation Planning, August 14-17, 2016, Portland, OR • Transportation and Communities Summit, September 8-9, Portland State University, OR • National Tools of the Trade Conference, September 12-14, 2016 Charleston, SC • Association of Metropolitan Planning Organizations Annual Conference, October 25-28, Seattle, WA • Others... | | |
| 3. General Business | <i>Brian Dunn</i> | 10 min |
| <ul style="list-style-type: none"> a. Approval of minutes from last meeting
 http://www.oregon.gov/ODOT/TD/TP/docs/OMSC/20151021_Minutes.pdf b. Next meeting: Wednesday, October 19, 2016 c. Subcommittee Chairs' synopsis (summaries attached to Agenda) | | |
| 4. New Business | | |
| <ul style="list-style-type: none"> a. OMSC Mission and Goals Update <i>Brian Dunn</i> 10 min b. OMIP Activity <i>Becky Knudson</i> 15 min c. New Travel Survey Subcommittee <i>Dick Walker</i> 10 min | | |

OMSC SUBCOMMITTEE REPORTS

April 2016

Modeling Program Coordination Subcommittee (Ray Jackson, Chair)

October 21, 2015 – Presentations were by Dick Walker on the project to re-estimate the Portland Metro travel demand model with data from the 2011 travel survey, and by Haizhong Wang on research at Oregon State University investigating possible linkages between bicycle crashes and bicycle Level of Travel Stress. Following there was a group discussion regarding model related research topics that members might be interested in pursuing in future ODOT research grants. The meeting concluded with a roundtable of agency updates since the last meeting

January 20, 2016 – The first presentation was a discussion on the use of population synthesizers in Oregon and possible opportunities for coordination and collaboration. The group decided that a follow-up meeting/workshop should be organized to go into more detail on this topic and to provide a consistent background for future decision making. The April 20th meeting of the MPC will be devoted to this topic. The second presentation was by Dick Walker about the next household survey. He proposed that it was time to start planning for a follow on household activity and travel survey possibly starting in 2020. A subcommittee will be proposed at the April 2016 meeting of the OMSC. The meeting concluded with the usual roundtable of agency updates and developing a list of possible topics for future meetings.

Transportation & Health Subcommittee (Eric Main, Chair)

- The Transportation & Health Subcommittee has a meeting scheduled at the Portland State Office Building on June 30th. Dr. James Woodcock will be our guest discussing the future of ITHIM including linking ITHIM to RSPM. The meeting will be open to OMSC members with an interest in transportation and health modeling.
- TREC will be hosting a speaking event with Dr. Woodcock on June 29th. OMSC members interested in a general background of ITHIM are encouraged to attend.
- Bi-monthly meetings have been held with the ITHIM development team and at least one member of the Transportation & Health Subcommittee has participated on the calls.
- Neil Maizlish is continuing work on the spreadsheet version of ITHIM for California and has been sharing his revisions with staff at the OHA Public Health Division.
- Updates of Oregon's burden of disease database in ITHIM are continuing.
- Corridor-level air quality modeling efforts have been put on hold, but should resume in May.

Freight Subcommittee (Derek Jaeger, Chair)

The Freight Subcommittee met for the first time on January 25, 2016. The group discussed the subcommittee's charge and purpose, and received a presentation from Metro on a Strategic Highway Research Program project to forecast commodity flows in Oregon. Additional discussion topics included data exchange between Metro's freight model and SWIM; findings from the Westside Freight Study in Portland; freight data availability and data collection opportunities; and upcoming conferences. The group will endeavor to meet twice per year.

Travel Survey Subcommittee (Dick Walker, Chair)

This committee has not met yet as the chair has been considering the appropriate membership. The chair will soon provide a list of potential candidates to the LRS for endorsement. Once complete, a solicitation to individuals will be issued. Meetings will follow during the spring, summer, and fall.

Oregon Model Users Group (Kyle Auger, Chair)

Dec. 18th, 2014 (Air-Quality-Greenhouse Gas Topics theme)

- 1) Portland Air Toxics Study (Phil Allen, DEQ) – A DEQ study looking at modeling dispersion of on-road mobile sources in and around the Portland Metro region.
- 2) Effects of Bike Use on Health and the Environment (Alex Bigazzi, PSU) – A PSU-led study looking and results of biking in the Portland Region with a personal exposure monitoring device.
- 3) Carbon Tax Analysis (Jeff Renfro, PSU) – A PSU-led study using REMI and GHG modeling to look at a Carbon Tax in the Portland Region and its revenue potential.

Dec. 17th, 2015

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- 3) Metro's Regional Trip-Based Model Development (Bud Reiff, Metro) – An overview of Metro's development plans for their new trip-based model Kate, an update to Metro's current Joan travel demand model. This model will use the most recent 2011 OHAS data for estimation purposes.

Next meeting date/agenda: The next OMUG meeting is scheduled for 9/15/16. Tentative topics include an update on the Washington County Futures project from Erin Wardell, with other presentations to be determined.

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Oregon Modeling Steering Committee

DRAFT MISSION

In Oregon, transportation plans and investment policies affect everyone's life quality. Meaningful, analytically valid models can show how decisions made today may influence future travel conditions; thus impacting community livability, public health, the natural environment, economic vitality and the cost-effectiveness of our transportation systems.

Since 1996, the Oregon Modeling Steering Committee (OMSC) has worked to improve the state-of-the-practice and promote state-of-the-art land use and transportation modeling in Oregon. Today, we are at a defining moment in our work together. Analytical tools are evolving rapidly in response to a blossoming of new transportation technologies and paradigms. Decision makers rely on technical support and information in order to provide sound leadership in this time of change. With limited resources to keep Oregon at the forefront of modeling developments, a statewide forum for efficient and effective interagency collaboration has never been more important.

Our mission is to ensure Oregon continues to have the right tools, skills and expertise needed to answer important questions about our transportation systems. By providing opportunities for member agencies to share knowledge and leverage resources, the OMSC allows Oregon's modeling services to mature and grow.



Oregon Modeling Steering Committee

DRAFT GOALS

- **Promote Interagency Communication, Collaboration and Cooperation**

Topic Areas for Objectives and Strategies

- Coordination of annual work programs
- Needs assessments and common interest areas
- Forums for exchange of information
- Relationship building
- Communication with policymakers

- **Drive Technical Excellence and Innovation**

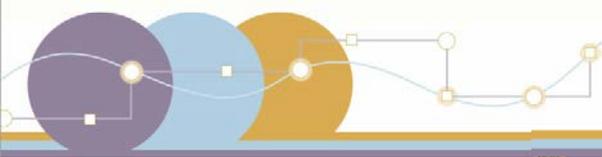
Topic Areas for Objectives and Strategies

- Data collection, management and sharing
- Research areas
- Partnerships with universities
- Model peer review
- Model sufficiency standards
- Best practices
- Subcommittee focus areas

- **Cultivate the Knowledge and Talents of Oregon's Modeling Professionals**

Topic Areas for Objectives and Strategies

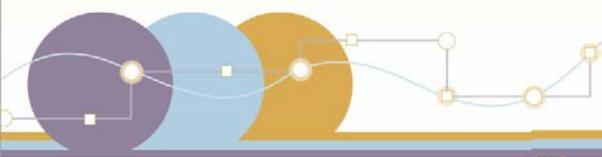
- Speaking opportunities
- Training and education
- Mentoring programs
- Succession planning at modeling agencies



