

Meeting:		ng:	Joint Policy Advisory Committee on Transportation (JPACT)	
Date:			Thursday, June 11, 2009	
	Time:		7:30 to 9 a.m.	
	Place:		Metro Regional Center, Council Chambers	
7:30 AM 7:32 AM 7:35AM 7:40 AM	1 2. 3.		CALL TO ORDER & DECLARATION OF A QUORUM INTRODUCTIONS CITIZEN COMMUNICATIONS ON NON-AGENDA ITEMS COMMENTS FROM THE CHAIR & COMMITTEE MEMBERS	Carlotta Collette, Chair Carlotta Collette, Chair Carlotta Collette, Chair
7.40 A.	и т.	* * * *	 State Legislative Update Planning for Climate Change ODOT Tolling Policy Papers "The Route to Reform" Executive Summary 	Randy Tucker Andy Cotugno
8 AM	5.	*	• Consideration of the JI ACT Minutes for May 14, 2005	Carlotta Collette, Chair
8:05 AM	6. 1 6.3	1 *	 <u>ACTION ITEMS</u> Regional Transportation Plan - <u>APPROVAL REQUESTED</u>: Finalizing revenue targets for RTP investment strategy Direction to regional and local staff to develop draft project list consistent with: Regional system definition Refinement criteria Finalizing performance benchmarks 	Andy Cotugno Kim Ellis
8:35 AM	1 6.2	2 *	Resolution No. 09-4052, For the Purpose Accepting the Regional High Capacity Transit System Tiers and Priorities, Policy Amendments and System Expansion Policy Framework for Addition to the 2035 Regional Transportation Plan, State Component – <u>APPROVAL REQUESTED</u>	Tony Mendoza
9 AM	7.		ADJOURN	Carlotta Collette, Chair
	* ** #	Ма	terial available electronically. terial to be e-mailed at a later date. terial provided at meeting.	

Material provided at meeting. # Material provided at meeting.All material will be available 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.

2009 JPACT Work Program 6/3/09

<u> May 14, 2009 – Regular Meeting</u>	June 11, 2009 – Regular Meeting
 Recommended HCT Priorities and Draft Plan – Information and Discussion RTP Framework – Mobility Corridors ARRA Back-up ARRA – MTIP Amendment Legislative Report Overview of Local Aspirations and Implications for Transportation Investment Priorities 	 Direction on RTP finalizing revenue targets, prioritization criteria and regional system definition HCT Plan – Adoption Legislative update Federal Clean Energy and Security Act
May 22 nd – JPACT Retreat	
Location: Oregon Zoo, Skyline Room	
 Time: 8 a.m. to 2 p.m. Greatest Places Initiative Status 	
 RTP Investment Strategies 	
RTP Financing Choices	
July 9, 2009 – Regular Meeting	August 13. 2009 – Regular Meeting
Climate Change MTID Delign and Decases Detrooperative Depart	Preliminary draft RTP elements and performance measures – Discussion
 MTIP Policy and Process Retrospective Report 2010 TriMet Transit Investment Plan – 	 Freight Action Plan – Adoption
Review/Comment	
TSMO Action Plan	
• Status report on RTP investment strategy	
July 29th – Proposed JPACT/MPAC Meeting	
Land Use DirectionTransportation Direction	
 September 10, 2009 – Regular Meeting Preliminary draft RTP Elements – Discussion 	• Draft RTP elements – Discussion
 Health assessment heath impact assessment on 	 Draft KTP elements – Discussion TSMO Action Plan – Adoption
policies reducing VMT in Oregon metropolitan areas – information	
November 12, 2009 – Regular Meeting	December 10, 2009 – Regular Meeting
• Adopt air quality conformity analysis of 2010-13	• Adopt 2035 draft RTP elements, pending
MTIP	air quality conformity – Action
Adopt 2010-13 MTIP	
Parking Lot:	

Parking Lot:

• OTREC

• When to Consider LPA/RTP Actions for Sunrise and I-5/99W

• ODOT Tolling Policy

- Involvement with Global Warming Commission
- Status Reports on Regional Programs: TOD and ITS
- JPACT Bylaw Amendment on Membership

Section	Description	
	Task Forces and Studies	
1	 Directs the House and Senate Interim Transportation Committees in consultation with the Oregon Transportation Commission (OTC), local governments, planning organizations, and stakeholders to: Review the responsibilities given to the state, counties and cities for improvement, maintenance and management of the highway system and the resources available to each level of government and make recommendations to better align resources and responsibilities. Review best practices for stakeholder involvement in transportation decision making. Identify opportunities to achieve greater program efficiency in the delivery of transportation services and programs through intergovernmental cooperation. Study national best practices for improving the delivery of metropolitan transportation services through enhanced regional decision making. Directs the committees to prepare legislation for introduction in the 2010 Legislative session 	
2	• Sunsets the Task Forces and Studies provisions in January 2012.	
	Congestion Pricing Pilot Programs	
3	 Directs ODOT, in cooperation with Clackamas County, Multnomah County, Washington County, the City of Portland and Metro, to develop one or more pilot studies in the Portland metro area to study the effect that congestion pricing may have on traffic congestion. Allows pilots to include time-of-day pricing with variable tolls, but does not limit pilots to this type of congestion pricing. Requires at least one pilot to be implemented by October 2012. Limits the application of congestion pricing fees to light vehicles (under 10,001 gross vehicle weight). Directs ODOT to report on the design and implementation of pilot programs to the House and Senate interim committees on transportation and revenue by December of each year. 	
4	• Repeals direction to OTC to conduct congestion pricing pilots in January 2016.	
	Transparency	
5	• Directs ODOT to provide information about every transportation project funded by HB 2001 on its website. Access to the information must be directly from the department's home page.	

Section	Description	
	 Requires specific information describing the project, its purpose, cost and timelines, including changes with an explanation of the reason for the changes. Requires that the information be updated weekly until all the projects are completed. Requires a report to the House and Senate transportation committees on progress toward meeting the goals of this section. 	
	Least Cost Planning	
6 & 7	 Defines "least cost planning" to mean a process of comparing direct and indirect costs of demand and supply options to meet transportation goals and / or policies where the intent of the process is to identify the most cost-effective mix of options. Directs ODOT to develop a least cost planning model for use in decision making in cooperation with local governments and metropolitan planning organizations. Directs ODOT to make a progress report to the 2011 session with recommendations for legislation, if needed, by February 2011. 	
	ConnectOregon III	
8, 9, & 10	 Makes the Legislative finding that lottery funds may be used to finance multimodal transportation facilities because a strong multimodal transportation system supports economic development. Authorizes \$100 million in lottery-backed bonds for the <i>Connect</i>Oregon III program. Requires that 5 percent (\$5 million) of the bond proceeds be allocated to rural airports. Requires that each region of the state receive no less than 10 percent (\$10 million) of the <i>Connect</i>Oregon III money, provided that there are qualified projects in the region. Defines the five regions. 	
	Medium Speed Electric Vehicle	
11 to 14	 Defines a new vehicle class: "medium speed electric vehicle." Creates a traffic offense for operating a medium speed electric vehicle on a road with a speed higher than 45 mph, excepting that a city or county may allow medium speed electric vehicles on roads with speed limits higher than 45 mph. Requires ODOT to adopt minimum safety standards for medium speed electric vehicles that are consistent with, but may exceed federal vehicle safety standards. 	

Section	Description
	• Authorizes ODOT to deny registration for vehicles that do not meet the
	minimum safety standards that the department adopted.
	Co-Location of State and Local Facilities
15	Directs ODOT to prepare a budget request to facilitate the sharing of offices
15	and facilities with local government in addition to its biennial capital
	construction request.
	Selection Criteria for
	Statewide Transportation Improvement Program (STIP) Projects
16 & 17	• Directs the OTC to work with stakeholders to review and update the criteria
	used for STIP project selection. When it revises the project selection
	criteria, the OTC must consider the following principles to:
	• Improve the state highway system or major access routes to the state
	highway system on the local road system to relieve congestion by
	expanding capacity, enhancing operations or otherwise improving travel
	times within high-congestion corridors.
	• Enhance the safety of the traveling in support of decreasing traffic crash
	rates, promoting the efficient movement of people and goods and
	preserving the public investment in the transportation system.
	• Increase the operational effectiveness and reliability of the existing
	system by using technological innovation, providing linkages to other
	existing components of the transportation system and relieving congestion.
	 Is capable of being implemented to reduce the need for additional
	highway projects.
	 Improve of the condition, connectivity and capacity of freight-reliant
	infrastructure serving the state.
	• Support improvements necessary for the state's economic growth and
	competitiveness, accessibility to industries and economic development.
	• Provide the greatest benefit in relationship to project costs.
	• Foster livable communities by demonstrating that the investment does
	not undermine sustainable urban development.
	• Enhance the value of transportation projects through designs and
	development that reflect environmental stewardship and community
	sensitivity.
	• Is consistent with the state's greenhouse gas reduction goals and reduces
	the state's dependence on foreign oil.

Section	Description	
	Environmental Stewardship / Green Standards	
18	 Directs ODOT to adopt rules that take into consideration environmental stewardship approaches developed for the 2003 Oregon Transportation Investment Act, including: Incorporating environmental performance standards into the design and construction of all state highway construction projects, including local government highway construction projects funded by the department. Improving the environmental permitting process for state highway construction projects in order to: Reduce the time required to design projects. Reduce the cost and delay associated with re-designing projects to meet environmental permits. Maintain strong commitment to environmental stewardship. Reduce Oregon's dependence on foreign oil. 	
	Practical Design	
19 & 20	 Directs ODOT to follow design practices that incorporate the maximum flexibility in the application of standards to reduce cost while preserving and enhancing safety and mobility. Requires ODOT to report to the interim House and Senate Transportation Committees by November 2010 on the new design practices that it has implemented. 	
	Design Alternatives to Improve Safety for Hazardous Material Routing	
21 & 22	 Directs ODOT, in consultation with local government, to develop design alternatives to improve safety for at least one county road that is used for hazardous materials routing in lieu of a state highway.3 Directs ODOT to report to the Legislature by February 2011. Sunsets this requirement on January 2, 2012. 	
	Asset Management Pilot	
23 & 24	 Directs ODOT to develop and implement a six year pilot program to contract for all maintenance activities on a segment of state highway between 10 and 30 miles in length. The department must advertise the procurement by February 2010 and enter into contracts by June 2010. Encourages ODOT to study such programs in other states to determine and adopt best practices. Requires ODOT to report biennially to the House and Senate business and labor committees and to the Ways and Means committee. Sunsets this requirement on January 2, 2018. 	

Section	Description	
	Four Year Moratorium	
25 to 28 & 69	 Prohibits a city, county or other local government from enacting or amending any ordinance imposing a tax on motor vehicle fuel from October 2009 to January 2014. Requires a city, county or other local government to first seek voter approval before levying a tax on motor vehicle fuel on or after January 2, 2014. 	
	Car Rental Surcharge	
29	• Prohibits a car rental company from imposing a surcharge for the purpose of recovering the cost of titling and registering a rental vehicle that is greater than the amount reasonably calculated to recover the cost incurred by the company.	
	"Efficient Fee" Highway Cost Allocation Study	
30	 Requires the Department of Administrative Services (DAS) to prepare a second, alternative highway cost allocation study for presentation to the next legislative session. The alternative study will consider the actual costs highway users impose, including the cost of replacement, traffic congestion, and greenhouse gas emissions. Requires DAS to present the results of both the highway cost allocation study and the alternative study to the next session with recommendations to implement the alternative methodology. 	
	Urban Trail Fund	
31	 Creates an Urban Trail Fund which consists of private donations, grants and legislative appropriations. Appropriates the Fund to ODOT to develop and maintain multi-use trails within urban growth boundaries for non-motorized vehicles and pedestrians that supplement or provide links to roads, highways, footpaths, bike trails and public transit. 	
	Management of Roadside Rest Areas	
32 to 34	 Requires ODOT to enter into an agreement with the Travel Information Council to manage, maintain and improve seven rest areas on I-5 and I-84 in addition to others that may be mutually agreed upon. ODOT will retain ownership of the rest areas. Allows the Travel Information Council to grant permits to nonprofit organizations that provide coffee and cookies at rest areas. Sunsets these provisions on January 2, 2020. 	

Section	Description
35 & 36	 Directs ODOT and TIC to work with the private sector to develop a plan for installing electric motor vehicle recharging stations at rest areas. Directs ODOT and TIC to report to the interim House and Senate transportation committees on the plan. Repeals this requirement on January 2, 2012.
	Planning to Reduce Vehicle Miles of Travel
	and Greenhouse Gas Emissions
37	 Defines "comprehensive plan," "land use regulation," and "metropolitan service district." Requires metropolitan service districts (Metro is the only one) to develop two or more land use and transportation scenarios designed to reduce greenhouse gas emissions from light vehicles while accommodating population and economic growth. Requires Metro to adopt one scenario after consulting with local governments within its boundaries and the public. Requires the local governments within the Metro boundaries to adopt comprehensive plans and land use regulations consistent with the adopted scenario. Requires ODOT and the Department of Land Conservation and Development (DLCD) to provide technical and financial assistance so that Metro and other local governments comply with the requirements if they do not receive adequate funding to carry out their responsibilities. Requires the Land Conservation and Development Commission (LCDC) to adopt rules for Metro that identify the amount that the greenhouse gas emissions by light vehicles must be reduced within Metro's boundaries by 2035 by June 2011. ODOT and the Department of Environmental Quality (DEQ) must provide DLCD the information needed to determine the amount of the proposed reduction. Requires ODOT to provide data to DEQ and the Department of Energy (DOE) with estimates of the mileage traveled by light vehicle within Metro's boundaries and vehicle replacement rates. Requires DEQ and DOE to estimate greenhouse gas emissions in 1990 caused by light vehicles. DEQ and DOE will provide the estimates to ODOT.
	 caused by light vehicles, taking vehicle replacement and reasonable estimates of new vehicle technology into account. Requires DEQ and DOE to recommend to LCDC the amount of the reduction in light vehicle emissions needed to achieve the 2050 goal for Oregon's greenhouse gas emission reduction. DEQ and DOE must explain why their recommendation is different from the mid-point of trend line in

Section	Description
	reductions between 2020 and 2050, if they recommend any deviation.
	• Requires DEQ and DOE to estimate the reduction in vehicle miles of travel
	needed within Metro needed to achieve the 2035 reduction.
	• Requires ODOT, DEQ and DOE to recommend to LCDC modeling tools
	and other methods to adjust Metro's target vehicle mileage reduction.
	 Requires ODOT, DEQ and DOE to submit the information they are
	required above to LCDC by March 2011.
	 Requires LCDC, in consultation with the Oregon Transportation
	Commission, to adopt rules by January 2013 for the adoption of regional
	and local plans required to implement the scenario adopted by Metro. The
	bill requires the rule to cover specific topics.
	 Allows LCDC to delay the adoption of its rule by 90 days, provided that the
	delay will not delay Metro's completion of the planning scenarios.
38	 Defines "metropolitan service district."
	 Requires DLCD and ODOT to report to the interim transportation
	committees before February 2012 on progress toward implementing the
	land use and transportation strategies described in the previous section.
	 Requires DLCD and ODOT to report to the interim transportation
	committees before February 2014 on the rules that were adopted and on
	remaining work needed. DLCD and ODOT will also recommend whether
	the requirements placed on the area with Metro's boundaries should be
	applied to metropolitan planning organizations in the state.
38a	• Defines the term "metropolitan planning organization" (MPO).
	• Requires the Lane Council of Governments (the Central Lane MPO) to
	develop two or more transportation and land use scenarios that
	accommodate population growth and economic development while
	achieving reductions in greenhouse gas emission by light vehicles with
	assistance from ODOT and Metro.
	• Requires the local governments within the MPO to cooperatively select one
	scenario after public review and comment.
	• Requires ODOT and DLCD to provide financial and technical assistance in
	land use and transportation planning.
	• Requires Metro to make its land use modeling capabilities available to
	LCOG with financial assistance from ODOT.
	• Requires ODOT to provide financial assistance to LCOG, Metro, and the
	local governments within the MPO.
	• Allows LCOG and local governments to not comply with the requirements
	if they do not receive adequate funding to carry out their responsibilities.
	• Requires LCOG to report to the interim House and Senate transportation
	committees by February 2014. The report must cover the implications for
	land use and transportation planning of the adopted scenario and must
	include recommendations for a cooperative process to make and enforce
	land use rules.

Section	Description
39	• Sunsets the planning provisions in sections 38, 39 and 39a on January 2, 2016.
	County Vehicle Registration Fee
40 & 68	 Allows Multnomah County (a county with population greater than 350,000) to adopt a county registration without first obtaining voter approval for the purposes of financing the design and replacement of the Sellwood bridge (a bridge that crosses the Willamette River in the City of Portland). Requires Multnomah County to restrict use of the bridge to light vehicles (less than 26,000), except for publicly-owned vehicles. Removes the "spider web." The "spider web" is the requirement that counties enter into agreements with other jurisdictions concerning the use of the funds raised by a proposed county option fee.
40a, 40b, 40c, 41 & 68	 Revises the county registration provisions to allow counties with population greater than 350,000 (now Clackamas, Multnomah, and Washington Counties) to adopt a local option vehicle registration fee without first obtaining voter approval. Removes provisions that require the money to be used to finance the design and replacement of the Sellwood Bridge. Requires a county that adopts a county registration fee to distribute 40 percent of the money raised by the fee to the cities within the county unless there is agreement for a different distribution Makes conforming changes in other statutes that reference ORS 801.041. Makes changes operative on July 1, 2013.
	Vehicle Title Fees
42	 Increases vehicle title fees by: \$22 for vehicles weighing less than 26,001 pounds (from \$55 to \$77) \$10 for salvage titles (from \$17 to \$27) Allows customers who must have a duplicate title issued and have a title transfer made to pay \$77 to accomplish both transactions when the transactions are done at the same time.
	Registration Fees
43	 Increases annual vehicle registration fees by: \$16 for cars, vans, pickups, and SUVs (from \$27 to \$43). \$9 for mopeds and motorcycles (from \$15 to \$24) \$16 for hybrid electrics (from \$27 to \$43) \$16 for two and three wheeled electric vehicles (from \$27 to \$43) \$16 for vehicles required to register by weight less than 8,000 pounds

Section	Description
	 (from \$27 to \$43). Reduces the registration fee for low speed electric vehicles by \$9 (\$54 to \$43). Establishes \$43 per year registration fee for a medium speed electric vehicle.
43a & 43b	 Increases the registration fees for heavy commercial vehicles (vehicles over 8,001 pounds gross vehicle weight). The new fee for each 2,000 pound weight class is slightly more than twice the current fee. The new fee for an 80,000 pound truck is \$998 (was \$490). Increases farm vehicle registration fees. The new fee for each 2,000 pound weight class is slightly more than 50 percent higher than the current fee. The new fee for an 80,000 pound farm truck is \$440 (was \$290). Heavy vehicle registration fees become effective on January 1, 2010.
	Plate Manufacturing Fee
44	 Allows ODOT to increase the plate manufacturing fee to recover the cost of making plates. Adds a fee of \$10 for a single plate and \$20 for a pair.
	Vehicle Trip Permits
44a	 Increases the fee for four types of trip permits: Heavy vehicle trip permits to \$43 (was \$21). Light vehicle trip permits to \$30 (was \$20). Registration weight trip permits to \$7.50 (was \$5). 10-day trip permits to \$15 (was \$10).
	Custom Plate Fee for Passenger Rail Fund
45	• Increases the custom plate fee from \$25 to \$50 per year to raise money for the Passenger Rail Fund.
	ID Card Fee
46 & 47	• Increases the fees for original issuance, replacement, renewal etc. of ID cards by \$10. The revenue from the ID card fee is transferred to the Elderly and Disabled Special Transportation Fund.

Section	Description
	Gasoline and Diesel Tax
48, 49 and 50	 Increases the gasoline tax by 6 cents per gallon (from 24 cents per gallon to 30 cents per gallon). Increases the diesel tax by 6 cents per gallon (from 24 cents per gallon to 30 cents per gallon). This is the tax paid for diesel used in vehicles under 26,001 pounds in weight. The increases above become effective when the Department of Administrative Services determines that there has been an increase of at least 2 percent each quarter for two or more consecutive quarters in seasonally adjusted nonfarm payroll employment or January 1, 2011, whichever comes first.
	Truck Taxes and Fees
51	• Increases the road use assessment fee to 7.1 cents (was 5.7 cents) per single axle equivalent mile to ensure the revenue raised from heavy vehicles remains in proportion to the revenue raised from light vehicles.
52	• Increases the weight mile tax paid by heavy vehicles registered between 26,001 pounds and 105,500 pounds gross vehicle weight by about 24 percent to ensure the revenue raised from heavy vehicles remains in proportion to the revenue raised from light vehicles. For reference, a truck registered in the 78,000- 80,000 pound weight class will pay 16.38 cents per mile traveled in Oregon (was 13.16 cents per mile).
53	 Increases the flat fee rates paid by some vehicles (log trucks, sand and gravel trucks, and chip trucks and similar vehicles) to ensure the revenue raised from heavy vehicles remains in proportion to the revenue raised from light vehicles: \$7.59 for log trucks per 100 pound declared weight (was \$6.10). \$6.23 for farm trucks per 100 pound declared weight (was \$5.00). \$7.53 for sand and gravel trucks per 100 pound declared weight (was \$6.05). \$30.65 for chip trucks per 100 pound declared weight (was \$24.62).
54	• The road use assessment, weight mile tax and flat fee increases in sections 51 to 53 become effective on October 1, 2010.

Section	Description			
	Revenue Distribution			
55, 56 & 57	 Distributes the revenue attributable to the title fee, vehicle registration fee and plate manufacturing fee increases made in HB 2001 as follows: \$24 million per year is allocated to ODOT for highway purposes in monthly installments. \$3 million per year is allocated to the Travel Information Council for roadside rest areas on the first of the year. The balance is distributed as follows: 20 percent to cities 30 percent to counties 50 percent to the state highway program. 			
	 Allocates the money available to ODOT as follows: 68 percent for maintenance, preservation and safety. 32 percent for the State Modernization Program. 			
	• Allows money made available to ODOT to be used for debt service.			
57 & 58	 Revises the distribution formula on January 1, 2011 to distributes the revenue attributable to the title fee, vehicle registration fee, plate manufacturing fee, gasoline tax, road use assessment, weight mile tax and flat fee increases made in HB 2001 as follows: \$24 million per year is allocated to ODOT for highway purposes in monthly installments. \$3 million per year is allocated to the Travel Information Council for roadside rest areas at the first of the year. The balance is distributed as follows: 20 percent to cities 30 percent to counties 50 percent to the state highway program. 			
	 Allocates the money available to ODOT as follows: 33 percent for maintenance, preservation and safety. 15.75 percent for the State Modernization Program. 51.25 percent for bond repayments and the 2009 Transportation Projects Program (section 64). 			
	• Allows money made available to ODOT to be used for debt service.			
59 & 60	 Revises the distribution formula on January 1, 2020 to distributes the revenue attributable to the title fee, vehicle registration fee, plate manufacturing fee, gasoline tax, road use assessment, weight mile tax and flat fee increases made in HB 2001 as follows: \$24 million per year is allocated to ODOT for highway purposes in 			

Section	Description				
Section	 monthly installments. The balance is distributed as follows: 20 percent to cities 30 percent to counties 50 percent to the state highway program. Allocates the money available to ODOT as follows: 33 percent for maintenance, preservation and safety. 15.75 percent for the State Modernization Program. 51.25 percent for bond repayments and the 2009 Transportation Projects Program (section 64). 				
	• Allows money made available to ODOT to be used for debt service.				
	Bond Authorization				
61	• Authorizes \$840 million in Highway User Tax Bonds for the 2009 Transportation Projects Program (section 64).				
	Transportation Projects Account				
62, 63 & 63a	 Requires ODOT to calculate how much money would be required to service any bonds issued for the 2009 Transportation Projects Program and to deposit the balance in the Transportation Projects Account. Requires the Oregon Transportation Commission to use the balance the purposes below in priority order: Projects in the 2009 Transportation Projects Program (section 64). \$15 million per year to supplement maintenance, preservation and safety. Other purposes chosen by the Oregon Transportation Commission. Creates the Transportation Projects Account within the State Highway Fund. Becomes operative on January 1, 2011. 				
	2009 Transportation Projects Program				
64	• Requires ODOT to use the \$840 million in Highway User Tax Bonds to finance a list of 37 specific projects and projects proposed by in 12 specific local governments that will be recommended to the Oregon Transportation Commission by the Area Commissions on Transportation for those areas.				
	Protection for Holders of Highway User Tax Bonds				
65	• Protects the interest of the investors who hold Highway User Tax Bonds issued prior to the effective dates of HB 2001 under the department's Master Highway User Tax Revenue Bond Declaration.				

