Metro	Agenda
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	Meeting: Date:		Transportation Policy Alternatives Committee (TPAC) Friday, October 1, 2010	
	Time:		9:30 a.m. to noon	
	Place:		Council Chambers	
- 9:30 AM	1.		Call to Order and Declaration of a Quorum	John Williams, Chair
9:30 AM	2.	*	 Comments from the Chair and Committee Members New ODOT Regional Flexible Fund Application Process TPAC Community Representatives Recruitment 	John Williams, Chair
9:40 AM	3.		Citizen Communications to TPAC on Non-Agenda Items	
9:45 AM	4.	*	Approval of the TPAC Minutes for August 27, 2010	
	5.		ACTION ITEMS	
9:50 AM	5.1	*	 Resolution No. 10-4197, "For the Purpose of Amendment the 2010-11 Unified Planning Work Program and the 2010-13 Metropolitan Transportation Improvement Program (MTIP) to Change the Scope of Work and Project Title of the 'Multi-use Path Master Plan: Lake Oswego to Milwaukie Project to 'Lake Oswego to Portland Trail Master Plan: Powers Marine Park to Elk Rock" -<u>RECOMMENDATION TO JPACT REQUESTED</u> <u>Purpose</u>: Review resolution. <u>Outcome</u>: Make a recommendation to JPACT on resolution. 	Mel Huie
	6.		INFORMATION / DISCUSSION ITEMS	
10 AM	6.1	*	 Climate Smart Communities Scenarios - <u>INFORMATION/</u> <u>DISCUSSION</u> <u>Purpose</u>: Inform TPAC about the proposed scenario planning approach. <u>Outcome</u>: TPAC input on information needs and opportunities for collaboration and partnerships. 	Kim Ellis
10:40 AM	6.2	**	 Chief Operation Officer Recommendation: Urban Growth Management Functional Plan – <u>INFORMATION / DISCUSSION</u> Centers, Corridors, Station Communities and Mainstreets (Title 6) <u>Purpose</u>: Inform TPAC of role of Title 6 and proposed changes. <u>Outcome</u>: TPAC understanding of Title 6 and input to MTAC on proposed changes. 	Sherry Oeser Dick Benner
	6.2.1	*	 ODOT Proposed Amendments to Title 6 and the Regional Transportation Functional Plan – <u>INFORMATION/DISCUSSION</u> <u>Purpose</u>: Inform TPAC of proposed changes. <u>Outcome</u>: TPAC input to MTAC on proposed changes to Functional Plan to implement 30% trip reduction credit. 	Elaine Smith, ODOT Region 1

11:15 AM	6.3	*	 Regional Flexible Funds (Step 1) Review: High Capacity Transit (HCT) Bond/HCT Development/Corridor Planning – <u>INFORMATION / DISCUSSION</u> <u>Purpose</u>: Inform TPAC of the following programs: High capacity transit (HCT) bond, HCT development, and Corridor & Systems Planning. <u>Outcome</u>: Information and discussion with TPAC. 	Tony Mendoza
11:40 AM	6.4	#	 OR 217 Operational Study- <u>INFORMATION</u> <u>Purpose</u>: Brief TPAC members on the 217 Operational Improvements Study. <u>Outcome</u>: TPAC Members will learn the outcome of ODOT and its local partners' recent effort to investigate advanced operational improvements to the 217 Corridor. 	Rian Windsheimer, ODOT Region 1
12 PM	7.		ADJOURN	John Williams, Chair

Upcoming TPAC meetings:

- Regular TPAC meeting scheduled for Friday, October 29, 2010 from 9:30 a.m. to noon, Metro Regional Center, Council Chambers.
- Regular TPAC meeting scheduled for Friday, November 19, 2010 from 9:30 a.m. to noon, Metro Regional Center, Council Chambers.
- Material available electronically.
- ** Materials will be distributed at prior to the meeting.
- # Material will be distributed at the meeting.

For agenda and schedule information, call Kelsey Newell at 503-797-1916, e-mail: kelsey.newell@oregonmetro.gov. To check on closure or cancellations during inclement weather please call 503-797-1700#.

Upcoming JPACT action items:

• **Resolution No. 10-4197**, "For the Purpose of Amendment the 2010-11 Unified Planning Work Program and the 2010-13 Metropolitan Transportation Improvement Program (MTIP) to Change the Scope of Work and Project Title of the 'Multi-use Path Master Plan: Lake Oswego to Milwaukie Project to 'Lake Oswego to Portland Trail Master Plan: Powers Marine Park to Elk Rock'" **(Oct. 14)**

Future TPAC discussion items:

- MOVES update
- On-street Bus Rapid Transit
- The State of Travel Models and how to use them
- Active Transportation update
- High Speed Rail
- Update on the Columbia River Crossing Project
- Context sensitive design and least cost planning
- A briefing on the Metro Auditor's Tracking Transportation Project Outcomes report

Metro | Memo

Date:	September 22, 2010
To:	TPAC and Interested Parties
From:	Robin McArthur
Subject:	ODOT Flexible Funding Announcement

The Oregon Department of Transportation has recently announced that they will be taking applications to fund specific types of transportation projects. We encourage eligible agencies in the region to advance our regional transportation plan and apply for these funds.

Following is the announcement from ODOT staff:

The Oregon Department of Transportation (ODOT) is pleased to announce the availability of \$21 million in federal transportation funds for the Fall 2010 application cycle for the newly created Flexible Funds Program.

The Oregon Transportation Commission (OTC) has directed that these funds be made available for Transit, Bicycle, Pedestrian, Transportation Demand Management (TDM), and the planning, research and project development that supports those projects.

Eligible applicants are governmental entities eligible to receive Surface Transportation Program (STP) funds provided to ODOT by the Federal Highway Administration (FHWA).

The application process is now open and will remain open through November 12, 2010.

For more information about the Flexible Funds Program, directions for preparing an application for project funding, and the application form, please see the links below.

For the Flexible Funds Program Introduction and Directions for completing the Fall 2010 application for project funding see: http://www.odot.state.or.us/forms/odot/highway734/FlexFunds_Directions.doc

For the Flexible Funds Program Application for Project Funding see: http://www.odot.state.or.us/forms/odot/highway734/FlexFunds_App.doc

If you have questions, please contact me at: robert.l.sherman@odot.state.or.us<<u>mailto:robert.l.sherman@odot.state.or.us</u>> or by telephone at 503 986-4226.

Bob Sherman Senior Transportation Planner

600 NE Grand Ave. Portland, OR 97232-2736 503-797-1700 503-797-1804 TDD 503-797-1797 fax



September 20, 2010

For immediate release

Contact: Dylan Rivera 503-797-1551 <u>dylan.rivera@oregonmetro.gov</u>

Metro seeks applicants for four citizen seats on influential transportation committee

Metro's Transportation Policy Alternatives Committee (TPAC) is seeking citizens interested in transportation issues to serve on the panel starting January 2010. There are four citizen positions up for appointment: Three are two-year terms and one is a one-year position intended to fill an upcoming vacancy.

TPAC is an advisory committee that reviews regional plans and federally funded transportation projects across the three-county Portland area. It advises regional leaders on transportation spending priorities as well as policies related to transportation, such as efforts to curb greenhouse gas emissions. It also recommends needs and opportunities for involving citizens in transportation matters.

An essential responsibility of TPAC is to advise the Joint Policy Advisory Committee on Transportation (JPACT), a panel of elected officials and transportation agency executives that controls federal transportation spending in the Portland area. TPAC also advises the Metro Council, which reviews and must approve all major JPACT actions.

TPAC is comprised of 15 professional transportation staff appointed by area cities, counties and government agencies, and six at-large citizen members. Citizen member John Reinhold plans to vacate his position for personal reasons, so a new member will be appointed to serve the remaining year of his term, from January to December 2011.

Citizen members of TPAC are selected through an application, interview and appointment process. Metro council members who serve on JPACT and Metro staff will conduct interviews and recommend candidates for the Metro council president to nominate. Candidates nominated by the council president must be confirmed by the Metro council.

All applicants should be able to attend regular meetings that take place on weekdays during normal working hours. Metro seeks diverse representation on all its advisory committees. Women and minorities are strongly encouraged to apply.

Visit <u>www.oregonmetro.gov</u> to submit your application online, or download the form and mail it completed to Metro Council Office, Attn. Kelsey Newell, 600 NE Grand Ave., Portland, OR 97232. Applications are due at Metro by 5 p.m. on Oct. 15, 2010.

For more information on the application process, call Kelsey Newell, 503-797-1916. For more information on TPAC roles and responsibilities, call Dylan Rivera, 503-797-1551. Hearing impaired may call TDD 503-797-1804.

For more information on TPAC, including bylaws, a member roster and meeting agendas, see: <u>http://www.oregonmetro.gov/index.cfm/go/by.web/id=419</u>

To apply online see: http://www.oregonmetro.gov/index.cfm/go/by.web/id=28550

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Metro, the regional government that serves 1.4 million people who live in the 25 cities and three counties of the Portland metropolitan area, provides planning and other services that protect the nature and livability of our region. For more information, visit <u>www.oregonmetro.gov</u>.

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TRANSPORTATION POLICY ALTERNATIVES COMMITTEE August 27, 2010 Metro Regional Center, Council Chambers

MEMBERS PRESENT

Sorin Garber Mara Gross Katherine Kelly Scott King Nancy Kraushaar Alan Lehto Keith Liden Mike McKillip Satvinder Sandhu Paul Smith Jenny Weinstein Tracy Ann Whalen Rian Windsheimer Sharon Zimmerman

MEMBERS EXCUSED

Brent Curtis Elissa Gertler John Hoefs Dean Lookingbill Dave Nordberg John Reinhold Karen Schilling

ALTERNATES PRESENT

Andy Back Karen Buehrig Nancy Cardwell Lynda David Jane McFarland

AFFILIATION

Citizen Citizen City of Gresham, Representing Cities of Multnomah Co. Port of Portland City of Oregon City, Representing Cities of Clackamas Co. TriMet Citizen City of Tualatin, Representing Cities of Washington Co. FHWA City of Portland Citizen Citizen Oregon Department of Transportation Washington Department of Transportation

AFFILIATION

Washington County Clackamas County C-TRAN SW Washington RTC Oregon Department of Environmental Quality Citizen Multnomah County

AFFILIATION

Washington County Clackamas County Oregon Department of Environmental Quality SW Washington RT Multnomah County

<u>STAFF:</u> Andy Cotugno, Colin Deverell, Michael Jordan, Tom Kloster, John Mermin, Josh Naramore, Kelsey Newell, Dylan Rivera, Amy Rose, Jamie Snook.

1. CALL TO ORDER AND DECLARATION OF A QUORUM

Chair Tom Kloster declared a quorum and called the meeting to order at 9:34 a.m.

2. <u>COMMENTS FROM THE CHAIR AND COMMITTEE MEMBERS</u>

Committee members discussed the Climate Smart Communities project and noted that it will work through existing committees. A presentation on the project is to take place at the October 1 meeting.

3. <u>CITIZEN COMMUNICATIONS TO TPAC ON NON-AGENDA ITEMS</u>

There were none.

4. <u>APPROVAL OF THE JULY 30, 2010 TPAC MINUTES</u>

MOTION: Mr. Mike McKillip moved, Mr. Paul Smith seconded, to approve the minutes for July 30, 2010.

ACTION TAKEN: With all in favor, the motion passed.

5. <u>ACTION ITEMS</u>

5.1 Update on Funding Options and Strategies for the Portland to Milwaukie Light Rail

Mr. Dave Unsworth of TriMet briefed the committee on the current status of funding for the project. Noting the federal government's notice that it would only provide 50 percent matching, reductions to the project in concert with additional funding sources would be required to keep the project on schedule. Mr. Unsworth described various sources of additional funding and potential cuts. A complete list of proposed primary and secondary cuts is included as part of the meeting records.

5.2 Resolution No. 10-4185, "For the Purpose of Approving a Supplemental Multi-year Commitment of Regional Flexible Funding for the Years 2015-2027, Funding for the Portland to Milwaukie Light Rail Transit Project, and Project Development for the Portland-Lake Oswego Transit Project, and the Southwest Corridor and Authorizing Execution of an Amendment to the Existing Intergovernmental Agreement with TriMet Regarding the Multi-year Commitment of Regional Flexible Funds"

<u>MOTION:</u> Mr. Alan Lehto moved, Mr. Smith seconded, to recommend approval of Resolution No. 10-4185 to JPACT.

Discussion: Committee members asked a variety of questions to clarify the components of the resolution. Some members voiced concern for the long-term dedication of MTIP funds to specific projects but were generally supportive of the Portland to Milwaukie

Light Rail (PMLR) project and its timeline. Mr. Sorin Garber indicated a potential conflict of interest and stated his intent to abstain from voting on the resolution.

<u>AMENDMENT #1:</u> Ms. Jane McFarland moved, Ms. Katherine Kelly seconded, to amend the resolution to explicitly address PMLR long-term supplemental funding and remove the Lake Oswego to Portland Transit and Southwest Corridor elements.

Discussion: Several committee members voiced support for the amendment, noting concerns about investing in other capital projects during a period of service reductions and the potential to limit future financial flexibility.

ACTION TAKEN ON AMENDMENT #1: With **eight** in favor (Gross, Kelly, King, McFarland, Weinstein, Windsheimer, Whalen, Zimmerman), **nine** opposed (Back, Buehrig, Cardwell, David, Kraushaar, Lehto, Liden, McKillip, Smith), and **one** abstention (Garber), the motion <u>failed</u>.

<u>ACTION TAKEN:</u> With **thirteen** in favor (Back, Buehrig, Cardwell, David, King, Kraushaar, Liden, Lehto, McKillip, Smith, Whalen, Windsheimer, Zimmerman), **four** opposed (Gross, Kelly, McFarland, Weinstein), and **one** abstention (Garber), the motion <u>passed</u>.

5.3 Resolution No. 10-4186, "For the Purpose of Approving the 2010-2013 Metropolitan Transportation Improvement Program for the Portland Metropolitan Area"

Ms. Amy Rose of Metro described the resolution to the committee which would approve the 2010-2013 MTIP. Committee members discussed the status and inclusion of specific projects and suggested changes. Staff indicated that they will work with the relevant agencies to ensure all information is correct prior to JPACT consideration. Changes suggested:

- Correct section 2.2 Delays to Planned Implementation Move City of Portland projects from the East Multnomah County project list
- Add Stark Street project in Gresham to section 2.1 Major Projects Implemented from Previous MTIP
- Recognize the inclusion of the remaining American Recovery and Reinvestment Act (ARRA) projects in legislation

MOTION: Mr. Windsheimer moved, Mr. Keith Liden seconded, to recommend Resolution No. 10-4186 to JPACT.

ACTION TAKEN: With all in favor, the motion passed.

6. <u>INFORMATION/DISCUSSION ITEMS</u>

6.1 Community Investment Strategy: Building a Sustainable, Prosperous, Equitable Region

Metro Chief Operation Officer Michael Jordan presented the COO Recommendation report to the committee. Mr. Jordan described the challenges facing the region regarding infrastructure

investment and advocated developing regional, collaborative solutions between public and private sectors. Committee members discussed the guiding principles of the project, its current status, and those being recruited to be involved.

7. <u>ADJOURN</u>

Seeing no further business, Chair Kloster adjourned the meeting at 12:10 p.m.

Respectfully submitted,

Colin Deverell Recording Secretary

ATTACHMENTS TO THE PUBLIC RECORD FOR AUGUST 27, 2010 The following have been included as part of the official public record:

ITEM	DOCUMENT TYPE	Doc Date	DOCUMENT DESCRIPTION	DOCUMENT NO.
	Handout	8/2010	Principles for Investing in Our Region's	082710t-01
			Future	

BEFORE THE METRO COUNCIL

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FOR THE PURPOSE OF AMENDING THE 2010-11 UNIFIED PLANNING WORK PROGRAM AND THE 2010-13 METROPOLITAN TRANSPORTATION IMPROVEMENT PROGRAM (MTIP) TO CHANGE THE SCOPE OF WORK AND PROJECT TITLE OF THE "MULTI-USE PATH MASTER PLAN: LAKE OSWEGO TO MILWAUKIE PROJECT" TO " PORTLAND TO LAKE OSWEGO TRAIL PLAN: POWERS MARINE PARK TO FIELDING RD. " **RESOLUTION NO. 10-4197**

Introduced by Councilor Carlotta Collette

WHEREAS, the Metropolitan Transportation Improvement Program (MTIP) prioritizes projects from the Regional Transportation Plan to receive transportation related funding; and

WHEREAS, the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council must approve the MTIP and any subsequent amendments to add new projects to or significantly change the scope to existing projects in the MTIP; and

WHEREAS, the JPACT and the Metro Council approved the 2010-13 MTIP on September 16, 2010; and

WHEREAS, the JPACT and Metro Council awarded \$100,000 of funding authority to Metro Sustainability Center to perform master planning work to evaluate the feasibility of adding a multi-use path facility to the existing railroad bridge crossing of the Willamette River between Lake Oswego and Milwaukie; and

WHEREAS, the awarding of these funds is adopted in the 2010-13 MTIP as Programming Table 3.1.2; and

WHEREAS, the "Multi-Use Path Master Plan: Lake Oswego to Milwaukie Project" is no longer feasible due to the refusal of Union Pacific Railroad (UPRR) to allow Metro, its partners or agents onto its bridge which crosses the Willamette River, to conduct structural analysis to determine if a bike/ped facility could be added to the bridge; and

WHEREAS, the City of Lake Oswego, Clackamas Co., City of Milwaukie and North Clackamas Parks and Recreation District (NCPRD) have concurred the original project is no longer feasible; and

WHERAS, the Oregon Department of Transportation (ODOT) has been consulted and concurs that the original project is no longer feasible; and

WHEREAS, Section 1.7 of the 2010-2013 MTIP states that the MTIP shall be amended by Metro/JPACT Resolution where an adjustment will significantly change the project scope, whose definition includes "more than 50% of the project area outside of the original project area scope"; and

WHEREAS, the Unified Planning Work Program (UPWP) describes all federally-funded transportation planning activities for the Portland-Vancouver region; and

WHEREAS, the 2010-11 UPWP for the Portland-Vancouver region was adopted by Resolution No. 10-4136 and includes the current project scope for the Multi-Use Master Plan: Lake Oswego to Milwaukie Project; and

WHEREAS, the project description in the 2010-11 UPWP should be consistent with the 2010-13 MTIP; now therefore

BE IT RESOLVED that the Metro Council hereby adopts the recommendation of JPACT to modify the Programming Table, Section 3.1.2, of the 2010-13 Metropolitan Transportation Improvement Program and the 2010-11 UPWP to change the scope and title of "Multi-Use Path Master Plan: Lake Oswego to Milwaukie" with "Portland to Lake Oswego Trail Plan: Powers Marine Park to Fielding Rd." as described in the staff report to this resolution.

ADOPTED by the Metro Council this ____ day of October 2010.

Approved as to Form:

Carlotta Colette, Acting Council President

Daniel B. Cooper, Metro Attorney

M:\suscntr\Natural Areas and Parks\Teams\Planning & Development\Trails\MTIP\LOPtdTrailReallocatonofFundsSep2010 RES\Res 10-xxxx Lake Oswego Trail MP (2).doc

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 10-4197, FOR THE PURPOSE OF AMENDING THE 2010-11 UNIFIED PLANNING WORK PROGRAM AND THE 2010-13 METROPOLITAN TRANSPORTATION IMPROVEMENT PROGRAM (MTIP) TO CHANGE THE SCOPE OF WORK AND PROJECT TITLE OF THE "MULTI-USE PATH MASTER PLAN: LAKE OSWEGO TO MILWAUKIE PROJECT" TO " PORTLAND TO LAKE OSWEGO TRAIL PLAN: POWERS MARINE PARK TO FIELDING RD."

Date: September 22, 2010

Prepared by: Mel Huie & Ted Leybold

BACKGROUND

Former Project Description

In 2007, a Regional Flexible Transportation funding award of \$100,000 was made to Metro Parks and Greenspaces (now Metro Sustainability Center) to conduct a study and complete a master plan to determine if a bike/pedestrian pathway could be attached to the existing UPRR owned bridge between Lake Oswego and Milwaukie over the Willamette River. The goal was to connect trails on both sides of the Willamette River via a trail across the railroad bridge. The project, if built, may have been similar to the bike/pedestrian trail which is attached to the Steel Bridge in Portland. Currently, there are no safe bike/pedestrian crossings of the Willamette River from the Hawthorne Bridge south to the old Oregon City to West Linn Bridge.

Partners

The local partners of Lake Oswego, Clackamas Co., Milwaukie and N. Clackamas Parks & Recreation District (NCPRD) have agreed to declaring the "Multi-Use Path Master Plan: Lake Oswego to Milwaukie via UPRR Bridge Project" infeasible as the owner of the bridge will not allow Metro or its local partners or agents access to the bridge to complete the study. ODOT attended the meetings when the former project was declared infeasible and a new replacement project agreed to. The trail study will be coordinated with the Portland to Lake Oswego Streetcar Project, and all the local, regional and state partners. A Project Advisory Committee of the local partners and ODOT will be established to oversee the project and planning process.

New Project Description

Lake Oswego to Portland Trail Master Plan - Fielding Rd. to Powers Marine Park:

Determine the feasibility of the trail and select a multi-use path alignment(s) connecting Fielding Rd. in Lake Oswego / Clackamas Co. and Powers Marine Park in Portland. In many sections, the trail will be parallel to the proposed streetcar alignment and in some sections it will veer away from the streetcar ROW. A main task in the plan will be to determine how the trail gets through or around Elk Rock. The feasibility of a second tunnel exclusively for the trail will be studied.

The project has the support of the key local partners, including the city of Lake Oswego and Clackamas Co. These two local partners will also be providing the local cash match of \$10,000, plus in-kind staff assistance.

The work will primarily be technical in nature. Additional public involvement activities will come later, if the trail is deemed feasible. The trail project will continue to be coordinated with the Lake Oswego to Portland Streetcar Project. The Willamette Shoreline Consortium has been briefed about the project and is supportive.

Budget

\$100,000 in MTIP-RFF funds, plus \$10,000 in cash local match. Metro will also provide project management, planning and mapping services to the project.

Time-Line

Approximately 12 months from the time ODOT issues the "proceed with work order." Estimated to be issued by Spring of 2011. A project prospectus and Agreement between ODOT and Metro also need to be completed. A consulting team will be selected via the ODOT procurement process to carry out the technical studies and field work.

ANALYSIS/INFORMATION

- 1. Known Opposition None known at this time.
- 2. Legal Antecedents Section 1.7 of the 2010-2013 Metropolitan Transportation Improvement Program adopted by Metro Council Resolution 10-4186 on September 16, 2010 (For the Purpose of Approving the 2010-13 Metropolitan Transportation Improvement Program for the Portland Metropolitan Area) ("2010-13 MTIP"). MTIP provides that it may be amended by Metro/JPACT Resolution where an adjustment will significantly change a project scope, defined as "the deletion of a modal element described in the original project scope ... or if ... the proposed change in scope would have significantly altered the technical evaluation of a project during the project prioritization process;" Proposed resolution will amend the Programming Table 3.1.2 of the 2010-13 MTIP. Changes scope of project originally awarded funding authority by Resolution 07-3773 on March 15, 2007 (For the purpose of allocating \$64 Million of Transportation Priorities funding for the years 2010 and 2011, pending air quality conformity determination). The FY 2010-11 Unified Planning Work Program adopted by Metro Council Resolution 10-4136 (For the Purpose of certifying that the Portland Metropolitan Area is in compliance with federal transportation planning requirements and adopting the FY 2010-11 Unified Planning Work Program). ("2010-11 UPWP"). The UPWP indicates federal funding sources for planning activities carried out in the metropolitan Portland and Vancouver area. The 2010-11 UPWP describes the existing Lake Oswego to Milwaukie Trail Master Plan project. This will be changed to reflect the scope and budget of the new Portland to Lake Oswego Trail Plan as described in this staff report.
- **3.** Anticipated Effects Adoption of this resolution will allow Metro to proceed with developing a master plan for a future multi-use path between Fielding Road in Lake Oswego to Powers Marine Park in Portland.

4. Budget Impacts

RECOMMENDED ACTION

Metro staff recommends the approval of Resolution No. 10-xxxx.

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Attachment 1 to Resolution No. 10-4197

2010-13 Metropolitan Transportation Improvement Plan Table 3.1.2 amendment

Existing Programming

Project Name	Project Description	ODOT Key #	Lead Agency	Estimated Total Project Cost	Project Phase	Fund Type	Program Year	Federal Funding	Minimum Local Match	Other Funding	Total Funding
Multi-Use Path Master Plan: Lake Oswego to Milwaukie	Planning study of a potential 2.5 mile path connecting downtown Lake Oswego to the Trolley Trail in Milwaukie via the UPRR/P&W railroad bridge.	14397	Metro	N/A	Planning	STP	2010	\$100,000	\$11,445	\$0	\$111,445

Amended Programming

Project	Project Description	ODOT	Lead	Estimated	Project	Fund	Program	Federal	Minimum	Other	Total
Name		Key #	Agency	Total Project	Phase	Туре	Year	Funding	Local	Funding	Funding
				Cost					Match		
Portland to	Study to select a	14397	Metro	N/A	Planning	STP	2010	\$100,000	\$11,445	\$0	\$111,445
Lake	preferred trail										
Oswego	alignment in this										
Trail Plan:	corridor.										
Powers											
Marine											
Park to											
Fielding											
Rd.											

600 NE Grand Ave. Portland, OR 97232-2736 503-797-1700 503-797-1804 TDD 503-797-1797 fax

Metro | Memo

Date:	September 23, 2010
То:	TPAC and interested parties
From:	Kim Ellis, Principal Transportation Planner
Re:	Climate Smart Communities Scenarios

PURPOSE

The purpose of this agenda item is to share information about the Climate Smart Communities Scenarios Project and receive input on information needs and opportunities for collaboration and partnerships with local governments and other partners. A summary of major tasks and decision points for the project and other background materials are provided for reference.

BACKGROUND

A number of climate-related activities are being conducted at the local, regional and state levels to mitigate and prepare for the impacts of climate change. Addressing the climate change challenge will take collaboration and partnerships in the public and private sectors, requiring meaningful policy and investment discussions and decisions by elected leaders, stakeholders and the public. By working together and combining resources, the region can make real progress toward successful achievement of the region's desired outcomes.

The first 6 to 8 months of the project will identify the most promising and effective land use and transportation policy options that were presented at the April climate change retreat. Staff will conduct a literature review to synthesize the latest empirical research relevant to this work. Land use and transportation strategies (e.g. locating jobs closer to homes and expanding bus and high capacity transit) as well as operational and management strategies (e.g. traffic signal timing, parking pricing and other user-based fees) will be tested using local case studies and regional-level scenarios. The results of the literature review and scenario planning will be reported to the Legislature in January 2012, and guide future phases of the project.

The 2040 Growth Concept establishes a vision and set of policies that national studies have shown will reduce greenhouse gas emissions. While this effort will have similarities to the 2040 Growth Concept scenario planning process conducted in the 1990's, this scenario planning effort will be outcomes-based and focused on meeting an ambitious and specific performance target. This project will build on and advance existing 2040 implementation efforts, local aspirations and consider bold land use and transportation policy options not before tested in the region.

The data, tools and methods developed through this project will inform future policy discussions on how the region should move forward to meet the state's greenhouse gas emissions reduction targets for cars and light trucks. This work also provides an opportunity to advance the region's ability to analyze the effect of bundles of strategies relative to the GHG emission reduction targets and the region's desired outcomes.

Page 2 September 23, 2010 Memo to TPAC and interested parties Climate Smart Communities Scenarios

The project will result in adoption of a "preferred land use and transportation" strategy and implementation of changes to policies, investments, tools and actions at the regional and local levels to realize the adopted strategy. The process and results will also inform the work being conducted by the Oregon Department of Transportation and the Department of Land Conservation and Development in response to Senate Bill 1059¹, including development of guidelines for scenario planning, state GHG reduction targets and a statewide transportation strategy.