Transportation Performance Management under MAP-21 and Transportation Planning

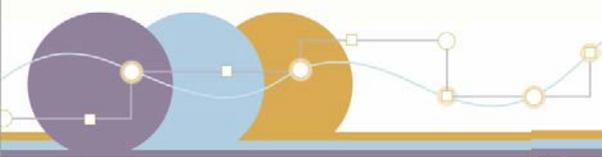
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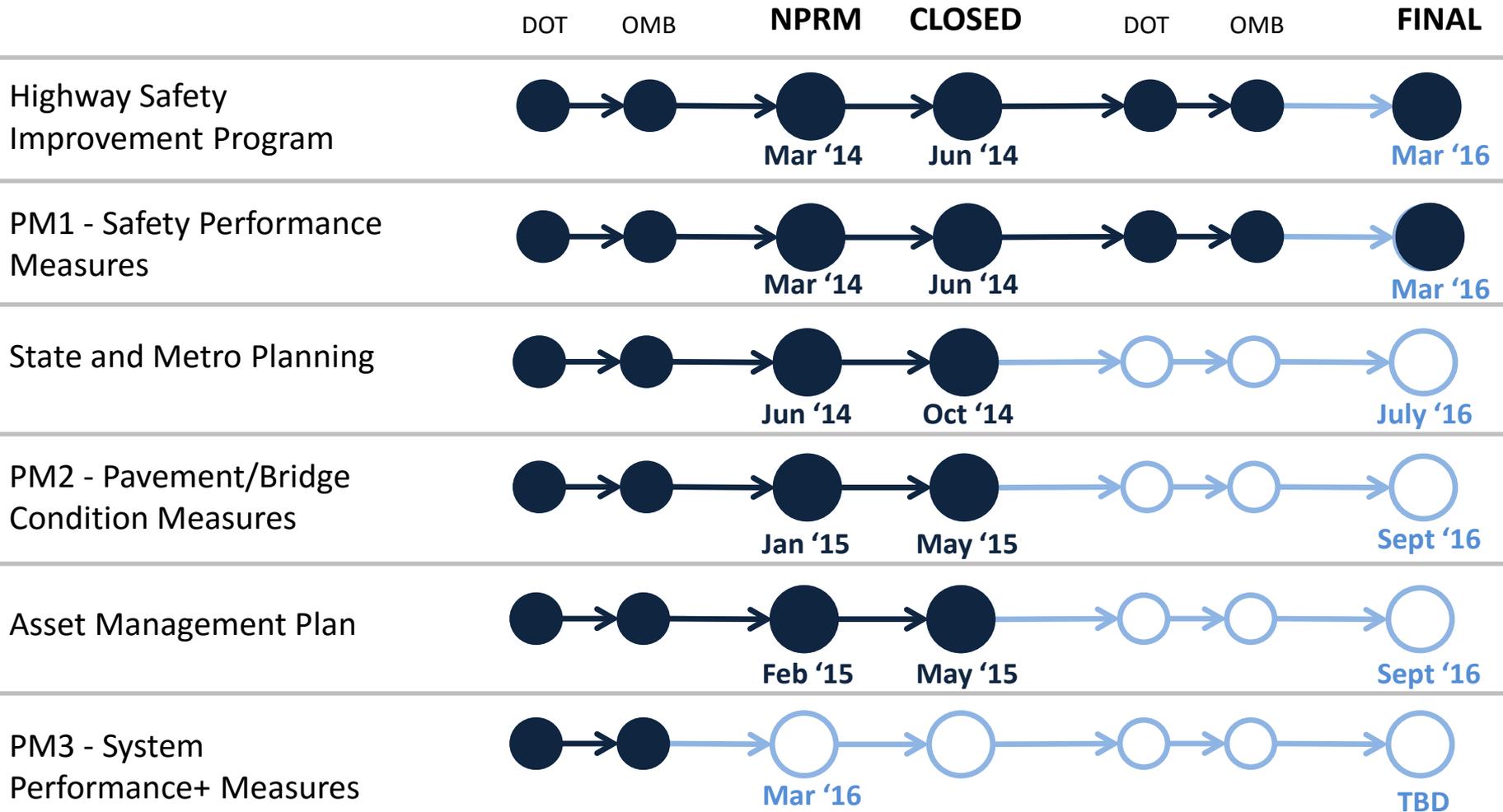


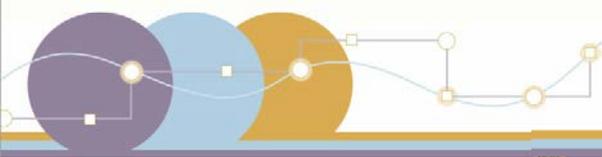
Interrelated Rules In Development or Planned

USDOT Implementation of MAP-21 Performance Provisions: Ten Interrelated Rules	
Planning	
Metropolitan and Statewide Planning Rule	<ul style="list-style-type: none"> Establish a performance-based planning process at metropolitan and state level. Define coordination in the selection of targets, linking planning and programming to performance targets.
Highway Safety	
Safety Performance Measure Rule	<ul style="list-style-type: none"> Propose and define fatalities and serious injuries measures, along with target establishment, progress assessment and reporting requirements. Discuss the implementation of MAP-21 performance requirements.
Highway Safety Improvement Program (HSIP) Rule	<ul style="list-style-type: none"> Integration of performance measures, targets, and reporting requirements into the HSIP. Strategic Highway Safety Plan updates.
Highway Safety Program Grants Rule * <small>* Interim Final Rule Issued by NHTSA In January 2013.</small>	<ul style="list-style-type: none"> State target establishment and reporting requirements. Highway safety plan content, reporting requirements, and approval.
Highway Conditions	
Pavement and Bridge Performance Measure Rule	<ul style="list-style-type: none"> Propose and define pavement and bridge condition measures, along with minimum condition standards, target establishment, progress assessment and reporting requirements.
Asset Management Plan Rule	<ul style="list-style-type: none"> Contents and development process for asset management plan. Minimum standards for pavement and bridge management systems.
Congestion/System Performance	
System Performance Measure Rule	<ul style="list-style-type: none"> Define performance of the interstate system, non-interstate national highway system, and freight movement on the interstate system. Finalize interpretation of scope of CMAQ performance requirements, including congestion and on-road mobile source emissions. Summarize MAP-21 highway performance measure rules
Transit Performance	
Transit Asset Management Rule	<ul style="list-style-type: none"> Define state of good repair and establish state of good repair performance measures Require transit providers to set targets and report on progress Transit asset management plans
National Transit Safety Program Rule	<ul style="list-style-type: none"> Define transit safety criteria and standards Include definition of state of good repair
Transit Agency Safety Plan Rule	<ul style="list-style-type: none"> Transit safety plan content and reporting requirements Target setting requirements for transit agencies and States



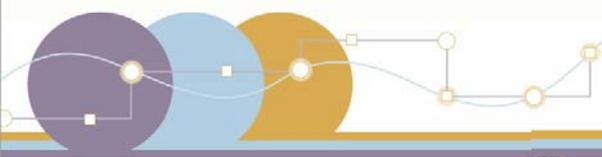
Implementation Status





MAP-21 National Goals

Goal Area	National Goal
Safety	Reduce fatalities & serious injuries on all public roads
Infrastructure condition	Maintain a state of good repair
Congestion reduction	Significantly reduce congestion on the NHS
System reliability	Improve the efficiency of the surface system
Freight movement & economic vitality	Improve the national freight network, access of rural communities to markets, & economic development
Environmental sustainability	Enhance system performance while protecting and enhancing the environment
Reduced project delivery delays	Accelerate project completion by eliminating delays in the project delivery process



USDOT Performance Measure Areas

- **National Highway Traffic Safety Administration - Highway Safety Grant Programs**

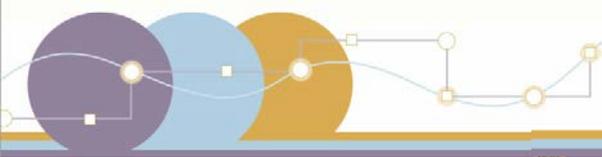
- **Federal Highway Administration - Federal-aid Highway Programs**

– Fatalities	HSIP
– Serious Injuries	
– Pavement Condition	
– Bridge Condition	NHPP
– System Performance	
– Traffic Congestion	
– On-road Mobile Source Emissions	CMAQ

- Freight Movement on the Interstate

- **Federal Transit Administration - Public Transportation Programs**

- State of Good Repair
- Safety Criteria

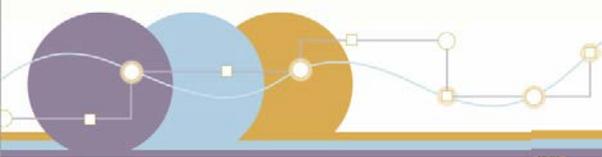


MAP-21 Background-Performance Elements

- ***National Goals***
- ***Measures***
- ***Targets***
- ***Plans***
- ***Reports***
- ***Accountability and Transparency***



www.fhwa.dot/map21



What is A Performance Measure

In short, Transportation Performance Management:

- Is systematically applied, a regular ongoing process based on data and objective information
- Provides key information to help decision makers allowing them to understand the consequences of investment decisions across multiple markets
- Improving communications between decision makers, stakeholders and the traveling public.

Transportation Performance Management represents the opportunity to prioritize needs, and align resources for optimizing system performance in a collaborative manner.



Performance Measures & Performance Targets

- **FHWA** establishes performance measures through the rulemaking process.
 - Measures defined in 23 USC 150
 - National Highway Performance Program
 - Highway Safety Improvement Program
 - Congestion Mitigation and Air Quality Program
 - National Freight Movement
- **State DOTs and MPOs** establish targets for all performance measures.



