



Statewide Transportation Strategy
Ground Scenarios

OREGON SUSTAINABLE TRANSPORTATION INITIATIVE

Presentation to the Scenario Planning Guidelines TAC
August 29, 2011



Statewide Transportation Strategy

A Vision for the Transportation System of the Future

Technical Advisory
Committee



Policy Committee



OTC



Statewide Transportation Strategy

A Vision for the Transportation System of the Future

Travel Markets



Oct-
Dec



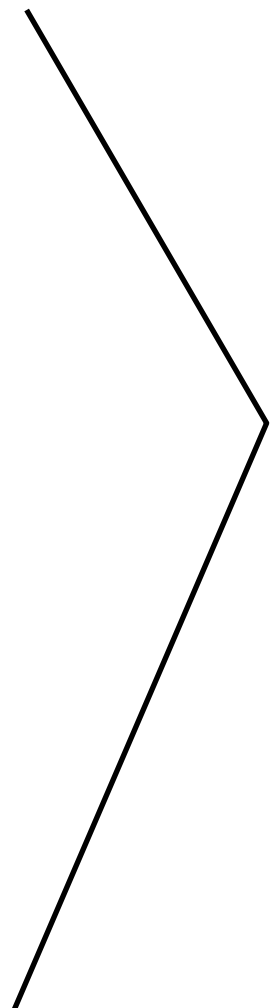
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Ground Transportation Scenarios

Factor/policy to test Intensity level

| | Factor/policy to test | Intensity level |
|------------------------------|-----------------------------|-----------------|
| Land Use | Urban Growth Boundaries | ● |
| | "Complete" Neighborhoods | ● |
| | Population Distribution | ○ |
| Transportation System | Urban Transit Service | ○ |
| | Intercity Transit Service | ○ |
| | Bike/Ped/PEV Usage | ● |
| | Road Capacity Expansion | ● |
| | Incident Management/ITS | ○ |
| | PAYD Insurance | ○ |
| | TDM & Ecodriving | ○ |
| | Parking Pricing | ○ |
| | Fuel Tax | ○ |
| | VMT Tax | ○ |
| | Carbon Tax | ○ |
| | Vehicles & Fuels | Vehicle Age |
| Lt. Truck vs. Auto | | ○ |
| Carsharing Usage | | ○ |
| Fuel Efficiency | | ○ |
| Fuel carbon intensity | | ○ |
| Electricity carbon intensity | | ○ |
| EV/PHEV Usage | | ◐ |



Geographic Area

- Statewide
- Portland Metro
- Other MPOs
- MPO Travelsheds
- Urban Non-Travelsheds
- Rural Non-Travelsheds



Round 1 Scenarios - Urban

Characteristics:

- Dense urban environments (infill and vertical growth)
- Population growth within UGBs
- Little UGB growth
- “Complete” neighborhoods
 - jobs-housing balance, expanded bike/ped networks, traffic calming, and increased transit access*
- *Supporting:* parking pricing
- *Supporting:* widespread TDM

GHG reductions primarily expected through reduced VMT

- Shifts of SOV travel to bike/ped, PEV, and transit

| | Statewide | Portland Metro | Other MPOs | Urban Non-"Travelshed" | Rural Non-"Travelshed" |
|-----------------------|------------------------------|----------------|------------|------------------------|------------------------|
| Land Use | Urban Growth Boundaries | | ● | ● | ● |
| | "Complete" Neighborhoods | | ● | ● | ● |
| | Population Distribution | | ● | ● | ● |
| Transportation System | Urban Transit Service Levels | | ● | ● | |
| | Intercity Transit Service | | ● | ● | ● |
| | Bike/Ped/PEV Usage | | ● | ● | ● |
| | Road Capacity Expansion | | ● | ● | |
| | ITS | | | | |
| | PAYD Insurance | | | | |
| | Travel Demand Management | | ◐ | ◐ | |
| | Eco-driving | | | | |
| | Parking Pricing | | ◐ | ◐ | |
| | Fuel Tax | | | | |
| | VMT Tax | | | | |
| Carbon Tax | | | | | |



Round 1 Scenarios – Vehicle Tech.