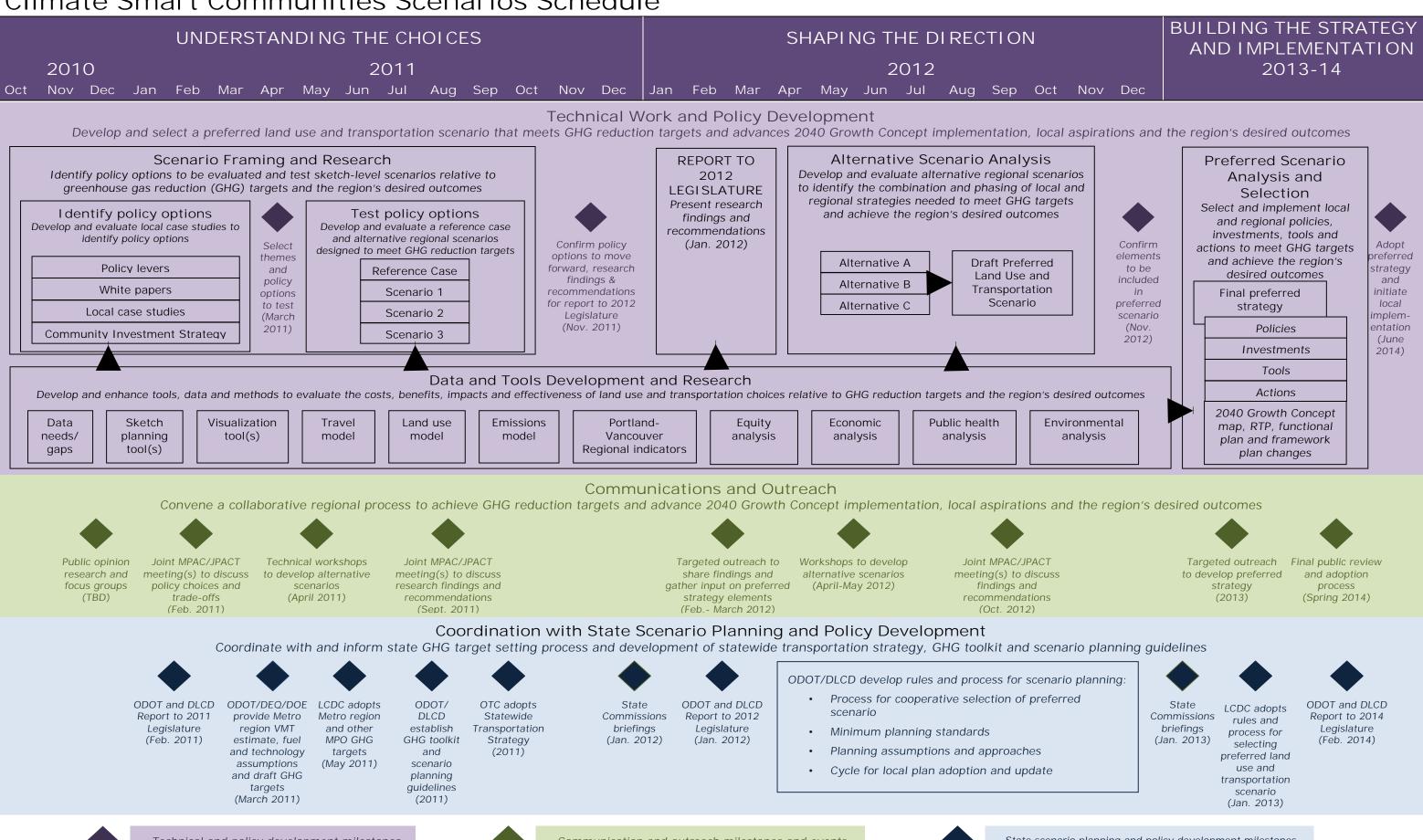
Attachments

- Climate Smart Communities Scenarios Schedule (September 17, 2010)
- Oregon Transportation GHG Emission Reduction Planning (September 13, 2010)
- Summary of Climate Change Survey Findings (Memo to MPAC and JPACT, June 14, 2010)

¹ For more information, go to http://www.oregon.gov/ODOT/TD/TP/SB1059.shtml

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Climate Smart Communities Scenarios Schedule

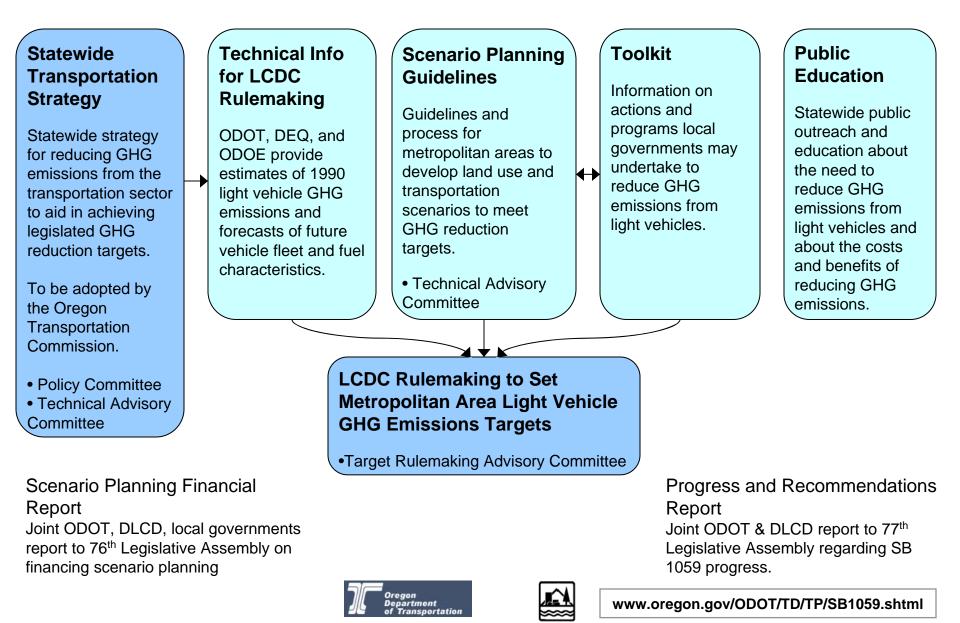


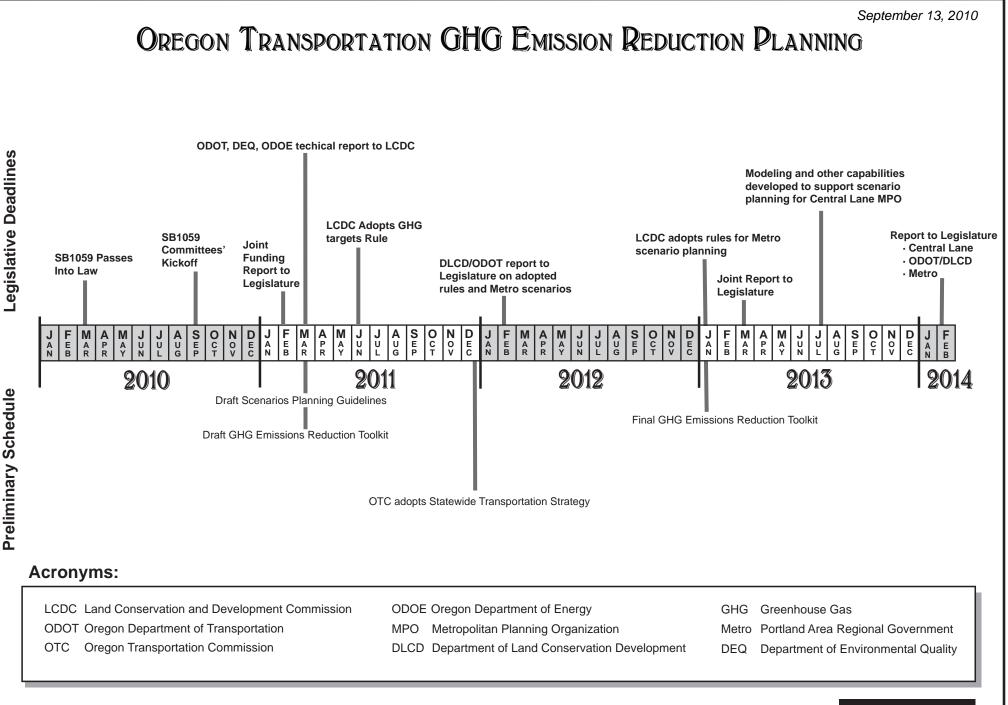
Communication and outreach milestones and events

DISCUSSION DRAFT

= State scenario planning and policy development milestones

OREGON TRANSPORTATION September 13, 2010 GHG EMISSION REDUCTION PLANNING





www.oregon.gov/odot/td/tp/sb1059.shtml

600 NE Grand Ave. Portland, OR 97232-2736 503-797-1700 503-797-1804 TDD 503-797-1797 fax



Re:	Summary of Climate Change Survey Findings
From:	Kim Ellis, Metro Planning and Development Department Heidi Rahn, Metro Sustainability Center
CC:	Metro Technical Advisory Committee, Transportation Policy Alternatives Committee
To:	Metro Policy Advisory Committee, Joint Policy Advisory Committee on Transportation
Date:	Monday, June 14, 2010

BACKGROUND AND PURPOSE

On April 2, 2010, MPAC and JPACT held a joint workshop to learn more about climate change science and policy choices related to greenhouse gas emission reduction. Nearly 200 people attended the workshop, which included other elected officials in addition to MPAC and JPACT members, local government staff, and non-government partners.

This memo summarizes key findings of an informal survey completed by workshop participants. While the survey was not intended to be a scientifically valid prioritization exercise, it will be useful for guiding future policy discussions on how the region should move forward to meet the state's greenhouse gas emissions reduction goals. The attachment includes graphs that illustrate the survey responses and additional written comments received.

SUMMARY OF SURVEY RESULTS

The policy toolbox survey was organized around the three major areas of greenhouse gas emissions for the Metro region: energy use, transportation, and material consumption.

Overall Results

At least 65 attendees responded to each policy option. All policy tools listed were identified as high or medium priority by at least 75 percent of the respondents. Each major area of greenhouse gas emission reduction opportunities received an additional 20-30 recommended policy options or comments.

The policy tools that were identified as **high priority** by more than 70% of survey respondents included:

- increased investment in green development and renewable energy;
- adoption of energy efficiency and green building standards;
- increased mixed use in centers and corridors; and
- expanded transit service.

Energy Actions

The policy option with the most support to reduce energy consumption and associated greenhouse gas emissions is the adoption of energy efficiency standards for buildings. Other recommended policy actions related to energy consumption include additional education and investment strategies, such as forming purchasing groups for renewable energy and energy efficiency retrofits and ensuring low income communities have access to financing options.

Transportation Actions

The top three strategies supported in the land use and transportation toolbox included an increase in mixed-use development in centers and corridors, an expansion of transit service, and an increase in vehicle fuel efficiency and use of lower-carbon fuels.

Material Consumption Actions

The policy option with the most support in reducing greenhouse gas emissions from material consumption was the adoption of green building standards for construction and materials. In addition to the policy actions ranked in the survey, respondents suggested requirements and incentives for manufacturers to limit the impact of product packaging and produce more sustainable products. They also encouraged stronger education around consumption choices.

Additional Comments

Several respondents noted that they would like more data regarding the cost and greenhouse gas reduction potential of the policy options. Metro is currently developing a greenhouse gas emissions analysis tools and procedures manual to outline how to conduct additional assessment of policy options.

NEXT STEPS

The various policy options will be further evaluated via the Climate Prosperity strategy and Climate Smart Communities (Greenhouse Gas Scenario Planning) work program. Staff will bring information to MPAC and JPACT for discussion this summer.

On April 2, 2010, MPAC and JPACT held a joint workshop to learn more about climate change science and policy choices related to greenhouse gas emission reduction. Nearly 200 people attended the workshop, which included other elected officials in addition to MPAC and JPACT members, local government staff, and non-government partners. Below are the unfiltered responses to a climate change policy survey completed by many participants.

Energy Toolbox Climate Change Policy Options Survey

Rate the priority of each policy option to indicate which policies the region and local governments should focus on to achieve the region's six desired outcomes and reduce the region's greenhouse gas emissions.							
	High	Medium	Low	Response Count			
Increase investment in green development and renewable energy	79.2% (57)	16.7% (12)	4.2% (3)	72			
Adopt energy efficiency standards	83.3% (60)	15.3% (11)	1.4% (1)	72			
Develop a system for monitoring energy use in buildings	40.6% (28)	43.5% (30)	15.9% (11)	69			
			Other (please specify)	31			
			answered question	72			
			skipped question	2			

	Other (please specify)					
1	A lot of energy use is behavioral. Until yuo address how people use buildings, you can't tackle this issue. (High)	Apr 5, 2010 8:15 PM				
2	Nuclear power (High)	Apr 5, 2010 8:31 PM				
3	Fund solar house retrofits with up-front money that is paid for over time with utility bill savings. (High)	Apr 5, 2010 8:48 PM				
4	Energy conservation education.	Apr 5, 2010 8:59 PM				
5	Support local jobs-housing balance, which uses less energy (high); recycle (medium)	Apr 5, 2010 9:01 PM				
6	water conservation (high)	Apr 5, 2010 9:19 PM				
7	increase education (high); simplify regulations and don't over regulate (high)	Apr 5, 2010 9:23 PM				
8	remove obstacles to growth and expansion (high); establish equitable distribution of costs (high)	Apr 5, 2010 9:27 PM				
9	New technology R&D ("low-tech" included) (high); homeowner projects-things that owners can do for various skill levels (high)	Apr 5, 2010 9:35 PM				
10	find ways to change permitting proctices to incent energy (high)	Apr 5, 2010 9:39 PM				
11	eliminate coal burning for energy in Oregon by 2020 (high)	Apr 5, 2010 9:43 PM				
12	Form purchasing groups for residents/businesses (medium)	Apr 5, 2010 9:48 PM				
13	education to general public on energy conservation (high)	Apr 5, 2010 9:51 PM				
14	adopt a regional policy of no garbage to landfill by 2030 (medium); explore "group" buying power for solar and weatherization (medium)	Apr 5, 2010 9:57 PM				
15	incentives for promoting positive change (high)	Apr 5, 2010 10:02 PM				
16	"green" rating for homes + rentals (high); standardize, optimize building codes- goal 50% more efficient (high)	Apr 5, 2010 10:05 PM				
17	energy and conservation (eg as per New Power Plan goals) (high); education of citizens on energy /true costs of energy (high)	Apr 5, 2010 10:11 PM				
18	energy conservation in low income communities (high)	Apr 5, 2010 10:16 PM				

Energy Toolbox

	Other (please specify)	
19	Monetize opportunity, in other words create a way for people to afford a \$60,000 solar panel (medium)	Apr 5, 2010 10:19 PM
20	education for public = supportive of govt efforts and regulations (high)	Apr 5, 2010 10:30 PM
21	Remove barriers to "selling" energy to the grid (medium); reconsider our allergy to nuclear power (high)	Apr 5, 2010 10:31 PM
22	energy efficiency incentives- first energy efficiency, then non-utility remewables (high); local renewable generation, utility scale (high)	Apr 5, 2010 10:36 PM
23	Education. Tax transportation (gas) more. (High)	Apr 5, 2010 10:45 PM
24	Finance retrofits of existing buildings regionwide. (High)	Apr 5, 2010 10:50 PM
25	provide incentives for installation/use of renewable energy (medium)	Apr 5, 2010 10:53 PM
26	Incent low energy use for buildings and require low energy use vehicles (high); design plan incent and regulate to make our growth and development sustainable (high)	Apr 5, 2010 10:55 PM
27	Create a uniform, statewide green building code. (High)	Apr 5, 2010 10:57 PM
28	invest in green jobs training/workforce development; build local economy and capacity to do green energy work in our region (high)	Apr 5, 2010 11:00 PM
29	existing building retrofits/improvements (high)	Apr 5, 2010 11:03 PM
30	make sure any new methods do not cost more- energy that they save ie solar panels take 5 years to offset energy used in production (high) (high)	Apr 5, 2010 11:06 PM
31	encourage place-based utility costs, where cost/unit increases with usage (high)	Apr 5, 2010 11:08 PM

Land Use and Transportation Toolbox Climate Change Policy Options Survey

Rate the priority of each policy option to indicate which policies the region and local governments should foc on to achieve the region's six desired outcomes and reduce the region's greenhouse gas emissions.				
	High	Medium	Low	Response Count
Increase mixed-use development in centers and corridors	72.7% (48)	24.2% (16)	3.0% (2)	66
Charge user fees	53.5% (38)	29.6% (21)	16.9% (12)	71
Expand commuter trip reduction and traveler information programs	41.8% (28)	46.3% (31)	11.9% (8)	67
Improve system efficiency	56.5% (39)	30.4% (21)	13.0% (9)	69
Expand bike, pedestrian and trail connections	58.8% (40)	36.8% (25)	4.4% (3)	68
Expand transit service	70.0% (49)	28.6% (20)	1.4% (1)	70
Manage parking	41.2% (28)	38.2% (26)	20.6% (14)	68
Increase vehicle fuel efficiency and use of lower-carbon fuels	70.8% (46)	23.1% (15)	6.2% (4)	65
Implement truck diesel retrofits and truck stop electrification	48.5% (32)	42.4% (28)	9.1% (6)	66
Increase freight rail capacity and fix freight rail system bottlenecks	50.0% (33)	34.8% (23)	15.2% (10)	66
			Other (please specify)	21
			answered question	74
			skipped question	0

Bate the priority of each policy option to indicate which policies the region and local governments should fee

	Other (please specify)			
1	Check Out: Jevon's Paradox increasing the efficiency of a natural (carbon) resource increases its total usage. To decrease actual resource consumption, you have to increase its price.	Apr 5, 2010 8:18 PM		
2	Increase fees/taxes associated with things that produce GHG e.g. carbon tax or similar (High)	Apr 5, 2010 8:35 PM		
3	Incorporate in early education curriculum, e.g. bus passes, heath infromation. (High)	Apr 5, 2010 8:45 PM		
4	Stop using freight as a rationalization for greater VMT. Advance walking everywhere. Strive to be region we can inhabit as pedestrians. (High)	Apr 5, 2010 8:54 PM		

Land Use and Transportation Toolbox

	Other (please specify)			
5	support local jobs-housing balance-reduces commuting in the region (high); encourage telecommuting (high); plant more trees (high)	Apr 5, 2010 9:03 PM		
6	better housing/jobs balance (medium)	Apr 5, 2010 9:25 PM		
7	mandate cost-effective use of multi-modal funds (high)	Apr 5, 2010 9:28 PM		
8	monitor energy and GHG impact of transportation projects (high)	Apr 5, 2010 9:40 PM		
9	push businesses to adopt flex time + telecommuting	Apr 5, 2010 9:49 PM		
10	bring neighborhood walkable destinations to suburbs (high)	Apr 5, 2010 9:58 PM		
11	adoption criteria (for both land use issues + transportation) should include carbon emissions and energy reduction (high)	Apr 5, 2010 10:03 PM		
12	flexible zoning, fast tracking for higher density, higher efficiency building types eg work/live, p.a.d.s., co-housing (high)	Apr 5, 2010 10:06 PM		
13	address school (medium)	Apr 5, 2010 10:19 PM		
14	land assembly and positive "write down' to incent location efficient buildings	Apr 5, 2010 10:31 PM		
15	Utilize rivers for instate freight more. (Medium)	Apr 5, 2010 10:48 PM		
16	property tax incentives for constructing sidewalks or improving street and row infrastructure to meet city goals (stormwater, trees, as well as pavement) (high)	Apr 5, 2010 10:50 PM		
17	improve reliability (not capacity) for trucks or freight routes, fix freight roadway bottlenecks (medium)	Apr 5, 2010 10:54 PM		
18	We don't have the information to rate some of the priorities listed (see paper survey for comments)	Apr 5, 2010 10:56 PM		
19	incentives for non-SOV commuting; cash-out employee parking	Apr 5, 2010 10:59 PM		
20	Greater emphasis on renovation and reuse of existing inventory. (High)	Apr 5, 2010 11:04 PM		
21	education (high); correct/reinforce subregional jobs/housing balance (high)	Apr 5, 2010 11:08 PM		

Materials Toolbox Climate Change Policy Options Survey

Rate the priority of each policy option to indicate which policies the region and local governments should f on to achieve the region's six desired outcomes and reduce the region's greenhouse gas emissions.				ould focus
	High	Medium	Low	Response Count
Expand food composting and other waste reduction programs	44.8% (30)	44.8% (30)	10.4% (7)	67
Promote local food production	50.0% (35)	40.0% (28)	10.0% (7)	70
Adopt green building standards for construction and materials	79.7% (55)	18.8% (13)	1.4% (1)	69
Promote product stewardship and producer responsibility	50.7% (35)	33.3% (23)	15.9% (11)	69
			Other (please specify)	27
			answered question	74
			skipped question	0

	Other (please specify)			
1	You need policy that encourages the reflection of individual consumption of goods. (High)	Apr 5, 2010 8:19 PM		
2	Adopt local sustainablity performance measures each city. (High)	Apr 5, 2010 8:45 PM		
3	Require manufacturers to receive and recycle 100% of all products and packaging. (High)	Apr 5, 2010 8:49 PM		
4	require recycling (high); institute incentives for energy saving products (high)	Apr 5, 2010 9:03 PM		
5	Less packaging, better quality.	Apr 5, 2010 9:09 PM		
6	Doesn't know how important the first question in this series is.	Apr 5, 2010 9:13 PM		
7	ensure that TRUE costs in energy, environment, and labor are paid (high)	Apr 5, 2010 9:28 PM		
8	need on-site or near site greywater, collected water supplies (high); energy efficient water & sewer systems (high)	Apr 5, 2010 9:36 PM		
9	pomote home & community gardens (high); metro "toolkit"	Apr 5, 2010 9:42 PM		
10	push adoption of standards that define materials such as LEED-NC + LEED0Home (medium); form purchasing groups that allow businesses and residents to buy in bulk (medium)	Apr 5, 2010 9:50 PM		
11	4 day work week- alternative work week schedules for public/private industry (high)	Apr 5, 2010 9:52 PM		
12	adopt statewide building codes for green results (high); finance incentives for houses/businesses to use (medium)	Apr 5, 2010 9:58 PM		
13	adopt zero waste target program, use waste for energy production (low)	Apr 5, 2010 10:06 PM		
14	education to get people to buy local products and only what you really need	Apr 5, 2010 10:16 PM		
15	develop comprehensive materials and waste reporting in manufacturing to identify waste stream opportunities (high); promote local manufacturing for goods needed locally- promote increased lifespan for goods (high)	Apr 5, 2010 10:25 PM		

Materials Toolbox

	Other (please specify)			
16	native landscaping (medium); tree planting (medium)	Apr 5, 2010 10:32 PM		
17	build and leveraged purchasing (high); green procurement assessment and implementation to reduce consumption (high)	Apr 5, 2010 10:36 PM		
18	Promote new designs that reduce square feet/person or per jobs. Programs to reduce overall consumption. Stop watering lawns in the summer. (High)	Apr 5, 2010 10:41 PM		
19	Encourage reuse of building materials.	Apr 5, 2010 10:49 PM		
20	incentives and zoning to encourage building more 20 minutes neighborhoods where they don't exist today (high)	Apr 5, 2010 10:50 PM		
21	Educate the public about GHG impacts of food choice. (Medium) Aggressive education and support around reducing comsumption. (High)	Apr 5, 2010 10:52 PM		
22	need costs and benefits to rank some items on survey	Apr 5, 2010 10:56 PM		
23	Promote purchase goods through both providing incentives, supporting local businesses and regulation of non-local businesses. (High)	Apr 5, 2010 10:57 PM		
24	public education / awareness campaign on this segment of emissions (medium)	Apr 5, 2010 11:00 PM		
25	system information approach, Eco infrastructure metrics	Apr 5, 2010 11:03 PM		
26	Promote local consumption	Apr 5, 2010 11:05 PM		
27	thoughtful consumption/buy less stuff, more durable, reusable, reparables (high); food source choice- red meat vs. fruit-veg, is more of a priority than food miles (medium)	Apr 5, 2010 11:05 PM		

Missing Policy Options Climate Change Policy Options Survey

What policy options are missing that should be considered?		
		Response Count
		40
	answered question	40
	skipped question	34

	Response Text				
1	The biggest single chunck of the GHG inventory is personal consumption, which is politically toxic to talk about. Until you address personal descrentionary consumption (ex. how many 2010 airplane miles are represented in this room today?), you just planning on the edges. How do you talk about reducing personal comsumption on an individual level? I dunno. Perhaps encourage the purchase of services (local, equitable, low carbon) over "things" (global, inequitable, high carbon)?	Apr 5, 2010 8:23 PM			
2	 Need high speed rail sooner. Engage youth/education/generational change. Urban forestry - carbon sequestration Oregon Tax structure needs radical overhaul less tax on income and property ownership and more move on consumption (reverse current paradigm) 	Apr 5, 2010 8:30 PM			
3	Emphasizing pricing that doesn't require much monitoring to enforce (and that doesn't cost much to enforce)	Apr 5, 2010 8:38 PM			
4	Increase funding for transit, so it can be expanded.	Apr 5, 2010 8:51 PM			
5	 Replace or build new infrastructure only when it promotes the urban transformation associated with creating resilient urbanism. Plan for high(er) speed inter-region rail. Complete regional trails to coast and Cascades. And don't pay people to do what they ought to do, price resource use accurately and make what you want easy, what you don't want hardreward "smart use" and smart locational choices. 	Apr 5, 2010 8:58 PM			
6	Technology - Where does it fit in? For example: electric vehicles, phone apps. Best Management Practices (BMPs) - How do we capitalize/leverage good models and examples that currently exist?	Apr 5, 2010 9:01 PM			
7	Planning and support of local (defined by walking/short bike trip distance) Jobs/housing balance this will reduce motorized transportation	Apr 5, 2010 9:07 PM			
8	 Energy: Develop new utility pricing and delivery models. De-couple utilities, dynamic pricing, smart grid and district energy. Energy: Develop new sources of revenue to fund infrastructure e.g. consumption tax (reduces consumption-related GHG emissions while funding infrastructure improvements). Focus on efficiency of "stuff" production: support efficiency in manufacturing and food processing operations (ex. see NWFPA + NEEA goals for Regional Food Processors and point person: Sergio Dias.) 	Apr 5, 2010 9:08 PM			

Missing Policy Options

	Response Text				
9	 Regulate products that are environmentally damagine. Education to reduce consumption Population growth is a huge issue - not easily addressed at the local level but education (esp. for women) and access to birth control is very important. 	Apr 5, 2010 9:11 PM			
10	Tax policy to incent behavior gas tax, carbon tax, energy tax not necessarily to raise money byt to price behavior.	Apr 5, 2010 9:14 PM			
11	nothing said/no conversation about the energy impact of water, maybe because Portland's exposure is likely low, but for the "burbs" it can be huge	Apr 5, 2010 9:21 PM			
12	Government policy should be to ensure that TRUE costs of energy and production of goods and services be borne by ALL.	Apr 5, 2010 9:30 PM			
13	The focus of our public education to understand the relationship between density and transportation efficiency should be "what's in it for existing residents" not just how it will help the future	Apr 5, 2010 9:44 PM			
14	Might have to look at statewide growth policy- how people and areas are distributed throughout state- what's the tradeoff of one more person in PDX vs Eugene vs Lakeview vs Coos Bay. Examine policy that strives to minimize greenhouse emissions per capita- where is it easiest to achieve this?	Apr 5, 2010 9:46 PM			
15	The role of water/waste water in energy use. Workforce-jobs location Brownfield redevelopment	Apr 5, 2010 9:47 PM			
16	Maybe green views a requirement of all depts and for appointment to committee include green/GHG requirements and evaluations in all projects Promote/incent remodels over new builds, for industry, commercial, and residential	Apr 5, 2010 9:51 PM			
17	high-speed rail- our regional impacts are not included in RTP beyond UGB RR freight- it wasn't included in RTP electric vehicle infrastructure was not included in RTP	Apr 5, 2010 9:55 PM			
18	Coordinate a regional implementation of electric charging opportunities	Apr 5, 2010 9:59 PM			
19	Education: of contractors, building trades, retail related to construction	Apr 5, 2010 10:04 PM			
20	education: re-instate home economics classes that include training in energy efficiency, home food prep, etc. Add strategies into RTP, RFP- regional consistency is important	Apr 5, 2010 10:10 PM			
21	Reduce individual/person energy consumption	Apr 5, 2010 10:14 PM			
22	Planting	Apr 5, 2010 10:15 PM			
23	Encourage housing IN malls Integrated habitat bldg approaches Preserve and restore open spaces and forests urban forestry eliminate "level of service" requirements for roads, replace w/ context sensitive solutions	Apr 5, 2010 10:18 PM			
24	incentives for replacing inefficient appliances for low-moderate income people cash up front and tax credit doesn't work for low-moderate income more use of "gray water" low interest loans	Apr 5, 2010 10:21 PM			
25	jobs and housing balance for a community gray water recycle retrofits and new builds	Apr 5, 2010 10:22 PM			
26	My priorities here are based on a preferance for managing demand first- then addressing supply issues next. Based on emission model/reporting goods/materials seem to be the highest priority. Recommend land use, also address how goods are manufactured as how their process inputs, outputs and waste can be integrated accross companies.	Apr 5, 2010 10:27 PM			

Missing Policy Options

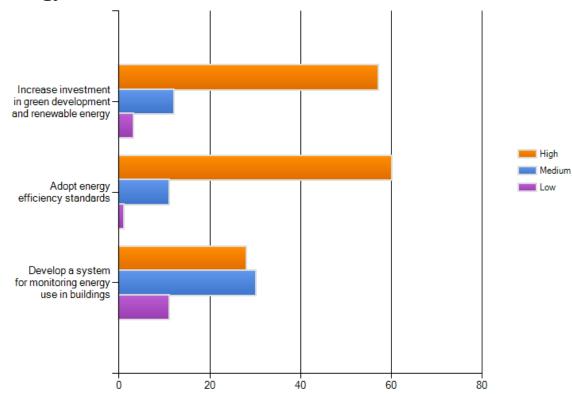
	Response Text				
27	Two criterion not really included in options 1) reversibility- if something can be done today that may have less immediate carbon reductions but influences in large ways the future; i.e. sprawl will force more driving and once built, will be very hard to reverse 2) life cycle cost analysis should be required to sort out what we prioritize for action	Apr 5, 2010 10:29 PM			
28	Adopt sustainability policies by local govts Require meaningful increased outreach by power/energy industry	Apr 5, 2010 10:30 PM			
29	Separate signal turning from transit signal priority	Apr 5, 2010 10:33 PM			
30	Education for public	Apr 5, 2010 10:35 PM			
31	PUC aspects related to useful feed in tariff, smart grid applications and other	Apr 5, 2010 10:38 PM			
32	rating system for residential buildings like LEED to recognize existing buildings that are resource efficient Targeted loans for efficiency improvements (clean energy works, solarize portland)	Apr 5, 2010 10:53 PM			
	Target re-building sites that are already developed and have infrastructure in place (streets, sewers) to develop more efficient buildings (like Headwaters Building in SW Portland- replaced an old eagles lodge with higher density efficient multi family development and green streets)				
33	 District energy Conprehensive adaptation strategy Aggressive affrestation and presentation of mutual systems. 	Apr 5, 2010 10:54 PM			
34	The amount of staff resources this region puts into the use of a dwindling financial resource, TIP, could better be used by spreading these staff and their time into and over exploring the myriad of other resource/planning choices and solutions presented at this session. This would be a huge shift, resulting in huge change which is completely within your/our control- a unique opportunity	Apr 5, 2010 10:58 PM			
35	regional parking tax to fund transit car sharing incentives no UGB expansion	Apr 5, 2010 10:59 PM			
36	regional green jobs policy framework including funding and training strategy equity needs to be made a priority: impacts of climate change should not be disproportionately distributed and the benefits of a clean/green economy should be equitably distributed	Apr 5, 2010 11:01 PM			
37	 4 day work week, telecommunting in more regional jurisdications. More opportunities for online transaction with government so residents needn't travel to government office buildings everytime one needs a service. Move forward in development of energy efficiency finance fund to improve retrofits of public and private buildings so they use less energy. 	Apr 5, 2010 11:03 PM			
38	education/outreach/community engagement	Apr 5, 2010 11:05 PM			
39	allocations should include some analysis of energy used to save energy, be sure the end result is positive	Apr 5, 2010 11:07 PM			
40	 Understanding that climate change requires a transformational culture change, leading to substantial individual and collective impact. The Portland region tends to over-regulated 1) substantial compliance expense that may or may not achieve goals 2) a confrontational rather than collaborative effort on the part of government and private/non-profit sectors 3) discouragement of creativity. To affect this transformational cultural change, governments at all levels need to develop the appropriate balance of regulation, incentive and education 	Apr 5, 2010 11:12 PM			

What immediate actions are you willing and/or able to take in your community to address climate change?	
	Response Count
	25
answered question	25
skipped question	49

	Response Text			
1	 Plant trees Use transit more Turn off lights in daytime Would buy a smaller more efficient house if I could sell the one I own (need some market recovery). 	Apr 5, 2010 8:30 PM		
2	All. We need to ramp up our ambitions. We are too tentative.	Apr 5, 2010 8:58 PM		
3	In Cornelius, we are 1) planning and constructing toward a jobs-housing balance 2) encouraged a new business, Summit Biofuel, that makes ethanol fuel from berry processing 'waste' 3) planting trees in award winning numbers, adopting a local (construction excise) tax discount incentive for building at higher densities 4) educating developers in green construction options, winning the County recycling award	Apr 5, 2010 9:07 PM		
4	Analyze, organize and implement strategies to increase livablity, reduce emissions, grow jobs, and increase prosperity (not just growth).	Apr 5, 2010 9:08 PM		
5	Buy less, buy better quality, talk about these issues in my community. I do not own a car. Support local businesses.	Apr 5, 2010 9:11 PM		
6	Code changes are happening committment to active transport is happening we would LOVE more transit already working with chamber on commute reduction options We have robust community support for all of these	Apr 5, 2010 9:19 PM		
7	building code, comprehensive plan, community development code run through an environmental sustainability lens before adopting changes to code/plan. Ensure that decisions help the environment Public outreach and education	Apr 5, 2010 9:27 PM		
8	Reduce obstacles to private enterprise production of business creation or expansion which will produce more local employment. Encourage agriculture which is community based and supported. Shift government services to utilize community based local volunteer 501-3(c), faith based, etc. organizations. Provide more local government services.	Apr 5, 2010 9:30 PM		
9	4-day work week, tree canopy, restoration, bike-ped improvements, more charging stations, TDM	Apr 5, 2010 9:47 PM		
10	 we are doing tree code in unincorporated urban area we are purchasing more electric vehicles in fleet we have a commitment to all new bldgs we build or renovate to be LEED certified We are revising our code to be promoting sustainable bldg practices We are putting our RRA energy retrofits and to residential and commercial and small business 	Apr 5, 2010 9:55 PM		

