Environmental Scorecard Workshop Report

A Summary of the Climate Smart Communities Scenarios Project Workshop of July 17, 2012

November 2012
About Metro

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy, and sustainable transportation and living choices for people and businesses in the region. Voters have asked Metro to help with the challenges and opportunities that affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to providing services, operating venues and making decisions about how the region grows. Metro works with communities to support a resilient economy, keep nature close by and respond to a changing climate. Together we’re making a great place, now and for generations to come.

Stay in touch with news, stories and things to do.

www.oregonmetro.gov/connect

Metro Council President
Tom Hughes

Metro Councilors
Shirley Craddick, District 1
Carlotta Collette, District 2
Carl Hosticka, District 3
Kathryn Harrington, District 4
Rex Burkholder, District 5
Barbara Roberts, District 6

Auditor
Suzanne Flynn

Metro collaborated with 1000 Friends of Oregon and the Oregon Environmental Council in planning and executing the Environmental Scorecard Workshop. The opinions, findings and conclusions expressed in this report are not necessarily those of our partner organizations.

The preparation of this report was partially financed by the Oregon Department of Transportation and U.S. Department of Transportation. The contents of this report do not necessarily reflect the views or policies of the State of Oregon or U.S. Department of Transportation.
TABLE OF CONTENTS

Executive Summary .................................................................................................................. 2
Workshop Narrative .................................................................................................................. 4
Appendix A: Workshop attendance ....................................................................................... 13
Appendix B: Workshop presentations ..................................................................................... 15
Appendix C: Workshop materials .......................................................................................... 34
Appendix D: Small group discussion charts .......................................................................... 49
Appendix E: Workshop feedback ............................................................................................ 59
CLIMATE SMART COMMUNITIES SCENARIOS PROJECT

Executive summary

Introduction

This report summarizes what happened at the Environmental Scorecard Workshop held in the Metro Council Chamber from 8:30 a.m. to noon on Tuesday, July 17, 2012. The workshop was part of the 2012 communications and outreach strategy for the Climate Smart Communities Scenarios Project.

Background

At the time of the environmental scorecard workshop, the scenarios project was nearing completion of engagement with local elected officials to achieve understanding of Phase 1 findings and was making progress into the next period of engagement. During this new period, outreach would involve more detailed communications and more in-depth methods of communicating to strengthen connections with communities and build relationships with key community members. Extending beyond elected officials and local planning staff, this phase mainly targeted leaders of the business, environmental, and equity and environmental justice communities. Workshops with these community leaders were among several activities planned to achieve the communication goals.

For the environmental workshop, Metro partnered with 1000 Friends of Oregon and the Oregon Environmental Council. Partners encouraged their contacts to attend and advised on the workshop agenda and activities. Many workshop attendees were unfamiliar with the Scenarios Project prior to the workshop; others had attended the April 2011 Climate Leadership Summit where summit participants explored ways the Portland area could build vibrant neighborhoods and spread economic growth while reducing emissions that are linked to climate change.

The workshop was intended to inform and engage community leaders and foster collaboration, mutual learning and relationship building between the planning staff and the environmental community. Participants were invited to discuss how to measure the benefits and impacts of land use and transportation policy actions in environmental terms. Pre-workshop materials explained that planning staff would use the input gathered at the workshop to develop a scorecard that could measure how well various combinations of land use and transportation strategies could help maintain clean air and water, among other environmental goals, while also meeting goals for carbon emissions reduction.

Overview of workshop format

The workshop followed a format of short, engaging presentations by invited guests and project leaders combined with open discussion and question/answer periods involving all 26 attendees, and also small group discussion. The meeting flowed as follows:
• **Welcome and introduction** – Councilor Rex Burkholder welcomed participants and thanked them for their attendance.

• **Workshop description and expectations** – Jeanne Lawson, facilitator of JLA Associates, reviewed the workshop purpose, goals, and tools to be used.

• **Metro staff overview of the CSC Scenarios Project** – Kim Ellis, Metro's project manager for the scenarios effort, summarized activity to date.

• **Examples of environmental indicators** – Mike Hoglund of Metro, Mary Kyle McCurdy of 1000 Friends of Oregon, Chris Hagerbaumer of the Oregon Environmental Council, and Angus Duncan of the Oregon Global Warming Commission each spoke. They commented briefly on the relevance of the Greater Portland Pulse indicators to their organizations and, in some cases, offered other starting points.

• **Open discussion of presentations** – Jeanne Lawson facilitated discussion.

• **Discussion of proposed of outcomes** – A facilitated discussion where messages emerging from attendees regarding the outcomes were noted; Kim Ellis provided further information and clarification on the outcomes.

• **Break**

• **Small group discussion** – Participants organized themselves into three groups focused on (1) Community design and Roads, (2) Marketing and incentives and Pricing, and (3) Fleet and Technology for a facilitated exercise in connecting strategies to outcomes.

• **Group reports** – One member of each group presented a summary of the small group's discussion to the full gathering.

• **Prioritization** – Each attendee completed a prioritization sheet indicating his/her top three priority outcomes.

• **Thank you and next steps** – Kim Ellis thanked participants and explained how the material would be used going forward. Councilor Rex Burkholder closed the meeting, encouraging attendees to stay in touch on the project.

This document provides a description of what happened and what project members heard during each stage of the workshop. The report is followed by five appendices:

• Appendix A: Workshop attendance

• Appendix B: Workshop presentations

• Appendix C: Workshop materials

• Appendix D: Small group discussion charts

• Appendix E: Workshop feedback
Workshop narrative

Welcome and introduction

Council Rex Burkholder welcomed participants to the meeting and thanked them for their participation. He provided a brief background of the Climate Smart Communities (CSC) Scenarios Project. Councilor Rex Burkholder noted that the goal of today’s meeting is to create an evaluation tool to measure the success of scenarios from an environmental perspective. He then introduced facilitator Jeanne Lawson and Metro staff on the project, and participants introduced themselves.

Workshop description and expectations

Jeanne Lawson explained the workshop and expectations and reviewed the agenda. She noted that Metro is hosting workshops on public health, the environment, equity and environmental justice, and business. The input gathered at these workshops will be used to develop scorecards to measure scenarios. In an effort to build on work and research that has already been done on environmental indicators and outcomes, Metro has decided to begin with the Greater Portland Pulse environmental outcomes as a starting point for the environmental scorecard.

Overview of CSC Scenarios Project

Kim Ellis of Metro provided an overview of the CSC Scenarios Project. She made the following main points:

- **Project Timeline:** The CSC Scenarios Project has three phases in 2011-2014. In Phase 1, Metro looked at 144 combinations of land use and transportation strategies, called “scenarios.” These included a wide array of vehicle and fuel technologies, community design, roads, pricing, and marketing/incentives. Phase 1 also produced a list of the most effective greenhouse gas (GHG) emission reduction strategies, which include cleaner fuels, more efficient vehicles, more transit with bike and pedestrian access, and efficient pricing. Currently, the project is in Phase 2, which is focused on shaping and narrowing down to a few scenarios for further testing. It also involves creating a scorecard to evaluate in 2013 how well the scenarios perform in environment, equity/environmental justice, and business terms. In Phase 3, two or three scenarios will be evaluated in greater detail.

- **What is a scenario?** A scenario is a combination of land use and transportation strategies and levels of effort that describes a possible future condition. Scenarios help inform and compare different ways to meet climate change objectives and other community goals. The CSC Scenarios Project builds on the region’s six desired outcomes adopted by the Metro Council in 2010. It also builds on the 2040 Growth Concept and integrates local planning efforts and aspirations. Scenarios are created using adopted community plans and visions, statewide policies, and other strategies tested in Phase 1.
• Target: The target for the CSC Scenarios Project is to reduce light vehicle roadway emissions to 1.2 metric tons of greenhouse gas emissions per capita by 2035. Implementation of local plans already on the books is forecast to reduce emissions to just above 1.2 metric tons, but the CSC Scenarios Project aims to help the region fully achieve the target.

• Scorecard: The purpose of today’s workshop is to help develop an environmental scorecard to measure the scenarios and allow comparison among scenarios to see how well they support environmental goals. Kim Ellis presented examples of scorecards used in other regions.

• Next Steps: In the coming months, Metro will host an Equity/Environmental Justice Scorecard Workshop, business focus groups, and an Opt In survey. There will also be a summit later to bring all of these interest groups together.

Examples of environmental indicators

Four environmental experts presented perspectives on the most important outcomes to include as part of the scorecard.