Coordinated & Integrated Transportation Plans

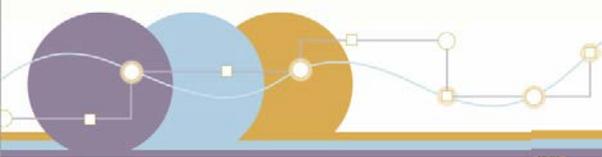
- **State DOTs** develop plans incorporating performance measures and targets, such as the Strategic Highway Safety Plan and the Transportation Asset Management Plan.
- **MPOs** integrate performance measures and targets and other Plans into metropolitan planning process.
- **FHWA** reviews and approves applicable plans or processes.



Reporting Progress & Accountability

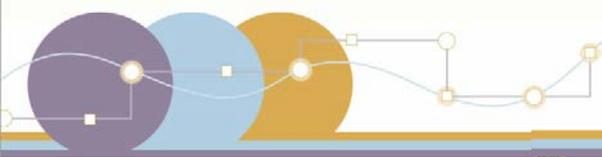
- **State DOTs** report on progress by submitting data to FHWA.
- **MPOs** develop a System Performance Report.
- **FHWA** reviews and compiles performance data to present a national picture.





Performance Measures and MPO Planning





Statewide, Nonmetropolitan, & Metropolitan Transportation Planning NPRM

Performance-Based Planning and Programming

- performance-driven
- outcome-based
- greater transparency and accountability
- improved project decision making
- more efficient investment of Federal transportation funds

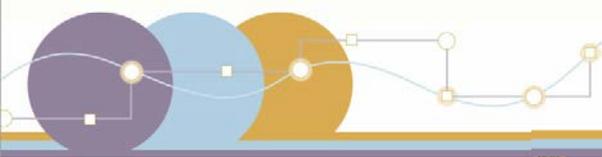
New Emphasis on Nonmetropolitan Transportation Planning

- States to work more closely with nonmetropolitan areas and designate RTPOs.
- State DOTs and MPOs to coordinate establishing performance targets.

Additions to the Metropolitan Planning Process

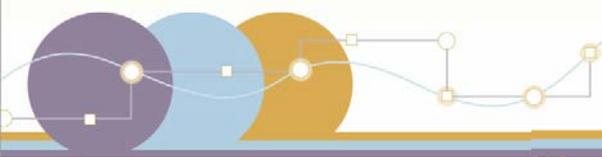
- Changes to MPO policy board structure
- Optional process for scenario planning





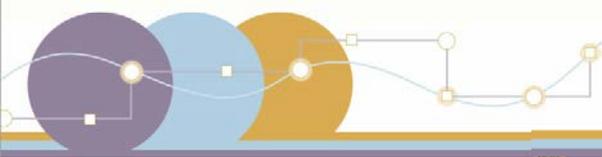
Related Elements of Planning NPRM

- Support of national goals
- Coordination of targets
- Integration of other performance based plans
- Reporting on performance
- MPO planning agreements
- STIP/TIP discussion



Transportation Performance Measure Requirements

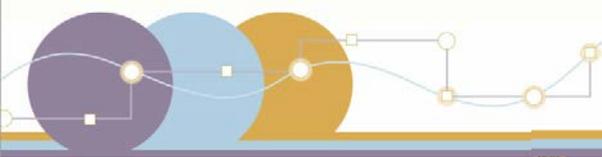
- MPOs, within 180 days of State, sets performance targets for each of the Performance measures.



Integration of State-wide Plans

- MPOs are to integrate the goals, objectives and Performance measures of the State Transportation plan into its process.
- MPOs are to integrate the goals and objectives of several transportation plans.
 - Asset Management Plan
 - HSIP plan
 - Public Transportation Safety plan
 - State-wide Freight Movement Plan
 - Other applicable Plans

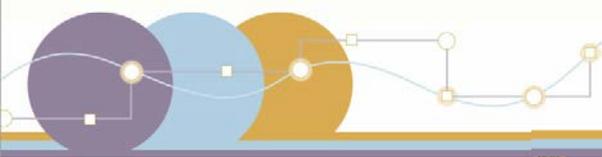




MPOs, State DOTs, Public Transit Agreements

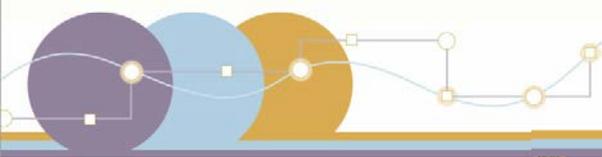
- The MPO, State DOT and Public transit providers with overlapping jurisdictions are to enter into an agreement. Defining:
 - Roles & Responsibilities in developing and sharing information
 - The process to select Performance Measures Targets
 - Data collection responsibilities
 - Method in reporting system performance





Transportation Improvement Plan requirements

The Transportation Improvement Plan must include a discussion describing how implementation of the TIP will help achieve the Performance targets.

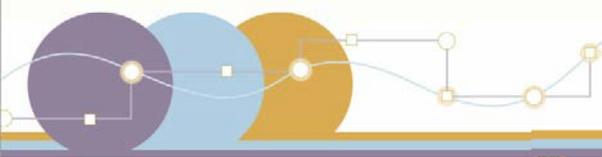


MPOs and Transportation Performance Measures

MAP-21 Transportation Performance Measures will improve the MPO process by:

- Setting local Performance Measures
- Integrating state-wide planning efforts into the process
- Allow for better coordination through the MPO operating Agreements
- Align the outcomes of the TIP with achieving Performance Targets.
-





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<http://www.fhwa.dot.gov/map21/summaryinfo.cfm>

<http://www.fhwa.dot.gov/tpm/about/index.cfm>





Oregon PlaceTypes: Land Use Classification Language

Oregon Model Steering Committee April 20th, 2016

Cody Meyer
Land Use & Transportation Planner
Oregon Department of Land Conservation and Development

Intro to PlaceTypes

Why PlaceTypes?

- ❑ Better framework for thinking about land use and transportation
 - Criteria-driven framework for planning concepts (e.g., TOD, Mixed Use)
 - Quantifies the effects on household travel from land use
 - Engages local planners in a conversation about future land use
 - Visualize land use scenarios at a “neighborhood” scale

- ❑ Integrate land use and transportation planning processes
 - Facilitate review of land use inputs to travel models
 - Help identify growth “opportunities” for future land use plans
 - Quicker development/screening of alternative land use scenarios
 - Better land use forecasts for models

Intro to PlaceTypes

How?

☐ Built on National Research

- Rapid Policy Assessment Tool (RPAT) input
- Strategic Highway Research Program (SHRP2) C16 + Smart Growth reports

☐ Informed with Oregon-based definitions, especially mid-size communities

- Built with local TAZ data and EPA's 2010 Smart Location Database
- Ground truthed 2010 PlaceType maps with 8 MPOs and DLCDC regional reps

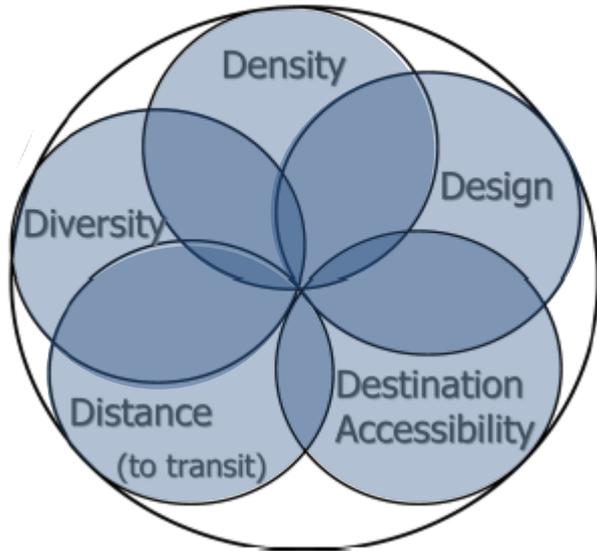
5 D's of the Built Environment

PlaceTypes are defined by 5 characteristics of the built environment that can reduce car use in favor of transit, walking, and biking

- Defined in the 2010 meta-analysis of the land-use/transportation connection, *“Travel and the Built Environment”* by Ewing and Cervero
- Tools developed in a SHRP2 C16 project *“The Effect Of Smart Growth Policies On Travel Demand”*

5 D's of the Built Environment

*5 D's of the
Built Environment*



1. **Destination** accessibility
2. **Density** of jobs and housing
3. **Design** of street network
4. **Diversity** of land use
5. **Distance** to transit service