Characteristics:

- Rapid advancement of technology
- Alternative fuel vehicles
- Technological innovations
- Younger, smaller and more fuel efficient vehicles
- PEVs for short-distance travel
- *Supporting:* VMT tax

Used to offset fuel tax revenue loss and support future infrastructure improvements

GHG reductions primarily expected through per mile GHG reductions with technology and fuel

- Improved energy efficiency and decreased demand on highway capacity

| | | Statewide | Portland Metro | Other MPOs | MPO "Travelsheds" | Urban Non-"Travelshed" | Rural Non-"Travelshed" |
|--------------------|------------------------------|-----------|----------------|------------|-------------------|------------------------|------------------------|
| Bike/Ped/PEV Usage | | | ● | ● | ● | ● | ● |
| Vehicles & Fuels | Vehicle Age | ● | | | | | |
| | Lt. Truck vs. Auto | ● | | | | | |
| | Carsharing Usage | | | | | | |
| | Fuel Efficiency | ● | | | | | |
| | Fuel carbon intensity | ● | | | | | |
| | Electricity carbon intensity | ● | | | | | |
| | EV/PHEV Usage | ● | | | | | |



Round 1 Scenarios – System Optimization

Characteristics:

- Aggressive ITS (e.g. signal timing, ramp metering, etc.)
- Expanded public transit, bike/ped and PEV networks
- Reallocation of some arterial lanes to enhance networks
- Real-time traveler information
- Eco-driving
- Telecommute vs. trips

| | Statewide | Portland Metro | Other MPOs | Urban Non-"Travelshed" | Rural Non-"Travelshed" |
|------------------------------|-----------|----------------|------------|------------------------|------------------------|
| Transportation System | | | | | |
| Urban Transit Service | | ● | ● | | |
| Intercity Transit Service | | ● | ● | ● | ● |
| Bike/Ped/PEV Usage | | ● | ● | ● | ● |
| Road Capacity Expansion | | ● | ● | | |
| ITS | | ● | ● | | |
| PAYD Insurance | | | | | |
| TDM | | ● | ● | | |
| Eco-driving | ● | | | | |
| Parking Pricing | | | | | |
| Fuel Tax | | | | | |
| VMT Tax | | | | | |
| Carbon Tax | | | | | |
| Vehicles | | | | | |
| Vehicle Age | | | | | |
| Lt. Truck vs. Auto | | | | | |
| Carsharing Usage | | ● | ● | | |

GHG reductions primarily expected through system efficiency

- Enables travelers to meet their needs with lower-carbon modes of transportation, and limits wasteful energy consumption



Round 1 Scenarios – Pricing & Markets

Characteristics:

- Prices set for full cost of travel
- Fuel, VMT and carbon taxes set to balance demand and supply
- Statewide pay-as-you-drive insurance
- *Supporting:* Parking pricing

GHG reductions primarily expected through encouraging travelers to utilize more efficient modes and vehicles

| | Statewide | Portland Metro | Other MPOs | MPO "Travelsheds" | Urban Non-"Travelshed" | Rural Non-"Travelshed" |
|-----------------------|------------------------------|----------------|------------|-------------------|------------------------|------------------------|
| Transportation System | PAYD Insurance | ● | | | | |
| | TDM | | | | | |
| | Eco-driving | | | | | |
| | Parking Pricing | | ◐ | ◐ | | |
| | Congestion Pricing | | ● | | | |
| | Fuel Tax | ● | | | | |
| | VMT Tax | ● | | | | |
| | Carbon Tax | ● | | | | |
| Vehicles & Fuels | Vehicle Age | ● | | | | |
| | Lt. Truck vs. Auto | ● | | | | |
| | Carsharing Usage | | | | | |
| | Fuel Efficiency | ● | | | | |
| | Fuel carbon intensity | ● | | | | |
| | Electricity carbon intensity | ● | | | | |
| | EV/PHEV Usage | ● | | | | |