Section	Description				
	State Biennial Bond Limit				
66	• Exempts any Highway User Tax Bond issued as provided in HB 2001 during the 2009-2011 biennium from the provisions of the biennial bond limit bill.				
	Pay as You Drive Insurance				
67	• Extends the sunset date by five years to 2015 for an income tax credit for companies that offer "pay as you drive" auto insurance.				
	Diesel Engine Tax Credit				
67a, 67b & 67c	 Allows diesel engines with a model year from 2003 to 2013 to qualify for the diesel engine tax credit. Sunsets the diesel engine tax credit on January 1, 2014. 				
	Effective and Operative Dates				
68	 Applies the provisions that enable a Multnomah County vehicle registration fee (section 40) to county ordinances adopted on or after October 1, 2009 (the operative date for HB 2001). Applies the further amendments to county option registration fee (section 40a) to county ordinances adopted on or after July 1, 2013. 				
69	• Allows local option fuel taxes that were in effect on or before October 1, 2009 (the effective date of HB 2001) to remain in effect.				
70	• Repeals the sunset date for the Road User Fee Task Force.				
71	• HB 2001 B-Engrossed will become effective 91 days following adjournment (October 1, 2009 assumed).				





Department of Land Conservation and Development

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May 21, 2009

TO: Land Conservation and Development Commission

FROM: Richard Whitman, Director Jeffrey Weber, Coastal Conservation Coordinator Robert Cortright, Transportation Planning Coordinator

SUBJECT: Agenda Item 7, June 4–5, 2009 LCDC Meeting

PLANNING FOR CLIMATE CHANGE

I. AGENDA ITEM SUMMARY

The commission will continue its discussion on how to integrate climate change considerations into the statewide land use planning program. In April, the department provided the commission with a report that laid out a preliminary framework and objectives for addressing climate change through land use planning. Building on the framework, staff will present to the commission a draft strategy and a range of options for integrating climate change considerations into the agency's work for 2009-11. This works also responds to a petition for adoption of a new statewide land use planning goal relating to sea level rise. It is expected that this item will come to the commission for a final decision in July, following additional opportunity for public input.

A. Type of Action and Commission Role

The proposed action in July is for the commission to adopt a strategy and select a scope of work for the department and commission in the coming biennium to better integrate consideration of climate change issues into the statewide planning program. The strategy would provide overall direction to efforts by the department and commission on climate change. The scope of work would include a set of actions that will be undertaken by the department and commission over the 2009-2011 biennium, as resources and circumstances permit.

Approval of a strategy and a work plan is part of the commission's role to provide overall guidance to the department in the administration of the state's land use planning program pursuant to ORS 197.040.

B. Staff Contact Information

For additional information, contact either Jeffrey Weber at (971) 673-0964 or by e-mail at jeff.weber@state.or.us; or Robert Cortright at 503-373-0050, ext. 241, or by e-mail bob.cortright@state.or.us.



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II. BACKGROUND

In January 2009, the commission considered a petition for rulemaking that asked the commission to adopt a new goal addressing sea level rise and related hazards expected to result from global climate change. In response to that petition, the commission directed the department to develop and present a range of possible options for the department and commission to comprehensively address climate change. In April, the department presented a status report that included a framework, objectives and possible actions for integrating climate change into the land use program.

This staff report is intended to build upon the previous work by: (1) proposing an overall strategy for integrating climate change issues into the statewide land use planning program; (2) outlining alternative scopes of work for addressing the major aspects of climate change (mitigation, adaptation, sequestration); and (3) describing possible actions by the department and commission in more detail. As the department has developed this strategy, it has become clear that climate variability and change have broad potential effects on communities throughout the state, and that land use planning can play an important role both in adapting to those changes, and in helping to reduce the emission of greenhouse gases that contribute to climate change. The proposed strategy and work plan options represent an initial effort to use existing tools and mechanisms of Oregon's planning program to address climate change. We anticipate that its implementation may provide a foundation for additional proposals in the 2011–2013 biennium.

A. Impacts of Climate Change on Oregon

There is a high degree of agreement among earth and climate scientists that Earth's climate is, on average, warming. Worldwide average temperatures have generally increased since the end of the last Ice Age, but the rate of warming has especially increased in the last couple of centuries. The current trend in accelerated warming of the Earth's climate corresponds to an increase in the use of fossil fuels that began with the Industrial Revolution.

Increased concentrations of greenhouse gases in the Earth's atmosphere have increased its capacity to store heat. Earth's warming atmosphere has forced changes in ecosystems, which are in turn forcing changes in human behavior. Global warming—or more accurately, global climate change—has affected and will continue to affect ecosystems and societies worldwide. Climate change has already begun to affect Oregon communities. Future decades will see continued change and the need for communities to prepare for and adapt to those changes.

Changes in Oregon's climate will include:

- Increases in average temperatures
- Possible changes in precipitation
- Increased storm intensity
- Rising sea levels
- Related changes in snow packs, stream flows, and flooding

<u>Temperatures</u>. Temperatures in the Pacific Northwest increased about 1.5°F over the entire 20th century. Most of that change occurred in the last two decades of the century. The average rate of warming in the second half of the 20th century was about *double* the average rate of warming over the entire century, and cannot be explained by natural variability alone.

Research at the University of Washington's Climate Impacts Group indicates that temperatures will probably increase in the Pacific Northwest on average about 0.5°F per decade this century. Temperature increases will be greater in summer than in winter. This projected increase is at least *three times greater* than the increase in temperatures experienced in the Pacific Northwest over the entire 20th century.

<u>Precipitation</u>. Precipitation increased about 14 percent in the Pacific Northwest over the 20th century; this increase is within the normal range of variability for precipitation in the Northwest. Precipitation projections vary from two inches less to four inches more per year, but these amounts also remain within the normal range of variability. Most projections do show precipitation increasing in winter and decreasing in summer. There will likely be an increase in the number of extreme precipitation events.

<u>Storm Intensity</u>. There has been an increase in both the intensity and frequency of coastal storms. There has been a 65 percent increase in storm frequency alone. Storms are generating increased wave heights and storm surges. Significant wave heights have been increasing; the estimated average height of winter waves off Washington is increasing at a rate of almost an inch a year, or about two feet in 25 years. Large waves will have a greater effect on coastal erosion than will rising sea levels, but their combination has the potential to result in considerable damage. Coastal storms and seasonal phenomena can raise sea levels up to five feet for extended periods.

<u>Sea levels</u>. Water temperatures in the world's oceans are increasing, and higher air temperatures are melting land glaciers at an accelerating rate. Both these changes have resulted in rising sea levels. Worldwide, sea levels rose averaged about 6.7 inches over the 20^{th} century. A recent report on future sea levels off Washington anticipates an increase in sea levels this century of 7 to 15 inches if greenhouse gas emissions are maintained at a low level, and 10 to 23 inches if there is a high level of greenhouse gas emissions.

Changes in Oregon's climate will affect ecosystems and communities in ways that will need to be addressed by land use planning.

Higher average air temperatures are changing Oregon's largest source of stored water for use by industries and communities. Much of Oregon's precipitation falls as snow in higher elevations, which melts as spring and summer temperatures rise, thus supplying Oregon's farmers and communities in most years with water into the late summer. With increased average temperatures, an increasing portion of Oregon's precipitation will fall as rain, even in winter, and thus will be less likely to be available for use in the months after it falls. Over half of Oregon's river basins receive a significant portion of their annual precipitation as snow today, and are thus vulnerable to changes in the water budget that will result from increased temperatures. Water users in these basins will need to plan for a future with increased likelihood of diminished water storage.

Increased precipitation that falls in winter months will likely increase the incidence of river flooding. And any decrease in annual precipitation will probably challenge Oregon communities and industries that depend on consistent water supplies. Communities will need to plan for

possible long term changes in annual precipitation patterns. Changes in precipitation patterns and storm frequency will need to be factored into planning for community stormwater infrastructure.

Sea level rise and increased storminess will increase ocean beach and bluff erosion, forcing changes in shorelines and in beach, dune, and estuarine ecosystems. Shoreline change in some areas of Oregon's coastline may force communities to consider relocation of structures and infrastructure. At the very least, new development in the vicinity of Oregon's ocean shores will need to anticipate increased erosion, higher storm surges, and more powerful storms. Changes in Oregon's estuarine habitats may result in subtle but long-term changes in estuarine and marine communities, which would become most evident in changes in the fishing industry.

Rising temperatures are forcing changes in habitats. Worldwide, wildlife habitats are moving both poleward and to higher elevations. Plant and animal species that are at the edge of their ranges may be lost from Oregon. Planning will need to provide for species and habitats migration in response to changes in temperatures and other climate factors.

B. Role of Land Use Planning in Reducing Greenhouse Gas Emissions

In addition to adapting to climate change, Oregon needs to take steps to reduce greenhouse gas emissions that are causing climate change. International scientific consensus is that even more serious climate change impacts than those already expected can be avoided only if there is a significant reduction in CO2 generation – to levels roughly 75-80 percent below 1990 levels by the year 2050. In response, Oregon, like many other states, has adopted state goals to reduce its greenhouse gas emissions to 10 percent below 1990 levels by 2020 and 75 percent below 1990 levels by 2050. ORS 468A.205

Achieving this level of reduction will require major changes in energy use in all sectors – including generation of electricity, heating and cooling, industrial processes and transportation. Several factors indicate that land use planning has a key role to play to help achieve the state's goals:

- Over 1/3 of Oregon's greenhouse gases are from transportation, and most of those are from automobiles.
- Three major strategies are available for reducing emissions from automobiles: more efficient vehicles, lower carbon fuels, and reducing the growth in vehicle travel.
- Dramatic increases in vehicle efficiency and advances in low carbon fuels alone will not be enough to reduce greenhouse gas emissions to target levels, largely because of the expected increase in VMT due to population growth, which is expected to be about 40 percent by 2050.
- "Growing Cooler" and other studies indicate that more compact development patterns can result in significant reduction in vehicle miles travelled by putting destinations closer together and making other modes of transportation (transit, walking and biking) more convenient.
- Land use is a factor that state and local governments have relatively more control over than vehicles or fuels, which are determined largely at the federal level.
- Planning for compact development has already put Oregon ahead of most other states in driving per capita. Per capita VMT by Oregonians is already trending downward.

Better land use planning that emphasizes energy efficient design can also help reduce greenhouse gas emissions in other ways:

- By promoting redevelopment and the upgrading or replacement of older, energy inefficient buildings
- By promoting multistory buildings that typically have lower energy costs for heating and cooling
- By supporting layout of new development to maximize opportunities for passive solar heating
- By promoting urban forestry and street trees to reduce the urban heat island effect and thus reduce the need for cooling

And while compact development helps reduce greenhouse gas emissions, it also has other important and valuable benefits for Oregonians and Oregon communities. The benefits of walkable, compact development include:

- Reduced traffic and air pollution
- Reduced household spending on transportation
- Reduced need for major road improvements
- Enhanced public health by encouraging active transportation by making neighborhoods and communities walkable and bikeable
- Safer roads

III. PROPOSED STRATEGY ON CLIMATE CHANGE AND LAND USE PLANNING

The department proposes that the commission consider adopting a strategy to guide department work on addressing climate change. The strategy would outline overall long-term land use planning objectives and provide a basis for specific actions, including a biennial work plan, to address climate change.

Climate change warrants the approach of adopting a formal strategy because of the comprehensive scope and extent of changes to the land use program that are likely to be needed, because the full range of actions that will be needed is not yet known, and because the need for action will extend well beyond the current biennium. Climate change is a fundamental planning issue that has the potential to require significant changes in comprehensive plans. A strategy provides the commission and department with a clear set of objectives to guide implementation of specific programs and actions.

The department believes that adoption of strategy would have several other important benefits. It will:

- Acknowledge the importance of climate change as a long-term planning issue
- Help the general public and local governments understand the role that land use planning will play in Oregon's response to climate change
- Provide a framework to undertake additional actions as state and national policies and programs evolve and as new opportunities arise

• Provide guidance and encouragement to local governments to take actions to address climate change

Adoption of a strategy is also an important way for the commission to acknowledge and respond to direction from the legislature and recommendations from key state studies and advisory groups. Key actions and recommendations include:

- State targets for greenhouse gas emission reductions adopted in 2007
- Recommendations from the Global Warming Commission and its predecessors since 2004
- Recommendations from the Big Look Task Force in 2008
- Pending legislation, including SB 80 and HB 2001

As noted above, the purpose of a strategy is to guide work by the commission and department to address climate change. While the department anticipates that changes to the statewide planning program and local plans will be needed, the proposed strategy does not, by itself, establish or adopt any new planning requirements for local governments. Rather, it is a guide for how the department and commission will conduct their work as it relates to this issue. The proposed strategy is part of the commission's policy-making work program: it defines issues that the commission plans to work on and outcomes it expects to achieve over the next biennium. While no formal process for notice or public review applies to adoption of a strategy as part of its public review of the proposed policy and rulemaking agenda for the 2009-2011 biennium. In addition, the department will be seeking comments from principal program stakeholders between the June and July LCDC meetings.

A. Background

Climate change is a major challenge that will require a comprehensive response by all levels of government. Oregon's statewide planning program has an important role to play in helping meet state targets for reducing greenhouse gas emissions and in helping communities adapt to the effects of a variable and changing climate. The state's planning program and local plans will need to be changed - in some cases significantly - to effectively respond to this challenge.

While the full extent of needed changes is not known, the need for action and the general direction in which we need to move is clear. We need to accommodate new development in a way that reduces greenhouse gas emissions. Plans need to be revised to avoid placing development in areas where a changing climate will increase natural hazards. Plans must improve protection of natural resources that will be affected by changing climate conditions. And finally, because plans make decisions about how Oregon's communities will develop over the next 20 to 50 years, it is important to start to address climate change now.

B. Proposed Strategy

The Land Conservation and Development Commission will work to implement and, as necessary, revise Oregon's land use planning program to support achieving state goals to protect communities and natural resources from the effects of a variable and changing climate, and to help reduce greenhouse gas emissions.

The commission and department will use existing resources, programs and authorities to support changes to land use plans to address climate change. As additional resources and information become available, the commission and department will consider changes to Oregon's planning program so that land use planning continues to help address and adapt to the impacts of climate change.

C. Objectives

The commission and department will address climate change by encouraging and supporting changes to land use plans that accomplish the following objectives:

1. Adaptation

To prepare for and adapt to the effects of climate change, the department and commission will help Oregon communities:

- Identify areas that are subject to new or increased natural hazards as a result of climate change
- Avoid or limit development in areas subject to damage and loss from hazards caused by climate change
- Integrate climate change considerations into plans for public facilities and services
- Protect natural areas and features that buffer communities and the built environment from the effects of a variable and changing climate
- Protect natural areas, features, and habitats to improve resilience of biotic resources to climate change

2. Urban Mitigation

To mitigate the increasing emission of greenhouse gases that contribute to climate change, the department and commission will help Oregon communities promote compact, mixed-use development patterns and transportation options to reduce the need for driving. These efforts will focus primarily on metropolitan areas and other large, fast-growing urban areas, where most growth is expected and where the opportunities to reduce greenhouse gases are greatest.

3. Other Mitigation

To further mitigate the emission of greenhouse gases, the department and commission will

- Promote carbon sequestration through protection and improved management of forest lands
- Support the development of low-carbon energy sources, including wind, ocean, solar and others, by supporting changes to land use plans that provide for the siting and development of these energy sources and necessary supporting infrastructure.

D. Implementation

Implementation of the climate change strategy will involve all of the kinds of activities the department and commission customarily use in implementing different elements of Oregon's land use program. The commission and department will undertake the following kinds of activities to advance planning for climate change:

Activity 1. Community engagement

The department will partner with other agencies and organizations to engage Oregonians and communities to increase awareness and understanding of the effects of climate change on the state and how land use planning can help communities reduce greenhouse gas emissions and adapt to a changing natural environment. Community engagement will include collaboration with the research community to make information about climate change impacts understandable and useable for citizens and land use decision-makers.

Activity 2. Coordination with other agencies

The department will work with state and federal agencies to help develop a comprehensive state strategy for meeting climate change goals and to provide a clear, coordinated state position on ways that land use planning and community development can support achieving those goals.

Activity 3. Technical assistance

The department will use existing resources to provide advice and assistance to local governments and state agencies to promote land use plans and decisions that reduce greenhouse gas emissions and help communities adapt to a changing climate. The commission and department will seek additional resources to develop and promote the use of information, decision support tools, and model plans and ordinances that set forth best planning practices for meeting climate change goals.

Activity 4. Grant programs

The department will work with the grants advisory committee to consider ways that the grants programs can support achieving climate change goals. The commission and department will seek additional resources to help local governments update local plans to address climate change.

Activity 5. Plan review

The department will provide advisory comments on major planning decisions—including plan amendments, and proposed UGB amendments, and urban reserve designations—to encourage the commission, local governments and state agencies to consider climate change goals and take actions that are consistent with achieving state climate change goals.

Activity 6. Policymaking

The commission and department will consider climate change goals in all rule and policy making to ensure that new and amended policies support achieving state climate change goals. As new information and resources become available, the department and commission will evaluate ways state planning policies and local plans should be changed to more effectively meet climate change goals. The commission and department will seek additional resources to conduct an evaluation of state land use policies and pursue changes as needed to effectively meet climate change goals.

IV. WORK PROGRAM OPTIONS FOR ADDRESSING CLIMATE CHANGE

The department has prepared options for each of the three strategy elements: adaptation, urban mitigation, and other mitigation. Each option represents a different subset of the measures staff presented to the commission in April. The options are presented in order of 1) increasing level of effort and resource demands, and 2) increasing effectiveness in addressing climate change. "Option 1" represents what the department is planning to undertake or can accomplish with modest redirection of resources. Options 2 and 3 represent new efforts.

Each set of options is presented in three formats with increasing levels of detail. Table 1 provides a condensed overview of each set of options, so the commission can see how the activities that fall within each option work together. Following Table 1, all of the options are described in summary fashion.

Finally, detailed descriptions of each strategy element, its objective, the commission's role, and the specific activities that comprise each option are described in Attachments A, B and C. In Table 1 and the summary description of the options, each activity has an identifying number-letter combination (e.g. "1D") that refers to an activity described in the corresponding attachment.

The department recommends the commission review the each set of options and:

- Identify where the commission needs additional information
- Suggest additional actions or changes to options, if any
- Select options as policy initiatives for inclusion in the department's 2009–2011 work program

As noted above, each set of options presented in Table 1 reflects a different level of effort or staff time by the department ranging from low to high. These groupings are intended to help the commission understand what can be accomplished with different levels of effort.

Low - These actions can generally be accomplished by existing staff working within their existing program areas, with only a modest redirection of resources. The emphasis on addressing climate change would displace some other activity that is currently conducted. For example, expanding the scope of the department's role in commenting on plan amendments to address climate change would be accomplished by reviewing fewer plan amendments or narrowing the scope of the department's role in other possible plan amendments.

Medium – These actions involve a more significant redirection of resources to a new activity and would likely require approval from the commission or consultation with agency partners or funding agencies. Commitment to engage in these activities would usually mean the department would need to reduce its efforts in other work program areas. For example, the department's transportation planning staff might reduce its involvement in review of draft transportation plans in favor of participation in an interagency group working on climate change.

High - Generally these actions would require new resources or substantial additional staff time that would require existing staff to be reassigned from existing duties or responsibilities. Many

also involve some form of policy or rulemaking by the commission that would affect the commission's ability to pursue other policy or rule changes.

	Work Program Options			
Climate Change Element/ Objectives	Low Modest expansion of existing efforts; modest redirection of existing resources	Medium Leadership, significant redirection of existing resources	High Leadership, significant new resources required	
 Adaptation Identify areas subject to hazards; revise plans to avoid hazards, limit development Better protection for resources subject to climate change 	 Outreach program development (1A) Develop informational materials (1B) Interagency adaptation work group (2A) Interagency agreement with DOGAMI (2C) Data and information for decision support (3A) Inventory of coastal dikes and levees (3E) Encourage "No Adverse Impact" development (3H) Plan, UGB, and urban reserve amendment review (5A) 	 Regional adaptation work groups (2B) Develop new analytical tools (3B) All-hazards mapping pilot project (3C) Technical assistance grants (4A) Major local land use decisions (5B) Proposed public investments (5C) State agency plans and programs (5D) Program review (6A) Encourage local provisions that exceed standards (6B) 	 Expand outreach to priority basins Conduct natural hazard risk assessments (3D) Extend web-based decision support system statewide (3F) Develop a policy on use of FEMA grants (3G) Revise grant allocation criteria (4B) Periodic review (5E) Program amendments for hazards (6C) Program amendments for natural resources (6D) Draft and adopt implementing rules for Goal 7 (6E) 	
Urban Mitigation Plan for compact development and transportation options to reduce VMT, especially in metropolitan areas	 Expanded TGM and DLCD Outreach (1A, 1B) Increased work with MPOs, state agencies to address VMT reduction (2A) TGM model ordinances for climate friendly development (3C) Make climate change recommendations in plan amendment review, UGB, urban reserve review (4A) Address climate change in periodic review (4B) Revise grant criteria to give priority to GHG reduction (5A) Consider GHG reduction goals in other LCDC rulemaking (6A) 	 Expanded outreach to metropolitan areas for scenario planning (1C) Participate in interagency climate change work group (2B) Informal planning guidance for urban planning (3E) Comment on major local land use decisions affecting GHG (4C) Comment on agency plans affecting land use related GHG (4D) Allocate portion of DLCD general fund grants (5B) Work with ODOT to target TGM grants (5D) Redirect TGM code assistance and quick response projects (5E, 5F) SB 80 Implementation. Assist ODOT with transportation GHG emission reduction plan (2C) Model ordinances for GHG impact review (3B) 	 Develop GHG/VMT impact assessment tool for local governments (3A) Develop scenario planning tools for use by metropolitan areas (3D) HB 2001 Implementation (6E) Statewide study of land use changes needed to meet VMT/GHG reduction targets (6A) Evaluation of policy changes needed to change land use patterns to reduce VMT (6B) TPR evaluation (6C) 	
Other Mitigation Manage lands to increase carbon sequestration and conserve energy	 Sequestration outreach (1A) Partnerships for Transfer of Development Credits (TDCs) State agency coordination (2A, B) 	 Develop technical assistance guides (3A) Informal planning guidance (3B) Assess opportunities to conserve energy and increase the use of non-carbon energy sources through land use planning. 	 Information system (3C) Grant criteria (4A) Pilot TDC program (4B) Periodic Review (4C, 5B) Plan amendment review (5A) Policies and rules to increase sequestration (6A, B, C, D) 	

Table 1. Summary of Work Program Options for Climate Change

A. Adaptation Options

Option 1: Modest expansion of existing efforts

This option would support local efforts to identify and map climate-related hazards or otherwise initiate local climate change adaptation planning where available information supports such work, and work to develop such information where it is not presently available.

- Outreach program development (Action 1A)
- Develop informational materials (Action 1B)
- Interagency adaptation work group (Action 2A)
- Interagency agreement with DOGAMI (Action 2C)
- Data and information for decision support (Action 3A)
- Inventory of coastal dikes and levees (Action 3E)
- Encourage "No Adverse Impact" development (Action 3H)
- Plan, UGB, and urban reserve amendment review (Action 5A)

Option 2: Leadership, significant redirection of existing resources

Using federal floodplain management and coastal resource management resources, the department will invest in data and capabilities to identify and map climate-related hazards and the potential impacts of climate change. The department will provide leadership in coordination and engagement with communities in planning for climate change and seek additional resources to expand its ability to work with communities as opportunities arise.

- Compile regional summaries (Action 1D)
- Coastal region climate work groups (Action 2B)
- Regional adaptation work groups (Action 2B)
- Develop new analytical tools (Action 3B)
- All-hazards mapping pilot project (Action 3C)
- Technical assistance grants (Action 4A)

- Major local land use decisions (5B)
- Proposed public investments (Action 5C)
- State agency plans and programs (Action 5D)
- Program review (Action 6A)
- Encourage local provisions that exceed standards (Action 6B)

Option 3: Seek resources for expanded leadership for policy changes

The department will stress the importance of climate change as an urgent state-wide planning issue that requires the establishment of state standards for climate change adaptation planning. The department will use grants to encourage local climate change adaptation measures, identify needed changes to statewide planning goals, and initiate rulemaking as appropriate to establish standards and requirements for local climate change adaptation planning.

- Expand outreach to priority basins (Action 1E)
- Conduct natural hazard risk assessments (Action 3D)
- Extend web-based decision support system statewide (Action 3F)
- Develop a policy on use of FEMA grants (Action 3G)
- Revise grant allocation criteria (Action 4B)
- Periodic review (Action 5E)
- Program amendments for hazards (Action 6C)
- Program amendments for natural resources (Action 6D)

• Draft and adopt implementing regulations for Goal 7 (Action 6E)

B. Urban Mitigation Options

These packages address ways the commission and department can support changes to the land use program and local plans and regulations that result in land use patterns and transportation options that would significantly reduce vehicle miles travelled (VMT).