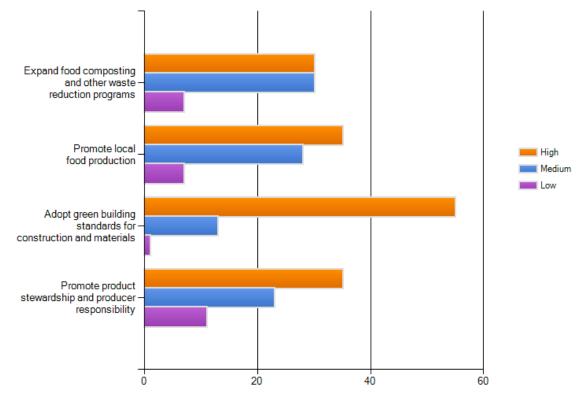
Immediate Action Willing/Able To Take

Response Text		
11	Lead action groups to take on information sharing Lead political groups to explore expansion of our purchasing power	Apr 5, 2010 9:59 PM
12	Appointing Climate change advocates to local committees and decision-making Boards and Commissions Adopt city goals with performance standards and metrics	Apr 5, 2010 10:04 PM
13	Appoint people to commissions etc that are committed to addressing climate change and other sustainability issues (planning, parks, oversight, etc) Fund continued work on regional Climate Strategy- especially climate prosperity Replace fleet with more efficient, alternative fuel vehicles	Apr 5, 2010 10:10 PM
14	developing new building codes redevelopment of streets "green"	Apr 5, 2010 10:21 PM
15	increase green power purchasing plant more trees and shrubs communicate existing programs of energy efficiency to my community	Apr 5, 2010 10:22 PM
16	First and foremost education and advocacy- Support. Tell this story to move in the region.	Apr 5, 2010 10:27 PM
17	Hard to check boxes rather than thinking about systematic approach looking at cost benefit of solution, win-win solutions, and how the solutions work together to create synergistic benefits that are more than the sum of their parts	Apr 5, 2010 10:33 PM
18	 Land use changes Promote transit and construction Improve operations for energy efficiency and better materials use 	Apr 5, 2010 10:35 PM
19	Completed GHG inventory (local govt operations) Implementing energy efficiency retrofits, street and signal timing, solar PV installations, EV charging stations, LEED certified buildings, high density multi- amenity planning, developing climate action plan, community sustainability task force, city sustainability plan, alternative fuel vehicle fleet (CNG hybrid, all-electric when available)	Apr 5, 2010 10:38 PM
20	Stop teh CRC in its present form; I just need 3 more votes.	Apr 5, 2010 10:42 PM
21	Clean energy works Solarize Southwest Portland Green Streest / bike and sidewalk infrastructure (co-benefits) = triple win	Apr 5, 2010 10:53 PM
22	I look forward to improving on current Portland, regional, and state efforts to reduce GHG.	Apr 5, 2010 10:54 PM
23	assist Metro in making a transition to climate-friendly government operations	Apr 5, 2010 11:01 PM
24	 Factor in long-tern costs, local sourcing of materials When analyzing contract bids Switch out my appliances with more energy efficient appliances. 	Apr 5, 2010 11:03 PM
25	 I am a private planner, so the answer is individual rather than governmental: 1) ask myself is this car trip necessary? Can I combine trips? Can I bike or take transit instead? 2) turn off lights, heat, computers and other appliances when not in use 3) consider buying new appliances, bathroom fixtures, light bulbs, cars even when the ones I have still have life in them. Balancing energy/water conservation against cost savings 	Apr 5, 2010 11:12 PM

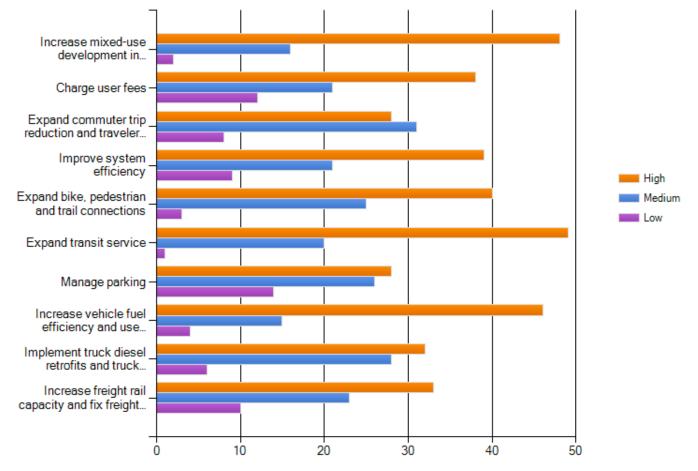


Energy Toolbox (number of responses out of 72 survey responses)

Materials Toolbox (number of responses out of 74 survey responses)



Land use and Transportation Toolbox (number of responses out of 74 survey responses)





Department of Transportation Region 1 123 NW Flanders Street Portland OR 97209-4037 (503)731-8200 FAX# (503)731-8259

September 22, 2010

TO:MTACFROM:Lainie Smith, ODOTSUBJECT:Automatic 30% Trip Reduction in Title 6/Regional Transportation Functional Plan

This memo addresses ODOT's interest in reduction of vehicle miles travelled and highway safety and operational issues when plan amendments are being considered. Because of these interests, ODOT has concerns regarding an automatic 30% reduction in vehicular trips as proposed in the draft Urban Growth Management Functional Plan (UGMFP) Title 6. Current draft Title 6 provisions would allow local jurisdictions to assume 30% fewer vehicular trips than reported in the ITE Trip Generation Manual as part of the traffic impact analysis prepared for plan amendments subject to section -0060 of the TPR, provided certain transportation and land use actions are completed that are generally associated with lower trip generation rates.

The Oregon Transportation Commission (OTC) noted concerns regarding the 30% reduction at its May 2010 meeting when discussing the RTP. At that time, some of the land use actions were yet to be defined in Title 6 of the Urban Growth Management Functional Plan, and findings had not yet been drafted to give explanation for the 30% reduction in trips. So, Metro agreed to defer that provision of the RTFP until the findings and UGMFP Title 6 amendments were complete.

ODOT has reviewed the findings (RTP Appendix 5-2) and draft UGMFP Title 6. We continue to have concerns that the actions required for eligibility for a 30% reduction are not adequate to warrant the extent of the proposed trip reduction. As it is, Title 6 does not require specific *minimum* densities or a mix of uses, but only requires local jurisdictions to amend their plans and codes to *allow* certain *recommended* densities and mix per section 3.07.620.D.2 and section 3.07.640. Similarly, the Regional Transportation Functional Plan requires identification of operational, safety, pedestrian and bicycle needs and solutions, but does not require actual investment in or implementation of the identified solutions.

ODOT recognizes that balancing land use and transportation involves the balancing of multiple objectives and values. If a 30% reduction in assumed vehicle trips helps overcome a perceived barrier or "dampening effect" on 2040 implementation, and helps re-direct the conversation from being strictly about mobility or congestion to those other values such as safety, managing the existing system efficiently, maintaining freight reliability, providing complete streets, and encouraging alternative modes of transportation, we can support a proposed 30%--or higher--trip reduction with changes as proposed later in this memo.

Our interest is not in exact trip generation numbers or the resulting volume/capacity ratios. Rather, ODOT would like the opportunity to coordinate with the local jurisdiction and Metro to address traffic impact study assumptions and methodology, as well as to suggest potential mitigation measures such as sidewalk and pedestrian crossing improvements, local circulation improvements, and safety and operational improvements such as turn lanes, signal coordination, and access management. These are the types of improvements that local TSPs and development codes are expected to identify according to the RTFP and UGMFP.

ODOT has participated extensively in the development of Title 6, the 2035 RTP, and the RTFP to express these interests as well as support for the 2040 Growth Concept, the region's six desired Outcomes, and the RTP Policy Framework. When working with local jurisdictions on plan amendments, ODOT Region 1 staff often advocates for compact, transit- and pedestrian-friendly development features such as local street connectivity or lower parking ratios rather than capacity improvements. We have not objected to or appealed any plan amendments that implement the 2040 Growth Concept and RTP policy framework. The amendments that we request below are intended to further this collaboration.

We offer two alternatives for amendments to Title 6 and the RTFP that would address our concerns, as well as amendments that we request to be included with either alternative. These are listed below:

1. Tiered Approach

The attached table provides a tiered approach to the trip reduction provisions of Title 6. The tiers were designed to acknowledge the different trip reduction impacts of small scale Transit Oriented Development in the vicinity of light rail stations with strict parking management in place, versus development anywhere in Centers, Main Streets, and Corridors served by bus transit. The specific requirements and trip reductions are intended to provide a concept for an approach and could be adjusted based on additional consideration.

2. Additional Title 6/RTFP Requirements to Promote Trip Reductions

- A. To be consistent with the TPR section -0060 (6) and (8), local jurisdictions need to limit new low intensity, auto-oriented uses. This could be accomplished by amending section 3.07.630.B.2, as follows:
 - (2) Revised its comprehensive plan and land use regulations, if necessary, to allow the mix and intensity of uses specified in section 3.07.640 <u>and to limit or not allow new auto-dependent and low-intensity or land extensive uses, such as most industrial uses, automobile sales and services, gas stations, car washes, storage facilities, and drive-through services.</u>
- B. To remedy inconsistencies between the RTFP and UGMFP Title 6, amend section 3.08.510 of the RTFP to specifically list each of the actions required to take the 30% trip reduction, eliminating the cross-reference to section 3.08.230.E. The list of actions should be identical to the list of actions in the UGMFP Title 6, section 3.08.630.B.
- C. In order to be eligible for the 30% trip reduction, parking management plans should be required regardless of which 2040 design type the proposed plan amendment is located in. Section 3.08.410(I) of the RTFP does not include Corridors and Main Streets: Amend this section as follows:

I. Cities and Counties shall adopt parking policies, management plans, and regulations for Centers, <u>Corridors, Main Streets</u>, and Station Communities....

Alternatively, if Metro does not wish to require parking management plans for Corridors and Main Streets except as an eligibility action for the 30% trip reduction, add the following section to 3.08.410 as follows:

<u>J.</u> To be eligible for the 30% trip reduction provided for in section 3.07.630.B of Title 6 of the UGMFP for Corridors and Main Streets, Cities and Counties shall adopt parking policies, management plans, and regulations consistent with 3.08.410(I) in those Corridors and Main Streets.

3. Other Amendments

A. We have a much better chance of developing agreeable solutions on potential plan amendments when local governments coordinate with us early. This could be helped by adding a provision to section 3.07.630.B. as follows:

No later than 45 days prior to the first evidentiary hearing, provided notice to and coordinated with ODOT to:

- i. agree on traffic impact analysis methods and assumptions; and
- ii. consider and address impacts to state highways.
- B. Amend section 3.07.630.B.3 to clarify that as follows:
 - 3. <u>AAdopted a plan to achieve the non-SOV mode share targets adopted by the city or</u> county pursuant to section 3.08.230 of the Regional Transportation Functional Plan (RTFP) that includes:

Attachment

Draft	tiering stru	cture for trip reduction credits in 2040 Growth Concept areas.
Tier	Reduction	Characteristics and Strategies Required for Plans to Qualify
1	30%	 2040 Designation:¹ Central City; TOD developments within ½ mile of HCT station within Regional Center, Station Community, Town Center, Main Street, or Corridor Transit:² High-capacity transit in place or in FC RTP, pedestrian access to major transit stops in place or funded (in CIP or on SDC list etc) Parking Management: no minimum parking requirements; maximum parking ratios below levels set by regional parking ratios; parking management plan that includes parking pricing for on and off-street supply Land use: Allows Title 6 densities and requires minimum density and mix or min transit orientation index (as defined in HCT Plan); prohibits new autodependent uses (as defined in TPR -0060). Connectivity: Existing or planned streets meet certain intersection density TSMO/TDM: Plan adopted, TMA formed; universal transit pass program and/or parking cash out regulations developed for major institutions or at municipal
		 Destination accessibility: number of jobs accessible by transit within X minutes exceeds, by vehicle within Z minutes exceeds
2	25%	 2040 Designation: locations within Regional Center, Town Center, Station Community, Main Street boundaries, further than ½ mile from HCT station; nodes within ¼ mile of major transit stops along Corridors that meet RTFP transit requirements Transit: Frequent service bus in place or FC RTP, pedestrian access to major transit stops in place or funded Parking Management: Parking management plan that includes pricing or time limits for on-street supply; no minimum parking requirements; maximum parking below level set by regional parking ratios Land use: Allows Title 6 densities and requires minimum density and mix or transit-orientation index; prohibits new auto-dependent uses; Connectivity: Existing or planned streets meet certain intersection density; TSMO/TDM: Plan adopted, identifies mandatory actions for employers
3	20%	 2040 Designation: Regional Center, Town Center, Station Community, Main Street, and Corridor Transit: Frequent service bus planned, pedestrian access to major transit stops in TSP and/or Code, Parking Management: parking management plan, no minimum parking requirements; maximum parking meets regional parking ratios Land use: Allows Title 6 densities and mix; prohibits new auto-dependent uses Connectivity: Existing or planned streets meet certain intersection density; TSMO/TDM: Plan adopted
4	15%	 2040 Designation: Central City, Regional Center, Town Center, Station Community, Main Street, and nodes with pedestrian district designation at major or minor transit stops along Corridors Transit: Fixed-route bus, ped. access to major transit stops in TSP and/or Code Parking Management: parking management plan, min and max parking ratios meet regional parking ratios

¹ Locations shown to have similar planned characteristics as a qualifying 2040 designation may be eligible for the same credits ² Transit service must be present or in the Financially Constrained RTP to count for a given tier.

		 Land use: Allows Title 6 densities and mix, prohibits new auto-dependent uses Connectivity: Existing or planned streets meet local street connectivity requirements TSMO/TDM: Plan adopted
5	10%	Meets the requirements of the TPR [660-012-0060(8)].



Appendix 5.2 2035 Regional Transportation Plan Phase 1 Motor Vehicle Trip Generation Rates Adjustment Research and Findings

1.0 INTRODUCTION

With infrastructure costs increasing beyond budgets and climate change forcing more sustainable, smart growth actions, it is integral to understand how the built environment (e.g., both land use and transportation) influences travel behavior (number of trips, trip length, mode choice), and whether different policies and programs reduce trip-related impacts and associated costs to the transportation infrastructure system. Current ITE rates represent travel behavior for single lots and uses, primarily measured in low-density suburban areas. Despite years of independent research that indicates a more compact urban form with access to transit and a greater mix of uses generates fewer and shorter vehicle trips, local governments primarily use current ITE trip generation rates to evaluate transportation impacts, determine parking ratios, calculate transportation system development charges (SDCs), and make key planning and infrastructure decisions. Under the Oregon Transportation Planning Rule, section -0060, and Oregon Highway Plan, Policy 1.F.6, local governments are required to demonstrate that plan amendments and zoning changes cause no further degradation to state-owned facilities or mitigate the degradation anticipated from the proposed amendment. Thus, it is integral to understand how the built environment influences travel behavior, and calculate trip rates that reflect the entire activity spectrum of different development typologies.

This alternative approach is extremely important in determining the impact of different development types on the transportation system to: 1) avoid over-planning the infrastructure system for the surrounding land uses; 2) suggest strategies and investment priorities to encourage more compact, mixed-use areas with more transportation choices and 3) avoid creating regulatory and/or financial barriers to compact form envisioned by local, regional and statewide plans (i.e. uniform TSDCs can result in lower impact development paying the same rates, and thus subsidizing development with higher impact costs to the transportation system).

The first phase of the research centers on research conducted over the last ten years into trip generation rates in mixed-use, pedestrian-friendly and transit supportive development. Collective research on trip generation rates shows areas with compact urban form, access to transit and a greater mix of uses generates shorter vehicle trips and a 20-50% reduction in vehicular trips, confirming ITE trip generation rates tend to overestimate automobile trips for compact, mixed-use development patterns.

Recent data collection in areas with these development characteristics within the Portland region showed an average reduction of 40 percent between the ITE vehicle trip rates and observed trips.

These consistent findings and local data provide the reasonable nexus for allowing local governments in the region to apply a 30 percent motor vehicle trip reduction credit when conducting a traffic impact analysis on plan amendments that will result in mixed-use, pedestrian-friendly and transit supportive development located in 2040 centers, main streets, station communities and corridors served by high-quality transit. The 30 percent trip reduction credit is allowed pursuant to Section 3.08.510B of the Regional Transportation Functional Plan (RTFP), contingent on approval of Title 6 of the Urban Growth Management Functional Plan in December 2010.

The second phase of this research will focus on evaluating more data points for the full set of 2040 land uses and development characteristics to establish additional statistical correlations for this region. Metro has applied for an Oregon Transportation Research and Education Consortium (OTREC) grant to complete the second phase of this work by October 2011. Other trip generation and reduction research by the Transportation Research Board (TRB), Institute of Transportation Engineers' (ITE) and other researchers will also support this effort.

This document is organized into the following sections:

- 1.1 Background and Problem Statement
- 1.2 Relevant Trip Generation and Reduction Research
- 1.3 Investment Toolkit: System Development Charges Report
- 1.4 Summary and Recommendations for Future Research

1.1 BACKGROUND AND PROBLEM STATEMENT

During land use review and development permitting processes, public agencies commonly require estimates of vehicle travel impacts associated with proposed land use projects, assessments of their potential contribution to traffic congestion, and identification of appropriate mitigation strategies. These strategies often include mitigation fees such as system development charges and traffic impact fees, private developer contributions, and specific facility improvements to address traffic impacts.

The Institute of Transportation Engineers' (ITE) *Trip Generation* Manual has been the definitive guide and continues to be the primary source for estimating vehicle traffic impacts associated with proposed land use projects. In preparing traffic and transportation impact analyses, planners and engineers often rely on the ITE published trip generation rates for different types of land uses (e.g., institutional, residential, commercial, industrial).

The *ITE Trip Generation* manual states that the trip generation data is an estimate and may not be truly representative of the trip generation characteristics of a particular land use. This is largely due to the fact that ITE data typically reflects single-use, isolated suburban development usually lacking a mix of transit-supportive uses, availability and proximity of transit service, and the existence of pedestrian and bicycle facilities.

As a result, the use of ITE trip generation rates for proposed mixed-use urban infill development projects served by transit and having good bicycle and pedestrian access could significantly over estimate vehicular traffic impacts. A growing body of research supports this over-estimation and the current *ITE Trip Generation* manual rates are not sufficient to guide the assessment of impacts of these types of proposed infill development projects. ITE advises traffic engineers to adjust average trip generation rates for areas with good public transportation however there is no standardized tool for making these adjustments, and most local jurisdictions do not have the capacity to conduct their own data collection. The research is also showing lower trip generation rates for other land use characteristics, such as compact and mixed-use development, independent of access to good public transportation. The ITE manual is currently undergoing review and is expected to include trip generation rates for mixed-use and transit-oriented development in its update.

It is the policy of the Portland metropolitan region to encourage compact, mixed-use development in 2040 centers and corridors served by high-quality transit and well-connected multi-modal streets designed to support walking and bicycling. The application of over-

estimated/exaggerated/inaccurate/higher than actual trip generation rates when assessing the impact of land use changes and specific infill development proposals may have unintended consequences that will limit the region's ability to achieve the 2040 Growth Concept vision.

Infill development is defined as new development and redevelopment projects located on vacant or underutilized land within existing developed areas. Trip generation rates that more accurately reflect travel patterns of transit-oriented and mixed-use development would account for the benefits of reduced vehicle travel demand in these areas and could be applied in the following types of transportation analyses:

- Calculating transportation system development charges, private developer fees and other traffic impact fees.
- Determining whether a "significant effect" occurs from proposed plan amendments or land use changes, as required under Oregon's Transportation Planning Rule (TPR) (Section 0060).
- Demonstrating that a proposed high-capacity transit (HCT) corridor meets the 2035 RTP System Expansion Policy (SEP) framework targets.
- Setting appropriate parking ratios.
- Identifying investment needs and priorities to maximize existing infrastructure.

Quantifying motor vehicle trip reduction credits is necessary because the ITE *Trip Generation* manual developed vehicle travel rates using data from suburban areas with little or no transit service, poor pedestrian access, single-use development patterns and low densities – all conditions that facilitate greater automobile use. Recent research has indicated that behavioral response to contextual factors such as density, diversity in land use, pedestrian-friendly and street grid design, connectivity, and regional accessibility influence travelers' trip-making decisions and should be accounted for when

evaluating the potential impacts of new mixed-use development proposals.¹

The purpose of this research is to demonstrate that the 30% trip reduction included in the RTFP represents the conservative side of trip adjustment findings for mixed-use, pedestrian-friendly and transit supportive development. Phase 2 will identify alternative methods for determining trip generation rates that more accurately reflect the motor vehicle traffic impacts associated with mixed-use, pedestrian-friendly and transit supportive development. The results of Phase 2 may result in increasing adjustments to trip reductions after additional local data is collected.

1.2 LITERATURE REVIEW OF TRIP GENERATION/REDUCTION RESEARCH

A substantial body of research is devoted to understanding the impact of various land use, design, and demand management strategies on travel behavior. Much of the research conducted analyzes variables that affect travel behavior in the form of vehicle miles traveled (VMT), auto ownership, trip length, and shifts in mode share. This research over the last few decades has shown that compact, mixed-use areas have lower levels of automobile use per capita, greater use of alternative modes, and tend to generate shorter trips.

This literature review focuses specifically on research into the effects of the built environment that demonstrate that transit-oriented pedestrian friendly mixed-use development has lower vehicle trip generation rates than calculated using the standard ITE rate. This section reviews the major studies and research quantifying the trip reduction effects of various land use and programmatic strategies that will be implemented through the Urban Growth Management Functional Plan (UGMFP) and Regional Transportation Functional Plan (RTFP). The research is organized into the following strategy and policy areas:

- "D" Factors—Density, Diversity, Design, Destinations, Distance to Rail
- Transit and Transit-oriented Development
- Transportation Demand Management and Parking Management
- Socioeconomic Status

Effects of the "D" Factors—Density, Diversity, Design, Destinations, Distance to Rail

Many studies are organized by different travel purposes (e.g. commute, non-commute, homebased, etc.), analytical methodologies (simulations, aggregate and disaggregate studies), and types of independent variable used. However, the results of these different studies are aggregated to develop typical elasticities of various explanatory variables. Perhaps the most widely cited study of this type was conducted by Ewing and Cervero in *Travel and the Built Environment* (2001). After compiling data from roughly 50 studies on travel impacts and the built environment, the authors developed travel demand elasticities influenced by variables describing the built environment such as neighborhood form, land use patterns, transportation network, and urban design.

¹ Ewing, R. and R. Cervero, 2001, *Transportation Research Record: Journal of the Transportation Research Board*, *No. 1780*, pp. 87-113

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These relationships were further aggregated creating typical elasticities for vehicle trips and VMT with respect to the "4D" indicators of the built environment: Density, Diversity, Design, and Destination Accessibility. Cervero and Kockelman (1997) originally developed a 3D approach minus the 4th "D" – Destination Accessibility. However, a Destination variable (also referred to as Regional Accessibility) was introduced as a way to generate a more accurate representation of trip generation in conventional suburban development patterns. Because travel behavior is influenced differently by density, mix of uses and design in more suburban locations as compared to more urbanized locations, the destination factor accounts for the benefits of regional clustering and locating development along strategic transportation corridors. The "typical" elasticities shown in Table 1 can be used in the absence of a localized study as a way to estimate default trip reductions as the built environment changes.

		Vehicle Miles Traveled (VMT)
Density	Household/population density	04
	Job density	00
Diversity (Mix)	Land use mix	09
	Jobs-housing balance	02
Design	Intersection/street density	12
	% 4-way intersections	12
Destination Accessibility	Job accessibility by auto	20
	Job accessibility by transit	05
	Distance to downtown	22
Distance to Transit	Distance to nearest transit stop	05

Table 1 – Typical Elasticities for the 4Ds

Source: Ewing and Cervero (2001). *Travel and the Built Environment—A Meta-Analysis*

These elasticities are useful in travel forecasting and in sketch planning and are intended to be additive. Thus, the impact of the built environment on travel using each "D" variable cumulatively could contribute to a significant decrease in vehicle miles traveled. Trip generation at the nonresidential end is also influenced by density, but to a much lesser degree (Cervero, 1989, cited in Kuzmyak et. al, 2003). There are also far fewer studies investigating this relationship, and there is no comparable dataset to that of residential density. Three of the most important variables identified in the literature² are used to calculate the quality of the bicycle and pedestrian environment. They are as follows:

- Intersection density, which measures street connectivity. A well-connected grid (high intersection density) provides better opportunities for pedestrian travel than cul-de-sacs and "loops and lollipops" (low intersection density).
- Sidewalk completeness
- Bike network completeness

In the same way, the 1000 Friends of Oregon study (1993) produced for the Portland region's LUTRAQ

² See, for example, Dill (2003); Parsons Brinkerhoff (1993); Kuzmyak et al. (2003); Ewing & Cervero (2001); and Ewing (1999).

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effort found that factors which enhance the pedestrian environment, significantly influence mode choice. Pedestrian zones with high pedestrian environment factors (e.g. factors that are synonymous with good urban design), tended to observe more transit, pedestrian and walk trips and fewer vehicle trips.

The "D" factor approach is gaining increased confidence as a reliable estimator for trip reduction. For example, in the Urban Land Institute's *Growing Cooler* report (2008), the significant effects of compact development on travel behavior were shown to reduce vehicle miles traveled by 20 to 40 percent. The Report's findings summarize nearly 100 studies that looked at the issue from varying angles, but all show that residents of compact, mixed-use, transit-served communities drive less:

- Research that compares overall travel patterns among regions and neighborhoods of varying compactness and auto orientation;
- Studies that follow the travel behavior of individual households in various settings; and
- Models that simulate and compare the effects on travel of different future development scenarios at the regional and project levels³.

Similar research from Reid Ewing used data from six large, diverse US metropolitan regions to develop a new methodology for more accurately predicting the traffic impacts of mixed-use developments. The regions selected were Atlanta, Boston, Houston, Portland, Sacramento and Seattle. On average, the research found that a total of 29 percent of the total trip ends generated by mixed-use developments put no strain on the external street network, generate very few vehicle miles traveled, and should be deducted from ITE trip rates for stand-alone developments⁴. In the Portland region, the Reid Ewing research showed a decrease in VMT of X and trip length of Y.

Irrespective of the type of research approach used, the findings remain the same: mixed-use, pedestrian-friendly and transit supportive development reduces the number of trips and the miles that residents drive.

Effects of Transit & Transit Oriented Development

Transit-supportive environments play a significant role in mode choice and trip generation as well. Nelson\Nygaard developed a Transit-Orientation Index (1997) that determined relative orientation towards transit and potential ridership per acre for the Portland Metro region. The independent variables used in a regression analysis to determine potential ridership included employment per acre, retail employment per acre and housing per acre. In the end, these variables explained 81 percent of the variance in ridership per acre.

More recently, TCRP Report 128 looked at the effects of transit-oriented development on trip generation among other independent variables (Cervero and Arrington, 2008). This study builds upon previous comprehensive studies that linked rates of transit use, and reduced vehicular trips, with

³ Urban Land Institute, *Growing Cooler: The Evidence on Urban Development and Climate Change. p. 11.*

⁴ Ewing, Reid et al., *Traffic Generated by Mixed-Use Developments – A Six-Region Study Using Consistent Built Environmental Measures.*

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working and living near transit stops (Lund, Cervero and Wilson, 2004). The study found that observed vehicle trips in four metropolitan areas (Washington, D.C., Philadelphia/New Jersey, San Francisco, and Portland) were far below the average ITE trip generation rates for each land use. Furthermore, the 17 TODs studied averaged 47 percent fewer vehicle trips than ITE Trip Generation estimates, demonstrating that the conventional method of estimating trip impacts greatly overestimates trip generation rates for transit-supportive environments.

The Institute of Traffic Engineers (ITE) Manual currently states that TOD-style housing generates an average of 6.67 trips per unit per day. The TCRP research took detailed counts of 17 independent TOD-style housing developments in four U.S. cities, which showed a trip count of 3.55 trips per unit per day, a decrease of 47 percent. The Portland Metro Region was represented in the study with five local TOD developments projects with 90 to 711 units each. **The results of those five locations showed an average difference of 40 percent between the ITE vehicle trip rates and observed trips.** The results from the Portland locations can be seen in the Table 2.

TOD SITE	OBSERVED	ITE	TOD RATE	PERCENT
	TRIP RATE	TRIP RATE	AS A PERCENT OF ITE RATE	DIFFERENCE
Center Commons	4.79	6.72	71.30%	-28.70%
(City of Portland)				
Collins Circle	0.88	6.72	13.08%	-86.92%
(City of Portland)				
Gresham Central	5.91	6.72	87.95%	-12.05%
(City of Gresham)				
Merrick Apts.	2.01	6.72	29.84%	-70.16%
(City of Portland)				
Quatama Crossing	6.34	6.72	94.38%	-5.62%
(Beaverton)				
Average	3.99	6.72	59.31%	-40.69%

Source: TCRP Study (2010)

Table 3 shows basic characteristics about each of the TOD sites in the Portland Metropolitan region.

Table 3 – Background on Case Study TOD Housing Projects

TOD Site	Housing Type	# of Stories	# of Units	# of On- Site Parking Spaces	# of Driveways	Nearest Rail Station	Shortest Walking Distance from Project to Nearest Station (feet)
Center Commons	Apartments	4	288	150	2	60 th Ave. MAX	450
Collins Circle	Apartments	6	124	93	1	Goose Hollow MAX	525
Gresham Central	Apartments	3	90	135	2	Gresham Central MAX	620
Merrick	Apartments	6	185	218	1	Convention Center MAX	700
Quatama Crossing	Apartments	3	711		3	Quatama MAX	2000

Source: TCRP Study (2010)

Metro's current TOD program focuses its efforts in areas with High Capacity Transit accessibility and/or Frequent Bus Service, two types of transit that occur almost exclusively in Metro-designated 2040 Centers and Corridors. TOD style development has been embraced by local jurisdictions in their own 2040 Centers and Corridors, indicating that local governments intend to implement this type of development as they implement the 2040 Growth Concept in their local plans.

The policy value of transit-oriented development projects in centers and corridors is well understood. With an expanding inventory of TOD projects around the country, there is growing evidence about the value of compact, transit-oriented housing and its impact on trip generation in centers and corridors. The TCRP research clearly shows that TOD projects produce fewer automobile trips than more "traditional" lower-density, single use development patterns – on average 40 percent less.