Mike Hoglund, Metro

Mike Hoglund provided a background on the Greater Portland Pulse project. The pulse focused on finding ways to measure a variety of factors that go in to creating a great community. It went through a systematic process to develop indicators with the help of a national expert and an advisory team. The pulse identified nine categories, and used indicator teams to develop outcomes for each category. The environment indicator team developed seven outcomes and drivers for each. From those drivers, the team came up with indicators representing what needs to be measured in order to monitor progress toward the desired outcomes. The pulse’s seven environmental outcomes are the starting point for today’s conversation.

Mary Kyle McCurdy, 1000 Friends of Oregon

Mary Kyle McCurdy explained that 1000 Friends of Oregon is focused on the built environment and protection of farms and forests. The organization will be looking at outcomes and indicators that best achieve those objectives, as well as climate change reduction. 1000 Friends of Oregon was involved with the legislation that led to Metro’s scenario planning, and is also involved with the Coalition for a Livable Future’s Equity Atlas, which looks at regional indicators for equity. 1000 Friends of Oregon seeks environmental outcomes that link economic, equity and environmental issues. For example, a robust sidewalk and bikeway network has multiple benefits in all three areas, and also reduces GHG emissions, improves air and water quality, improves public health, helps people save money, and connects people to where they need to go.

Chris Hagerbaumer, Oregon Environmental Council

Chris Hagerbaumer explained that the Oregon Environmental Council’s goals include climate protection, clean and plentiful water, toxic-free environments, sustainable economy, and equity. Chris also described the Mosaic Least Cost Planning (LCP) tool currently being developed by the Oregon Department of Transportation (ODOT). House Bill 2001 directs ODOT to develop an LCP
tool for transportation, which takes into account the social, economic and financial costs and benefits of transportation investments. The LCP tool will quantify data that has not traditionally been quantified and integrate qualitative data to come up with optimal solutions. Through Mosaic, ODOT has developed a set of indicators that includes equity and environment categories, and has identified what kind of data should be used to measure these. 

Angus Duncan, Oregon Global Warming Commission

Angus Duncan explained that climate change planning is important, but must be implemented well. Metro, ODOT, and various cities, counties, and communities around Oregon are doing climate change planning. It is important that all of these processes link together and reinforce each other, rather than starting from zero every time. Scarce resources should not be spent on short-term, isolated climate change projects. It is important to integrate projects, and to set up a scientific evaluation process to measure and evaluate whether Oregon is hitting benchmarks or not. Benchmarks must have a long life and look beyond the current economic situation. Benchmarks must also be broken down into measurable parts. The benchmarks developed by the Governor’s 10-year Energy Strategy last fall are a good example; they include three kinds of outcomes: direct outcomes; indirect outcomes such as economic development; and unwelcome collateral outcomes to avoid, such as disproportionate effect on different communities.

Open discussion on presentations

Participants had an open discussion on the environmental outcomes, noting which outcomes they felt were most important and adding any missing outcomes. They made the following points and comments:

- The planning timeframe is important. The process should include both short and long term goals. There are also some choices that may help meet the near-term goals, but which would prevent meeting long-term goals. It will be important to be able to measure the short-term impact of strategies.

- Beginning with the Mosaic and Greater Portland Pulse outcomes is a good starting point.

- It is appropriate to include Equity and Environmental Justice as part of the Environmental Scorecard, even though there will be a separate Equity and Environmental Justice Scorecard. However, the goal should be to not create brownfields in the first place—thus the indicator should evaluate whether there is a “reduction of” rather than just “proximity to.”

- Participants discussed where “levels of transit service” should fit in to the outcomes. Levels of transit service could be embedded in all of the outcomes. Increased transit service can be both a strategy and an outcome. Increased transit service is a strategy in that it is a means of getting to environment and equity goals. It is also an outcome.

More information on MOSAIC can be found on ODOT’s website at http://www.oregon.gov/ODOT/TD/TP/pages/lcp.aspx
in that other strategies (such as denser cities) lead to increased transit service. “Access to Transit” could be added as an outcome.

- Participants discussed the role of the economy in the outcomes. The ability to pay for transit service, sidewalks, bicycle facilities, etc. will be very important; thus the economy is an underlying driver that we need to keep in mind. Also, there may be some outcomes that are not cost-effective to measure or are too difficult to measure.

- Participants recommended the addition of an outcome on Water Supply and Quantity, which goes beyond just clean water.

- Participants discussed whether or not GHG Emissions/Climate Change should be added as its own outcome. Some noted that reduction of GHG emissions is a means to get to some other outcome like clean air, but reduction of GHG emissions is not itself an outcome sought. GHG emissions are also different from clean air. Clean air is about good air days, not GHG emissions. Some noted that including GHG emissions as an outcome seems to be circular.

- One participant suggested adding smart buildings to the strategies or outcomes. Metro staff responded that the focus of the CSC Scenarios Project is to focus on roadways and GHG emissions only. While smart buildings are important, they are not part of this scope.

- The process should indicate what the growth rate assumption is. A growth rate assumption of two percent may be too ambitious.

**Small group discussion – “pathways” exercise**

Participants broke out into three groups to identify “pathways” between strategies and outcomes. The three groups focused on: 1) Community design and roads, 2) Marketing and incentives and pricing, and 3) Fleet and technology. Nuin-Tara provided an explanation of the pathways exercise, using a similar exercise done as part of the Health Impact Assessment (HIA) workshop as an example. Each small group was facilitated by a staff person and included a technical work group member to help answer questions.

Participants used felt boards to help them arrange links between the identified strategies and outcomes, identifying both direct impacts and intermediate outcomes. Appendix D includes the charts that show their final pathways arrangements. After working in small groups on the pathways exercise, each group provided a brief presentation on the results.

**Pricing**

The participants who worked on the Pricing pathways commented that the impacts of all pricing strategies depend on how the revenue is used. If revenues are used to support public transit, pedestrian and bicycle infrastructure, there could be a positive impact on nearly all of the outcomes. However, if revenues are used to increase roads and highways, there could be a negative impact. If gas tax revenues and road-use fees are spent on roads, this would result in an increase in driving, which is contrary to the outcomes. Participants also noted that pricing strategies can be a burden on bedroom communities commuting to work, and is an equity concern.

They also discussed the carbon fee in British Columbia is an example of a carbon fee that addresses the equity concern. In British Columbia, the carbon fee goes to reducing other taxes, such as the
One participant suggested adding a strategy to change the Oregon Constitution to broaden the use of the gas tax beyond just road use.

Participants added a new strategy of including a parking lot fee, which could provide revenue for transit. If implemented, the parking lot fee may want to distinguish between pervious and impervious parking lots.

**Marketing and Incentives**

Participants who worked on the Marketing and Incentives pathways commented that there should be more transit-related marketing and incentives. They commented that strategies that lead to decreased car use could lead to less use of natural areas outside of the metro area, if these cannot be easily accessed by transit. Increased statewide transit could lead to more access to nature outside of the metro area. Participants suggested that there should be greater marketing of the urban trail system, so that people know about it and use it, and support expansion of the trail system.

**Fleet and Technology**

Participants who worked on the Fleet and Technology pathways exercise were hopeful that strategies not identified in this category were being addressed in other areas, including: VMT, transit vehicle fleet (newer, less energy consumption, etc.), fewer vehicles on the roads, and including bicycles as part of the fleet. They commented that the Fleet and Technology strategies should consider the age and life cycle of vehicles.

Participants noted that many of the strategies can have negative or positive impacts, depending on how they are implemented and other factors. For example, the impact of less carbon intensive fuels depends on the method of production. Strategies involving changing fuels or changing to more electric vehicles might have a positive impact on reducing GHG emissions locally, but could have a negative impacts at the source of power/fuels production. They asked how the CSC Scenarios Project will capture the whole life cycle of GHG emissions.

Participants suggested that the definition of the Native Species outcome needs to be clarified. They asked if ‘Native Species’ means a healthy ecosystem in general. They noted that there is a tension between “green power” and some of the environmental outcomes; use of “green power” can contribute to species impacts and soil and water impacts in different land areas, such as rural areas.

