Central Lane Scenario Planning

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Prepared for:

LIVABILITYLANE

building smarter communities together

Eugene SPRINGFIELD OREGON COBURG OREGON LANE COUNTY OREGON LTD LCOG Oregon Department of Transportation

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www.livabilitylane.org/toolkit/balanced-decision-making.html

LIVABILITYLANE Toolkit

About the Lane Livability Consortium

The scenario planning information summarized in this report was prepared at the request of a coalition of local public, nonprofit, and educational agencies and organizations called the Lane Livability Consortium. These entities are working together through the Lane Livability Consortium to find new ways to advance community growth and prosperity in the Eugene-Springfield metropolitan area. The Lane Livability Consortium was established in 2010 in order to apply for and receive a Sustainable Communities Regional Planning Grant from the U.S. Department of Housing and Urban Development. The Consortium's efforts are funded through the Regional Planning Grant and with leveraged resources contributed by local partner agencies. Work through the Consortium commenced in 2011 and will conclude in 2014.

Partner agencies include City of Eugene, City of Springfield, Lane County, Eugene Water and Electric Board, Housing and Community Services Agency of Lane County, Lane Council of Governments, Central Lane Metropolitan Planning Organization, Lane Transit District, Oregon Department of Transportation, St. Vincent de Paul Society of Lane County, University of Oregon Sustainable Cities Initiative, and the University of Oregon Community Planning Workshop.

The primary focus of the Consortium is to identify opportunities for greater impacts and linkages among our region's core plans and investments related to land use, transportation, housing, and economic development. Other Consortium initiatives include work on public engagement, plan integration, use of data for decision-making, regional investments, organizational capacity building, and catalytic projects.

Table of Contents

Appendices

Introduction

The partner agencies comprising the Central Lane Metropolitan Planning Organization have begun a scenario planning process aimed at developing two or more scenarios that accommodate planned population and employment growth while achieving a reduction in greenhouse gas emissions from light vehicles, and cooperatively selecting a preferred scenario. The local governments in the Central Lane MPO boundary have also agreed to consider the economic development, equity and public health benefits of scenarios and, generally, how these factors are linked to transportation and land use policies.

To support the scenario planning process, the Lane Livability Consortium conducted work aimed at laying the building blocks for successful scenario development and evaluation. This work included:

- Developing data and modeling to support scenario planning
- Understanding how equity considerations can inform scenario planning
- Understanding how land use and transportation integration can inform scenario planning
- Developing a scenario planning method
- Documenting possible greenhouse gas reduction strategies
- Developing a public involvement plan for communicating about climate change and scenario planning

The following report describes each of these key tasks and the tools that were created as a result of these efforts.

Data and modeling to support scenario planning

The LLC developed data and modeling to support scenario planning. This generally included developing data and local modeling expertise to apply Metropolitan GreenSTEP. The Oregon Department of Transportation (ODOT) developed Metropolitan GreenSTEP, a strategic analysis model, to allow planners to quickly test hundreds the effects of transportation and land use scenarios on greenhouse gas emissions. Beyond greenhouse gas emissions, the GreenSTEP model produces more than 70 indicators that can be used to evaluate other benefits and impacts associated with scenarios including vehicle miles traveled by bike, household fuel costs, and local gas tax revenues.

The GreenSTEP model uses data from a variety of sources including the 2001 National Household Travel Survey, U.S. Census, Bureau of Economic Analysis, (BEA), National Transit Database (NTD), and *Moving Cooler*. The model uses Census data for Oregon to develop household characteristics including income, household size, and age of household occupants. Much of the travel behavior model components were estimated from the 2001 National Household Travel Survey (NHTS)

data, specifically estimates of daily travel by household. Further information about the GreenSTEP model is contained in *Appendix A.*

In addition to GreenSTEP, the LLC researched other evaluation tools and determined that scenarios will be evaluated using the Integrated Transport and Health Impact Modeling Tool (ITHIM). ITHIM will be used to compare alternative scenarios based on public health indicators such as chronic illness incidence or change in fatal injury incidence.

Equity considerations

In addition to greenhouse gas reductions, the Central Lane Scenario Planning process is focused on improving equity, economic development and public health in the region. Through a review of demographics in the region and meetings with an Equity Technical Advisory Committee, the Central Lane Scenario Planning partners identified methods for integrating equity into each aspect of the scenario planning process.

- Scenario evaluation: As alternative scenarios are evaluated and compared, it is important to consider how potential benefits and impacts are distributed throughout the community. Through this process, the project team developed specific equity evaluation measures and approaches.
- Scenario development and implementation strategies. Scenarios will be constructed from a range of potential policies and potential implementation actions. The project team developed potential implementation strategies that could improve equity outcomes in the region or mitigate impacts to communities of concern.
- Public and stakeholder involvement. To ensure that traditionally underrepresented community members are included in the scenario planning process, the Central Lane Scenario Planning team will include representatives of service and advocacy organizations in meeting and workshop invitations, meet with service and advocacy organizations individually and provide translation services when requested. The team will also information about transportation needs from recent surveys of low-income housing residents.

Appendix B contains additional information on demographics in the region, as well as more specific information on how issues of equity will be integrated into each aspect of the scenario planning process.

Land use and transportation integration in scenario planning

Through the LLC, local and regional planners reviewed existing plans and identified policies and strategies that supported land use and transportation integration. Because the regional partners are in the process of updating local land use plans like Springfield 2030, Envision Eugene and the Coburg comprehensive plan, existing land use plans will inform the development of 2035 alternative scenarios. Existing plans and polices inform the reference scenario and form the basis for the development of alternative scenarios.

Appendix C provides a summary of existing transportation and land use plans and how land use and transportation planning integration can improve community outcomes including reducing GHG emissions.

Scenario planning methodology

The scenario planning partners developed an agreed-upon methodology to guide the development and evaluation of scenarios, and cooperative selection of a preferred scenario. This process will include four major steps: frame choices, develop and evaluate scenarios, refine a single scenario and select a preferred scenario. The final step of the scenario planning process will be for the local governments in the Eugene-Springfield area to cooperatively select a preferred scenario. While the local governments are required to cooperatively select a preferred scenario, they are not required to implement it.

Appendix D summarizes the scenario development and evaluation process that will aid the governments of central Lane County in selecting a preferred scenario.

Greenhouse gas reduction strategies

The LLC developed an understanding of potential greenhouse gas (GHG) reduction strategies that may be examined through scenario planning. GHG reduction strategies for transportation include not just transport-focused strategies, like changing vehicle fuel mix, but also strategies that result in different transport behavior like encouraging mixed-use development. For the purposes of the Central Lane Scenario Planning process, reductions in GHG emissions as a result of improved vehicle and fuel technology will *not* be considered. These strategies are largely employed at the state and national scale, such that individual communities have little overall impact on implementation. The Central Lane scenario planning process will instead focus on reduction strategies that the region can implement in four areas of public policy: community design, pricing, marketing and incentives, and management.

As part of this task, the LLC evaluated GHG strategies using GreenSTEP to understand the local benefit of individual strategies, which is contained in *Appendix D*. The LLC also prepared

educational materials to share the range of potential choices with elected officials and community members, which is contained in *Appendix E*.

Communicating climate change and scenario planning

The LLC developed a public involvement plan that establishes goals for the public involvement program, a schedule and a range of engagement tactics. The LLC also developed a scenario planning website and educational materials that will be used throughout the process. *Appendix F* contains a more detailed review of the public outreach strategies.

Toolkit

To document lessons learned and best practices, the LLC prepared an online toolkit for summarizing the work completed in Task 4. The toolkit is available for review at the Livability Lane website: www.**livabilitylane**.org/

Appendix A: GreenSTEP Model Summary

January 4, 2014

CENTRAL LANE SCENARIO PLANNING

GreenSTEP Model Summary

Terra Lingley, CH2M HILL

Introduction

Oregon Department of Transportation (ODOT) developed the Greenhouse gas Statewide Transportation Emissions Planning model (GreenSTEP) as a way to forecast greenhouse gas (GHG) emissions from transportation. GreenSTEP is one tool that planners can use to do high-level, strategic assessments of potential GHG reduction strategies, and will be used in the Central Lane Scenario Planning process. The model assesses the likely transportation sector GHG effects of a large variety of policies and other factors to meet the requirements of Section 2 of Senate Bill 1059 to support a statewide strategy to meet GHG emissions reduction goals.

This memorandum will describe the data used in the GreenSTEP model; analysis that can be completed with the model; details of the model, including the necessary inputs; and the training provided to LCOG staff to use the model in the scenario planning process.

GreenSTEP Data Used

The GreenSTEP model uses data from a variety of sources including the 2001 National Household Travel Survey, U.S. Census, Bureau of Economic Analysis, (BEA), National Transit Database (NTD), and *Moving Cooler*. The model uses Census data for Oregon from the public use micro-sample (PUMS) for to develop household characteristics including income, household size, and age of household occupants. Much of the travel behavior model components were estimated from the 2001 National Household Travel Survey (NHTS) data, specifically estimates of daily travel by household.

ODOT also uses data for specific metropolitan areas in GreenSTEP. Data for freeway and arterial supplies (lane-miles per capita) are from the 2001 Highway Statistics study, and transit revenue miles per capita are from the National Transit Database for 2001. Household age composition data are from county-level population forecasts by age. These data are synthesized from PUMS data to create a balanced set of households.

GreenSTEP Modeling Details/Inputs

The model uses a number of steps to determine GHG outcomes for different scenarios. Below is a short summary of each step in the process. ODOT's Greenhouse Gas Statewide Transportation Emissions Planning Model (GreenSTEP model) Documentation from November 2010 explains each of these steps in more detail.

The GreenSTEP model process includes the following steps:

1. Create synthetic households – based on the forecast year, and includes the likely household composition by county and by age. The model estimates a household income given the number of people in the household, their ages and the average per capita income of the region.
2. Calculate population densities and other land use characteristics – these estimates are based on values of density and land use characteristics at the Census tract level given policy assumptions about metropolitan and other urban area characteristics. Density assumptions are based on policy assumptions for urban growth boundary (UGB) expansions. Households are characterized based on whether or not they are within or outside of a metropolitan area, as these designations affect density.
3. Calculate freeway, arterial, and public transit supply – the model uses base year inventories for each metropolitan area, and assumes policy inputs on how rapidly lane-miles are added relative to the region's population. Transit revenue miles are calculated relative to the base year.
4. Determine Households Affected by Travel Demand Management and/or vehicle operations and maintenance programs – some households are selected to participate, others are not based on policy assumptions about the degree of deployment of those programs and household characteristics.
5. Calculate vehicle ownership and adjust for car-sharing – Based on the number of persons of driving age per household, elderly person households, population density, and household income, the model assigns a number of likely vehicles by household. In metropolitan areas, vehicle ownership also depends on freeway supply, transit supply, and if the household is located in an urban mixed-use area. The model estimates vehicle-sharing rates based on policy assumptions and household characteristics.
6. Calculate initial household Daily Vehicle Miles Traveled (DVMT). Based on household information from the previous steps. In metropolitan areas, the model calculates DVMT from a number of variables: household income, population density, number of household vehicles, lack of vehicles for a given household, levels of public transportation and freeway supply, the driving age of the household members, and presence of members over 65, and if the neighborhood is mixed use.

7. Calculate non-price TDM and light weight vehicle adjustment factors and adjust household DVMT – the model includes workplace- and household-oriented TDM marketing programs, and adjusts household DVMT accordingly based on assumed program participation. The model also reduces DVMT based on assumptions of light weight vehicle travel (bicycles, electric bicycles, and similar vehicles) for the household.
8. Calculate vehicle types, ages, and initial fuel economy and assign DVMT to vehicles – this assumes ownership of automobiles vs. light trucks by household based on the number of vehicles in the household, household income, population density, and presence of a mixed-use neighborhood by household. Once the model determines vehicle type, then it distributes vehicle age, and then vehicles fuel economy based on model year and vehicle type.
9. Assign plug-in hybrid electric vehicles (PHEVs) and optimize travel between vehicles – the model then determines PHEV by household based on market penetration, model year, and vehicle type. Once the model assigns the number of PHEVs per household, it then determines VMT per PHEV to incorporate assumptions into the emissions output based on range of battery operation, household income, population density, number of household vehicles, transit service level, number of drivers per household, number of elderly per household, and if the household is in a mixed-use neighborhood.
10. Calculate initial fuel consumption, electric power consumption, and GHG emissions – the model calculates fuel consumption based on vehicle type, fuel economy modeled in steps 8 and 9, and then converts fuel consumption into GHG emissions based on assumed fuel mix and carbon intensity of the fuel.
11. Calculate household mileage costs – the model considers costs of fuel, electric power, and depending on policy assumptions, carbon taxes, pay-as-you-drive insurance rates, and parking charges (both workplace and commercial parking fees).
12. Recalculate household DVMT and reallocate to vehicles – the model uses a household budget process to adjust DVMT to determine the effects of variable vehicle costs on the amount of household travel.
13. Assign electric vehicles (EVs) and calculate adjustments to fuel and electric power consumption – the model identifies household vehicles as candidates for electric vehicles based on usage patterns compared to the average travel range of EVs. The model only assigns EVs if a PHEV is identified for a given household in step 9 and the EV range accommodates most of the expected household vehicle usage.
14. Calculate auto and light truck travel on metropolitan area roadways – the model takes into account the differing fuel economy based on congested or free-flow conditions, and calculates the ratio of urbanized area road auto and light truck DVMT and estimates.

15. Calculate truck and bus DVMT and assign proportions to metropolitan areas – the model assumes that as state income growth increases, truck VMT increases proportionately. The model calculates bus DVMT based on revenue and non-revenue miles traveled.
16. Adjust metropolitan area fuel economy to account for congestion – once the model allocates DVMT by vehicle type (auto/light truck, truck, and bus DVMT) to freeways, arterials, and other roadways. The model then calculates speeds by congestion level, and determines the fuel efficiency to reduce fuel efficiency averages for each metropolitan area.
17. Adjust fuel economy to account for eco-driving and low-rolling resistance tires – these two adjustments allow the model to improve vehicle fuel economy.
18. Calculate final household light vehicle fuel consumption, electric power consumption, GHG emissions, and costs – the model recalculates these based on adjusted fuel economy and power consumption based on the previous steps
19. Calculate bus, truck, and passenger rail fuel consumption and GHG emissions adjusted for congestion – the model considers truck and bus age distributions from base year and includes assumptions about fleet turnover to compute average MPG of respective fleets, adjusted for congestion in metropolitan areas.

Model inputs

There are a number of inputs used in the GreenSTEP model to explore the likely GHG emissions impacts of a variety of policy, land use, and behavioral changes. These inputs and assumptions can be altered for a given scenario to determine the likely GHG emissions, and are described by topic below.

Community Design

- Urban growth boundary (UGB) (Rate of expansion relative to rate of population growth)
- Households in mixed-use areas by Census tract or county (percent)
- Rate of growth of public transportation service (revenue mile growth per capita compared to base year level)
- Bicycle or light vehicle adoption
- Work and non-work parking extent and cost

Pricing

- Pay-as-you drive insurance (percent households and cost)
- Gas tax (Includes state and federal gas tax, reference scenario assumes HB 2001 gas tax increases)
- Carbon emissions fee
- Vehicle travel fee

Marketing and Incentives

- Households participating in individualized marketing and eco-driving programs (percent)
- Participation rate in employer-based commute programs (percent)
- Extent and participation in car-sharing

Roads

- Rate of growth of freeway and arterial lane miles

Fleet

- Fleet turnover rate/ages
- Percentage of fleet that is light-duty truck/SUV/van

Technology

- Auto fuel economy – internal combustion engine
- Light truck fuel economy – internal combustion engine
- Auto fuel economy – plug-in hybrids
- Carbon intensity of fuels (Co2 grams/megajoule)
- Percent of autos that are plug-in hybrids or electric vehicles
- Percent of light trucks that are plug-in hybrids or electric vehicles

Training

GreenSTEP is a recently developed, relatively new modeling tool that ODOT is still refining. LCOG staff worked closely with Brian Gregor (an architect of the GreenSTEP model) from ODOT's Transportation Planning Analysis Unit (TPAU) between February and November 2013 to obtain and review GreenSTEP documentation, reports, and spreadsheet results from earlier implementations.

Additionally, LCOG staff worked with TPAU to upgrade the GreenSTEP model to develop more detailed synthetic households at the request of the TAC and PMT to refine the geographic extent of the districts (see step 1 of the GreenSTEP modeling details section above). This upgrade process involved LCOG staff throughout including the data development stage, coding, and calibration and validation. Being involved throughout the upgrade process allowed LCOG staff to become familiar with the new version of the model as well as its original functionality. There were approximately six three-hour in person meetings, and 20 two-hour weekly check-ins whereby LCOG and ODOT staff coordinated and collaborated on the model development, preparation, and implementation during the time period above.

LCOG also reached out to Portland Metro staff on GreenSTEP process and outputs to determine how to use the data and results, along with completing the scenario planning process, though there was no formal training or check in schedule.

There was no formal training on the Integrated Transport and Health Impact Modeling Tool (ITHIM), only documentation and a discussion with Metro on how that agency used the model to evaluate the public health co-benefits of selected transportation and land use GHG reduction strategies. LCOG staff spent around 12 hours reviewing ITHIM documentation and application in the UK, San Francisco, and Portland. LCOG has not yet used the ITHIM model, but staff anticipates using the model on the suite of feasible scenarios. Once the scenario planning process is ready to use the ITHIM model, LCOG staff will need approximately two days of training.