Option 1: Modest expansion of existing efforts

This option would involve a modest expansion of the department's existing efforts and redirection of existing resources focusing on increasing attention by local governments to consider and incorporate efforts to reduce VMT into ongoing planning activities.

- Expanded TGM and DLCD outreach (Actions 1A, 1B)
- Increased work with MPOs, state agencies to address VMT reduction (Action 2A)
- TGM model ordinances for climate friendly development (Action 3C)
- Make climate change recommendations in plan amendment review, UGB, urban reserve review (Action 4A)
- Address climate change in periodic review (Action 4B)
- Work with Grants Advisory Committee to consider revising grant criteria to give priority to GHG reduction (Action 5A)
- Consider GHG reduction goals in other LCDC rulemaking (Action 6A)

Option 2: Leadership, significant redirection of existing resources

Significant redirection of existing urban and transportation planning work by the department to encourage and support local and state level efforts to plan for land use and transportation in a way that reduces VMT could include:

- Expanded outreach to metropolitan areas for scenario planning (Action 1C)
- Participate in interagency climate change work group (Action 2B) SB 80 Implementation assistance. Work with ODOT to develop transportation GHG emission reduction plan (Action 2C)
- Model ordinances for GHG impact review (Action 3B)
- Informal planning guidance for urban planning (Action 3E)
- Comment on major local land use decisions affecting GHG (Action 4C)
- Comment on major agency plans affecting land use related GHG (Action 4D)
- Work with the Grants Advisory Committee to consider allocating portion of DLCD general fund grants to address climate change (Action 5B)
- Work with ODOT to target TGM grants to support VMT reduction (Action 5D)
- Redirect TGM code assistance and quick response projects to focus on projects that support GHG/VMT reduction (Actions 5E, 5F)
- Review and comment on major proposed public investments (Action 4E)

Option 3: Seek resources for expanded leadership for policy changes

This package would require new resources beyond what is in the department's budget. Seek funding from state and federal climate change initiatives to support expanded state and local planning for GHG emission reduction efforts.

- Develop GHG/VMT impact assessment tool for local governments (Action 3A)
- Develop scenario planning tools for use by metropolitan areas (Action 3D)
- HB 2001 implementation (Action 6E)
- Statewide study of land use changes needed to meet VMT/GHG reduction targets (Action 6A)
- Evaluation of policy changes needed to change land use patterns to reduce VMT (Action 6B)
- TPR evaluation (Action 6C)

C. Other Mitigation Options

These options include activities related to both energy conservation and carbon sequestration.

Option 1

Provide technical assistance on reforestation and improved management of forest lands as opportunities arise.

- Sequestration outreach (Action 1A)
- Partnerships for Transfer of Development Credits (TDCs) (Action 1B)
- State agency coordination (Action 2A)

Option 2

Develop and distribute information to foster land management strategies that increase carbon sequestration.

- Development of technical assistance guides (Action 3A)
- Informal planning guidance (Action 3B)

Work with state agencies, local governments, and the private sector to assess opportunities to conserve energy and increase the use of non-carbon energy sources through land use planning.

Option 3

Implement a pilot program to provide for the transfer of development credits.

- Information system development (Action 3C)
- Revise grant criteria (Action 4A)
- Pilot TDC program (Action 4B)
- Plan and rural reserve amendment review (Action 5A)
- Periodic review (Action 5B)
- Develop policies and rules to increase sequestration (Actions 6A, B, C, D)

V. RECOMMENDATION

The department recommends that the commission review and provide preliminary direction to the department for revising the proposed strategy and work plan options for further discussion and adoption at the commission's July 30–31 meeting in Brookings. This discussion should occur in conjunction with the commission's deliberations on its policy and rulemaking agenda for the 2009–2011 biennium. Review at the July meeting will also allow the commission to consider and respond to legislative action, which may include new laws directing the commission and other agencies to develop or revise state plans, programs and rules as part of a state strategy to respond to climate change.

Collaboration with Partners and Stakeholders

Over the next month the department proposes to share the proposed strategy and work program options with interested groups to seek their comments. This includes:

- Local government associations, including the League of Oregon Cities, the Association of Oregon Counties, the Oregon Coastal Zone Management Association, and the Oregon Metropolitan Planning Organization Consortium
- State agency partners, including the Global Warming Commission, ODOT, DOGAMI, the Department of Energy, DEQ, ODFW, Forestry, and Water Resources
- Agencies and institutes engaged in research and community outreach related to climate change, like Oregon Sea Grant and the Climate Leadership Initiative
- Goal 20 petitioners, including 1000 Friends of Oregon and the Oregon Shores Conservation Coalition
- The Citizen Involvement Advisory Committee and Local Officials Advisory Committee

The department will also include the climate change strategy and work program options as part of the proposed policy and rulemaking agenda.

ATTACHMENTS

- A. Adaptation Element of the Climate Change Strategy
- B. Urban Mitigation Element of the Climate Change Strategy
- C. Carbon Sequestration and Energy Use and Development Element of the Climate Change Strategy

Attachment A

Attachment A: Adaptation Element of the Proposed Climate Change Strategy

I. Commission and Department Role in Adaptation

The commission's and department's role in adapting to the effects of a variable and changing climate is to identify and foster changes to the land use program and local plans and regulations that will reduce the potential for damage or loss of life due to climate-related natural hazards. The commission and department also provide the framework to plan for public facilities and services that are appropriate for changing climate conditions.

Objectives for the adaptation element of the LCDC/DLCD climate change plan are:

- Reduce vulnerability to damage and loss from hazards caused by climate change
- Integrate climate change into plans for public facilities and services¹
- Protect natural areas and features that buffer communities and the built environment from the effects of a variable and changing climate
- Protect natural areas, features, and habitats to improve resilience of biotic resources to climate change

LCDC and DLCD have a leadership role in identifying the effects of climate change on land uses; the effects of land use patterns on climate; and whether past land use practices are appropriate for changed climate conditions. The department has several ways to influence local plans and the practice of local planning. The most commonly used include education and outreach, technical assistance, and financial assistance. The department also reviews and has the potential to comment on a wide range of local plan amendments. LCDC and DLCD may also change statewide planning goals and rules to address variable and changing climate conditions.

Geographic scope

Climate change is likely to affect communities in one way or another across the entire state. However, land use measures to adapt to changing climate conditions may not need to be adopted by every community. Every community will eventually need to assess its vulnerability to changing climate conditions. Some communities will need to change their plans to reduce risk. Adaptation measures will differ from community to community.

The most pressing need for adaptation planning is in coastal areas, where communities will need to address the potential effects of increased storminess and rising sea levels. Statewide, communities will need to address the potential effects of increased flooding and landslides. Some areas will need to prepare for increased chance of forest fires. Communities in snow-dominated basins will need to analyze the anticipated effects of changes in hydrology on community water supplies.

¹ "Public facilities and services" as used here goes beyond its Goal 11 meaning and includes water supply, wastewater treatment, stormwater management, emergency management, transportation facilities, schools, critical facilities, and government services and facilities.

Level of effort required

Climate change is a fundamental planning issue that generally has not been addressed in local plans. Considerable effort will be required to identify changes that should be made to local plans to adapt to future climate conditions. Adaptation planning will require knowledge of likely future conditions, knowledge of local circumstances, and knowledge of local comprehensive plans. There is no single solution for adapting to climate change that will work in every community. Each community will need to assess its circumstances and its land use plan to identify vulnerabilities and appropriate local adaptation measures. The department will have a significant role in providing resources for local assessments; identifying and mapping areas subject to climate-related hazards; promulgating standards or safeguards for development in areas subject to climate hazards; and assisting local governments in developing local adaptation plans.

In a few cases, changes to present land uses may be warranted. Occupied areas may need to be abandoned due to the likelihood of recurring conditions that cause significant damage to property and infrastructure.

Changes to statewide goals and rules may eventually be warranted, especially in planning for areas subject to natural hazards. Under Goal 7 as it exists today, a community can amend its local plan to reflect the risks to development in areas subject to climate-related hazards. Local governments may appreciate that climate-related hazards are likely to be worse in the future, but few (if any) local plans have actually been revised to reflect increased frequency or magnitude of landslides, floods, or ocean inundation due to storm surge. Revising plans to increase their effectiveness in avoiding development in areas subject to climate-related hazards will require considerable effort and resources over several years.

Conclusion

Many communities will eventually need to change their land use plans in order to adapt land use patterns and practices to the effects of climate change. In some parts of the state, such changes may be possible in the short- to medium-term. But for much of the state, it is not possible to say exactly what changes will need to be made to local plans.

The Work Program and Possible Actions for Adaptation are designed to provide a range of tools to support local planning to adapt to the effects of climate change. The department will provide technical resources and guidance to local communities to identify vulnerabilities in current plans and land use patterns. Financial support will be provided as additional resources for grants to local governments become available. The department anticipates partnering with Oregon Sea Grant and others to develop and implement a robust outreach effort that will provide information to, and get information from, local and regional climate change work groups in coastal communities.

Certainty about future climate conditions is not sufficient to support program changes at the state level at this point. Existing efforts under several goals, especially Goal 7, provide a framework for motivated communities to revise plans to adapt to anticipated changes in climate. However, the department has the option to identify necessary program changes to propose for commission consideration based on knowledge gained in working with local governments on climate change adaptation planning in the next biennium.

II. Work Program and Possible Actions for Adaptation

Activity 1: Community Engagement

The department will partner with state agencies and interested groups to develop a program for outreach and engagement with communities and citizen groups to both provide and acquire information about the effects of climate variability and change on communities, with particular emphasis on local land use plans, patterns and practices. The department will especially want to engage with the CIAC, LOAC and others to plan the outreach program. Outreach and engagement efforts will be enhanced by the use of printed informational materials. The objectives of outreach are to:

- Foster understanding of the relationship between land use and the causes and effects of climate change
- Encourage communities to use land use planning tools to address the causes and effects of climate change

Outreach and engagement activities for adaptation will overlap somewhat with those for mitigation and other aspects of climate change.

Existing Efforts and Resources

The department's present level of outreach effort related to climate change is low, although department staff members are involved in regional and local discussions related to climate change as they occur. The department is generally not the instigator of these discussions, although its role on the coast is stronger than in the rest of the state. This is in part because the coast is already experiencing damaging effects of climate change. The Oregon Coastal Management Program (OCMP), administered in the Ocean and Coastal Services Division, has been working for several years with other state agencies and federal partners to improve public understanding of coastal natural hazards, and there is considerable overlap between coastal hazards and climate change.

The OCMP has begun to integrate climate change into its biannual network meetings that involve local planning officials. The OCMP also produced a publication called "Climate Ready Communities," which anticipates an increasing level of effort to assist communities in preparing to plan for the effects of climate change.

Community Engagement Actions

- 1A Outreach program development. The coastal division will continue outreach and engagement with coastal communities. Using present resources, the coastal division will:
 - Collaborate with CIAC, LOAC, and coastal local governments to outline a strategy for outreach related to climate change adaptation.
 - Partner with Oregon Sea Grant, South Slough NERR, the Climate Leadership Initiative and others to develop and implement an outreach and engagement program.
 - Develop presentations on climate change and land use planning for local elected and appointed officials and citizen-based climate change work groups.
 - Invest in staff training on climate change and facilitation of local groups

- **1B Develop informational materials.** The department will develop and distribute informational materials about climate change for use at local planning offices, and information for consumers about climate-related hazards and risks of development in hazardous areas.
- **1C Coastal region climate work groups.** Conduct a pilot project on the coast to convene regional climate change work groups to provide a forum for engagement and interaction with citizens and local officials. Enlist their support in identifying local climate-related concerns and local strategies to address them. (See corresponding Action 2B.)
- **1D Compile regional summaries.** To the degree not met by existing information sources, compile reports specific to the principal ecoregions of the state that provide a summary of the anticipated changes in climate conditions and the likely issues due to climate that may need to be addressed in local land use plans.
- **1E Expand outreach to priority basins.** Expand the outreach and engagement strategy to priority basins outside the coastal zone to begin to address planning issues related to water supply and wildfire.

Activity 2: Coordination with other agencies

Climate change will likely affect the programs and responsibilities of several other state agencies. Several agencies may also have information that will be of value in developing local adaption options and plans. The department is in a position to foster dialogue among state agencies and local governments to provide for regional coordination of all parties' climaterelated planning efforts. The objectives of coordination are to:

- Avoid the adoption of policies or measures that work at cross-purposes to policies or measures of other parties working on similar issues
- Ensure the consideration of issues that are regional in scope, such as domestic water supply and planning for the protection of fish and wildlife habitats
- Foster the adoption of successful measures used by local governments in the region or other areas of the state

Existing Efforts and Resources

The coastal division participates in regional- and national-level climate change work groups. At the national level, the Coastal States Organization (CSO) has a climate change work group that provides a forum to review and formulate positions on draft national legislation related to climate change adaptation, and to consult with various offices in the National Oceanic and Atmospheric Administration (NOAA) about programs that may affect state and local efforts to prepare for and adapt to climate change.

The coastal division also serves on a regional "Action Coordination Team" under the West Coast Governors' Agreement on Ocean Health. The team's charge is to develop a work plan to complete a west coast-wide assessment of shoreline changes and impacts to communities due to climate change over the next several decades. DLCD is working closely with the Department of Geology and Mineral Industries (DOGMI) as it undertakes a pilot project using FEMA resources to assess its ability to update FEMA's digital Flood Insurance Rate Maps (FIRM) using LiDAR data, and to maintain FIRM maps for the state. DLCD maintains a close working relationship with the Office of Emergency Management (OEM), which administers FEMA's hazard mitigation grant programs. Relocation and property buy-outs are two adaptive mitigation strategies increasingly used to permanently reduce flood losses. DLCD will continue to work with OEM to encourage relocation and property buy-outs where they make sense from hazard reduction and land use planning perspectives.

Department staff has had exploratory discussions with other state agencies about the eventual need to coordinate climate-related efforts, but aside from its participation in the various subcommittees under the Oregon Global Warming Commission, it is not presently involved in any formal effort to coordinate state agencies and local governments around climate change.

Finally, DLCD participates on the statewide Interagency Hazard Mitigation Team (IHMT) and the Coastal Natural Hazards and Processes Working Group; these teams develop and consider draft legislation and state-level strategies to avoid hazards.

Agency Coordination Actions

- **2A Interagency adaptation work group**. Convene a state-level team of agencies with programs or responsibilities that affect local efforts to prepare for and adapt to climate change (OWRD, ODEQ, ODFW, OPRD, DOGAMI, and others).
- **2B Regional adaptation work groups**. With state agencies, local governments and others, define the structure and scope of regional climate change adaptation work groups. (See corresponding Action 1C.) Convene teams of state agency representatives at the regional level to provide technical assistance to local governments for adaptation planning.
- **2C Execute interagency agreement with DOGMI.** Based on the successful outcome of the DOGMI's pilot project to update and maintain FEMA's FIRM maps, DLCD will initiate an Interagency Agreement with DOGMI so that DLCD can work closely with DOGAMI to prioritize FIRM maintenance activities and deploy revised maps into local communities. DLCD, as the state's National Flood Insurance Program (NFIP) Coordinating Agency, is required to recommend priorities for mapping and to assist with local adoption of FIRMs.

Activity 3: Technical Assistance

One of the principal ways the department supports local land use planning is to provide various forms of technical assistance and advice to citizens, groups, and local officials. The department's technical resources are particularly valuable for local governments that cannot afford to hire technical experts to assist in various planning efforts.

Technical assistance for adaptation planning will involve a range of topic areas, including planning for natural hazards, public facilities, and habitat protection. Finally, the department has developed "decision support" capabilities using information technologies like GIS that will be particularly valuable in adaptation planning, and intends to share such capabilities with local governments. However, while much GIS data is already available to support local risk assessments and adaptation planning, a coordinated effort is needed to collect and assemble a baseline data set that is consistent across the state. The objectives of technical assistance are to:

- Provide information, advice and tools for use by local governments to more effectively plan for future climate conditions
- Assess communities' needs for data and information related to the effects of climate change.
- Work with data providers to improve the quality, content, and accessibility of data and information needed to revise local land use plans to improve community resilience.
- Develop decision support tools for local use to prioritize adaptive responses to climate change.

Existing Efforts and Resources

The department currently provides technical assistance to local governments on various natural hazards that are affected by climate, including floods, coastal erosion, landslides, and forest fires. The primary emphasis is on floods and coastal erosion.

DLCD's Natural Hazards Program coordinates local adoption of FEMA digital flood insurance rate maps and flood hazard reduction ordinances. Digital flood insurance rate maps allow local governments to identify vulnerable structures and infrastructure located in FEMA-mapped flood hazard areas using geographical information systems. With FEMA's financial support, DLCD will continue to coordinate production and adoption of updated flood insurance rate maps.

The Oregon Coastal Management Progran (OCMP) provides funding to the Department of Geology and Mineral Industries (DOGAMI) to monitor beach erosion rates. The program has also made a substantial investment in a database that contains information on which oceanfront lots are eligible to apply for a permit to build a beachfront protective structure to protect property from erosion. The OCMP also provides access through the Oregon Coastal Atlas to an extensive data set developed by DOGAMI that identifies areas subject to rapidly-moving landslides.

The OCMP is partnering with NOAA and other federal agencies and others to develop a demonstration Climate Adaptation Planning Information System (CAPIS) for use by a coastal community. CAPIS is designed to demonstrate the feasibility of using the Internet to provide climate data at the scale, and in the form necessary for local adaptation planning.

The department's role in providing technical assistance is to provide information and access to expertise on issues of concern to local governments.

Technical Assistance Actions

3A Data and information for decision support. DLCD will partner with state agencies and local jurisdictions to collect the data sets necessary to perform risk assessments and adaptation planning. Data and information types to be collected include critical facilities, soil and land classification, and administrative boundaries; and local data sets for planning, zoning, and tax lots. ² DLCD will work with DAS-GEO and Oregon State University to develop and populate the Natural Hazards Information Portal with data and information that is intended to be available for public use.

 $^{^{2}}$ A distinction will be made between data that is available for public display, such as will be used on a web display portal, and data necessary for modeling at the local level but remains internal.

- **3B Develop new analytical tools.** Partner with government agencies, universities, and others to develop and deploy analytical tools to quantify and map risks³ associated with current natural hazards events and to plan specific hazard mitigation activities.
- **3C All-Hazards mapping pilot project.** Using FEMA grant funding, provide technical support for a pilot project to map all natural hazards in a defined area, to include floods, landslides, erosion, sea level rise and storm surge, and wildfire.
- **3D** Conduct natural hazard risk assessments. Seek federal resources to partner with state and federal agencies and others to develop information on future exposure to risk from climate variability and change. Partner with FEMA to link hazard mapping with local hazard mitigation planning. Using existing tools such as FEMA's HAZUS software,⁴ map future conditions hydrology and conduct natural hazard risk assessments by ecoregion.
- **3E Inventory of coastal dikes and levees.** Starting in late 2009 and continuing for two years, the OCMP will host a NOAA Coastal Services Center Fellow in a project to inventory the location, condition, and legal status of dikes and levees around estuaries. The inventory will improve the ability to identify areas potentially at risk from storm surges, high tides, and floods, and help identify areas that might be restored to tidal influence.
- **3F Extend web-based decision support system statewide**. Fully develop a web-based decision support system to assist in climate change adaptation planning. Integrate CAPIS and other decision support tools and elements such as RiskMAP and Oregon's Natural Hazards Information Portal.
- **3G Develop a policy on use of FEMA grants.** Develop and circulate a draft policy that states that DLCD prefers FEMA mitigation grants to be used for relocation and buy-out of flood-prone properties, rather than to elevate structures in place.
- **3H Encourage "No Adverse Impact" development.** Increase efforts to encourage the use of informational materials, guidance, and model codes developed for use by local governments to foster "No Adverse Impact"⁵ development.

Activity 4: Grant programs

Financial assistance may be the most important way to support local planning to achieve specific desired outcomes. Local governments will require additional resources to undertake planning for climate change. The objective for grant programs is to support local planning to prepare for and adapt to climate change.

³ As used here, risk = threat * likelihood of exposure to threat * consequences of exposure.

⁴ HAZUS-MH is risk assessment software provided by FEMA for analyzing potential losses from floods, hurricane winds and earthquakes. In HAZUS-MH, current scientific and engineering knowledge is coupled with the latest geographic information systems (GIS) technology to produce estimates of hazard-related damage before, or after, a disaster occurs

⁵ "No Adverse Impact" refers to a body of work developed by the Association of State Floodplain Managers (ASFPM).

Existing Efforts and Resources

The department has two possible sources of grant funds to support local adaptation planning: federal coastal management funds and state general funds. Both state resources and federal coastal management resources are currently used 1) to support basic local planning capacity (Planning Assistance grants); and 2) to support specific local or regional planning efforts (Technical Assistance grants). Federal floodplain management funds are used by DLCD to administer the National Flood Insurance Program, which includes providing technical assistance on floodplain planning to local governments.

The department's administration of grant programs does not currently involve the consideration of climate change.

Grant Program Actions

- **4A Technical assistance grants.** Provide funds as available to develop local climate change adaptation plans based on credible information about areas that are potentially subject to climate-related natural hazards.
- **4B Revise grant allocation criteria.** Work with the Grants Advisory committee to consider revisions to the criteria for allocating grants to local governments to either prioritize a portion of grants for local climate change adaptation planning, or to require that certain activities supported with department grants address the effects of climate change.

Activity 5: Plan review

The principal mechanism the department uses to ensure continued compliance with the statewide land use program is to participate in the local consideration of land use decisions. The department may review and comment on local decisions and ongoing planning actions and studies. The department also reviews and may comment on major planning studies by other state agencies. The department can incorporate climate change into the review of state and local planning activities, and advise and encourage the adoption of provisions and plan elements that reduce risk of harm from the effects of climate change.

The objective of efforts using the mechanism for plan review is to provide advisory comments to local governments and state agencies on the likely effects of climate change on local land uses, infrastructure, and natural resources.

Existing Efforts and Resources

The department's review of local plan changes and state agency plans does not now directly address climate change.

Plan Review Actions

- **5A Comprehensive plan, UGB and urban reserve amendment review.** Develop a checklist to use in review of local plan amendments. Expand the review of plan amendments to provide advisory recommendations to improve a community's ability to adapt to the effects of climate variability and change.
- **5B Major local land use decisions.** Review and comment on local land use decisions that would place development in areas that are likely to be subject to damage from the effects of climate change.

- **5C Proposed public investments.** Review and comment on proposed public investment decisions that would increase the risk of damage due to the effects of climate change.
- **5D State agency plans and programs**. Review and comment on major actions or studies by other state agencies that would increase the risk of damage due to the effects of climate change.
- **5E Periodic review.** Incorporate the need to prepare for and adapt to the effects of climate change into periodic review work programs for cities in and near metropolitan areas. Restore periodic review for small cities and counties, and schedule communities likely to be affected by climate-related hazards.

Activity 6: Policy and Rule Development

The most aggressive mechanism the department has to change local land use plans and regulations is to revise Oregon's planning goals or rules. The commission has already been petitioned to adopt a planning goal to address sea level rise. The existing goals and rules could provide opportunities to reduce exposure to the effects of climate change. In particular, it may be appropriate to develop rules for Goal 7 for Areas Subject to Natural Hazards.⁶ There may be other goal provisions that could be revised to improve local governments' ability to adopt local climate change adaptation plans. In addition, the FEMA standard for regulating floodplains may not be sufficient to avoid significant flood damage to property or infrastructure.

Existing Efforts and Resources

The department is not actively considering changes to state land use goals or rules to adapt to climate change.

Policy and Rule Development Actions

- **6A Program review.** Assess the effect of the Statewide Planning Goals and administrative rules to 1) identify provisions that could have unintended consequences by reducing community resiliency; and 2) identify provisions that could be revised to improve community resiliency.
- **6B Encourage local provisions that exceed standards.** The department can encourage communities to adopt regulations for floodplain development that exceed FEMA standards. For example, the department could encourage communities to require that all development in the 500-year floodplain meet standards for development in the 100-year floodplain.
- **6C Program amendments for hazards.** Amend planning goals or administrative rules to require local plans to restrict development in areas subject to climate hazards.

⁶ The rule needs to clarify "Section B: Response to New Hazard Information," and in particular to address questions like: What data are appropriate to trigger review? In what format should the data be submitted, and should it meet data quality standards? What criteria should be used for review? Who needs to be consulted? How much time should be allowed for review? Should there be an appeal process?