In general, the group ended up connecting nearly every strategy to every outcome. Most pathways have either positive or negative impacts, depending on how the strategy is implemented. They also rearranged the outcomes, so that Native Species is an outcome of Clean Water and Healthy Soils; and Resiliency is an outcome of Clean Water, Healthy Soils and Native Species. Access to Nature was the only outcome that was not linked to any of the strategies.
Community Design

Participants who worked on the Community Design pathways exercise commented that many of the strategies can have a positive or negative impact on outcomes, depending on how they are implemented. You need to understand the quality of a direct impact in order to understand its pathway to the outcome. For example, increased bike/ped infrastructure and increased transit could have a positive or negative effect on Equity and Environmental Justice, depending on how these strategies are implemented. There needs to be a mediating effort to be intentional about affordability and equity. Similarly, an increase in freeways and arterials can be a good thing for all outcomes depending on how it is designed, located and managed.

Participants noted that the strategies, including the mixed use neighborhoods strategies and maintaining a tight UGB, relate to traffic congestion and delay. One participant commented that a dense neighborhood with more people and more buildings does not necessarily mean it is a good and pleasant place to live.

Participants commented that some existing regulations and systems could help meet the outcomes; they just aren’t always followed properly. However, some current regulations and systems are unhelpful. For example, fish mitigation done in a cookie-cutter way can be unhelpful and ineffective.

Participants also suggested that local connectivity could be included as a measure. Local connectivity and access to freeways, bike paths, etc. is important.

Prioritization exercise

Participants were asked to fill out a worksheet to prioritize the environmental outcomes.

*How important is it to evaluate each of the outcomes?*

The worksheet asked participants to indicate how important it is to evaluate or measure each of the environmental outcomes as part of the Environmental Scorecard on a scale of 1 to 5. Participants indicated that it will be very important to evaluate Clean Air, Environmental Justice and Equity, Healthy Soils, and Clean Water. It will be important to measure Resiliency, Access to Nature, Water Supply and Quantity, and Native Species.

The following chart indicates how participants rated each outcome:
<table>
<thead>
<tr>
<th>Indicator</th>
<th>1 (Not Important)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 (Very Important)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Access to Parks and Nature</td>
<td>●</td>
<td>●●●●●</td>
<td>●●●●●</td>
<td>●</td>
<td>●●●●●●●●</td>
</tr>
<tr>
<td>B. Healthy Soils</td>
<td>●●●●●●●●</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Clean Water</td>
<td>●●●●●●</td>
<td>●●●●●●</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Environmental Justice and Equity</td>
<td></td>
<td>●●●●●●</td>
<td>●●●●●●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. Native Species</td>
<td>●●●●●●●●</td>
<td>●●●●●●</td>
<td>●●●●●●</td>
<td></td>
<td>●●●●●</td>
</tr>
<tr>
<td>F. Resiliency</td>
<td>●●●●●●●●</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. Clean Air</td>
<td></td>
<td>●●●●●●</td>
<td>●●●●●●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H. Water Supply/Quantity</td>
<td>●●●●●●●●</td>
<td>●●●●●●</td>
<td>●●●●●●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. GHG/Climate Change</td>
<td>●●●●●●●●</td>
<td>●●●●●●</td>
<td>●●●●●●</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Most important outcomes to evaluate**

The worksheet then asked participants to indicate the top three *most important* outcomes to evaluate or measure as part of the Environmental Scorecard. Participants gave the highest priority to Clean Air, Environmental Justice and Equity, Clean Water, and Healthy Soils.
### Indicator Prioritization

<table>
<thead>
<tr>
<th>Indicator</th>
<th>#1 Priority</th>
<th>#2 Priority</th>
<th>#3 Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Access to Parks and Nature</td>
<td></td>
<td></td>
<td>● ● ●</td>
</tr>
<tr>
<td>B. Healthy Soils</td>
<td>●</td>
<td>● ● ● ● ○</td>
<td>● ● ●</td>
</tr>
<tr>
<td>C. Clean Water</td>
<td>● ● ●</td>
<td>● ● ● ● ○</td>
<td>●</td>
</tr>
<tr>
<td>D. Environmental Justice and Equity</td>
<td>● ● ● ● ○</td>
<td>●</td>
<td>● ● ●</td>
</tr>
<tr>
<td>E. Native Species</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F. Resiliency</td>
<td>● ● ●</td>
<td></td>
<td>● ● ● ● ○</td>
</tr>
<tr>
<td>G. Clean Air</td>
<td>● ● ● ● ○</td>
<td>● ● ● ● ○</td>
<td>●</td>
</tr>
<tr>
<td>H. Water Supply/Quantity</td>
<td>● ● ●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>I. GHG/Climate Change</td>
<td>● ● ●</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Comments on Prioritization Exercise

Some participants provided additional comments on prioritization of outcomes.

For the Environmental Justice and Equity outcome, one person indicated that this is not an environmental outcome in the same way as the others. Another person noted that this outcome captures air, water, and soil in relation to people.

One person noted that the Resiliency outcome represents multiple outcomes. The indicator chosen to measure resiliency is linked to it and to water quality and healthy soils.

For the Water Supply/Quantity outcome, one person commented that this should be captured in the Clean Water outcome, and not added as its own outcome. One person suggested that the Benthic Index gets at aquifer health.

For the GHG/Climate Change outcome, a couple of people noted that this should not be added as an outcome because it is captured across the other outcomes. GHG reduction is a means to an end to achieve the other outcomes, but may not be an outcome itself. One person commented that some environmental factors will be reduced outside of the UGB with these measures in order to achieve reduced roadway GHG emissions in the Metro region.

One person commented that, from the local government perspective, especially at the elected level, the direct outcomes will be most important, such as congestion, delay, gas tax revenue, and costs.

A couple of people made comments on the prioritization exercise itself. One person commented that the focus should not be on measuring outcomes, but on measuring indicators that represent the outcome. The outcome itself is often hinged on a value or set of shared interests; people may
have different individual preferences, but all of them are important. Another person commented that, if the project seeks to track progress and anchor strategies to each, then measures are important.

**Thank you and wrap up**

Kim Ellis thanked everyone for their attendance and participation. She explained that the ideas from this workshop will be shared with all workshop participants and Metro’s advisory committees. She added that Metro will organize a summit in the coming months to combine all of these interest areas, and all participants will be invited to attend.

Councilor Rex Burkholder closed the meeting and encouraged all participants to continue working with Metro in this process. He thanked 1000 Friends of Oregon and the Oregon Environmental Council for their partnership and participation.
Appendix A: Workshop attendance

Ben Bryant        City of Tualatin
Jim Desmond       Metro
Chris Hagerbaumer Oregon Environmental Council
Tia Henderson     Upstream Public Health
Eric Hesse        TriMet
Sarah Higginbotham Environment Oregon
Jim Howell        Association of Oregon Rail and Transit Advocates
Stacy Humphrey    City of Gresham
Chips Janger      Clackamas County Urban Green
Evan Manvel       Willamette Pedestrian Coalition
Susan Peithman    Bicycle Transportation Alliance
Sean Penrith      Earth Advantage Institute
Bruce Roll        Clean Water Services
Dan Rutzick       City of Hillsboro
Tyler Ryerson     City of Beaverton
Jennifer Snyder   Clackamas County
Lainie Smith      ODOT
Jeffrey Stocum    Oregon Department of Environmental Quality
Tara Sulzen       1000 Friends of Oregon
Mike Wetter       The Intertwine
<table>
<thead>
<tr>
<th>Metro Staff</th>
<th>Facilitation Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Janna Allgood</td>
<td>Sylvia Ciborowski</td>
</tr>
<tr>
<td>Kim Ellis</td>
<td>Jeanne Lawson</td>
</tr>
<tr>
<td>Mike Hoglund</td>
<td></td>
</tr>
<tr>
<td>Nuin-Tara Key</td>
<td></td>
</tr>
<tr>
<td>Dylan Rivera</td>
<td></td>
</tr>
<tr>
<td>Patty Unfred</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX B: WORKSHOP PRESENTATIONS
Climate Smart Communities
Scenarios Project

Environmental Scorecard Workshop

Kim Ellis, project manager

July 17, 2012
Climate Smart Communities

Timeline

2011
Phase 1

Understanding choices

Jan 2012
Accept findings

2012
Phase 2

Shaping choices

Dec. 2012
Direction on alternative scenarios to test

2013 – 14
Phase 3

Testing choices & creating preferred scenario

Dec. 2013
Direction on preferred scenario

Dec. 2014
Select preferred scenario; begin implementation

We are here.
Climate Smart Communities

Building toward six desired outcomes

- Vibrant communities
- Equity
- Economic prosperity
- Transportation choices
- Clean air & water
- Climate leadership
Climate Smart Communities

Unique local approaches to implement regional growth strategy
Climate Smart Communities