Appendix B: Equity in Scenario Planning: Demographic Trends and Characteristics

January 20, 2014

CENTRAL LANE SCENARIO PLANNING

Equity in Scenario Planning: Demographic Trends and Characteristics

Paul Hicks, CH2M HILL
Kristin Hull, CH2M HILL

Introduction

In 2009, the Oregon Legislature passed House Bill 2001, the Jobs and Transportation Act (JTA). Section 38 of the JTA directs the Central Lane Metropolitan Planning Organization (MPO) to undertake scenario planning efforts aimed at reducing greenhouse gas (GHG) emissions. Local governments in the Central Lane MPO boundary will use the scenario planning process to cooperatively select a land use and transportation scenario. The state Department of Land Conversation and Development (DLCD) has set a GHG emissions reduction target of 20% below 2005 levels for the Central Lane MPO. Achieving this reduction would help the state meet its long term goal of reducing emissions 75% below 1990 levels by the year 2035.[1]

The Eugene-Springfield region prioritizes concerns for community health, economic vitality, and equity and accessibility in regional planning and policy considerations.[2] Equity-based evaluation criteria will be incorporated into the process to understand how different land use and transportation policy choices affect the distribution of benefits and burdens across different groups in central Lane County. This memorandum summarizes regional demographic trends and highlights key issues that will inform equity considerations during the scenario planning process. This demographic information will inform the development of alternative scenarios, evaluation of scenarios, and public outreach.

Regional Planning Framework

A growing body of national research and regional scenario planning analysis recognizes that land use development patterns impact GHG emission levels.[3] National legislative commitments like

[1] Department of Land Conservation and Development (DLCD). 2011. DLCD Planning for Climate Change: Metropolitan GHG Reduction Targets. Retrieved from: http://www.oregon.gov/LCD/CLIMATECHANGE/pages/metropolitan_greenhouse_gas_reduction_targets.aspx
[2] Lane Livability Consortium (LLC). 2013. Equity and Opportunity Assessment: Draft. December 2013. Retrieved from: Stephanie Jennings, LLC Grants Manager.
[33] Bartholomew, K., and Ewing, R. 2010. Integrated Transportation Scenario Planning: FHWA-HEP-10-034. Metropolitan Research Center. University of Utah. July 2010.

the Livable Communities Act of 2009 demonstrate the importance of developing equity-based regional plans to curb GHG emissions.[4] Oregon's House Bill 2001 exemplifies a statewide commitment to scenario planning efforts at the regional level. The bill requires or encourages regional planning organizations like Central Lane MPO to include GHG reduction scenarios in long-range transportation plans.

Approach

This memorandum references existing data generated through various equity-based projects conducted by the Lane Livability Consortium. This analysis does not include new demographic analysis; it borrows from a catalog of existing current regional socio-economic and equity-based studies. Some demographic indicators are provided at the county level and others at the census tract level, depending on the data source. This analysis was conducted for the area within the Central Lane MPO urban growth boundary which includes the Cities of Eugene, Springfield, and Coburg and some portions of unincorporated Lane County.

Equity Sub-Technical Advisory Group

The Central Lane Scenario Planning Project Management Team convened a sub-committee of the Technical Advisory Committee (TAC) to provide input on equity considerations. Invitees, shown in Table 1, participated in two Equity Sub-TAC meetings to provide their perspective on address equity implications in scenario planning. Outcomes from Equity Sub-TAC meetings will inform outreach and public involvement strategies, the development of GHG reduction strategies, and the approach to evaluating equity considerations across scenarios.

Table 1. Equity Sub-TAC Invitees

Name	Organization
Remie Calalang	Bethel School District
Pat McGillivray	Bethel School District
Josh Roll	Central Lane MPO
Susan Payne	Central Lane MPO
Babe O'Sullivan	City of Eugene
Erica Abbe	City of Eugene
Lindsey Foltz	City of Eugene
Kurt Yeiter	City of Eugene
Molly Markarian	City of Springfield
Anette Spickard	City of Springfield
Barb Bellamy	Eugene 4J School District
Mira Gattis	Housing and Community Services Agency

[4] Bartholomew, K., and Ewing, R. 2010. Integrated Transportation Scenario Planning: FHWA-HEP-10-034. Metropolitan Research Center. University of Utah. July 2010.

Sarah Wilkinson	Lane County
Stephanie Jennings	Lane Livability Consortium
Cosette Rees	Lane Transit District
Sasha Luftig	Lane Transit District
Tom Schwetz	Lane Transit District
Claire Seguin	NEDCO
Savannah Crawford	ODOT
Deb Johnson-Shelton	Oregon Research Institute
Susan Ban	Shelter Care
Nora Cronin	St. Vincent DePaul
Kellie DeVore	United Way
Gerardo Sandoval	University of Oregon

The Equity Sub-TAC identified the following concerns and issues that may be relevant to the scenario planning process.

- Transportation costs and choices:
    - Address disabled populations with extremely low-incomes who are susceptible to shifts in transit costs.
    - Consider links between affordable housing and Safe Routes to Schools programs to alleviate cost burdens on low-income families and schools with concentrated levels of poverty.
    - Consider transit timeliness, routes, and cost.
    - Consider transportation choices available to vulnerable communities.
    - Consider transit impacts to Latinos and low-income populations outside of region (moves toward affordable housing in rural areas may limit employment choices).
    - Consider impacts of informal car sharing networks among low-income communities. Current models do not serve all populations.
    - Address car maintenance costs among low-income populations in car dependent areas.
    - Consider the impacts of increasing driving costs on low-income families. Low-income families with children likely to use cars as their primary means of transportation.
- Health disparities:
    - Address the importance of access to affordable and healthy food sources.
- Traffic safety:
    - Consider traffic safety (safe walking and biking routes) in affordable housing siting and transit planning. Traffic safety in neighborhoods is a key concern raised in the low-income housing survey.

Regional Demographic Resources

The Equity Sub TAC recommended using existing community demographic resources to address equity concerns. Planning documents reviewed by the project team are summarized below:

- *Central Lane Metropolitan Planning Organization Regional Transportation Plan (RTP)*: The RTP is a federally required Regional Transportation Plan that meets state and federal requirements. The RTP provides a framework for coordinating multi-jurisdictional transportation planning decisions and prioritizes equity and accessibility goals and objectives.[5]
- *Population Forecasts for Lane County, its Cities and Unincorporated Area 2008-2035*: Lane County commissioned the Portland State University's Population Research Center (PRC) to create this comprehensive set of population forecasts for urban areas within Lane County. Forecasts occur in 5-year intervals between 2010 and 2035 and support updates across various regional and comprehensive plans. The forecasts account for Lane County's ethnic and age compositions over time.[6]
- *Equity and Opportunity Assessment (Draft 2013)*: This draft report is the result of recent collaborative efforts made by the LLC to identify and analyze issues of equity, access, and opportunity within the Eugene-Springfield metropolitan area and consider how they inform planning, policies, and investment decisions.[7] Reported findings explore demographic and socio-economic characteristics ranging over 50 geographic data sets throughout the Eugene-Springfield metropolitan area.
- *Assessment of Equity and Opportunity for Affordable Housing Residents (Draft 2013)*: This draft report presents the methods and associated findings from a survey assessment conducted with low-income residents of subsidized and affordable rental housing developments within Eugene and Springfield.[8] The assessment focuses on issues of equity, access, and opportunity as experienced through the residents of affordable housing and compliments the LLC's Equity and Opportunity Assessment.
- *Latino Public Participation and Community Indicators Project*: This report supports the work of the Lane Livability Consortium by engaging the Latino community in a participatory research project aimed at developing bottom up social equity indicators and recommending strategies to increase effective public involvement and outreach to the

[5] Central Lane Metropolitan Planning Organization. (2011). Regional Transportation Plan. Lane Council of Governments. Eugene, OR. December 2011.
[6] Lane County Coordinated Population Projections, Ordinance No. PA 1255, June 2009 Report. Retrieved from: http://www.lanecounty.org/departments/pw/lmd/landuse/documents/forecasts_report_final.pdf
[7] Lane Livability Consortium (LLC). 2013. Equity and Opportunity Assessment: Draft. December 2013. Retrieved from: Stephanie Jennings, LLC Grants Manager.
[8] Lane Livability Consortium (LLC). 2013. Assessment of Equity and Opportunity for Affordable Housing Residents: Report of Findings and Recommendations (Draft). November 2013. Retrieved from: Stephanie Jennings, LLC Grants Manager.

Latino community.[9] Findings present common themes for consideration when planning with Lane County's Latino communities.

- *Senior and Disabled Services 2011 Community Needs Assessment*: The Lane Council of Governments (LCOG) Division of Senior and Disabled Services develops and regularly updates a needs assessment to review the needs of seniors ages 60 and older residing in Lane County. The report provides demographic characteristics and service use patterns to determine service gaps and recommend improvements for meeting the needs of seniors.[10]
- *United Way of Lane County's Community Indicators Report 2012*: This United Way of Lane County report tracks demographic and socio-economic indicators across four strategic categories: education, income, health, and basic needs. Using recent federal, state, and local data, the report provides insight into the experience of Lane County's individuals and families across 17 indicator groups.[11]

Demographic Trends and Characteristics

Transportation policy changes impact many factors that may impact equity outcomes.[12] Impact categories may include costs and benefits associated with access to public facilities and services, transportation service quality, access to alternative mode choices, economic impacts, or external impacts like congestion.[13]

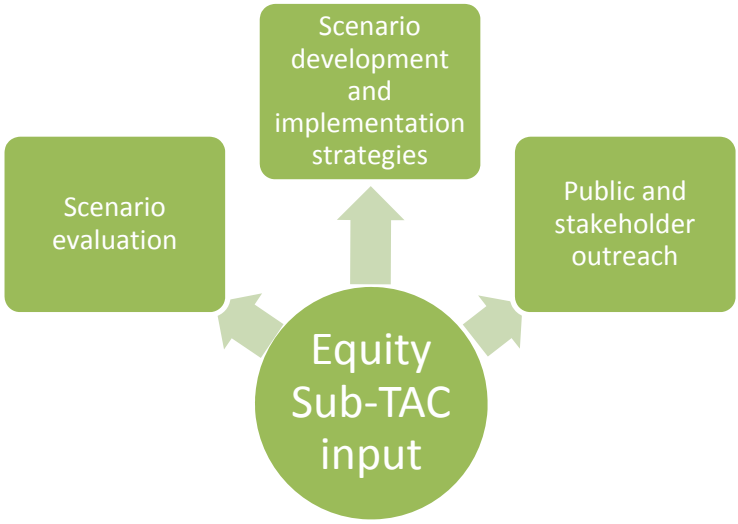
This section provides three general population growth trends expected in the Central Lane MPO by 2035. This section also provides eight demographic characteristics that provide a profile of the Central Lane MPO's transportation disadvantage communities. Any evaluation process should use these trends and characteristics to evaluate the trade-offs between equity goals and other planning objectives.[14] This data can also inform the development of indicators necessary for measuring progress in achieving desired equity-based objectives.

[9] Latino Public Participation and Community Indicators Project, Draft, Gerardo Sandoval. University of Oregon CPW November 2012.
[10] Senior and Disabled Services. 2011. Community Needs Assessment 2011. Lane Council of Governments. Retrieved from: http://www.sdslane.org/sites/default/files/documents/NeedsAss2011.pdf
[11] United Way of Lane County. 2012. Community Indicators Report 2012. Retrieved from: http://unitedwaylane.org/images/ul/Files/2012Community%20Indicators%20Rpt-web.pdf
[12] Litman, T. 2013. Evaluating Transportation Equity: Guidance for Incorporating Distributional Impacts in Transportation Planning. Victoria Transportation Policy Institute. November 2013. P. 7
[13] Litman, T. 2013. Evaluating Transportation Equity: Guidance for Incorporating Distributional Impacts in Transportation Planning. Victoria Transportation Policy Institute. November 2013.
[14] Litman, T. 2013. Evaluating Transportation Equity: Guidance for Incorporating Distributional Impacts in Transportation Planning. Victoria Transportation Policy Institute. November 2013.

Approaches to Incorporating Equity

Through work with the Equity Sub-TAC and analysis of demographic trends, the Central Lane Scenario Planning project team developed an understanding of equity issues and vulnerable populations in the region. This understanding will support the development of scenarios, the evaluation of scenarios, and public outreach as shown in figure 1.

Figure 1: Equity Sub-TAC Input Supports the Comprehensive Development of an Equity Approach



Equity Approaches to Scenario Evaluation

The scenario evaluation process will consider equity as possible using existing evaluation tools including GreenSTEP and ITHIM public health model. Because the scenarios are developed at the policy level and do not specifically indicate the location of changes to the transportation system, some equity analysis typical to transportation and land use projects cannot be conducted. However, as shown in Table 2, using GreenSTEP and GIS analysis several evaluation criteria can be applied to examine equity impacts.

Table 2. Proposed equity evaluation criteria

Economy and Prosperity • How will transportation and land use changes affect household income? • How will transportation and land use choices affect regional livability?	Evaluation criteria: • Driving cost as a percentage of household income • Average household income • Housing cost • Households within walking distance of amenities (parks, schools, medical services, etc.)
	Equity approach: • Evaluate across income groups • Presence of "20 minute neighborhoods" in areas with concentrations of low income or minority populations
Health • How will transportation and land use choices affect community health?	Evaluation criteria: Physical activity per capita
	Equity approach: Evaluate physical activity across income groups

Equity Approaches to GHG Reduction Strategies

Many GHG reduction strategies considered during scenario planning can be applied in ways that support improved equity outcomes in the region. These include:

- Community design policies: Changes in community design such as mixed use development, improved public transit, and improved biking and walking facilities can help reduce GHG emissions. Equity strategies might include improved public transit and active transportation facilities in areas with concentrations of vulnerable populations, reducing the cost of public transit, and addressing safety concerns related to active transportation. When developing mixed-use areas, local governments could consider impacts to vulnerable populations and consider strategies to prevent displacement.
- Transportation pricing: Increasing the cost of driving is an effective strategy for reducing GHG emissions. Parking fees, fuel taxes, and other measures that increase the cost of driving may have disproportionately negative impacts on low income residents who drive. Improving public transit or parking subsidies may reduce the negative impacts of transportation pricing strategies on vulnerable populations.
- Education and marketing: Individual or employer-based trip reduction programs, carpooling programs, and car sharing are all examples of education and marketing GHG reduction strategies. As these strategies are implemented, jurisdictions can partner with

affordable housing providers, service agencies and cultural groups to ensure that all community members have access to educational and marketing programs.

Approach to Public Involvement and Outreach

The Central Lane MPO developed a *Scenario Planning Stakeholder and Public Involvement Plan* that includes a more detailed summary of the public involvement strategies. The Equity Sub-TAC and demographic analysis informed the plan by providing information about barriers to involvement and strategies to overcome those barriers.

The Equity Sub-TAC agreed that public involvement efforts should meet the needs of different groups and should not result in a "one-size-fits-all" approach to involvement. The Equity Sub-TAC proposed enhancing public involvement approaches by:

- Providing a strong value proposition for participation
- Making involvement meaningful and relevant
- Meeting people where they are
- Closing the feedback loop

Underrepresented populations will be prioritized during outreach. Where possible, outreach efforts will use existing networks and solicit input at regularly scheduled meetings to enhance outreach opportunities and outcomes (e.g., Centro Latino Americano, Trauma Healing Project, Opal Network, Lane Independent Living alliance, advisory bodies, churches, advocacy groups, etc.). The Equity Sub-TAC encouraged developing specific meetings that reach people who serve disabled, Latino, elderly, low-income communities to identify equity concerns related to scenarios.

The Stakeholder and Public Outreach Plan includes these methods to ensure engagement of communities of concern:

- Relying on recent input (resident surveys, etc.)
- Inviting service providers to workshops
- Making presentations to existing groups/committees
- Providing invitations to participate via existing service providers and community organizations

Appendix C: Land Use and Transportation

January 7, 2014

CENTRAL LANE SCENARIO PLANNING

Land Use and Transportation

Terra Lingley, CH2M HILL

Introduction

In 2009, the Oregon Legislature passed House Bill 2001, the Jobs and Transportation Act (JTA). Section 38 of the JTA directs the Central Lane MPO to undertake scenario planning and for the local governments in central Lane County to cooperatively select a preferred land use and transportation scenario. The state set a greenhouse gas (GHG) emissions reduction target of 20% for the MPO, excluding expected emissions reductions from fleet and technology changes. While this target must be considered in the scenario planning process, the final selected scenario is not required to meet this target.

This memo supports the scenario planning process in two key ways. First, it provides a summary of existing transportation and land use plans to reinforce the Project Management Team's understanding of the how the region would look if existing policies were implemented over the next 20 years. The statements of goals and community values in many of these plans will provide the basis of developing evaluation measures by which alternative scenarios will be compared. The policies contained in these documents may also form the basis for policies and strategies contained in the alternative scenarios.

Second, this memo considers how land use and transportation planning integration can improve community outcomes including reducing GHG emissions. The scenario planning process will consider what the region would look like in 2035. For this analysis, the scenarios will assume future comprehensive plan designations and urban growth boundaries in line with plans in process. The process will also look beyond 2035, the horizon year for adopted land use and transportation plans, and consider what the region could look like in 2050. The scenario planning process may consider the effects of different land use patterns when looking at this long-term future.

Transportation and Land Use Plan Summary

The Lane Livability Consortium (LLC) reviewed long-range transportation and land use plans for the Eugene-Springfield area in February 2013. This section summarizes those plans that are most relevant to the scenario planning process.