Effects of TDM and Parking Management

Transportation demand management (TDM) refers to the trip reduction potential of strategies that manage or influence how residents and employees use the transportation system. The following subsections summarize the research behind the trip reduction savings attributed to various TDM strategies.

Parking Management

TDM programs have been shown to reduce employee vehicle trips by up to 38 percent, with the largest

reductions achieved through parking pricing⁵. Donald Shoup expands upon cash out programs finding that single occupancy vehicle trips declined by 17 percent and other modes increased significantly (carpooling by 64 percent, transit by 50 percent, and walking/biking by 33 percent) after a parking cashout program was introduced at various urban and suburban worksites with varying levels of transit service⁶. Another study of City of Pleasanton (CA) employees saw a doubling of participation between 1993 and 2004 and an annualized reduction of 20,625 commuter vehicle trips⁷.

Parking supply is another key indicator of trip generation. Research shows that there is an indirect link between reduced minimum parking requirements and a decline in vehicle trips. Setting minimum parking requirements and not imposing parking maximums often results in lower parking prices, as the supply of parking exceeds demand, which in turn increases vehicle ownership and the propensity to use a vehicle for work trips.

Studies reveal that the elasticity of vehicle ownership with respect to price is typically -0.4 to -1.0, hence a 10 percent increase in total vehicle costs reduces vehicle ownership 4 –10 percent⁸. Average income households spend an average of \$3,800 annually per vehicle⁹. Assuming that residential parking spaces have an annualized cost of \$800 per year, parking costs add 21 percent to vehicle costs for an average income household. Assuming a vehicle price elasticity of –0.7 (Table 4), minimum parking requirements that exceed the actual demand for parking increase vehicle ownership about 15 percent. The resulting increase in vehicle ownership produces more vehicle trips. Conversely, decreasing both minimum and maximum parking requirements and eliminating minimum parking requirements would result in a proportionate reduction in residential vehicle trips¹⁰.

Annual (Monthly) Fee	-0.4 Elasticity	-0.7 Elasticity	-1.0 Elasticity
\$300 (\$25)	4%	6%	8%
\$600 (\$50)	8%	11%	15%
\$900 (\$75)	11%	17%	23%
\$1,200 (\$100)	15%	23%	30%
\$1,500 (\$125)	19%	28%	38%

Table 4 - Vehicle Ownership Reductions from Residential Parking Pricing

Source: Nelson\Nygaard (2010), Santa Monica LUCE Trip Reduction Impacts Analysis

Subsidized Transit Passes

Free transit pass programs have been shown to increase transit ridership by 50-79 percent (City of Boulder, undated; Caltrans, 2002), and reduce vehicle trips by 19 percent (Shoup, 1999). Likewise, Todd Litman of the Victoria Transport Policy Institute confirms the trip reduction benefits of transit subsidies by workplace setting. Figure X below depicts the potential trip impacts of a transit pass program.

⁵ Shoup & Willson (1980); Comsis (1993); Valk & Wasch (1998); Pratt (2000).

⁶ Donald C. Shoup, *Evaluating the Effects of Cashing Out Employer-Paid Parking: Eight Case Studies*, <u>http://www.arb.ca.gov/research/apr/past/93-308a.pdf</u>.

⁷ U.S. Environmental Protection Agency (2005), *Parking Cash Out: Implementing Commuter Benefits as One of the Nation's Best Workplaces for Commuters*, <u>http://www.bestworkplaces.org/pdf/ParkingCashout_07.pdf</u>

⁸ Victoria Transport Policy Institute (2009), Transportation Elasticities, <u>http://www.vtpi.org/tdm/tdm11.htm</u> ⁹ Bureau of Labor Statistics (2003), Consumer Expenditure Survey, 2002, <u>www.bls.gov</u>.

¹⁰ From Nelson\Nygaard (2010) Santa Monica LUCE Trip Reduction Impacts Analysis.

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	Daily Transit Subsidy			
Worksite Setting	\$0.75	\$1.49	\$2.98	\$5.96
Low density suburb, rideshare oriented	0.1%	0.2%	0.6%	1.9%
Low density suburb, mode neutral	1.5%	3.3%	7.9%	21.7%
Low density suburb, transit oriented	2.0%	4.2%	9.9%	23.2%
Activity center, rideshare oriented	1.1%	2.4%	5.8%	16.5%
Activity center, mode neutral	3.4%	7.3%	16.4%	38.7%
Activity center, transit oriented	5.2%	10.9%	23.5%	49.7%
Regional CBD/Corridor, rideshare oriented	2.2%	4.7%	10.9%	28.3%
Regional CBD/Corridor, mode neutral	6.2%	12.9%	26.9%	54.3%
Regional CBD/Corridor, transit oriented	9.1%	18.1%	35.5%	64.0%

Table 5 - Vehicle Trip Reduction by Workplace Setting and Daily Transit Subsidy

Source: Victoria Transport Policy Institute (2008), Transportation Elasticities, http://www.vtpi.org/elasticities.pdf

Carpooling and Rideshare

Research indicates that ridesharing programs typically attract 5-15 percent of commute trips if they offer only information and encouragement, and 10-30 percent if they also offer financial incentives such as parking cash out or vanpool subsidies. Rideshare programs that include incentives such as HOV priority and parking cash-out often reduce affected commute trips by 10-30 percent¹¹. If implemented without such incentives travel impacts are usually smaller. A study conducted by Reid Ewing concluded that ridesharing programs can reduce daily vehicle commute trips to specific worksites by 5-15 percent, and up to 20 percent or more if implemented with parking pricing¹².

Carsharing

Trip reduction benefits documentation for carsharing is gaining momentum. According to TCRP Report 108, each car-sharing vehicle takes nearly 15 private cars off the road – a net reduction of almost 14 vehicles¹³. A UC Berkeley study of San Francisco's City CarShare found that members drive nearly 50 percent less after joining. The research also indicates nearly three-quarters of the vehicle trips made by members were for running errands, visiting friends and other social activities, meaning that only roughly one-quarter of trips were for commuting to work.

Alternative Work Schedules

Compressed work weeks and telecommuting are TDM strategies that eliminate vehicle trips by decreasing the number of work days while maintaining the level of work hours (i.e. working four 10-hour days per week) and shifting the worksite to an employee's home, respectively. Research by Apogee (1994) demonstrated that compressed work weeks can reduce VMT by up to 0.6 percent and vehicle trips by up to 0.5 percent in a region. However, two other studies showed that compressed work weeks may provide more modest reductions in total vehicle travel, in part because participants

¹² Reid Ewing (1993), TDM, Growth Management, and the Other Four Out of Five Trips.

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¹¹ Philip Winters and Daniel Rudge (1995), Commute Alternatives Educational Outreach, <u>www.cutr.eng.usf.edu</u>.

¹³ Transportation Research Board (2005), *Car-Sharing: Where and How it Succeeds*, Transit Cooperative Research Program Report 108. <u>http://onlinepubs.trb.org/Onlinepubs/tcrp/tcrp_rpt_108.pdf</u>

make additional trips during their non-work days.¹⁴Compressed work weeks may also encourage some employees to move further from worksites or to drive rather than rideshare.

The most important TDM strategies include parking and financial incentives for alternative modes of transportation, using these can result in a trip reduction of up to 19%, independent of other land use characteristics.

Effects of Socioeconomic Status

The likely effects of demographic factors on trip generation are largely ignored in many studies. A trip generation analysis must resolve how much trip reduction can be attributed to policies and strategies compared to socioeconomic indicators like income. Research indicates that socioeconomic factors such as household income, household size and auto ownership have an even greater effect on trip generation than the 4Ds¹⁵.

The affordable/senior housing mitigation strategy assumes that those living in subsidized units are more likely to commute to work or make non-commute trips using alternative modes of transportation. This is based on research verifying that low-income families and senior citizens tend to own fewer vehicles and drive less. In one San Francisco Bay Area study, households earning under \$25,000 per year make 5.5 vehicle trips per day, compared to a regional average of 7.6. High income households (earning more than \$75,000 per year) make an average of 10.5 trips¹⁶. **Further work will need to explore existing research efforts into documenting the socioeconomic effects on trip generation rates in Phase 2.**

1.3 COMMUNITY INVESTMENT TOOLKIT: SYSTEM DEVELOPMENT CHARGES REPORT

Galardi Consulting, LLC was authorized by Metro in January 2007 to perform a review of system development charge (SDC)¹⁷ approaches used by jurisdictions throughout North America that promote real cost recovery of infrastructure and sustainable development patterns and to evaluate the applicability of these approaches to jurisdictions in the Metro area¹⁸. The findings and recommendations of the study are summarized in the report: *Promoting Vibrant Communities through SDCs,* published in July 2007 (the "Study").

The Study covered all SDCs collected in Oregon, including TSDCs. TSDC methodologies were found to be calculated almost exclusively through the use of ITE trip generation rates and from TSP project lists, which base their project needs on anticipated demand as quantified in the ITE trip generation rates. As established, ITE trip generation rates are generated from and thus, only reflect low density, single use auto-dominated development types. With a more diverse urban landscape, and a focus on compact, mixed-use urban form as envisioned by the 2040 Growth Concept, one of the true cost and cost

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¹⁴ See Ho and Stewart (1992) and Giuliano (1995).

¹⁵ See Kockelman (1995) and Ewing and Cervero (2001)

¹⁶ See Russo (2001); Holtzclaw et al. al. (2002)

¹⁷ System development charges and "impact fees" are used interchangeably in this memorandum.

¹⁸ For purposes of this study, 'real' cost recovery is intended to reflect both full cost recovery (costs related to both the array of facility and cost types needed to provide capacity for growth generally and specifically related to implementing the 2040 Growth Concept are included), as well as recognition of potential cost variations among developments, with respect to specific development characteristics like density, location, and configuration.

recovery questions of the Study was whether or not these development types had different trip generation rates than those established in ITE and thus, variable SDC fees. To answer this question, the Study analyzed whether SDC fee systems have been implemented as a result of finding different development types had different trip generation rates and thus, variable rates of demands and costs to the system. As summarized in the full Study, industry information suggests that development characteristics may generally impact system demands for transportation as follows:

Transportation: Service units are trips and vehicle miles traveled (VMT), so cost of service is influenced by household and building type and size, as well as location, density and configuration. Development type and size are potential indicators of motor vehicle trip generation rates. Density has a strong influence on mode choice to destinations and distance to destinations. Location, to the extent that it relates to proximity to public transit may also be significant factor related to system impact, as is development configuration; when living-working-shopping-services are all nearby, fewer car trips are needed and the distance traveled is reduced.

The development characteristics found to impact transportation system demands in the Study mirror those outlined above (in Section 1.2): Density, Diversity, Design, Destinations, Distance to Rail, local transit service, and transit-oriented development patterns. Based on the findings, the Study recommended variable SDC fees in order to reflect the different trip generation rates and associated system costs of different development patterns. The Study also recommended local travel demand data and modeling beyond the use of ITE rates in order to support efficient system planning and establish a variable SDC methodology.

National and regional data sources from the Study related to transportation system impacts for 'smart growth' development (compact mixed-use, transit-oriented infill development) are provided below.

1.4.1 Consideration of Smart Growth Principles

The Oregon Department of Transportation (ODOT) TSP guidelines discuss evaluation of land use alternatives as a means of addressing future system capacity needs. A detailed discussion of the TSP Step: *Develop & Evaluate System Alternatives that Eliminate Deficiencies and Meet Needs*, specifically addresses how land use characteristics may impact transportation system needs, through reduced automobile trip generation, shorter trips, and mode choice:

At the community level, land use planning should focus on both residential and employment centers and their impact on trip generation, length and mode choice. Density, location and size of residential and employment centers influence these measures of transportation performance. In addition, the balance between jobs and housing may impact travel. At the smaller neighborhood or project level, the diversity of land uses within walking or bicycling distance and the design of the built environment may influence mode choice and trip length. In this context, mode choice refers to the ability and willingness of travelers to make trips using non-motorized modes, thus reducing the number of trips on local streets and arterials. [ODOT, TSP Guidelines, pgs 36-37).

In recent years, considerable research has been conducted to isolate the effects of 'smart growth factors' on transportation demand. Specifically, the research effort focused on factors directly attributable to the physical characteristics of development projects: density, diversity, design, and destinations ("the 4Ds"). The research has documented the potential effects of incorporating smart growth factors in vehicle trip forecasts, and has developed adjustment factors that can be applied directly to vehicle trips or vehicle miles traveled. The following sections discuss how transportation planning models and standard trip generation rates may be modified to incorporate smart growth factors.

1.4.1.1 Trip Generation Surveys

Trip generation rates for individual land use types are typically derived from on-site surveys. The Institute of Transportation Engineers (ITE) Trip Generation report is the most comprehensive compilation of such data, although agencies may substitute locally-generated data where available. The ITE data were collected by counting vehicles entering and leaving a particular development site. Most were collected in suburban areas that had separate parking facilities for the particular development. As such, the data do not fully represent trip generation at more urban forms of development or smart growth practices.

Some SDC programs (e.g. City of Olympia, Washington) have utilized trip generation adjustments to account for more urbanized development patterns. These adjustments include lower vehicle trip generation rates based upon activity center travel surveys (primary source: NCHRP Report 323, 'Travel Characteristics at Large-Scale Suburban Activity Centers, 1988), reduced trip lengths based on regional household travel surveys and travel model output, and higher 'pass-by' trip rates to account for the potential of mixed use sites. These adjustments have produced reductions in SDC rates in the range of 20 to 50 percent (see case studies at the end of this section).

More recent adjustments to ITE trip rates for smart growth practices have been documented through research related to air quality management.¹⁹ A national air quality model URBEMIS has been used to estimate trip reduction credits for development projects based on their location and other physical characteristics.

Many SDC demand schedules rely on two variables to estimate vehicle trips (VT) for each development: ITE trip generation rate per unit (assigned by land use) and number of units attributable to the development (generally, 1,000 square feet of floor area or other measure). The limitation of this approach is that there is no recognition of other variables, like density and location that may impact VT generation, and therefore, transportation system impact. The purpose of the URBEMIS mitigation component is to provide a tool for adjusting ITE trip rates to recognize such variables, for use in charging impact fees, among other purposes

The URBEMIS model is available to the public for free and may be accessed at <u>www.urbemis.com</u>. A paper by Nelson\Nygaard Consulting Associates: *Crediting Low-Traffic Developments Adjusting Site-Level Vehicle Trip Generation Using URBEMIS* (August 2005), provides formulas that may be used to adjust ITE

¹⁹ Nelson\Nygaard Consulting Associates, *Crediting Low-Traffic Developments Adjusting Site-Level Vehicle Trip Generation Using URBEMIS*, August 2005.

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rates for individual developments based on a variety of physical and demand management measures. The adjustments consider how the characteristics of a specific development differ from the characteristics inherent in the ITE trip rates ("default" values). For example, in considering net residential density, a residential development with 16 units per acre (compared to the default value of 3 units per acre) would have a trip rate reduction of 28 percent.

Table 6 summarizes the potential trip reduction credits provided by URBEMIS.

Table 6 – Summary of URBEMIS Trip Reduction Credits

Measure	Residential (1)	Non-Residential
Net Residential Density	Up to 55%	N/A
Mix of Uses (Diversity)	Up to 9%	Up to 9%
Local-Serving Retail	2%	2%
Transit Service	Up to 15%	Up to 15%
Pedestrian/Bicycle Friendliness	Up to 9%	Up to 9%
Physical Measures subtotal	Up to 90%	Up to 35%
Demand Management Subtotal	Up to 7.75%	Up to 31.65%

Source: Nelson\Nygaard Consulting Associates

(1) For residential uses, the percentage reductions shown apply to the ITE average trip generation rate for single-family detached housing. For other residential land use types, some level of these measures is implicit in ITE average trip generation rates, and the percentage reduction will be lower.

While URBEMIS provides a tool for potentially adjusting standard trip rates for smart growth factors, the authors caution: "It must be stressed that the trip reductions recommended here are subject to considerable uncertainty. They should be interpreted as the mid-point of a range, rather than as a single, precise value. Travel behavior is complex and difficult to predict, and the approach described here will need to be refined in future years, as more data become available."

Another source of data for adjusting ITE trip rates is: *Getting There from Here – Measuring the Benefits of Compact Development on Vehicle Miles and Climate Change* (Jerry Walters, Fehr & Peers). This paper presents empirical data on the effects of density, diversity, walkability, regional accessibility and distance from transit on vehicle miles. The paper indicates that:

Research is also currently underway by several transportation planning organizations on the degree to which individual smart growth characteristics reduce vehicle trip generation of individual development projects. Preliminary results from several of these studies indicate that trip generation may be lower than the suburban trip generation rates published by the Institute of Transportation Engineers (ITE), commonly used in traffic impact analysis.

For example, trip rates for mixed-use developments analyzed were 35 percent below ITE trip rates. Similarly, trip rates for transit-oriented development were 30-60 percent below the ITE rates. This research was prepared by ITE in partnership with the Environmental Protection Agency and is undergoing review by the ITE membership.

1.4.2 Case Studies

The following section highlights case studies that were included as part of the SDC study from cities across the country. The case studies highlight cities that have developed variable SDC methodologies or implemented SDC credits based on findings that development characteristics reduced transportation system demands through lower trip generation rates. These studies involved the analyses of local data collection, trip generation studies and adjusted travel demand models. The new SDC methodologies in these cities reflect reduced associated system costs for compact mixed-use, transit-oriented infill development, particularly in downtown areas and town centers. The variable fee for these areas was reduced by 23 – 50 percent. This was a direct result of data findings showing a trip generation reduction for these areas as compared to ITE rates and low-density, auto-dominated suburban areas.

1.4.2.1 City of Olympia

The City of Olympia has reduced the transportation impact fees for downtown commercial uses to reflect the fact that the downtown is compact and alternative modes of transportation are accessible. Consequently, the theory is that each business has less of an impact on the transportation system.

Reduced fees for the downtown area reflect the following demand characteristics:

- Reduced trip lengths based on an analysis of data from the regional planning agency's household travel survey and travel model, and the ITE Trip Generation Manual.
- Lower percent of new trips (or more "pass-by" trips) for certain land uses (walk-in bank and supermarket) based on ITE data and other national studies.
- Reduced trip lengths for both home based work trips and total trips, based on data from the regional transportation model that showed reduced average trip lengths to/from the Olympia Central Business District (CBD).

Table 7 summarizes the recommended trip rate adjustments for these downtown land uses.

TABLE 7 – Recommended Vehicle Trip Generation Rate Adjustments for Downtown Olympia

Land Use (ITE Category)	ITE Average Trip Rate (PM peak Hour)	50% of Standard Deviation (SD)	Modified Trip Rate (Average-50% SD)
Walk-in Bank (911)	33.15	14.67 **	18.48
Supermarket (850)	11.51	2.38	9.13
Fast Food (without Drive- Through Window) (883)	26.15	5.26	20.90

Land Use	ITE Average Trip	50% of Standard	Modified Trip Rate
(ITE Category)	Rate (PM peak Hour)	Deviation (SD)	(Average-50% SD)
Convenience Market (Open 15- 16 Hours) (852)	34.57	8.81	25.77

** Based upon Drive-in Bank Standard Deviation (ITE Land Use 912) that is equal to 88 percent of the average rate. Calculation: 0.88*33.15= 29.34 estimated SD; 50 percent of SD=14.67

Table 8 summarizes trip length data (daily vehicle trips) for total trips and for 'Home Based Work Trips'. The total trip data are useful for looking at a range of typical trips made within the city, while the work trip data can be associated closely with office land use types.

Table 8 – Average	Trip	Length	Comparison
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Scenario	Trips to/from Olympia CBD	Average City Trips	Olympia CBD Trip Lengths compared with Average City Trips		
Total Trips	2.3 mi	3.7 mi	-39%		
Home Based Work Trips	2.7 mi	3.0 mi	-12%		

Source: TRPC Model

The fact that downtown trip lengths are shorter than average within the city implies that a typical trip generated in downtown would have fewer impacts on the city's street system. Stated another way, downtown development creates proportionally less need for new road improvements than a land use situated elsewhere in the city.

1.4.2.2 City of Atlanta, Georgia

The City of Atlanta recognizes the reduced impact on roads because of the close proximity to rail transit. The City reduces impact fees 50 percent for developments within 1,000 feet of a rail station.

1.4.2.3 City of Tucson, Arizona

The City of Tucson adopted an impact fee methodology for roads that uses both location and dwelling unit size in assessing impact fees. The City's work found that the central city core had a reduced tendency to use private motor vehicles, shorter trip lengths and generating 77 percent of the vehicular travel demand compared to other city residents. Table 9 shows the trip variations by location.

Table 9 – Road Reduction Factor for Core I	Residential Development
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	Central Core	Rest of City	Ratio
Percent Driving Private Motor Vehicles to Work	78.8%	90.8%	0.87
Travel Time, Non-Public Transportation (minutes)	19.1%	21.6%	0.88
Reduction in Road Impact for Residential in Central Core			0.77

Source: Promoting Vibrant Communities through SDCs – Appendix D

APPENDIX 5.2 | Phase 1 Motor Vehicle Trip Generation Rates Adjustment Research and Findings |2035 Regional Transportation Plan The City's work also found that the average number of vehicle trips generated per day is almost directly proportional to the number of people living in the dwelling unit which is strongly related to the size of the dwelling unit. The results based on dwelling unit size are shown in Table 9.

Housing Type/Size Category	Midpoint	Peak Hour Trips	Road Fee
Less than 500 sq. ft.	375	0.48	\$2,186
500 – 749 sq. ft.	625	0.60	\$2,743
750 – 999 sq. ft.	875	0.69	\$3,198
1000 – 1249 sq. ft.	1125	0.76	\$3,462
1250 – 1499 sq. ft.	1375	0.83	\$3,829
1500 – 1999 sq. ft.	1750	0.91	\$4,196
2000 – 2999 sq. ft.	2500	0.95	\$4,386
3000 – 3999 sq. ft.	3500	0.99	\$4,562
4,000 sq. ft. or more	4500	1.03	\$4,738

Table 9 – Residential Road Impact Fees by Size Category

1.6 SUMMARY AND RECOMMENDATIONS FOR FUTURE RESEARCH

The numerous studies covered by this literature review did vary in purpose, design, location, and terminology, but came to the same conclusions regarding the land use characteristics and policy strategies that reduce trip generation rates: density, good urban design, mix of uses, destinations, TDM and parking management strategies, access to transit, and transit-oriented development. The collective research shows areas with these attributes generate shorter vehicle trips and a 20-60% reduction in vehicular trips depending on the extent to which these characteristics exist. Thus, 2040 centers, main streets, station communities and corridors, which are defined by and planned for compact urban form, access to transit and a greater mix of uses will likely experience similar reduced trip generation rates.

Trip reduction rates of 28% were uncovered for increased residential density alone at densities recommended for town centers in the Regional Framework Plan and planned for and exceeded in the regions 2040 centers and corridors. Mixed-use, pedestrian-friendly, transit supportive development, required, planned for and existing in the region's 2040 centers and corridors, experienced on average a 35% reduction in trip generation rates. Coupled with transit-oriented development and access to high-capacity transit, this rate reduction increased as high as 60%. Recent data collection in TOD areas with a mix of these development characteristics within the Portland region showed an average reduction of 40 percent between the ITE vehicle trip rates and observed trips.

Identifying more accurate traffic generation numbers to assess the traffic impacts of proposed mixeduse development and tying those to the performance of TOD has important implications on the design and long-term performance of 2040 Centers, Main Streets, Station Communities and Corridors:

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- Local officials and neighborhoods may be more supportive of increases in residential densities near transit.
- Private developers of mixed-use projects are legitimately concerned about the costs and other impacts that can result from over-estimation, which can serve as a disincentive to implementing these kinds of development proposals in a community. Paying lower fees can be passed on to consumers through lower housing costs, which can help the region's effort to provide more affordable housing options.
- Accurate trip generation data will promote efficient and cost-effective use of existing
 infrastructure and services (including parking) and may streamline approval of mixed-use
 development proposals that could be delayed due to lack of funding for required mitigation
 improvements. This in term may cause housing and job growth to occur in less transit-accessible
 areas or even outside the urban growth boundary.
- Less parking, good pedestrian access to transit and high quality transit service will help increase transit ridership.
- Lower provision of this infrastructure (i.e. parking), and growth where we want it, will create an efficiency of land use and decrease impacts to the environment (GHGs)

Using ITE trip generation rates that over-estimate system impacts in compact, mixed-use areas will have significant and widespread negative impacts on the region's landscape and ability to achieve the 2040 vision. Over-estimating trip generation rates in these types of centers and corridors will cause over-planning the system for these surrounding land uses and will support strategies, funding systems and investment priorities that undermine and prevent the development of compact, mixed-use areas with more transportation choices. This directly conflicts with regional policies in the 2040 Growth Concept, as well as state and local policies, that call for development of mixed-use centers and corridors to support jobs and freight reliability, a compact urban form, and leveraging transportation investments such as high capacity transit.

Given these implications, it is extremely important to use the best trip generation data available. Consistent findings over the last ten years and recent local data collection in the region provide the reasonable nexus for allowing local governments in the region to apply a 30 percent motor vehicle trip reduction credit when conducting a traffic impact analysis on plan amendments that will result in mixeduse development designed to support walking, bicycling and transit that are located in 2040 centers, main streets, station communities and corridors served by high-quality transit. The 30 percent trip reduction credit is allowed pursuant to Section 3.08.510B of the Regional Transportation Functional Plan (RTFP), contingent on approval of Title 6 of the Urban Growth Management Functional Plan in December 2010.

Next Steps – Phase 2 OTREC research

The research conducted under this phase of the project would account for how the built environment influences travel behavior (number of trips, trip length, mode choice), for a range of land development typologies and levels of activity in the Metro region. Thus, the goal of this work will be to develop multiple new vehicle trip generation rates or other measures (e.g. ITE adjustments) that more accurately reflect the full spectrum or scale of development types and corresponding travel behavior. It will also

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provide data to modify the 30% adjustment factor as needed, which currently represents the conservative side of trip adjustment findings for transit-oriented centers and corridors. The research will:

- Document local trip generation rates and how they differ from current ITE rates through local case studies and other tools
- Support the findings of the SDC Study, which identified the challenge to implementing SDCs that reflect real cost recovery due to a lack of local travel demand data to support a variable SDC methodology.
- Make suggestions on how to better align local and regional infrastructure investments, funding systems, and growth management efforts
- Inform local and regional policies and investment priorities, including high capacity transit plan implementation
- Inform policy changes needed to achieve mode share targets, greenhouse gas emissions reduction targets and other outcomes the region is trying to achieve
- Be applicable to current and future communities
- Be transferable to other communities, locally and nationally

Outputs and outcomes anticipated include:

- Data guide for local jurisdictions: a statistical breakdown of the relationship between transportation behavior and specific land use patterns and characteristics
- Formula tying development typologies and land use characteristics to proportional rates based on the impact of each development typology, which will determine the different fee tiers of TSDCs in a local jurisdiction.
- Documentation of the effect on a local city's TSP and TSDCs through a case study of the project's research findings.
- Recommendations for additional research needed, including informing the next regional household travel behavior survey conducted by Metro and potential modifications to how we design and analyze future surveys.
- Recommendations for application of these rates within the Metro region and needed land use and transportation policy changes.
- Support from the transportation, land use, and engineering communities.

600 NE Grand Ave. Portland, OR 97232-2736

🚯 Metro | Memo

Date:	September 22, 2010
То:	TPAC
From:	Tony Mendoza, Transit Project Analysis Manager
Subject:	JPACT review of regional programs: High capacity transit (HCT) bond, HCT development, & Corridor & Systems Planning

Context

JPACT has given direction to Metro staff that a review of regional projects be included as a component of the regional flexible fund allocation process. JPACT will use the information presented in the decision making process about how to allocate funds in Step 1 and Step 2.

This memorandum provides information to TPAC and JPACT to better understand the proposed FY 14-15 MTIP allocations for the following existing regional programs listed below. In addition, this memorandum summarizes the proposed changes to the long term commitment of MTIP funds to the Milwaukie LRT Project, Lake Oswego to Portland Transit Corridor Project and the SW Corridor Transit Alternatives Analysis that was adopted by JPACT on September 2, 2010.

- Proposed FY 14 & FY 15 MTIP High capacity transit (HCT) bond \$26 million
- Proposed FY 14 & FY 15 MTIP HCT Corridor Project development \$4 million
- Proposed FY 14 & FY 15 MTIP Corridor & Systems Planning \$1 million

The investment of MTIP dollars into the region's high capacity transit project planning leverages additional federal capital construction funding, transit oriented development, and place-making investments and infrastructure. The MTIP investment is not sufficient to completely fund these difficult planning and engineering activities, but it is a critical first investment in a powerful growth management and economic development strategy for the region.

I. Program description – what is the purpose of the program and the major activities?

 a) High Capacity Transit Bond (Interstate LRT, I-205/Mall LRT, WES, South Waterfront Streetcar and Milwaukie LRT) and High Capacity Transit Development (Lake Oswego Transit DEIS/FEIS and Southwest Corridor Transit Alternatives Analysis)

This region's celebrated quality of life is in no small part a result of careful transportation and land use planning. Transit is an integral part of the region's culture and identity. For 30 years the region

has made light rail transit, now supplemented with commuter rail, the basis for the regional high capacity transit (HCT) system. Each addition has had exponential benefits and the system must be completed if it is to respond to the region's continued growth.

Historically, the region has supported HCT project development activities using MTIP funds and various local funding sources. For the FY 2010-2013 MTIP Cycles, the region chose to support the federal Alternatives Analysis for the Portland-Milwaukie LRT and the Lake Oswego to Portland Transit Corridor Project. This funding helped keep the pace of the projects going when federal AA funding was not immediately available. This allowed the preparatory work necessary for the projects to be competitive to win federal funding when the opportunities arose and to maintain a steady flow of projects advancing in the region.

The proposed MTIP funding approach for the HCT Program would provide supplemental capital resources through TriMet bonding for the Milwaukie LRT Project. This supplemental bonded MTIP funding would also be applied to initiate and continue project development for the region's list of 16 high capacity transit projects. Specifically, \$6 million would be allocated to initiating SW Transit Corridor Alternatives Analysis and \$6 million would be allocated to continuing project development through the PE/FEIS phase of the Lake Oswego to Portland Transit Corridor Project. The proposed allocation was adopted by JPACT on September 2, 2010, and is scheduled to go before the Metro Council for adoption on October 7, 2010. The following chart describes the proposed commitment through FY27 (from Resolution 10-4185).