Building on community aspirations
Climate Smart Communities

Phase 1 strategies tested

Vehicle and Fuel Technologies
- More fuel-efficient and lower emissions vehicles
- Cleaner fuels

Community Design and Roads
- Compact, mixed-use development
- Limited urban growth boundary expansion
- Transportation system operations optimization (e.g., ITS, incident management, traffic signal timing)
- Investments to shift more local trips to low or zero-emission modes (e.g., transit, bicycling, walking)
- Road expansion
- Managing supply and cost of parking

Pricing and Marketing/Incentives
- Ecodriving, carsharing, household marketing and commuter programs
- Market signals to promote and support desired travel behavior (pricing, pay-as-you drive insurance)
Climate Smart Communities – Phase 1 Findings

Current plans plus cleaner fuels and vehicles get us close

2035 GHG target for region
per capita light vehicle roadway GHG emissions reduction below 2005 levels
Climate Smart Communities – Phase 1 Findings

Most effective GHG emissions reduction strategies

- Cleaner fuels and more efficient vehicles
- More fuel-efficient and zero emissions travel
- More transit with supportive land use and bike and pedestrian access
- Efficient pricing: use of market signals to promote and support desired travel behavior
Climate Smart Communities

Phase 2 Purpose

• Define 2-3 scenario options to evaluate in detail
• Create a scorecard to evaluate options

Shape local and regional choices, not choose a preferred alternative
Climate Smart Communities – Phase 2

What is a scenario?

• Shows a possible future
• Combines a variety of strategies and actions
• Compares choices and consequences
• Informs strategies to optimize outcomes
• Allows you to discover new strategies

from www.PlaniTulsa.org
Framing the scenarios

the ingredients

- Adopted community plans and visions serve as the foundation
- Statewide Transportation Strategy complements adopted plans
- Other strategies tested in Phase 1
Climate Smart Communities – Phase 2

Creating a scorecard

Community and business leaders provide input on what outcomes are most important to evaluate and compare scenarios

Outcomes-based Evaluation Framework

MPAC, JPACT and the Metro Council endorsed the evaluation framework in Phase 1 (June 2011)
Climate Smart Communities – Creating the scorecard

What is a scorecard?
Priority outcomes/results to communicate tradeoffs

from www.PlaniTulsa.org
Climate Smart Communities – Creating the scorecard

Bay Area example

![TARGETS SCORECARD](image)

Scenarios were assessed to determine their impacts on the Bay Area. This table shows how each scenario performs with regard to the adopted Plan Bay Area performance targets.

from www.onebayarea.org
Climate Smart Communities – Creating the scorecard

California example

from www.visioncalifornia.org
Climate Smart Communities – Creating the scorecard

Measuring what matters

Outcomes
*What are the most important results or outcomes to measure for the region?*

Strategy Pathways
*How do different strategies affect the achievement of those outcomes, positively or negatively?*

Indicators
*What is the best way to measure progress toward the outcomes when comparing the scenarios?*
Climate Smart Communities – Creating the Scorecard

Scorecard next steps

Conduct equity/environmental justice workshop
July 31

Conduct business focus groups
August

Report results of workshops and focus groups
September

Gather input with Opt In survey on scorecard and scenarios
Mid-fall

Convene summit
Late-fall
Learn more about Climate Smart Communities Scenarios

Visit www.oregonmetro.gov/climatescenarios

Sign-up for updates at climatescenarios@oregonmetro.gov
Meeting: Environmental Scorecard Workshop  
Climate Smart Communities Scenarios Project

Hosted by Metro in partnership with  
1000 Friends of Oregon and Oregon Environmental Council

Date: Tuesday, July 17, 2012  
Time: 8:30 a.m. to noon (light breakfast available 8 a.m.)  
Place: Council Chamber, Metro Regional Center, 600 NE Grand Ave., Portland 97232  
Purpose: To prioritize measurable outcomes to be later used in the development of a scorecard for measuring the success of scenarios identified in the Climate Smart Communities (CSC) Scenarios Project.  
Goals: To inform and engage environmental leaders in the CSC Scenarios Project.  
To foster collaboration, mutual learning, and relationship building between CSC Scenario Project planners, technical work group members, and regional environmental leaders.

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter/Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 to 8:35 a.m.</td>
<td>Welcome and introduction</td>
<td>Metro Councilor Rex Burkholder</td>
</tr>
<tr>
<td>8:35 to 8:55 a.m.</td>
<td>Metro staff overview of the CSC Scenarios Project</td>
<td>Kim Ellis, Metro staff</td>
</tr>
<tr>
<td>8:55 to 9:00 a.m.</td>
<td>Workshop description and expectations</td>
<td>Jeanne Lawson, facilitator</td>
</tr>
</tbody>
</table>
| 9:00 to 9:30 a.m. | Examples of environmental indicators                    | 1. Mike Hoglund, Metro, Greater Portland Pulse  
2. Chris Hagerbaumer, Oregon Environmental Council  
3. Mary Kyle McCurdy, 1000 Friends of Oregon  
4. Angus Duncan, Oregon Global Warming Commission |
<p>| 9:30 to 10:00 a.m. | Open discussion of presentations: Areas of overlap? Common interests? | Facilitated discussion |
| 10:00 to 10:10 a.m. | Break                                                   |                           |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
</table>
| 10:10 to 11:15 a.m. | Small Group Discussions  
*Participants break into three groups to identify “pathways” between strategies and environmental outcomes:*  
1. *Community design and Roads*  
2. *Marketing and incentives and Pricing*  
3. *Fleet and Technology*  
Facilitated discussion  
Nuin-Tara Key, Metro staff |
| 11:15 to 11:30 a.m. | Report out: each team summarizes their results in five minutes  
Facilitated discussion |
| 11:30 to 11:45 a.m. | Prioritization exercise  
Facilitated discussion |
| 11:45 to Noon | Thank you and next steps |

Metro Council Chamber  
600 NE Grand Ave., Portland, OR 97232  
503-797-1400.  
**Get here by transit:** TriMet bus #6. MAX light rail Northeast Seventh Avenue stop.  
**By bike:** Covered bicycle parking is available near the main entrance.  
**By car:** Vehicle garage parking is $6 for the day or in metered spaces on street.  

For more information, contact Dylan Rivera, 503-797-1551, dylan.rivera@oregonmetro.gov
Climate Smart Communities Scenarios Project

Background

In 2007, the Oregon Legislature established statewide goals to reduce carbon emissions – calling for an end to increases in emissions by 2010, a 10 percent reduction below 1990 levels by 2020, and a 75 percent reduction below 1990 levels by 2050. The goals apply to all sectors, including energy production, buildings, solid waste and transportation.

In 2009, the Oregon Legislature passed House Bill 2001, directing the region to “develop two or more alternative land use and transportation scenarios” by January 2012 that are designed to reduce carbon emissions from cars, small trucks and SUVs. The legislation also mandates adoption of a preferred scenario after public review and consultation with local governments, and local government implementation through comprehensive plans and land use regulations that are consistent with the adopted regional scenario. The Climate Smart Communities Scenarios Project responds to these mandates and Senate Bill 1059, which provided further direction to scenario planning in the Portland metropolitan area and the other five metropolitan areas in Oregon.

Metro’s Making the Greatest Place initiative resulted in a set of policies and investment decisions adopted in the fall of 2009 and throughout 2010. These policies and investments focused on six desired outcomes for a successful region, endorsed by the Metro Council and Metro Policy Advisory Committee in 2008: vibrant communities, economic prosperity, safe and reliable transportation, environmental leadership, clean air and water, and equity. Making the Greatest Place included the adoption of the 2035 Regional Transportation Plan and the designation of urban and rural reserves. Together these policies and actions provide the foundation for better integrating land use decisions with transportation investments to create prosperous and sustainable communities and to meet state climate goals.

The region’s six desired outcomes – endorsed by city and county elected officials and adopted by the Metro Council in December 2010

State response Oregon Sustainable Transportation Initiative

The Oregon Department of Transportation and the Department of Land Conservation and Development are leading the state response through the Oregon Sustainable Transportation Initiative. An integrated effort to reduce carbon emissions from transportation, the initiative will result in a statewide transportation strategy, toolkits and specific performance targets for the region to achieve.

Regional response Climate Smart Communities Scenarios Project

The Climate Smart Communities Scenarios Project will build on the state-level work and existing plans and efforts underway in the Portland metropolitan area. The project presents an opportunity to learn what will be required to meet the state carbon goals and how well the strategies support the region’s desired outcomes.