LLC assessed the following land use and transportation plans:

- Metro Plan: Eugene-Springfield Metropolitan Area General Plan (updated 2004)
- Envision Eugene (in process)
- Springfield 2030 (in process)
- Regional Transportation Plan (2011)
- TransPlan: The Eugene-Springfield Regional Transportation System Plan (RTSP) (amended 2002)
- Eugene-Springfield Consolidated Plan (2010)
- Human Services Plan for Lane County (2009):
- National Prevention Strategy (2011)
- Coburg Transportation System Plan (2013)
- Draft Eugene Transportation System Plan (in process)
- Lane County Transportation System Plan (2004, update in process)
- Springfield Transportation System Plan (In process, expected adoption 2014)
- Lane Coordinated Public Transit-Human Services Transportation Plan (updated 2008)
- Eugene Parks, Recreation and Open Space Comprehensive Plan (2006)
- Lane County Rural Comprehensive Plan (updated 2009)
- West Eugene Wetlands Plan (updated 2000)

Metro Plan: Eugene-Springfield Metropolitan Area General Plan

The Metro Plan addresses the Eugene-Springfield urban growth boundary (UGB), and the land uses within that boundary. Focus areas include growth management, residential land use and housing, transportation, and energy. This is the Eugene-Springfield's state-mandated long-range Comprehensive Plan.

The plan includes growth management goals for the efficient use of urban, urbanizable, and rural lands, and orderly development of rural lands to urban lands, while meeting metropolitan and statewide goals. The plan also includes provisions to protect rural lands best suited for non-urban uses. The Plan elements reinforce these goals through growth management, planning for future residential land use and housing, transportation, and energy usage. Metro Plan is consistent with state law and policy objectives, though individual goals may exceed the minimum requirements set by the state. The plan's desired outcome is to control the potential for urban sprawl and scattered urbanization, compact growth and the UGB will remain the primary growth

management techniques. The Plan emphasizes infill and redevelopment within the UGB, and only considering outward expansion of the UGB only when necessary.

Land Use and Transportation Connection

Metro Plan supports compact urban development to support dense, mixed-use neighborhoods that can reduce residents' reliance on the single occupant vehicle to meet travel needs.

Envision Eugene

Envision Eugene guides development of the Eugene Comprehensive Plan and implementing ordinances. It is the successor to the MetroPlan for Eugene, following the division of the Eugene-Springfield UGB into separate parts. It determines the city's UGB and growth management strategies, and guides the implementation of the city's land use policy for the next 20 years. There are seven pillars of Envision Eugene. The following are applicable to the scenario planning process for land use and transportation within the region: 2. Provide housing affordable to all income levels; 3. Plan for climate change and energy resiliency; and 4. Promote compact urban development and efficient transportation options.

Envision Eugene also includes strategies to support the pillars. The applicable strategies include:

- Plan for a higher proportion of new housing stock to be multi-family.
- Accommodate all multi-family housing needs within the current UGB.
- Expand housing variety and choice.
- Assess the applicability of housing and transportation affordability index. This rates neighborhoods based on the combined cost of housing and transportation, which provides a more complete assessments of affordability than housing costs alone.
- Plan for growth so that more residents live in 20-minute neighborhoods to meet daily needs without the use of an automobile.
- Meet all commercial and residential land needs within the planned UGB, though this does not preclude including small amounts of multi-family housing and commercial retail lands within future UGB expansion areas.
- Facilitate the transformation of downtown, key transit corridors and core commercial areas as mixed-use neighborhoods, with residential, commercial, retail, and public uses in close proximity.
- Make compact urban development easier in downtown, on key transit corridors, and in core commercial areas.

Land Use and Transportation Connection

Similar to its predecessor, Metro Plan, Envision Eugene supports dense, mixed-use neighborhoods with an emphasis on multi-family housing, and strives to reduce urban sprawl outside of the UGB to reduce vehicle miles traveled for Eugene residents. It also supports alternative modes to reduce reliance on the automobile.

Springfield 2030

Springfield 2030 is the city's land use plan, the successor to the MetroPlan. This plan ensures that the city has enough buildable lands to accommodate estimated housing needs for the next 20 years. The plan supports Springfield's livability and economic prosperity goals.

Draft goals for Springfield 2030 include:

- Promote compact, orderly, and efficient urban development by guiding future growth into planned redevelopment areas within established portions of the city and to employment opportunity areas where future expansion may occur.
- Encourage a pattern of mixed land uses and development densities that will locate a variety of different life activities, such as employment, housing, shopping, and recreation in convenient proximity, to encourage and support multiple modes of transportation, including walking, bicycling, and transit, in addition to motor vehicles both within and between neighborhoods and districts.
- Balance the goals of accommodating growth and increasing average density within the city with the goals to stabilize and preserve the established character of sound older neighborhoods by clearly defining locations where redevelopment is encouraged, and by requiring that redevelopment be guided by a detailed neighborhood refinement or special district plan.
- Use selective, planned redevelopment at appropriate locations as one method of providing additional land use diversity and choices within districts and neighborhoods currently characterized by a limited range of land uses and activities.
- In both redevelopment areas and new growth areas on the periphery, establish planning and design standards that will promote economically viable development of attractive, affordable and engaging neighborhoods, districts, corridors and employment centers.

Land Use and Transportation Connection

Similar to Metro Plan and Envision Eugene, Springfield 2030 supports dense, mixed-use neighborhoods, and strives to promote growth within already urbanized areas within the city. The plan also emphasizes locating services and destinations in close proximity to reduce travel while balancing development with existing neighborhoods.

Regional Transportation Plan

The Regional Transportation Plan provides a plan to address long-term regional transportation needs within the Central Lane MPO area. This plan considers existing zoning and future development to identify and address regional transportation needs for the region as it grows and develops. It is consistent with TransPlan, the region's transportation system plan.

Key goals and recommendations from the plan are aligned with the scenario planning process:

- Integrated transportation and land use system: Integrate transportation and land use to support transportation choices, promote all modes of transportation, reduce our reliance on any single mode of travel, and enhance community livability.
- Sustainability and transportation: Support regional sustainability by providing a transportation system that considers economic vitality, environmental health, and social equity.

Actions to address these goals include supporting and implementing nodal developments within the region, transit oriented land use, and considering transportation impacts when planning facilities.

Land Use and Transportation Connection

The Regional Transportation Plan provides the framework to ensure that the transportation system is integrated and supports land use within the MPO region. The goals are consistent with the land use plans described above.

TransPlan: The Eugene-Springfield Regional Transportation System Plan (RTSP)

TransPlan is simultaneously the transportation system plans for Eugene and Springfield, and the regional transportation system plan for the Eugene-Springfield area, and guides transportation system planning and development. TransPlan policies and themes are similar to the previous land use and transportation documents: reduce reliance on the automobile by providing transportation choices, and consider the interrelationship between land use and transportation. The framework and implementation actions are structured around three components of transportation planning: land use, transportation demand management, and transportation system improvements.

Applicable TransPlan goals include:

- Integrated transportation and land use system that supports transportation mode choices and development patterns to enhance livability, economic opportunity, and quality of life.
- Create a transportation system that is:

- Balanced
- Accessible
- Efficient
- Safe
- Interconnected
- Environmentally responsible
- Support of responsible and sustainable development
- Responsive to community needs and neighborhood impacts
- Economically viable and financially stable.

Land Use and Transportation Connection

TransPlan provides the framework to ensure that the transportation system is integrated and supports land use within the MPO region. The goals are consistent with the land use plans described above.

Eugene-Springfield Consolidated Plan

This plan focuses on housing and community development needs for low-income residents in the Eugene-Springfield area. While this plan does not explicitly address either transportation or land use, it does include goals to increase the supply of affordable housing and improve accessibility to public facilities. It also includes strategies to raise awareness of housing needs for low- and moderate- income persons through participation and collaboration on land use and zoning studies to meet the needs of low and moderate income persons, fund capital improvements in eligible areas by providing infrastructure, street, and sidewalk improvements.

Land Use and Transportation Connection

This plan contains goals for land use and transportation with a focus on low and moderate income residents of the Eugene-Springfield area. The plan includes policies for providing transportation alternatives for these specific populations who may have limited income to spend on transportation.

Human Services Plan for Lane County

Similar to the consolidated plan above, this plan has a primary focus on human services, but also considers housing and transportation. The plan is a strategic policy guide to distribution of funds. The plan prioritizes investments based on a tiered system with one applicable funding area: transportation services.

This goal has potential links with housing, economic development, and transportation through social equity related goals.

Land Use and Transportation Connection

This plan contains goals for land use and transportation with a focus on how to invest limited resources to meet human services goals within Lane County with a specific focus on social equity.

National Prevention Strategy

This strategy focuses on population health and promoting health and wellness through prevention-focused health care, with a secondary focus on the built environment, including housing, transportation, and infrastructure. Goals include creating healthy and safe community environments for both housing and transportation.

Land Use and Transportation Connection

This strategy does not directly address land use and transportation changes, but considers both in the context of healthy communities. The strategy supports active transportation and land uses that support healthy communities, but has no specific goals for land use or transportation.

Coburg Transportation System Plan

The Coburg TSP addresses long-range transportation needs in Coburg, while considering anticipated future land use development. Two goals are particularly relevant to land use/transportation integration:

- Goal 3: Connectivity for all modes: establish a transportation system that provides connections to and from activity centers such as schools, commercial areas, parks, employment centers. Local roads, transit routes, and paths connect to regional transportation networks.
- Goal 5: Livability and Economic Vitality: support, sustain and enhance community livability and protect the quality and integrity of residential and business areas in Coburg. Anticipate and accommodate future development assumptions for Coburg. Maintain the rural character of the town.

Land Use and Transportation Connection

This plan contains goals for transportation to serve land use with a focus on meeting Coburg's livability and rural preservation aspirations. Transportation within the City will need to serve anticipated future land uses, and the projects and programs within the TSP will address identified deficiencies.

Draft Eugene Transportation System Plan (TSP)

The city of Eugene is currently drafting their first TSP, the successor to TransPlan. This plan is being developed in conjunction with Envision Eugene to ensure that the future transportation system accommodates anticipated land uses. TSP projects are based on travel model outputs and citizen/staff input to address identified deficiencies in the existing and anticipated future transportation system.

Land Use and Transportation Connection

This plan will contain goals for transportation to serve land use with a focus on meeting Eugene's livability and sustainability aspirations. Transportation within the city will need to serve anticipated future land uses, and the projects and programs within the TSP will address identified deficiencies.

Lane County Transportation System Plan

The Lane County TSP addresses transportation needs to meet anticipated land uses. TSP goals include:

- Encourage adequate road improvements for new development
- Ensure that transportation projects comply with state land use requirements regarding urban and rural land uses, and other federal, state, and local land use requirements
- Provide for coordinated land use review when making decisions about transportation facilities

Desired outcomes of the TSP include promoting coordination between transportation system improvements and land use requirements. The County TSP will also be coordinated with applicable city and regional TSPs to be consistent in policies and direction. Lane County is currently updating their TSP.

Land Use and Transportation Connection

This plan contains goals for transportation to serve land use to meet Lane County's transportation goals. Land use is an integral part of identifying existing and future deficiencies and there are a number of goals and policies that require the county to continue to consider the connection between transportation and land use.

Springfield Transportation System Plan

Springfield's TSP, the successor to TransPlan, will consider both transportation and land use while considering anticipated population and employment growth along with economic and social changes. The TSP guides future multi-modal transportation system improvements and

investment decisions for the city. The TSP is currently going through the adoption process with the County and City, with adoption anticipated in early 2014.

Goal 1 is the only goal that includes a transportation/land use connection: Provide an efficient, sustainable, diverse and environmentally sound transportation system that supports the economy and land use patterns.

Land Use and Transportation Connection

Similar to the other TSPs, this plan contains goals for transportation to serve land use to meet Springfield's transportation goals. Land use is an integral part of identifying existing and future deficiencies.

Lane Coordinated Public Transit-Human Services Transportation Plan

This plan supports coordination between public transportation and human services transportation focused on target populations; older adults, people with disabilities and persons of low income. The plan focuses mainly on coordination to provide needed services using a variety of providers and methods that serve targeted users. to the plan aims to increase access for target populations by providing transit service where it is needed, and providing a network of transportation services that meet different transportation needs.

Land Use and Transportation Connection

This plan deals mainly with transportation and coordinating transportation to meet the needs of specific target populations, though the plan does consider location of services.

Eugene Parks, Recreation and Open Space Comprehensive Plan

This plan provides long-term aspirations for parks, recreation, and open space in Eugene. A key theme of the plan is to provide an accessible and connected park system. Other recommendations include distributing parks, open space, and recreation services equitably throughout the community. Strategies and action items include access and connectivity.

Land Use and Transportation Connection

This plan deals mainly with land use and providing access to parks, recreation, and open space. It does not include recommendations for transportation facilities, but includes goals to ensure that users can access city facilities.

Lane County Rural Comprehensive Plan

This plan covers all unincorporated county lands beyond the UGB of incorporated cities and outside the boundary of the Eugene-Springfield Metro Plan. The plan uses the 19 statewide planning goals including transportation and land use.

Land Use and Transportation Connection

The rural comprehensive plan is a broad, policy-based document that closely mirrors the 19 statewide planning goals, including transportation and land use and integrating the two. The scenario planning process is focused on the areas inside the Central Lane MPO's boundary, so this plan has limited applicability.

West Eugene Wetlands Plan

The West Eugene Wetlands Plan focuses on land use and development in west Eugene to resolve conflicts between state/federal wetland laws and local land use plans. Key themes of the plan include corridors and connections within the wetlands plan. The plan provides a framework for balancing natural resource protection and urban development to better integrate natural areas with urban areas. The applicable objective for land use and transportation is: Balance environmental protection and sound urban development to meet state and federal laws and regulations.

Outcomes of the plan include making west Eugene a nicer place to live, work, visit, recreate, and travel through. The plan also integrates the natural environment with carefully planned growth to make Eugene a truly livable city. The plan emphasizes balancing environmental concerns with development needs to integrate public facility needs with the environment.

Land Use and Transportation Connection

The wetlands plan focuses mainly on land use to preserve wetlands and less on transportation, but emphasizes planning to conserve wetlands and deliberate planning to integrate responsible development.

Integrating Land Use into Future Scenario Planning

The GreenSTEP model relies on an explicit, spatial allocation of population. For the purposes of developing alternative scenarios for 2035, LCOG assumed land use patterns and urban growth boundaries from Springfield 2030, the Coburg comprehensive plan and Envision Eugene. These plans, while not fully adopted, represent the region's current policy direction. As part of the development of alternative scenarios, regional partners may consider a different mix of residents in mixed-use neighborhoods. The scenarios will not consider additional UGB expansions beyond

those specified in the draft plans. The population and employment regional control totals will be held constant across all 2035 scenarios.

In addition to scenarios that consider what the region could look like in 2035, regional partners may also look out to 2050. Since current land use plans only establish a 2035 vision, the region may look at different land use scenarios beyond 2035. This could include further changes to the urban growth boundaries, full implementation of existing plans, or changes to land use designations within existing urban growth boundaries. Land use alternatives for 2050 scenarios could include:

- Densification out from the core of each city
- Growth spread evenly across the cities based on comprehensive plan designations and densities
- Focused growth in mixed-use centers
- Expanded 2035 UGBs with new housing in the expansion areas.

Testing these land use scenarios as part of 2050 scenarios would allow the local governments to understand how future land use changes could affect GHG emissions and other outcomes, and how their long range visions would play out past 20 years. While the scenario planning process will not mandate changes in existing land use plans, understanding the implications of various land use patterns could affect future city or regional land use planning or policy.

Implications for Scenario Planning

Understanding the existing land use and transportation planning context is critical to successful scenario planning. Given a number of recent land use and transportation planning processes, the Project Management Team opted to develop evaluation measures based on local goals and values in existing plans. The Project Management Team also looked to existing plans for ideas about policies and strategies that could become part of the alternative scenarios.

Because 2035 land use plans are currently under development in Eugene, Springfield and Coburg, the Project Management Team will develop alternative scenarios using land uses that are consistent with Springfield 2030, Envision Eugene and the 2010 Coburg Urbanization Study. Evaluating plans to 2050 will provide the local jurisdictions with the ability to view the full implementation of their draft plans, which are expected to be only partially implemented by 2035.

Appendix 5: Scenario Planning Methodology

January 10, 2014

CENTRAL LANE SCENARIO PLANNING

Scenario planning methodology

Kristin Hull and Ryan Farncomb, CH2M HILL

In 2009, the Oregon Legislature passed House Bill 2001, the Jobs and Transportation Act (JTA). Section 38 of the JTA directs the Central Lane MPO to undertake scenario planning and for the local governments in central Lane County to cooperatively select a preferred land use and transportation scenario. The state set a greenhouse gas (GHG) emissions reduction target of 20% for the MPO; while this target must be considered in the scenario planning process, the final selected scenario is not required to meet this target. This memo summarizes the scenario development and evaluation process that will aid the governments of central Lane County in selecting a preferred scenario.

Scenario development and selection process

The scenario planning process begins with development of evaluation criteria, which allow for objective comparison of scenarios. While GHG emissions reductions will be a key criterion, other local priorities will be incorporated into the evaluation framework. The project technical team (LCOG and consultant staff) will use the state's GreenSTEP emissions model and other tools to quantify some criteria. Evaluation criteria are discussed later in this memo.

A reference case was previously developed as the baseline to which alternative scenarios are compared; it approximates the future if current policy direction is carried out without significant changes. The reference case represents our best assumptions about how current policy direction could be implemented over the next 25 years. The reference case, coupled with evaluation criteria, allow for a comparison between the alternative scenarios. While the reference case was previously evaluated only with the measures produced by GreenSTEP, the technical team and PMT will evaluate alternative scenarios with GreenSTEP as well as other economic development, public health and equity-related criteria.

The PMT and technical team will then develop future alternative scenarios to understand the long-term effects of a variety of transportation policy decisions. For purposes of this process, a "scenario" is a set of transportation-related policies and strategies. Alternative scenarios will be evaluated and compared to the reference case. Through adjustment of the policy decisions in

these alternative scenarios, the PMT will eliminate some scenarios and refine others. After further refinement and evaluation, a final scenario, will be evaluated. The PMT is tasked with cooperatively selecting a preferred scenario at the end of this process.