Comparison of Current to Proposed Flex Fund Commitments/Targets for HCT

In Millions of Year-of Expenditure Dollars Current Proposed Proposed Current Flex % of Regional Existing Commitment of Commitment of Total Amount **Funds Target** Flex Funds in FISCAL Commitment of Supplemental Flex Supplemental Flex Committed/ **Regional Flex** Amount for GARVEE + YEAR Flex Funds to Funds to GARVEE Funds to GARVEE Targeted Under Funds Transit Corridor Corridor GARVEE Bonds Bond for Bond for Corridor Proposal Development (1) Studies Milwaukie LRT Studies 2012 \$13.0 \$2.0 \$15.0 \$32.3 46% 2013 \$13.0 \$2.0 \$15.0 \$32.9 46% 2014 \$13.0 \$2.0 \$15.0 \$33.6 45% 2015 \$13.0 \$2.0 \$15.0 \$34.3 44% 2016 \$13.0 \$2.0 \$15.0 \$35.0 43% 2017 \$13.0 \$2.0 \$15.0 \$35.7 42% 2018 \$13.0 \$2.0 \$15.0 \$36.4 41% 2019 \$13.0 \$2.0 \$15.0 \$37.1 40% 2020 \$13.0 \$2.0 \$15.0 \$37.8 40% 2021 \$13.0 \$2.0 \$15.0 \$38.6 39% 2022 \$13.0 \$2.0 \$15.0 \$39.4 38% \$13.0 \$40.2 37% 2023 \$2.0 \$15.0 \$41.0 2024 \$13.0 \$2.0 \$15.0 37% 2025 \$13.0 \$2.0 \$15.0 \$41.8 36% 2026 \$2.0 \$2.0 \$42.6 5% 2027 \$2.0 \$2.0 \$43.5 5% Total \$182.0 \$214.0 \$32.0

Note 1: Funds through 2015 are committed. Target amount for 2016-2027 reflects a continuation of past practice and are not committed.

Proposed								
FISCAL YEAR	Existing Commitment of Flex Funds to GARVEE Bonds	Proposed Commitment of Supplemental Flex Funds to GARVEE Bond for Milwaukie LRT	Proposed Commitment of	Proposed Flex Funds Target Amount for Transit Corridor Development (Non-GARVEE Bonded) ⁽²⁾	Total Amount Committed/ Targeted Under Proposal	Regional Flex Funds	% of Regional Flex Funds in GARVEE + Corridor Studies	
2012	\$13.0			\$2.0	\$15.0	\$32.3	46%	
2013	\$13.0			\$2.0	\$15.0	\$32.9	46%	
2014	\$13.0		\$2.0	Note ³	\$15.0	\$33.6	45%	
2015	\$13.0		\$2.0	Note ³	\$15.0	\$34.3	44%	
2016	\$13.0	\$1.0	\$2.0	Note ³	\$16.0	\$35.0	46%	
2017	\$13.0	\$1.0	\$2.0	Note ³	\$16.0	\$35.7	45%	
2018	\$13.0	\$1.0	\$2.0	Note ³	\$16.0	\$36.4	44%	
2019	\$13.0	\$1.0	\$2.0	Note 3	\$16.0	\$37.1	43%	
2020	\$13.0	\$1.0	\$2.0	Note 3	\$16.0	\$37.8	42%	
2021	\$13.0	\$1.0	\$2.0	Note 3	\$16.0	\$38.6	41%	
2022	\$13.0	\$3.0		\$2.0	\$18.0	\$39.4	46%	
2023	\$13.0	\$3.0		\$2.0	\$18.0	\$40.2	45%	
2024	\$13.0	\$3.0		\$2.0	\$18.0	\$41.0	44%	
2025	\$13.0	\$3.0		\$2.0	\$18.0	\$41.8	43%	
2026		\$16.0		\$2.0	\$18.0	\$42.6	42%	
2027		\$16.0		\$2.0	\$18.0	\$43.5	41%	
Total	\$182.0	\$50.0	\$16.0	\$16.0	\$264.0			

Note 1: TriMet may use general funds for studies and use flex funds for other purposes, depending on final financing program.

Note 2: The targeted amount of flex funds in FY2022-2027 is not part of funds committed to GARVEE bonds; it represents continuation of the current practice of \$2 million per year for HCT development upon completion of the debt payment for the \$12 funded through this GARVEE bond.

Note 3: GARVEE bonds will provide a cumulative total of \$12 million for HCT corridor development which will be paid back during these years.

Note 4: The allocation of the committed funds shown in the tables above are solely for JPACT discussion purposes to illustrate the change in MTIP allocation policy and do not reflect the actual method in which the regional flexible funds will be used in the financing program. Specifically, under the financing program the annual allocation of flexible funds will be committed to repay bonds regardless of their use; there will not be a sub-allocation between uses unless it is determined by TrMHet that such a sub-allocation is beneficial to the financing program. Moreover, TriMet thay implement a financing program for the uses specified in the resolution with direct federal grants of regional flexible funds or equivalent amounts of its general funds (and retain the flexible funds for other purposes), a borrowing strategy employing regional flexible funds or equivalent amounts of general funds (and retain the flexible funds to other purposes), or a combination thereof.

b) Corridor Planning (East Metro Connections Plan and Southwest Corridor Refinement Plan)

The Corridor Refinement Plan Work Program was adopted as an amendment to the Regional Transportation Plan in the fall of 2001 (Resolution 01-3089). MTIP funding for the Next Corridors program has been the vehicle through which Metro has partially funded refinement planning within these corridors. MTIP funding has generally been at the level of \$500,000 every two years. This sum has remained constant over the past ten years, although the cost and complexity of corridor plans has increased. For the FY06 & FY07 and FY08 & FY09 cycles, this funding was directed to the High Capacity Transit System Plan to prioritize the next 30 years of high capacity investments. For the FY08 and FY09 cycles, this funding was directed to the Southwest and East Metro Corridor Refinement Plans (see the table below for previous and future obligations and requests).

The 2035 RTP introduced the concept of regional mobility corridors, expanding the region's focus on mobility from individual facilities to the network of facilities and the adjacent land uses they serve. The 24 mobility corridors provide a framework for consideration of multiple facilities, modes and land use when identifying needs and most effective mix of land use and transportation solutions to improve mobility within a specific corridor area. This emphasizes the integration of land use and transportation in determining regional system needs, functions, desired outcomes, performance measures, and investment strategies. At the same time, the mobility corridors are being used to satisfy state requirements for demonstrating the adequacy of the region's transportation system and its planned land uses.

Metro Council approved Resolution 10-4119 on February 25, 2010, which prioritized two corridors for refinements planning: Mobility Corridor #15 (East Metro Connections Plan) and Mobility Corridors #2 and #20 (the Southwest Corridor Refinement Plan).

The estimated costs and time to complete these two refinement plans, is approximately \$3.3 million over the next three years. Available MTIP funding won't, nor is it expected to, cover the entire amount of these plans. Other sources could include Transportation Growth Management funds, federal grant funds, and local contributions. The Southwest Corridor may require some amount of the FY 12/13 MTIP funds for completion.

Fiscal Years	Activity	Amount Spent, Underway, or Requested
FY02 & FY03	I-5 Trade Corridor – spent	\$ 250,000
FY04 & FY05	Powell/Foster – spent	\$ 300,000
FY06 &FY07	High Capacity Transit System Plan - spent	\$ 500,000
FY08 & FY09	High Capacity Transit System Plan - spent	\$ 500,000
FY10 & FY11	Southwest and East Metro – underway	\$ 500,000
FY12 & FY13	Next Corridor and Advance Work – committed	\$ 500,000
FY14 & FY15	New request - Next Corridor and Advance Work	\$ 1,000,000

II. Regional Funding Strategy Context – why is your program appropriate for regional flexible funding

a) High Capacity Transit Bond (Interstate LRT, I-205/Mall LRT, WES, South Waterfront Streetcar and Milwaukie LRT) and High Capacity Transit Development (Lake Oswego Transit DEIS/FEIS and Southwest Corridor Transit Alternatives Analysis)

In the RTP Finance Approach Chart, Regional Flexible Funds are listed under the "existing funding sources" for High Capacity Transit expansion. HCT, as defined in the RTP¹, is a regional investment, serving regional destinations.

b) Corridor Planning (East Metro Connections Plan and Southwest Corridor Refinement Plan)

In the RTP Finance Approach Chart, Regional Flexible Funds are listed under the "existing funding sources" for those subject matters studied during Mobility Corridor Refinement Plan: Main Street/Boulevard multi-modal retrofit, Active Transportation, HCT expansion, TSMO, and Land Use – TOD. In addition, a Mobility Corridor Refinement Plan covers subjects not currently funded under regional flexible funds: Arterial Expansion and Highway expansion. The Corridor Planning efforts implement a more detailed study for areas that require further analysis, as identified in the 2035 RTP.

III. Which of the stated performance targets in the RTP does your program relate to/ help meet?

a) High Capacity Transit Bond (Interstate LRT, I-205/Mall LRT, WES, South Waterfront Streetcar and Milwaukie LRT) and High Capacity Transit Development (Lake Oswego Transit DEIS/FEIS and Southwest Corridor Transit Alternatives Analysis)

According to the RTP Performance Measures, the High Capacity Transit Bond and Development funds will serve to:

- reduce vehicle hours of delay (VHD) per person
- reduce transportation-related carbon dioxide emissions
- increase walking, biking and transit mode share
- increase the number of essential destinations² accessible within 30 minutes by trails, bicycling and public transit
- reduce percent population exposure to at-risk levels of air pollution
- reduce vehicle miles traveled per person

¹ HCT investments help the region concentrate development and growth in its centers and corridors. The regional transit system concept call for fast and reliable HCT service between the central city and regional centers. HCT service carries high valumnes of passengers quickly and efficiently and serves a regional travel market with relatively long trip lengths to provide a viable alternative to the automobile in terms of convenience and travel times.

² Consistent with the evaluation methodology used for the High Capacity Transit plan, essential destinations are defined as: hospitals and medical centers, major retail sites, grocery stores, elementary, middle and high schools, pharmacies, parks/open spaces, major social service centers (with more than 200 monthly LIFT pick-up counts), colleges and universities, employers with greater than 1,500 employees, sports and attraction sites and major government sites.

- reduce the average household combined cost of housing and transportation
- increase the number of essential destinations accessible within 30 minutes by bicycling and public transit for low-income, minority, senior and disabled populations

b) Corridor Planning (East Metro Connections Plan and Southwest Corridor Refinement Plan)

According to the RTP Performance Measures, subject matters studied during Mobility Corridor Refinement Plan will serve to:

- reduce the number of pedestrian, bicyclist, and motor vehicle occupant fatalities plus serious injuries
- reduce vehicle hours of delay (VHD) per person
- reduce vehicle hours of delay truck trip
- reduce transportation-related carbon dioxide emissions
- increase walking, biking and transit mode share
- increase the number of essential destinations accessible within 30 minutes by trails, bicycling and public transit
- reduce percent population exposure to at-risk levels of air pollution
- reduce vehicle miles traveled per person
- reduce the average household combined cost of housing and transportation
- increase the number of essential destinations accessible within 30 minutes by bicycling and public transit for low-income, minority, senior and disabled populations

IV. Program strategic plan or recent planning work completed to date – What guides the program/helps set priorities for implementation?

 a) High Capacity Transit Bond (Interstate LRT, I-205/Mall LRT, WES, South Waterfront Streetcar and Milwaukie LRT) and High Capacity Transit Development (Lake Oswego Transit DEIS/FEIS and Southwest Corridor Transit Alternatives Analysis)

In 2009, Metro developed a 30-year *Regional High Capacity Transit System (HCT) Plan* to guide investments in light rail, commuter rail, bus rapid transit and rapid streetcar in the Portland metro region as a component of the *2035 Regional Transportation Plan (RTP)*. The Plan ranked 16 potential high capacity transit corridors in four regional priority tiers and created a framework for future system expansion. With the completion of this plan, the region achieved a clear, consensus based plan on which projects should advance for the next 30 years.

The System Expansion Policy clearly states how corridors can advance to become higher priorities for the region, including land use, development and other criteria that support place-making in centers and corridors. Application of the System Expansion Policy results in an objective process that focuses on creating the great places that high capacity transit can support.

b) Corridor Planning (East Metro Connections Plan and Southwest Corridor Refinement Plan)

The 2035 Regional Transportation Plan ("RTP"), adopted on June 10, 2010 by Metro Council Ordinance No. 10-1241A, identifies five corridors where more analysis is needed through future corridor refinement plans. The Southwest Corridor Refinement Plan and the East Metro Corridor

Refinement Plan are located in two of the five mobility corridor refinement planning areas identified in the RTP. Proceeding forward with these two mobility corridor refinement plans was approved on January 14, 2010 by the Joint Policy Advisory Committee on Transportation (JPACT) and on February 25, 2010 by the Metro Council by Resolution No. 10-4119:

- Southwest Corridor Refinement Plan Mobility Corridors #2 and # 20 (in the vicinity of I-5/Barbur Blvd, from Portland Central City to approximately the "Tigard Triangle" located at the intersection of I-5, OR 99W, and Hwy. 217); and
- 2. East Metro Corridor Refinement Plan Mobility Corridor #15 (the segment in the East Metro area from I-84 southward to US 26 and the Springwater area).

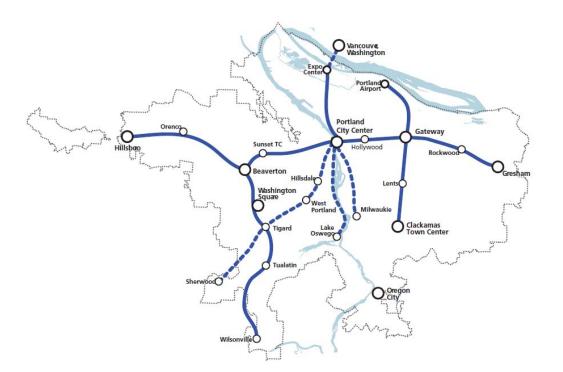
These corridors emerged as top candidates for mobility corridor refinement planning based on a combination of technical factors and local support, urgency and readiness. Development of the technical and local support factors, as well as the rating and ranking of candidate corridors, was conducted in a months-long collaboration with regional partners, and is evidence of agreement on priorities for the next four years. MTIP funding was allocated for these corridor refinement plans on August 12, 2010 in Resolution 10-4177 by Metro council, as endorsed by JPACT.

V. Program performance to date – what are the specific accomplishments of the program?

a) High Capacity Transit Bond (Interstate LRT, I-205/Mall LRT, WES, South Waterfront Streetcar and Milwaukie LRT) and High Capacity Transit Development (Lake Oswego Transit DEIS/FEIS and Southwest Corridor Transit Alternatives Analysis)

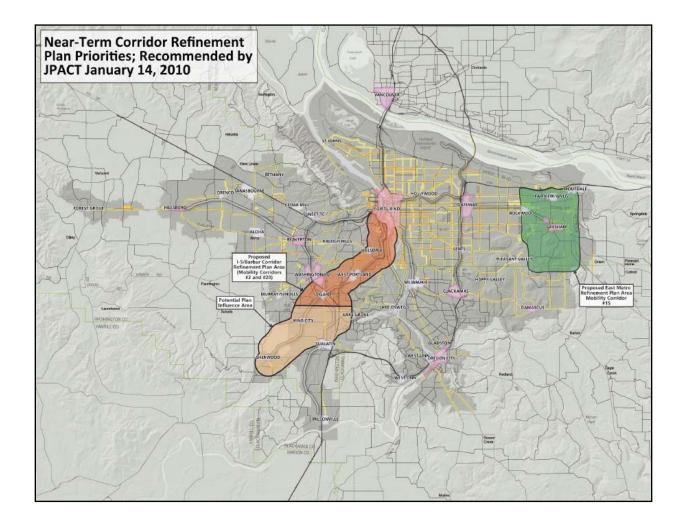
With the High Capacity Transit Bonds, the region has built the Interstate LRT, I-205/Mall LRT, WES, South Waterfront Streetcar and will build the Milwaukie LRT.

With the High Capacity Transit Development funds, the region will help complete the Lake Oswego Transit DEIS and FEIS and initiate the Southwest Corridor Transit Alternatives Analysis. Existing and proposed light rail, commuter rail and rapid streetcar projects are shown below in Figure 1.



b) Corridor Planning (East Metro Connections Plan and Southwest Corridor Refinement Plan)

With the Corridor Planning funds, the region will help complete the East Metro Connections Plan and Southwest Corridor Refinement plan in conjunction with local, regional and state partners. The corridor study areas are shown in Figure 2 below.



VI. How does your program leverage other benefits or resources?

 a) High Capacity Transit Bond (Interstate LRT, I-205/Mall LRT, WES, South Waterfront Streetcar and Milwaukie LRT) and High Capacity Transit Development (Lake Oswego Transit DEIS/FEIS and Southwest Corridor Transit Alternatives Analysis) The Portland region has successfully secured nearly \$1.6 billion in federal funds for light rail projects during the last three decades. The majority of these funds were competitively sought through the Federal Transit Administration's (FTA) New Starts discretionary program and designated specifically for rail transit projects, as shown on the chart below. Milwaukie LRT is scheduled to receive 50 percent federal funding.

Historical LRT Funding Shares

	FTA New Starts	TriMet GO Bonds and other Funding Commitments	Lottery Bonds & other State Funding Commitments	FHWA Flexed Funds	Local	Total
Banfield LRT & Highway		33%	21%	45%	1%	100%
Westside LRT	65%	17%	14%	2%	1%	100%
Airport LRT		22%		14%	64%	100%
Interstate LRT	74%	11%		7%	9%	100%
Clackamas/Mall LRT	60%	5%	4%	11%	19%	100%
Commuter Rail	50%	33%		10%	7%	100%

High Capacity Transit became an important transportation choice for the region when faced with the destruction of established neighborhoods that a new freeway would cause and continue to support regional values on many other levels. A 2006 survey of regional residents asked what they thought would be the three issues facing the region in 10 years, fourth of the top five issues mentioned benefit from high capacity transit: traffic, congestions and transportation, the economy and jobs, population and growth, and environmental quality.

b) Corridor Planning (East Metro Connections Plan and Southwest Corridor Refinement Plan)

Southwest Corridor

The Southwest Corridor Refinement Plan is being conducted in the context of an overall Southwest Corridor Plan. The Plan incorporates several land use and transportation planning projects into one contiguous and efficient planning effort. This project would leverage Metro general fund & local land use and funds of \$ 1.4 million. The outcome of the combined effort will result in a community investment strategy and preparation for multimodal projects, including HCT, to advance into the next stage of project development.

The Southwest Corridor Plan comprises and leverages the following local and state funded plans:

 Southwest Corridor Transit Alternatives Analysis (Metro, ODOT & TriMet)



- Southwest Corridor Refinement Plan (Metro, ODOT & TriMet)
- Barbur Concept Plan (City of Portland)
- 99W Land Use Plan (City of Tigard)
- 99W Corridor Planning (City of Tualatin)

The East Metro Connections Plan

The East Metro Connections Plan brings resources and focus to a corridor that will assist with developing and realizing local transportation and land use plans. It can also leverage other resources in terms of additional follow on studies and multi-modal project development. This planning effort will result in a community investment strategy for the East Metro area that includes transportation and other local infrastructure to support place-making and development in centers and corridors in support of local land use and development plans and community aspirations.

VII. Do you have a strategy for growing the program and what additional outcomes would that growth achieve?

 a) High Capacity Transit Bond (Interstate LRT, I-205/Mall LRT, WES, South Waterfront Streetcar and Milwaukie LRT) and High Capacity Transit Development (Lake Oswego Transit DEIS/FEIS and Southwest Corridor Transit Alternatives Analysis)

The goal with the on-going high capacity bond and development program in MTIP is to complete the development of high capacity transit system in the region as identified in the *2035 Regional Transportation Plan*. The program will continue to seek the same percentage of funds given historically to the HCT bonds and development to maintain and implement the program. The program would continue to seek other funds to perform additional work on these studies, such as Federal Transit Administration Alternatives Analysis funding, Transportation Growth Management, enhancement and other federal grants and local match.

b) Corridor Planning (East Metro Connections Plan and Southwest Corridor Refinement Plan)

The goal with the on-going corridor planning program in MTIP is to complete the transportation system plan in these corridors through identification of the need, mode, function and general location. The program would continue to seek other funds to perform additional work on these and other related and follow on corridor studies, such as Federal Transit Administration Alternatives Analysis funding, Transportation Growth Management, enhancement and other federal grants and local match. A primary outcome of the corridor studies would be identification of projects and agreement around actions to solve the problem. Metro and partner jurisdictions would then seek to move into project development and ultimately design and construction of priority capital projects or implementation of programs.

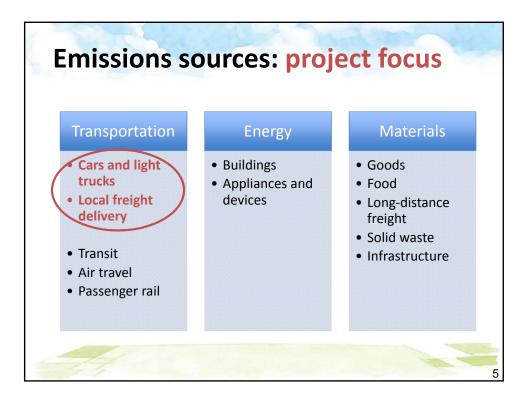
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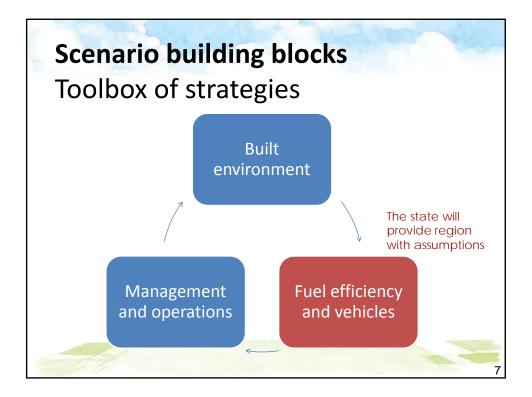


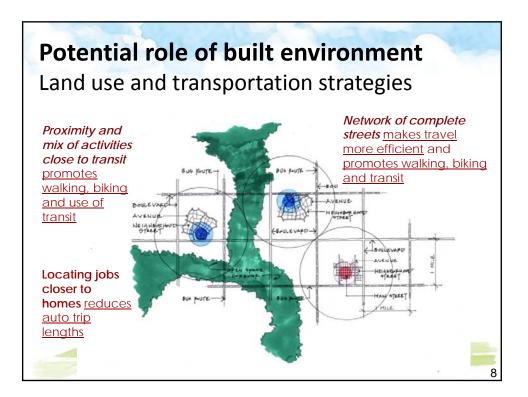










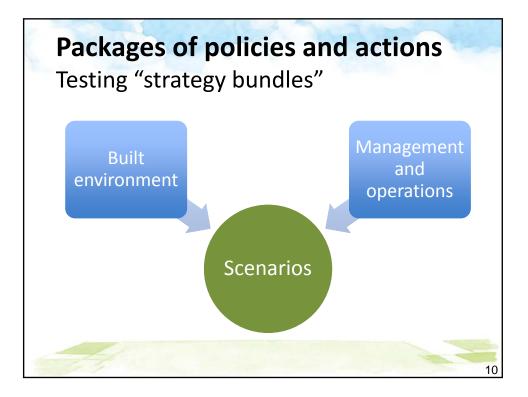


Potential role of management & operations Demand and system management strategies



- Combining trips, ridesharing
- Commuter benefits programs
- Traffic signal timing
- Incident management
- Pricing and tolling
- Financial incentives
- User-based strategies

Drive less. Save more.



11

Assessing benefits and impacts

- Greenhouse gas emissions
- Travel behavior
 - Walking, biking and transit
 - Vehicle miles traveled
 - Freight reliability
 - Jobs and households
 - Economy
 - Public health and equity
 - Cost and affordability

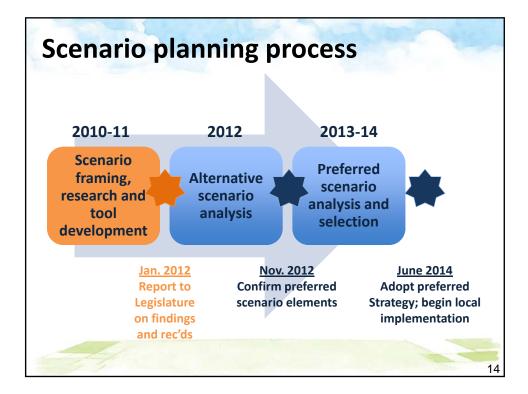


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Key 2010 and 2011 Activities

Understanding the choices

- Literature review on latest research
- Sketch-level scenario planning
 - Local case studies
 - Regional scenarios
- Tools, data and model development
- Opinion research and targeted outreach
- Report to 2012 Legislature



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Metro | Memo

Date:	Monday, September 27, 2010
То:	ТРАС
From:	Sherry Oeser, Planning & Development Services
Subject:	Urban Growth Management Functional Plan Title 6, Central City, Regional Centers, Town Centers and Station Communities

Currently, Title 6 of the Urban Growth Management Functional Plan (Metro Code. 3.07) seeks to encourage development in centers and station communities and calls for each city and county with a center shown on the 2040 Growth Concept map to develop a strategy to enhance Centers. Title 6 currently does not address corridors. Since Title 6 was adopted, however, development in centers has not achieved the results originally anticipated.

Since the Regional Framework Plan identifies Centers, Corridors, Station Communities, and Main Streets throughout the region as the principal centers of urban life in the region, the Chief Operating Officer (COO) is recommending that Title 6 be strengthened and expanded. Because of their potential for redevelopment and revitalization, corridors would be added to Title 6 and Title 6 would link strategies for centers and corridors to a community investment strategy.

To identify investment priorities and to provide local governments with a means to address Transportation Planning Rule requirements, the COO is recommending that the Metro Council adopt a revised Title 6 map which would depict center boundaries and indicate instances where a city had officially adopted center boundaries. Proposed revisions to Title 6 would make cities and counties that have adopted official center boundaries eligible for regional investments, higher volume-to-capacity standards, and a 30 percent trip reduction credit.

Earlier this year, a Metro Technical Advisory Committee (MTAC) Title 6 subcommittee was convened and included representatives from local governments in the region as well as ODOT, DLCD and TriMet. The subcommittee spent considerable time reviewing current Title 6 language and making recommendations for changes. MTAC reviewed Title 6 on several occasions and will discuss Title 6 again at their October 6 meeting. Because the proposed version of Title 6 now links land use and transportation and some of the changes to Title 6 are transportation related, Metro staff wanted to give TPAC an opportunity to review and comment on those changes.

The following were issues raised by MTAC that are still being discussed and include a response by Metro staff.

1. What kind of documentation will local governments need to send Metro to qualify for a regional investment or lower transportation standards?

<u>Response</u>: Metro staff plan to prepare a handbook to provide guidance to local governments on the specifics of implementing Title 6 and other titles.

2. Should 3.07.620B be more specific about the nature of boundary "adoption" by elected officials?

<u>Response</u>: The current language allows local governments to use their customary procedures for adoption or amendment of design-type or zoning district boundaries by ordinance or resolution. The only requirements are that notice be given to ODOT and Metro and that an official decision be made by the governing body.

3. What level of existing or past planning for centers will be good enough under the "grandfather clause" (3.07.620E)

<u>Response</u>: Metro staff plan to prepare a handbook to provide guidance to local governments.

4. Should 3.07.630B use a "tiered" approach to trip reduction credit?

<u>Response</u>: Metro staff propose no revisions to the current draft for the following reasons. First, if Title 6 is adopted as written, it will be part of a tiered approach: 0060 of the Transportation Planning Rule (TPR) allows an automatic 10 percent trip reduction in certain design types in the region; Title 6 would offer a second tier – a 30 percent reduction – if certain actions are taken. The current TPR allows for local jurisdictions to request and provide documentation for additional trip reduction credits. Second, a more highly articulated tiered approach risks a degree of complication that will discourage use by cities and counties.

5. Should 3.07.630B(3)(iii) specify levels of parking management to qualify for regional investment?

<u>Response</u>: This provision relies upon the parking requirements in the recently-adopted 2035 Regional Transportation Functional Plan (see Title 4 of RTFP). The RTFP provides a wide range of actions that could become part of the local government's parking management program. It is up to the local government to decide what works best for their center or corridor. The city or county must show that its program helps achieve the non-SOV mode share targets adopted under Title 1 of the RTFP.

Included with this memo is the most recent draft of Title 6. A memo from Lainie Smith from ODOT was included in the TPAC agenda packet and proposes amendments to Title 6. Metro staff would like to get TPAC comments on those proposed amendments to take to MTAC at their next meeting.

Exhibit G of Ordinance No. 10-1244

TITLE 6: CENTERS, CORRIDORS, STATION COMMUNITIES AND MAIN STREETS

3.07.610 Purpose

The Regional Framework Plan (RFP) identifies Centers, Corridors, Main Streets and Station Communities throughout the region and recognizes them as the principal centers of urban life in the region. Title 6 calls for actions and investments by cities and counties, complemented by regional investments, to enhance this role. A regional investment is an investment in a new highcapacity transit line or designated a regional investment in a grant or funding program administered by Metro or subject to Metro's approval.

<u>3.07.620</u> Actions and Investments in Centers, Corridors, Station Communities and Main Streets

- A. In order to be eligible for a regional investment in a Center, Corridor, Station Community or Main Street, or a portion thereof, a city or county shall take the following actions:
 - Establish a boundary for the Center, Corridor, Station Community or Main Street, or portion thereof, pursuant to subsection B;
 - Perform an assessment of the Center, Corridor, Station Community or Main Street, or portion thereof, pursuant to subsection C; and
 - 3. Adopt a plan of actions and investments to enhance the Center, Corridor, Station Community or Main Street, or portion thereof, pursuant to subsection D.
 - B. The boundary of a Center, Corridor, Station Community or Main Street, or portion thereof, shall:
 - Be consistent with the general location shown in the RFP except, for a proposed new Station Community, be consistent with Metro's land use final order for a light rail transit project;

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- 2. For a Corridor with existing high-capacity transit service, include at least those segments of the Corridor that pass through a Regional Center or Town Center;
- 3. For a Corridor designated for future high-capacity transit in the Regional Transportation Plan (RTP), include the area identified during the system expansion planning process in the RTP; and
- 4. Be adopted and may be revised by the city council or county board following notice of the proposed boundary action to the Oregon Department of Transportation and Metro in the manner set forth in subsection A of section 3.07.820 of this chapter.
- C. An assessment of a Center, Corridor, Station Community or Main Street, or portion thereof, shall analyze the following:
 - 1. Physical and market conditions in the area;
 - 2. Physical and regulatory barriers to mixed-use, pedestrian-friendly and transit-supportive development in the area;
 - 3. The city or county development code that applies to the area to determine how the code might be revised to encourage mixed-use, pedestrian-friendly and transit-supportive development;
 - 4. Existing and potential incentives to encourage mixed-use pedestrian-friendly and transit-supportive development in the area; and
 - 5. For Corridors and Station Communities in areas shown as Industrial Area or Regionally Significant Industrial Area under Title 4 of this chapter, barriers to a mix and intensity of uses sufficient to support public transportation at the level prescribed in the RTP.
- D. A plan of actions and investments to enhance the Center, Corridor, Station Community or Main Street shall consider the assessment completed under subsection C and include at least the following elements:

- Actions to eliminate, overcome or reduce regulatory and other barriers to mixed-use, pedestrian-friendly and transit-supportive development;
- 2. Revisions to its comprehensive plan and land use regulations, if necessary, to allow:
 - i. In Regional Centers, Town Centers, Station Communities and Main Streets, the mix and intensity of uses specified in section 3.07.640; and
 - ii. In Corridors and those Station Communities in areas shown as Industrial Area or Regionally Significant Industrial Area in Title 4 of this chapter, a mix and intensity of uses sufficient to support public transportation at the level prescribed in the RTP;
- 3. Public investments and incentives to support mixed-use pedestrian-friendly and transit-supportive development; and
- 4. A plan to achieve the non-SOV mode share targets adopted by the city or county pursuant to section 3.08.230 of the Regional Transportation Functional Plan (RTFP) that includes:
 - i. The transportation system designs for streets, transit, bicycles and pedestrians consistent with Title 1 of the RTFP;
 - ii. A transportation system or demand management plan consistent with section 3.08.160 of the RTFP; and
 - iii. A parking management program consistent with section
 3.08.410 of the RTFP.