A goal of this effort is to further advance implementation of the 2040 Growth Concept, local plans, and the public and private investments needed to create jobs, build great communities, and meet state climate goals. Addressing this multi-faceted challenge will take collaboration, partnerships and focused policy and investment discussions and decisions by elected leaders, stakeholders and the public. Identifying equitable and effective solutions through strategies that create livable, prosperous and healthy communities is essential to the process.

Metro’s policy and technical advisory committees will guide the project, leading to Metro Council adoption of a “preferred” land use and transportation strategy in 2014.
**Phase 1**

**Understanding the choices**

The first phase of regional-level scenario analysis occurred during summer 2011 and focuses on learning what combinations of land use and transportation strategies are necessary to meet the state greenhouse gas emissions targets. Strategies included transportation operational efficiencies that can ensure faster, more dependable business deliveries; more sidewalks and bicycle facilities; more mixed use and public transit-supportive development in centers and corridors; more public transit service; incentives to walk, bike and use public transit; and user-based fees.

Findings and recommendations from the analysis were reported to Metro’s policy committees in fall 2011 before being finalized for submittal to the Legislature in January 2012.

**Phase 2**

**Shaping the direction**

In 2012, the region is designing more customized alternative scenarios that apply the lessons learned from Phase 1. This phase provides an opportunity to incorporate strategies and new policies that reflect community aspirations identified through local and regional planning efforts already underway in the region (e.g., SW Corridor Plan, East Metro Connections Plan, Portland Plan, and other local land use and transportation plan updates). This work will involve leaders from local governments as well as businesses and communities. By the end of 2012, Metro’s policy committees will be asked to provide direction on alternative scenarios to be tested in 2013.

**Phase 3**

**Building the strategy and implementation**

The final project phase during 2013 and 2014 will lead to adoption of a “preferred” land use and transportation strategy. The analysis in this phase will be conducted using the region’s most robust analytic tools and methods – the regional travel demand model, MetroScope and regional emissions model, MOVES. Additional scoping of this phase will occur in 2012 to better align this effort with mandated regional planning and growth management decisions.

This phase will identify needed changes to regional policies and functional plans, and include updates to the Regional Transportation Plan and region’s growth management strategy. Implementation of approved changes to policies, investments, and other actions would begin in 2014 at the regional and local levels to realize the adopted strategy.
From downtown Gresham to Orenco Station to Oregon City, the region is rich with unique places to live where parks, schools and jobs are close by. As a result, we drive 20 percent fewer miles a day than most people in urban areas our size, so we spend less time in traffic and more time with our families and friends.

The things we have done to make this a great place are more important now than ever. The same efforts that helped protect farmland and revitalize downtowns and main streets over the last generation are essential to meeting statewide climate goals for the years ahead. Rising energy prices, a state mandate to reduce pollution and a growing eagerness to live in walkable neighborhoods make it essential for us to create places for people to work, shop and play – without having to drive far away. With federal and local resources lagging, we need to work together to make our visions a reality.

The Climate Smart Communities Scenarios Project will help the region’s cities and counties define their goals for the next 20 years. It will show how those goals might help the region reduce carbon emissions. There are many ways we can reduce pollution, create healthy, more equitable communities and nurture the economy, too. Investing in main street businesses, expanding transit service, encouraging electric cars and providing safer routes for biking and walking can all help.

A one-size-fits-all approach won’t meet the needs of our diverse communities. Instead, a combination of many local approaches, woven together, will create a diverse yet shared vision for how we can keep this a great place for years to come.
COMMUNITY BENEFITS, MANY OPTIONS EMERGE FROM EARLY RESEARCH

Metro staff researched land use and transportation strategies that are used to reduce emissions in communities across the nation and around the world. In December 2011, this work was summarized in a toolbox describing policies for community design, pricing, marketing and incentives, roads, fleet, and technology.

These strategies also provide many community benefits:

- Fewer emissions means less air pollution.
- Investment in main streets and downtowns can boost job growth, save public money and make it easier to get to work and entertainment.
- Safe places to walk can improve public health, increase transit use and lower obesity rates.
- Creating vibrant commercial areas combined with transportation options can increase dollars spent locally while taking cars off the road.

Working closely with cities and counties, Metro tested 144 combinations of strategies, called scenarios. No single strategy was enough to meet the state target, but more than 90 combined scenarios met or surpassed it.

LOCAL INGREDIENTS FOR A REGIONAL VISION

With many options available to the region, the natural next step is to test some potential future ways the region could grow and invest, called scenarios, to see what might work best. In building those alternatives in 2012, Metro will start local, gathering the most recently adopted community plans and visions to serve as the foundation of each scenario. Efforts such as the Beaverton Civic Plan, McLoughlin Area Plan, South Hillsboro Plan, AmberGlen Community Plan, Portland Plan, Gresham Downtown Plan and transportation system plans from across the region are the ingredients that will make up the alternatives we consider going forward. A work group of local planning staff continues to help guide the project.

Since community investment is such a powerful tool for helping grow jobs and protecting our clean air, the region will consider a range of investment levels - low, medium and high – to demonstrate what communities and the region can accomplish on our current path with existing resources and tools, and what could be accomplished with more. Current local plans will comprise the medium option. Each option will consider how we can stretch our dollars for the greatest impact on the things that will make the region a more prosperous, healthy and equitable place for all.

Through a series of case studies, community partner workshops and a regional summit, Metro and local elected officials will decide what should go into the three scenarios. All will be tested in 2013, so cities, counties and community partners can decide which elements of the three should go forward into one scenario for the region to adopt in 2014. As with the 2035 Regional Transportation Plan and the 2040 Growth Concept, the region’s preferred scenario will vary from place to place within the metropolitan area, responding to local goals.

One scenario – many options for local communities.

Encouraging findings from early results

- Current local and regional plans provide a strong foundation for meeting our carbon emissions reduction target.
- The cities and counties in our region are already implementing most of the strategies under consideration to achieve other economic, social or environmental goals.
- If the state achieves its own expectations for vehicle fleet and fuel efficiency characteristics, the local plans and policies already adopted in our region will get us very close to our emissions reduction target.

WHAT’S NEXT?

- Start with common vision
- Shape scenarios to test
- Evaluate scenarios
- Engage public

Driving less, saving money

By driving just four fewer miles a day, the average car owner driving 10,000 miles a year can save $1,126 a year, according to AAA.
COMMUNITY BENEFITS, MANY OPTIONS EMERGE FROM EARLY RESEARCH

Metro staff researched land use and transportation strategies that are used to reduce emissions in communities across the nation and around the world. In December 2011, this work was summarized in a toolbox describing policies for community design, pricing, marketing and incentives, roads, fleet, and technology.

These strategies also provide many community benefits:
- Fewer emissions means less air pollution.
- Investment in main streets and downtowns can boost job growth, save public money and make it easier to get to work and entertainment.
- Safe places to walk can improve public health, increase transit use and lower obesity rates.
- Creating vibrant commercial areas combined with transportation options can increase dollars spent locally while taking cars off the road.
- Working closely with cities and counties, Metro tested 144 combinations of strategies, called scenarios. No single strategy was enough to meet the state target, but more than 90 combined scenarios met or surpassed it.

COMMUNITY DESIGN
Walkable communities, vibrant downtowns, job centers, housing and transportation options, walk and bike-friendly facilities, frequent transit service, urban growth boundary.

PRICING
Gas tax, fees and pay-as-you-drive insurance options.

MARKETING AND INCENTIVES
Education and marketing programs that encourage efficient driving, car sharing and use of travel options.

ROADS
Clearing breakdowns and crashes quickly, adding capacity and using ramp metering, traffic signal coordination and traveler information to help traffic move efficiently.

FLEET
Replacing older cars with more efficient new ones; shifting from light trucks to cars.

TECHNOLOGY
More fuel-efficient vehicles, cleaner fuels, use of hybrid and electric vehicles.

LOCAL INGREDIENTS FOR A REGIONAL VISION

With many options available to the region, the natural next step is to test some potential future ways the region could grow and invest, called scenarios, to see what might work best. In building those alternatives in 2012, Metro will start local, gathering the most recently adopted community plans and visions to serve as the foundation of each scenario. Efforts such as the Beaverton Civic Plan, McLoughlin Area Plan, South Hillsboro Plan, AmberGlen Community Plan, Portland Plan, Gresham Downtown Plan and transportation system plans from across the region are the ingredients that will make up the alternatives we consider going forward. A work group of local planning staff continues to help guide the project.

