

GHG Target Rules Update



Metropolitan GHG Targets Advisory Committee

Meeting #4

September 4, 2016

Overview

October RAC

- Tech Memo 2 overview

November RAC

- Discuss memo in depth
- Staff recommendations

December RAC

- Draft targets

January LCDC

- Adopt targets



Background

Areas to be considered in the target rules update:

1. Individual MPO targets or a single statewide target
2. Targets for the two new MPOs
3. Statewide Transportation Strategy for future assumptions
4. Targets between 2035 and 2050
5. 2050 population assumptions (MPO share)
6. How to express targets



Updating Future Assumptions

Areas to be considered in the target rules update:

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- 3. Statewide Transportation Strategy for future assumptions**
4. Targets between 2035 and 2050
- 5. 2050 population assumptions (MPO share)**
6. How to express targets



Updating Future Assumptions

Population Forecasts

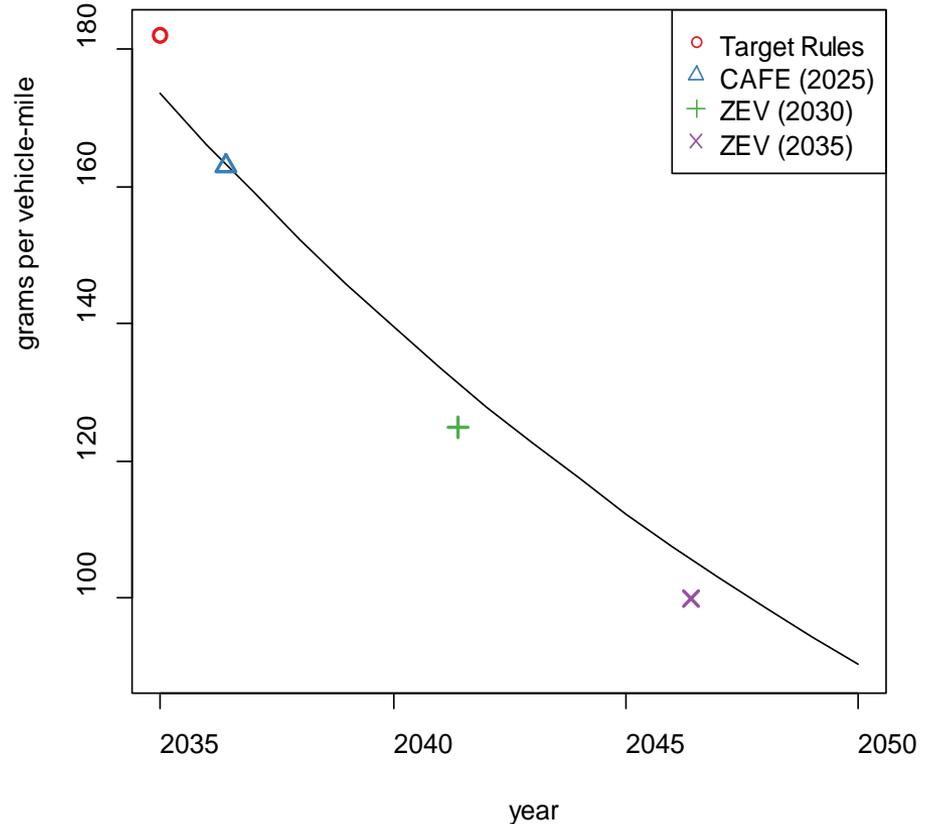
- STS and Target Rules assumed slightly higher population growth rate than what is now assumed in state forecasts
- Updated with current OEA, PSU, and Metro forecasts
- Current forecasts for 2050 are lower by 5% for state and 4.5% for metropolitan areas
- Lower population forecast → smaller target per capita



Updating Future Assumptions

STS technology assumptions

- In line with state and federal policies
- US CAFE
- Zero Electric Vehicle (ZEV)



Comparison of STS Metropolitan Trend Line Vehicle Emissions Rates and Target Rule, CAFE, and ZEV Standard Rates: 2035 to 2050



Targets for MPOs

The following areas were identified to be considered in the target rules update:

- 1. Individual MPO targets or a single statewide target**
- 2. Targets for the two new MPOs: Albany Area, and Middle Rogue (Grants Pass)**
3. Using Statewide Transportation Strategy for future assumptions
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Targets for New MPOs

Background

2011 Target Rules adopted for:

- Portland Metro
- Salem-Keizer
- Corvallis
- Eugene-Springfield
- Bend
- Rogue Valley



2012 Middle Rogue MPO Designated



2013 Albany Area MPO Designated



Targets for New MPOs

Issues:

1. Would excluding these metropolitan areas make much difference to GHG emission reduction?
2. How difficult would it be to set targets for these metropolitan areas?
3. Is it fair to have targets for other metropolitan areas and not these metropolitan areas?