5 D's of the Built Environment

1. Destination accessibility

The regional jobs that are located within 5 miles of each location, relative to the jobs reachable from a highly accessible location within the region

2. Density of jobs and housing

Jobs and households per *unprotected* acre, within $\frac{1}{4}$ mile of each location

3. Design of street network

- Multi-modal street links per square mile or
- Pedestrian-oriented street links per square mile

4. Diversity of land use

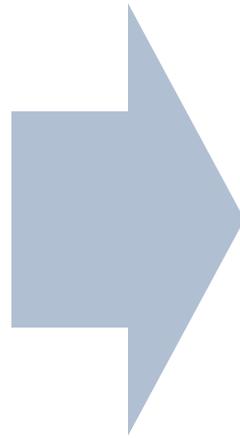
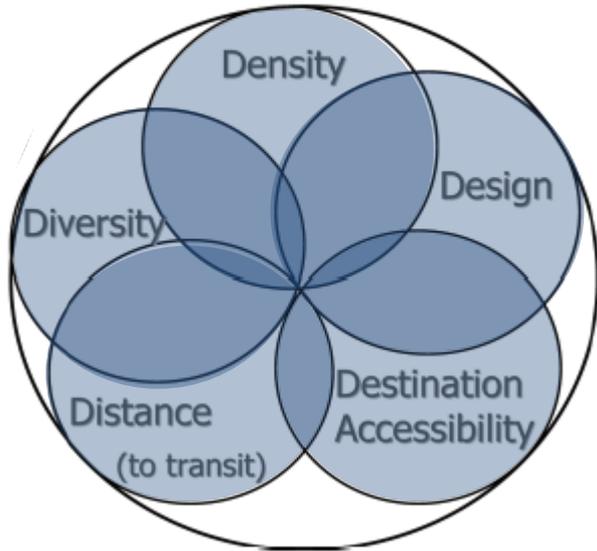
- Jobs to household ratio within $\frac{1}{4}$ mile
- Retail and service jobs to household ratio within $\frac{1}{4}$ mile

5. Distance to transit service

PM peak hourly (fixed route) transit service with $\frac{1}{4}$ mile of each location

5D's Determine PlaceTypes

5 D's of the Built Environment



PlaceTypes

→ Area Type

→ Development Type

5D Classification

5D Variables



Development Type

Built Environment Variables	Destination Accessibility	Share of Regional Jobs within 5 miles (ratio)	H-M-L-VL
	Density	Jobs & Households per acre within 0.25 mile	H-M-L-VL
	Design	Multi-modal & Pedestrian-Oriented street density (links per sq mile)	H-L
	Diversity	Jobs (total or retail- service) to household ratio, within 0.25 mile	H-L
	Transit Service Level	PM Peak hourly transit service within 0.25 mile	H-M-L-VL

	Density	Design	Diversity	Transit
Mixed Use	M	M	H	
	H	H	H	
Employment	Not MIXED		Jobs> HHs	
Residential	Not MIXED		HH>jobs	
Transit Supported Development	H	H	H	H
	H	H	Jobs>HHs	H
Low Density/Rural	VL			

Development Type

Neighborhood Character

Development Type is used to describe more detailed physical characteristics of each neighborhood.

The Development Type of a neighborhood is determined by the activity Density, street Design, land use Diversity, and presence of transit service (level of service).



Transit Supportive Development

- High densities of jobs and housing
- High diversity of land uses, with jobs and housing
- Highly accessible multi-modal transportation system
- Frequent transit service (multiple routes) in peak periods



Mixed Use

- Medium to high densities of residential and commercial uses
- High diversity of land use mix, with both jobs and housing
- Multimodal transportation network supported by peak period transit service



Employment

- Land use is dominated by commercial or industrial activities
- Low diversity of land uses
- Jobs/Housing balance: mostly jobs
- Missing either the density or street design required of mixed use



Residential

- Land use is dominated by housing
- Low diversity of land uses
- Jobs/Housing balance: mostly housing
- Missing either the density or street design required of mixed use

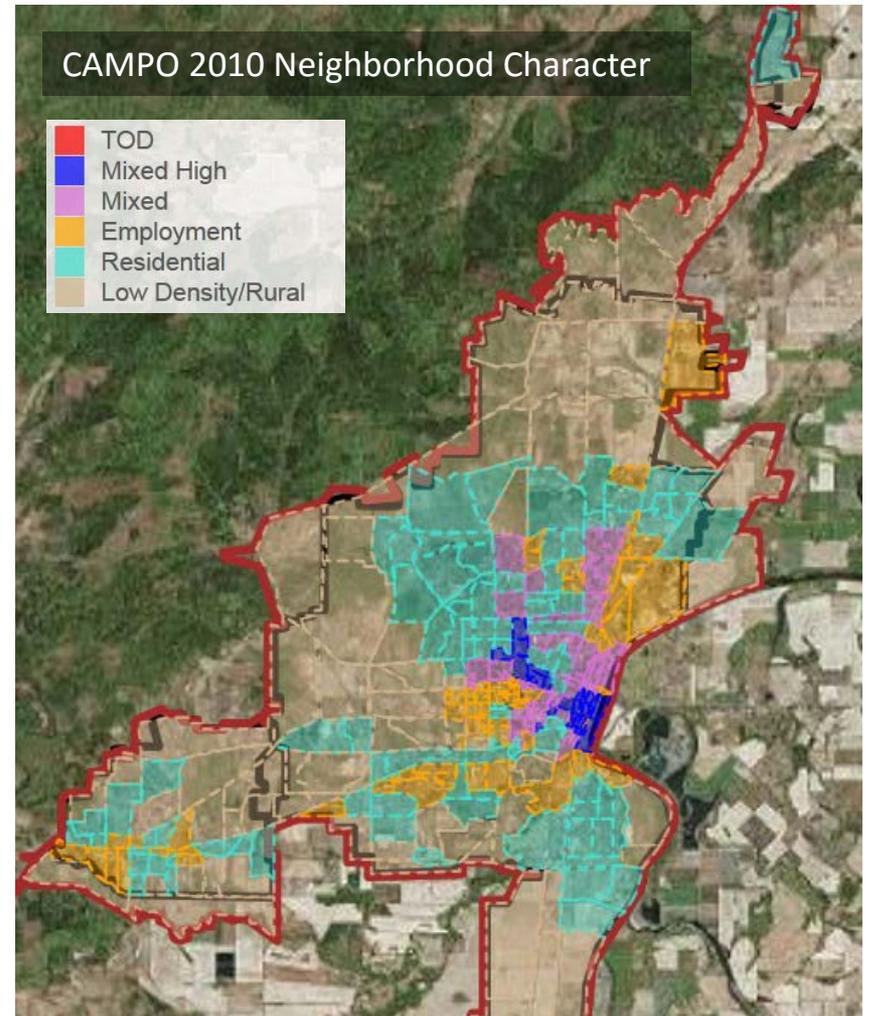
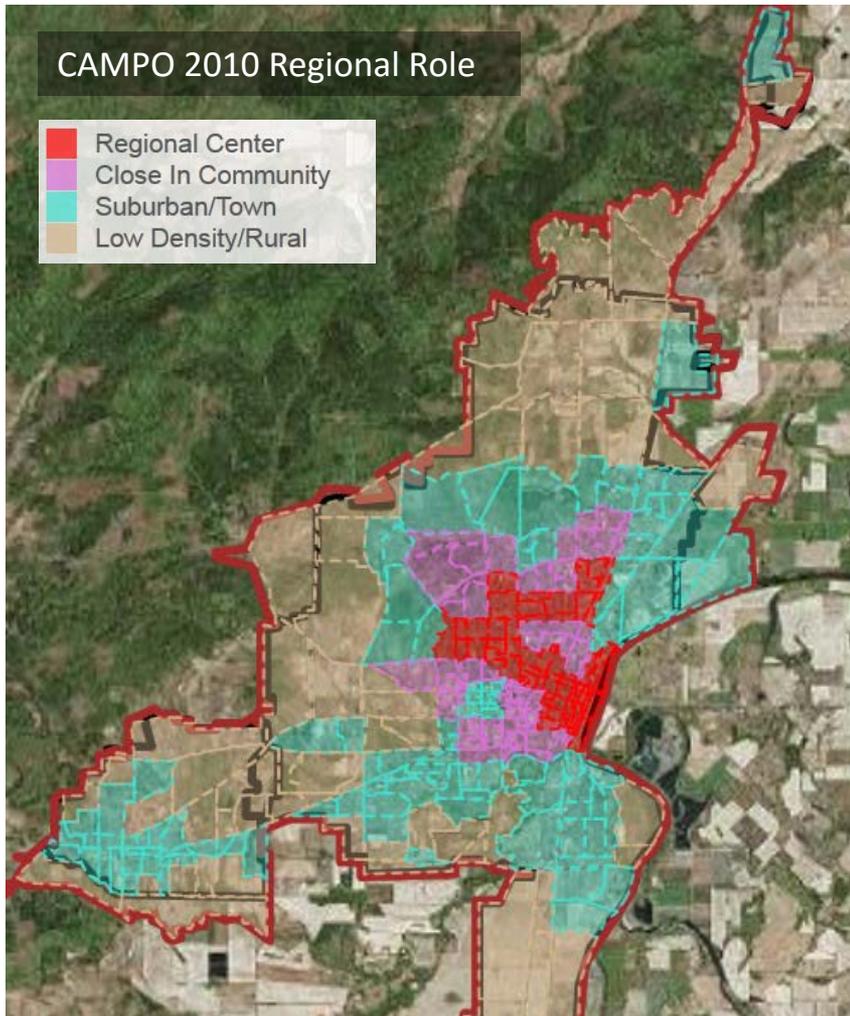