E.A city or county that has completed all or some of the requirements of subsections B, C and D may seek recognition of that compliance from Metro by written request to the Chief Operating Officer (COO).

F.Compliance with the requirements of this section is not a prerequisite to:

1. Investments in Centers, Corridors, Station Communities or Main Streets that are not regional investments; or 2. Investments in areas other than Centers, Corridors, Station Communities and Main Streets.

3.07.630 Eligibility Actions for Lower Mobility Standards and Trip Generation Rates

- A. A city or county is eligible to use the higher volume-tocapacity standards in Table 7 of the 1999 Oregon Highway Plan when considering an amendment to its comprehensive plan or land use regulations in a Center, Corridor, Station Community or Main Street, or portion thereof, if it has taken the following actions:
 - 1. Established a boundary pursuant to subsection B of section 3.07.620; and
 - 2. Adopted land use regulations to allow the mix and intensity of uses specified in section 3.07.640.
- B. A city or county is eligible for an automatic reduction of 30 percent below the vehicular trip generation rates reported by the Institute of Traffic Engineers when analyzing the traffic impacts, pursuant to OAR 660-012-0060, of a plan amendment in a Center, Corridor, Main Street or Station Community, or portion thereof, if it has taken the following actions:
 - Established a boundary pursuant to subsection B of section 3.07.620;
 - 2. Revised its comprehensive plan and land use regulations, if necessary, to allow the mix and intensity of uses specified in section 3.07.640; and
 - 3. A plan to achieve the non-SOV mode share targets adopted by the city or county pursuant to section 3.08.230 of the Regional Transportation Functional Plan (RTFP)that includes:
 - i. Transportation system designs for streets, transit, bicycles and pedestrians consistent with Title 1 of the RTFP;
 - ii. A transportation system or demand management plan consistent with section 3.08.160 of the RTFP; and

iii. A parking management program consistent with section 3.08.510 of the RTFP.

3.07.640 Activity Levels for Centers, Corridors, Station Communities and Main Streets

- A. Centers, Corridors, Station Communities and Main Streets need a critical number of residents and workers to be vibrant and successful. The following average number of residents and workers per acre is recommended for each:
 - Central City 250 persons
 Regional Centers 60 persons
 Station Communities 45 persons
 Corridors 45 persons
 Town Centers 40 persons
 Main Streets 39 persons
 - B. Centers, Corridors, Station Communities and Main Streets need a mix of uses to be vibrant and walkable. The following mix of uses is recommended for each:
 - 1. The land uses listed in State of the Centers: Investing in Our Communities, January, 2009, such as grocery stores and restaurants;
 - Institutional uses, including schools, colleges, universities, hospitals, medical offices and facilities;
 - 3. Civic uses, including government offices open to and serving the general public, libraries, city halls and public spaces.
 - C. Centers, Corridors, Station Communities and Main Streets need a mix of housings types to be vibrant and successful. The following mix of housing types is recommended for each:
 - 1. The types of housing listed in the "needed housing"
 statute, ORS 197.303(1);
 - The types of housing identified in the city's or county's housing need analysis done pursuant to ORS 197.296 or statewide planning Goal 10 (Housing); and
 - 3. Accessory dwellings pursuant to section 3.07.120 of this chapter.

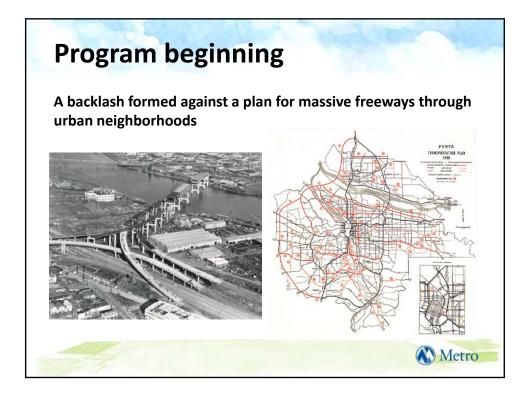
3.07.650 Centers, Corridors, Station Communities and Main Streets Map

- A. The Centers, Corridors, Station Communities and Main Streets Map is incorporated in this title and is Metro's official depiction of their boundaries. The map shows the boundaries established pursuant to this title and boundaries established prior to January 1, 2011. Until a local government has established a boundary by action of its elected officials, the map will depict the approximate locations of Centers, Corridors, Station Communities and Main Streets shown on the 2040 Growth Concept Map in the Regional Framework Plan (RFP).
- B. A city or county may revise the boundary of a Center, Corridor, Station Community or Main Street so long as the boundary is consistent with the general location on the 2040 Growth Concept Map in the RFP. The city or county shall provide notice of its proposed revision as prescribed in subsection B of section 3.07.620.
- C. The COO shall revise the Centers, Corridors, Station Communities and Main Streets Map by order to conform the map to establishment or revision of a boundary under this title.



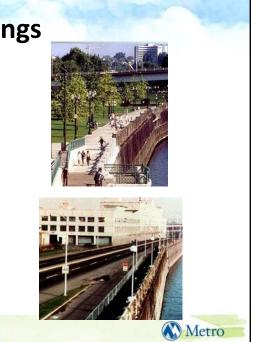


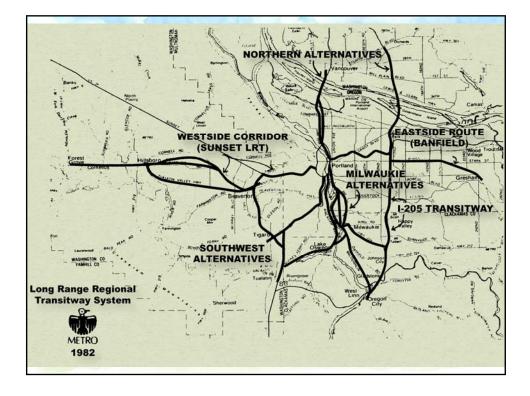


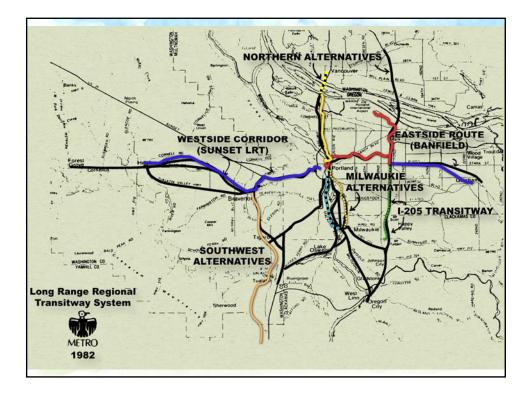


Program beginnings

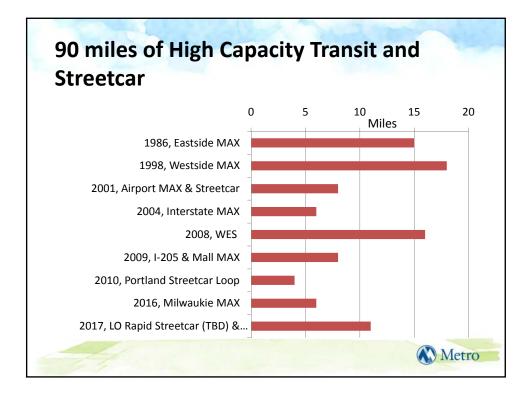
- Harbor Freeway removed in 1976 to make way for Tom McCall Waterfront Park
- Shift freeway money to multi-modal projects (the ORIGINAL flex funds!)

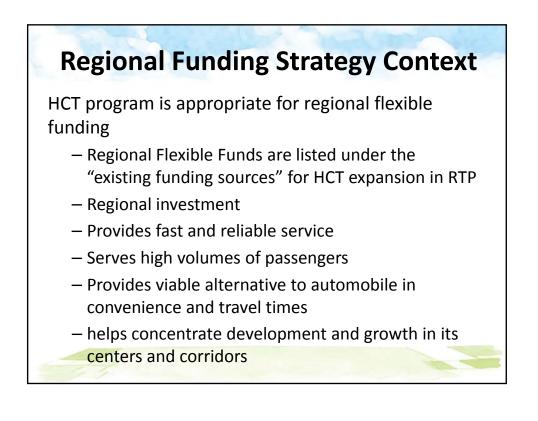


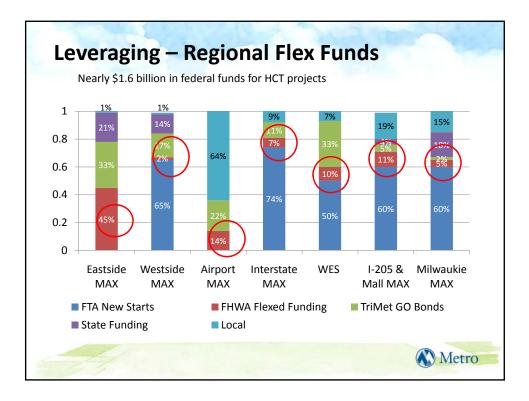


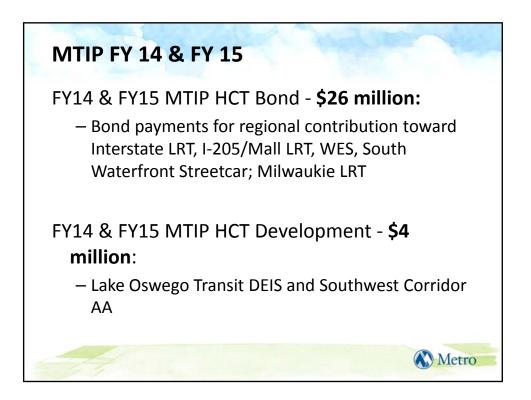










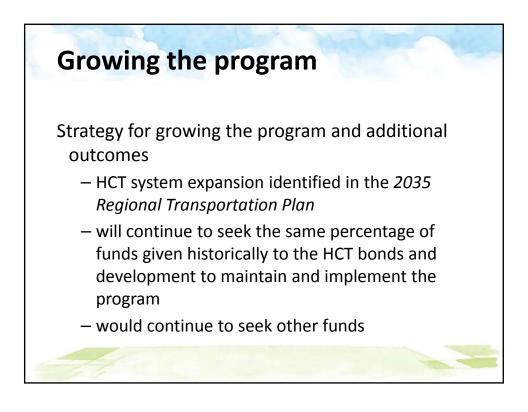


Program description: funding

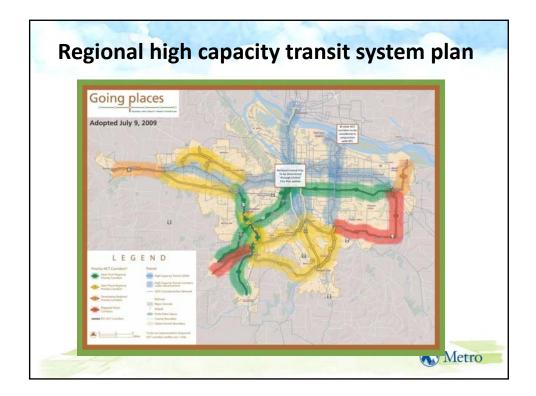
Comparison of Current to Proposed Flex Fund Commitments/Targets for HCT In Millions of Year-of Expenditure Dollars

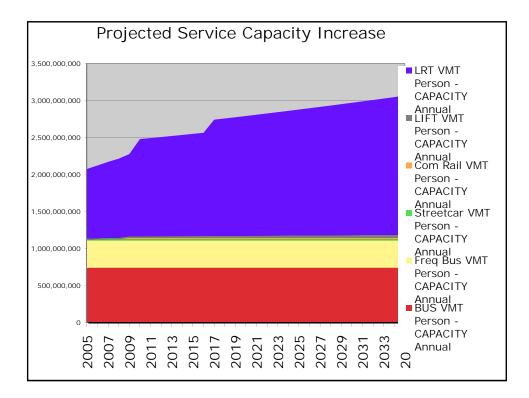
				rent			
FISCAL YEAR	Existing Commitment of Flex Funds to GARVEE Bonds	Proposed Commitment of Supplemental Flex Funds to GARVEE Bond for Milwaukie LRT	Proposed Commitment of Supplemental Flex Funds to GARVEE Bond for Corridor Studies	Current Flex Funds Target Amount for Transit Corridor Development ⁽¹⁾	Total Amount Committed/ Targeted Under Proposal	Regional Flex Funds	% of Regional Flex Funds in GARVEE + Corridor Studies
2012	\$13.0			\$2.0	\$15.0	\$32.3	46%
2013	\$13.0			\$2.0	\$15.0	\$32.9	46%
2014	\$13.0			\$2.0	\$15.0	\$33.6	45%
2015	\$13.0			\$2.0	\$15.0	\$34.3	44%
2016	\$13.0			\$2.0	\$15.0	\$35.0	43%
2017	\$13.0			\$2.0	\$15.0	\$35.7	42%
2018	\$13.0			\$2.0	\$15.0	\$36.4	41%
2019	\$13.0			\$2.0	\$15.0	\$37.1	40%
2020	\$13.0			\$2.0	\$15.0	\$37.8	40%
2021	\$13.0			\$2.0	\$15.0	\$38.6	39%
2022	\$13.0			\$2.0	\$15.0	\$39.4	38%
2023	\$13.0			\$2.0	\$15.0	\$40.2	37%
2024	\$13.0			\$2.0	\$15.0	\$41.0	37%
2025	\$13.0			\$2.0	\$15.0	\$41.8	36%
2026				\$2.0	\$2.0	\$42.6	5%
2027				\$2.0	\$2.0	\$43.5	5%
Total	\$182.0			\$32.0	\$214.0		

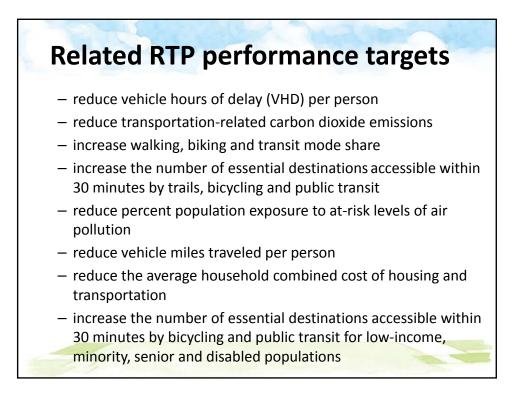
Program description: funding Proposed Proposed Fle Proposed Proposed Funds Target % of Regional Existing Commitment of Commitment of Total Amou Amount for mitment of Supplemental Flex Supplemental Flex Transit Corridor Flex Funds in FISCAL **Regional Flex** Committed/ GARVEE + YEAR Flex Funds to Funds to GARVEE Funds to GARVEE . Targeted Under Funds Development Corridor GARVEE Bonds Bond for Milwaukie LRT Bond for Corridor Proposal (Non-GARVEE Studies Studies (1) Bonded) (2) 2012 \$13.0 \$2.0 \$15.0 \$32.3 46% 2013 2014 2015 \$13.0 \$13.0 \$2.0 \$15.0 \$32.9 46% \$2.0 Note \$15.0 \$33.6 45% \$13.0 \$2.0 Note \$15.0 \$34.3 44% 2016 \$13.0 \$1.0 \$2.0 Note \$16.0 \$35.0 46% 2017 \$13.0 \$1.0 \$2.0 \$35.7 45% Note \$16.0 2018 \$13.0 \$1.0 \$2.0 Note ³ \$16.0 \$36.4 44% 2019 Note ³ Note ³ \$13.0 \$1.0 \$2.0 \$16.0 \$37.1 43% 2020 \$13.0 \$1.0 \$2.0 \$37.8 42% \$16.0 Note ³ 2021 \$13.0 \$1.0 \$16.0 \$38.6 41% \$2.0 2022 \$13.0 \$3.0 \$2.0 \$18.0 \$39.4 46% 2023 \$13.0 \$3.0 \$2.0 \$18.0 \$40.2 45% 2024 \$2.0 \$13.0 \$3.0 \$18.0 \$41.0 44% 2025 \$3.0 \$2.0 \$41.8 43% \$13.0 \$18.0 \$42.6 \$43.5 2026 \$16.0 \$2.0 \$18.0 42% 41% 2027 \$16.0 \$2.0 \$18.0 \$182.0 \$16.0 Total \$50.0 \$16.0 \$264.0



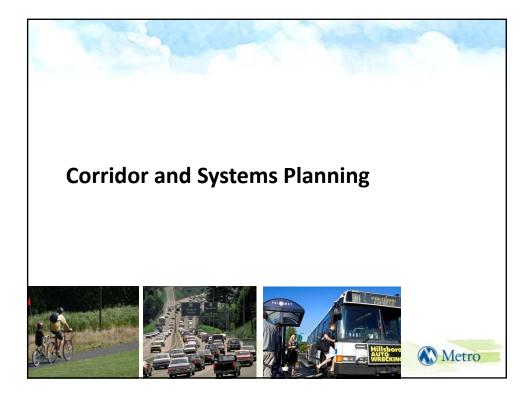




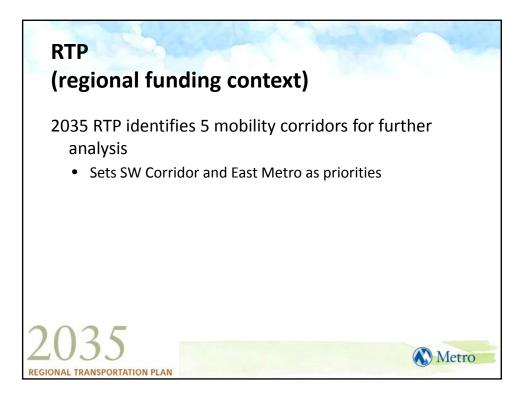


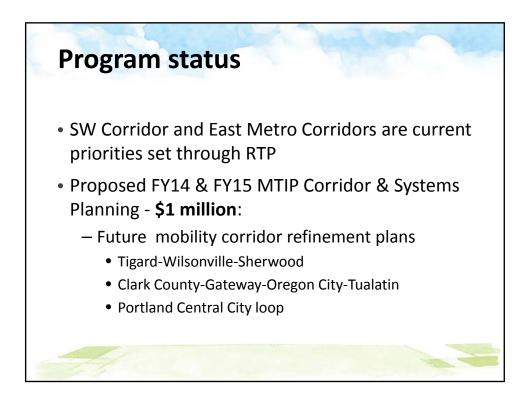




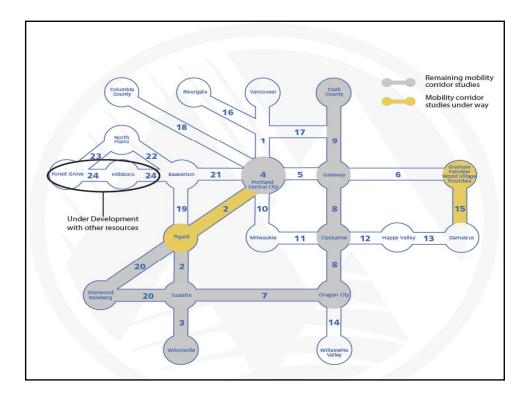




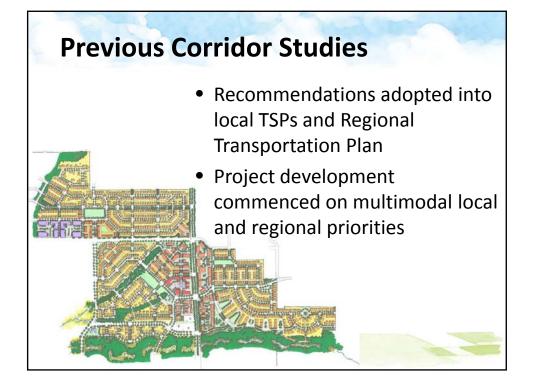




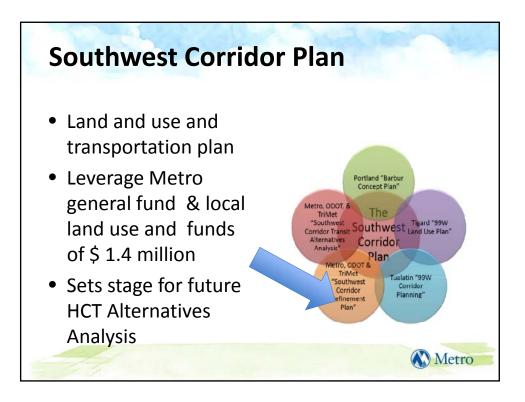
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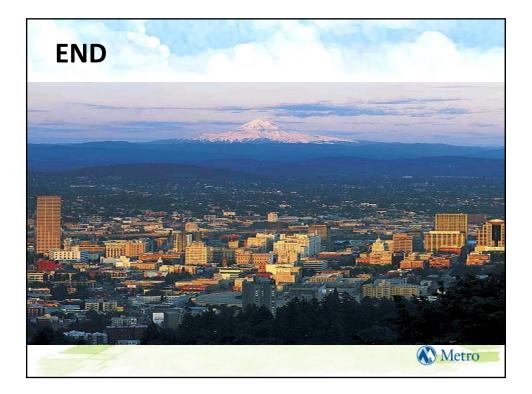


Fiscal Years	Activity	Amount Spent, Underway, or Requested
Y02 &		
Y03	I-5 Trade Corridor – complete	\$ 250,000
Y04 &		
Y05	Powell/Foster – complete	\$ 300,000
Y06 &FY07	High Capacity Transit System Plan - complete	\$ 500,000
Y08 &		
Y09	High Capacity Transit System Plan -	\$ 500,000
Y10 &		
Y11	Southwest and East Metro – underway	\$ 500,000
Y12 &		
Y13	Next Corridor and Advance Work – committed	\$ 500,000
Y14 &		
Y15	New request - Next Corridor and Advance Work	\$ 1,000,000









Oregon Department of Transportation OR 217 System Management Study Briefing

An innovative approach to transportation corridor planning that utilizes least cost planning strategies to investigate a range of potential improvements.



Background and Objectives OR 217 connects I-5 and US-26

• Carries up to 120,000 vehicles per day, yet the facility is one of the least reliable freeways in the Portland Region.

Previous study addressed these mobility and safety problems with costly capital projects such as widening to six lanes, braiding ramps, and adding collector-distributor roadway.

• These high-cost improvements total nearly \$1 billion

Key Problems

The key problems of OR 217 are:

- Bottlenecks
- Short Interchange Spacing
- High crash rates
- Unreliable travel times

Approach

The objective of this study was to identify and evaluate the types of lower cost, fundable projects that could feasibly be constructed for OR 217 today to increase reliability, mobility, and safety.



Triple Bottom Line

Process

Workshop attended by representatives from public agencies (ODOT, Washington County, City of Tigard, City of Beaverton, and Metro) as well as several technical experts.

- forty projects were developed as a result of the workshop
- assigned into categories

Key Findings

The Key Findings of the initial analysis were:

- These operational "Best in Class" strategiescan maximize the efficiency of a facility, before building additional capacity.
- These strategies each offer reliability and safety benefits to OR 217.
- Individual projects could be implemented for less than \$10 million.
- The degree of benefit varies based on the strategy.

Based on the initial analysis, elected officials determined that select "Best in Class" strategies from the systems management projects should move forward for more detailed analysis.

- Targeted Shoulder Widening
- Traveler Information
- Variable Speed System

"Best of Class" Targeted Shoulder Widening

Narrow shoulders hinder the performance of a freeway. Peak period OR 217 travel times are already unreliable and incidents only exacerbate this condition.

 Having an adequate shoulder can restore lost capacity during an incident by 35 to 45 percent.

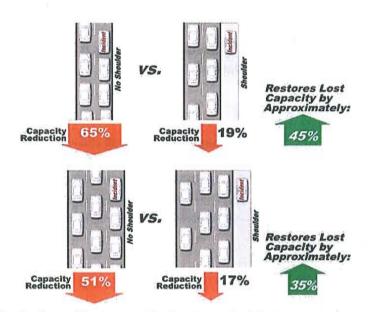


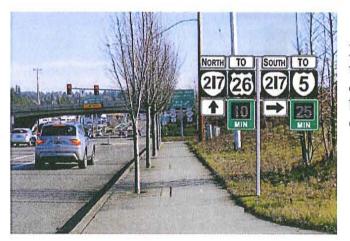
Illustration of lost capacity due to an incident

• Narrow shoulders slow emergency responders from getting to incident scenes, provide no space for stopped vehicles to avoid blocking traffic, every minute lost responding to an incident is costly, jeopardizing the health of those people involved in the accident as well as exacerbating congestion.

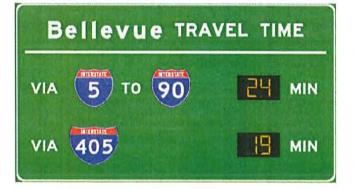
"Best of Class" Traveler Information

The traveler information strategy would provide travel time information for OR 217 at key decision points allowing drivers make the choice to either use OR 217 or an alternate route. Informing drivers of congested conditions before they decide to enter the freeway can improve the reliability of travel on OR 217, and can decrease primary and secondary incidents by reducing congestion

- Freeway delay time could improve by 50 percent during heavily congested periods.
- Based on traveler information studies, up to 85 percent of travelers will change routes when en route delay information is available.



Examples of signs showing travel time information. The top sign is an example of how information could be displayed on arterials, such as Canyon Road (pictured).



"Best of Class" Variable Speed System

Primary benefit of a variable speed system is to reduce rear end collisions, which account for 70 percent of all collisions on OR 217 (which is about two to three rear end collisions per week).

- Reducing rear-end collisions improves reliability, safety, and mobility.
- Studies indicate that the variable speed system have reduced rear end collisions by 30 percent, overall crash rates decreased by 20 percent, and secondary crashes went down by 40 percent

Variable speed limits can also directly improve performance and reliability. The use of variable speed control can achieve improved throughput on a freeway during recurring congestion by lowering the speed limit.

• Optimal freeway capacity during congested operations is not achieved at 65, 60, or even 55 miles per hour. It is achieved at 40 to 45 miles per hour



Recently, a variable speed system was implemented on three freeways in the Seattle area (I-5, I-90, and SR-520).

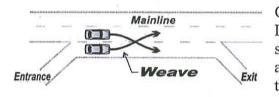


Post mounted system (above) and gantry mounted system (below)

"Best of Class" Ramp Management with Associated Street Strategy

Ramp management strategy targets improving operations on OR 217 by reducing conflict areas through the closure of ramps or interchanges with complementary off-highway street improvements. Removing interchanges is an innovative approach to improving the highway's safety and performance. If interchanges are removed, it will be extremely important for drivers to sense that the highway's safety and performance improved.

One of the main problems on OR 217 is the short spacing between interchanges. This short spacing creates bottlenecks and high crash locations as drivers change lanes from entrance ramps to the mainline, weaving with drivers moving from the mainline to exit lanes.

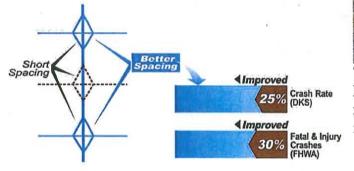


Comparing OR 217 to the southern portion of I-205 (from I-5 to West Linn), which has more space between interchanges, I-205 can accommodate 10 to 15 percent more traffic than OR 217.

ODOT's number one concern for freeway traffic is safety. Adequate spacing between interchanges has proven to increase safety benefits. The Federal Highway Administration (FHWA) conducted studies regarding the relationship between interchange spacing and safety.

Removing an interchange can decrease fatal and injury crashes by about 30 percent.

Complementary street improvements are required with each of the ramp closure options as appropriate to create a balanced transportation system.





The ramp management strategy may have the potential to eliminate the need for expensive capital projects identified in previous studies.

Summary of Options

System management project options

Project No.	Systems Management	Cost Estimate* (millions)				
	TARGETED SHOULDER WIDENING					
1	Southbound from Scholls Ferry Rd to Greenburg Rd	e				
2	Northbound from Scholls Ferry Rd to Denney Rd					
3	Northbound from Greenburg Rd to Scholls Ferry Rd \$2.0 to \$10 Southbound from Denney Rd to Hall Blvd \$2.0 to \$10					
4						
5	Southbound from Allen Blvd to Denney Rd					
6	Southbound from Beaverton Hillsdale Hwy to Allen	-				
	All six locations	\$25.0				
C Ro Las	TRAVELER INFORMATION	and the small back of the				
1	US 26 westbound – 1 sign					
2	I-5 southbound – 1 sign	\$1.0 to \$2.0				
3	Washington Square Regional Center – 5 signs	igns \$1.0 to \$3.0				
4	Beaverton Regional Center – 3 signs	1				
	All 10 signs	\$6.0				
il. Actor altro	VARIABLE SPEED SYSTEM					
n/a	Post Mounted – Both sides of the roadway	\$10 to \$15				

Source: DKS Associates and HHPR

*Cost estimate in 2010 dollars

Targeted shoulder widening projects:

The targeted shoulder widening projects focus on locations with high crash rates, locations that provide direct access for emergency vehicles, and locations that avoid structural and wetland issues.

• Each location could be implemented individually, or several of them could be grouped together.

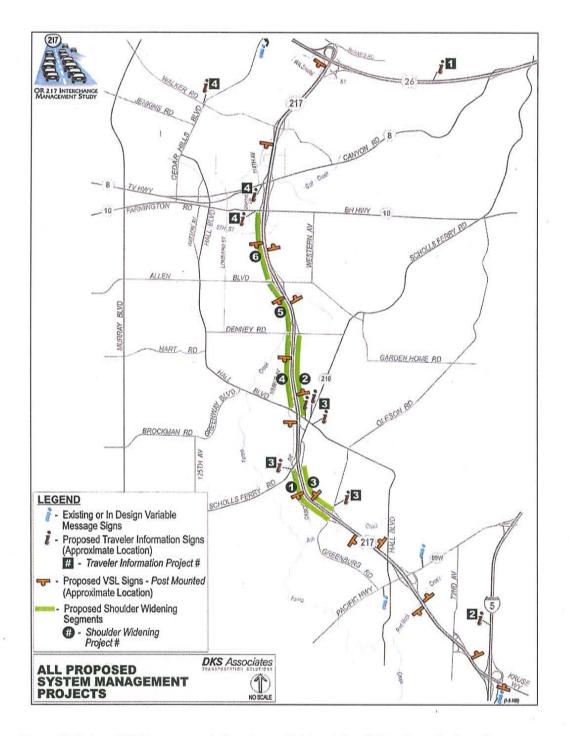
Traveler information projects

Locations are based on origin-destination data, focusing on trip combinations and sites with the greatest number of trips.

• Sign locations could be implemented individually, or grouped together depending on available funding.

Variable Speed System

• South bound variable speed system could be implemented before the other direction, further lowering the initial cost.