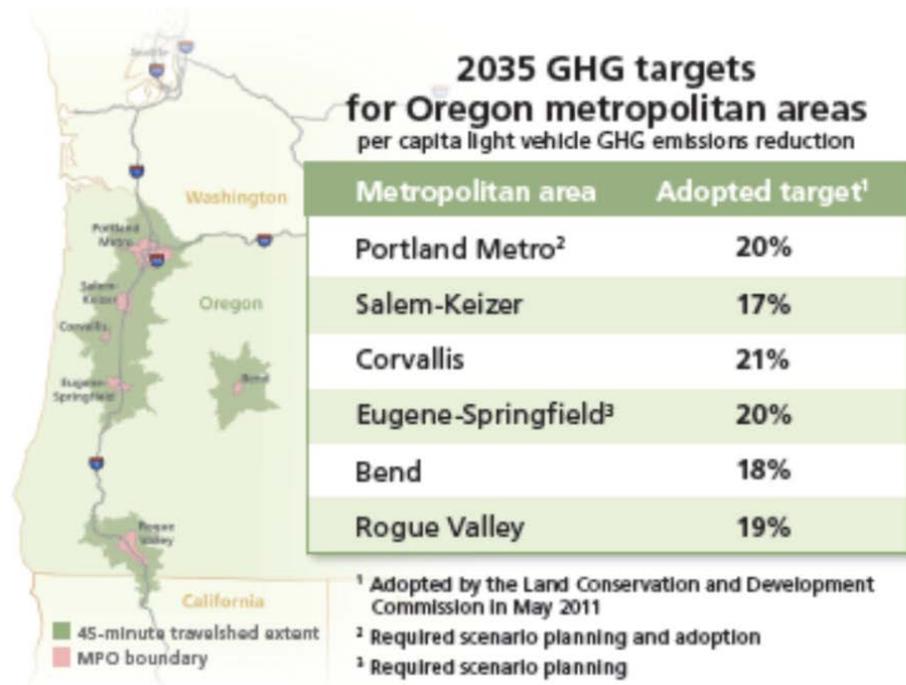
Targets for New MPOs

DLCD staff recommends including all MPOs

- Targets are voluntary
- Not individual targets
- No staff time or data required from the MPOs
- Insignificant effect on the targets



Distinguishing Targets



Differences from:

- Reference year shifted from 1990-2005
- Individual forecasts of changes in emissions rates



Distinguishing Targets

Options for Metropolitan Targets

1. Same for all metropolitan areas
2. Two targets
 1. Portland metropolitan area
 2. All other metropolitan areas
3. Individual for each metropolitan area



Option #1: Same for all areas



Portland Metro
Salem-Keizer
Corvallis
Eugene-Springfield
Bend
Rogue Valley
Albany Area
Middle Rogue



Option #1: Same for all areas

Year	Target
2040	-21.5 %
2041	-22.8 %
2042	-24.0 %
2043	-25.3 %
2044	-26.5 %
2045	-27.7 %
2046	-28.9 %
2047	-30.0 %
2048	-31.1 %
2049	-32.3 %
2050	-33.4 %

Tech Memo 2, Table 4



Distinguishing Targets

Option #2 - Establish one target for the Portland metropolitan area, and a single target for all other metropolitan areas



{ Portland Metro



{ Salem-Keizer
Corvallis
Eugene-Springfield
Bend
Rogue Valley
Albany Area
Middle Rogue



Distinguishing Targets

Option #2 - Establish one target for the Portland metropolitan area, and a single target for all other metropolitan areas

Issues

- Accounts for the differences in capabilities between the Portland area and the smaller MPOs
- Results in targets that are lower for smaller MPOs
- Results in targets that are higher for the Portland metropolitan area



Statewide Transportation Strategy (STS)

- Metropolitan areas reduce GHG more than rural areas
- Capabilities vary by MPO size:
 - Large (Portland Metro)
 - Medium (Salem/Keizer, Eugene/Springfield)
 - Small (Corvallis, Bend, Rogue Valley)
- Different assumptions for:
 - Congestion pricing
 - Parking
 - Carsharing
 - Transit Service
 - Transportation Demand Management (TDM)



Option #2: Portland – All Others

STS Model Run Outputs

Year	Portland	All Others
2040	-34.8 %	1.2 %
2041	-36.4 %	0.6 %
2042	-37.9 %	0.0 %
2043	-39.4 %	-0.6 %
2044	-40.8 %	-1.2 %
2045	-42.3 %	-1.7 %
2046	-43.7 %	-2.3 %
2047	-45.0 %	-2.9 %
2048	-46.3 %	-3.5 %
2049	-47.6 %	-4.0 %
2050	-48.9 %	-4.6 %