Rural/ Low Density

- Very low densities of housing and jobs
- Very low accessibility to jobs and services
- Generally outside of UGB, or undeveloped areas within UGB
- Auto dependent transportation, due to low activity densities

Oregon PlaceTypes

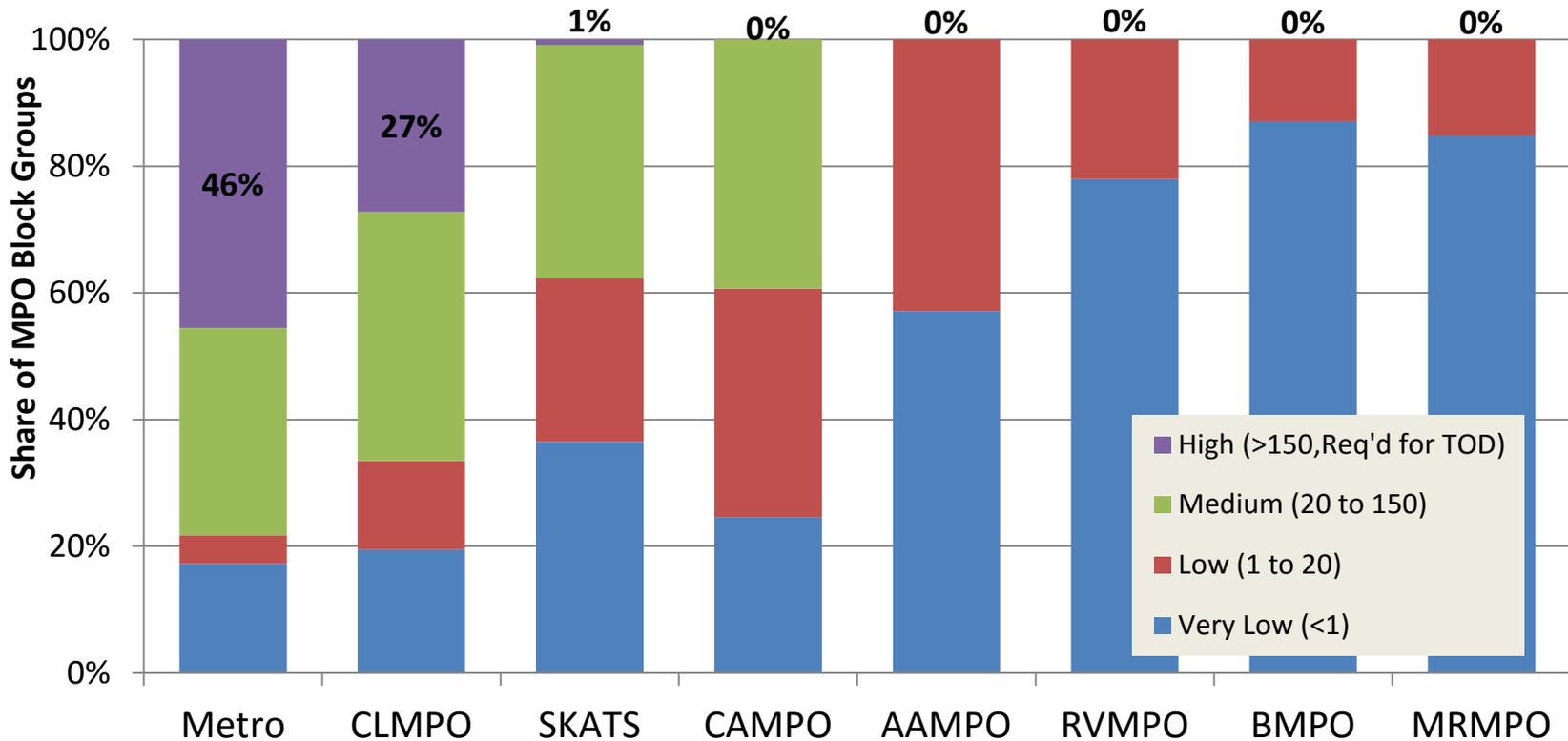
AREA TYPE + *DEVELOPMENT TYPE* = *PlaceType*
(Regional Role) (Neighborhood Character)



PlaceType Transit Thresholds

Oregon MPOs – PM Peak Transit Service Thresholds

Percentages shown for High

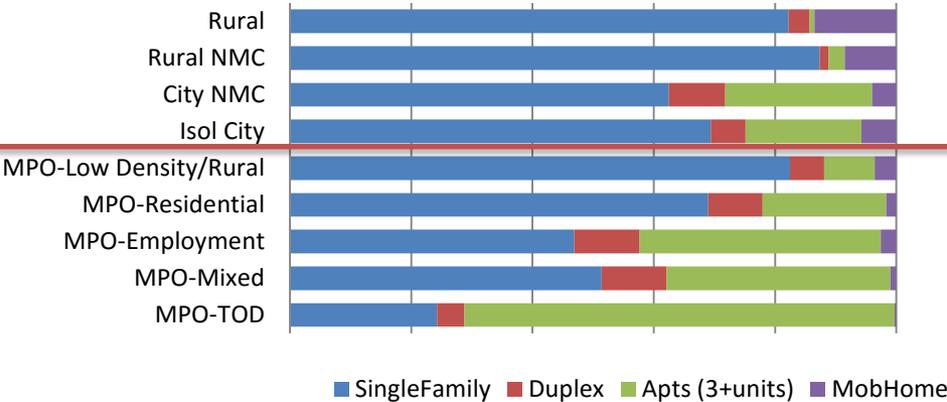


Based on Google's General Transit Feed Specification (GTFS) data used in EPA's 2010 Smart Location Database (D4c element) at Block Group level