The public, stakeholders and elected officials will be engaged throughout the process. The *Central Lane Scenario Planning Stakeholder and Public Involvement Plan* details how the public will be informed about the project, and how and when public input will be incorporated into the process.

Overview

The technical team will develop five to seven scenarios that meet, or approach, the GHG reduction target. The scenarios will be evaluated with the GreenSTEP model and with a weighting process. In conjunction with the PMT the team will narrow those five to seven down to three to five using GreenSTEP, qualitative techniques, and the ITHIM public health model. The technical team will present results for discussion, and the PMT will select one scenario. The PMT may make final adjustments to the scenario to enhance its benefits and to best reflect the values of their respective jurisdictions.

Step 1: Frame choices

Reference Case

The reference case provides a baseline for comparison of alternative scenarios. The reference case also sets the policy "floor" for developing alternative scenarios. Under the reference case, the region's greenhouse gas emissions from light vehicles decreases by 1% from 2005 levels when fleet and technology changes are not included. If fleet and technology changes are included, the reduction is more than 60%. The 20% GHG emissions reduction target set by the state excludes the effects of fleet and technology changes; that is, the CLSP process must consider policy changes that approach the 20% reduction target independent of fleet and technology changes.

GreenSTEP sensitivity testing

Sensitivity testing refers to the process of determining how different policies affect GHG reduction at different levels of implementation. Sensitivity testing will be performed with the GreenSTEP model to understand which policies, or combinations of policies, result in GHG emissions reductions that approach or meet the 20% GHG reduction goal set by the state. This testing will help answer the following kinds of questions:

- Which policy "levers" individually have the greatest effect on reducing GHG emissions? For instance, does increasing transit service alone result in large GHG emissions reductions?

- Which policy "levers" in combination have the greatest effect on reducing GHG emissions? Do some policies, when applied together, actually become less effective?
- At what implementation *level* are policies most effective? That is, how aggressive or ambitious do policies need to be? At what level do policies cease to create additional GHG reductions?

Individual policies are grouped into five categories (consistent with GreenSTEP):

- Community Design: housing mix, transit service, etc.
- Pricing: congestion pricing, vehicle miles travelled taxes, etc.
- Marketing and Incentives: transportation demand management programs and policies
- Roads: intelligent transportation system (ITS) technology, road improvements, etc.
- Fleet/Technology: future fleet and technology assumptions made by the state.

Policies could be implemented at to three levels (Figure 2). "Level 1" approximates a level of implementation equivalent to that of the reference case; the policies included in Level 1 represent existing policies or policy direction implemented over the 20 year planning horizon. "Level 2" and "Level 3" represent changes to existing policies; for example, within the "Pricing" category, Level 1 for "proportion of work parking charged" is 3%, while Level 3 is 14%. Levels 2 and 3 represent more aggressive implementation, based on the range of implementation seen in other regions and professional judgment as to the range of possibility for the region.

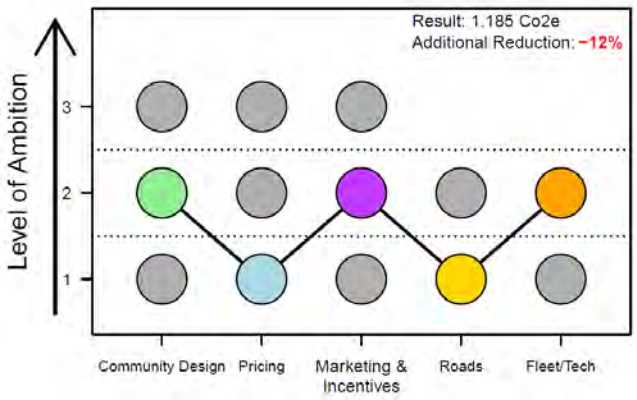


Figure 2. Example sensitivity testing diagram. This diagram shows different levels of policy actions being implemented with Community Design at Level 2, for example.

Table 1 describes, in brief, the range of GHG reduction strategies/policies that were considered during sensitivity testing.

TABLE 1
Policy bundles

Policy Bundle	Specific Policies
Community Design	Transit Supply, Bicycling, Mixed Use Development
Pricing	Cost to Park, Pay as you Drive Insurance, VMT Fee, Carbon Fee, Externalities Costs to Drive
Marketing and Incentives	TDM Programs, Work Commute Options, Individualized Marketing Programs, Car Share, Eco-driving, Low-rolling Resistance Tires, Vehicle Optimization
Roads	Freeway and Arterial Lane Miles, ITS Strategies including Signal Prioritization, Access Management, Incident Response, Ramp Metering
Fleet and Technology	Proportion of Fleet Light Trucks, % Fleet Electric, % Fleet Plug-in Hybrid Electric , % Fleet Hybrid

The strategies/policies in Table 1 represent the range of policy assumptions that were tested during sensitivity testing. However, the policies and strategies presented in the table are not exhaustive; the PMT may wish to consider other strategies or policies that are not captured in the table during scenario development.

Step 2: Develop and evaluate scenarios

The technical team will produce five to seven themes, which describe some possible sets of future trends. These themes will be presented to the PMT for discussion. The PMT will select three to five to advance for development into *scenarios*. Each will scenario will be populated with a different mix of policies designed to approximate those necessary to achieve reductions that meet or approach the 20% goal set by the state.

Each scenario will be scored. After seeing the evaluation results, the PMT will weight each indicator, suggesting its relative importance to them. The weighted scores will suggest to the group which of the scenarios can be dropped or advanced.

After identifying the scenarios to advance the technical team will develop a suite of policies and implementation actions for PMT review. The PMT may use the discussion of implementation actions to refine the scenarios. Table 2 provides two examples of how policies are translated into implementation actions. A full list of implementation actions is included in Appendix A.

TABLE 2
Example policies and implementing actions

Policy	Level (1, 2, or 3)	Possible Implementing Actions
Parking pricing - proportion of work parking charged	2 (14%)	Establish parking maximums for certain land uses; encourage employers to reduce parking subsidies and increase subsidies for other modes (e.g., transit passes, cycling gear, etc.)
Carbon pricing	3 ($50 per ton)	Enact a per-gallon fuel surcharge in the amount of $X.00

The PMT may add, remove, or modify policies or policy *implementation levels* within individual scenarios. The technical team will then evaluate the refined scenarios. The PMT will use this evaluation to identify a single scenario to advance to the refinement step.

Step 3: Refine single scenario. After identifying a single scenario to advance, the PMT will define realistic implementing actions, refine policy levels where necessary, and adjust the scenario with additional versions if needed. The technical team will support the refinement process by conducting additional GreenSTEP, ITHIM or qualitative evaluation as necessary. At this step, the PMT will develop locally-acceptable implementation actions that could support policies contained in the emerging scenario. Through this process, the PMT will move toward recommendation of a preferred scenario.

Step 4: Select a preferred scenario

Once the PMT identifies a recommended preferred scenario the technical team will complete a final evaluation of that scenario to support documentation of the expected impacts and benefits associated with the preferred scenario. This scenario will be presented to the Springfield City Council, Eugene City Council, Coburg City Council and the Lane County Board of Commissioners to meet the legislative mandate to cooperatively select a preferred scenario.

Evaluation criteria

Evaluation criteria presented below were derived from goals and objectives expressed in the following plans:

- Eugene-Springfield Metropolitan Area General Plan (Metro Plan)
- Envision Eugene
- Springfield 2030
- Cascades West Economic Development District Comprehensive Economic Development Strategy

- Regional Prosperity Economic Development Plan
- Regional Transportation Plan
- Eugene-Springfield Regional Transportation System Plan (TransPlan)
- Eugene-Springfield Consolidated Plan
- Lane County Public Health Authority Comprehensive Plan
- Oregon Health Improvement Plan
- Coburg Transportation System Plan (in development)
- Eugene Transportation System Plan (in development)
- Lane County Transportation System Plan (current)
- Springfield Transportation System Plan (in development)
- Lane Public Transit Human Services Transportation Plan
- Community Climate and Energy Action Plan for Eugene

From this review, seven broad evaluation categories emerge:

- Economy and Prosperity
- Energy and Greenhouse Gas (GHG) Emissions
- Transportation Outcomes
- Air Quality
- Feasibility
- Health
- Equity

Appendix B contains a full list of plan policies, goals, objectives, and measures that informed development of the evaluation categories.

Performance criteria

Within each of the above categories will be several *evaluation criteria*. The way in which each will be measured will vary. Some criteria, like "public acceptability," will be assessed qualitatively, because the criterion is not something that can be expressed quantitatively or we do not have the available resources or tools to measure the criterion quantitatively. Others will measured in quantitative units (e.g., dollars, tons, miles, etc). Each criterion has a unit of measure associated with it (Table 3). For example, the criterion "greenhouse gas emissions per capita" has the unit called "tons of CO2 per year."

These criteria reflect the commitment of the Central Lane MPO government partners to address health, equity, and economic development issues during the scenario development process. The

Focus Areas section below provides more detail on how these three subject areas will be addressed in the process.

TABLE 3

Scenario evaluation criteria

Key Scenario Modeling Assumptions				
Assumed urban growth boundary (UGB)expansion, in acres				
Housing mix: single family and multi-family				
Population density, in persons per acre				
Mixed-use development, in acres				
Evaluation Category	**Questions to answer**	**Evaluation criteria**	**Unit of measure**	**Tool**
Economy & prosperity	How will household and business budgets be impacted?	Driving costs as percentage of household income	% of average HH income	GreenSTEP
		Average household income by housing type	$	GreenSTEP
	How will regional livability be affected?	Parking costs	Average regional daily parking cost	GreenSTEP
		Value of time lost to congestion	$	GreenSTEP
Energy consumption and GHG emissions	How will our choices affect energy consumption and climate change?	GHG emissions per capita	Tons CO2/year	GreenSTEP
		Petroleum fuel consumption	Gallons/capita	GreenSTEP
Transportation outcomes	How will our choices affect how we get around the region?	Vehicles miles travelled	VMT/capita	GreenSTEP
		Transit service	Revenue miles/capita	GreenSTEP
		Bicycle travel	Bicycle miles travelled per capita	GreenSTEP
		Pedestrian travel	Walk miles travelled per capita	GreenSTEP
		Transit ridership	Total annual ridership	Travel demand model
		Vehicle ownership	Average no. of vehicles per HH	GreenSTEP
		Hours of congestion	Hours per capita per year	GreenSTEP
Air Quality	How will our choices affect air quality?	Criteria air pollutant emissions	% reduction or increase in pollutants	GreenSTEP
Feasibility	What can we afford?	Legal, legislative, or regulatory barriers to implementation	Qualitative assessment	Qualitative assessment
		Public/private infrastructure costs	Qualitative assessment	Qualitative assessment
	Are our choices implementable, given legal, legislative, policy, or other constraints?	Local gas tax revenue	$	GreenSTEP
		Political or public acceptability	Qualitative assessment	Qualitative assessment
Health	How will our transportation and land use choices affect public health?	Physical activity per capita	Average minutes per capita per week	GreenSTEP
		Chronic illness incidence	% reduction or increase	I-THIM public health model
		Cost savings due to reduced disease burden	$	I-THIM public health model, sketch planning model
		Change in fatal or injury accidents	% reduction or increase in pedestrian/bicyclist injuries and fatalities	I-THIM public health model
Equity	Will our choices disproportionately benefit or impact certain groups?	Those evaluation measures, highlighted above, where impacts can be measured across population groups (age, income) will be assessed qualitatively to determine if disproportionately negative impacts will occur to certain groups.		

Evaluation tools

The technical team will use several models and tools to assess the benefits and drawbacks of scenarios.

GreenSTEP

The GreenSTEP model was developed by the ODOT Transportation Planning Analysis Unit (TPAU) as a strategic modeling tool to assess the effects of a large variety of policies and other factors on transportation sector GHG emissions and other land use and transportation outcomes. The model allows for manipulation of many different policy inputs; for example, gas taxes, carbon taxes, and other pricing tools can all be adjusted.

The GreenSTEP model is comprehensive in scope, addressing the following factors, in addition to many others:

- Changes in population demographics (age structure);
- Changes in personal income;
- Relative amounts of development occurring in metropolitan, urban and rural areas;
- Urban form in metropolitan areas (proportion of population living in mixed use areas with a well interconnected street and walkway system);
- Auto and light truck proportions by year;
- Pricing – fuel, vehicle miles traveled (VMT), parking;
- Demand management – employer-based and individual marketing;
- Carbon production from the electric power that is generated to run electric vehicles.

Integrated Transport and Health Impact Modeling Tool (ITHIM)

The ITHIM tool allows for the comparative assessment of three major transportation-related metrics including crash injuries and fatalities, air pollution, and physical activity from active transportation. Metro (Portland, Oregon) has successfully used the ITHIM tool in their scenario planning work to better understand the connection between transportation GHG reduction policies and health outcomes. ITHIM models crash injuries and fatalities using risk, travel distance, and speed parameters. Physical activity is modeled by comparing weekly physical activity under different scenarios.

Travel demand model

LCOG's travel demand model may be utilized to calculate specific measures, such as transit ridership. The travel model integrates demographics, land use, and transportation features to produce an estimate of travel demand for different modes (single occupant drivers, carpooling, transit, etc.) and assigns trips to the transportation network to show how the network will

function in a given future year. The travel demand model is expected to only be used in a limited way for the scenario evaluation process.

Qualitative assessments

Three measures will be evaluated qualitatively because there is no reasonable method of calculating their value quantitatively. Qualitative evaluation relies on the experience and knowledge of the technical team and PMT to accurately assess the following measures:

- Legal, legislative, or regulatory barriers to implementation
- Public/private infrastructure costs
- Political or public acceptability

The technical team in conjunction with the PMT will score each scenario based on its relative performance within each of these categories. Qualitative measures may be expressed as a numeric score (0 to 100, for example) or in relative terms (high, medium, or low).

Focus Areas

The local government partners in the Central Lane MPO agreed to consider how scenario planning could be used to develop policies to improve equity, health and economic development in the region. Through the Lane Livability Consortium, the local government partners explored how GHG reduction policies could be developed to produce these "co-benefits" and how scenarios can be evaluated based on equity, health and economic development criteria.

Economic development

The technical team and PMT will assess the following economic indicators during the process:

- Driving cost as a percentage of household income
- Average household income by housing type
- Parking costs
- Value of time lost to congestion

While "economic development" encompasses a wide range of possible subject areas and outcomes, these four measures provide a reasonable assessment of the impacts of different transportation choices on households and businesses. The *value of time lost to congestion* measure provides an estimate of the impact of different scenarios on both personal travel and freight mobility within the region.

Equity

Equity refers to the distribution of benefits and burdens of policies and projects across different populations. The Central Lane Scenario Planning Project Management Team convened a sub-

committee of the Technical Advisory Committee (TAC) to provide input on equity considerations. Outcomes from Equity Sub-TAC meetings inform an approach to scenario evaluation, scenario development and implementation strategies, and outreach and public involvement strategies.

The Equity Sub-TAC acknowledged the importance of developing measurable indictors that track outcomes based on the incorporation of equity into the scenario planning process. In developing the preferred evaluation approach, the technical team considered measurable outcomes that address equity across community concerns of economic prosperity, transportation access and affordable housing, and community health. Evaluations of equity outcomes across each category rely on measurable indicators such as income, race/ethnicity/, age, and cost burden.
The technical team will assess three quantitative measures of equity:

- Driving costs as a percentage of household income
- Average household income by housing type
- Physical activity per capita by income quintile

These measures provide a snapshot of how different scenarios affect different economic groups. Equity analysis generally includes race/ethnicity, income and age. The GreenSTEP model that underlies the scenario planning evaluation process does not produce results based on age or race/ethnicity. For this reason, the equity evaluation focuses on how benefits and impacts are distributed among income groups. Policy implementation and public participation, two other aspects of the scenario planning process, will consider race/ethnicity and age.

Ultimately, the Central Lane MPO's equity-based approaches to scenario planning will consider regional demographic resources, equity criteria and approaches to GHG reduction strategies, approaches to evaluating the outcomes of equity-based policies, and an approach to public involvement and outreach. The *Approach to Equity in Scenario Planning* provides specific approaches to evaluating equity in the scenario planning process.

Public Health

Transportation and land use decisions have a demonstrated effect on public health outcomes, in addition to other social determinants (like income level). For this scenario planning process, only transportation and some minor land use policies will be varied, and only the link between transportation and public health outcomes will be examined. The public health criteria listed below focus on the link between increased use of active transportation modes and positive health outcomes:

- Physical activity per capita
- Chronic illness incidence
- Cost savings due to reduced disease burden

- Change in fatal or injury accidents

The technical team will use the ITHIM health model and GreenSTEP to evaluate these indicators. ITHIM was successfully used in Portland Metro's scenario planning process. The Oregon Health Authority will provide training to LCOG and Lane County Public Health Department staff on how to apply the ITHIM model.