Option #2: Portland – All Others

Portland 20% 2035 - Others 20% 2040

Year	Portland	All Others
2040	-25.3 %	-20.0 %
2041	-26.4 %	-21.1 %
2042	-27.4 %	-22.2 %
2043	-28.4 %	-23.3 %
2044	-29.4 %	-24.3 %
2045	-30.3 %	-25.3 %
2046	-31.3 %	-26.4 %
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2048	-33.2 %	-28.4 %
2049	-34.1 %	-29.4 %
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How to Express Targets

1. **Roadway** emissions vs. **Household** emissions
2. Reductions above **fleet, fuels, and technology** improvements



Roadway vs. Households

2011 Target Rules definition

“Trips made by light vehicles that

- begin and end within a metropolitan planning area*
- and that portion of other trips made by light vehicles that occurs within a metropolitan planning area,*
- including a portion of through trips (i.e. trips that pass through a metropolitan planning area but do not begin or end there)*
- and that a portion of other light vehicle trips that begin or end within a metropolitan planning area.”*

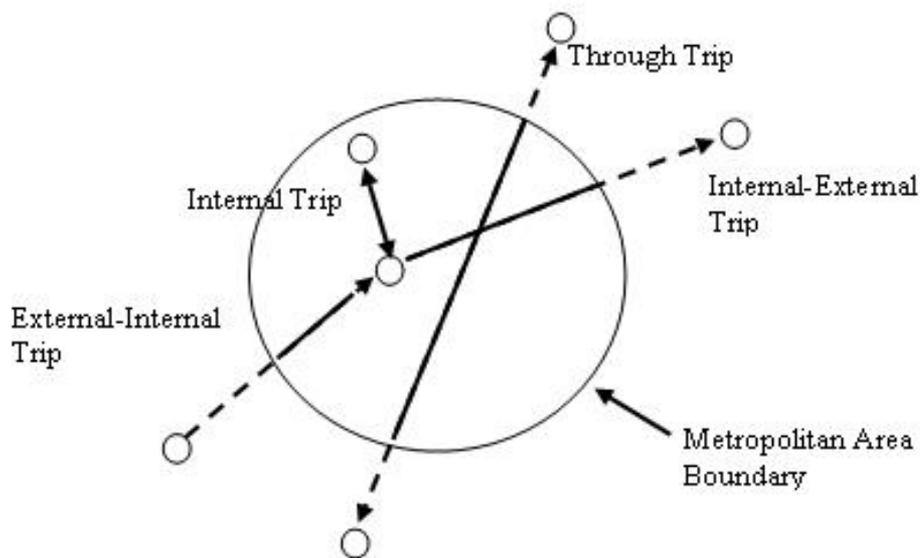


Figure 1. Light vehicle travel within a metropolitan area. Circles indicate trip origins and destinations. Arrows indicate the direction of travel. Solid lines indicate the portion of each type of trip that is considered travel within a metropolitan area for purposes of this definition.



Roadway vs. Households

- Disconnect between rules and models
 - Adopted targets cover roadway travel within a metropolitan area
 - Model predicts household travel of a metropolitan area
- Fairness
 - Are MPOs responsible for pass through trips?
- Recommendation
 - Define travel within metropolitan areas as “household” travel
 - Consider including commercial vehicle fleet from model (~10% of travel)



Fleet, Fuels, and Technology

Target rules definition:

*“Greenhouse gas emissions reduction targets are expressed as a percentage reduction in emissions per capita from 2005 emissions levels **but not including reductions in vehicle emissions that are likely to result by 2035 from the use of improved vehicle technologies and fuels.**”*



Fleet, Fuels, and Technology

Technical Issues

- Removing fleet/fuels/tech involves modeling the base year with future vehicle fleet “hybrid scenario”
- Applying future technology to past conditions distorts the estimation of VMT
- Distortion issues are magnified as we increase the planning horizon and technology improves
 - Ex. Increased fuel efficiency = lower cost = more travel



Fleet, Fuels, and Technology

Communication Issues:

- Presenting three GHG results is complicated
- Example GHG results:
 1. **Total GHG** – Fleet/fuel/tech, State action, local actions (-70%)
 2. **Target Rule GHG** - State action, local actions (-18%)
 3. **Local action GHG** – Local actions (-2%)



Target Expression

Options:

1. Status quo
2. Include fleets/fuel/technology improvements
3. Alternative expression



Target Expression

Option Issues:

1. Status quo

- Technical difficulties
- Difficult to communicate

2. Include fleets/fuel/technology improvements

- May be difficult to communicate the effects local actions

3. Alternative expression

- Difficult to communicate