PowerPoint and Video presentation is available at the following site location http://ftp.odot.state.or.us/outgoing/hwy217



Wu pitches 'smart' road signs for Hwy 217

The U.S. representative has a list of ideas on how to solve congestion problems on the highway

By GEOFF PURSINGER Of Times Newspapers

The seemingly ever-present congestion along Highway 217 has long been an annoyance to motorists, but for Tualatin Valley Fire & Rescue Station 53, near Washington Square, a bad traffic jam can mean the difference between life and death.

"Incident responders are stuck in the same traffic jam as everyone else," said Jason Tell, regional manager for the Oregon Department of Transportation.

Station 53 handles the majority of traffic collisions and emergencies along Highway 217 and the surrounding area, and relies on the highway to get to where they're needed.

"Our emergency response



TRAFFIC CONTROL — U.S. representatives David Wu, center, and Peter DeFazio, left, stand on the overpass of Hall Boulevard and Highway 217 on Thursday. Wu and ODOT officials have a plan to help alleviate traffic on the highways, including using "smart" signs that can change the speed on the highway depending on traffic.

vehicles are much bigger than a car or a truck or a motorcycle," said Cassandra Ulven, of TVF&R. "And when you try and get one of these through a crowded freeway, it's a huge challenge for us."

Enter U.S. Rep. David Wu. The six-term congressman, who represents Oregon's 1st District, which includes Washington County, in the U.S. House of Representatives, has a plan for bringing relief to the troubled highway and for emergency vehicles.

Wu has written a \$15 mil-

lion request for the upcoming highway reauthorization bill, that would be used to fund shoulder improvements along Highway 217.

"Currently, when ODOT emergency response vehicles or TVF&R firefighters are responding to a call, there are sections of Highway 217 that are impassable at peak congestion times because the shoulders are simply too narrow," he said. "We can, and we're going to try to, fix this problem immediately."

When firefighters or emergency responders are called to the scene of an accident, oftentimes there isn't enough room for motorists along Highway 217 to get out of the way, Wu said."

Having shoulders where

See SIGNS, A7



-OVER-1

TT The Times

Signs: 'Europe has been using signs like this for decades'

Continued from A1

people can get out of the way so we can respond to a life-saving emergency and then clear the roadway is critical for us," 'Ulven agreed. "Each year we respond to hundreds of calls on or near 217, and our ability to get there quickly could mean the difference between life or death."

For every minute a car is stalled on 217, it takes approximately five minutes for the road to clear, Tell said.

"A short delay can make a major backup, so minutes really matter," Tell said. "And that's something that will be improved with shoulder widening."

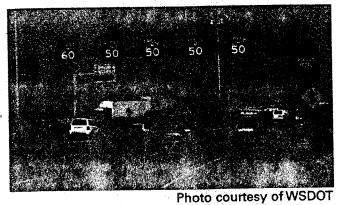
But that's just the start for what Wu would like to see along 217, Wu said.

A recent study by ODOT and the cities along Highway 217 have pointed out two other possible solutions to solving traffic flow along the highway.

Travel-line system

The first is a travel-time system that would allow drivers to know about congestion before they enter the highway.

"As (drivers) would approach 217 there would be signs that say what the travel time is on the highway versus taking a local road or another highway," Tell said. "Right now, without that information, people get onto the highway that's already congested and then they contribute to more and more of a delay."



TRAFFIC CONTROL — Washington state's "Smart Highways" program can vary the speed limit along Interstate 5 (pictured) during congested hours, alleviating many rearend accidents and making it safer for motorists to drive.

There are about 200 traffic collisions a year on 217, ODOT officials said. Most of which are rear-end collisions because drivers don't know there is congestion until it's too late.

Variable speed limit

The second solution is a variable speed limit along the highway, which would slow traffic down before it get to congested portions of the highway.

"Right now, drivers don't know there's a problem until they run into the brake lights of the car in front of them," Tell said. "Through signage on the highway, we can warn people to start slowing down before they get to an accident or congestion ... We can get the information to drivers so they know they should be going 35 mph or 40 mph. That will save quite a bit of travel time in the long run."

Both the travel-time signs

and so-called "smart highway" speed signs are used in Washington state, along sections of Interstate 5.

Washington's smarter highway signs have been in place for about a month, Patty Michaud, with Washington State Department of Transportation said, and hard data on the signs won't be available for about a year.

"But Europe has been using signs like these for decades," she said. "And they have seen a 30 percent reduction in injury collisions. That's some doing that we could certainly use."







Calendar

2014-15 Regional Flexible Funding Allocation

2010		
October	Kick-off meetings of RFFA Task Force and Environmental Justice/Underserved Work Group.	
	HCT development and Corridor Plan: region wide program review at TPAC & JPACT.	
	Regional Planning: region wide program review at TPAC.	
November	Task Force meetings.	
	EJ Work Group input on needs completed.	
	Regional Planning: region wide program review at JPACT.	
	Transit Oriented Development: region wide program review at TPAC.	
December	Task Force recommendation on investment strategy for project focus areas.	
	Transit Oriented Development: region wide program review at JPACT	
2011		
January	TPAC recommendation of project prioritization criteria.	
	TSMO/RTO: region wide program review at TPAC & JPACT.	
February	Agency workshops on project nominations for project focus areas to define projects to be evaluated.	
March	Evaluation of project nominations (Local agency workshop to review/comment	
April	Task Force recommendation on project selection and funding allocation.	
May/June	Project scoping refinement by lead agency.	
June/July	Public comment on project proposals (including EJ work group sponsored outreach).	
August	Adoption process (TPAC recommendation/JPACT action/Council adoption). Air quality conformity analysis begins.	
December	Air quality conformity analysis completed - begin 30-day comment period in January.	
2012		
February	Adopt MTIP and Air Quality Conformity Report, including final Metro area state highway programming and TriMet and SMART Transit Investment Plan, and	

submit MTIP to Governor for approval. Governor approves incorporation of

MTIP into STIP. OTC approves submittal of STIP to USDOT.

Metro | People places. Open spaces.

Date:	October 1, 2010
То:	TPAC Members, Alternates and Interested Parties
From:	Kelsey Newell
Re:	2011 TPAC meeting schedule

Please mark your calendars with the following 2011 TPAC meeting dates. TPAC meetings will be held from 9:30 a.m. to noon in the Metro Council Chambers:

Friday, January 7, 2011	Regular TPAC meeting
Friday, January 28, 2011	Regular TPAC meeting
Friday, February 25, 2011	Regular TPAC meeting
Friday, March 25, 2011	Regular TPAC meeting
Friday, April 29, 2011	Regular TPAC meeting
Friday, May 27, 2011	Regular TPAC meeting
Friday, July 1, 2011	Regular TPAC meeting
Friday, July 29, 2011	Regular TPAC meeting
Friday, August 26, 2011	Regular TPAC meeting
Friday, September 23, 2011	Regular TPAC meeting
Friday, October 28, 2011	Regular TPAC meeting
Friday, November 18, 2011	Regular TPAC meeting

FALL 2010

GreenScene



Your fall guide to great places and green living

www.oregonmetro.gov



glow roll gaze reach bundle crunch preserve



Discover Graham Oaks Nature Park

D ense conifer forests where ancient Douglas firs grow along creek canyons; lush wetlands that are home to hundreds of bird species; restored native Oregon white oak woodland habitat where acorns feed jays, quail, woodpeckers, ducks, raccoons and deer – sound like a remote Oregon location? You can now find all of this at Metro's Graham Oaks Nature Park in Wilsonville, just 15 miles from downtown Portland.

Celebrate

10 a.m. to 2 p.m. Saturday, Sept. 18

Bring friends and family for a fun-filled day with guided park tours, activities and crafts, music and entertainment at the region's newest nature park. Explore three miles of trails traversing the varied terrain and visit interpretive plazas, a picnic area and scenic overlooks made from locally sourced materials.

Eat

Start the day with an omelet and pancake breakfast fundraiser at Boones Ferry Primary School from 9 a.m. to noon, sponsored by the Rotary Club of Wilsonville. The school is the center of the celebration with a main stage, booths, food vendors and bike and car parking areas.

Bike

Be the first to ride your bike through Graham Oaks on the newest section of the Tonquin Trail. When complete, this regional trail will connect Wilsonville, Tualatin and Sherwood. The one-hour scenic tour, sponsored by Wilsonville SMART, departs from CREST

2



Above: Interpretive sign posts made by a local artist from recycled steel. Wood used for trellis structures is certified by the Forest Stewardship Council as sustainably harvested.

Right: Students from two adjacent schools and an environmental education center use Graham Oaks as a living laboratory.

plaza at 9 a.m. and heads north through the park, ending at Boones Ferry in time for the grand opening festivities. Additional secured bike parking will be provided, and those who ride to the event will receive a Bike There! cycling accessory. Advance registration required, call 503-682-0502.

Play

Students' park-inspired art will be on display at the opening, and the artwork can also be found on Graham Oaks trading cards, available at discovery stations throughout the park during the event. Draw your own card and enter to win prizes from Metro's Native Plant Center for your backyard.

Discover

Learn about wildlife and habitats at Graham Oaks from Metro's scientists, ranger and naturalists, and hear how crews restored the oak woodland habitat by planting native trees and plants. See how sustainable strategies were used in the park's design, materials and construction.

Honor

At a noon dedication ceremony, enjoy ceremonial dancing and drumming, live music and Boones Ferry students reading from their new book about the history of Graham Oaks.

Explore

Discover how the Kalapuya Indians lived at Graham Oaks as members from the Confederated Tribes of Grand Ronde demonstrate basket weaving, arrowhead making and cooking with acorns. Explore the farming traditions of Graham Oaks and the Wilsonville area with interactive wheat threshing demonstrations by rangers from Oregon Parks and Recreation Department's Champoeg State Heritage Area. Tour CREST (Center for Research in Environmental Sciences and Technology, funded and operated by the West Linn-Wilsonville School District) and see how students tend the organic gardens, orchard, beehives and greenhouse and monitor wildlife and water quality.

......

www.oregonmetro.gov/ grahamoaks

.....



Orange-crowned warbler

Getting to know Graham Oaks

G raham Oaks Nature Park has a fascinating past – and an equally fascinating future. Brush up now to impress your family and friends at the grand opening.

- Before the land was logged and farmed, it was a rich habitat for birds, mammals and camas lily.
- It is likely that the Ahantchuyuk and Tualatin tribes of the Kalapuyan people used the site to gather food. Blackberries, salal berries and

huckleberries were dried; strawberries and raspberries were eaten fresh; deer and elk were hunted.

- Camas bulbs were unearthed and steamed for about two days over hot rocks in an earth-covered oven. Acorns were an important staple food, and the tribes used fire to maintain the oak savannas and enhance acorn yields.
- Clackamas County Commissioner Charlotte Lehan, former mayor of Wilsonville, is a descendant of the family that purchased this site in the 1880s to grow hops, filberts, corn, potatoes and grass crops.
- Metro purchased Graham Oaks with funds from a 1995 natural areas bond measure, approved by voters across the region. The land was developed as a nature park with Metro's 2006 bond measure funds. The Oregon Parks and Recreation Department provided a \$500,000 construction grant, funded by the state lottery. The City of Wilsonville prepared the master plan, helped to facilitate construction and contributed \$300,000 to the project.
- Metro has planted 150,000 native trees and shrubs – including 15,000 oaks – and more than 100 million seeds of wildflowers and grasses. Over time, these will recreate historic oak and pine woodland and savanna, and replenish wetlands and conifer forests.

- Graham Oaks serves as an outdoor classroom for the Boones Ferry and Wood schools, and for CREST. Students study the rich wildlife, habitat and cultural history of Graham Oaks, from the early inhabitants like the Kalapuya Indians to settlers such as Alphonso Boone who established Boones Ferry.
- CREST played an integral role in the restoration of Graham Oaks, as students planted wildflowers and native shrubs through Metro's adopt-a-plot program. Learn about CREST's farm-to-school program and see how students are cultivating and harvesting food for school lunches and a student-operated farmers market the first harvest will be available at the opening!
- An Oregon white oak takes 100 years to mature.
- Less than 8 percent of historic native Oregon white oak landscape has survived in the Willamette Valley.
- Different types of oak habitat attract different species of native birds and mammals. Grassy oak savanna provides a familiar home to the Western bluebird and the Northern harrier; bushy oak woodlands harbor the orange-crowned warbler and the Western gray squirrel.

Discover one of the region's greenest parks

A t Graham Oaks Nature Park, porous pavement in the parking lot manages stormwater and removes pollutants. Solar panels on the restroom feed into the City of Wilsonville's electric grid, and the beautiful stonework at the plazas and overlooks is Columbia River Gorge basalt.

Sustainable strategies used in the design, materials and construction of Graham Oaks promote environmental stewardship of natural resources in many ways:

- Metro chose durable, environmentally appropriate, locally produced materials for facilities such as the restroom (a pre-fab kit from Roseburg) and the ecoroof on the picnic shelter (from Baker City).
- The native plants, trees and shrubs used to restore the oak woodland habitat were grown at Metro's Native Plant Center, where the wildflower seeds were also sown.



- Interpretive signs tell the story of Graham Oaks and introduce visitors to the natural and cultural history of this site and its sustainable features.
- Benches, metal banners and wetland viewpoint screening are detailed with hand forged metal oak tree leaves and indigenous wildlife. Local artist Mauricio Saldana has sculpted a 6,000-pound acorn for a public art installation.

Stormwater swales in the parking lot and

Stormwater swales in the parking lot and an ecoroof on the picnic shelter help improve water quality.

Walk There! Graham Oaks Nature Park

xplore Graham Oaks Nature Park with your own two feet following this new walking route. Find more great places to walk in the Portland-Vancouver area with Metro's Walk There! The easy-to-use guide book leads you on 50 explorations of urban natural areas, scenic parks, historic neighborhoods and fascinating main streets. Detailed maps and route descriptions help you discover the region's rich history and varied landscapes while you enjoy the benefits of walking.

www.oregonmetro.gov/ walkthere

Note: Dogs are not allowed at Graham Oaks except on the Tonquin Trail, and there only on leash.

Begin at Gateway Plaza, Southwest Wilsonville Road at Willamette Way West. Walk east to Acorn Plaza, home to a 6,000pound basalt acorn sculpture. Trails to the east lead to Boones Ferry Primary School, Inza Wood Middle School and CREST. Graham Oaks is an outdoor classroom for 1,400 students at these schools. Acorn Plaza intersects the Tonquin Trail, a paved, multi-use path that will eventually connect the Willamette River, just south of Graham Oaks, to the Tualatin River National Wildlife Refuge in Sherwood.

Turn left onto the trail. At the first junction, the Coyote Way Trail offers a walk through restored oak woodland habitat. It also connects to the Legacy Creek Trail, where ancient Douglas fir grow along creek canyons in a deep forest, a counterpoint to the park's more open oak savanna. Further on the Tonquin Trail, a short trail to the left leads to Lone Oak Plaza. Here a spectacular oak grows with the spreading habit that testifies to its early years in an open savanna.

Continue on the Tonquin Trail to a path on the right leading to a bird blind overlooking restored wetlands. Further north, the Arrowhead Trail leads to wetlands and connects Graham Oaks to the Park at Merryfield neighborhood.

The Tonquin Trail in Graham Oaks transitions to a network of off-street promenades and bike lanes through Villebois, a planned community of 2,600 homes built on the former site of Dammasch State Hospital. Designed using smart growth principles, Villebois won the 2010 Community of the Year award from the National Association of Home Builders. A second Villebois trailhead to the west connects to the Oak Woodland Walk and allows for a loop back to the start via the Coyote Way Trail.





SUSTAINABLE LIVING

Fall garden solutions

S avoring fall's beautiful bounty? From layering your landscape to boosting lawn health, let the good vibes reign all season with Metro natural gardening tips safe for people, pets and the planet.

Diversify your landscape

The long-term solution to most garden problems? Diversity. Establishing a variety of native and well-adapted nonnative plants in the sun and soil conditions they prefer ensures a healthier garden ecosystem. Variety in size matters, too, so consider low-growing ground covers, annuals and perennials, medium and tall shrubs, and trees. This layered-landscape approach offers an attractive habitat for birds and other beneficial wildlife. Another bonus? A robust, head-turning yard.

Keep yellow jackets at bay

Yellow jackets score big points for eating some garden pests, but these little carnivores grow more aggressive in the fall and can disrupt outdoor activities. Cover picnic foods to avoid attracting the insects. If a yellow jacket drops by anyway, give it a moment to fly off or calmly brush the insect away. Got a whole nest of them around your home? Consider hiring a professional for safe removal. For a fee, some beekeepers will move wasp nests to less-populated areas, where the feisty predators can do more good than harm.

Renovate your lawn

Got a lawn? Time to refresh it for optimal turf health. First, hand-pull any weeds and use a thatch rake to open up the soil. Next, overseed the lawn with an applicable Northwest mix. Third, add a thin layer of weed-free compost or quarter-ten crushed basalt. These steps not only thicken your lawn but also fortify it against weeds.

Wrangle powdery mildew

No need to worry much about powdery mildew that might appear on fall squash and cucumbers. It's unlikely to reduce harvests this late in the season, so simply cut off affected leaves to maintain the plants' beauty. Place diseased foliage in your yard-waste bin to avoid infecting other garden plants.



Explore the possibilities

Feeling fresh out of fall garden ideas? Jumpstart your imagination at Metro's four demonstration gardens across the region:

Blue Lake Natural Discovery Garden at Blue Lake Regional Park, Fairview – With a self-guided tour, learn about rain gardens and eye-catching edible plants.

Cooper Mountain Demonstration Garden at Cooper Mountain Nature Park, Beaverton – Discover native and noninvasive, nonnative blossoms, foliage and ornamental grasses.

Natural Techniques Demonstration Garden, Southeast Portland – Explore a robust mix of Northwest natives, ornamentals, edibles, a rain garden and a sustainably grown lawn.

Backyard Makeover exhibit at the Oregon Zoo, Southwest Portland – Enjoy the beauty of local plants and wildlife, including vine maple, penstemon, kinglets, bushtits and chickadees.

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For helpful guides on natural gardening, including composting, controlling pests without toxic chemicals and recognizing beneficial wildlife, call Metro Recycling Information at 503-234-3000 or visit

www.oregonmetro.gov/ garden

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New, free guide offers the what, where and how of regional recycling

G ot a garage full of leftover plastic plant pots? Wondering where to take those old tires? Get help with Metro's newly revised Reduce, Reuse, Recycle guide for area residents. The free, quick-reference



booklet, a companion publication to Metro's popular recycling hotline, explains what, where and how to recycle in the Portland metropolitan area. From reducing junk mail to buying in bulk, the guide also offers timely waste-prevention tips and resources. Call Metro Recycling Information at 503-234-3000 for a free copy.

www.oregonmetro.gov/recycling



Paint-recycling options expand

regon's new industry program for paint recycling, the first in the nation, makes it even more convenient to drop off leftover paint and keep reusable materials out of the landfill. Industry nonprofit PaintCare Inc. will manage the pilot program - including safe disposal of oil-based paint - and has launched additional collection sites locally and statewide. As a program participant, Metro will continue accepting paint at its household hazardous waste facilities, turning quality leftover latex into awardwinning MetroPaint. Visit www.paintcare. org to learn more about the Oregon Paint Stewardship Pilot Program, including collection sites and covered products.

www.oregonmetro.gov/paint

COMMUNITY INVESTMENTS



Share your views

etro is a regional roundtable where leaders, experts and the people of the region come together to shape our future. Share your ideas on land, transportation, natural areas, trails and how we grow. What do you love about the Portland metropolitan area? How should your hometown look in five years or in 50? What would make your neighborhood a better place to live today?

For current public involvement opportunities, visit Metro's website.

www.oregonmetro.gov/participate

Setting the course of the Tonguin Trail

hether you are looking for a safe route to bike or walk to work or new opportunities to exercise and explore nature, you have a stake in the future Tonquin Trail. Metro and its partners are planning a multiuse trail that will connect neighborhoods, schools, jobs, parks, shopping centers and transit stops around Sherwood, Tualatin and Wilsonville.

Parts of the trail path have been determined, and some portions have been built, including a

new section that runs through Metro's Graham Oaks Nature Park, opening Sept. 18. The project partners need your help now to determine which route the trail should follow from Wilsonville to Sherwood and Tualatin. Visit Metro's website to learn about the options, review maps and complete a questionnaire with your preferences. The public comment period continues through Sept. 20.

www.oregonmetro.gov/ tonguintrail



A new section of the Tonquin Trail travels through Graham Oaks Nature Park and connects to nearby neighborhoods and schools.

Stay in touch with the Metro newsfeed

Stay current with daily updates on the actions, events and activities at Metro that support vibrant neighborhoods, thriving local economies and treasured farms and forestland. Visit Metro's newsfeed or subscribe to daily, weekly or monthly digests of stories that interest you.

www.oregonmetro.gov/ news

Shaping the future of the region

ow can we make the most of limited resources and invest in our communities? What kinds of investment do you want to see in your community? Where should we grow - both inside and outside the urban/ growth boundary?

S 3SV Metro's chief operating officer issued a set of recommendations on Aug. 10 to create safe, livable communities, protect natural areas and develop jobs. The report also analyzes potentially where - and how much - to expand the urban growth boundary for housing and employment needs, and calls for a regional approach to public and private investment.

GreenScene

The Metro Council wants to know what you think. Visit an open house in your area. The public comment period continues through Sept. 27.

To review the content of the recommendations and maps of proposed urban growth boundary study areas, or to take an online survey, visit the Metro website.

www.oregonmetro.gov/ investment

Open houses 👌

Monday, Sept. 13, 5 to 7 p.m. Lents Boys and Girls Club community room

Tuesday, Sept. 14, 5 to 7 p.m. Wilsonville City Hall conference rooms I and II

Thursday, Sept. 16, 5 to 7 p.m. Sherwood City Hall community room

Monday, Sept. 20, 5 to 7 p.m. Oregon City - Clackamas County **Development Services Building** community room

Tuesday, Sept. 21, 5 to 7 p.m. St. Johns Community Center classroom 4

Wednesday, Sept. 22, 5 to 7 p.m. Hillsboro Civic Center room 113 C

Planning travel options between Lake Oswego and Portland

With ever-increasing traffic, decision-makers are faced with the need to make the most of available public resources while protecting the character of neighborhoods in the Highway 43 corridor. A more effective transit solution in the corridor could offer better travel options, helping people save time and reduce air pollution.

This fall, the Lake Oswego to Portland Transit Project will publish its analysis of the impacts and benefits of transit alternatives to address future travel demand between the two cities. After publication of the analysis, the project team will host open houses and a public hearing on the alternatives. Learn more and sign up to receive project updates on Metro's website.

www.oregonmetro.gov/ lakeoswego

Metro grants turn your good ideas into great community investments

he people who live and work in the Portland metropolitan area are the best source of ideas about important public investments. That's why Metro solicits grant proposals from residents, nonprofit organizations, schools, community groups and others that want to strengthen their communities and make them more sustainable. Grants act as a catalyst by encouraging individuals and organizations with good ideas to step forward and get involved.

With funding and technical expertise, Metro helps create great communities, protects water quality and wildlife and supports a strong economy as the region – and our neighborhoods – continues to grow. The right investments today can make a big difference for our children and our future.

It's not too soon to start planning today to apply for a Metro grant. Application dates and funding cycles for each grant program vary. To learn more about Metro's grant programs and read about recent awards, visit Metro's website. To be added to the mailing list for future notifications, call 503-797-1834 or e-mail kristin.blyler@ oregonmetro.gov.

Metro Central community enhancement grant program

Applications for the 2011 grant cycle are due at 5 p.m. Monday, Nov. 8. Register to attend a free grant writing workshop offered Oct. 4 for tips, samples and details about past awards. Funds benefit organizations that deliver aid to local residents and groups that look after the natural environment in Northwest and North Portland neighborhoods.

Nature in Neighborhoods restoration and enhancement grant program

Pre-applications are due Jan. 18, 2011. Full applications will be due in March. Attend a free grant writing workshop offered in October or November. Funds improve fish and wildlife habitat in local communities by engaging people in hands-on activities and education programs. Current projects are helping homeowners improve wildlife habitat in their own backyards, restoring degraded streams for salmon and sensitive species in local natural areas, and more. Since 2005, Metro grant-funded projects have attracted an estimated 80,000 hours of volunteer time and talent, along with giving support to dozens of classrooms and thousands of students, teachers and educators.

For all current grant opportunities, visit Metro's website.

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www.oregonmetro.gov/grants

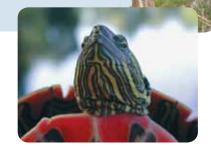
Guiding the stewardship of Smith and Bybee Wetlands

B eavers, river otters, blacktailed deer, osprey, bald eagles and Western painted turtles all have a home amid the port terminals and warehouses of industrial North Portland at Metro's Smith and Bybee Wetlands Natural Area. At 2,000 acres, it's the largest protected wetland within an American city and a favorite among paddlers, walkers and wildlife watchers.

Metro and the Smith and Bybee Management Committee are working to ensure the health and well-being of this special place and its unique habitat. You can help shape an updated management plan that will guide restoration and public access at Smith and Bybee Wetlands for the next 20 years. Learn about the project and how you can get involved on Metro's website.

www.oregonmetro.gov/ smithbybeeupdate

Jim Cruce photo



Fall calendar



Beaverton Round fitness walk

5:30 to 7:30 p.m. Wednesday, Sept. 8

Step off on an evening fitness walk with Coach Carmen. This two-hour workout takes participants through historic downtown Beaverton to the new Beaverton Round section of the city and back again. It's straight from the pages of Metro's popular Walk There! guide book. Learn how to walk for fitness while checking out the community. Meet at the Beaverton Library at 5:15 p.m. Free. For more information, call 503-813-7575. Metro and Kaiser Permanente

Bull Run watershed tour 30 a.m. to 4:30 p.m. Frida

8:30 a.m. to 4:30 p.m. Friday, Sept. 10

Don't miss this opportunity to see Portland's tap water at its source. Learn about the protected resources that provide Portland with uniquely high quality drinking water. \$10. Advance registration required; call 503-823-7437. *City of Portland Water Bureau*

Swift sledding 5 to 9 p.m. Friday, Sept. 10

Looking for something to do on Friday night in Portland? Watch 10,000 birds swirl into a chimney like a tornado! Get the expert interpretation of this phenomenon from passionate naturalists. After the show, experience sledding without the snow and enjoy a healthy snack picnic. Bring binoculars or borrow a pair on site. Suitable for ages 11 to 18. \$25; transportation, supervision, binoculars and snacks provided. Advance registration required; visit www.portlandparks.org/ register. For more information, call 503-823-6378. Portland Parks & Recreation

wildlife

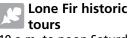
Cooking from the garden 11 a.m. to 1 p.m. Saturday,

Sept. 11 What's for lunch? Explore the possibilities in Charlene Murdock and Richard White's half-acre garden of diverse organic edibles in Forest Grove. Get tips on gardening naturally while enjoying a hands-on lesson in harvesting and cooking the delicious bounty. Meal included. Complimentary coupons and publications for all participants. Free. Advanced registration required; call 503-234-3000. Address provided with registration. Metro and OSU Extension Service Community and Urban Horticulture

Family adventure at the refuge 11 a.m. to noon Saturday,

Sept. 11

Discover the Tualatin River National Wildlife Refuge where you can look for birds, sneak up on grasshoppers and bound like an otter. Volunteer naturalists will lead short, drop-in activities along the trail. Nature enthusiasts of all ages are invited to join the fun. Free. For more information, call 503-625-5944. *Tualatin River National Wildlife Refuge and YMCA*



10 a.m. to noon Saturdays, Sept. 11, Oct. 9, Nov. 13 and Dec. 11

Embark on a unique history lesson while enjoying the beauty and tranquility of Metro's Lone Fir Pioneer Cemetery. The tour highlights Portland's founders, early pioneers and nationally recognized figures as well as interesting headstones and monuments. Explore 30 acres of mature trees and a very special rose garden. Suitable for all ages. Meet at the soldier's monument. Suggested donation of \$10 goes to headstone restoration and educational programs. For more information, call 503-224-9200. Friends of Lone Fir Cemetery

Native Plant Center volunteer ventures 9 a.m. to 1 p.m. Saturdays, Sept. 11 and 25, Oct. 9 and 23, Nov. 6 and 20, Dec. 4 and 18

Volunteer at the Native Plant Center and help care for the rare native seeds and plant stock that support Metro's restoration projects. This year's projects include Clear Creek and Gotter Prairie natural areas. Fall activities vary and will

This September, take the Bike Commute Challenge

he Bicycle Transportation Alliance is gearing up for the Bike Commute Challenge, a friendly competition to encourage biking to work. It's easy, fun and free. Register your company at www.bikecommutechallenge.com or join your company's existing team. Then ride to receive discounts at local bike shops and more! Mark your calendar for the awards party the first week of October in Portland.

volunteering integration in the paddling paddling paddling

include transplanting seedlings, harvesting and cleaning native seeds, planting native plugs for prairie habitat seed production, harvesting bulbs for restoration projects and fall seed planting. Work gloves, tools, water and a snack provided; prior gardening experience not required. Free. For more information or to register, call 503-797-1653. *Metro* by arrangement

Protect Terwilliger Parkway

9 a.m. to noon Saturdays, Sept. 11, Oct. 9, Nov. 13 and Dec. 11

Help protect and enhance the forest corridor of Terwilliger Parkway by removing invasive plant species. Tools, gloves, water and instruction provided. Wear long sleeves, long pants and sturdy shoes. Suitable for adults and children age 10 and older. Meet at the public restrooms at Southwest Terwilliger and Hamilton streets. For more information, call 503-293-1069. *Friends of Terwilliger*

Stewardship Saturdays at Tryon Creek

9 a.m. to noon Saturdays, Sept. 11 and 25, Oct. 9 and 23, Nov. 13 and 27 Pull together to remove invasive English ivy and to protect the forest. Ivy out competes native plants, takes over the forest floor and ruins precious habitat. Gloves and a light snack provided, but bring your own water bottle. Youth age 16 and younger must be accompanied by an adult. Free. Groups of five or more register in advance; call 503-636-4398. Friends of Tryon Creek

> natural gardening

sustainable living



Nature University Discover the naturalist in you!

E ach year, thousands of children and adults visit Metro's parks and natural areas for summer programs and school field trips. Volunteer naturalists make these wonderful experiences possible by helping Metro staff naturalists lead these activities and programs. If you love nature, enjoy working with children and have access to personal transportation, consider becoming a volunteer naturalist by attending Nature University. No special experience is required, but a background in natural history and biology and working with groups is helpful. At Nature University, you receive the training needed to become a qualified and confident Metro volunteer naturalist. Nature University is a 12-week training course that starts people along the path of becoming naturalists and teachers. Nature University students are introduced to time-honored techniques of nature observation and principles of discovery learning. Students learn about common wildlife and plants, the ecology of wetlands and ancient forests, and effective teaching techniques. Student naturalists go into the field with experienced naturalists to learn how to recognize animal tracks and signs, bird sounds and much more. Learn the importance of careful observation and the use of field guides, skills that can be applied in a lifelong process of learning and sharing with others.