Since community investment is such a powerful tool for helping grow jobs and protecting our clean air, the region will consider a range of investment levels - low, medium and high – to demonstrate what communities and the region can accomplish on our current path with existing resources and tools, and what could be accomplished with more. Current local plans will comprise the medium option. Each option will consider how we can stretch our dollars for the greatest impact on the things that will make the region a more prosperous, healthy and equitable place for all.

Through a series of case studies, community partner workshops and a regional summit, Metro and local elected officials will decide what should go into the three scenarios. All will be tested in 2013, so cities, counties and community partners can decide which elements of the three should go forward into one scenario for the region to adopt in 2014. As with the 2035 Regional Transportation Plan and the 2040 Growth Concept, the region’s preferred scenario will vary from place to place within the metropolitan area, responding to local goals.

One scenario – many options for local communities.

Encouraging findings from early results:
- Current local and regional plans provide a strong foundation for meeting our carbon emissions reduction target.
- The cities and counties in our region are already implementing most of the strategies under consideration to achieve other economic, social or environmental goals.
- If the state achieves its own expectations for vehicle fleet and fuel efficiency characteristics, the local plans and policies already adopted in our region will get us very close to our emissions reduction target.

WHAT’S NEXT?
- Start with common vision
- Shape scenarios to test
- Evaluate scenarios
- Engage public

Driving less, saving money
By driving just four fewer miles a day, the average car owner driving 10,000 miles a year can save $1,126 a year, according to AAA.
From downtown Gresham to Orenco Station to Oregon City, the region is rich with unique places to live where parks, schools and jobs are close by. As a result, we drive 20 percent fewer miles a day than most people in urban areas our size, so we spend less time in traffic and more time with our families and friends.

The things we have done to make this a great place are more important now than ever. The same efforts that helped protect farmland and revitalize downtowns and main streets over the last generation are essential to meeting statewide climate goals for the years ahead. Rising energy prices, a state mandate to reduce pollution and a growing eagerness to live in walkable neighborhoods make it essential for us to create places for people to work, shop and play – without having to drive far away. With federal and local resources lagging, we need to work together to make our visions a reality.

The Climate Smart Communities Scenarios Project will help the region’s cities and counties define their goals for the next 20 years. It will show how those goals might help the region reduce carbon emissions. There are many ways we can reduce pollution, create healthy, more equitable communities and nurture the economy, too. Investing in main street businesses, expanding transit service, encouraging electric cars and providing safer routes for biking and walking can all help.

A one-size-fits-all approach won’t meet the needs of our diverse communities. Instead, a combination of many local approaches, woven together, will create a diverse yet shared vision for how we can keep this a great place for years to come.

www.oregonmetro.gov/climatescenarios
<table>
<thead>
<tr>
<th>Description</th>
<th>Participants</th>
<th>Time frame</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical work group</strong> – Meets regularly to review and provide input on analysis</td>
<td>City, county, TriMet, state and Metro planning staff, and community representatives</td>
<td>Ongoing throughout project (2011-2014)</td>
</tr>
<tr>
<td><strong>Accept Phase 1 Findings Report</strong></td>
<td>Metro Policy Advisory Committee, Joint Policy Advisory Committee on Transportation, Metro Council</td>
<td>January 2012</td>
</tr>
<tr>
<td><strong>Discuss findings with local leaders</strong> – Presentations at city councils and county boards</td>
<td>Metro councilors and staff, and city and county elected officials</td>
<td>Spring-Summer 2012</td>
</tr>
<tr>
<td><strong>Envision Tomorrow introductory training</strong> – Learn how to use scenario planning software for regional and local applications</td>
<td>Planning staff from Beaverton, Gresham, Hillsboro, Oregon City, Portland, West Linn, Clackamas County, Washington County, Metro and TriMet</td>
<td>June 2012</td>
</tr>
<tr>
<td><strong>Scorecard workshops and focus groups</strong> – Identify evaluation criteria and outcomes to measure in scenario analysis</td>
<td>Leaders representing the public health, equity and environmental justice, environmental and business communities</td>
<td>March, July-August, 2012</td>
</tr>
<tr>
<td>Description</td>
<td>Participants</td>
<td>Time frame</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>---------------------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>Case studies</strong> – Analysis of five different types of community developments to illustrate community visions and the strategies needed to achieve them</td>
<td>Five local communities TBD</td>
<td>Summer 2012</td>
</tr>
<tr>
<td><strong>Community partner work sessions</strong> – Use Envision Tomorrow software to assess and affirm community visions for future development; results will inform scenarios options</td>
<td>Elected officials and planning staff from communities around the region</td>
<td>Summer-Fall 2012</td>
</tr>
<tr>
<td><strong>Southwest Corridor land use vision work sessions</strong> – Use Envision Tomorrow software to assess and affirm community visions for future development; results will inform Southwest Corridor and scenarios projects</td>
<td>Elected officials and planning staff from SW Corridor partners</td>
<td>Summer 2012</td>
</tr>
<tr>
<td><strong>Online engagement</strong> – Opt In survey tool for input on scenario options and how they will be evaluated</td>
<td>General public</td>
<td>Fall 2012</td>
</tr>
<tr>
<td><strong>Summit</strong> – Community leaders showcase local actions that are already reducing emissions and provide input on the three scenarios to test in 2013</td>
<td>JPACT, MPAC, Metro Council, other elected officials and community leaders</td>
<td>Late fall 2012</td>
</tr>
<tr>
<td><strong>Community partner workshops and online engagement</strong> – Discuss findings, benefits and tradeoffs of choices</td>
<td>Public, elected officials and community leaders</td>
<td>2013 and 2014</td>
</tr>
<tr>
<td><strong>MPAC, JPACT, Metro Council</strong> – Direct staff 2011, accept findings January 2012, agree on three scenarios to test December 2012, select a scenario in 2014</td>
<td>MPAC, JPACT, Metro Council</td>
<td>2011-2014</td>
</tr>
</tbody>
</table>

**STAY INFORMED**

[www.oregonmetro.gov/climatescenarios](http://www.oregonmetro.gov/climatescenarios)

For email updates, send a message to climatescenarios@oregonmetro.gov
### Healthy, Natural Environment

<table>
<thead>
<tr>
<th>Desired Outcomes</th>
<th>Proposed Key Indicators</th>
<th>Drivers (policy considerations)</th>
</tr>
</thead>
</table>
| **HEALTHY SOILS.** Maintenance of working lands. Reduction of external food and fiber needs of the region. | **LAND COVER.** Acres of land devoted to natural ecological communities, forest, and farm/agriculture. | • Working land management practices (including welfare of the health and safety management practices of farm and forest workers)  
• Land conversion or preservation of working lands  
• Land use and development practices and patterns  
• Local markets for food, fiber and products  
• Environmental literacy  
• Policies and programs (conservation, preservation, restoration, regulations)  
• Economic viability of urban forest and farms  
• Legacy practices and pollutants (includes environmental justice and cultural practices) |
| **CLEAN WATER** and healthy aquatic ecosystems. | **ECOLOGICALLY HEALTHY WATERWAYS.** Benthic Index of Biological Integrity, a measure of the health of invertebrate species in our waterways. | • Land use and Development patterns (impervious coverage)  
• Extent and distribution of tree canopy, green streets, ecoroofs and other natural features that provide ecological function  
• Abundance, diversity, complexity and health of riparian and wetland habitats  
• Environmental literacy  
• Individual behaviors (household and landscape chemicals, driving habits)  
• Infrastructure design and its impacts (Sanitary/stormwater, water supply, transportation)  
• Working land management practices  
• Business practices, large and small  
• Policies and programs (e.g. restoration/conservation/protection programs, institutional barriers)  
• Legacy practices and pollutants |
| **CLEAN AIR** | **GOOD AIR DAYS.** Percent of days with “good” air quality index and air toxics health risks. | • Environmental Literacy  
• Individual behaviors: burning wood for home heat; driving choices  
• Fuel emissions (heavy duty diesel)  
• Transportation management  
• Business practices, large and small  
• Programs and policies (e.g. institutional barriers to working at home)  
• Extent and distribution of tree canopy, green spaces and vegetation  
• Availability of alternative fuels, Bio-methane  
• Land use and development patterns  
• Sources and efficiency of energy |
| **RESILIENCY.** Environment of the region is able to avoid, minimize, withstand, or adapt to hazards (fire, floods, earthquakes, infestations and landslides), disasters or climate change so it can | **PROTECTED LANDS.** Acres of sensitive lands protected or restored (vs. developed). | • Diversity, complexity and health of habitats (plant and animal species)  
• Extent/distribution of tree canopy and vegetation  
• Cumulative effect and extent of climate change (e.g. increased CO2 inputs, deforestation) carbon mgmt resulting in increased rainfall and decreased snow pack and subsequent increased dependence on natural and engineered water storage (e.g., groundwater, cisterns)  
• Policies and programs (water conservation, energy conservation, emergency response, regional strategic planning and economic investment) |
### Desired Outcomes

**ACCESS TO NATURE.** All people can experience nature in their daily lives, and have easy access to parks, natural areas, trails, vegetation and wildlife (in order to enhance their health, sense of place, quality of life, and environmental stewardship).