- **6D Program amendments for natural resources.** Require local governments to protect Goal 5 natural resources and areas such as wetlands, wildlife habitat and riparian areas that serve to buffer development from the effects of a variable and changing climate.
- **6E Draft and adopt implementing regulations for Goal 7**. Goal 7 requires DLCD, in consultation with affected state and local governments, to review new hazard information and to notify local governments if the new hazard information requires a local response. Regulations are needed to clarify how to implement this Goal 7 requirement.

Attachment **B**

Attachment B: Urban Mitigation Element of the Climate Change Strategy

I. Commission and Department Role in Urban Mitigation

The commission's and department's role is to advocate for and support changes to the land use program and local plans and regulations that result in land use patterns and transportation options would significantly reduce vehicle miles travelled (VMT) in order to reduce emission of greenhouse gasses (GHG). This will be achieved primarily by promoting compact, mixed use development, particularly in metropolitan areas. LCDC/DLCD have a lead role in identifying need for change, making changes to statewide planning goals and rules, and providing leadership for state and local planning as it relates to land use changes. The objective for this element of the strategy is to foster and support the adoption of local land use plans, policies, and regulations that achieve or exceed Oregon's targets for reducing greenhouse gas emissions.

Geographic scope

Work to achieve this objective would focus on metropolitan areas and nearby communities.

Level of effort required

Significant changes to existing plans, goals and regulations will be needed. Existing goals, rules and programs encourage and support more compact development but available information indicates that substantially more will need to be done to achieve the level of VMT reduction that is likely to be necessary for land use to meet its share of statewide targets for VMT/GHG emission reductions.

The department has some resources in the joint ODOT-DLCD TGM program which, in part, do work which supports this objective.¹ However, significant new resources will be required to retool policies and to support preparation of changes to local plans to meet targets. Given the incremental nature of change to plans and development practices, this is likely to be an ongoing responsibility for the department.

Conclusion

¹ TGM funds support five full-time positions in DLCD. Approximately two positions provide support for transportation planning and implementation of the transportation planning rule and coordination with ODOT, MPOs and local governments. This includes reviewing and commenting on TSPs and other transportation plans, review of transportation related plan amendments, and provision of technical advice to implement the TPR. The other three positions are dedicated to managing three community assistance programs—Outreach, Quick Response, and Code Assistance—which provide direct assistance to local communities to address transportation-related growth management problems using consultant services. DLCD TGM staff also participate in review and approval of TGM grants. Each biennium TGM funds approximately 50 grant projects throughout the state for detailed transportation planning work and integrated land use and transportation planning projects. Many of these projects involve planning which supports compact development and increased transportation options which would help achieve VMT reduction.

Changes to land use program will be needed to reduce VMT to meet GHG emission reduction targets. While existing efforts, including Goal 14, the TPR, the TGM program, and related requirements, move Oregon communities in the right direction, significant new efforts will be needed. Experience to date indicates that achieving changing land use and development patterns to favor compact, mixed use and transit oriented development over more conventional auto-oriented development is difficult and that it takes substantial time and resources to gain consensus for change to plans and zoning and real public leadership at the local level.

II. Work Program and Possible Actions for Urban Mitigation

Activity 1: Community Engagement

Increase public understanding about the effects of land use patterns on VMT and greenhouse gas emissions. Increase public understanding and support for planning for compact mixed use development that builds in transportation options as an effective strategy to reduce greenhouse gas emissions.

Existing Efforts and Resources

TGM program advocates for smart, transportation efficient growth, which includes but is not limited to efforts to reduce VMT. The TGM outreach program is currently preparing a Climate Change Planning handbook, outlining planning actions local governments can take to reduce VMT and greenhouse gas emissions.

Community Engagement Actions

1A TGM Outreach. Use TGM Outreach and Education Program to prepare and distribute materials to local officials and public discussing goals and options for land use planning to reduce GHG emissions and VMT

1B DLCD Outreach.

- Advice and assistance to local governments by DLCD regional representatives and planning specialists
- Participate in metropolitan planning organization (MPO) advisory committees, Planners Network Meetings, coordination with LOC, AOC, and APA; participation in ERT
- 1C MPO Outreach. Expand outreach to MPOs and local governments to address climate change. Outreach workshop(s) to MPOs and local governments on scenario planning for VMT reduction .

Activity 2: Coordination with other agencies

The department will work with affected state agencies (ODOT, DEQ, and GWC) to provide clear coordinated state policy direction to MPOs and local governments on state strategy to reduce VMT emphasizing planning and investments to support compact, mixed use development patterns to reduce VMT.

Existing Efforts and Resources

Limited. Director and department staff participate in work of Global Warming Commission.

Options

- 2A Interagency Coordination. Work with ODOT, MPOs, DEQ and FHWA to expand efforts to address VMT reduction in current MPO planning process. Comment on metropolitan planning organization work plans, support expanded federal funding to MPOs to address this issue
- **2B** Interagency Climate Change Work Group. Formalize consultation with other agencies: interagency work group on planning for VMT reduction. Representatives of MPOs , ODOT, and Transit Districts

Activity 3: Technical Advice and Assistance

Provide information, advice and tools for use by local governments to more effectively consider VMT/GHG impacts of alternative land use and transportation planning decisions. Develop tools that quantify VMT reduction benefits of different land use and transportation measures.

Existing Efforts and Resources

Technical advice and assistance on planning for land use patterns to reduce VMT is one part of the mission of the TGM program. Current level of effort on this is limited to coordination with other agencies (MPOs, ODOT) and work on the Climate Change Handbook. In past, TGM program has played a more active role in developing tools and models for use by local governments.

Options

- **3A GHG/VMT impact tool.** Work with ODOT to develop tools for local governments to evaluate effects of different land use patterns and impacts of individual developments.
- **3B** Model Ordinances for GHG impact review. Use TGM Code Assistance Program to develop model ordinances for reviewing development for GHG impacts (likely tied to vehicle trip emissions)
- **3C** Model ordinances for best development practices. Update TGM model code to provide best development practices guidance for development that reduces VMT higher density, mixed use, bike and pedestrian friendly development
- **3D** Scenario Planning Tools. Develop method for local governments to evaluate GHG emission effects of different land use patterns to support scenario planning for future land use in metropolitan areas and other larger areas and for counties to use in preparing future population allocations.
- **3E** Informal Planning Guidance. Develop policy papers with guidance for local governments to integrate VMT reduction into other required planning related to future urban planning:
 - UGB amendments and Urban Reserves
 - Economic Opportunities Analysis
 - Housing Needs Analysis
 - Transportation System Plan updates

- County population forecasting
- Goal exceptions
- Destination resort siting

Activity 4: Review and comment on ongoing planning actions and studies

Provide advisory comments to local governments and state agencies about likely VMT/GHG impacts of proposed planning actions on land use patterns. The department would expand its role in commenting on proposed planning decisions to address GHG/VMT impacts. The department would encourage and support plans that result in climate friendly development; and discourage or suggest changes to those that would increase VMT. The department would also suggest alternative courses of action or conditions of approval that would be consistent with VMT reduction objectives. In general, the department would encourage locals to make land use changes that promote compact development, higher density, close in mixed use development, and discourage land use actions that work against compact development.

Existing Efforts and Resources

Department participates in a advisory capacity in review of plan amendments, zone changes as well as a range of local planning studies, and reviews and comments on major planning studies by other state agencies. Scope of department's review is generally limited to compliance with statewide planning goals and rules and does not directly address climate change.

Options

- **4A Plan, UGB and Urban Reserve Amendment Review.** Expand scope of department plan amendment review to provide advisory recommendations about GHG/VMT impacts of proposed plan and land use regulation amendments.
- **4B Periodic Review.** Incorporate consideration of GHG/VMT impacts and implementation of reduction goals into periodic review work programs for cities in and near metropolitan areas.
- 4C Major Local Land Use Decisions. Comment on major local land use decisions that would change land use patterns in a way that would significantly affect GHG/VMT
- **4D** State Agency Plans and Programs. Comment on major planning actions or studies by other state agencies that would affect land use patterns in a way that would significantly affect GHG/VMT, including major plans for housing, sewer, water, schools, and roads
- **4E Proposed public investments.** Review and comment on proposed public investment decisions that would affect GHG emissions, including schools, hospitals roads, sewer, water, public or assisted housing

Activity 5: Grant Programs

The department would redirect or target available grant resources to support plan updates that support compact mixed use development and transportation options that reduce VMT. Since the TGM program is the major grant program for this work and is jointly managed with ODOT,

decisions about the program would need to be coordinated with ODOT.² Similarly, decisions about DLCD grant programs need to be made in consultation with the DLCD grants advisory committee.

Existing Efforts and Resources

The TGM program provides grants to local governments to update transportation plans and support integrated land use and transportation planning. This, in part, supports planning that promotes compact mixed use development that would support reduced VMT.

Options

- **5A Revise DLCD Grant Criteria.** Add criteria to review of DLCD grant applications to consider whether proposed grants support land use patterns and development consistent with or further VMT reduction. Give priority to proposals that will mitigate effects of climate change.
- **5B** Allocate Portion of DLCD Grant Funding. Direct a portion of DLCD planning assistance and periodic review grant funds to support planning that pursues land use changes that reduce VMT/GHG emissions.
- **5C Condition DLCD Grants.** Require DLCD grant projects to include work that evaluates VMT impacts of alternatives. Require grant projects to include work to evaluate GHG impacts of alternatives, consider alternatives that would support climate change mitigation, and require selection of an alternative that both achieves local objectives and mitigates climate change effects. Get Grants Advisory Committee on-board.
- **5D TGM Grants.** Work with ODOT to target more TGM grant funds to local efforts to make land use and transportation plan changes that reduce VMT.
- **5E TGM Code Assistance Projects.** Redirect TGM code assistance projects to support work in metropolitan areas to make code amendments that address climate change.
- **5F TGM Quick Response projects.** Give priority to TGM Quick Response projects that promote land use changes that reduce VMT, especially infill and redevelopment in downtown areas, transit oriented development and mixed use development.
- **5G Other grant programs.** Direct other grant programs (coastal, floodplain) to support planning for compact growth and reduced VMT.

Activity 6: Policy and Rule Development

As noted above, it is likely that significant changes to land use and transportation plans will be needed to achieve VMT reduction needed to meet state GHG emission reduction targets. New or amended or rules will be needed to guide changes to plans. To support such changes, the department and commission should conduct a more t detailed assessment of changes to plans, policies and regulations needed to meet goals for GHG emission reductions.

² The TGM program is supported primarily with federal transportation funds, so any changes to the program would also need to address federal funding requirements. Changes would also require consultation with the TGM Advisory Committee.

Existing Efforts and Resources

Minimal. The department participates in Global Warming Commission committee meetings.

<u>Options</u>

- 6A Study to assess land use changes needed to meet VMT GHG Targets. Conduct a state level study of land use changes needed to meet GHG/VMT reduction goals High level analysis of future development patterns and VMT based on existing plans and evaluation of 1-3 scenarios that would alter assumptions about land use and transportation. Likely based on GreenSTEP model work by ODOT.³
- **6B** Evaluation of policy changes needed to change land use patterns. Based on 6A, identify changes needed to existing policies and rules needed to achieve land use patterns that are most likely to achieve GHG/VMT reduction targets. Would also identify changes to other state agency plans, programs or rules. Identify key planning, policy actions and investments that would be needed to accomplish scenarios that substantially reduce GHG.
- **6C TPR Evaluation.** TPR previously required planning for VMT reduction of five to ten percent. Current rule requires locals adopt their own standards and benchmarks to monitor progress. The rule commits Commission to regularly review progress. The most recent evaluation was completed in 2004 and led to rule amendments in 2006.
- **6D Consider GHG/VMT Reduction in all LCDC rulemaking.** Explicitly evaluate and consider VMT and GHG impacts of any proposed rulemaking. As appropriate add provisions to require consideration of GHG emissions VMT reduction targets in new or amended rules
- **6E Prepare rules implementing Jobs and Transportation Act (HB 2001).** Draft provisions of the JTA direct LCDC to adopt rules guiding preparation of land use scenarios by MPOs over 200,000 (Portland, Salem-Keizer, and Eugene-Springfield) and subsequent adoption and implementation of a preferred scenario by the local governments in these MPOs. If JTA is adopted, adopt rules to implement the Jobs and Transportation Act (JTA) requiring specified metropolitan areas to conduct scenario planning and to adopt plans to reduce VMT.
- **6F** Require that plan amendments, UGB amendments, and Urban Reserve designations evaluate VMT effects. Consider and adopt rules requiring local governments to include findings in plan amendments and zone changes that address GHG impact.

³ The study would explore how future land use patterns would need to look like to accomplish anticipated reductions in vehicle travel. Use GIS to prepare broad scenarios evaluating effect of existing plans, policies and investments through 2050 and likely GHG impacts, and identify one to three alternative scenarios for growth and investments that would substantially achieve VMT reduction. A similar effort was conducted in the early 1990s to evaluate the effectiveness of urban growth boundaries (the Urban Growth Management Study). That study led to changes in state laws, rules and creation of TGM program to support more compact, efficient development patterns within urban growth boundaries.

Attachment C

Attachment C: Other Mitigation Element of the Climate Change Strategy

This element of the strategy contains two parts. The first part addresses the way the land use program can help increase the sequestration of carbon. The second part addresses various ways that land use and the land use program can contribute to the conservation of energy and the development and use of non-carbon forms of energy.

I. Commission and Department Role in Carbon Sequestration

The commission's and department's role in the sequestration of carbon is to advocate for and support changes to the land use program and local plans and regulations that will promote carbon sequestration through increased protection and improved management of forest lands. This includes promoting better protection of the forest land base, permanent land preservation, and the restocking and restoration of forest areas.

The primary objective for the sequestration element of the climate change strategy is to promote protection and management of resource lands, conservation lands, and natural resource areas that increase carbon sequestration

LCDC and DLCD have lead roles in implementing the land use program to achieve objectives related to climate change, and in identifying changes to statewide planning goals and rules that may be warranted to increase carbon sequestration.

Geographic scope

Efforts related to carbon sequestration under the climate change strategy should focus primarily on rural areas, although there may also be opportunities to increase sequestration in urban areas. Sequestration can occur through: 1) better protection and management of forest lands in rural areas; 2) promotion of urban forests; and 3) restoration of riparian buffers, including forest cover, in both rural and urban areas.

Level of Effort Required

Existing goals, statutes and rules encourage and support forest land protection. Better tracking, mapping and recognition of forest conversion patterns are needed to forestall the loss of forest cover and its likely long-term impacts on climate change. Some changes to existing plans and regulations will be needed. The implementation of any program to provide for the transfer of development credits will likely require more resources than what the department presently provides for the protection of resource lands. Efforts to use local plans to increase carbon sequestration will be enhanced by developing GIS data for rural lands and a computerized system for reporting local land use decisions by counties, and by tracking cumulative land use changes. Full use of geographic information systems will also require appropriate training for staff.

Conclusion

The land use program already supports sequestration efforts by conserving the state's forest land base. There will be opportunities to increase carbon sequestration largely by non-regulatory

means. The sequestration element of the climate change strategy will emphasize outreach, partnerships, and technical assistance. Implementation of a pilot program to provide for the transfer of development credits will require additional resources.

II. Work Program and Possible Actions for Sequestration

Activity 1: Community Engagement

DLCD can work with public and private entities in partnerships to promote carbon sequestration through forest management practices, and to increase public understanding about the importance of managing forest lands to increase carbon sequestration.

Existing Efforts and Resources Nothing currently

Community Engagement Actions

- **1A Sequestration outreach.** Using various forums, DLCD will provide information on the effect of local plans on carbon sequestration to local governments and other planning partners.
- **1B Partnerships for Transfer of Development Credits (TDCs).** Work with a variety of partners to find potential participants and service providers for a pilot program to provide for the transfer of development credits..

Activity 2: Coordination with Other Agencies

Work with affected state agencies to provide clear policy direction to local governments to protect and best manage resource lands and natural resources.

Existing Efforts and Resources

DLCD works with the Department of Agriculture and Department of Forestry to protect and manage Oregon's resource land base. The department is working with the Willamette Partnership and several state agencies on an environmental services crediting system that would promote sequestration. That program could be coordinated with local transfer of development rights programs.

Actions 4 1

2A State agency coordination. Work with ODFW and ODF to provide clear policy direction to local governments to protect and best manage forest resources.

Activity 3: Technical Assistance

Provide information, advice and tools for use by local governments to more effectively protect the resource land base and natural resources. Develop tools that quantify the benefits of sequestration.

Existing Efforts and Resources

DLCD works with DOF to protect and manage the forest land base. The department has guidance and model codes to promote protection of riparian buffers and preservation of trees inside UGBs.

Actions

- **3A Development of technical assistance guides**. Develop a handbook for local governments for creating development credit transfer programs. Provide technical assistance materials related to the effect of land use and land management on carbon sequestration.
- **3B Informal planning guidance.** With the support and assistance of other agencies and partners, develop guidance for local governments on how to integrate sequestration into planning for future development. Such guidance would address issues like the designation of Rural Reserves and non-resource lands, the conversion of forest lands, and how urban forests and trees can assist in protection of water quality.
- **3C Information system development.** Develop a GIS database on rural lands, a computerized system for reporting land use decisions, and a system to track cumulative land use changes.

Activity 4: Grant Programs

The department can redirect or target available grant resources to support plan changes that promote sequestration.

Existing Efforts and Resources Nothing currently.

Actions

- **4A Revise DLCD grant criteria.** Add criteria for review of DLCD grant applications to consider whether proposed grants support sequestration. Give priority to proposals that will improve sequestration.
- **4B Pilot TDC program.** Provide funds to develop a pilot program to provide for the transfer of development credits.

Activity 5: Plan Review

Provide comments to local governments and state agencies about the relative impacts of proposed planning actions on carbon sequestration. The department would expand its role in commenting on proposed planning decisions to address these impacts. The department would encourage and support plan amendments that result in climate-friendly land use patterns and practices and suggest changes to those that do not. In general, the department would encourage local governments to make land use changes that protect and enhance the commercial and conservation forest land base and urban forest resources.

Existing Efforts and Resources

Existing state and county regulations require fairly rigorous protection of the resource land base through zoning. This has enabled a fairly high degree of sequestration over the years. The department comments on PAPAs and provides assistance to local governments on forest land protection.

Actions

5A Plan and rural reserve amendment review. Expand scope of plan amendment review to include sequestration issues.

5B Periodic Review. Expand scope of periodic review to include sequestration issues.

Activity 6: Policy and Rule Development

The commission and the department can adopt regulations to implement a program to provide for the transfer of development credits. The department may also have the ability to influence current ODF interpretation of state statute so that cites and counties have more control over the management of trees and forested areas that serve environmental conservation functions such as carbon sequestration or shade.

Existing Efforts and Resources

The department is not actively considering changes to state land use goals or rules related to sequestering.

Actions

- **6A Fully implement Goal 5.** Amend the Goal 5 rule to set a time-certain for completing the Goal 5 process for riparian areas, wetlands and wildlife habitat. These resource areas can provide opportunity for enhanced sequestration of CO2.
- **6B Require periodic review for counties.** Require periodic review for counties, with particular attention to Goals 3, 4, 5, 6, 7, 8 and 13.
- **6C Adopt rules to implement TDC program.** Adopt rules to ensure that local Transfer of Development Credit (TDC) programs promote forest sequestration and permanent land preservation (SB 763 and HB 2228).
- **6D** Urban forest policy. Draft a policy on urban forest lands and conservation forest lands that distinguishes these resources from commercial forest lands. Use this policy to identify statute and rule changes that would be required for its implementation.

III. Commission and Department Role in Energy Conservation and Promotion of Noncarbon Energy Sources

Energy Conservation

Goal 13 requires that "Land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles." The potential impacts of climate change could lead the department and commission to assess the potential of Goal 13 to reduce greenhouse gas emissions. Energy conservation can help reduce greenhouse gas emissions. Compact development can conserve energy by consuming less material for infrastructure and building materials. Land development and architectural practices that promote the use of natural light, passive solar heating and tree canopies for shade can reduce energy demand in buildings.

Non-Carbon Energy Sources

Non-carbon energy sources such as wind, ocean, hydro, solar, geothermal and nuclear all have specific siting constraints, potential benefits, and conflicts with nearby land and near shore uses. Currently the land use program provides local governments with the authority to review and potentially require changes to proposals for new energy facilities. This authority may or may not be sufficient to address the potential for increased emphasis on non-carbon based energy production facilities. Some sources may warrant an assessment of different approaches for integrating non-carbon energy production facilities into the rural and urban landscape.

The primary objective for an energy-related element of the climate change strategy is to promote planning to reduce energy consumption and increase the use of non-carbon energy sources.

Geographic scope

The geographic scope of energy conservation and promotion of non-carbon energy sources is statewide, both rural and urban, and includes ocean areas under the Oregon Territorial Sea Plan.

Level of Effort Required

Taking full advantage of the state land use planning program to address energy conservation and promotion of non-carbon energy sources will require new capacity or redirection of existing resources.

Conclusion

Energy conservation and the production of non-carbon based energy are essentially new issues for the department. The department has some capacity to respond to proposals to develop oceanbased energy, but generally lacks the expertise to know exactly how energy issues may be integrated into local plans. This area warrants further investigation and collaboration with other state agencies, local governments, and the private sector. Recommendations for additional actions would likely result from such investigation and collaboration. More information and resources are necessary to integrate alternative energy issues into the land use program.

V. Work Program and Possible Actions for Energy Conservation and Promotion of Non-carbon Energy Sources

Activity 1: Community Engagement

Community engagement proposed under the adaptation and mitigation elements of the strategy can include energy conservation and the development, siting, and use of non-carbon energy sources.

Existing efforts and resources

The Oregon Coastal Management Program has engaged coastal communities in the process of identifying possible wave and ocean wind energy sites. Federal coastal resource management funds are available to continue this work. There is no staff activity related to other energy production issues.

Community Engagement Actions None proposed.

Activity 2: Coordination with other Agencies

Existing efforts and resources

The department will continue currents efforts to facilitate the development of renewable clean energy, including wave, wind, current, tidal and offshore thermal, within the state's territorial sea.

Coordination Actions

- **2A State agency coordination.** Review state agency plans for energy conservation and greenhouse gas reductions to assess their effect on land use, and provide recommendations to ensure compliance with state land use goals.
- **2B Transmission corridors.** Work with the Department of Energy and local governments to plan for future energy transmission corridors that will result from development of non-carbon energy sources

Activity 3: Technical Assistance

Existing efforts and resources

The Oregon Coastal Management Program provides data and tools for analysis and mapping to help evaluate potential marine reserve locations and ocean energy facility locations. This assistance is intended to facilitate the coexistence of these activities with fishing and other near shore activities.

The department currently provides local government with assistance in urban design to achieve several program objectives. Site design is an important component of efficient use of energy within the built environment. Existing expertise within the department could provide technical assistance and promote urban designs that conserve energy conservation through siting and building design.

Technical Assistance Actions

- **3A Technical Assistance Guides.** Develop technical assistance materials and model ordinance provisions for promoting alternative energy sources.
- **3B Informal Guidance.** Continue current efforts to facilitate the siting of wave energy facilities in the Oregon's coastal waters.
- **3C Information System.** Develop staff knowledge about energy efficient site design and distribute information to local governments.

Activity 4: Grant Programs

No activities at present, no actions proposed.

Activity 5: Plan Review

No activities at present, no actions proposed.

Activity 6: Policy and Rule Development

Existing efforts and resources

Goal 13 may provide an opportunity to develop land use planning strategies and mechanisms to conserve energy that might not otherwise occur under the other planning goals. No department resources are committed to Goal 13. Energy sources are a Goal 5 resource. There may be opportunities to use Goal 5 to facilitate the use of some non-carbon based energy sources. In

December 2008, LCDC successfully revised Division 33 to better guide the siting of wind energy generating facilities on farmland.

Energy Conservation and Promotion of Non-carbon Energy Sources Actions

- **6A Goal 13 review**. Review Goal 13 for its relevance and utility in reducing greenhouse gas emissions.
- **6B Goal 5 review**. Review the Goal 5 Rule for Energy Sources (OAR 660-23-0190) for its ability to accommodate non-carbon energy production and address conflicts related to energy facilities with large land or nearshore footprints.
- **6C.Wind energy facilities.** Revise administrative rules to better guide the siting of wind energy facilities on forest land.
- **6D Implement Goal 13**. Amend Goal 13 or adopt implementing rules to require local planning for energy efficient development. Provide incentives for cities to inventory and protect energy resources.



Department of Transportation Transportation Development Division Mill Creek Office Building 555 13th Street NE, Suite 2 Salem, OR 97301-4178

June 1, 2009

David Bragdon, President Metro Council 600 NE Grand Avenue Portland, OR 97232

Greetings Mr. Bragdon:

The Oregon Legislature has given the Oregon Transportation Commission (OTC) broad authority over the construction of tollways and the application of tolls on existing facilities, consistent with federal requirements. In response to this direction, the OTC is taking a deliberate and transparent approach to analyze and understand potential effects of tolling/pricing to determine if and how tolling could be applied in Oregon.