Round 1 Scenarios Analysis

Evaluation Criteria

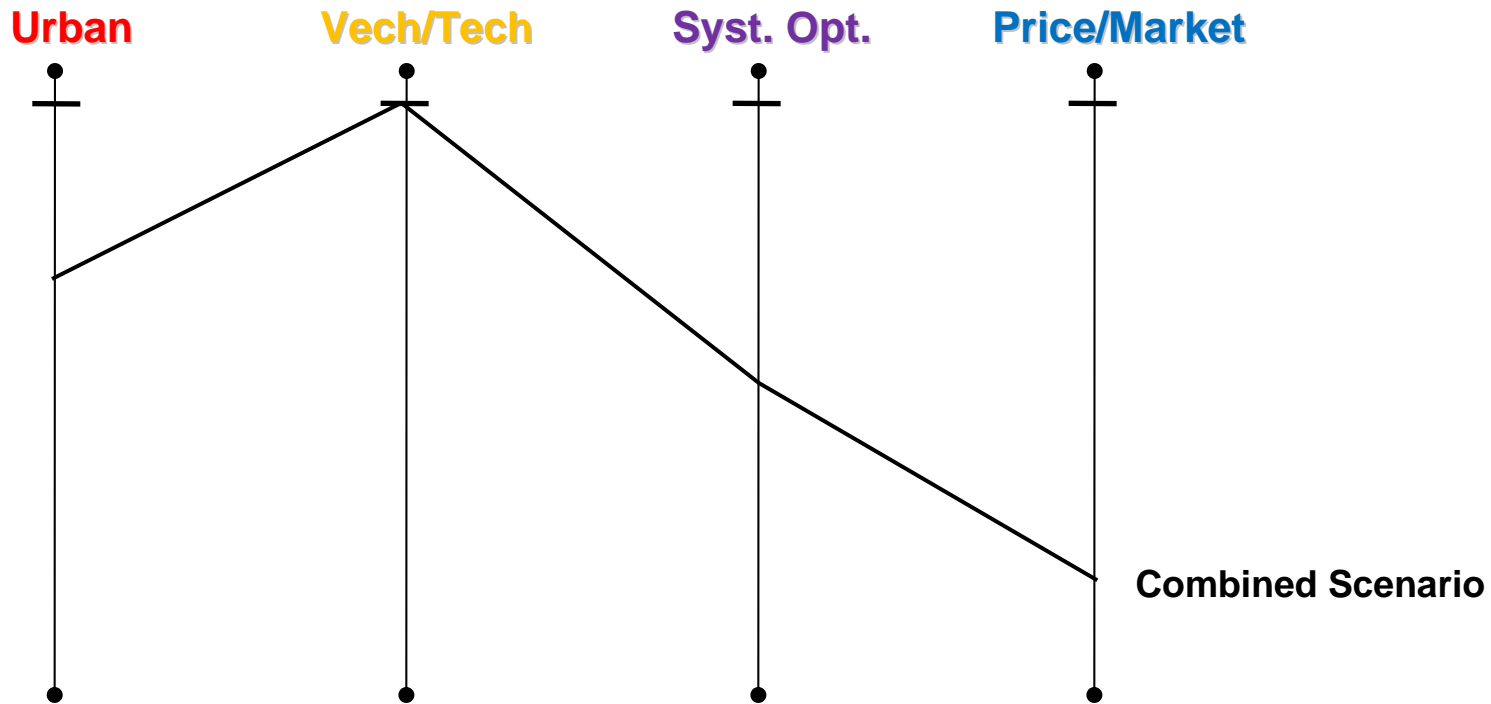
- GHG Emissions
- Energy Consumption
- Travel and System Performance
- Economic Impact
- Land Use and Natural Resource Impacts
- Public Health Impacts
- Infrastructure and Implementation Costs
- Potential Implementation Risks





Round 2 Scenarios - Combinations

- One approach is not likely to reach desired outcomes
- Adjustments are made to mitigate for undesired outcomes