Appendix A - Central Lane Scenario Planning GHG Reduction Strategies

Strategy	Description	Strategy approach type	Effectiveness	Timing [a]	Local Implementation		
Community Design					Implementation Method	Public Cost [b]	Implementation Issues
Mixed use development	"Mixed-use development" means development that incorporates a variety of uses, including retail goods and services, employment opportunities, and residences. Mixed-use development reduces the need for car travel by allowing for everyday needs to be met in close proximity to one's home. Can be achieved through re-zoning, and developer incentives like reduced system development charges. Public agencies can also support development through infrastructure construction.	Regulatory; potential capital expenditure	5 - 25 percent reduction in VMT, depending on population density and availability of alternate modes.(1)	Short term	1. Allow mixed-use zoning	$	May require re-zoning of land; potential resident resistance to neighborhood change.
				Short term	2. Provide developer incentives (grants, fee waivers, etc.)	$ - $$	Outcomes may be realized in the long term (10 years or more).
				Medium term	3. Provide supportive public infrastructure (sidewalks, streetscape improvements, transit stations)	$$-$$$	Time frame is dependent on time needed to program projects in relevant transportation plans and project costs.
Active transportation	Increase cycling and walking; improve walking and cycling access to transit.	Regulatory; capital expenditure	5 - 15 percent reduction in VMT, depending on population density and quality of cycling and walking facilities. (1)	Short term	1. Enact regulations that require bicycle parking, cycling/walking frontage improvements, etc.	$	Low-impact strategy; generally improves cycling and walking conditions as new development occurs.
				Medium term	2. Construct cycling and walking infrastructure; street amenities like lighting and landscaping	$$-$$$	Time frame is dependent on time needed to program projects in relevant transportation plans and project costs.
Improve public transit	Transit service can be improved a variety of ways, like increasing the number of routes (coverage), increasing frequency, decreasing fares, adding park-and-rides and other facility/vehicle improvements. Transit improvements are most effective when implemented in and between high density/high activity areas.	Programmatic; capital expenditure	1 - 8 percent reduction in GHG emissions, depending on level of service improvement, density, etc. (1)	Short term	1. Improve transit stop and station amenities, e.g., provide real-time transit information, bus shelters, benches, lighting, etc.	$$	
				Short term	2. Reduce transit fares. Impacts vary - for example, a 10% decrease in fares can result approximately 4% increase in ridership (dependent on many factors) (2)	$$	Fiscal impacts to transit agencies dependent on level of fare recovery and other factors.
				Medium term	3. Improve transit service by increasing the number of routes (coverage) and/or by increasing service frequency; implementing transit signal priority, and other programs. Service becomes most attractive generally at 15 minute headways or less.	$$-$$$	
				Long term	4. Provide high quality, high frequency, fixed-guide way transit service such as bus rapid transit.	$$$	

Strategy	Description	Strategy approach type	Effectiveness	Timing [a]	Local Implementation		
Pricing							
Parking Pricing	Parking pricing includes workplace parking fees, public street or garage parking fees, residential parking permits, and parking supply management.	Regulatory	Up to 20 percent reduction in commute trips; 5 - 12% VMT reduction when parking supply is limited. Dependent on the number of employers that programs would apply to and parking supply. (1)	Short term	1. Establish parking maximums; reduce or eliminate parking minimums for some development.	$	May encounter developer, lender, or public opposition to reduced parking availability.
				Short term	2. Create or enhance support for workplace commuter programs, like parking cash-outs, which allows employees to opt out of having a subsidized parking spot and instead receive compensation.	$	Implementation requires actively recruiting local employers.
Congestion pricing or cordon pricing	With congestion pricing, vehicles are charged a variable toll depending on congestion levels to help manage traffic flow. With cordon pricing, vehicles are charged a toll once they cross a line (cordon); cordon pricing has not been employed in the US, but has been successfully implemented internationally.	Regulatory	0.8 - 1.8% GHG emissions reduction, depending on the scale of deployment. (3)	Long term	Create a congestion pricing or cordon pricing system	$$$	There are no precedents for congestion pricing at the metropolitan scale. Congestion pricing may require sophisticated in-vehicle technology, traffic management systems, etc. Cordon pricing may be more achievable at the regional scale, but is also difficult to implement. Cordon pricing has only been implemented outside North America.
Mileage fee	This program would charge drivers a flat per-mile for every mile driven on public roads. The mileage fee concept has been explored at the state level as a potential replacement system for the state gas tax.	Tax	1 to 5 percent reduction in GHG emissions. (1)	Long term	Enact a mileage fee system	$$$	Mileage fee systems have been explored mainly at the state and national levels, as they are generally not practical to implement at the local or regional level.
Increase gas tax	Increasing the state or local gas tax affects the price of fuel and directly influences VMT. Revenue from a local gas tax could be used for transportation projects in the region.	Tax	A 1% increase in the price of fuel results in a 0.05% to 0.35% decrease in annual VMT. (4)	Short term	Enact or increase local gas tax	$	Gas taxes are relatively easy to implement; the local tax is levied per gallon on fuel dealers. However, the effectiveness of a local gas tax on reducing VMT may be negligible unless it is relatively substantial. There is no statutory limit on local gas taxes. Most jurisdictions in Oregon that assess a local gas tax charge $0.01 to $0.05 per gallon.

Strategy	Description	Strategy approach type	Effectiveness	Timing [a]	Local Implementation		
Carbon pricing	Carbon pricing levies a tax, usually per ton, on carbon dioxide emissions production. With regard to transportation, this is typically applied as an additional tax on gasoline (5). Vehicle registration fees could also include tiered carbon pricing, based on the EPA fuel efficiency of the registered vehicle, or class of vehicle. These registration fees may also incent purchase of more efficient vehicles or induce less overall vehicle ownership. The revenues from carbon pricing are not typically devoted to transportation improvement projects.	Tax	A 1% increase in the price of fuel results in a 0.05% to 0.35% decrease in annual VMT. (4) A 10% increase in vehicle fees results in 0.6% reduction in vehicle ownership over the long term. (4)	Medium term	1. Enact a carbon tax on fuel	$	Gas taxes are relatively easy to implement; however, in international applications, revenue from carbon taxes is generally not used to improve roads or highways, making them potentially controversial. May require significant time to build public support for this program.
				Medium term	2. Enact an additional vehicle registration fee based on vehicle type or fuel economy	$	Registration fees are easy to collect, but opposition to tiered fees based on vehicle type may be high. May unfairly penalize those who cannot afford more efficient vehicles. May require significant time to build public support for this program.
Pay-as-you-drive (PAYD) insurance	PAYD insurance charges customers a per-mile insurance fee as opposed to an annual or semi-annual flat rate. PAYD uses an on-car device to track mileage. PAYD insurance is currently offered in Oregon by a limited number of insurers.	Outreach campaign	Limited studies show 1 - 3% reduction in GHG emissions (with majority of drivers participating) (1)	Medium term	Work with private insurers to increase PAYD insurance options and driver awareness	$	Public sector involvement generally limited to recruiting PAYD insurers and promoting PAYD insurance and its benefits to the public. While PAYD insurance is currently available in the Portland Metro region, it may take considerable time before PAYD insurers enter the Central Lane market and achieve a significant share of drivers.
Education & Marketing							
Travel options education/Individualized marketing	These programs, like Portland's Smart Trips, provide information and incentives to encourage drivers to use alternate forms of transportation. Programs can target specific geographic areas, provide financial incentives for using alternate modes, and provide targeted information (e.g., map showing bike trails in one's neighborhood).	Education program; financial incentives	Decreases regional VMT; dependent on participation	Short term	Create a travel options education program, similar to Portland Smart Trips or enhance existing programs to reach a greater share of drivers.	$	
Efficient driving	Educating drivers about the ways in which they can reduce inefficiencies when they drive - like avoiding rapid acceleration and braking, reducing speeding, etc. - can improve fuel economy.	Education program	5 - 33 percent increase in fuel economy when practicing efficient driving (1)	Short term	Educational campaign to increase driver awareness about efficient driving techniques, or enhance existing educational programs to reach a greater share of drivers.	$	
Carpooling and ridesharing programs	Rideshare programs, like DriveLess-Connect, and LTD's Point 2 Point program, facilitate ridesharing and use of alternate modes.	Program	Decreases single occupant vehicle trips; dependent on participation	Short term	Enhance existing ridesharing programs to reach a greater share of drivers.	$	
Telecommuting	Encourage workplaces to allow workers to telecommute	Outreach program	Up to 6% reduction in commute trips; dependent on level of employer participation (1)	Short term	Create or enhance telecommuting programs.	$	
Carsharing	Carsharing programs, like Car2Go and Getaround, allow subscribers to use cars for (mostly) short trips. Carsharing programs are diverse in organization and scope. These programs reduce the need for individual auto ownership.	Regulatory; education	GHG emissions reductions highly dependent on level of participation	Medium term	Encourage private carsharing providers to start programs in the region; support outreach/education efforts to increase driver awareness of the program.	$	Public sector involvement generally limited to ensuring regulations allow for carsharing and educating drivers about carsharing options.

Strategy	Description	Strategy approach type	Effectiveness	Timing [a]	Local Implementation		
Traffic and Incident Management							
Ramp metering	Improves traffic flow and reduces congestion on major routes; reduces fuel wasted from congestion. Impact on GHG emissions is relatively low, but also imparts cobenefits like reduced fuel costs and reduced congestion.	Capital expenditure	Decreases fuel wasted un congestion; some effect on auto trip demand	Medium term	Install ramp meters at strategic locations along the region's major highways.	$$	Time frame is dependent on time needed to program projects in relevant transportation plans and project costs.
Traffic signal coordination	Coordinating traffic signals smoothes traffic flow, reduces delay at intersections, and increases vehicle speeds. Impact on GHG emissions is relatively low, but also imparts cobenefits like reduced fuel costs and reduced congestion.	Capital expenditure	Dependent on current level of signal coordination	Short term	Coordinate traffic signals within and between jurisdictions.	$$	Requires interjurisdictional coordination.
Incident management	Coordinated process to detect, respond to, and remove traffic incidents from the roadway as safely and quickly as possible. Reduces non-recurring roadway congestion. Impact on GHG emissions is relatively low, but also imparts cobenefits like reduced fuel costs and reduced congestion.	Program; capital expenditures	Varies; dependent on regional impacts from non-recurring delay (40-50% of congestion nationally is caused by incidents) (1)	Medium term	Implement incident management system. May include infrastructure (CCTV cameras, in-pavement detection loops) and administrative costs (traffic management/dispatch center).	$$-$$$	Time frame is dependent on time needed to program projects and on the extent and sophistication of the program.

NOTES:

(a) Short-term = Fully implementable within 5 years
Medium-term = Fully implementable within 5-10 years
Long-term = Fully implementable within 10 - 20 years, or longer

(b) $ = <$100,000 in cost
$$ = $100,000 to $1,000,000 in cost
$$$ = >$1,000,000 in cost

SOURCES:

(1) Metro. “Climate Smart Communities: Strategy Toolbox for the Portland metropolitan region.” <http://library.oregonmetro.gov/files/planning_and_development_-_regional_trans_reduction_strategies_and_the_benefits_they_bring_to_the_region_-_october_2011.pdf>, 2011.
(2) Litman, T. “Transit Price Elasticities and Cross-Elasticities,” Journal of Public Transportation, Vol. 7, No. 2, <www.nctr.usf.edu/jpt/pdf/JPT 7-2 Litman.pdf>, 2004, pp. 37-58.
(3)Cambridge Systematics. “Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions.” <http://www.busadvocates.org/articles/environment/movingcooler.pdf>, 2009.
(4)Litman, T. “Understanding Transport Demands and Elasticities.” Victoria Transport Policy Institute, <http://www.vtpi.org/elasticities.pdf>, 2013.
(5) Litman, T. “Carbon Taxes.” Victoria Transport Policy Institute, <http://www.vtpi.org/tdm/tdm130.htm>, 2013.

Appendix B - Regional Plans Reviewed

Plan	Category 1	Category 2	Category 3	Goals	Objectives	Measures
A community climate and energy action plan for Eugene	Energy consumption & greenhouse gas emissions			Reduce community-wide greenhouse gas emissions 10% below 1990 levels by 2020		
A community climate and energy action plan for Eugene	Energy consumption & greenhouse gas emissions			Reduce community-wide fossil fuel use by 50% by 2030		
A community climate and energy action plan for Eugene	Energy consumption & greenhouse gas emissions			Identify strategies that will help the community adapt to a changing climate and increasing fossil fuel prices		
Cascades West Economic Development District 2010---2015 Comprehensive Economic Development Strategy	Economy & prosperity			Advance economic activities that provide a range of employment opportunities		
Cascades West Economic Development District 2010---2015 Comprehensive Economic Development Strategy	Economy & prosperity			Build on the region's entrepreneurial culture and assets		
Cascades West Economic Development District 2010---2015 Comprehensive Economic Development Strategy	Economy & prosperity			Support infrastructure assistance to communities and support capacity building efforts		
Cascades West Economic Development District 2010---2015 Comprehensive Economic Development Strategy	Economy & prosperity			Partner to improve workforce training and education		
Coburg Transportation System Plan	Equity				Promote fair distribution of benefits and adverse impacts to different populations	
Coburg Transportation System Plan	Feasibility				Projects align with current funding opportunities	
Coburg Transportation System Plan	Feasibility				Cost effectiveness	
Coburg Transportation System Plan	Economy & prosperity			Support, sustain, and enhance community livability and protect the quality and integrity of residential and business areas in Coburg. Accommodate and anticipated future development assumptions for Coburg.		
Coburg Transportation System Plan	Natural resources			Minimize or avoid adverse impacts on natural and social resources within Coburg.		
Coburg Transportation System Plan	Natural resources	Transportation outcomes			Minimize land use impacts	
Coburg Transportation System Plan	Natural resources				Minimize environmental impacts to ground and surface water	
Coburg Transportation System Plan	Natural resources				Minimize impacts to natural resources	
Coburg Transportation System Plan	Transportation outcomes				Provides redundant emergency access	
Coburg Transportation System Plan	Transportation outcomes				Promote safe and convenient bicycle and pedestrian circulation	
Coburg Transportation System Plan	Transportation outcomes				Increase network connectivity	
Coburg Transportation System Plan	Transportation outcomes				Reduce traffic congestion	
Envision Eugene	Energy consumption & greenhouse gas emissions			Plan for climate change and energy resiliency	Reduce physical and economic risks to people and property arising from climate change and energy price volatility.	

Plan	Category 1	Category 2	Category 3	Goals	Objectives	Measures
Envision Eugene	Feasibility			Provide for adaptable, flexible and collaborative implementation		
Envision Eugene	Economy & prosperity			Provide ample economic opportunities for all community members		
Envision Eugene	Economy & prosperity			Protect, repair and enhance neighborhood livability		
Envision Eugene	Land Use & housing	Economy & prosperity		Provide housing affordable to all income levels		
Envision Eugene	Land Use & housing	Transportation outcomes		Promote compact urban development and efficient transportation options	Meet all of the 20-year multi-family housing and commercial job needs within the existing UGB.	
Envision Eugene	Natural resources			Protect, restore and enhance natural resources		
Eugene Transportation System Plan (Draft)	Energy consumption & greenhouse gas emissions	Economy & prosperity		Strengthen resilience for changes in climate, energy prices, economic fluctuations by adapting the transportation network.		
Eugene Transportation System Plan (Draft)	Equity			Distribute benefits and impacts of transportation fairly and address needs of all communities and disadvantaged populations		
Eugene Transportation System Plan (Draft)	Equity					Impacts on low-income, mintory, and elderly populations
Eugene Transportation System Plan (Draft)	Feasibility					Funding competitiveness
Eugene Transportation System Plan (Draft)	Economy & prosperity	Equity	Health	Improve economic vitality, environmental health, social equity, and well being		
Eugene Transportation System Plan (Draft)	Natural resources	Transportation outcomes				Reduction in airborne pollutants
Eugene Transportation System Plan (Draft)	Natural resources					Net increase (or decrease) in impervious surface area
Eugene Transportation System Plan (Draft)	Natural resources					Impacts to habitat, other environmental features
Eugene Transportation System Plan (Draft)	Transportation outcomes			Create an integrated, multimodal safe and efficient transportation system		
Eugene Transportation System Plan (Draft)	Transportation outcomes	Transportation outcomes				Percentage of commute trips taken by pedestrian, cyclists, and transit
Eugene Transportation System Plan (Draft)	Transportation outcomes					Quality and availibility of active transportation modes
Eugene Transportation System Plan (Draft)	Transportation outcomes	Health				Address known safety concerns
Eugene Transportation System Plan (Draft)	Transportation outcomes	Land Use & housing				Access to daily destinations within a 20-minute walk, bike, or bus trip
Eugene Transportation System Plan (Draft)	Transportation outcomes					Connectivity improvements
Eugene Transportation System Plan (Draft)	Transportation outcomes					EMS response time
Eugene Transportation System Plan (Draft)	Transportation outcomes					Congestion relief
Eugene Transportation System Plan (Draft)	Transportation outcomes					Cost-benefit analysis
Eugene Transportation System Plan (Draft)	Transportation outcomes					Vehicle miles travelled (VMT) reduction

Plan	Category 1	Category 2	Category 3	Goals	Objectives	Measures
Eugene-Springfield Consolidated Plan 2010	Equity			Support a human services delivery system that helps low and moderate income persons achieve dignity, well-being, and self-sufficiency		
Eugene-Springfield Consolidated Plan 2010	Land Use & housing			Increase the supply of affordable housing		
Eugene-Springfield Metro Area General Plan	Land Use & housing			Use urban, urbanizable, and rural lands efficiently		
Eugene-Springfield Metro Area General Plan	Land Use & housing			Encourage orderly and efficient conversion of land from rural to urban use		
Eugene-Springfield Metro Area General Plan	Land Use & housing			Protect rural land best suited for non-urban uses from urban encroachment		
Eugene-Springfield Metro Area General Plan	Transportation outcomes	Land Use	Economy & prosperity	Provide an integrated transportation and land use system that supports choices in modes of travel		
Eugene-Springfield Transportation System Plan (TransPlan)	Economy & prosperity			Enhance the metropolitan area's quality of life and economic opportunity by providing a transportation system that is balanced, accessible....		
Eugene-Springfield Transportation System Plan (TransPlan)	Economy & prosperity				Support transportation strategies that improve the economic vitality of the region and enhance economic opportunity.	
Eugene-Springfield Transportation System Plan (TransPlan)	Public Involvement				Provide citizens with information to increase their awareness of transportation issues, encourage their involvement in resolving the issues, and assist them in making informed transportation choices.	
Eugene-Springfield Transportation System Plan (TransPlan)	Transportation outcomes	Land Use & housing		Integrated transportation and land use system		
Eugene-Springfield Transportation System Plan (TransPlan)	Transportation outcomes				Provide adequate levels of accessibility and mobility for the efficient movement of people, goods, and services within the region.	
Eugene-Springfield Transportation System Plan (TransPlan)	Transportation outcomes				Improve transportation system safety through design, operations and maintenance, system improvements, support facilities, public information, and law enforcement efforts.	
Eugene-Springfield Transportation System Plan (TransPlan)	Transportation outcomes	Energy consumption & greenhouse gas emissions			Provide transportation systems that are environmentally responsible.	
Lane County Public Health Authority Comprehensive Plan	Health	Equity		Improve accessibility to public health services		
Lane County Transportation System Plan	Land Use & housing	Feasibility		Ensure that transportation projects comply with state land use requirements regarding urban and rural land uses, and other federal, state, and local land use requirements.		
Lane County Transportation System Plan	Transportation outcomes			Support and encourage improved public transportation services and alternatives to single occupancy vehicle travel between the Eugene---Springfield Metropolitan Area and outlying communities.		
Lane Public Transit Human Services Transportation Plan	Equity			Offer a network of transportation services that strive to meet different transportation needs		
Lane Public Transit Human Services Transportation Plan	Transportation outcomes			Respond to emerging community [transit] needs		
Oregon Health Improvement Plan	Equity	Health		Achieve health equity and population health by improving social, economic and environmental factors		