The Oregon Department of Transportation (ODOT) and the OTC would like to invite your organization/agency to participate in one or more discussion forums related to technical white papers that frame our initial stages of tolling and pricing policy development in the State of Oregon. The papers will be presented by the authors, who will also be available to answer your questions. These seven white papers evaluate and seek to understand several technical tolling issues and their implications to motorists, the transportation system and communities in Oregon:

- Paper #1—Is tolling an effective means of reducing greenhouse gas emissions?
- Paper #2—Where, geographically, could tolling work and under what circumstances?
- Paper #3—Forecasting change how do we incorporate tolling and pricing into our regional transportation models?
- Paper #4—What are the economics of transportation system reliability?
- Paper #5—How should the economic and social effects of broad applications of congestion pricing be assessed?
- Paper #6—How do you determine if tolling a project is a better alternative than other non-tolled options and how would you choose between a number of tolled alternatives?
- Paper #7—Are truck only toll lanes a viable option for Oregon?

Highlight documents summarizing each of the papers, the full papers, and other information on Oregon's tolling and pricing policy development process can be found on ODOT's Web site at http://www.oregon.gov/ODOT/TD/TP/Tolling_Background.shtml.

Seven forums will take place in June to share an overview of specific white paper topics and provide an opportunity to engage in discussion with other interested stakeholders from around the state. Based on your organization's focus, the following forums have been identified as most relevant:

- Paper # 1: June 19th, 9:00am-12:00pm, ODOT Region 1, Conf Rooms A/B, 123 NW Flanders, Portland, OR.
- Paper # 2: June 29th, 1:00-4:00pm, Lane Community College, Center for Meeting and Learning, 4000 E 30th Ave, Eugene, OR.

- Paper # 3: June 5th, 9:00am-12:00pm, ODOT HR Center, 2775 19th St SE, Salem, OR.
- Paper # 4: June 26th, 9:00am-12:00pm, ODOT Region 1, Conf Rooms A/B, 123 NW Flanders, Portland, OR.
- Paper # 5: June 8th , 9:00am-12:00pm, ODOT Region 1, Conf Rooms A/B 123 NW Flanders, Portland, OR.
- Paper # 6: June 22nd, 1:00-4:00pm, Holiday Inn Wilsonville, 25425 SW 95th Ave, Wilsonville, OR.
- Paper # 7: June 16th, 1:00am-4:00pm, Roth's West Salem, Oregon Room, 1130 Wallace Road NW, Salem, OR.

Please RSVP by Friday, June 4. To RSVP, please email <u>robert.a.maestre@odot.state.or.us</u> with the following details:

- Forum(s) you plan to attend
- Name of attendee(s)
- Email addresses for all attendees

Additional details on forum venues, driving directions, and other information will be sent to attendees after they RSVP. If any of attendees require assistance due to a disability, please contact Sharon Kautz at <u>Sharon.L.KAUTZ@odot.state.or.us</u>.

We look forward to seeing you in June. Your participation in these forums will help us determine the next steps in our process. Feedback gathered from the forums will be presented to the OTC this summer.

If you have any questions about this process, or are interested in learning more about other forums, please feel free to contact me at <u>robert.a.maestre@odot.state.or.us</u> or (503) 986-4165.

Sincerely,

Robert Maestre, Manager Long Range Planning Unit and Transportation and Growth Management Program Oregon Department of Transportation

Report Excerpt



CLICK HERE FOR FULL REPORT

THE ROUTE TO REFORM

BLUEPRINT FOR A 21ST CENTURY FEDERAL TRANSPORTATION PROGRAM

T4America.org

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1707 L Street NW Suite 250 Washington, DC, 20036



About Transportation for America

Transportation for America (T4 America) represents a broad range of national and local organizations and thousands of individuals focused on modernizing and maintaining our national transportation system infrastructure. Our members believe that sound investments in transportation are critical to the health of the nation's economy and essential for reducing our current dependence on oil.

As Congress takes up debate over the federal surface transportation program, T4 America joins many others in calling for the transformative change required to ensure our policies and programs are better aligned to serve the needs of a 21st Century America.

Congress should not shy away from restructuring the federal surface transportation program and its agencies. There is simply too much at stake for the economy, our environment, and the needs of Americans in every community across the country. We need a bold vision for the nation's transportation infrastructure investments that promotes maximum economic benefits, access to opportunity, public health and environmental sustainability for people living in urban, suburban and rural communities. It is particularly urgent that our roads, public transportation and rail systems be made safer and more accessible for the growing numbers of older Americans. This means planning our transportation systems – and our development patterns – to ensure that there are convenient and affordable travel options available to everyone, in every community, at every stage of life.

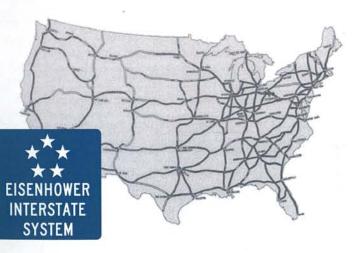
This document represents the best thinking of many transportation professionals, public officials, and stakeholders, who were convened by T4 America to outline in detail the policy frameworks that will build a national program capable of laying the groundwork for a prosperous future. In it is our sincere hope that members of Congress and their staff will find here the thoughtful guidance they seek as they undertake a heroic rewriting of transportation policy at this pivotal moment in our nation's history.

2. DEVELOP

5. REVISE

Executive Summary

In 1956, President Dwight D. Eisenhower signed into law the largest public works program in history, an infrastructure project that would reshape America in the 20th century. The National Interstate and Defense Highways Act, as it is commonly known, embodied a vision that America's cities and states could be linked with a network of superhighways that would allow people, commerce and the military to move rapidly from one part of the country to another.



Fifty years later, the Interstate Highway System has been built, and America stands in desperate need of a new vision for our national transportation system. Just as the Interstate highway bill answered some of the most pressing mobility needs of the rapidly growing nation in the mid-20th century, a new federal surface transportation bill must answer the vastly different needs of America in the 21st century. The next transportation program must set about the urgent task of repairing and maintaining our existing transportation assets, building a more well-rounded transportation network, and making our current system work more efficiently and safely to create complete and healthy communities. It should invest in modern and affordable public transportation, safe places to walk and bicycle, smarter highways that use technology and tolling to better manage congestion, long-distance rail networks, and land use policies that reduce travel demand by locating more affordable housing near jobs and services. And it should put us on the path towards a stronger national future by helping us reduce our oil dependency, slow climate change, improve social equity, enhance public health, and fashion a vibrant new economy.

Getting there from here will require some significant reforms. To meet these goals, the T4 America coalition offers four main recommendations for the upcoming transportation authorization bill:

- » Develop a New National Transportation Vision with Objectives and Accountability for Meeting Performance Targets.
- Restructure Federal Transportation Programs and Funding to Support the New National Transportation Vision and Objectives.
- » Reform Transportation Agencies and the Decision-making Process.
- » Revise Transportation Finance So We Can Pay for Needed Investments.

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Develop a New National Transportation Vision with Objectives and Accountability for Meeting Performance Targets

The next federal surface transportation bill should articulate a clear and compelling national vision with specific goals for implementation that will build and maintain a comprehensive National Transportation System. This system will be essential for helping us respond to the myriad challenges facing our nation today, including the economy, energy, public health, the environment, an aging population, and equal access and fair treatment for all communities and transportation users.

America in the 21st century needs a complete National Transportation System that includes safe, well-maintained, and efficient highway, rail and public transportation systems, as well as bicycling and pedestrian networks. T4 America calls on Congress to clearly **define the national interest and purpose of the federal transportation program** by adopting and implementing the following set of National Transportation Objectives:

- Improve Economic Competitiveness, Transportation System Efficiency and Workforce Development Opportunities
- 2. Improve Transportation System Conditions and Connectivity
- Promote Energy Efficiency and Achieve Energy Security

- Ensure Environmental Protection, Restore Climate Stability and Resolve Persistent Environmental Justice Issues
- 5. Ensure Safety for All Transportation Users and Improve Public Health Outcomes
- Provide Equal and Equitable Access to Transportation Options in Urban, Suburban and Rural Communities

The next federal surface transportation bill should hold state and local transportation agencies accountable for meeting the transportation needs of an increasingly diverse America and should focus on the needs of both our major metropolitan areas and our small towns and rural regions. In order to do so, the federal government should **establish performance targets** that correspond to the National Transportation Objectives, along with significant oversight measures, while looking to states and regions to develop the plans for achieving these outcomes within federal guidelines.

National Transportation Objectives & Targets

Objectives

Improve Economic Competitiveness, Transportation System Efficiency and Workforce Development Opportunities

Improve Transportation System Conditions and Connectivity

Promote Energy Efficiency and Achieve Energy Security

Ensure Environmental Protection, Restore Climate Stability and Resolve Persistent Environmental Justice Issues

Ensure Safety for All Transportation Users and Improve Public Health Outcomes

Provide Equal and Equitable Access to Transportation Options in Urban, Suburban and Rural Communities

2010-2030

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Performance Targets

Reduce per capita vehicle miles traveled by 16%

Triple walking, biking and public transportation usage

Reduce transportation-generated carbon dioxide levels by 40%

Reduce delay per capita by 10%

Increase proportion of freight transportation provided by railroad and intermodal services by 20%

Achieve zero percent population exposure to at-risk levels of air pollution

Improve public safety and lower congestion costs by reducing traffic crashes by 50%

Increase share of major highways, regional transit fleets and facilities, and bicycling/pedestrian infrastructure in good state of condition by 20%

Reduce average household combined housing + transportation costs 25% (use 2000 as base year)

Increase by 50% essential destinations accessible within 30 min. by public transit, or 15 min. walk for low-income, senior and disabled populations

Restructure Federal Transportation Programs to Support the New National Transportation Vision and Objectives

To achieve our national goals, T4 America calls on Congress to **restructure and consolidate**, federal programs away from single-mode "silos" towards greater integration, and provide the tools for states, regions and localities to develop solutions.

A core set of **National Priority Programs** should be established for:

- » Outcome-Based Planning;
- » System Preservation and Renewal;
- Access, Independence and Mobility Management for Seniors, Disabled and Low-Income Families;
- » Transportation Safety; and,
- » Energy Security for Clean Communities.

The next bill should include a set of multimodal programs, **geographically tailored** to meet mobility needs at the inter-regional, metropolitan, small town and rural levels to support highways, passenger and freight rail, public transportation and bicycle and pedestrian projects. It should also provide cities with direct funding for project implementation and provide new operating funding for public transportation agencies. The programs established in the next transportation bill should help us **complete our national transportation system**, with particular focus on expanding transportation options. Transportation for America supports programs that will build a modern, intercity passenger rail network, "green" our freight transport systems and our ports, and expand high-quality public transportation and bicycling and pedestrian networks within metropolitan areas. The goal of our investment program must be a nationally interconnected system of roads, rail, public transportation, pedestrian, and bicycling facilities.

Finally, a set of **Innovation Programs** should be created to spur states and communities to advance state-of-the-art transportation policies into state-of-the-practice. Strategies could include increasing research and development of new system management technologies, pursuing innovative least-cost projects, and implementing policies that anticipate future needs and demands.

Reform Transportation Agencies and the Decisionmaking Process

When the United States Congress passed the National Interstate Highways and Defense Act of 1956, it empowered the states to construct the 41,000-mile system of superhighways to connect the nation. Fifty years later, with most Americans living in metropolitan areas, our primary challenge is mobility within cities and their suburbs, rather than between regions. America's metropolitan regions face complex challenges that demand new approaches and more responsive institutions.

Proposed Federal _____ Transportation Structure

Geographically-Tiered Multimodal Access Program

Statewide Multimo	odal Access Program
Metropolitan Multi	imodal Access Program
Local Multimodal Rural Regions	Access Program for Cities and
Programs to (Transportation	Complete the National n System
Transportation	

Major Transit Capital Projects

Projects of National Significance

T4 America believes that, along with greater accountability, there must also be more local voices and local control in the transportation decisionmaking process.

T4 America proposes **empowering regions** to shape their future by giving them more direct funding and decision-making authority, while holding them accountable for results. The T4 America platform also calls for new approaches and practices such as "complete streets" policies that are designed to meet the needs of all users; the adoption of flexible design and mobility guidelines that emphasize cost-effectiveness; a new stormwater policy standard to reduce water

National Transportation Priority Programs



 Planning and Research

 Transportation System Preservation and Renewal

 State of Good Highway, Road, Trails, and Bridge Repair

 State of Good Transit Repair

 Access, Independence and Mobility Management

 Transportation Safety

 Energy Security for Clean Communities

 Innovation Incentive Programs

 Sustainability Challenge Grants

Active Transportation

Smart Communities Program

pollution from federally funded roadways; new incentives for affordable housing near public transportation; and local hiring and workforce development provisions to boost green jobs nationwide.

At the same time, the federal program must acknowledge the powerful, inevitable interaction between transportation investments and local growth and development, as well as the profound impact that development patterns have on the nation's economic, environmental and energy goals. T4 America proposes a new Blueprint Program that would empower major metropolitan areas with direct transportation funding and greater authority to select projects, in return for progress toward meeting national objectives. In addition, we recommend that state Departments of Transportation (DOTs) be required to develop statewide blueprints, in partnership with smaller Metropolitan Planning Organizations (MPOs), cities, and rural planning districts, that demonstrate how transportation investments across the state advance community goals and national transportation objectives. Once certified, state blueprints would provide the framework for state DOTs to lead on intercity and interstate investments, and also serve as the framework for investment decisions of funds sub-allocated to smaller MPOs, cities and rural planning districts. The Blueprint process also creates the framework to speed project selection and delivery by completing analysis of a comprehensive package of investments on the front-end.

Revise Transportation Finance So We Can Pay for Needed Investments

In the summer of 2008, Congress had to patch the highway trust fund with an \$8 billion infusion from the general fund. A similar fix may be needed again this summer. The nation needs to develop a sustainable method of raising revenue for federal transportation programs. **Increased revenues for transportation are needed, and T4 America is prepared to support a neardoubling of the current federal investment to** roughly \$500 billion over the next six years. However, neither we nor the American public will support this increase unless it is linked to real reform and can produce the sort of results outlined in this proposal.

T4 America believes the nation must diversify the funding sources for transportation and engage in an aggressive effort to spur innovation and develop new revenue strategies. Existing revenue projections for both the short and long term, coupled with growing needs for maintenance and construction, are clearly outstripping the capacity of the motor fuel tax. In the short run, it may be necessary to raise the federal gas tax, or to index it to inflation, in preparation for a transition to a tax based on vehicle miles traveled. This proposal includes options for other innovative finance mechanisms such as congestion pricing to pay for travel options in a given corridor, a National Infrastructure Bank, and a per-barrel surcharge on oil. T4 America proposes three distinct revenue alternatives that each would generate over \$500 billion for the next six-year authorization period.

As new revenue sources are developed, T4 America urges Congress to reform the program to create a **Unified Transportation Trust Fund** that would allow greater integration of surface transportation systems and help to balance allocations of federal dollars in a broader portfolio of investments in rail, freight, highways, bus, and non-motorized transportation.

COMMITTEE ON ENERGY AND COMMERCE U.S. HOUSE OF REPRESENTATIVES

MEMORANDUM May 16, 2009

TO: Members of the Committee on Energy and Commerce

FR: Democratic Staff of the Committee on Energy and Commerce

RE: Full Committee Business Meeting on May 18

On <u>Monday, May 18, 2009, at 1:00 p.m. in room 2123 Rayburn House Office Building</u>, the full Committee on Energy and Commerce will meet in open markup session to consider H.R. 2454, the American Clean Energy and Security Act of 2009 (ACES Act), comprehensive energy legislation to deploy clean energy resources, increase energy efficiency, cut global warming pollution, and transition to a clean energy economy.

In the past two and half years, the Committee has held dozens of hearings on energy and climate change policy and has built a detailed factual record on the need for legislation in this area. The nation's dependence on foreign oil has significantly increased over the last decade. Consumers have faced increasing and volatile energy prices. Other countries have overtaken us in the manufacture of wind and solar energy. Energy company investments are paralyzed because of uncertainty about what policies the Congress will establish. Meanwhile, global warming pollution has increased unchecked.

On March 31, 2009, Chairman Waxman and Chairman Markey released a discussion draft of the ACES bill to address these problems. Since that time, nearly 70 witnesses have testified before the Committee about the legislation. The views of members and stakeholders have been considered by the Chairmen and a revised version of the ACES bill was introduced on May 15, 2009.

Following is a description of major provisions of the ACES bill.

TITLE I – CLEAN ENERGY

Subtitle A – Combined Efficiency and Renewable Electricity Standard

Section 101, Combined Efficiency and Renewable Electricity Standard: Amends the Public Utility Regulatory Policies Act to require retail electric suppliers — defined as utilities that sell more than 4 million megawatt hours (MWh) of electricity to consumers for purposes other than resale — to meet a certain percentage of their load with electricity generated from renewable resources and electricity savings. The combined renewable electricity and electricity savings

requirement begins at 6% in 2012 and gradually rises to 20% in 2020. Up to one quarter of the 20% requirement automatically may be met with electricity savings. Upon petition of the governor of any state, the Federal Energy Regulatory Commission is authorized to increase the proportion of compliance that can be met with efficiency savings to up to two fifths for electric suppliers located within that state. This would reduce the renewable requirement for such States to a minimum of 12% renewables and up to 8% efficiency by 2020.

Defines renewable energy resources to include wind, biomass, solar, geothermal, certain hydropower projects, marine and hydrokinetic renewable energy, and biogas and biofuels derived exclusively from eligible biomass. Other qualifying energy resources include landfill gas, wastewater treatment gas, coal mine methane, and qualified waste-to-energy. An electric supplier's requirement is reduced in proportion to any portion of its electricity sales that is generated from certain existing hydroelectric facilities, new nuclear generating units, and fossilfueled units that capture and geologically sequester greenhouse gas emissions.

Requires retail electric suppliers to submit Federal renewable electricity credits and electricity savings each year equal to the combined target for that year times the supplier's retail sales. One renewable electricity credit is given for each MWh of electricity produced from a renewable resource. To encourage greater deployment of distributed generation, like small wind and rooftop solar, these projects are eligible for three credits for each MWh produced. Retail electric suppliers may submit, in lieu of a renewable electricity credits and demonstrated electricity savings, an alternative compliance payment equal to \$25 per credit (2.5 cents per kilowatt hour).

Electric suppliers choosing to use efficiency for a portion of their compliance are required to demonstrate achievement of electricity savings relative to business-as-usual projections through efficiency measures, including savings achieved through reductions in end-use electricity consumption attributable to equipment or facility upgrades, combined heat and power, and energy recycling (waste heat recovery). Electric suppliers may meet the efficiency standards either by achieving electricity savings directly or by using bilateral contracts to purchase savings achieved by other suppliers or distribution companies, states, or third-party efficiency providers.

Subtitle B – Carbon Capture and Sequestration

Section 111, National Strategy: Requires the EPA Administrator, in consultation with the heads of other relevant federal agencies, to submit to Congress a report setting forth a unified and comprehensive strategy to address the key legal and regulatory barriers to the commercial-scale deployment of carbon capture and sequestration.

Section 112, Regulations for Geologic Sequestration Sites: Amends the Clean Air Act to require the Administrator to establish a coordinated approach to the certification and permitting of sites where geologic sequestration of carbon dioxide will occur. Amends the Safe Drinking Water Act to establish a site certification program to ensure the environmental integrity of geologic sequestration sites. *Section 113, Studies and Reports:* Requires the Administrator to establish a task force to conduct a study of existing federal and state environmental statutes that apply to geologic sequestration, including the ability of such laws to serve as risk management tools, as well as other areas relevant to geologic sequestration and long-term stewardship of such sites. The section also requires a report to Congress on findings and consensus recommendations.

Section 114, Carbon Capture and Sequestration Demonstration and Early Deployment Program: Establishes a program for the demonstration and early deployment of carbon capture and sequestration technologies. Authorizes fossil-based electricity distribution utilities to hold a referendum on the establishment of a Carbon Storage Research Corporation. If approved by entities representing two-thirds of the nation's fossil fuel-based delivered electricity, the Corporation would be established and would be authorized to collect assessments from retail customers of fossil-based electricity. The Corporation would be operated as a division of the Electric Power Research Institute and would assess fees totaling approximately \$1 billion annually, to be used by the Corporation to fund the large-scale demonstration of CCS technologies in order to accelerate the commercial availability of the technologies.

Section 115, Commercial Deployment of Carbon Capture and Sequestration Technologies: Amends Title VII of the Clean Air Act to direct the EPA Administrator to establish an incentive program to distribute allowances to support the commercial deployment of carbon capture and sequestration technologies in both electric power generation and industrial applications. Establishes eligibility requirements for facilities to receive allowances based on the number of tons of carbon dioxide sequestered. The allowance disbursement program is structured to provide greater incentives for facilities to deploy CCS technologies early in the program and for facilities to capture and sequester larger amounts of carbon dioxide.

Section 116, Performance Standards for Coal-Fueled Power Plants: Amends Title VIII of the Clean Air Act to establish performance standards for new coal-fired power plants permitted in 2020 or thereafter. Describes eligibility criteria, applicable emission standards, and the schedule upon which such standards must be met. Plants permitted from 2009-2020 would be required to meet the initial standard after certain technology deployment criteria were met but no later than 2025.

Subtitle C – Clean Transportation

Section 121, Electric Vehicle Infrastructure: Amends the Public Utility Regulatory Policies Act to require utilities to consider developing plans to support electric vehicle infrastructure and to consider establishing protocols for integration with smart grid systems.

Section 122, Large-Scale Vehicle Electrification Program: Authorizes the Secretary of Energy to provide financial assistance for regional deployment and integration of grid-connected vehicles. Funds may be used for offsetting the incremental cost of purchasing new plug-in electric drive vehicles, deployment of electric charging stations or battery exchange locations, or facilitating the integration of smart grid equipment with plug-in electric drive vehicles. Makes data and results from the regional deployments publicly available.

Section 123, Plug-In Electric Drive Vehicle Manufacturing: Authorizes the Secretary of Energy to provide financial assistance for retooling existing factories for the manufacture of electric vehicles. Authorizes the Secretary of Energy to provide financial assistance to help auto manufacturers purchase batteries for first production vehicles.

Section 124, Investment in Clean Vehicles: Provides for distribution of allowances for plug-in electric drive vehicle manufacturing and deployment and advanced technology vehicles.

Subtitle D – State Energy and Environment Development Accounts

Section 131, Establishment of SEED Accounts: Creates a program for each state to establish a State Energy and Environment Development (SEED) Account, to serve as a state-level repository for managing and accounting for all emission allowances designated primarily for renewable energy and energy efficiency purposes.

Section 132, Support of State Renewable Energy and Energy Efficiency Programs: Distributes emission allowances among states for energy efficiency programs and renewable energy deployment and manufacturing support. At least 12.5% of the allowances are distributed to local governments for these purposes.

Subtitle E – Smart Grid Advancement

Section 141, Definitions: Provides relevant definitions.

Section 142, Assessment of Smart Grid Cost Effectiveness in Products: Instructs the Department of Energy and the Environmental Protection Agency to assess products evaluated for Energy Star ratings for benefits of Smart Grid capability.

Section 143, Inclusions of Smart Grid Capability on Appliance ENERGY GUIDE Labels: Instructs Federal Trade Commission to include relevant information on the ENERGYGUIDE labels for those products that include cost-effective Smart Grid capability.

Section 144, Smart Grid Peak Demand Reduction Goals: Requires the Federal Energy Regulatory Commission to coordinate and support a national program to reduce peak electric demand for load-serving electric utilities with peak loads in excess of 250 megawatts.

Section 145, Reauthorization of Energy Efficiency Public Information Program to Include Smart Grid Information: Amends the Energy Policy Act of 2005 to reauthorize the joint Department of Energy and Environmental Protection Agency energy efficiency public information initiative and expands the initiative to include information on smart grid technologies, practices, and benefits.

Section 146, Inclusion of Smart Grid Features in Appliance Rebate Program: Amends the Energy Policy Act of 2005 to expand energy efficient appliance rebate program to include

rebates for efficient appliances with smart grid features and capability. Clarifies program costsharing requirements from states.

Subtitle F – Transmission Planning

Section 151, Transmission Planning: Amends the Federal Power Act to establish a federal policy on electric grid planning that recognizes the need for new transmission capacity to deploy renewable energy as well as the potential for more efficient operation of the current grid through new technology, demand-side management, and storage capacity. Enhances existing regional transmission planning processes by incorporating this federal policy. Charges the Federal Energy Regulatory Commission with supporting, coordinating, and integrating regional planning efforts.

Subtitle G – Technical Corrections to Energy Laws

Sections 161-162, Technical Corrections to Energy Independence and Security Act of 2007 and Energy Policy Act of 2005: Makes technical corrections to the Energy Independence and Security Act of 2007 and the Energy Policy Act of 2005.