5. **PROXIMITY TO NATURE AND PARKS.** Percentage of the population within ¼ mile walking distance of dedicated open space; ½ mile walking distance to a public park, trail corridor, or natural area; and ¾ mile of a natural area (public or private).

- *Drivers (policy considerations)*
  - Land use and development practices and patterns
  - Sources and efficiency of energy (where we get energy and how we use it).
  - Historical influences and affects – hydrology and geology

### Desired Outcomes

**ENVIRONMENTAL JUSTICE AND EQUITY.** All people have access to clean air and water, to a clean and safe environment and to nature.

6. **PROXIMITY TO COMPROMISED ENVIRONMENTS.** Developmental Indicator.

- *Drivers (policy considerations)*
  - Accessibility and proximity of parks, trails, and natural areas (especially for children, seniors, differently-abled and lower income households).
  - Extent and distribution of tree canopy, green streets, ecoroofs and other natural features that provide ecological function.
  - Health and diversity of the regional ecosystem.
  - Affordability of transportation choices to reach community and regional parks, trails and natural areas.
  - Health and environmental literacy.
  - Connectivity of natural areas, trails and parks.
  - Stewardship and civic engagement in environmental protection (volunteerism and charitable contributions).
  - Community walkability.
  - Policies and programs.
  - Land use and development patterns.

### Desired Outcomes

**NATIVE SPECIES.** Native Plants and Animals and the habitats/ ecological processes that support them.*

- *Drivers (policy considerations)*
  - Percent (acres/miles) of FUNCTIONAL CORRIDORS as defined by the Regional Conservation Strategy.
  - Number of NATIVE VERTEBRATE TERRESTRIAL SPECIES by watershed.
  - Abundance, diversity, complexity and health of habitats.
  - Cumulative effect and extent of climate change.
  - Land use and development patterns (economic pressures).
  - Altered fire and water regimes.
  - Regional and local scale anchor habitats, connectivity and wildlife corridors.
  - Policies and programs (e.g. restoration/conservation/protection programs, institutional barriers).
  - Protection, restoration and expansion of special status habitats and plant and animal species (manage invasive plants and animals).
  - Environmental literacy.
  - Stewardship.
  - Individual behaviors.

---

Updated October 2011

Greater Portland Pulse, portlandpulse.org

Page 52
Climate Smart Communities Scenarios Project

Understanding Our Land Use and Transportation Choices

PHASE 1 FINDINGS  I  JANUARY 12, 2012

Metro  |  Making a great place
Strategy Toolbox
for the Portland metropolitan region

Review of the latest research on greenhouse gas emissions reduction strategies and the benefits they bring to the region

October 2011
APPENDIX D: SMALL GROUP DISCUSSION CHARTS
CSC Scenarios Project - Environmental Workshop
Community Design Design Pathways

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Direct Impacts</th>
<th>Intermediate Outcomes</th>
<th>Environmental Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>↑ Households in mixed use neighborhoods</td>
<td>↑ Jobs, services close to home</td>
<td>↑ Green building production (group added, “with improved design standards”)</td>
<td>Access to nature</td>
</tr>
<tr>
<td>↑ Maintain UGB</td>
<td>↓ Land consumption</td>
<td></td>
<td></td>
</tr>
<tr>
<td>↑ Percent of trips with parking fees</td>
<td></td>
<td>↑ Fuel consumption</td>
<td>Healthy Soils</td>
</tr>
<tr>
<td>↑ Avg daily parking fees</td>
<td>↓ VMT</td>
<td>↓ Carbon emissions</td>
<td>Clean water</td>
</tr>
<tr>
<td>↑ Bike/ped infrastructure</td>
<td>↑ Transit ridership</td>
<td>↓ Energy consumption</td>
<td>Water supply (added)</td>
</tr>
</tbody>
</table>
| ↑ Transit service | ↑ Walking & bike trips | ↓ Transportation costs | or - 
| | | ↓ Air pollution/toxics | Env justice & equity |
| | | ↓ Traffic congestion | Native Species |
| | | ↓ Traffic delay | Resiliency |

Legend: + means positive impact on the outcome; - means negative; both means it could be either depending on design or implementation
CSC Scenarios Project - Environmental Workshop
Fleet & Technology Design Pathways

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Direct Impacts</th>
<th>Intermediate Outcomes</th>
<th>Environmental Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>% SUV’s &amp; light trucks</td>
<td>↓ Fuel consumption</td>
<td>↓ Transportation costs</td>
<td>Clean air</td>
</tr>
<tr>
<td>Fewer cars on the road (added)</td>
<td>↓ Carbon emissions</td>
<td>↓ Gas tax revenue</td>
<td>Env justice &amp; equity</td>
</tr>
<tr>
<td>↑ Fuel economy</td>
<td>↑ Electricity load to grid</td>
<td>↑ Carbon Emissions</td>
<td></td>
</tr>
<tr>
<td>Electric &amp; Hybrid cars</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>↑ More newer cars, fewer older (%)</td>
<td>↓ Air pollution/toxics</td>
<td>↑ Synergy with green power</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>↓ Carbon intensity of fuels</td>
<td>↓ Carbon Emission</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend: + or ● means positive impact on the outcome; - means negative; ▲ means it could be either depending on design or implementation.
CSC Scenarios Project - Environmental Workshop

Pricing Pathways

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Direct Impacts</th>
<th>Intermediate Outcomes</th>
<th>Environmental Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>↑ Gax tax</td>
<td></td>
<td>↑ Walking and biking trips AND</td>
<td>A. Access to parks and nature</td>
</tr>
<tr>
<td>↑ Road use fee</td>
<td>↓ VMT (driving less)</td>
<td>↑ Transit ridership AND</td>
<td>B. Healthy Soils</td>
</tr>
<tr>
<td>↑ Carbon fee</td>
<td></td>
<td>↑ Car sharing AND</td>
<td>C. Clean water</td>
</tr>
<tr>
<td>Parking lot fee (per space) – added by group</td>
<td>↑ Revenue for non-roadway use (positive impacts depend on how transportation is financed)</td>
<td>↑ Carpooling AND</td>
<td>D. Environmental justice &amp; equity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>↓ Carbon Emissions</td>
<td>E. Native Species</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lead to positive impact on all outcomes, but especially these four</td>
<td>F. Resiliency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➕ Key issue</td>
<td>G. Clean air</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➕ Lead to positive impact on all outcomes, but especially these four</td>
<td>H. Water supply &amp; quantity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➕ Lead to positive impact on all outcomes, but especially these four</td>
<td>I. Climate Change/GHG</td>
</tr>
</tbody>
</table>

Legend: + means positive impact on the outcome; - means negative; both means it could be either depending on design or implementation
CSC Scenarios Project - Environmental Workshop
Marketing & Incentives Pathways

**Strategy**

- ↑ Employer commute programs
- ↑ Individualized marketing
- ↑ Car sharing
- ↑ Ecodriving

**Direct Impacts**

- ↑ Walking and biking trips
- ↑ Transit ridership

**Intermediate Outcomes**

- ↓ Fuel consumption
- ↓ VMT
- ↓ Air pollution/air toxics

**Environmental Outcomes**

- A. Access to parks and nature
- B. Healthy Soils
- C. Clean water
- D. Environmental justice & equity
- E. Native Species
- F. Resiliency
- G. Clean air
- H. Water supply & quantity
- I. Climate Change/GHG

**Legend:** + means positive impact on the outcome; - means negative; both means it could be either depending on design or implementation
CSC Scenarios Project - Environmental Workshop
Fleet & Technology Pathways