Nature University classes meet from 9:30 a.m. to 2 p.m. on Tuesdays, Jan. 25 through April 12 at different locations. There is some homework between class meetings. In exchange for this

unique training, graduates are expected to provide a minimum of 40 hours of service within the first year, which is about 10 school field trip programs. Expectations include availability to help with class field trips during school hours in the fall and spring and on some weekdays or weekends in the summer. There are also opportunities to expand volunteer service to other public outreach programs, such as special events and natural area tours, and to help develop educational materials.

Enrolling in the class of 2011

A brochure and application materials are available on the Metro website. Completed applications must be received by Thursday, Nov. 4. For more information, call 503-813-7565 or e-mail parkvol@ oregonmetro.gov.

www.oregonmetro.gov/ volunteer

Trail building at Madrone Wall 8:30 a.m. to 5 p.m. Sunday,

Sept. 12

Help build hiking trails and prepare a future park site at the Madrone Wall in Clackamas County. Enjoy a barbecue lunch provided by ClimbMax rock climbing. The site will be open to volunteers only; it is otherwise closed to public access. Free. Suitable for age 12 and older. For more information, visit www.savemadrone.org. Advance online registration required; visit www.rei.com/clackamas. Madrone Wall Preservation Committee

Urban chickens 2 to 3 p.m. Sunday, Sept. 12

Urban chickens are so sustainable – fresh eggs every day and great fertilizer for a garden. Join Just Us Hens to get the scoop on setting up your coop. Meet at Tryon Creek State Natural Area. For more information, call 503-636-4398. *Friends of Tryon Creek*

Wild edible plants 9 a.m. to 1 p.m.

Sundays, Sept. 12 and Nov. 7 Learn about edible and medicinal plants. The food and medicine of the wild can feed a village and heal an individual. Join the Wilders Guild of Trackers to learn the basics of plant identification along with skills for a lifetime of study in herbology and wildcrafting. The class also covers how sustainable harvest can actually restore and cultivate abundance in the land we live. \$25. For more information, call 503-354-3143. **TrackersNW**

Nature guide training at Tryon Creek

6 to 9 p.m. Wednesday, Sept. 15 or 9 a.m. to noon Thursday, Sept. 16

Want to learn more about plants and animals? Interested in how Native Americans used our local plants for food, medicine, tools and shelter? Like working with children? Attend an orientation and become a trained nature guide. Then, guide small groups of children on field trips through the forest. Meet at the Nature Center. For more information, call 503-636-4398. Friends of Tryon Creek

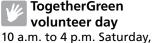
Walks in the old growth

9 a.m. to noon Thursdays, Sept. 16 and Oct. 14 Join the Forest Park Conservancy stewardship director for a hike through a grove of old growth forest. Learn about the natural history of the area and the old growth ecosystem. You might even spot one of the bald eagles nesting on the property. \$10 per adult; free for conservancy members. Advance registration required; call 503-223-5449. *Forest Park Conservancy*

Park(ing) Day

All day Friday, Sept. 17 The streets will be paved with green as dozens of groups come together to create parks in public parking spaces around the region. Join the global event to highlight the need for more urban open space, rethink the way green space can happen and improve the quality of urban human habitat – at least until the meter runs out! Park(ing) Day helps promote The Intertwine, the Portland region's outstanding network of parks, trails and natural areas. Visit Metro's space at Northeast 8th and Multnomah or find a park(ing) space near you. Learn more at www.theintertwine.org. Free. The Intertwine and partners

Aquifer adventure Noon to 4 p.m. Saturday, Sept. 18 Big and little pirates alike are welcome to join a family festival all about groundwater! Play fun games and explore the Columbia Slough Trail in search of hidden treasure - not gold but groundwater, a precious resource that flows beneath your feet. Come dressed in yer finest pirate togs or else the Cap'n might make ye walk the plank! For more information, call 503-281-1132. Portland Water Bureau and Columbia Slough Watershed Council



Sept. 18 Help restore and maintain Audubon's beautiful nature sanctuary. Start the day with a short program and continental breakfast before diving into trail projects. Lunch provided. Suitable for age 14 and older with an adult. For more information, call 503-292-6855 ext. 108. Audubon Society of Portland

Volunteer work parties in Forest Park 9 a.m. to 12:30 p.m.

Saturdays, Sept. 18, Oct. 16, Nov. 20 and Dec. 18 Come to Forest Park for a volunteer work party on the third Saturday of each month. Work is focused on habitat restoration. No experience required; tools, materials and training provided. Bring work gloves and wear sturdy footwear. Advance registration required; visit www.forestparkconservancy.org. Forest Park Conservancy

Winter cover crops for soil health

10 to 11:30 a.m. Saturday, Sept. 18

Learn to grow your own fertilizers for winter soil protection and perfect plant performance. Join Oregon State University horticulturist Weston Miller in Southeast Portland for a demonstration and discussion of cover cropping - the process of planting legumes and grains in the fall for digging into your garden

beds in spring as a soil enhancer. Complimentary coupons and publications for all participants. Free. Advanced registration encouraged; call 503-234-3000. Drop-ins welcome if space is available. No restroom available. Metro and OSU Extension Service Community and Urban Horticulture

Landscaping for conservation 1 to 4 p.m. Sunday, Sept. 19

and Saturday, Oct. 16 Save time, save money and help the environment by letting nature do the gardening. Join Stephanie Wagner and learn how a garden can function more like a natural system. Learn about gardening from the ground up using native plants, which use less water and don't require expensive fertilizers and pesticides. Receive a free plant and the opportunity for a garden consultation. Free. Advance registration required; call 503-636-4398. Friends of Tryon Creek

Sunset circle at Tryon Creek

6 to 8 p.m. Tuesday, Sept. 21 Twilight is a great time to sharpen your awareness skills because it is a transition time of day when some animals become quiet and different animals become active. Meet at the Nature Center and walk to the Riparian Forest to observe the changes as day becomes night. Bring something to sit on the ground comfortably for 45 minutes, mosquito repellent, notebook and pencil. Advance registration required; call 503-636-4398. Friends of Tryon Creek

Beginning bird watching class in Portland

7 to 9:30 p.m. Thursday, Sept. 23

If you are curious about the birds around you but don't know where to begin, this program is for you. Naturalist James Davis has been getting birdwatchers started in Portland for 25 years. Discuss the basics of bird identification, talk about the best field guides and binoculars and discuss how to identify the 25 most



common birds of the Portland region. After this introduction to the basics of bird watching, you'll be prepared for field trips and other classes that follow or to head out on your own. Suitable for adults and teens. Meet in room 370 at Metro Regional Center. Registration and payment of \$10 required in advance; call 503-797-1650 option 2. Metro

Rainwater harvesting and rain gardens 6:30 to 8:30 p.m. Thursday, Sept. 23 and Wednesday, Oct. 20

This workshop will focus on both the fundamentals of harvesting rain water for later use and designing a rain garden to improve stormwater infiltration. Meet at Wilsonville Library, Sept. 23 or Molalla Grange, Oct. 20. Advance registration required; call 503-655-3144. Clackamas County Soil and Water Conservation District

National Public Lands Day at Tryon Creek 9 a.m. to noon Saturday,

Sept. 25

This is the nation's largest volunteer, hands-on activity of its kind. Held annually, the event brings together thousands of individual and organizational volunteers to refurbish and restore the country's public lands, including an ivy pull. For more information, call 503-636-4398. Friends of Tryon Creek

Fall rains at Mount Talbert bring out lots of fungus and lichen.

Teen harvest hike 🔰 9 a.m. to 5 p.m. Saturday, Sept. 25

Enjoy the sweet treats that nature has to offer. Visit several areas in and around Portland to harvest berries, apples, pears or other feral foods. End the day making jelly or other sweet treats to take home. Suitable for ages 11 to 18. Advance registration required; visit www.portlandparks.org/ register. For more information, call 503-823-6378. Portland Parks & Recreation

Mount Talbert's hidden beauty 10 a.m. to 1 p.m. Sunday, Sept. 26

Explore a window to the past when the Willamette Valley was a patchwork of habitats inspired by fire, providing an abundance of wild foods for people and wildlife alike. The rare oak woodlands of Mount Talbert offer welcome refuge for migrating songbirds such as warblers, tanagers, orioles and cedar waxwings. Move quietly through shaded groves in search of the elusive Western gray squirrel and learn to identify poison oak. Bring binoculars or borrow a pair on site. The trail is steep and uneven in places. Suitable for adults and children age 10 and older. Registration and payment of \$5 per adult required in advance; call 503-794-8092. North Clackamas Parks and Recreation District and Metro

Sunday Parkways: Northwest Portland 10 a.m. to 3 p.m. Sunday, Sept. 26

Sunday Parkways offer a chance for people to get out and enjoy walking, biking, rolling, running or skating on traffic-free streets! The four-and-a-half mile Northwest Portland Sunday Parkways' route will have two loops connecting Southwest Stark Street, Old Town, Chinatown, Pearl and Northwest neighborhoods. Activities, food and entertainment will be in Couch and Wallace parks and along the route. Drop by Metro's Drive Less/Save More booth at Wallace Park to get a free safety light, check out free walking and biking resources and get your free souvenir photo at the Bike There! photo station, which is powered by renewable energy. City of Portland Bureau of Transportation, Metro and Kaiser Permanente

Beginning bird watching class at Cooper Mountain 7 to 9:30 p.m. Thursday,

7 to 9:30 p.m. Thurs Sept. 30

If you are curious about the birds around vou but just don't know where to begin, this program is for you. Metro naturalist James Davis has been getting birdwatchers started in Portland for 25 years. Discuss the basics of bird identification, talk about the best field guides and binoculars and see slides of the top 25 birds of Cooper Mountain and the Beaverton/Portland area. After this introduction, you'll be well prepared for field trips and other classes that follow or to head out on your own. Suitable for adults and teens. Join one of the first evening classes to meet in the new Nature House at Cooper Mountain Nature Park. Registration and payment of \$8 per adult required in advance; call 503-629-6350 or visit www. thprd.org. Tualatin Hills Park & Recreation District and Metro

Clear Creek Natural Area tour 12:30 to 3:30 p.m. Saturday,

Oct. 2 Join Metro naturalist James Davis for a natural history tour of one of the most beautiful properties protected by Metro's Natural Areas Program. This forested tributary of the Clackamas River has excellent water quality and significant wild fish runs. Signs of deer, coyote, beaver and river otter are common and there is a good variety of other wildlife and plants, along with plenty of fungi in the fall. Mushroom identification is beginners' level. Bring your binoculars or borrow a pair on site. Expect a leisurely walk for 2 to 3 miles over uneven terrain on old dirt roads. Suitable for adults and children age 10 and older. Location provided upon registration. Registration and payment of \$5 per adult required in advance; call 503-797-1650 option 2. Metro

V/ First Saturday work parties 9 a.m. to 1 p.m. Saturday, Oct. 2, Nov. 6 and Dec. 4 Ioin Clackamas River Basin Council staff and volunteers to help make the Clackamas watershed a better place. Help remove invasive species and replace them with native trees. The council provides tools, plants, gloves and know-how - you just need to show up. Bring a reusable water bottle. Locations may change from month to month; visit the website for current location information. For more information, call 503-558-0550.

Old Apple Tree Festival 10 a.m. to 3 p.m. Saturday,

Oct. 2

Clackamas River Basin Council

The oldest living apple tree in the Northwest is 183 years young and ready to celebrate. Enjoy live music, an old-fashioned baking contest, tree cuttings, children's activities and more at Old Apple Tree Park. Free. For more information, call 360-619-1108. *City* of *Vancouver*



The Environmental Concert of Oregon is dedicated to ecological sustainability and transition to a greener economy in the state of Oregon. The annual benefit concert, education and job expo event at the Oregon Convention Center will bring together individuals and businesses and help inspire, entertain, motivate and empower them toward conscious involvement and cooperation with our shared environmental concerns. \$15 to 25. For more information, call 503-731-7847. ECOregon, Oregon Convention Center **L**

Homeschool naturalist program at Cooper Mountain 1 to 4 p.m. Tuesday, Oct. 5

Created for home school families, these natural science classes incorporate hands-on discovery and outdoor experiences with Oregon state science benchmarks. To accommodate families with multiple children, two classes will run simultaneously – a coyote program for ages 6 to 9 and a migration class for ages 9 to 12. \$20. Advance registration required; call 503-629-6350. *Tualatin Hills Park & Recreation District*

Evening Canoe the Slough 6 to 8:30 p.m. Wednesday,

Oct. 6

Explore the Columbia Slough by boat in search of beavers, great blue herons and other twilight wildlife. Bring your own boat and life jacket or borrow one from the council. Free. Registration for boat rentals required in advance; call 503-281-1132. Columbia Slough Watershed Council

Ducks 101: waterfowl identification class 7 to 9:30 p.m. Thursday, Oct. 7

Every autumn a million ducks, geese and swans fly over the region's wetlands, and tens of thousands stay in the Portland area to spend the winter. Waterfowl are the region's most abundant and diverse group of wintering birds and are easy to identify. Join Metro naturalist and expert birder James Davis to find out who's who in this large group of beautiful birds. Suitable for adults and teens. Meet in room 370 at Metro Regional Center. Registration and payment of \$10 required in advance; call 503-797-1650 option 2. *Metro*

School's Out Scramble 8 a.m. to 5 p.m. Friday, Oct. 8

Head to the hills on a wild climbing adventure. Scramble on rock in an attempt to summit a craggy Cascade peak. Learn about basic mountaineering and wilderness travel on this safe and fun adventure. Suitable for both beginners and those with experience ages 11 to 18. \$35 includes transportation and instruction. Advance registration required; visit www. portlandparks.org/register. For more information, call 503-823-6378. Portland Parks & Recreation

Autumn birds at Smith and Bybee Wetlands

9:30 a.m. to noon Saturdays, Oct. 9, Oct. 30 and Nov. 13 By October, the wintering waterfowl and raptors have arrived in large numbers to join the year round residents at Smith and Bybee Wetlands. The falling cottonwood leaves turn the trail into a beautiful yellow brick road. Flocks of noisy geese descend through the golden light. The annual drop in water level each fall also results in shorebirds and other waders descending on the wetlands to feed in the mud and shallow water. Suitable for adults and children age 10 and older. Bring binoculars or borrow a pair on site; spotting scopes provided. Meet Metro naturalist James Davis in the natural area parking lot at 5300 N. Marine Drive. Free. Advance registration required; call 503-797-1650 option 2. Metro 💄



Baltimore Woods plantings

9 a.m. to noon Saturdays, Oct. 9 and Nov. 20 Plant native trees and shrubs in North Portland's Baltimore Woods to restore this unique oak habitat in the middle of the city. Tools and gloves provided. Advance registration required; call 503-844-9571 ext. 332. SOLV

Grow your own organic veggies 10 to 11:30 a.m. Saturday, Oct. 9

Visit the Washington County Fair Complex Demonstration Garden in Hillsboro for timetested organic gardening tips from Oregon State University horticulturist Weston Miller. Learn to grow a robust variety of tasty vegetables year-round. Get the latest on weeding effectively, watering without waste, enhancing soil fertility and controlling pests without poisons. Complimentary coupons and publications for all participants. Use Clover Leaf entrance at the west end of the fairgrounds. Free. Advanced registration encouraged; call 503-234-3000. Dropins welcome if space is available. *Metro and OSU Extension Service Community and Urban Horticulture*

No Ivy Day 9 a.m. to 2 p.m. Saturday, Oct. 9

Join volunteers in an annual effort to halt the aggressive spread of invasive English ivy at natural areas throughout the region, including Forest Park and Tryon Creek State Natural Area. Morning work parties are followed by food and a celebration at Lower Macleay in Forest Park at 12:30 p.m. View locations and register at www.noivyleague.com. *No Ivy League*

Rainwater harvesting workshop and barrel sale

9 to 11 a.m. Saturday, Oct. 9 This workshop will focus on both the fundamentals of harvesting rain water for later use and designing a rain garden to improve stormwater infiltration. Meet at Estacada Library. There

Tour of Untimely Departures 6 to 9 p.m. Sunday, Oct. 31

Neet some of Lone Fir Pioneer Cemetery's residents at their graves and hear the unusual circumstances surrounding their untimely departures. Ghostly guides share the history of Lone Fir as they take you through the cemetery on a path lit with candles. Tours are approximately 45 minutes and run throughout the evening.

Tickets are \$10 per adult and \$15 per family; no refunds available. To reserve your tour time in advance, visit www.oregonmetro. gov/lonefir. Tour proceeds support education, preservation and restoration efforts at Lone Fir Cemetery. *Friends of Lone Fir Cemetery*

Volunteer opportunities

This event relies solely on volunteers – be a tour guide, actor, entertainer or ghoul. No experience necessary. At 10 a.m. on Sept. 11, attend a historic tour followed by a volunteer orientation. Meet at the Southeast 26th Avenue entrance of the cemetery.

Kent Derek photo

Ancient forest mushroom class 2 to 4 p.m. Sunday, Oct. 10

Join mycologist Gary Slone for a two-hour class that ends with a walk on an easy trail in the old growth forest at Oxbow Regional Park. Learn about mushroom classification and edibility and then gather, identify and compare specimens. Beginning and experienced shroomers age 12 and older are welcome. Bring your own mushroom specimens for identification. Meet at Alder Shelter (picnic area A). Registration and a fee of \$10 required in advance. There is a \$5 per vehicle entry fee payable at the park entrance. Call 503-797-1650 option 2 to register. Metro

Forest Park Day of Stewardship

9 a.m. to 12:30 p.m. Saturday, Oct. 16 Join the largest volunteer work party of the year at Forest Park and lend a hand with trail maintenance and habitat restoration projects. No experience required; all tools and instruction provided. A volunteer appreciation party follows the event. Advance registration required; call 503-223-5449. Forest Park Conservancy

Transplanting perennials and natives

10 to 11:30 a.m. Saturday, Oct. 16

Don't fritter away the free plants at your feet! Join celebrated garden author Linda Bentler at Metro's Natural Techniques Demonstration Garden for hints on lifting and dividing your favorite flowers and using them to fill the thin spots in your border beds. Make the most of the mild fall and winter months by moving or multiplying beautiful native and well-behaved nonnative plants that grow great without fuss. Complimentary coupons and publications for all participants. Free. Advanced registration encouraged; call 503-234-3000. Drop-ins welcome if space is available. No restroom available. *Metro and OSU Extension Service Community and Urban Horticulture*

Animal tracking workshop at Oxbow 10 a.m. to 1 p.m. Sunday, Oct. 17

Oxbow Regional Park is rich in tracks at this time of year when beaver, otter, fox, mink, mouse and deer often leave clear footprints in the sand. With practice, you can learn to read the ground like an open book. You will also learn to make plaster casts of animal tracks. Local tracker Terry Kem will introduce you to the basics of track identification and interpretation and the awareness and stealth skills needed to watch wildlife at close range. Suitable for adults and families. Bring a snack and meet at the floodplain parking area. Registration and payment of \$10 required in advance. There is a \$5 per vehicle entry fee payable at the gate. To register call 503-797-1650 option 2. Metro

Whooo goes there? Owls of Oregon 7 to 9:30 p.m. Thursday, Oct. 21

Come to the new Nature House at Cooper Mountain for a special class all about owls. Owls have always fascinated people because of their unique appearance and nocturnal lifestyle. These nighttime hunters have amazing adaptations for finding and catching their prey. Despite their popularity, owls are hard to see in the wild and remain a mysterious and confusing group of birds. With Halloween approaching, it's a great time to learn about owls and how to tell Oregon's owls, apart with Metro naturalist James Davis. Suitable for adults and teens. There will be stuffed specimens of real owls, owl pellets and slides of Oregon's owls, but this is not a live bird presentation. Registration and payment of \$8 per adult required in advance; call 503-629-6350 or visit www.thprd.org. Tualatin Hills Park & Recreation District and Metro



Welcome the rain 10 a.m. to 3 p.m. Saturday, Oct. 23 Find out how to solve your stormwater challenges at a solutions fair at Atkinson Elementary School. Learn about rainwater harvesting, rain gardens, porous pavement and more. Free. For more information, call 503-935-5366. East Multnomah Soil and Water Conservation District

Wilderness survival

9 a.m. to 1 p.m. Saturdays, Oct. 23 and Dec. 4 Learn how to survive in the wilderness to keep you alive and healthy in challenging circumstances. Get an introduction to the Rangers Guild and begin to build a lifelong connection to nature. \$25 For more information, call 503-354-3143. *TrackersNW*

Mushrooms for beginners at Smith and Bybee Wetlands

1:30 to 4 p.m. Saturdays, Oct. 30 and Nov. 13 Join Metro naturalist James Davis for an exploration of the fungi at Smith and Bybee Wetlands Natural Area. In this beginner's mushroom field class, the basics about mushrooms and other fungi are discussed, along with how to identify this complicated group of strange and fascinating life forms. Some edibles will be discussed but this is not a wild edibles collecting trip. Suitable for adults and children age 12 and older. Meet in

the natural area parking lot on North Marine Drive. Registration and payment of \$10 per adult required in advance; call 503-797-1650 option 2. *Metro*

Urban expedition 9 a.m. to 5 p.m. Saturday, Oct. 30

Get on the bus and see where TriMet can really go. Use a map and compass to navigate your way to some of Portland's most spectacular places. Journey through natural areas and urban jungles to see what wild wonders await you close to home. Suitable for ages 11 to 18. Participants receive instruction map, compass use and an all-day TriMet pass. Registration and payment of \$15 required in advance; visit www. portlandonline.com/register. For more information, call 503-823-6378. Portland Parks & Recreation

Raptor identification class in Portland 7 to 9:30 p.m. Thursday, Nov. 4

Hawks, eagles and falcons have always fascinated people. Come and get ready for great winter raptor watching. Metro naturalist James Davis will discuss how to tell these groups of raptors apart and the key points for identifying the most common species in Oregon. You will also learn about the natural history of raptors and the amazing adaptations of these birds for catching and killing their prey. In addition to slides, there will be study skins of the most common species for up-close looks. Suitable for adults and teens. Meet in room 370 at Metro Regional Center. Registration and payment of \$10 required in advance; call 503-797-1650 option 2. Metro 🔔

Friends of Trees crew leader training 9 a.m. to 1 p.m. Saturday, Nov. 6

Join a key team of volunteer leaders to help surpass last year's record-breaking planting season. Learn how to plant street and yard trees in neighborhoods, and how to lead volunteers. Crew leaders guide small groups of volunteers at three or four weekend plantings between November and April. Previous experience not required. Free. To register, call 503-282-8846 ext. 24. Friends of Trees

Mount Talbert Nature Park tour

10 a.m. to 1 p.m. Saturday, Nov. 6

Explore the trails at 144-acre Mount Talbert Nature Park with Metro naturalist James Davis. Discover the variety of plants and animals that live on the largest undeveloped lava butte in northern Clackamas County. Especially interesting this time of year is the big variety of colorful fungi along the trail. Discuss basic mushroom



Rough-skinned newts

identification and identify the easy mushrooms you find. Bring binoculars or borrow a pair on site for bird watching. The trail is steep and uneven in places. Suitable for adults and children age 10 and older. Registration and payment of \$5 required in advance; call 503-794-8092. North Clackamas Parks and Recreation District and Metro

Newt Day noon to 4 p.m. Saturday, Nov. 6

Do you love wet fall weather? Do you want to get your family out exploring in the off season? Have vou always wanted to know more about local wildlife of all sizes? Delve into the wonders of autumn at Tualatin Hills Nature Park. This family-friendly event provides activities designed to inspire exploration of nature during a season when it's tempting to stay inside. Pay \$1 admission or bring two cans of food for the Oregon Food Bank. For more information, call 503-629-6350. For information on how to volunteer, call 503-629-6350 ext. 2953. Tualatin Hills Park & **Recreation District**

Groundwater 101

8:45 a.m. to 1 p.m. Saturday, Nov. 13

Interested in learning where Portland's drinking water comes from? Join experts from the Portland Water Bureau for a workshop all about groundwater, Portland's secondary water supply. Visit a well, test water quality and learn about local hydrogeology that influences the groundwater protection program. Free. To register, call 503-281-1132. Portland Water Bureau and the Columbia Slough Watershed Council

Wildlife tracking

9 a.m. to 1 p.m. Saturday, Nov. 13 Learn about the art of tracking deer, beaver and other animals. Learn how to track both clear and hard-to-see prints. This class answers the important question of why the animal is there and how it lives in its habitat. \$25. For more information, call 503-354-3143. *TrackersNW*

Raptor identification class at Cooper Mountain

7 to 9:30 p.m. Thursday, Nov. 18

Hawks, eagles and falcons have always fascinated people. Come to the new Nature House at Cooper Mountain Nature Park and get ready for great winter raptor watching. Metro naturalist James Davis will discuss how to tell these groups of raptors apart and the key points for identifying the most common species in Oregon. Learn about the natural history of raptors and the amazing adaptations of these birds for catching and killing their prey. In addition to slides there will be study skins of the most common species for upclose looks. Suitable for adults and teens. Registration and payment of \$8 required in advance; call 503-629-6350. Tualatin Hills Park & Recreation District and Metro



Camassia work party

9 a.m. to 2 p.m.

Saturday, Nov. 20 This 27-acre preserve near West Linn features woodlands, wildflower meadows, rock gardens, ponds and willow and aspen swales. Home to more than 300 plant species including several rare ones, Camassia is a special gem in a rapidly growing urban area. Help prepare and plant native shrubs and trees. Advance registration required; call 503-802-8100. The Nature Conservancy

Thanksgiving walk at Oxbow

10:30 a.m. to 12:30 p.m. Sunday, Nov. 21

Take time to enjoy and celebrate the simple gifts of nature at Oxbow Regional Park with Metro naturalist Dan Daly, Terry Kem from Deerdance School, Elisabeth Neely and others. Open your senses while walking along the Sandy River and notice how wildlife respond to the changing season. Then, gather around the campfire as naturalists share the Thanksgiving address passed down by the Iroquois Nation. This is a simple and moving way to express appreciation for connections to nature. Hot drinks provided. Suitable for adults and families. Meet at the boat ramp. Free with park entry fee of \$5 per vehicle. Advance registration required; call 503-797-1650 option 2. Metro

Smith and Bybee Wetlands paddles

Enjoy an invigorating fall paddle at Smith and Bybee Wetlands Natural Area. Bring your own boat and gear; boats over 17 feet need to be registered and proof of registration must be with you. Free. Advance registration required. *Friends of Smith and Bybee Lakes*

noon to 4 p.m. Saturday, Nov. 27

To register, call Dale Svart at 503-285-3084.

10 a.m. to 2 p.m. Sunday, Dec. 12 To register, call Troy Clark at 503-249-0482.

Invasive plant removal at Hazeldale Park

9 a.m. to noon Saturday, Dec. 18

Help remove Himalayan blackberry from the riparian corridor of Celebrity Creek. Bring a shovel, heavy-duty work gloves, loppers and re-usable water bottle. Refreshments and water provided. Meet at the picnic tables near the parking lot. To register, call 503-629-6350 ext. 2953. Tualatin Hills Park & Recreation District

Register online for Metro activities

Visit Metro's online calendar to register for Metro nature activities and gardening workshops.

www.oregonmetro.gov/calendar

Refund policy

Metro's \$5 programs are nonrefundable. Requests for all other refunds must be received 48 hours in advance of event. Cancellations exempt.

GreenScene

Fall calendar at a glance

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Featured places



Jerome Hart photo

Located within the wild and scenic Sandy River Gorge, Metro's Oxbow Regional Park offers rare access to many of the region's natural wonders while providing a variety of unique recreational opportunities. The river draws rafters, kayakers and drift boats carrying anglers. Fifteen miles of trails invite you to explore an ancient forest with centuries-old trees and ridges and ravines carved by volcanic and glacial flows. Oxbow is a great place to see wildlife and animal tracks. The area's natural habitat makes an ideal home for wildlife such as mink, beaver, raccoon, fox, deer, osprey, songbirds, salmon, elk, black bear, cougar and many others. **Blue Lake Regional Park** 20500 NE Marine Drive, Fairview 503-665-4995

Oxbow Regional Park 3010 SE Oxbow Parkway, east of Gresham 503-663-4708

Smith and Bybee Wetlands Natural Area 5300 N. Marine Drive, Portland 503-797-1650

Mount Talbert Nature Park 10695 SE Mather Road, Clackamas 503-742-4353

Cooper Mountain Nature Park 18892 SW Kemmer Road, Beaverton 503-629-6350

Metro's Natural Techniques Garden 6800 SE 57th Ave., Portland 503-234-3000

Graham Oaks Nature Park 11825 SW Wilsonville Rd., Wilsonville 503-797-1545

Oregon Zoo 4001 SW Canyon Road, Portland www.oregonzoo.org 503-226-1561

Metro | Making a great place

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

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy.

www.oregonmetro.gov



Metro Council From left: Carl Hosticka, district 3; Rod Park, district 1; Kathryn Harrington, district 4; David Bragdon, Council President; Carlotta Collette, district 2; Robert Liberty, district 6; Rex Burkholder, district 5

Auditor Suzanne Flynn

On the cover

Kids exploring Graham Oaks, photo by NarrativeLab, Inc.; red-breasted sapsucker, photo by volunteer naturalist John Driscoll.

If you have a disability and need

accommodations, call 503-813-7565, or call Metro's TDD line at 503-797-1804. If you require a sign interpreter, call at least 48 hours in advance. Activities marked with this symbol are wheelchair accessible:

Bus and MAX information 503-238-RIDE (7433)

To be added to the GreenScene mailing list or to make any changes to your mailing information, call 503-797-1650 option 2.

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Salmon homecoming at Oxbow Oct. 16, 17, 23 and 24



Spicy scents of autumn trees, giant golden leaves on maples, silvery chatter of water ouzels in the river and kinglets in the conifers. These are the smells, sights and sounds of Oxbow Regional Park in the autumn. Witness the return of wild salmon to one of the Pacific Northwest's premier rivers – the glacier-fed Sandy – just 45 minutes from downtown Portland. On the third and fourth weekends in October, enjoy viewing salmon on both Saturdays and Sundays. On Saturdays only, go on a guided mushroom walk in the ancient forest.

Salmon viewing 11 a.m. to 3 p.m. Saturdays and Sundays Naturalists are on hand at the river's edge to help spot spawning salmon and interpret their behavior and life cycle. Special salmon-viewing glasses are available on loan. Salmon viewing proceeds rain or shine.



The trail is unpaved and fairly level;

wear good walking shoes. Inquire at the entry booth for starting location of the salmon viewing then follow the signs to the salmon! Suitable for all ages.

Mushroom walk

2:30 to 4 p.m. Saturdays only

Join naturalist James Davis for an exploration of the abundant fungi in Oxbow's ancient forest. On this beginners mushroom walk learn the basics of mushrooms and other fungi and how to go about identifying this complicated group of strange and fascinating life forms. While not all specimens are identified, this introduction will deepen your appreciation of the amazing variety of shapes, colors, textures and smells that make these life forms so intriguing. Suitable for adults and children age 12 and older. Meet at Alder Shelter (group picnic area A) at 2:15 p.m.

Programs are free with a \$5 per vehicle entry fee to the park. Registration not required. Leave pets at home. For more information, call 503-797-1650 option 2.

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