Subtitle H – Clean Energy Innovation Centers

Section 171, Clean Energy Innovation Centers: Establishes a program to support development and commercialization of clean energy technologies through eight regional Clean Energy Innovation Centers selected competitively by the Secretary of Energy. Centers may be awarded to consortiums consisting of research universities, private research entities, industry, and relevant state institutions. Each Center has a unique technology focus to which at least 40% of support would be directed.

Subtitle I – Marine Spatial Planning

Section 181, Study of Ocean Renewable Energy and Transmission Planning and Siting: Requires the Federal Energy Regulatory Commission, the Department of Interior, and the National Oceanic and Atmospheric Administration to jointly recommend an approach for the development of regional marine spatial plans for the siting of offshore renewable energy facilities. The Council on Environmental Quality determines whether the recommended approach should be implemented and coordinates the implementation.

<u>TITLE II – ENERGY EFFICIENCY</u>

Subtitle A – Building Energy Efficiency Programs

Section 201, Greater Energy Efficiency in Building Codes: Amends the Energy Conservation and Production Act to require the Secretary of Energy to support consensus code-setting organizations to establish building codes achieving 30% and 50% higher energy efficiency targets in 2010 and 2016, respectively, to establish codes directly if such organizations fail to do

so, to include cool roofs standards, and to support state and local adoption of such advanced codes by supporting training and funding for energy efficiency code enforcement.

Section 202, Building Retrofit Program: Establishes a program under which the Administrator of EPA, in consultation with the Secretary of Energy, supports development of standards and processes for retrofitting existing residential and nonresidential buildings. Authorizes the Secretary of Energy to provide funding to states to conduct cost-effective building retrofits, using local governments, other agencies or entities to carry out the work, through flexible forms of financial assistance up to 50% of the costs of retrofits, with funding increasing in proportion to efficiency achievement. Also supports retrofits of historic buildings.

Section 203, Energy Efficient Manufactured Homes: Establishes a program to provide federal rebates of up to \$7,500 toward purchases of new Energy Star-rated manufactured homes for low-income families residing in pre-1976 manufactured homes.

Section 204, Building Energy Performance Labeling Program: Establishes an EPA program to develop procedures to label buildings for their energy performance characteristics, using building type and consumption data to be developed by the Energy Information Administration. The program would be implemented by states in a manner suited to increasing public knowledge of building energy performance without hindering real estate transactions.

Subtitle B – Lighting and Appliance Energy Efficiency Programs

Section 211, Lighting Efficiency Standards: Amends the Energy Policy and Conservation Act to adopt negotiated agreements on technical standards for lighting, including outdoor lighting – street lights, parking lot lights, and parking structure lights – and portable light fixtures such as typical household and commercial plug-in lamps.

Section 212, Other Appliance Efficiency Standards: Amends the Energy Policy and Conservation Act to adopt consensus agreements on technical standards for hot food holding cabinets, bottle-type drinking water dispensers, portable spas (hot tubs), and commercial-grade natural gas furnaces.

Section 213, Appliance Efficiency Determinations and Procedures: Amends the Energy Policy and Conservation Act to improve the Department of Energy process for setting energy-efficiency standards by enabling adoption of consensus testing procedures; requiring the adoption of a new television standard; improving standard-setting cost-effectiveness formula; authorizing the Secretary to obtain product-specific information as needed; authorizing state injunctive enforcement of standards violations; changing the role of appliance efficiency in building codes; and including greenhouse gas emissions, smart grid capability, and availability of more-efficient models among factors affecting efficiency standard ratings.

Section 214, Best-in-Class Appliances Deployment Program: Creates a Department of Energy program to provide rewards to retailers for successful marketing of high-efficiency appliances, designating top performers as "best-in-class," and providing bonuses based on efficiency

improvement compared to average product. Provides additional rewards to retailers when bestin-class sale includes return and recycling of inefficient appliances. Creates program to reward manufacturers of new high-efficiency best-in-class models representing significant incremental energy efficiency gain.

Section 215, Purpose of Energy Star: Provides "Purpose" section for Energy Star provisions clarifying that Energy Star products must be cost-effective, recovering incremental purchase price in expected energy savings during a 3-5 year period.

Subtitle C – Transportation Efficiency

Section 221, Emissions Standards: Directs the President to work with the Department of Transportation, EPA, and California to harmonize, to the maximum extent possible, the federal fuel economy standards, any emission standards promulgated by EPA, and the California standards for light-duty vehicles. Requires and sets deadlines for EPA to establish greenhouse gas emissions standards for new heavy-duty vehicles and engines and for nonroad vehicles and engines, including new marine vessels and locomotives, aircraft, and aircraft engines. Such standards will be established using existing authorities.

Section 222, Greenhouse Gas Emissions Reductions through Transportation Efficiency: Amends Title VIII of the Clean Air Act to require states to establish goals for greenhouse gas reductions from the transportation sector and requires the submission of transportation plans to meet those goals by Metropolitan Planning Organizations for areas with populations exceeding 200,000 people. Imposes sanctions on states that fail to submit goals or plans. Authorizes a competitive grant program for development and implementation of plans.

Section 223, SmartWay Transportation Efficiency Program: Amends Title VIII of the Clean Air Act to expand an existing EPA loan and fuel saving technology deployment program, the SmartWay Transport Partnership, to help American truckers upgrade to more fuel efficient and less polluting vehicles.

Section 224, State Vehicle Fleets: Requires the Secretary of Energy to update state fleet rules to be consistent with current law.

Subtitle D – Industrial Energy Efficiency Programs

Section 241, Industrial Plant Energy Efficiency Standards: Requires the Secretary of Energy to establish standards for industrial energy efficiency and to seek recognition of result by American National Standards Institute.

Section 242, Electric and Thermal Energy Efficiency Award Programs: Creates an award program for innovation in increasing the efficiency of thermal electric generation processes, including encouragement for utilities to capture and separately market excess thermal energy.

Section 243, Clarifying Election of Waste Heat Recovery Financial Incentives: Clarifies Section 451 of the Energy Independence and Security Act of 2007 to ensure that those who recover waste energy can elect to receive the incentive grants provided in that section, or tax credits provided for combined heat and power, but not both.

Subtitle E – Improvements in Energy Savings Performance Contracting

Section 251, Energy Savings Performance Contracts: Amends the National Energy Conservation Policy Act to establish competition requirements for specific energy savings performance contract task orders.

Subtitle G – Public Institutions

Section 261, Public Institutions: Amends the Energy Independence and Security Act to include non-profit hospitals and public health facilities among public institutions eligible for grants and loans and clarifies loan and cost-share conditions.

Section 262, Community Energy Efficiency Flexibility: Amends the Energy Independence and Security Act to remove limits on funds received by communities through the Energy Efficiency and Conservation Block Grant program that can be used to fund revolving loan accounts or through sub-grants for purposes of the program.

Section 263, Small Community Joint Participation: Amends the Energy Independence and Security Act to allow small communities to join with other neighboring small communities in a joint program of sufficient size to be defined as an eligible local government recipient under the Energy Efficiency and Conservation Block Grant program.

Section 264, Low-Income Community Energy Efficiency Program: Authorizes grants to community development organizations to provide financing to improve energy efficiency, develop alternative, renewable, and distributed energy supplies, promote opportunities for low-income residents, and increase energy conservation in low income rural and urban communities.

Title III – REDUCING GLOBAL WARMING

Section 301, Short Title: Safe Climate Act.

Subtitle A – Reducing Global Warming Pollution

Section 311, Section 312, and Section 321, Reducing Global Warming Pollution: Establishes Title VII of the Clean Air Act to provide a declining limit on global warming pollution and to hold industries accountable for pollution reduction under the limit. Adds definitions to section 700 of the Clean Air Act.

Title VII – GLOBAL WARMING POLLUTION REDUCTION PROGRAM

Part A – Global Warming Pollution Reduction Goals and Targets

Section 701, Findings and Purposes

Section 702, Economy-wide Reduction Goals: States that the purpose of Title VII and Title VIII is to reduce economy-wide global warming pollution to 97% of 2005 levels by 2012, 80% by 2020, 58% by 2030, and 17% by 2050.

Section 703, Reduction Targets for Specified Sources: Directs the EPA Administrator to issue regulations to reduce emissions of covered sources to 97% of 2005 levels by 2012, 83% by 2020, 58% by 2030, and 17% by 2050.

Section 704, Supplemental Pollution Reductions: Directs the Administrator to achieve additional low-cost reductions in global warming pollution by using a small portion of the emissions allowances to provide incentives to reduce emissions from international deforestation.

Section 705, Review and Program Recommendations: Directs the Administrator to submit a report to Congress every four years. These reports will include: an analysis of the latest science relevant to climate change, an analysis of capacity to monitor and verify greenhouse gas reductions, and an analysis of worldwide and domestic progress in reducing global warming pollution. The reports will identify steps that could be taken to better improve our understanding of climate impacts, improve monitoring and verification, and any additional reductions in emissions that may be needed to avoid dangerous climate change.

Section 706, National Academy Review: Directs the Administrator to commission reports from the National Academy of Sciences every four years. These reports will include: an update on the progress of various clean technologies, and an evaluation of the most recent EPA report submitted under Section 705. The reports will identify steps that could be taken to better improve our understanding of climate impacts, improve monitoring and verification, speed the deployment of clean technology, and any additional reductions in emissions that may be needed to avoid dangerous climate change.

Section 707, Presidential Response and Recommendations: Directs the President to use existing authority to respond to recommendations in the reports. If the National Academy review confirms that further emissions reductions are needed, either domestically or globally, the President must submit a report to Congress recommending steps (including legislation) to achieve those reductions.

Part B – Designation and Registration of Greenhouse Gases

Section 711, Designation of Greenhouse Gases: Establishes a list of greenhouse gases regulated under this title: carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons (HFCs) emitted as a byproduct, perfluorocarbons, and nitrogen trifluoride. The Administrator may designate additional anthropogenic greenhouse gases by rule.

Section 712, Carbon Dioxide Equivalent Value of Greenhouse Gases: Lists carbon dioxide equivalents for each gas. Requires periodic review of equivalence values by the Administrator.

Section 713, Greenhouse Gas Registry: Directs EPA to establish a federal greenhouse gas registry and comprehensive reporting system for greenhouse gas emissions.

Part C - Program Rules

Section 721, Emission Allowances: Establishes an annual tonnage limit on greenhouse gas emissions from specified activities. Directs the Administrator to establish allowances equal to the tonnage limit for each year (with one allowance representing the permission to emit one ton of greenhouse gases, measured in tons of carbon dioxide equivalent).

Section 722, Prohibition of Excess Emissions: Prohibits covered entities from emitting or having attributable greenhouse gases in excess of their allowable emissions level, which is determined by the number of emission allowances and offset credits they hold. Electricity generators, liquid fuel refiners and importer, and fluorinated gas manufacturers are covered starting with emissions in 2012. Industrial sources that emit more than 25,000 tons of carbon dioxide equivalent per year are covered starting with emissions in 2014. Local distribution companies that deliver natural gas are covered starting with emissions in 2016.

In addition to emission allowances, covered entities are able to offset up to 2 billion tons of emissions by using EPA-approved domestic and international offset credits, split evenly between international and domestic offsets. The ability to use these offsets is divided pro rata among all covered entities. If the Administrator determines an insufficient number of domestic offsets are available, the number of international offsets available may be increased up to 1.5 billion metric tons. Beginning in 2017, covered entities using offsets must submit five tons of international offset credits for every four tons of emissions being offset. Covered entities may also submit an international emission allowance or compensatory allowance in place of a domestic emission allowance.

Section 723, Penalty for Noncompliance: Establishes penalties for parties that fail to comply with the program guidelines.

Section 724, Trading: Clarifies that the legislation does not restrict who can hold an allowance, nor does it restrict the purchase, sale, or other transaction involving allowances.

Section 725, Banking and Borrowing: Permits unlimited banking of allowances for use during future compliance years. Establishes a two-year rolling compliance period by allowing covered entities to borrow an unlimited number of allowances from one year into the future. Covered entities may also satisfy up to 15% of their compliance obligations by submitting emission allowances with vintage years 2 to 5 years in the future, but must pay an 8% premium (in allowances) to do so.

Section 726, Strategic Reserve: Directs the Administrator to create a "strategic reserve" of 2.5 billion metric tons of emission allowances by setting aside a small number of allowances from each year's tonnage limit. Establishes rules for releasing allowances from the reserve and for refilling the reserve if allowances from the reserve are sold.

Section 727, Permits: Clarifies the obligations of stationary sources under the Clean Air Act's Title V operating permit program under the newly-established Title VII program.

Section 728, International Emission Allowances: Establishes criteria that must be met before allowances from foreign programs can be used for compliance by covered entities.

Part D - Offsets

Section 731, Offsets Integrity Advisory Board: Establishes an independent Offsets Integrity Advisory Board composed of scientists and others with relevant expertise. The Advisory Board is charged with providing recommendations to the Administrator on: the types of offset project types that should be listed by EPA as eligible; potential levels of scientific uncertainty associated with certain offset types; appropriate quantification or other methodologies; and other areas of the offsets and deforestation provisions in the draft. The Board is also charged with conducting a regular review of all relevant areas.

Section 732, Establishment of Offsets Program: Directs the EPA Administrator to establish an offsets program and requires that regulations ensure offsets are verifiable, additional, and permanent.

Section 733, Eligible Project Types: Requires the Administrator to establish a list of offset project types that are eligible under the program, taking into account the recommendations of the Offsets Integrity Advisory Board. Provides guidelines for establishing and updating the list.

Section 734, Requirements for Offset Projects: Requires that for each offset project type, the Administrator establish standardized methodologies for determining additionality; establishing baselines; measuring performance; accounting for leakage; discounting for uncertainty; and addressing reversals.

Sections 735 - 737, Approval and Verification of Offset Projects; Issuance of Offset Credits: Establishes procedures to approve and verify offset projects. Requires the use of accredited third-party verifiers. Directs the Administrator to issue offset credits only if the emissions reduction or sequestration has already occurred and other specified conditions are met.

Section 738, Audits: Requires the Administrator to conduct, on an on-going basis, random audits of offset projects, offset credits, and practices of third-party verifiers.

Section 739, Program Review and Revision: Requires the periodic evaluation and updating of the offsets program, including revisions to project methodologies.

Section 740, Early Offset Supply: To ensure a supply of offset credits in the early years of the program, allows for the issuance of offset credits for offsets from programs that meet specified criteria. Such credits may only be issued for a limited timeframe and only for reductions achieved for a specified time period.

Section 741, Environmental Considerations: Provides requirements for additional environmental considerations for forestry projects.

Section 742, Trading: Provides that the trading provisions applicable to allowances are also applicable to offset credits.

Section 743, International Offset Credits: Allows the Administrator to issue international offset credits for activities that take place outside the United States. Requires that all international offset credits must meet the criteria established in preceding sections, unless for specified types of international offset credits compliance is infeasible and other safeguards for environmental integrity are established. In addition, requires that the United States be a party to a bilateral or multilateral agreement or arrangement with the country where an offset activity would take place before any international offset credits can be issued.

Requires the Administrator, in consultation with the Secretary of State, to identify sectors in specific countries in which the issuance of international offset credits on a sector-wide basis is appropriate. Establishes the terms under which the Administrator may issue international offset credits for other international instruments, specifically requiring a determination that the issuing international body has implemented substantive and procedural requirements for the relevant project type that provide equal or greater assurance of environmental integrity.

Establishes procedures and requirements regarding the issuance of international offset credits for activities that reduce deforestation. For major emitting nations, international offset credits can only be issued for national-scale activities, or for state or province-level activities in states or provinces that would themselves be considered major emitters. Smaller-scale offset projects are only allowed in countries that generate less than 1% of global greenhouse gas emissions as well as less than 3% of global forest sector and land

use change emissions. All countries must transition to national baselines to continue generating credits.

Part E – Supplemental Emissions Reductions from Reduced Deforestation

Section 751-752, Definitions and Findings: Defines forest carbon activities and finds that land use change, primarily deforestation, accounts for roughly 20% of global greenhouse gas emissions.

Section 753, Supplemental Emissions Reductions through Reduced Deforestation: Directs the Administrator of EPA, in consultation with the Administrator of USAID, to establish a program to build capacity in developing countries to reduce emissions from deforestation (including preparation to participate in international markets for deforestation reduction credits), to achieve emissions reductions in addition to those achieved under the domestic emissions limit, and to protect intact forest from any shifts in land use as a result of reduced deforestation in other areas.

Section 754, Requirements for International Deforestation Reduction Program: Directs the Administrators of EPA and USAID to support a broad range of activities to reduce deforestation, create markets for deforestation reduction credits, and reduce the leakage of emissions. Activities supported through this program must be environmentally sound and should protect the rights of indigenous groups and local communities. Support for emissions reductions must ensure that countries are transitioning to nationwide accounting of reduced deforestation.

Section 755, Reports and Reviews: Directs the Administrators of EPA and USAID to report annually to Congress on progress in reducing deforestation through this program and perform a review of the program every four years.

Section 756, Legal Effect of Part: Clarifies that this program does not supersede or limit any other federal or international law.

Subtitle B – Disposition of Allowances

Section 321, Disposition of Allowances for Global Warming Pollution Reduction Program: Provides for emission allowances to be distributed for three primary goals: to protect consumers from energy price increases, to assist industry in the transition to a clean energy, and to spur energy efficiency and the deployment of clean energy technology. Allocates a small amount of allowances to prevent deforestation and support national and international adaptation efforts and for other purposes.

Part H – Disposition of Allowances

Section 781, Allocation of Allowances for Supplemental Reductions: Directs the Administrator to allocate allowances for the program under part E to achieve

supplemental emissions reductions from reduced deforestation. Allocates 5% of allowances for the years 2012-2025, 3% for 2026-2030, and 2% for 2031-2050.

Section 782, Allocation of Emission Allowances: Provides for allocation of allowances to electricity consumers; natural gas consumers; home heating oil and propane consumers; low-income consumers, trade-vulnerable industries; investment in clean energy from coal; investment in energy efficiency and renewable energy; centers of excellence; clean vehicle technology; domestic fuel production; workers; domestic, wildlife, and natural resources adaptation; international adaptation; clean technology transfer; deficit reduction; and consumer rebates.

Section 783, Electricity Consumers: Provides approximately 30% of allowances to local electric distribution companies, whose rates are regulated by states, to protect consumers from electricity price increases. Provides approximately 5% of allowances for merchant coal generators and certain generators with long-term power purchase agreements. Provides for phase-out of allowances over a five-year period from 2026 through 2030.

Section 784, Natural Gas Consumers: Provides 9% of allowances to local natural gas distribution companies, whose rates are regulated by states, to protect consumers from electricity price increases. Provides for phase-out of allowances over a five-year period from 2026 through 2030.

Section 785, Home Heating Oil and Propane Consumers: Provides 1.5% of allowances to states for programs to benefit users of home heating oil and propane. Provides for phase-out of allowances over a five-year period from 2026 through 2030.

Section 786-788 [Reserved]

Section 789, Climate Change Rebates: Any unallocated allowances beginning in 2026 will be auctioned and the proceeds returned to consumers on a per capita basis as a climate change rebate.

Section 790, Exchange for State-Issued Allowances: Provides for fair compensation and exchange of allowances issued by the State of California, the Regional Greenhouse Gas Initiative and the Western Climate Initiative prior to commencement of federal program.

Section 791, Auction Procedures: Establishes single-round, sealed-bid, uniform-price auction procedures, which may be modified by the Administrator.

Section 792, Auctioning Allowances for Other Entities: Establishes rules by which the Administrator may auction allowances on behalf of other entities.

Section 793, Establishment of Funds: Establishes the Strategic Reserve Fund and the Climate Change Dividend Fund in the U.S. Treasury.

Section 331, Greenhouse Gas Standards: Establishes Title VIII of the Clean Air Act to achieve additional greenhouse gas reductions outside of Title VII.

Title VIII - ADDITIONAL GREENHOUSE GAS STANDARDS

Section 801, Definitions

Part A – Stationary Source Standards

Section 811, Standards of Performance: Requires the Administrator to use existing Clean Air Act authority (section 111) to set greenhouse gas emission performance standards for certain sources with greenhouse gas emissions that are not subject to the annual tonnage limit in Title VII. Precludes the Administrator from using existing Clean Air Act section 111 authority to issue standards for entities covered by Title VII that directly emit greenhouse gases.

Part C – Exemptions from Other Programs

Section 831, Criteria Pollutants: Provides that greenhouse gases may not be listed as criteria air pollutants on the basis of their effect on climate change.

Section 832, Hazardous Air Pollutants: Provides that greenhouse gases may not be listed as hazardous air pollutants on the basis of their effect on climate change.

Section 833, New Source Review: Provides that New Source Review shall not apply to greenhouse gas emissions.

Section 834, Title V Permits: Provides that greenhouse gases shall not be considered when determining whether a stationary source is required to operate pursuant to a permit under Title V.

Section 835, Existing Proceedings: Provides that this Act does not affect the requirements to be applied in existing administrative proceedings or litigation initiated under the Clean Air Act prior to the date of enactment, such that this legislation does not interfere with or determine the outcome of ongoing permit appeals. Further provides that new electric utility units subject to performance standards adopted under this Act are not subject to any new source review requirements with respect to greenhouse gas emissions.

Section 332, HFC Regulation: Regulates the production and consumption of HFCs, many of which are extremely potent greenhouse gases, under a separate limit and reduction schedule. Allowances are distributed through a combination of annual auctions and non-auction sales based on the auction price. HFC consumption will be phased-down to 15% of the baseline by 2032. Offset credits can be obtained through the destruction of chlorofluorocarbons (CFCs), which contribute to global warming and deplete the stratospheric ozone layer.

Section 333, Black Carbon: Directs the Administrator to report on existing efforts to reduce domestic black carbon pollution and, if necessary, to use existing authority to achieve further reductions. Directs the Administrator, in coordination with the Secretary of State, to report to Congress on current and potential future assistance to foreign nations to help reduce black carbon pollution.

Section 334, States: Preserves states' existing authority to adopt and enforce standards or limitations on air pollution under the Clean Air Act, including greenhouse gas emissions.

Section 335, State Programs: Bars states from implementing or enforcing a cap on greenhouse gas emissions between the years 2012 to 2017, but allows regulation of emissions by other means during this period.

Section 336, Enforcement: Provides that for petitions for review under the Clean Air Act, the court may remand an action of the Administrator without vacatur under specified circumstances. Requires the Administrator to take final action on a petition for reconsideration under the Clean Air Act within 150 days of receipt.

Section 337, Conforming Amendments: Provides for conforming amendments to Clean Air Act enforcement and administrative provisions to incorporate titles VII and VIII.

Subtitle D – Carbon Market Assurance

Section 341, Oversight and Assurance of Carbon Market: Amends the Federal Power Act to provide for strict oversight and regulation of the new markets for carbon allowances and offsets. Ensures market transparency and liquidity and allows trading in carbon allowance futures so that regulated entities can protect themselves against future cost increases and obtain the allowances they need for compliance at a fair price. The Federal Energy Regulatory Commission is charged with regulating the allowance and offset markets. The President is empowered to delegate regulatory responsibility for the derivatives markets to an appropriate agency, based on the advice of an interagency working group. Protects market participants from speculation and manipulation of carbon prices, including default position limits of 10% on carbon allowances and offset derivatives.

Subtitle E – Additional Market Assurance

Sections 351 through 358: Amends the Commodity Exchange Act to provide greater oversight of energy commodity derivatives and credit default swaps. Establishes default Commodity Futures Trading Commission regulatory authority over and regulations of allowance derivative markets.

TITLE IV – TRANSITIONING TO A CLEAN ENERGY ECONOMY

Subtitle A –Industrial Sector

Section 401, Ensuring Real Reductions in Industrial Emissions: Creates a program within Title VII of the Clean Air Act to ensure reductions in industrial greenhouse gas emissions through emission allowance rebates and international reserve allowances.

Part F – Ensuring Real Reductions in Industrial Emissions

Section 761, Purposes: Outlines the purposes of Subtitle A and the additional purposes of Part 1 of Subtitle A. The purposes of Subtitle A include: promoting a strong global effort to significantly reduce greenhouse gas emissions and preventing an increase in greenhouse gas emissions in foreign countries as a result of compliance costs incurred under title VII of the Clean Air Act, as added by ACES of 2009. The additional purposes of Part 1 include: compensating eligible domestic industrial sectors and subsectors for costs incurred under Title VII; limiting such compensation to amounts that meet the goals of the program; and rewarding innovation and facility-level investments in efficiency upgrades and performance improvements.

Section 762, International Negotiations: Finds that the purposes of this subtitle can be most effectively achieved through international agreements and states that it is the policy of the United States to work proactively under the UNFCCC and in other forums to establish binding agreements committing all major-emitting countries to contribute equitably to the reduction of global greenhouse gas emissions.