Draft Findings-PlaceTypes and OHAS

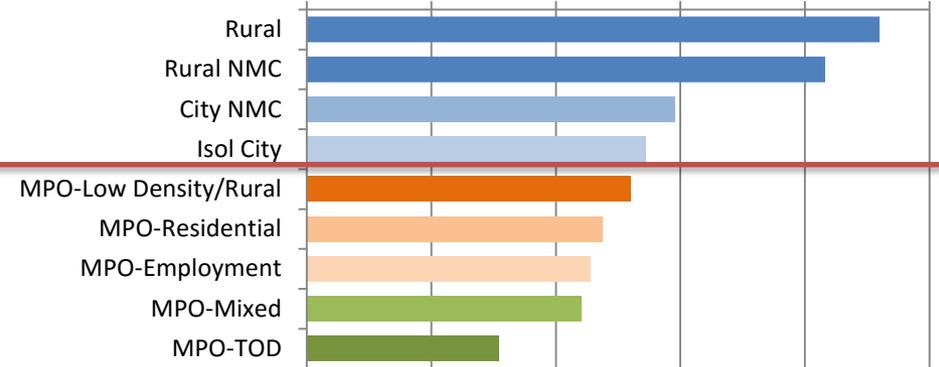
Dwelling Unit Type

0% 20% 40% 60% 80% 100%



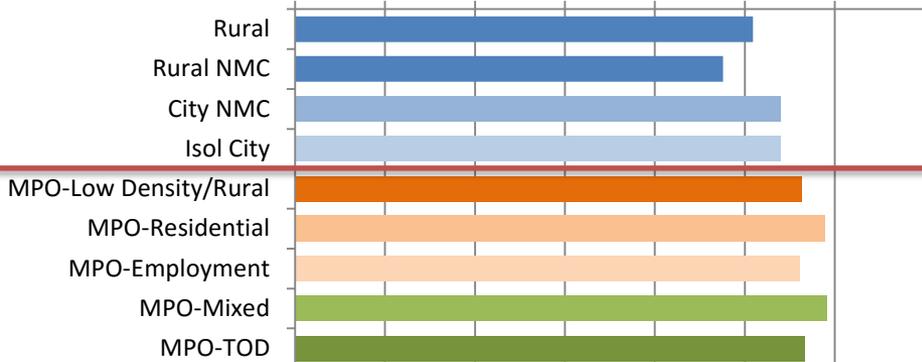
Daily Personal Vehicle Miles per capita

0 10 20 30 40 50



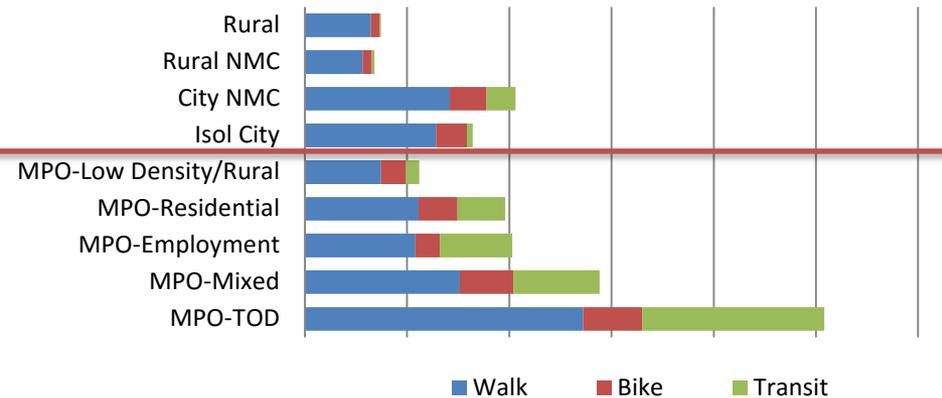
Daily Trips Per Capita (all modes)

0 1 2 3 4 5 6 7



Non-Auto Trip Mode Share

0% 10% 20% 30% 40% 50% 60%



Potential Planning Applications

- Communication tool for MPO travel model updates, facilitate review of land use inputs
- Sketch planning tool for public workshops
- TPR performance measures
- Help land use planners identify growth “opportunity areas” and areas with potential for mixed use development
- More refined definition of land uses for modeling tools

Questions?

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Zero Emission Vehicle Program

Oregon Modeling Steering Committee

April 20, 2016
Salem, OR

Zero Emission Vehicle Program

Light Duty Vehicles contribute 25% of Oregon's total Greenhouse Gas emissions.

California = Only state that can adopt vehicle emission standards different (more restrictive) than federal regulations.

Other states can adopt vehicle standards *identical* to CA's standards. (Clean Air Act Section 177)

Light Duty Emission Limits

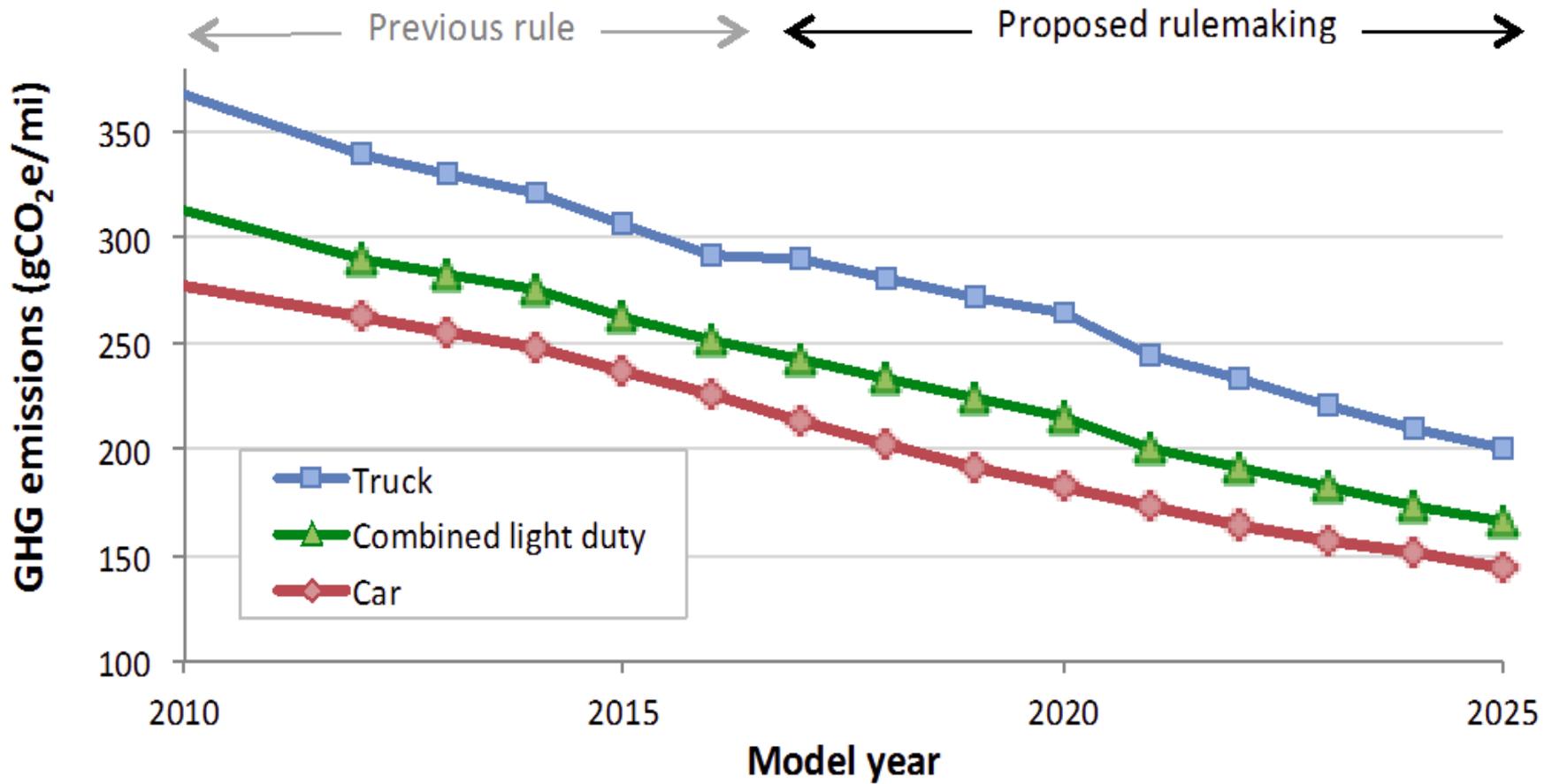
Oregon adopted California's rules

Federal rules later “harmonized” with CA:

- CA's LEV III rules,
- EPA's GHG limits,
- USDOT's CAFE Stds.

Fleet ave. emissions in 2025 ~163 g CO₂e/mi.
(54.5 mpg)