**Strategy**
- ↓ % of SUVs, light trucks – and less cars on road *(added by group)*
- ↑ Fuel economy
- ↑ Electric & hybrid cars
- ↑ More newer cars, fewer older cars (by percentage)
- ↓ Carbon intensity of fuels

**Direct Impacts**
- ↓ Fuel consumption
- ↓ Carbon emissions
- ↑ Electricity use load to grid
- ↓ Air pollution/air toxics
- ↓ Carbon emissions

**Intermediate Outcomes**
- ↓ Transportation costs
- ↓ Gas Tax Revenue
- ↑ Carbon emissions
- ↓ Air pollution/air toxics
- ↑ Synergy with green power
- ↓ Carbon emissions

**Environmental Outcomes**
- A. Access to parks and nature
- B. Healthy Soils
- C. Clean water
- D. Environmental justice & equity
- E. Native Species
- F. Resiliency AND H. Water supply & quantity
- G. Clean air
- I. Climate Change/GHG

**Legend:** + means positive impact on the outcome; - means negative; both means it could be either depending on design or implementation
CSC Scenarios Project - Environmental Workshop
Community Design Pathways

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Direct Impacts</th>
<th>Intermediate Outcomes</th>
<th>Environmental Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>✆ Households in mixed use neighborhoods</td>
<td>✆ Jobs, services close to home</td>
<td>✅ Energy consumption</td>
<td>A. Access to parks and nature</td>
</tr>
<tr>
<td>✆ Maintain UGB</td>
<td>✅ Land consumption</td>
<td>✅ Fuel consumption</td>
<td>B. Healthy Soils</td>
</tr>
<tr>
<td>✆ Percent of trips with parking fees</td>
<td>✅ VMT</td>
<td>✅ Carbon emissions</td>
<td>C. Clean water</td>
</tr>
<tr>
<td>✆ Avg daily parking fees</td>
<td>✆ Transit ridership</td>
<td>✅ Green building production (group added, “with improved design standards”)</td>
<td>D. Environmental justice &amp; equity</td>
</tr>
<tr>
<td>✆ Bike/ped infrastructure</td>
<td>✆ Walking &amp; bike trips</td>
<td>✅ Transportation costs</td>
<td>E. Native Species</td>
</tr>
<tr>
<td>✆ Transit service</td>
<td></td>
<td>✅ Air pollution/toxics</td>
<td>F. Resiliency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>✅ Traffic congestion</td>
<td>G. Clean air</td>
</tr>
<tr>
<td></td>
<td></td>
<td>✅ Traffic delay</td>
<td>H. Water supply &amp; quantity</td>
</tr>
</tbody>
</table>

Legend: + means positive impact on the outcome; - means negative; both means it could be either depending on design or implementation
CSC Scenarios Project - Environmental Workshop

Roads Pathways

**Strategy**
- ↑ Freeways and arterials
- ↑ Traffic management

**Direct Impacts**
- ↑ Jobs, services closer to home
- ↑ Impervious surfaces
- ↓ Traffic delay
- ↑/↓ Traffic congestion
- ↓ Traffic congestion
- ↓ Fuel consumption

**Intermediate Outcomes**
- ↑ Stormwater runoff
- ↑ Carbon emissions
- ↑/↓ Energy consumption
- ↓ Carbon emissions

**Environmental Outcomes**
- A. Access to parks and nature
- B. Healthy Soils
- C. Clean water
- D. Environmental justice & equity
- E. Native Species
- F. Resiliency
- G. Clean air
- H. Water supply & quantity
- I. Climate Change/GHG

---

**Legend:** + means positive impact on the outcome; - means negative; both means it could be either depending on design or implementation
CSC Scenarios Project - Environmental Workshop
Rocks Pathways

**Strategy**

- Freeways and arterials
- Traffic Management

**Direct Impacts**

- Jobs, services close to home
- Impervious Surface
- Traffic delay
- Traffic congestion
- Fuel consumption

**Intermediate Outcomes**

- Storm water runoff
- Energy consumption
- Carbon emissions

**Environmental Outcomes**

- Access to nature
- Healthy Soils
- Clean water
- Env justice & equity
- Native Species
- Resiliency
- Clean air
- Water supply (added- quantity)

**Legend:**
+ means positive impact on the outcome; - means negative; both means it could be either depending on design or implementation.

- If you just increase freeways; + depends on location & design.
- Could be more but will be + or -.
- Could be + or -.
- + by proximity.
- More means +.
- -
- +
- +
- + by proximity.
- + depending on location & design.
<table>
<thead>
<tr>
<th>Group</th>
<th>Q1 Effectiveness of what was presented to help you understand the project</th>
<th>Q2 Effectiveness of the pathway exercise</th>
<th>Q3 Overall effectiveness of workshop</th>
<th>Overall comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fleet and technology</td>
<td>1 2 3 4 5 Comments</td>
<td>1 2 3 4 5 Comments</td>
<td>1 2 3 4 5 Comments</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missed first hour. Not sure.</td>
<td>Worthwhile discussion and clarifying of diff. ideas/perspectives</td>
<td>What was concluded? That air was voted #1 by 4 people?</td>
<td>Rex's invite email said we would provide input on how to measure the benefits and impacts...well, did we really? Did we help develop a scorecard? Walking out I'm not at all sure where each of the 6-8 outcomes fall on a scorecard.</td>
</tr>
<tr>
<td>Community Design and Roads</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X X</td>
</tr>
<tr>
<td></td>
<td>Better explanation and justification of policy strategies necessary.</td>
<td>Synergies could be better emphasized</td>
<td>Brought new people into conversation and expanded project</td>
<td>A more effective overall context would be helpful at the beginning of this workshop. Obviously these are &quot;complex&quot;—difficult to do this &quot;lite&quot;—very much enjoyed the interaction and the excellent participation.</td>
</tr>
<tr>
<td>Community Design and Roads</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>I don’t know; I won’t be using the (?) in your project.</td>
<td>I don’t know what your measure of effectiveness is.</td>
<td>I found the exercise useful (as many of these are) to review (?) the complexity of these challenges. I think it's beneficial for leaders in the community to discuss trade-offs collectively, however I can't judge how much you can use/or how effective the workshop was for your process. It was fun!</td>
<td></td>
</tr>
<tr>
<td>Fleet and Technology</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X Look forward to seeing the pathways from the breakout groups.</td>
</tr>
<tr>
<td>Community Design and Roads</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>On the technical work team so the basis of discussion as already valid. This discussion helped me connect the strategy to environmental outcomes.</td>
<td></td>
<td>This helped some with understanding CSC a bit, but it is very complex to say that effectiveness of the workshop was real high but is a very good way to get people thinking about the strategic outcomes. The linkages are difficult (strategies=&gt;outcomes) and can only be touched upon here today. Many decisions will have context challenges in order to properly communicate the links.</td>
<td></td>
</tr>
<tr>
<td>Community Design and Roads</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>The materials sent out ahead are great handouts; they have the right balance of technical and graphical information.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Design and Roads</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Subject/interactions very complex for a short workshop</td>
<td>missing - metrics: how is the effect measured (not necessarily explicit values); time frame: near, mid, long term including what is started near term in order to realize a long-term outcome</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Focused on roads, public transport was only considered as a subcategory</td>
<td>Process does not lead to effective solutions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Metro’s website: www.oregonmetro.gov

Metro is the federally mandated metropolitan planning organization designated by the governor to develop an overall transportation plan and to allocate federal funds for the region. The Joint Policy Advisory Committee on Transportation (JPACT) is a 17-member committee that provides a forum for elected officials and representatives of agencies involved in transportation to evaluate transportation needs in the region and to make recommendations to the Metro Council. The established decision-making process assures a well-balanced regional transportation system and involves local elected officials directly in decisions that help the Metro Council develop regional transportation policies, including allocating federal transportation funds.

Nondiscrimination Notice to the Public
Metro hereby gives public notice that it is the policy of the Metro Council to assure full compliance with Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, Executive Order 12898 on Environmental Justice and related statutes and regulations in all programs and activities. Title VI requires that no person in the United States of America shall, on the grounds of race, color, sex, or national origin, be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which Metro receives federal financial assistance. Any person who believes they have been aggrieved by an unlawful discriminatory practice under Title VI has a right to file a formal complaint with Metro. Any such complaint must be in writing and filed with Metro’s Title VI Coordinator within one hundred eighty (180) days following the date of the alleged discriminatory occurrence. For more information, or to obtain a Title VI Discrimination Complaint Form, see the web site at www.oregonmetro.gov or call (503) 797-1536.