Section 763, Definitions: Provides relevant definitions.

Subpart 1 – Emission Allowance Rebate Program

Section 764, 765, Eligible Industrial Sectors, Distribution of Emission Allowance Rebates: Establishes a program that rebates to eligible industrial sectors and subsectors a sum intended to compensate entities in those sectors for the costs they incur as a result of complying with the pollution limit established by Title VII.

Instructs the EPA Administrator to annually distribute rebates to the owners and operators of entities in eligible industrial sectors. The Administrator is required to determine which facilities should be eligible for rebates through a rule based on an assessment of economic factors, including (1) the energy or greenhouse gas intensity in a sector and (2) the trade intensity in such sectors. Sectors meeting the listed criteria for both factors would be deemed eligible to receive rebates.

Rebates are distributed to eligible facilities on a product output basis, with compensation provided for both direct and indirect compliance costs. For direct compliance costs, allowance distribution is calculated by multiplying a facility's product output by the sector average tonnage of greenhouse gas emissions per unit of product output. For indirect costs passed on by electric utilities, allowance distribution is calculated by multiplying a covered or uncovered facility's product output (1) by the "emissions

intensity" of each facility's electric power supplier and (2) by the sector average electricity use per unit of product output.

Subpart 2 – International Reserve Allowance Program

Section 766, International Reserve Allowance Program: Establishes an international reserve allowance program, which may be implemented by the President beginning in 2025 pursuant to a determination under Part 3.

Subpart 3 – Presidential Determination

Section 767, Presidential Reports and Determinations: Requires the President to submit a report to Congress no later than January 1, 2018, regarding the effectiveness of the distribution of emission allowance rebates under Part 1 in mitigating the risk of increased greenhouse gas emissions in foreign countries resulting from compliance costs incurred under title VII.

Requires the President to make a determination, no later than June 30, 2022, and every four years thereafter, for each sector eligible for rebates under Part 1, of whether more than 70% of global output of that sector is produced in countries that meet at least one of the following criteria: (1) party to an international treaty to which the U.S. is a party that includes a nationally enforceable emissions reduction commitment that is at least as stringent as that of the U.S.; (2) party to an international sectoral agreement for that sector to which the U.S. is a party; (3) energy or greenhouse gas intensity for that sector that is equal or less than that of the U.S.; or (4) implemented emissions reduction policies that together impose a cost on that sector that is at least 60% of the cost of complying with Title VII for that sector in the United States.

If the President determines that less than 70% of global output of a sector is produced in countries that meet one or more of the above criteria, then the President shall continue emission allowance rebate program under Part 1 or implement the International Reserve Allowance Program under Part 2 or a combination of the two for that sector. In the absence of such a determination, the emission allowance rebates for entities in the sector will decline by 10% per year.

Part G – Petroleum Refineries

Section 771, Domestic Fuel Production: Provides 2% of allowances to domestic oil refiners starting in 2014 and ending in 2026.

Subtitle B – Green Jobs and Worker Transition

Part 1 - Green Jobs

Section 421, Clean Energy Curriculum Development Grants: Amends the Carl. D. Perkins Career and Technical Education Act of 2006 to authorizes the Secretary of Education to award grants to universities and colleges to develop programs of study that prepare students for careers in renewable energy, energy efficiency, and other forms of global warming mitigation. These grants are peer reviewed by experts with relevant experience in the areas being considered for funding.

Section 422, Increased Funding for Energy Worker Training Program: Increases the authorization for the Green Jobs Act, authorized in the Energy Independence and Security Act, from \$125 million to \$150 million.

Part 2 – Climate Change Worker Adjustment Assistance

Section 425-427, Petitions, Eligibility Requirements, and Determinations; Program Benefits; General Provisions: Establishes a program to entitle any worker displaced as a result of the Title VII of the Clean Air Act to be entitled to 156 weeks of income supplement, 80 percent of their monthly health care premium, up to \$1,500 for job search assistance, up to \$1,500 for moving assistance, and additional employment services for skills assessment, job counseling, training, and other services.

Subtitle C – Consumer Assistance

Section 431, Energy Tax Credit: In the event of any reduced purchasing power as a result of Title VII of the Clean Air Act, provides tax credits to the lowest-income households to compensate for such losses.

Section 432, Energy Refund Program for Low-Income Consumers: Directs the EPA Administrator to administer an "Energy Refund Program" to provide monthly cash energy refunds to low income individuals to compensate for any reduced purchasing power resulting from Title VII of this Act. Provides that energy refunds shall not be considered taxable income.

Subtitle D – Exporting Clean Technology

Sections 441-443, Findings and Purposes, Definitions, Governance: States that the purpose of this subtitle is to provide U.S. resources to encourage widespread deployment of clean technologies to developing countries. Establishes a Clean Technology Account administered by the State Department in consultation with an interagency group. The Account will supplement and not supplant other federal funding.

Section 444, Determination of Eligible Countries: Generally, only developing countries that have ratified an international treaty or agreement or have undertaken nationally appropriate mitigation activities achieving substantial greenhouse gas reductions are eligible for bilateral assistance. Least developed countries may use assistance to build capacity toward meeting eligibility criteria.

Sections 445, Qualifying Activities: Eligible projects must achieve substantial greenhouse gas reductions that are substantial, measurable, reportable, and verifiable. Eligible activities include deployment of carbon capture and storage, renewable electricity, efficiency projects, deployment of low-emissions technology, transportation reductions, black carbon reductions, and capacity building activities.

Section 446, Assistance. The Secretary of State is authorized to provide assistance through the distribution of allowances bilaterally, through an international fund, or through a multilateral institution pursuant to the UNFCCC. Preference is given to projects that promise to achieve large-scale greenhouse gas reductions, may catalyze widespread deployment of clean technology, build institutional capacity, and leverage private resources. To the extent practicable, assistance should reinforce other foreign policy goals.

Subtitle E – Adapting to Climate Change

Part 1 – Domestic Adaptation

Subpart A – National Climate Change Adaptation Program

Section 451, National Climate Change Adaptation Program. Establishes a climate change adaptation program within the U.S. Global Change Research Program.

Section 452, Climate Services. Establishes a National Climate Service within NOAA to develop climate information, data, forecasts, and warnings at national and regional scales and to distribute information on climate impacts to state and local decisionmakers.

Section 453, State Programs to Build Resilience to Climate Change Impacts: Distributes emission allowances to states for implementation of adaptation projects, programs, or measures, contingent on the completion of an approved State Adaptation Plan. Eligible projects include, but are not limited to, those designed to respond to extreme weather events such as flooding or hurricanes, changes in water availability, heat waves, sea level rise, ecosystem disruption, and air pollution.

Subpart B – Public Health and Climate Change

Sections 461. Sense of Congress on Public Health and Climate Change: States that it is the sense of Congress that the federal government should take all means and measures to prepare for and respond to the public health impacts of climate change.

Section 462, Relationship to Other Laws: Clarifies that nothing in the subpart limits authorities or responsibilities conferred by other law.

Section 463. National Strategic Action Plan: Requires the Secretary of Health and Human Services to prepare a strategic plan to assist health professionals in preparing for and responding to the impacts of climate change on public health with disease surveillance, research,

communications, education, and training programs. Authorizes the Secretary to implement these programs using authorities under this subpart and other federal laws.

Sections 464-465, Science Advisory Board, Reports: Establishes a science advisory board to advise the Secretary on science related to the health effects of climate change. Requires a needs assessment for health effects of climate change and periodic reports on scientific developments and recommendations for updating the national strategy.

Sections 466-467. Definitions, Climate Change Health Protection and Promotion Fund: Establishes a fund in the Treasury for carrying out this subpart. Funding will be distributed by HHS but may be made available to other agencies and state and local governments. Funding will supplement, not replace other public health funding.

Subpart C – Natural Resource Adaptation

Section 471-475, Purposes, Policy, Definitions, CEQ, Resources Adaptation Panel: States that it is the policy of the federal government to use all practicable means and measures to assist natural resources to adapt to climate change. Establishes a Natural Resources Climate Change Adaptation Panel, chaired by the White House Council on Environmental Quality, as a forum for interagency coordination on natural resources adaptation.

Section 476, Natural Resources Climate Change Adaptation Strategy: Requires the Panel to develop a strategy for making natural resources more resilient to the impacts of climate change and ocean acidification. The strategy must assess likely impacts to natural resources, strategies for helping wildlife adapt, and specific actions that federal agencies should take.

Section 477, Natural Resources Climate Change Adaptation Science and Information: Establishes a process through NOAA and the U.S. Geological Survey National Global Warming and Wildlife Science Center to provide technical assistance, conduct research, and furnish decision tools, monitoring, and strategies for adaptation. Requires a survey of resources that are likely to be adversely affected and the establishment of a Science Advisory Board to advise the science program and recommend research priorities.

Section 478, Federal Natural Resource Agency Adaptation Plans: Requires federal agencies to develop natural resource adaptation plans, consistent with the National Strategy, including prioritized goals and a schedule for implementation of adaptation programs within their respective jurisdictions.

Section 479, State Natural Resources Adaptation Plans: Requires states to develop Natural Resources Adaptation Plans as a condition for receiving funds under the programs in this subtitle.

Section 480, Natural Resources Climate Change Adaptation Fund: Establishes a Natural Resources Climate Change Adaptation Fund. Amounts in the fund will be distributed as follows:

38.5% of funds to states (32.5% for the Pittman-Robertson Wildlife Restoration Act, 6% for the Coastal Management Act); 17% of funds to the Department of the Interior for endangered species, bird, and Fish and Wildlife Service programs, wildlife refuges, and the Bureau of Reclamation; 5% to the Department of the Interior (DOI) for cooperative grant programs; 3% for tribes; 12% to the Land and Water Conservation Fund (1/6 to DOI for competitive grants, 1/3 for land acquisition under §7 of the Land and Water Conservation Fund Act, 1/3 to the Department of Agriculture for land acquisition, 1/6 to USDA for the Forestry Assistance Act); 5% to USDA for the Forest Service; 7.5% to EPA for freshwater ecosystems; 5% to the Army Corps of Engineers for freshwater ecosystems; and 7.5% to NOAA for coastal and marine ecosystems. All funds authorized must be used for adaptation activities, consistent with federal plans.

Section 481, National Wildlife Habitat and Corridors Information Program: Establishes a program in the Department of the Interior to support States and tribes in the development of a GIS database of fish and wildlife habitat corridors, and to facilitate the use of database tools in wildlife management programs.

Section 482, Additional Provisions Regarding Indian Tribes: Clarifies that nothing in this subpart amends federal trust responsibilities to tribes, exempts information on Indian tribe sacred sites or cultural activities from FOIA, and clarifies that the Department of the Interior may apply the provisions of the Indian Self-Determination and Education Assistance Act as appropriate.

Part 2 – International Climate Change Adaptation Program

Sections 491 –493, Findings and Purposes, Definitions, International Climate Change Adaptation: Establishes an International Climate Change Adaptation Program within USAID to provide U.S. assistance to the most vulnerable developing countries for adaptation to climate change. Resources allocated to this program will supplement and not replace other international adaptation assistance.

Section 494, Distribution of Allowances: The Administrator of USAID shall distribute allowances bilaterally and through multilateral funds or institutions pursuant to the UNFCCC. Multilateral institutions must receive between 40 and 60% of allowances; multilateral fund eligibility is contingent on developing world participation, transparency requirements, and community engagement.

Sections 495, Bilateral Assistance. The Administrator of USAID shall distribute allowances through public or private organizations to provide assistance to the most vulnerable developing countries for adaptation efforts. The Administrator must prioritize assistance based on vulnerability to climate change. The bilateral assistance program must ensure community engagement and consultation, and will seek to align broader US foreign policy goals with its assistance. The program may use its assistance to support projects, policies, or programs, or to build program capacity in developing countries.

Staff contact: Melissa Bez (5-4407)

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Joint Policy Advisory Committee on Transportation

MINUTES May 14, 2009 7:30 a.m. – 9:00 a.m. **Council Chambers**

MEMBERS PRESENT

Carlotta Collette, Chair Shane Bemis **Rex Burkholder** Nina DeConcini Fred Hansen Kathryn Harrington Donna Jordan Lynn Peterson **Roy Rogers** Jason Tell Ted Wheeler

MEMBERS EXCUSED

Sam Adams Craig Dirksen Royce Pollard Steve Stuart Don Wagner **Bill Wyatt**

ALTERNATES PRESENT

Jef Dalin Doug Ficco Susie Lahense Dean Lookingbill Troy Rayburn

AFFILIATION

Cities of Washington County WSDOT Port of Portland Representing City of Vancouver Clark County

STAFF: Andy Cotugno, Chris Deffebach, Tony Mendoza, Ross Roberts, Kim Ellis, Deena Platman, Ted Leybold, Kelsey Newell, Kayla Mullis, Pat Emmerson, John Mermin, .

www.oregonmetro.gov



AFFILIATION

Metro Council City of Gresham Metro Council Department of Environmental Quality TriMet Metro Council City of Lake Oswego, Representing Cities of Clackamas Co. Clackamas County Washington County Oregon Department of Transportation Multnomah County

AFFILIATION

City of Portland Cities of Washington County City of Vancouver Clark County Washington Department of Transportation Port of Portland

1. <u>CALL TO ORDER AND DECLERATION OF A QUORUM</u>

Chair Carlotta Collette declared a quorum and called the meeting to order at 7:33 a.m.

2. <u>INTRODUCTIONS</u>

Chair Collette welcomed Mr. Troy Rayburn, alternate for Clark County, and Mr. Jef Dalin, alternate for Cities of Washington County.

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

There were none.

4. <u>COMMENTS FROM THE CHAIR & COMMITTEE MEMBERS</u>

Mr. Andy Cotugno of Metro explained the Transportation for America's (T4 America) "Route to Reform: Blueprint for a 21st Century Federal Transportation Program" included in committee member's packets. The bill proposal is a detailed account of the legislation T4 America will be pursuing based on their ideals, which JPACT endorsed in January.

Chair Collette opened discussion around the current State legislative transportation package. The list of Portland metropolitan region projects funded under the current version does not include all of the projects the region hoped for. The committee discussed:

- Moratorium on the vehicle registration tax, which is included in the current version of the package;
- Preemption removing local control from jurisdictions;
- Aspects of the package that the region supports and avoiding destroying the whole package with objections; and
- Leaving lobbyist to continue this discussion in Salem using conversation from this JPACT meeting.

Mr. Jason Tell of ODOT updated the committee on the status of federal stimulus funds. ODOTRegion 1 has obligated 81% of their funds with one month to go in the obligation period.

5. <u>CONSENT AGENDA</u>

- Consideration of JPACT meeting minutes for April 9, 2009
- Approval of American Recovery and Reinvestment Act Back-Up Strategy
- Approval of Resolution No. 09-4053, For the Purpose of Amending the 2008-11 Metropolitan Transportation Improvement Program (MTIP) to Eliminate American Recovery and Reinvestment Act (ARRA) Funding for Three Projects and add ARRA Funding For Two Projects in Washington County

MOTION: Councilor Kathryn Harrington moved, and Mr. Fred Hansen seconded, to approve the consent agenda.

ACTION TAKEN: With all in favor the motion passed.

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

6.1 Overview of Local Aspirations and Implications for Transportation Investments Priorities

Ms. Chris Deffebach of Metro briefed the committee on the Local Aspirations program and transportation investment priorities. Local priorities and investments will help inform transportation decisions and provide technical assistance where it is needed. Ms. Deffebach discussed the following topics relating to local aspirations:

- The Activity Spectrum
- Local aspiration workshops
- Local Aspirations align with Region 2040 Vision
- Room for growth within current zoning capacities and adopted plans
- Barriers to achieving aspirations
- Need for a combination of regional and local actions and investments
- Next steps

6.2 Regional Transportation Plan (RTP) Investment Strategy Development

Ms. Kim Ellis and Ms. Deena Platman of Metro discussed the Regional Transportation Plan (RTP) investment strategy development. Next month, staff will ask JPACT for final direction on how to update the current federal investment priorities and build a larger state RTP investment strategy to release for public comment in September. A two-track strategy is being used to guide investment decisions. There is a significant and growing funding gap between money that is expected to be available and the transportation needs that have been identified to date. The JPACT retreat will focus on reaching agreement on an approach for prioritizing investments, and additional financing tools the region should consider pursuing to address unmet maintenance and capital needs. The financing tools discussion will be used to develop a funding threshold for the State RTP. Discussion included the following topics relating to development of the state RTP investment strategy:

- Federal and state policy requirements that guide investment priorities
- State greenhouse gas emission reduction goals
- RTP goals
- Building blocks to refine priorities
- Emerging discussion topics
- The Tigard case study linking local aspirations to RTP project priorities
- Need to integrate Transportation System Management & Operation (TSMO) plan strategies into RTP priorities
- Targeting local resources to leverage regional goals and aligning RTP priorities with community aspirations

The committee discussed how the freight and the TSMO plans will fit in with the rest of the state RTP investment strategy.

6.3 Resolution No 09-4052, For the Purpose of Adopting the Regional High Capacity Transit System Plan Corridor Map and Evaluation Criteria

Mr. Tony Menodza and Mr. Ross Roberts of Metro briefed the committee on Resolution No. 09-4052, which would adopt the regional High Capacity Transit (HCT) plan corridor map and evaluation criteria. A clear process has been created to guide how projects get developed and move into implementation. The three elements that make this process are the projects, the tier categories and the system expansion policy. Technical rankings determine which tier a project is placed in while the system expansion policy, which is modeled after the BART system in the Bay Area, furthers the advancement process between tiers. This process will take collaboration between jurisdictions and local actions.

Committee discussion included the following points:

- Relationship between HCT corridors and mobility corridors
- Integrated investment strategy
- Effects of building regional transit on state facilities
- Developing a healthy refinement system for how multi-modes will co-exist and how land use will be effected by HCT
- Importance of the structural process to advance priority corridors
- Improving communication to be prepared for side effects
- Timeline

7. <u>ADJOURN</u>

With no further business, Chair Collette adjourned the meeting at 9:06 p.m.

Respectfully submitted,

K.L. Mully

Kayla Mullis Recording Secretary

ATTACHMENTS TO THE PUBLIC RECORD FOR MAY, 14 2009

The following have been included as part of the official public record:

ITEM	TYPE OF DOCUMENT	DOC DATE	DOCUMENT DESCRIPTION	DOCUME NT NO.
4.0	Report	N/A	T4 America: The Route to Reform	051409j-01
4.0	Memo	5/4/09	OTC List of Approved Projects	051409j-02
4.0	Chart	5/12/09	ODOT Obligated ARRA Funds	051409j-03
4.0	Agenda	N/A	Draft Agenda for JPCAT Retreat on May 22, 2009	051409j-04
6.1	Power Point	N/A	Local Aspirations power point presentation	051409j-05
6.2	Memo	5/11/09	To: JPACT and Interested Parties From: Kim Ellis and Deena Platman Re: 2035 Regional Transportation Plan (RTP) Update – Mobility Corridor Workshops Summary	051409j-06
6.2	Power Point	N/A	Regional Transportation Plan power 051409	
6.2	Chart	4/24/08	Appendix 1.1- 2035 RTP Financially Constrained System Project List	051409j-08
6.3	Resolution	N/A	Updated Resolution No. 09-4052	051409j-09
6.3	Мар	N/A	HCT Transit Corridors	051409j-10
5.0	Letter	4/20/09	Washington County ARRA Funds	051409-11
5.0	Resolution	N/A	Resolution No. 09-4053 05140	
	Newsletter	Spring 09'	OTREC Newsletter 051409	

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Joint Policy Advisory Committee on Transportation RETREAT MINUTES

May 22, 2009 8:00 a.m. – 2:00 p.m. Oregon Zoo, Skyline Room

MEMBERS PRESENT

Carlotta Collette, Chair Sam Adams Rex Burkholder Craig Dirksen Fred Hansen Kathryn Harrington Donna Jordan Lynn Peterson Roy Rogers Ted Wheeler

MEMBERS EXCUSED

Shane Bemis Nina DeConcini Royce Pollard Steve Stuart Jason Tell Don Wagner Bill Wyatt

ALTERNATES PRESENT

Jef Dalin Dave Fuller Susie Lahense Alice Norris Rian Windsheimer

OTHER ELECTED OFFICIALS

Dennis Doyle Tim Knapp Rod Park Mark San Souchie

AFFILIATION

Metro Council City of Portland Metro Council Cities of Washington County TriMet Metro Council City of Lake Oswego, Representing Cities of Clackamas Co. Clackamas County Washington County Multnomah County

AFFILIATION

City of Gresham Department of Environmental Quality City of Vancouver Clark County Oregon Department of Transportation Washington Department of Transportation Port of Portland

AFFILIATION

Cities of Washington County Cities of Multnomah County Port of Portland Cities of Clackamas County ODOT

AFFILIATION

Mayor, City of Beaverton Councilor, City of Wilsonville Councilor, Metro Council Councilor, City of Beaverton <u>STAFF</u>: Dick Benner, Andy Cotugno, Kim Ellis, Pat Emmerson, Matthew Hampton, Kathryn Harrington, Cliff Higgins, Michael Jordan, Tom Kloster, Stephan Lashbrook, Ted Leybold, Lake McTighe, John Mermin, Kayla Mullis, Kelsey Newell, Deena Platman, Ross Roberts, Kathryn Sofich, Randy Tucker, Karen Withrow, Ina Zucker.

1. <u>WELCOME/INTRODUCTIONS</u>

Chair Carlotta Collette called the retreat to order at 8:06 a.m. The purpose of this retreat is to confirm the approach and timeline for the Regional Transportation Plan (RTP), explore financing tools and determine the scale of the state RTP investment strategy.

Committee members and audience members introduced themselves.

Michael Jordan, Metro Chief Operating Officer, outlined the process for the retreat. Committee members sat at one of three tables, each with a facilitator, recorder and technical staff, in order to brainstorm subjects throughout the day and report their discussion to the larger group. The three main agenda points were the RTP approach, financing and investment strategies and modes of operation.

2. <u>APPROACH FOR BUILDING RTP INVESTMENT STRATEGIES</u>

Ms. Kim Ellis of Metro briefed the committee on the approach for building the RTP and defining needs. This year has been primarily focused on local aspirations for communities in the region. In order to enable jurisdictions to actively achieve local and regional aspirations RTP priorities must align with them. Using the 2007 RTP priorities as a starting point, federal and state funding is declining leaving more responsibility at the local and regional level.

Ms. Ellis discussed the following topics regarding the RTP approach:

- Investment strategy framework: two track system
- Joint MPAC/JPACT meeting investment priorities
- State Policies directing the RTP
- Federal priorities
- Optimizing the system
- Managing demand
- Adequately addressing deficiencies
- Improving connectivity
- Measuring success

Ms. Ellis then discussed the following points regarding the RTP process:

- Role of local coordinating committees
- Timeline

Mr. Jordan then requested committee comments and approval or disapproval of the RTP approach and process. The committee discussed equity, health, multi-modal corridors, broad thinking on corridors, measuring success and accountability for different aspects of implementation. For a detailed summary of this discussion please see Attachment C.

The committee agreed to support the process and direction with the discussed enhancements, modifications and additions.

3. TRANSPORTATION FINANCE CHALLENGES AND IMPLICATIONS FOR REFINING FINANCE ASSUMPTIONS- ROAD RELATED OPTIONS

Mr. Andy Cotugno of Metro briefed the committee on the financing and investment aspect of the RTP. Metro would like a committee reaction on what funding level the region would like to aspire within a realistic framework.

The <u>road-related</u> investment and finance package brings forth questions around maintenance and capital. For maintenance and operation there is a shortfall of up 50% and growing because of a disparity between cost increases and revenue increases, largely due to the unreliability of the gas tax.

Mr. Cotugno outlined the following four road-related Operations Maintenance & Preservation (OM&P) funding scenarios:

- Existing Revenues
- 2009 State Package
- 2009 State Package + RTP Financially Constrained Revenues
- 2009 State Package + Local Street Utility Fee (SOF)
- 2009 State Package + Regional SUF

He then outlined the following five road-related capital funding scenarios:

- Existing revenues
- 2009 State Package + Colombia River Crossing
- Growth Pays (System Development Charges)
- Road User Fees at the state and regional/local level
- Tolling
- Shift local share of State Highway Trust Fund to Capital

Each table was then assigned the task of answering a set of questions concerning road-related funding options. For a complete list of questions please see Attachment A. Each table came up with a response and presented it to the larger group. For a detailed summary of the table discussion throughout the meeting please see Attachment C. The responses were as follows:

Table 1 OM&P Funding:

- Region should fund a base level of OM&P on an agreed to regional system through a regional street utility fee and allow local jurisdictions to impose additional fees depending on their need
- Gas tax: Try for \$0.01 per year, but expect the historical \$0.005 cent per year.