Plan	Category 1	Category 2	Category 3	Goals	Objectives	Measures
Regional Prosperity Economic Development Plan	Economy & prosperity			Create 20,000 net new jobs		
Regional Prosperity Economic Development Plan	Economy & prosperity			Reduce local unemployment rate to the state average, or below		
Regional Prosperity Economic Development Plan	Economy & prosperity			Increase average wage to the state average, or above		
Regional Transportation Plan (2011)	Energy consumption & greenhouse gas emissions				Consider strategies to reduce transportation sector greenhouse gas emissions in compliance withcurrent legislation and as aligned with the region's other transportation system goals and objectives.	
Regional Transportation Plan (2011)	Equity				Conduct planning, analysis, and public involvement to ensure that the benefits and impacts of transportation decisions are distributed fairly to all people.	
Regional Transportation Plan (2011)	Health				Expand transportation decision-making to meet related public health objectives, including reduced crashes, cleaner air, and increased physical activity.	
Regional Transportation Plan (2011)	Economy & prosperity	Equity	Health	Support regional sustainability by providing a transportation system that considers economic vitality, environmental health, and social equity.		
Regional Transportation Plan (2011)	Economy & prosperity	Transportation outcomes			Support transportation strategies that improve the economic vitality of the region, enhance economic opportunity, and increase the reliability and efficiency of our freight system.	
Regional Transportation Plan (2011)	Land Use & housing	Transportation outcomes	Economy & prosperity	Integrate transportation and land use to support transportation choices, promote all modes of transportation, reduce our reliance on any single mode of travel, and enhance community livability.		
Regional Transportation Plan (2011)	Natural resources				Provide a transportation system that reflects our commitment to environmental quality.	
Regional Transportation Plan (2011)	Public Involvement				Provide citizens with information to increase their awareness of transportation issues, encourage their involvement in resolving the issues, and assist them in making informed transportation choices.	
Regional Transportation Plan (2011)	Transportation outcomes				Support an interconnected multi-modal transportation system that provides residents with access to a range of transportation choices.	
Regional Transportation Plan (2011)	Transportation outcomes				Provide adequate levels of accessibility and mobility for the efficient movement of people, goods, and services within the region.	
Regional Transportation Plan (2011)	Transportation outcomes				Improve safety for users of all transportation modes through design, operations, maintenance, improvements, public information, and law enforcement.	
Regional Transportation Plan (2011)	Transportation outcomes				Provide an effective and efficient transit system with stable capital and operating resources.	
Regional Transportation Plan (2011)	Transportation outcomes				Promote Oregon's development of reliable and efficient rapid passenger rail as part of the Cascadia rail corridor from Eugene to Vancouver, BC.	
Springfield 2030	Land Use & housing			Promote compact, orderly and efficient urban development by guiding future growth to planned		

Plan	Category 1	Category 2	Category 3	Goals	Objectives	Measures
Springfield 2030	Land Use & housing			Encourage a pattern of mixed land uses and development densities that will locate a variety of different life activities...in convenient proximity, to encourage and support multiple modes of transportation		
Springfield Transportation System Plan (Draft)	Energy consumption & greenhouse gas emissions				Reduces GHG emissions from passenger travel	
Springfield Transportation System Plan (Draft)	Economy & prosperity	Equity	Land use & housing	Provide an efficient, sustainable, diverse and environmentally sound system that supports the economy and land use patterns		
Springfield Transportation System Plan (Draft)	Economy & prosperity	Transportation outcomes			Support safe and efficient multi-modal access to major developable employment centers	
Springfield Transportation System Plan (Draft)	Economy & prosperity				Maintain economic vitality of existing commercial and industrial areas	
Springfield Transportation System Plan (Draft)	Economy & prosperity	Feasibility			Prioritize investments that provide maximum benefit for the associated cost	
Springfield Transportation System Plan (Draft)	Land Use & housing	Economy & prosperity			Minimize negative impacts to existing neighborhoods	
Springfield Transportation System Plan (Draft)	Natural resources				Minimizes impacts on natural resources	
Springfield Transportation System Plan (Draft)	Transportation outcomes			Preserve, maintain and enhance Springfield's transportation system through safe, efficient and cost-effective transportation system operations and maintenance techniques for all modes		
Springfield Transportation System Plan (Draft)	Transportation outcomes			Enhance and expand the transportation system design to provide a complete range of mode choices		
Springfield Transportation System Plan (Draft)	Transportation outcomes				Enhances connectivity	
Springfield Transportation System Plan (Draft)	Transportation outcomes				Reduce trip lengths for all users	

Appendix E: Greenhouse Gas (GHG) emissions reduction strategies Presentation

Central Lane Scenario Planning

Greenhouse Gas (GHG) emissions reduction strategies

February 2014

Four policy areas

- Community Design
- Pricing
- Education and Marketing
- Roads/Traffic Management

2

Implementation

- Cost:
  $ = <$100,000
  $$ = $100,000 - $1,000,000
  $$$ = >$1,000,000

- Time frame:
  Short = fully implementable within 5 years
  Medium = implementable within 5 – 10 years
  Long = implementable within 10 – 20 years, or longer

3

Greenhouse gas (GHG) impacts

- Strategy effectiveness is measured in several ways:
  - GHG emissions reduction potential
  - Vehicle miles travelled (VMT) reduction potential
  - Qualitatively where there is little data on effectiveness

4

Vehicle miles traveled (VMT) reduction: 5-25%

Implementation

	Cost	Timeframe
▪ Mixed-use zoning	**$**	**Short**
▪ Developer incentives	**$ - $$**	**Short**
▪ Supportive public infrastructure	**$$ - $$$**	**Medium**

7

Potential impacts

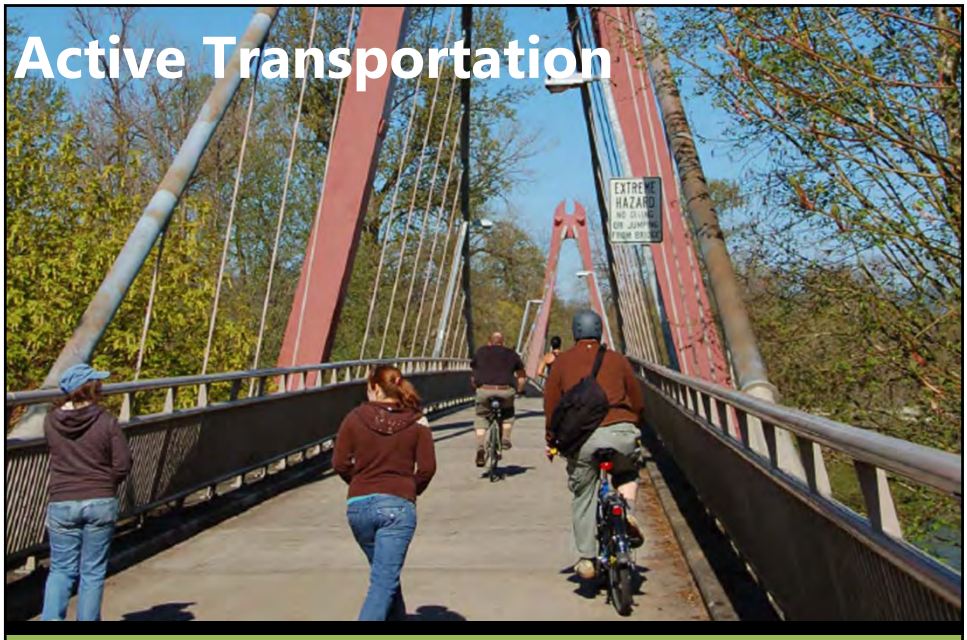
EQUITY

ECONOMY

HEALTH

8

Active Transportation



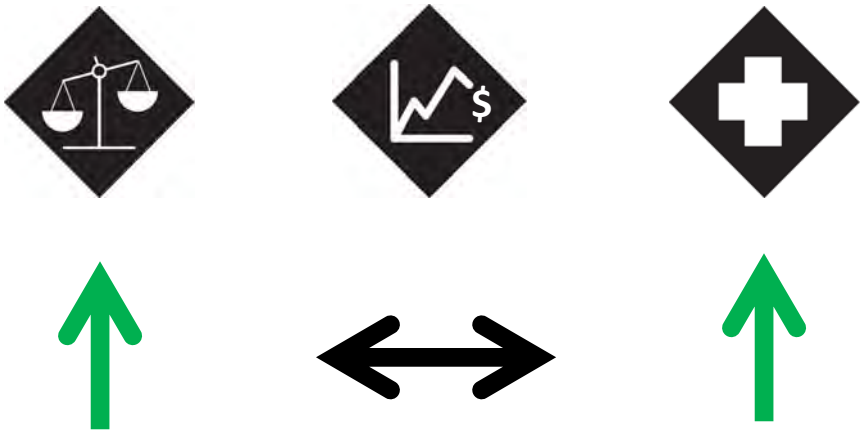
Vehicle miles traveled (VMT) reduction: **5-15%**

Implementation

	Cost	Timeframe
▪ Developer regulations	**$**	**Short**
▪ Public infrastructure	**$$ - $$$**	**Medium**

Potential impacts

EQUITY | ECONOMY | HEALTH



11

Improve public transit

GHG emissions reduction potential: 1-8%

Implementation

	Cost	Timeframe
▪ Transit amenities	**$$**	**Short**
▪ Reduce transit fares	**$$**	**Short**
▪ Increase service	**$$ - $$$**	**Medium**
▪ Increase high capacity transit	**$$$**	**Long**

13

Potential impacts

EQUITY

ECONOMY

HEALTH

14

PRICING STRATEGIES

Photo courtesy WSDOT

Congestion pricing

GHG emissions reduction potential: **1-2%**

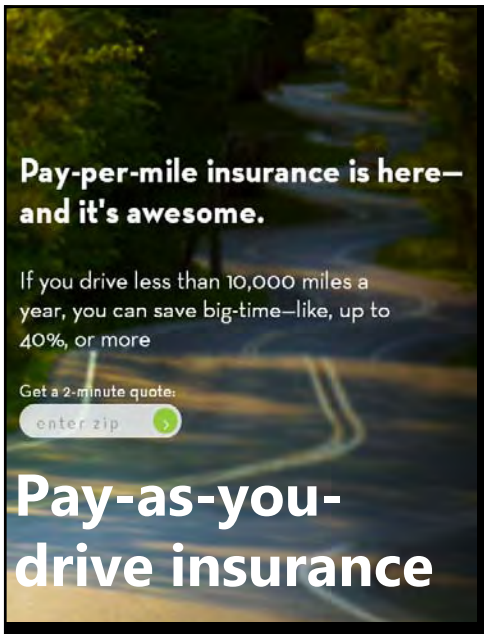
Mileage fee

GHG emissions reduction potential: **1-5%**

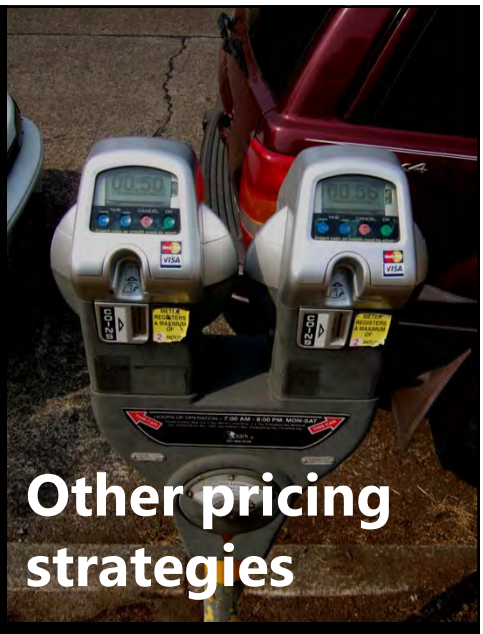
Implementation

	Cost	Timeframe
▪ Congestion pricing	**$$$**	**Long**
▪ Statewide mileage fee	**$$$**	**Long**

17



GHG emissions reduction potential: **1-3%**



GHG emissions reduction potential: **1-2%**

Implementation

	Cost	Timeframe
▪ Pay-as-you-drive insurance	**$$$**	**Long**
▪ Parking pricing	**$$$**	**Long**
▪ Increase gas tax		
▪ Carbon pricing		

19

Potential impacts

EQUITY

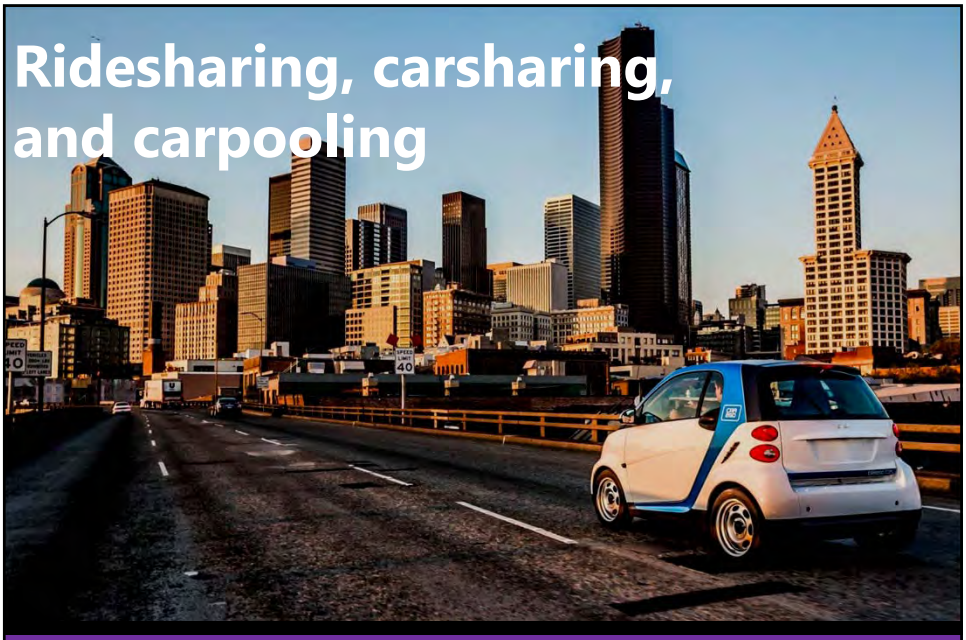
ECONOMY

HEALTH

20

EDUCATION & MARKETING STRATEGIES

Ridesharing, carsharing, and carpooling



GHG emissions reduction potential: Dependent on level of participation

Implementation

	Cost	Timeframe
▪ Carsharing	**$$$**	**Long**
▪ Carpooling	**$$$**	**Long**
▪ Ridesharing programs		

23

Travel options education

PORTLAND SMART TRiPS

Vehicle miles travelled reduction potential: 1-3%

Telecommuting

Commute trips reduction: 1-6%

Implementation

	Cost	Timeframe
▪ Travel options education	$	**Medium**
▪ Telecommuting	$	**Short**

25

Potential impacts

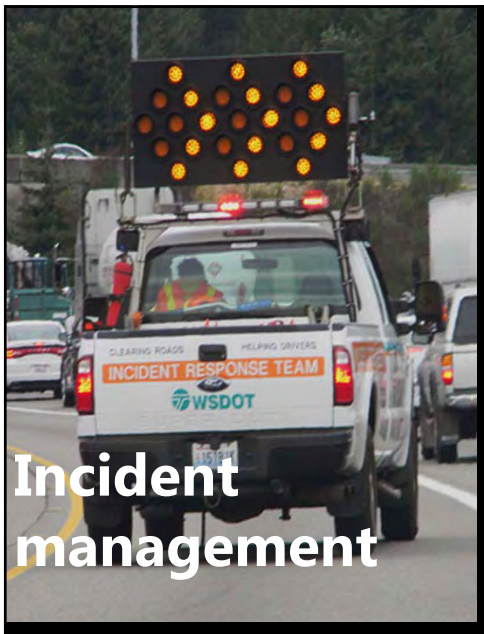
EQUITY

ECONOMY

HEALTH

26

ROADS/TRAFFIC MANAGEMENT



Incident management

GHG reduction potential: **Minimal**

Ramp meters/ signal coordination

Photo courtesy News Tribune

GHG reduction potential: **Minimal**

Implementation

	Cost	Timeframe
▪ Incident management	**$$-$$$**	**Medium**
▪ Traffic signal coordination	**$$**	**Short**
▪ Ramp metering	**$$**	**Medium**

29

Potential impacts

EQUITY

ECONOMY

HEALTH

30

Appendix F: Climate Change/GHG Reduction Public Outreach

December 27, 2013

CENTRAL LANE SCENARIO PLANNING

HUD Task 4.6: Climate Change/GHG Reduction Public Outreach

Kristin Hull, CH2M HILL

To meet the requirements of HUD Task 4.6: Climate Change/GHG Reduction Public Outreach, the LLC has completed the following deliverables:

- Established a public website at www.clscenarioplanning.org
- Developed a stakeholder and public involvement plan (attached)
- Created a presentation that provides an overview of the scenario planning process (attached)
- Created a fact sheet that provides an overview of the scenario planning process (attached)

This work will support a robust public outreach process in phase 2 of the scenario planning process. In all cases, this work draws on other LLC tasks and input provided through the equity, economic development and health Sub-Technical Advisory Committees.