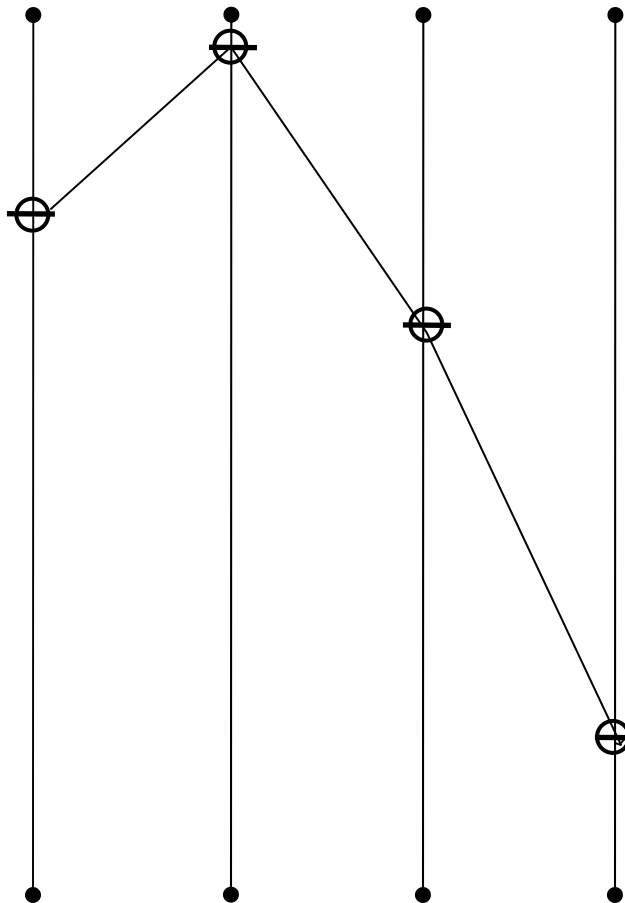




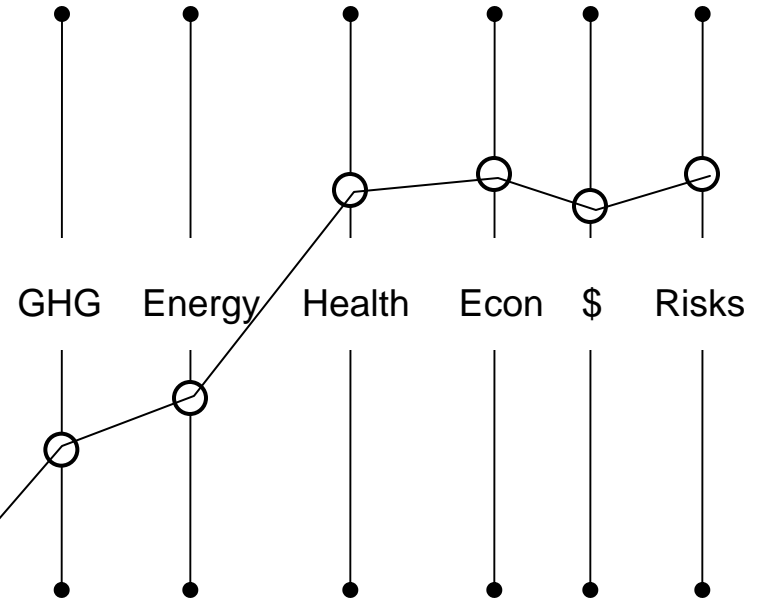
Round 2 Scenario Analysis

Scenario combinations

Urban Vech/Tech Syst. Opt. Price/Market



Evaluation criteria



Recommendations



Recommendations and the STS

- Learn from the analysis
 - What do we need to do?
 - What is feasible to do?
 - What are we willing to do?
 - How hard do we push?
- Recommendations
 - Actions (federal, state, and local)
 - Policy changes
 - Incentives





Questions?

OSTI Website:

<http://www.oregon.gov/ODOT/TD/OSTI/>

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