Target GHG Emission Reductions



Zero Emission Vehicle Program

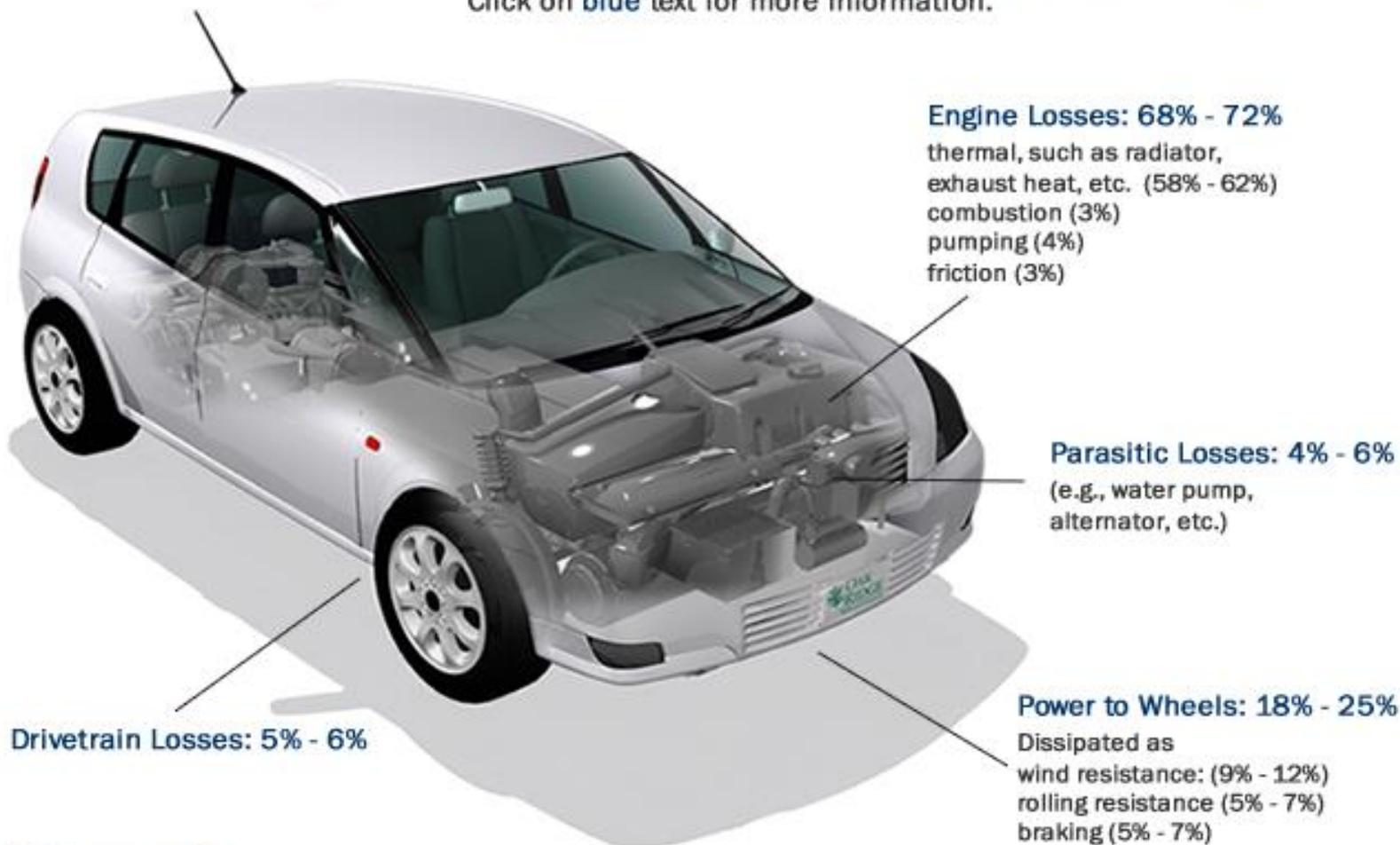
Conventional internal combustion vehicles discard most of their potential energy (~75%) through waste heat, idling, pumping losses, braking, etc.

EVs and Fuel Cell Vehicles are 3 to 4 times more efficient.

Conventional Vehicles are Inefficient

Energy Requirements for Combined City/Highway Driving

Click on blue text for more information.



Idle Losses: 3%

In this figure, they are accounted for as part of the engine and parasitic losses.

Zero Emission Vehicle Program

Oregon adopted CA's ZEV rules effective 2009

ZEV states: CA, CT, MA, MD, ME, NJ, NY, OR, RI, and VT

Until recently, ZEV rules focused on incremental development of ZEV technologies. (Think hybrid-electric vehicles)

ZEV requirements increase sharply beginning 2018.

Zero Emission Vehicle Program



Zero Emission Vehicles

Nissan Leaf: Battery Electric Vehicle

Zero Emission Vehicle Program



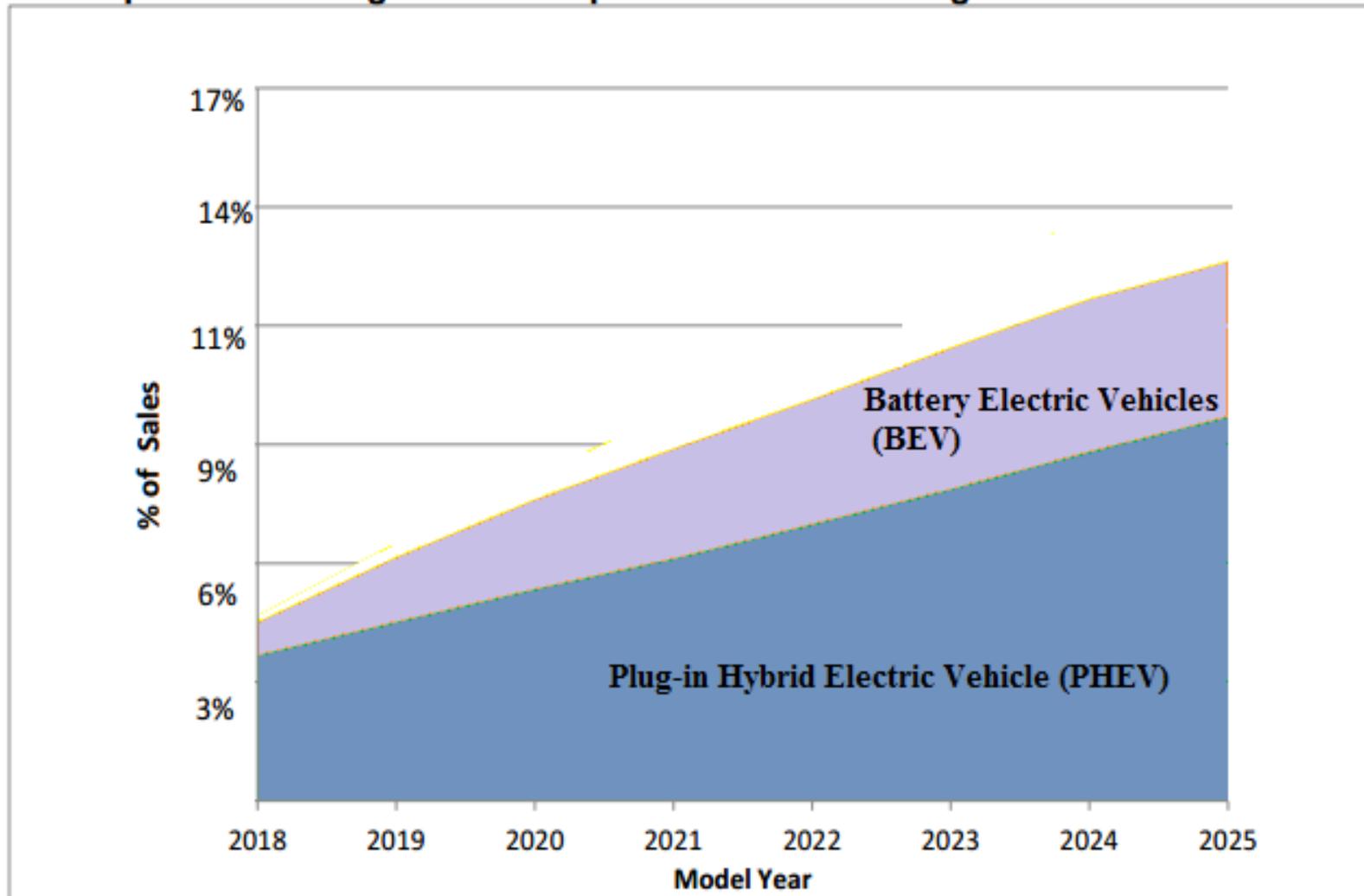
Plug-in Hybrids:

Plug-in Prius (foreground)

Chevy Volt (background)

Zero Emission Vehicle Program

Expected ZEV Regulation Compliance for 2018 through 2025 Model Years



Zero Emission Vehicle Program

Flexible compliance options:

Over compliance with CAFE stds.

Large ZEV credit banks

CA FCVs also count in other states

ZEV credit trading

Optional compliance path

ZEV credit pooling

Zero Emission Vehicle Program

ZEV rules are challenging. California is conducting a Mid-Term Review to reevaluate feasibility.

California Air Resources Board hears issues December, 2016

Review applies to requirements for 2022 to 2025.

Simultaneous review of federal GHG and CAFE stds.

States joined together under a ZEV MOU to remove ZEV barriers and promote ZEV adoption: install public chargers, provide incentives, standardize EV signage, EV-ready building codes, etc.

Zero Emission Vehicle Program

International ZEV Alliance:

Germany

Norway

United Kingdom

Netherlands

Quebec

British Columbia

California

Connecticut

Maryland

Massachusetts

New York

Oregon

Rhode Island

Vermont

Members aspire to make all passenger vehicle sales Zero Emission Vehicles ASAP—and no later than 2050.