December 10, 2013

CENTRAL LANE SCENARIO PLANNING

Stakeholder and Public Involvement Plan

Prepared by: CH2M HILL

Overview

The Central Lane Scenario Planning (CLSP) process will support the exploration of how different land use and transportation policies could change the future of central Lane County. Through development of land use and transportation scenarios, community members, business leaders, elected officials and planners will be able to consider different ways the region could develop and how those different policies might affect public health, equity, and economic vitality, as well as the region's contributions to greenhouse gas (GHG) emissions.

The Oregon Legislature, in 2009, passed the Jobs and Transportation Act (House Bill 2001). Part of this Act requires the local governments in central Lane County to develop different ways of accommodating forecasted population and job growth while reducing GHG emissions and to cooperatively select a preferred land use and transportation scenario at the end of the process. Because the local governments are not required to implement this preferred scenario, they are focused examining alternate futures to inform future planning efforts and local transportation and land use decisions.

This public involvement plan establishes goals for the public involvement program, a schedule and a range of engagement tactics. This plan will be revised as needed throughout the process.

Public involvement goals

For any public outreach process to be successful, it is important to consider the goals of the process. For the CLSP, the public engagement process should:

- Provide opportunities for the proactive engagement of interested people
- Provide access for all community members regardless of ability, age, income or race/ethnicity
- Demonstrate how public input shapes decisions
- Build on information gathered through past or related planning processes

The International Association of Public Participation (IAP2)'s spectrum of public participation, Figure 1, shows varying levels of engagement based on the level of public impact. Because the

level of public impact for scenarios is relatively low (particularly because the region is required to select a scenario but not to implement it), the public and stakeholders will be engaged at the "inform" and "consult" levels.

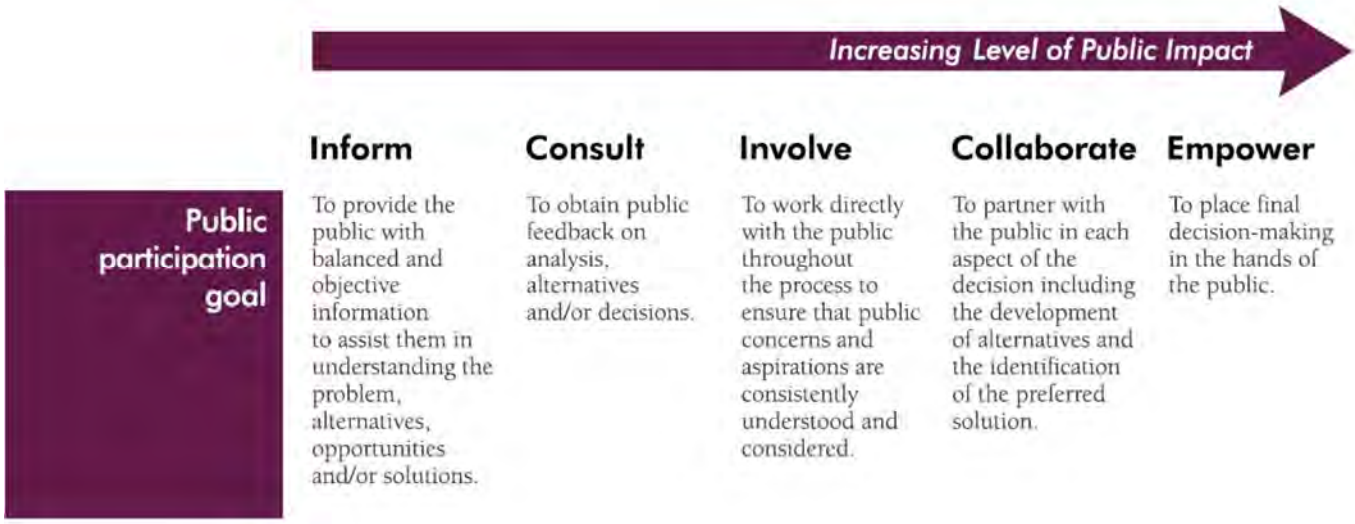
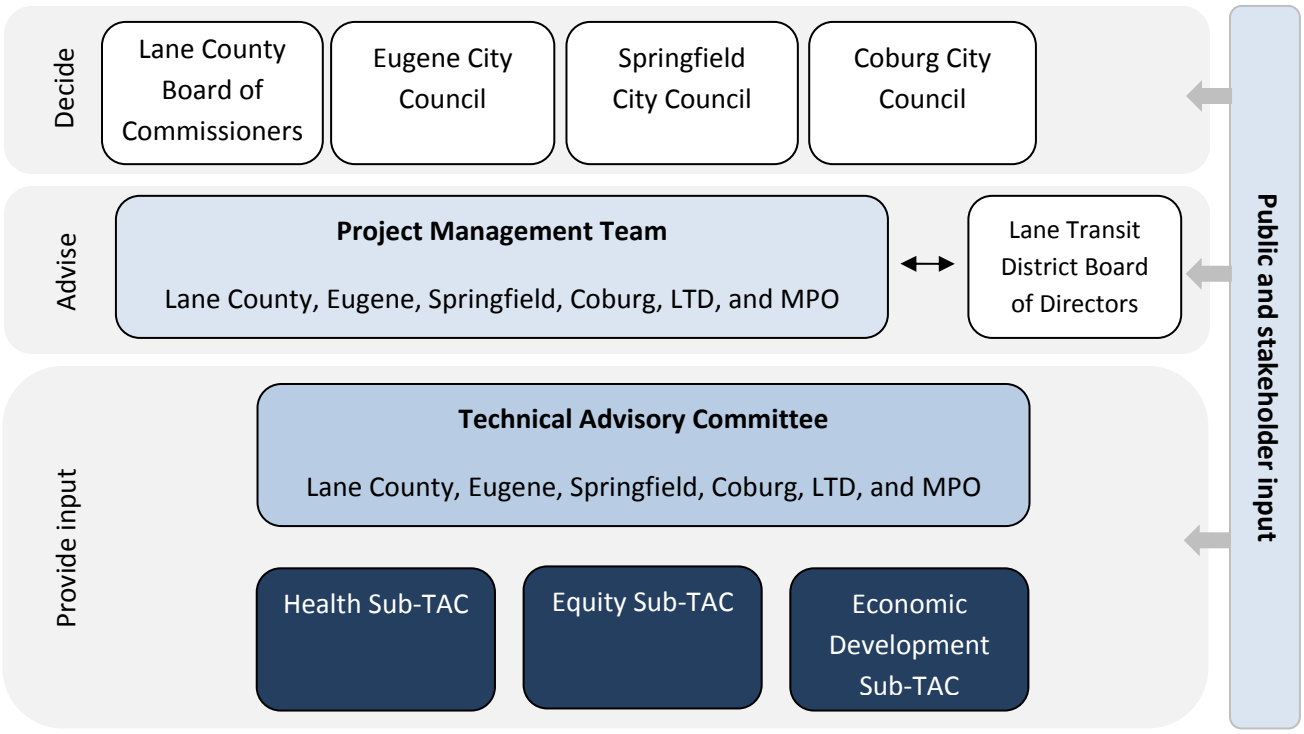


Figure 1. IAP2 Spectrum of Public Participation (source: www.iap2.org)

Decision making structure

At the conclusion of the process, the Lane County Board of Commissioners, Eugene City Council, Springfield City Council and Coburg City Council are required to cooperatively select a preferred land use and transportation scenario. They are not required to make changes to their transportation and land use plans to implement this scenario. Their ultimate decision will be informed by the Project Management Team, a Technical Advisory Committee and public input. Figure 2 illustrates decision making responsibilities.

Figure 2. Decision making responsibilities



Decide: City Councils and County Board of Commissioners

The Lane County Board of Commissioners, and Eugene, Springfield and Coburg City Councils will ultimately approve the selection of a preferred land use and transportation scenario. Each jurisdiction will determine how to engage their planning commissions or other advisory bodies.

Advise: Project Management Team (PMT)

The PMT will provide day-to-day guidance to CLSP staff. The PMT will provide a recommendation to the City Councils and County Board of Commissioners regarding the preferred land use and transportation scenario. The PMT will consider public input in their deliberations.

Provide input: Technical Advisory Committee (TAC) and Sub-TACs

The TAC will provide input to the PMT on technical issues. In some cases, the Sub-TACs will provide input for the TAC's consideration. The TAC and Sub-TACs will consider public input in their deliberations.

Audiences

The audience for scenario planning will largely be community leaders, business leaders, social service representations, and civic group leaders who are already engaged in planning activities in

the region. These groups will be consulted at each step of the process. Hearing from the general public is important as well. The general public will be informed throughout the process with input specifically sought at the beginning of the process and as a preferred scenario is developed. Title VI and Environmental Justice communities, those who are traditionally under-represented in planning processes, will be invited to participate throughout the process.

Equity approach

One goal of this outreach plan is to ensure that communities of concern – people who are elderly, disabled, low-income or are members of a minority community – are engaged in the development, evaluation and refinement of scenarios. A group of service providers and planners with a focus on equity issues met twice to discuss how to incorporate equity into the scenario planning process. They provided the following recommendations related to public involvement:

- Draw from public input gathered for related processes (e.g. affordable housing resident survey) to understand issues and concerns.
- Conduct outreach via service providers and encourage service providers to participate in the scenario planning process to represent the interests of communities of concern.
- Consider how to engage low-income, elderly and disabled communities separately.
- Go to existing groups to gather input.
- Use existing groups and networks to share information about participation opportunities.

Public involvement tactics and schedule

The public and stakeholder involvement program will begin in spring 2014. Figure 3 presents a general schedule. Each tactic is described in detail below.

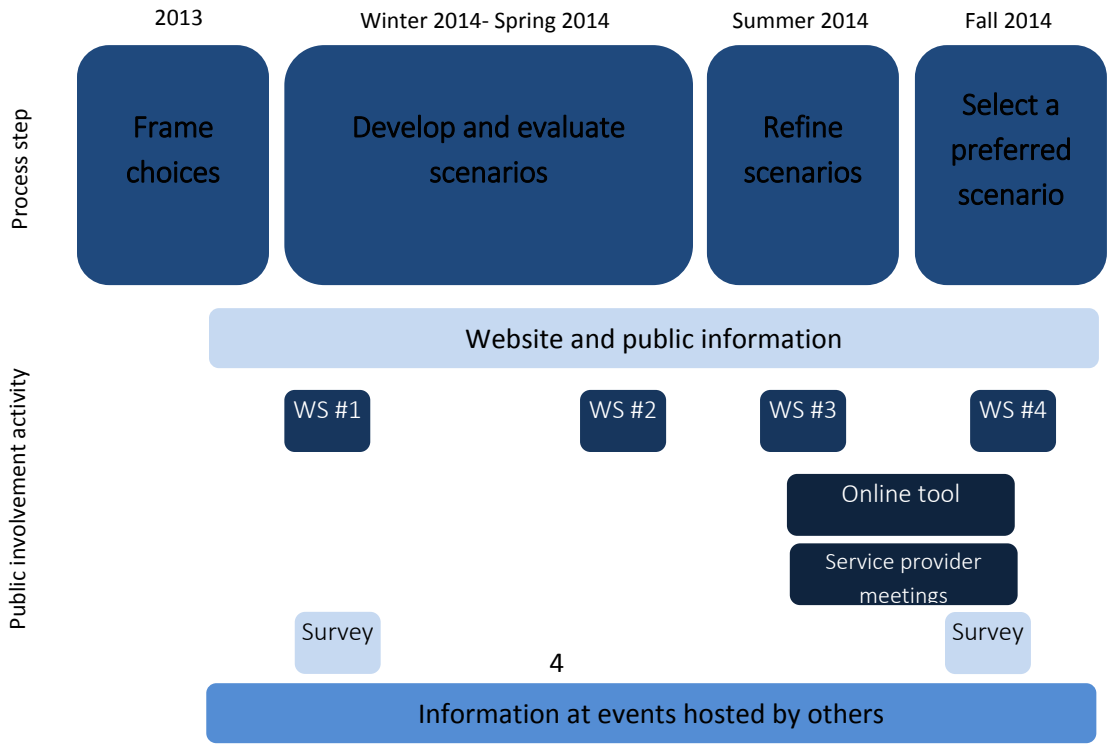


Figure 3. Public Involvement Schedule

Website and public information

The CLSP team will develop a website and public information that describes the scenario planning process and progress at each milestone. The website and public information will use easily understandable language to describe the scenario planning process and findings. At key milestones, the project team will prepare news releases and fact sheets. A specific Facebook page or Twitter feed will not be launched for CLSP. The project team will translate this information on request.

Workshops (WS)

The CLSP partners will host workshops at four milestones. A full mailing list that includes people who have participated in recent land use or transportation planning processes, planning commissioners, members of other standing committees, chambers of commerce, neighborhood leaders and representatives of public health and equity organizations will be developed. At each workshop, participants will be asked to review information and provide input structured around particular questions or activities. The group will not be asked to develop a recommendation or reach consensus. This plan anticipates holding four workshops:

1. Scenario elements/policy levers
2. Scenarios
3. Scenario evaluation
4. Refined/hybrid scenarios

Information at events hosted by others

Throughout the process, the CLSP partners may host tables or provide information at events hosted for other projects. This might mean hosting a table at a public open house for another city project or staffing a booth at a farmers' market or community event. Current fact sheets and project information will be available to support these events.

Online tool

As the scenario choices are being narrowed, the team may develop an online tool that allows community members to test the impact of implementing different policy choices on key indicators that are part of the CLSP evaluation framework. This tool would be used to gather input on the acceptability of policy choices. The PMT will determine if this is a useful and appropriate mechanism for gathering input before it is developed.

Public opinion research (survey)

Public opinion research is an effective way of finding out what people who do not typically participate in public meeting think or how they might react to policy changes. For this process, it may be difficult to engage the general public through more traditional means, so a survey may be the best way to test the acceptability of policy choices. Public opinion research should be conducted at two points: 1) as policy choices are developed; 2) as a preferred scenario is developed. Public opinion research could take the form of a telephone survey or a series of focus groups. The PMT will determine how and when to use public opinion research.

Outreach to service providers and advocacy groups

Through the Equity Sub-TAC we learned that outreach to existing groups is the best way to ensure that the needs of communities of concern are met through the scenario planning process. As the preferred scenario is refined, the project team will meet with 4-5 existing groups to vet the scenario and learn about the implications for communities of concern.

Roles and responsibilities

CH2M HILL will develop the website and initial public information. Other roles and responsibilities will be assigned as a phase 2 work plan is developed.

Central Lane Scenario Planning

Introduction to Scenario Planning

Fall 2013

SPRINGFIELD OREGON · COBURG OREGON · Eugene · LANE COUNTY OREGON · LTD · LCOG · Oregon Department of Transportation

What is scenario planning?

- Considering alternative, plausible futures to determine:
  - If current policies achieve desired goals
  - What outcomes policy changes are likely to have
  - How policies or strategies should change to achieve desired goals

Why are we doing scenario planning?