Capital Funding:

- Metro should charge a system development charge in the amount of the difference between what a jurisdiction has set and a regionally determined base amount
- State level funding should move off the gas tax and use VMT fees at an increase of one cent per year
- State vehicle registration fees should increase at two dollars a year and regional/local should increase at one dollar per year
- Tolling should be used, although revenue amount is unknown
- A sales tax should be imposed on car sales

Table 2

OM&P Funding:

- Expect one cent a year through a mix of fees
- Local street utility fee should start at three dollars and increase to 20 dollars over 20 years through a combination of local, county and regional street utility fees

Capital Funding:

- \$7,000 per house system development charge but perhaps scaled to the value of the home
- Vehicle registration fee increase at \$15 every eight years at the state and regional/local levels
- Tolling for specific projects
- County street utility fee

Table 3

OM&P Funding:

- State gas tax should increase with inflation and eventually shift to VMT fees
- Do not support regional street utility fee
- Tolling
- Concentrate spending in major transportation corridors

Capital Funding:

- System Development Charge (SDC) base fee scaled so total revenue will equal \$1 billion
- Local base SDC required for any regional assistance
- Tolling
- Vehicle registration fee increase at \$15 every eight years at the state and regional/local levels

For the completed funding worksheet please see Attachment B.

4. <u>TRANSPORTATION FINANCE CHALLENGES AND IMPLICATIONS FOR</u> <u>REFINING FINANCE ASSUMPTIONS- TRANSIT OPTIONS</u>

Mr. Cotugno then briefed the committee on transit-related finance and investment options. Unlike road-related funding, the main focus for transit is operations funding. Transit revenues fluctuate along with inflation and growth. Our current aspirations are much greater than the base line funding that will be available. The payroll tax is a primary source of funding for transit operations funding and is projected to increase to 0.72% within the next 5 years. In addition a capital-funding plan is needed to expand the operations.

Each table was then assigned the task of answering a set of questions concerning transit funding options. For a complete list of questions see the attachment to the public record titled "Transportation Finance Small-Group Discussion Questions." Each table came up with a response and presented it to the larger group. The responses are as follows:

Table 1

- Use payroll tax increase to fund operations *and* capital
- Focus service expansion funds on High Capacity Transit (HCT) and frequent bus with 60% for HCT and 40% for frequent bus
- Higher state and federal match for HCT

Table 2

- Progressive payroll tax with a total of .2% increase
- Would like to use 60% of service expansion funds for the regional system and then divide the reaming funds equally between frequent bus, streetcar and local bus.
- Would like a federal match of 75% for High Capacity Transit (HCT)

Table 3

- Payroll tax increase to 0.02% after discussion with business community
- Focus system expansion funds between HCT and frequent bus and give local communities opportunity to provide amenities (i.e. bus shelters and sidewalks) if they want more service
- Increase TriMet local match for capital funding

For the completed funding worksheet please see Attachment B.

5. <u>OVERVIEW OF TRANSIT FUNDING OPTIONS</u>

Mr. Cotugno summarized the responses to the funding questions from the three breakout tables.

Mr. Jordan reminded the committee that none of the chosen scenarios will result in the required reduction in total greenhouse gas emissions.

6. THANK YOU AND ADOJOURN

Chair Collette thanked the committee and reminded members that staff will now be charged with using the information from this retreat to refine the RTP into a draft package by September.

With no further business, Chair Collette adjourned the meeting at 1:45 p.m.

Respectfully submitted,

K.L. Mullis

Kayla Mullis Recording Secretary

ATTACHMENTS TO THE PUBLIC RECORD FOR MAY, 22 2009

The following have been included as part of the official public record:

ITEM	DOCUMENT YPE	DOC DATE	DOCUMENT DESCRIPTION	DOCUME NT NO.
	Memo 5/22/09 To: JPACT and Interested Parties		052209j-01	
			From: Metro Councilors	
			Re: Welcome to the JPACT Retreat at	
			the Oregon Zoo	
	Agenda	5/22/09	Revised Agenda for JPACT Retreat	052209j-02
			on May 22, 2009	
	Power Point	5/22/09	RTP: Recommended Approach to	052209j-03
			Refine Investment Priorities	
	Chart	N/A	Past RTP Funding Assumptions	052209j-04
	Handout	5/18/09	2035 RTP: Road Related Funding	052209j-05
			Scenarios	5
	Power Point	5/22/09	Road Related Funding Scenarios	052209j-06
			power point presentation	C C
	Power Point	5/22/09	Transit Related Funding Scenarios	052209j-07
			power point presentation	C C
	Chart	N/A	Historical LRT Funding Shares	052209j-08
	Chart	N/A	High Capacity Transit Ranked	052209j-09
			Corridors, based on technical analysis	5
	Table	N/A	Funding worksheet for small group	052209j-10
			work	
	Questionnaire	N/A	Transportation and Finance Small	052209j-11
			Group Discussion Questions	5

Transportation Finance Small-Group Discussion Questions

The following questions are a starting point for the small-group discussions on transportation finance choices. Your table recorder will fill out the yellow funding worksheet for your table based on the group's discussion. You may also turn in this handout and funding worksheet with your individual responses.

Road-related Operations Maintenance and Preservation (OMP)

Q1. At what level should the region fund road-related OMP?

- a. each city and county is on their own
- b. keep pace with inflation
- c. address the backlog and maintenance and keep pace with inflation

Q2. From what source(s) and at what "price points" should the region fund road-related OMP?

- a. state gas taxes
- b. local street utility fees
- c. regional street utility fees
- d. what combination

Road-Related Capital

Q1. What aspirational road/street/highway/bike/pedestrian modernization and management funding level should the state RTP be based upon?

- a. Equal to the historical record
- b. 25%, 50%, 100% increase over the historical record

Q2. What source(s) and at what "price points" should be pursued?

- a. Traditional road user fees
- b. Growth fees
- c. Tolls
- d. Shift OM&P to a regional street utility fee and divert existing highway trust fund revenues to capital investments
- e. A combination

Transit-Related Capital and OMP

- Q1. At what level should the region pursue expansion of transit operating funds?
 - a. Payroll tax increase of 0.1%? 0.2%?

Q2. For what purpose should the operating funds be increased?

- a. Expanded high capacity transit (HCT) service
- b. Expanded streetcar service
- c. Expanded frequent bus service
- d. A combination

Q3. What capital funding strategy should be pursued for HCT local match (assuming 60% FTA New Starts)?

- a. TriMet
- b. State
- c. Regional Flex
- d. Local

Road-Related Operations, Maintenance & Preservation Funding Choices

Funding Source	Scenario	TABLE 1 Price Point	TABLE 2 Price Point	TABLE 3 Price Point
State gas tax	Option 2: \$0.01 per year	Yes at \$.005 per year	\$0.25 per year OR 1 cent every 4 years	Continue at 1 cent per year and adjust with inflation
Local street utility fee to fund the gap in OM&P	Option 3: Phased in from \$6 to \$20 per house per month, indexed to inflation	Yes, at local discretion	Phased in from \$3 to \$20 over 4 years	Allow local choice on meeting needs
Regional street utility fee to fully fund OM&P	Option 4: \$45 per house per month, indexed to inflation	Yes at \$17.50 per month	No	No

Road-Related Capital Funding Choices

Funding Source	Scenario	TABLE 1 Price	TABLE 2 Price	TABLE 3 Price
		Point	Point	Point
System development charges	Option 2: \$7,000 per house	\$7,000 per household indexed to inflation	\$7,000 per household	Base fee
 <u>State level</u> Gas tax Vehicle reg. fee 	Option 3a: (alternates with 3b) \$0.03 every 8 years; <u>OR</u> \$15 every 8 years	Yes, \$2 VRF increase each year	Yes	Yes
Regional/local level Gas tax Vehicle reg. fee	Option 3b: (alternates with 3a) \$0.03 every 8 years; <u>OR</u> \$15 every 8 years	YES, \$1 VRF increase each year	Yes	Yes
Tolling	Option 4: \$874 million	Project by project analysis	Yes	Yes
Regional street utility fee shifts gas tax to capital	Option 5: \$45 per house to allow \$4.5 billion to shift to capital	No	Investigate Prop Tax (like MSTIP)	No

Transit Funding Choices

Funding Source	Scenario	TABLE 1 Price Point	TABLE 2 Price Point	TABLE 3 Price Point
OMP level		-		
Payroll tax	0.1%	Yes, 0.1%	0.2% w. progressive rate	0.1% + other sources
Service expan	sion			
	High capacity transit: 60%	60%	60%	60%
	Frequent bus: 40%	40%	13.33%	40%
	Local Bus	None	13.33%	Local Match
	Street Car	None	13.33%	None
High capacity	transit local match sour	ces		
FTA New Starts	60%	60%	75%	60%
State	10%	Case by Case bases w/ cost benefit analysis. Some portion of	6.25%	10%
TriMet	10%		6.25%	10%
Regional flex funds	10%	additional +.01% on payroll tax	6.25%	10%
Local	10%		6.25%	10%

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Joint Policy Advisory Committee on Transportation Retreat Table Summaries

May 22, 2009 8 a.m. to 2 p.m. Oregon Zoo, Skyline Room

Group Discussion:

Approach and Timeline:

- Important for process and Timeline to include opportunities for underserved populations to participate and have needs addressed, including Equity, service to communities. Consider as part of measures of success, measurement is a start to making significant change in how we frame what the RTP is trying to accomplish. Need to broaden conservation, equity and disparate views. How we talk about these issues is important, so that underserved populations are part of screening the size of box, and the investment choices.
- We're starting to see rural roads serving different functions than they were originally intended; we need make conscious decisions on what the expected function of rural roads will be in the region. Cornelius Pass is an example.
- Account for market, the decisions within the RTP connect to economic development strategies; we have the opportunity to make more overt.
- Consider terminal points of our system (extents of region Sandy, Wilsonville) and what is and should be happening there.
- We need to acknowledge how we will achieve our Climate Change targets: 40% of 1990 by 2030 Green House Gas Levels (Portland)
- We need to identify performance goals of what we are trying to achieve, not just measures of success. Tie measures to desired outcomes.
- Unclear how connectivity and deficiencies in existing system are reflected as investment priorities. Both are identified needs that investments need to address. Be more explicit for durability.
- Need more specific criteria to define investment priorities.
- Establish performance goals for corridors mobility corridors differ on performance now and need different strategies to maximize their potential.
- Connectivity don't get focused on highways. Think of arterials. Especially on Westside and in developing areas.
- Think of the RTP as a Business plan Goal: <u>define desired system</u> and a plan to get there. <u>Define roles and responsibilities</u>, what should be solved collectively and what should be addressed individually? Share more than values, we need to <u>share strategy</u>.
- Be more explicit about seeking <u>health</u> as a result of transportation investments public health, active living, seniors and disabled. This is the framing of issues that will connect public outcomes to our strategies.
- Need to pursue Practical, innovative designs, that are cost effective –known as least cost planning, corridors must be <u>multi-modal</u> with least cost.

- Location of transit directly affects health, access to jobs/recreation, economic opportunities and health impacts must be part of prioritization of investments.
- Evaluate corridors individually, develop business plans (mobility plans), look at least cost leads to better communication with public about intentions and benefits. Active roadway management is key.
- Desired system/roles/responsibilities have lots of overlap (i.e. sidewalks would be considered local but are critical to HCT access, health benefits, related to access to transit but land use can create/build in challenges.
- Let's Build system we can all agree to. (Dense, multi-modal, fill gaps). Decide who Is accountable for which parts.
- <u>Change of framework</u> away from density in corridor to focusing on improved health. Look at market and who we are serving to define transportation system. i.e. start with outcomes like healthy people, neighborhoods, districts, corridors....
- Right measures/<u>outcomes</u> will drive a more comprehensive approach (change to framework) don't just be more efficient but more effective, and focus on who we are serving with the transportation system. Sidewalk access to transit and transit-supportive land use is important to support transit service investments.
- Critical to look at/plan for land use/transportation together for success. Nothing wrong with efficiency but on its own it is lacking and doesn't accomplish the goals/outcomes we are trying to achieve.
- Would we invest differently if we were planning for <u>well-being</u> (again changing frame).
- What is <u>overall goal</u> mobility or community? Should regional emphasis be on mobility and local emphasis on community building?
- Investment priorities (slide 11) need to reflect discussion on values and priorities above.
- Protect capacity of existing investments, i.e. freight. Wholesale vs. retail (SOV).
- Plan for completeness and richness of communities (connecting people and places). Redefine centers vs. corridors. What is a transit station – stop or jobs kiosk, community center? Need to Include equity. Add more depth to land use considerations.
- Let's Not say "should try" but instead Let's create an analytical framework that drives results we need to deliver.
- Projects must deliver on performance objectives.
- Chronology to coordinate with funding. HCT = good example of incorporating timing. Maybe hard for things like sidewalks...
- Hard choices ahead. Need help to make choices, need to understand implications of <u>tradeoffs</u>, i.e. at-grade rail crossings vs. using rail to move other things. Be more explicit on tradeoffs.
- We have Agreement on General Approach if performance measure outcomes come first.
- Equity may look different in different places (Means considering how we meet the needs of various economic drivers such as apparel sector, delivering chips to market).
- Maybe there are parts of the existing system that are not a regional priority and should not be maintained.
- Self-sufficiency won't be full so mobility at some level is needed including mobility between corridors one downtown core, one metals industry in Clackamas County.

<u>Table 1</u>

Facilitator: Karen Withrow Recorder: Lake McTighe Technical Staff: Ted Leybold Lynn Peterson Dave Fuller Rex Burkholder Tim Knapp Rian Windsheimer

Road-Related Funding Scenarios

Operating, Maintenance, and Preservation

- Need less reliance on the state. More local funding solutions, increase self-reliance.
- Need to keep funds local.
- Maintenance is our biggest concern and needs to be the highest priority. Focus on maintenance before growth.
- Need to determine what a standard level of maintenance should be for the whole region. Maybe there needs to be a regional level that cities and counties need to maintain. Right now each city is setting its own maintenance levels. There needs to be regional equity, so we need to clarify the standards.
- There are economic issues that are created when roads are allowed to go to gravel. The rural areas are the first to go and this has an economic impact on rural businesses and communities– milk trucks, nurseries, etc.
- Commuters should pay for the privilege commuting.
- Congestion pricing, funding should go to maintenance first and whatever is left over should go to capital.
- Tolling can be used for capital and maintenance.
- There needs to be a regional floor say 50-60% (fair or better) that is provided through regional funding, and then if cities want 80% or higher condition they can raise those additional funds.
- A funding strategy needs to keep pace with inflation.
- Addressing backlog and maintenance could be built into a street utility fee. Local communities decide what level they want. Some might go high, others low. There needs to be a regional in-between. State provides 20-40%, local 60-80%.
- We need to be more aspirational with funding. The current level of funding is too low. A 25% increase over the historical levels may be feasible.
- A regional street utility fee is likely necessary to achieve regional equity; local capacity is not the same everywhere so need some regional solutions.
- Shifting OM&P to a regional street utility fee and diverting existing highway trust fund revenues to capital investments is not realistic.
- State gas tax should be viewed as "extra" funds, not something to be depended on. Use the state gas tax to fill in the gaps after a regional floor is met. We should only assume \$.005/year.
- Local street utility fees should be up to local jurisdictions to reach whatever % of conditions they want (maintenance or capital) after a regional floor is met.
- There are serious equity issues raised by the local street equity fee.
- A \$45/month regional street utility fee is unreasonable and gets into equity issues. But we do need a regional base (anything the state legislature gives us should be considered extra).

• A\$17.50/month regional street utility fee is doable. Metro could collect the difference and distribute to locals.

• Local jurisdictions need flexibility to spend funds from a regional street utility fee We need to look at a regional user fee (congestion pricing/tolling) to pay for part of maintenance. Need to determine if this is worthwhile to think about.

<u>Capital</u>

- Make growth pay. Metro could collect a regional SDC. Implementing a regional fee could make local jurisdictions raise their own fees. Metro would collect from any local jurisdiction without a SDC for transportation; return funds to locals, to make up the difference to reach a regional base.
- We need to be aware of other SDC needs.
- We need to know what the cost is to the system of new development. This helps determine the actual SDC.
- We need to move off the gas tax and move to a VMT to get equivalent of \$.01 every year in VMT.
- The technology for VMT is not yet practical and holds us back.
- Propose a \$2/year increase in state vehicle registration fee.
- We need a regional wide vehicle registration fee \$1/year, but no gas tax.
- We need to determine at what base level we start the regional vehicle registration fee (\$15?).
- Tolling should be used.
- We need to get smarter about tolling in the RTP.
- We don't know what level of funds we could get to with tolling. We need that information to make decisions.
- Tolling should be looked at project by project. We need information on tolling the throughway system.
- Can we raise tolls in one place and spend in another? Need to get smarter.
- A regional street utility fee for O&M is already a hurdle; we can't raise more for capital.
- An excise sales tax on cars should be considered. Should be statewide and not regional (idea that needs details, not all agree).

Transit -related Funding Scenarios

- The payroll tax for transit should be increased at least 0.1% for O&M and another 0.1% for capital.
- As areas become denser and use goes up we should see more farebox return.
- How many people use transit? Overall transit 3-4%; corridor transit 25+%; peak corridor transit 40+%. As ridership goes up you see a higher farebox return.
- Issues: Land use connection to increasing ridership/ Demographics (LIFT requires more funding). Need to discuss at MPAC.
- TriMet needs to do better on farebox recovery.
- Streetcars are productive for economic development and valuable for a certain set of situations, but not widely applicable, and are mostly local.
- Focus should be on HCT and frequent bus.
- Breakdown of HCT local matches depends on the situation. Equity is important consideration. There are many tradeoffs , more discussion is needed. Especially more discussion if HCT is in existing ROW.
- If a state facility is affected congestion reduced due to HCT state should pay more. But there is a tradeoff if state capacity is reduced.

<u>Table 2</u>

Facilitator: Cliff Higgins Recorder: John Mermin Technical Staff: Andy Shaw Craig Dirksen Ted Wheeler Carlotta Collette Susie Lahsene Alice Norris Marc San Soucie Jef Dalin

Road-Related Funding Scenarios

Operating, Maintenance, and Preservation

- General/Initial Discussion:
 - Fee only for existing roads. One for residential and one for businesses. (ranging from \$2.51 per household) up to \$6.40. Changes based on forecasts. Based on parking. More equitable than trip generation. (Tigard)
 - Res (\$4.50) > \$11 in 5 years. Pavement management utility fee based on trips generated. Paid for by everyone. (Oregon City)
 - o Gas tax and fees (Milwaukie)
 - o \$2.25/month Currently spent mainly on chipseal (Cornelius)
 - Working on street utility fee (Beaverton)
 - Regional fee could be difficult to distribute but could work at county level
 - Fee doesn't work lots of gas stations but few residents. Gas tax works better on the local level. They support regional fee. (Multnomah County)
 - Prefers local gas tax to county gas tax (Cornelius)
 - Need regional mix regional for regional system and local for local system. It is okay to have both. Local and county fees.
 - Problem with county bridges (Multnomah County)
 - o Street fee was defeated (Clackamas County)
 - In some situations, a street fee (for maintenance) makes sense county-wide, but not at the city level. How to distribute money?
 - Regional fee might be more politically viable than a county fee. State legislation could enable this. Metro could enact, but how to collect?
- Options
 - Option 2:
 - State gas tax Not sustainable over long-term but could be a VMT fee. Raising amount \$0.01/4 years from some state mechanism is realistic. Don't defer to state.
 - o Option 3:
 - Local Fees useful at county level. Minimum shown is too high. Start at \$3 to \$20 by 2035 at local level. Track the needs to increase it.
 - o Option 4:
 - Regional No, could be a combination.

<u>Capital</u>

- New Option/Option 6: Property tax measure possible, but tough politically to sell. An element of broader strategy.
- Discussion:

- Transportation Development Tax (TDT) alternate to SDC in Washington County only applied to roads of county significance. Locals encouraged to do the same for local streets. TDT Replaces existing TIF and doubles the money.
 - Total: County + Local = \$7,000 phased over time is palatable.
- System Development Charges (SDC) \$7,000. Should be scaled to home value. But current law says that the amount must be based on the "transportation impact" of the home.
- o Blend
- o Tolling:
 - Other facilities affected (diversion/ spill over to avoid toll), thus you'd need to toll all of the bridges.
 - Highway 217 costs to administer toll would be great than the revenue generated. Tolling is good for new capacity, new facilities.
 - \$874M is good estimate
 - Need to use toll revenue to OM&P as well as capital.
- o Regional Utility Fee
 - Do it at county level. Works as part of the package.
- o Tolls Full \$874M
- Funding Registration Fee + User fees within range + Property tax +SDC \$7,000 = \$5.5 to \$6B.
- Option 6: State Vehicle Registration
 - Good, less opposition.
 - \$15/8 years is doable at state, but it makes doing it locally harder. Alternate state and regional level.
 - Escalation and report back. Dedicate to state facilities.

Transit -related Funding Scenarios

General Discussion:

- Tipping point for ridership/ efficiency once we have certain level of coverage.
- Lack of frequent bus service on west side and Columbia Corridor on the eastside. More OM&P to achieve.
- But small businesses don't like payroll tax.
- Bus seen as local, MAX as regional. But TriMet doesn't route the buses this way. Need loops in residential areas. Radiate bus lines from MAX stations to provide better coverage.
- Political resistance to increasing payroll tax. Some businesses don't see how they benefit. After we reach the tipping point of transit use that might change.
- Increase tax-rate in a progressive way (large employers see higher tax increase than small ones). An increase by \$0.2(net) can work if some businesses get higher increase; others might see no increase.
- Internal city looks from main stations shuttles.

Service Expansion:

- HCT 60% in short-term. Could vary within region based on needs. Needs to be complete system.
- Streetcar, Frequent bus, local bus 40%. Include shuttles. Too challenge dependent on roads.

HCT Local Match Sources:

• More federal support is desired. Similar to past highway subsidies. 75% federal aspiration. Not just New Starts funding.

- Would state contribute 10%? It is a reasonable request.
- Local can include city, county, businesses. A new funding source i.e. regional SDC, Washington County TDT.
- Local/Regional New Source 6.25%. TriMet = 6.25%, State = 6.25%, and Regional Flexible Funds 6.25%.

<u>Table 3</u>

Facilitator: John Donovan Recorder: Deena Platman Technical Staff: Andy Cotugno Donna Jordan Kathryn Harrington Roy Rogers Rod Park Denny Doyle Fred Hansen (Olivia Clark) Sam Adams (Paul Smith)

Road-Related Funding Scenarios

Operating, Maintenance, and Preservation:

- Q: Should there be a VMT tax?
 - $\circ~$ A: Yes, \$0.15+ Equivalent or gas tax at \$0.03 or VRF at \$15.
- Q: Should we go further?
 - A: Yes, for SUF, but difficult to increase to keep up hard on tax payers. (Lake Oswego)
- Q: Should we keep the box or expand it?
 - What is the starting size of the box assume what we actually get?
 - State package 50% Maintenance goal, 75% Capital goal
 - Do what to reach 100%
 - Should we increase?
 - Yes to sustain current infrastructure. (Portland)
 - Need to define system and strategy contract systems as choice. (Washington County)
 - Local money needs to stay in Beaverton. (Beaverton)
 - Help pay for regional system what's the system? What matters is what binds us? (Washington County)
 - Different areas' money, different levels of success. Should we have a uniform level of funding? (Metro)
 - How do you make sure there is a base level of investment uniformly? (Lake Oswego)
 - Regional tolling, move to VMT, and percentage of the SUF to OM&P. (Portland)
 - Toll OR 217, gas tax and VMT. (Beaverton)
 - Cannot do it all. Need to be selective. Not a lot of success with local measures. Mix of funding. (Metro)
 - Combination of sources. Something replaces gas tax. Education needed regarding the SUF need to understand what they buy.
- Agreements
 - No shift gas tax to state, registration fee, option 4

- o Contract system
- Keep pace inflation
- o Address backlog

<u>Capital:</u>

- Agreements
 - o Tolling with congestion pricing. SDC as "entry fee"
 - Gas tax/VRF and tolling
 - Level of growth \$4.9B.

<u> Transit – related Funding Scenarios</u>

Q: What can we expect to achieve?

- To grow, we will need more transit 2% (Beaverton)
- What is the palatable to businesses? (Metro)
- Look at other sources for operations –Sales tax reg. (Portland)
- Compliance auditing of employers (Washington County)
- Regional sales tax only if add local bus too. Need to educate public on what it buys. (Lake Oswego)
- Should there be a local "match" for bus service expansion, shelters and sidewalks? (Washington County)
- Running out of light rail miles in URAs cut local cap increase Ops match. Move to TriMet.

Agreements:

- \$0.02 but look at other funding sources.
- HCT Spine, Frequent Bus Base bus service, and local least efficient/hard to serve.