Clean Fuels Program

Oregon's Clean Fuels Program also reduces GHGs

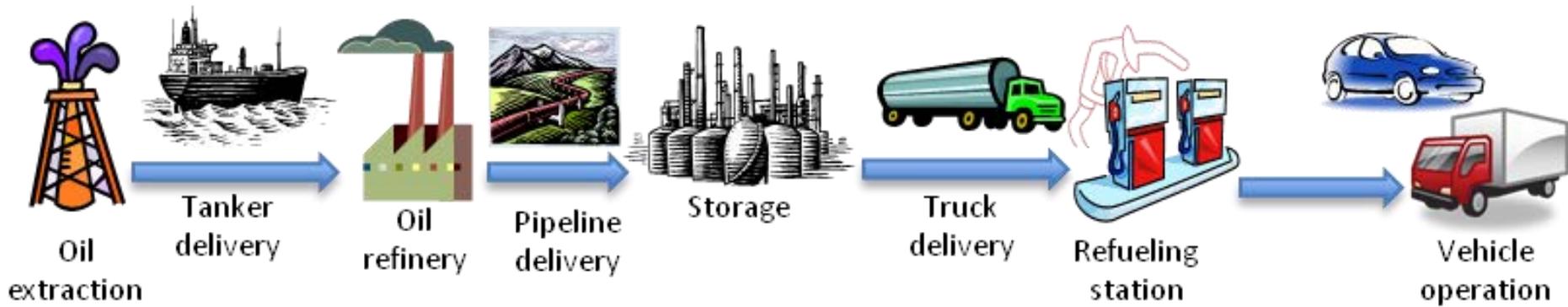
Second low carbon fuel standard in the nation

CFP requires the *lifecycle* carbon intensity of fuels to be reduced 10% in 10 years

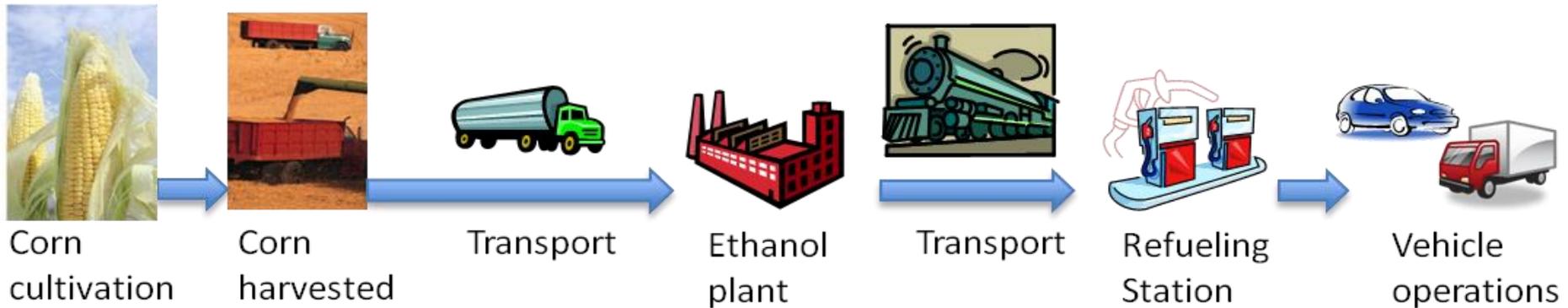
CFP addresses big differences in global warming potential of different fuels. (think ethanol)

Clean Fuels Program

Lifecycle Emissions of Fuels



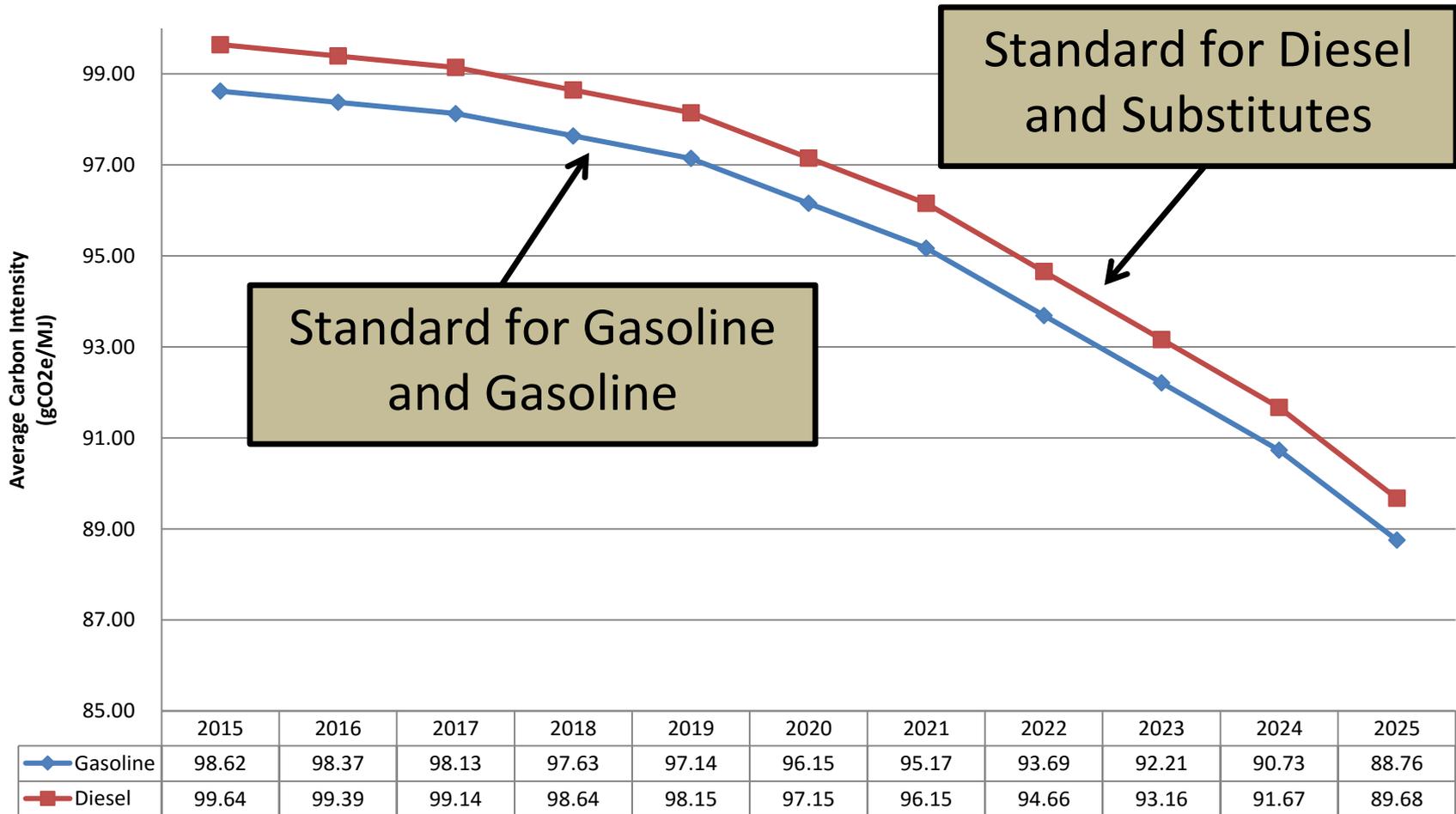
Example: Petroleum



Example: Ethanol made from corn

Clean Fuels Program

Clean Fuels Standards



Zero Emission Vehicle Program

Fuel Description	Carbon Intensity (gCO ₂ e/MJ)
Clear Diesel	101.65
Clear Gasoline	100.77
Propane	83.05
Fossil CNG	79.93
Midwest corn ethanol	69.89
Soybean biodiesel	58.25
Electricity	31.85
Used cooking oil biodiesel	18.12

Zero Emission Vehicle Program

ZEV states find most important actions to promote ZEVs:

1) Public education/outreach to increase awareness of ZEVs.

2) Utility engagement in providing large numbers of EV chargers = Triple win: Better charging, better management of electric load, downward pressure on electrical rates.

SB 1547

Carbon content of electricity is going down
(Applies to PGE & Pacific Power)

RPS: 50% Renewable Portfolio Std. by 2040
plus ~20% existing hydro power
remainder = natural gas

Transportation Electrification:

Investor-owned utilities must propose programs to the PUC to accelerate transportation electrification.

SB 1547

Potential triple win:

Managing EV charging can provide better electrical load management (lower peaks, higher low periods) gives more electricity sold through more efficient use of fixed-cost assets (generation facilities, transmission systems)

Lower unit cost for all rate payers?

More profit for utilities due to more electricity sold

More EV charging infrastructure