- Required by House Bill 2001 (2009)
  - Region must develop scenarios that reduce greenhouse gas emissions
  - Eugene, Springfield, Coburg and Lane County must cooperatively select a preferred scenario
- Implementation is not required allowing flexibility for local decision making

Greenhouse gas reduction targets

- State goal = 75% reduction below 1990 levels by 2050
- State developed reduction targets for metropolitan areas
- Region does not have to meet target but must consider it

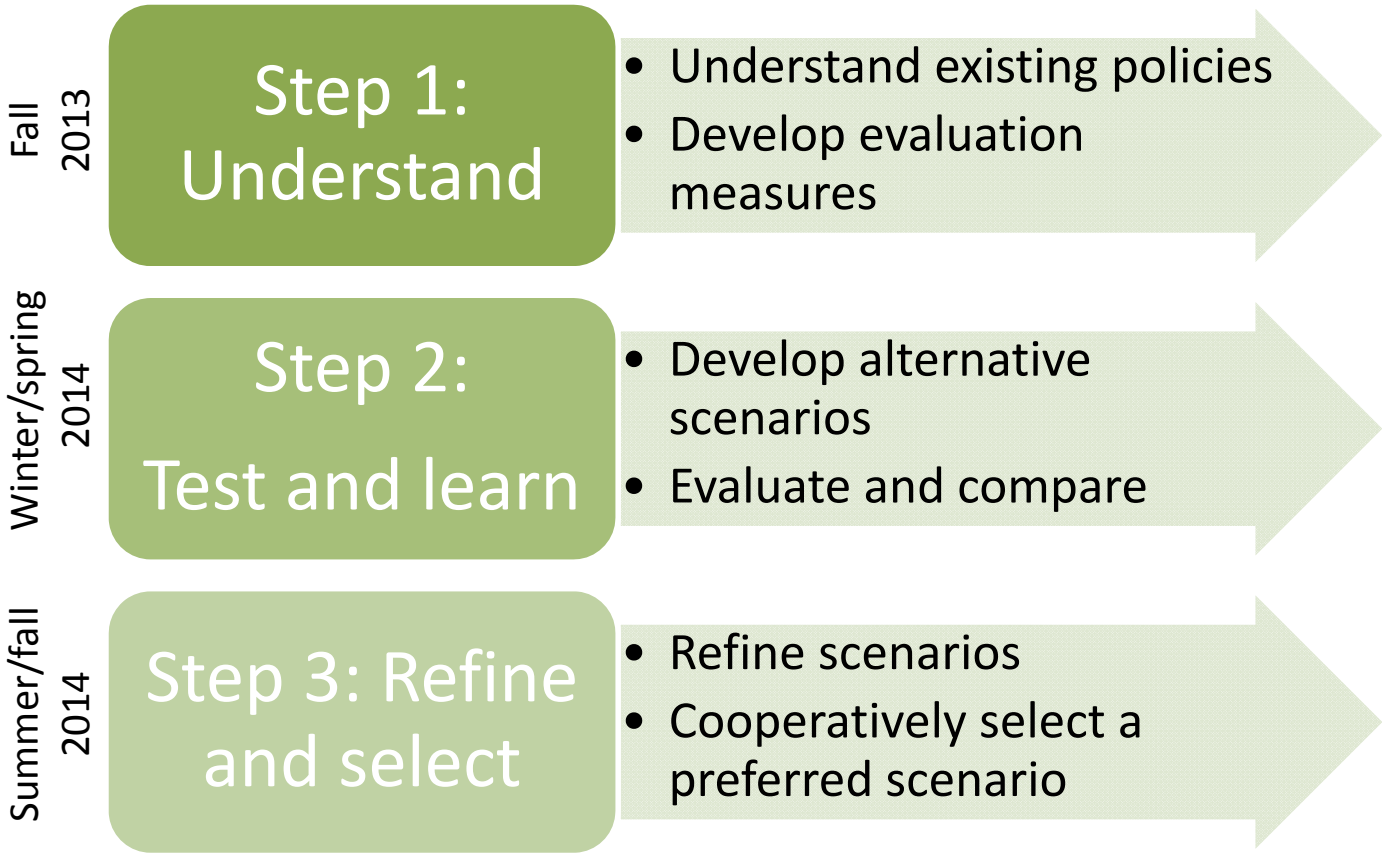
Light Vehicle Reduction Targets (compared to 2005 levels)

Metropolitan area	Adopted 2035 target
Portland Metro	20%
Salem-Keizer	17%
Corvallis	21%
Eugene-Springfield	20%
Bend	18%
Rogue Valley	19%

What are we looking for?

- Scenarios that:
  - Reduce greenhouse gas emissions
  - Improve public health
  - Improve social equity
  - Improve economic development and vitality
- Looking out to 2035

What is the process?



What is a scenario?

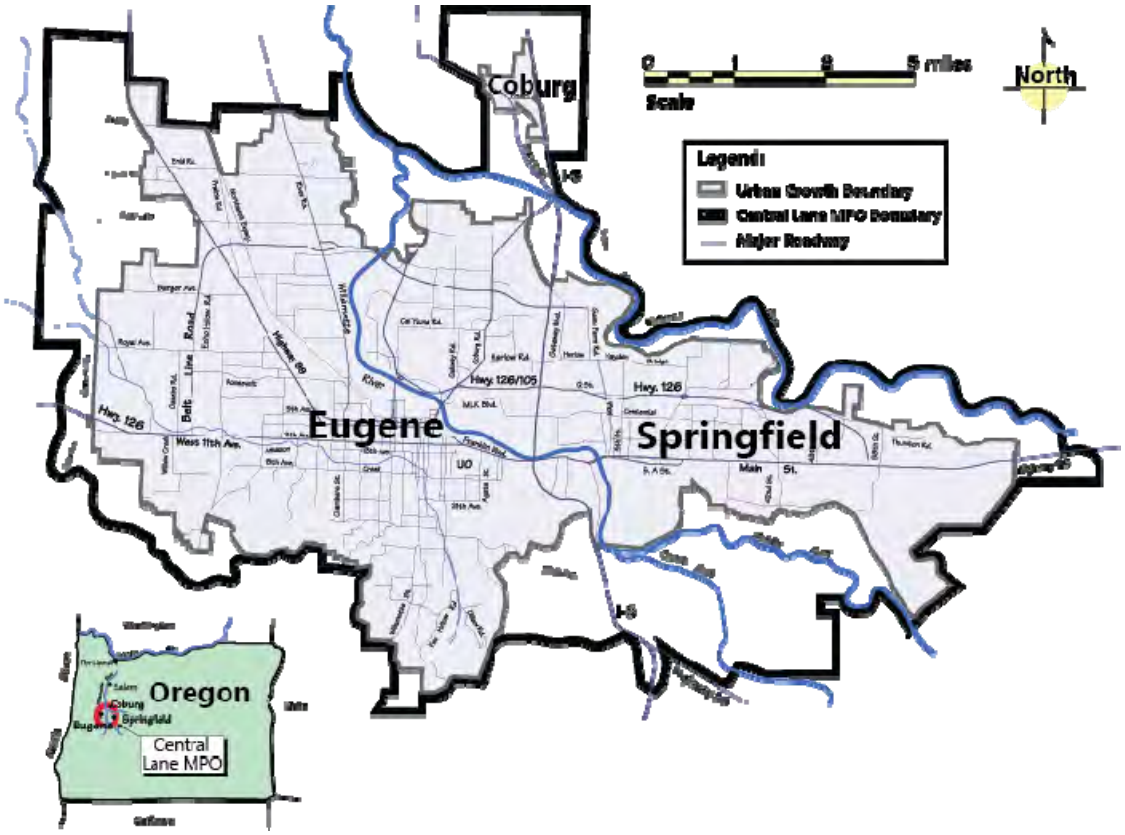
Strategy ideas (examples only)
Increase eco-driving
Build more bike lanes
Increase employer demand management programs
Increase fuel efficiency of cars on the road
Support more nodal development
Increase transit service
Make pay-as you-drive insurance available

Example scenarios:

- Big investment, increasing eco – driving
- Medium investment in bike infrastructure
- Small investment in transit service
- Increase gas taxes
- Increase spending on travel demand management strategies
- Can focus on one are (e.e., transit) and make no change in other areas over reference scenario

What does 2035 look like?

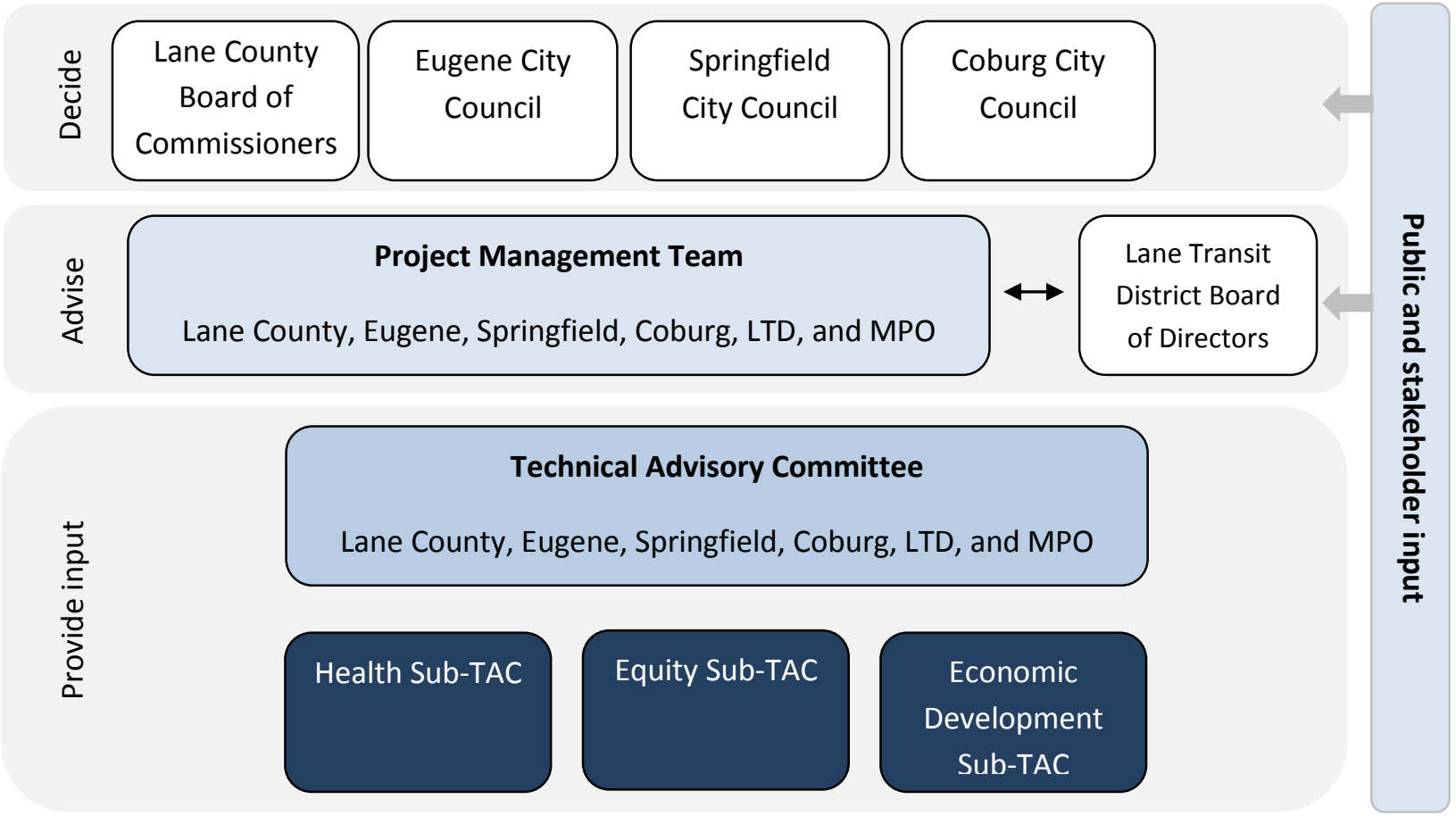
- Current/ emerging plans as starting assumptions
- More than 70,000 new people in the region
- Existing polices are implemented over time



Choosing a preferred scenario

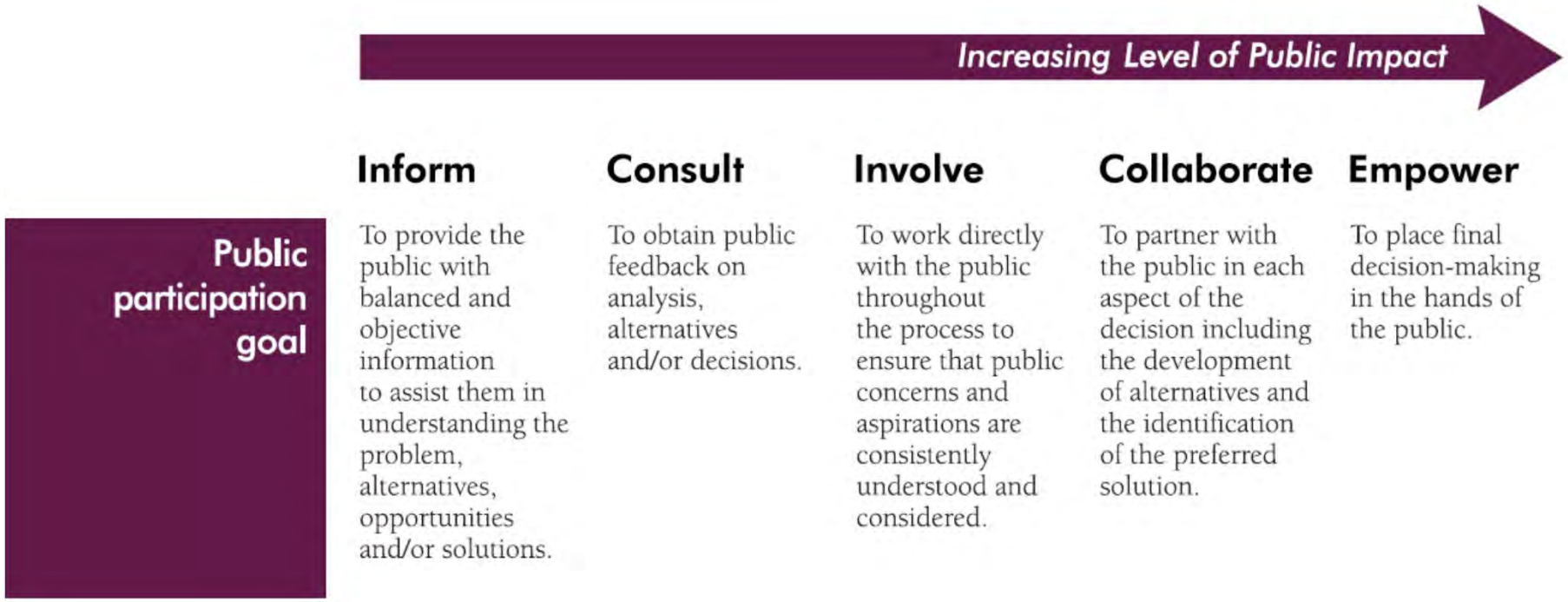
- Compare a variety of alternative scenarios
- Refine scenarios that best meet local needs
- Select a preferred scenario
- Define local implementation actions

Cooperative selection process



Discussion

Levels of public participation



Source: IAP2

Central Lane Scenario Planning

December 2013

Examining choices for how we grow

Over the past three decades, central Lane County has made important choices about how to grow. This thoughtful approach to managing growth has resulted in vibrant, livable communities that offer choices about where and how we live. Over the next twenty years, our communities are likely to welcome more than 70,000 new residents. Plans like those currently being developed in the region – Envision Eugene, Springfield 2030 and Coburg Crossroads – establish a local vision for how our communities will accommodate new residents and jobs.

What is "Scenario Planning"?

Scenario planning is a process for considering a range of plausible futures, allowing for examination of how different transportation choices would affect the region in terms of land use, equity, public health, and other factors.

Scenario planning – a process for considering a range of plausible futures – allows us to examine how different choices would affect our region. This means that we can compare what happens to our region if we grow as planned to what happens if we change our plans. Scenario planning also lets us compare these various futures based on a wide range of community goals, from how much each of us will drive, walk, bike and take transit, to how clean our air will be, to how much our households will spend on housing and transportation.

In 2009, the Oregon Legislature passed the Jobs and Transportation Act (House Bill 2001). The Jobs and Transportation Act requires the local governments in central Lane County to conduct scenario planning and cooperatively select a preferred scenario that accommodates planned population and employment growth while achieving a reduction in greenhouse gas emissions from passenger vehicles. To comply with this legislative requirement, Lane County, the cities of Eugene, Springfield and Coburg, the Lane Transit District, and the Central Lane Metropolitan Planning Organization have begun the scenario planning process. The selected scenario will not bind our local governments or change existing plans or policy direction, but, through this process, we may learn important lessons that inform future land use and transportation planning.

Scenario planning process

The process is divided into three major steps. The first step is focused on understanding what would happen if existing plans and policy directions are implemented over the next 20 years. The second step is focused on developing and comparing different futures (alternative scenarios). The third step will

Photos courtesy Don Hankins

focus on refining the scenarios that best meet local goals and working toward cooperatively selecting a preferred scenario. While the greenhouse gas reduction goal set by the state must be considered during the process, the selected scenario is not required to meet the goal. Additionally, each jursidiction can choose those actions that are most appropriate for their communities and that best match local plans and policies. The local governments of central Lane County will report back to the legislature in 2015 about what they learned from the process.

A basis for comparison

Before we begin developing alternative scenarios, we need to first understand how well our current plans and policy directions meet local goals. To accomplish this, we are considering how central Lane County will look in 2035 if existing plans are put into place. Though Eugene and Springfield are in the process of creating new land use and transportation plans (Envision Eugene and Springfield 2030), we used the draft results from both, in addition to results of Coburg Crossroads, as our best guess of existing plans and policies.

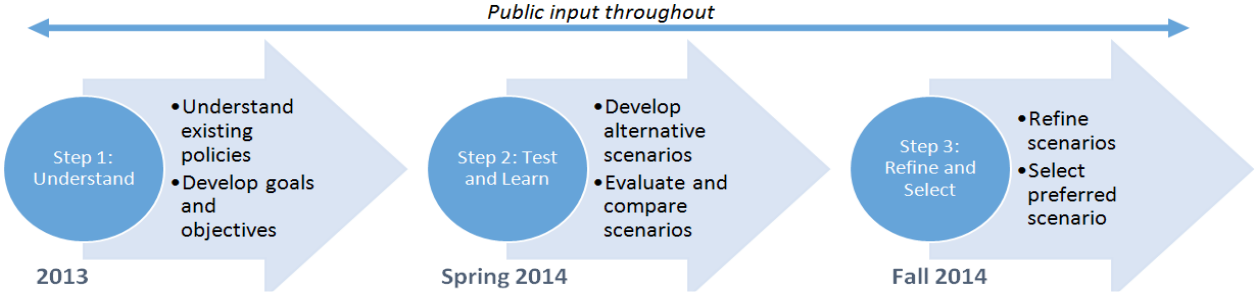


Figure 1. Scenario planning process

Since the Envision Eugene and Springfield 2030 plans are still works in progress, the technical team will make assumptions about pieces of these plans that are not yet completed. Because scenario planning is an exercise to consider alternate futures, this approach provides the best comparison for future policy changes. The details still being worked out in Envision Eugene and Springfield 2030 will likely not affect the themes that emerge from the scenario planning process.

Get involved

Watch our website (www.CLscenarioplanning.org) for information about public workshops and other ways to participate. If you would like to receive updates about the scenario planning process, send an email to **questions@CLscenarioplanning.org** and we will add you to our mailing list.

The Central Lane Scenario Planning project is funded by the Oregon Jobs & Transportation Act of 2009 and a grant from the federal Department of Housing and Urban Development (HUD)

Visit www.CLscenarioplanning.org for more information