



# Oregon

Theodore R. Kulongoski, Governor

## Department of Land Conservation and Development

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July 17, 2009

TO: Land Conservation and Development Commission

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

SUBJECT: **Agenda Item 16, July 29-31, 2009 LCDC Meeting**

### PLANNING FOR CLIMATE CHANGE

#### I. AGENDA ITEM SUMMARY

The commission will consider options to integrate climate change considerations into the statewide land use planning program. In June of this year, the department presented a draft set of options relating to climate change for the agency's 2009-2011 work program. At that meeting, the commission asked that the department prepare an additional option in the form of a possible new statewide planning goal or goal amendments addressing climate change. This report presents revised options for the commission's consideration, along with the department's recommendation.

#### A. Type of Action and Commission Role

The department recommends that the commission *not* take up the adoption of a new or amended statewide land use planning goal on climate change *at this time*. Instead, the department recommends that the agency implement an interim strategy on climate change that focuses on specific actions to better prepare citizens, local governments, and policy-makers throughout the state for a broad dialogue on how to plan for the coming changes in our physical environment, and what we can and should do to help minimize and otherwise respond to those changes.

The specific actions that the department recommends the commission endorse as part of an interim strategy on climate change and as part of the agency's 2009-2011 action plan are:

- (1) To work with other key state agencies and partners to prepare a *state*-level climate change adaptation plan that identifies the primary environmental changes that will result from climate change at a broad landscape level in different regions of the state, and that creates a framework for how to plan for and adapt to those changes;
- (2) To work with a small number of communities that wish to begin planning for adaptation to specific environmental changes related to climate change, to create differing community-scale models for different regions of the state;

- (3) To carry out the responsibilities for regional integration of land use and transportation planning to reduce greenhouse gas emissions assigned to the agency in House Bill 2001 and House Bill 2968;
- (4) To continue work with the Oregon Department of Forestry to identify and strengthen tools for keeping working forests in active timber management as a means of sequestering carbon as well as to assure employment for rural Oregon; and
- (5) To begin developing a public engagement program for an informed dialogue among the state, Oregon communities and Oregon citizens about how climate change will alter the places where we live and work, and how we should be planning to adapt to those changes.

These actions are the main elements of the department's proposed interim climate change strategy, and form a work plan that will lay the groundwork needed for a more comprehensive consideration of land use and climate change beginning in 2011. The strategy provides overall direction to efforts by the department and commission on climate change over the 2009-2011 biennium.

Endorsement of the interim strategy and 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. The staff report also presents the option of adoption or amendment of statewide planning goals to address climate change. Adoption and amendment of goals is part of the commission's authority set forth in ORS 197.040.

#### **B. Staff Contact Information**

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## **II. BACKGROUND**

In January 2009, the commission considered a petition for a new statewide land use planning goal concerning sea level rise and related hazards expected to result from 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 address climate change comprehensively.

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.

In June, the department presented a draft strategy and a detailed set of work program options for the commission's consideration. At the June meeting, the commission directed the department to prepare an additional option that takes the form of either adoption of a new goal or amendments to existing goals addressing climate change. The commission also directed staff to discuss the proposed strategy with other state agencies and interest groups.

## **A. Legislative Action on Climate Change**

Since the June commission meeting, the legislature has enacted two bills - HB 2001 and HB 2186 – that direct the commission and department (in conjunction with the Oregon Department of Transportation (ODOT)) to undertake specific policy and rulemaking work to advance land use and transportation scenario planning in the state’s metropolitan areas:

- HB 2001, the Jobs and Transportation Act, directs the commission to adopt rules in 2010 and 2012 directing Metro and local governments in the Portland metropolitan area to develop land use and transportation scenarios plans to achieve greenhouse gas emission reduction targets.
- HB 2186 creates a Metropolitan Planning Organization Greenhouse Gas Emissions Task Force charged with recommending legislation by January 2010 that would involve Oregon’s six metropolitan areas and the preparation of land use and transportation scenario plans illustrating potential future land use patterns that achieve greenhouse gas emission reductions. The Oregon Transportation Commission (OTC) and LCDC chairs are the vice chairs of the 16-member task force. ODOT and DLCD are charged with providing staff support for the task force.

The work program outlined below has been amended to include this work. The short timeline for HB 2186 work – which requires draft legislation by January 2010 – will of necessity make this work a major part of department’s initial work on urban greenhouse gas emissions reductions. A summary of requirements of HB 2001 and HB 2186 is included in Attachment B.

One other major piece of proposed climate change legislation - SB 80 - did not pass. The bill would have created a state agency council to develop state level plans for reducing greenhouse gas emissions. ODOT would have been charged with developing a state level plan for reducing greenhouse gas emissions from the transportation sector.

## **B. Agency / Interest Group Review**

Following the June commission meeting, the department conducted a series of informal meetings and briefings with staff from state agencies and other interested groups and persons to gather feedback on the proposed options. Agencies and others also were asked about the possibility of a new goal or goal amendments to address climate change. A general summary of comments received is provided below:

**State agencies** - DEQ, Agriculture, Energy, ODOT, ODFW, Forestry, Water Resources, Global Warming Commission

- Most agencies are in the preliminary stages of formulating their own strategies and efforts to respond to climate change.
- Most agencies feel climate change will require program changes, but feel that they lack resources and information to recommend or prescribe specific actions.

- Agencies are generally supportive of efforts by LCDC to address climate change, but few offered specific comments about the department's proposed work plan options.
- Most felt it was premature for the commission to embark on a new goal or goal amendments without more detailed information about effects of climate change or an overall state strategy for addressing climate change.
- Several agencies have prepared or are preparing more detailed inventories of areas or resources impacted by climate change.
- Members of the Global Warming Commission expressed concern that the goal amendment process could be lengthy, divert the commission from immediate actions to address climate change, and hinder efforts to work with local governments to demonstrate how to plan for adaptation to climate change.

**Local government organizations** – Oregon Coastal Zone Management Association, County Planning Directors, City Planning Directors Association

- Look for ways to use incentives rather than regulations.
- Develop resources for communities to use in their planning efforts.

**Environmental Groups** - 1000 Friends, Oregon Environmental Council, Goal 1 Coalition, Nature Conservancy, Defenders of Wildlife

- All felt addressing climate change is a top priority for the land use program.
- Several expressed support for more work on adaptation planning and amending Goal 5 or rules to protect climate-impacted habitat and deal with impacts of energy facilities (wind turbines and energy transmission corridors).
- Several felt that the coast was a good starting point for adaptation work because of sea level rise and availability of federal funding for coastal planning.
- Several expressed concern that pursuing goal amendments now was premature, and could result in an ineffective goal.
- Most were concerned that a statewide adaptation plan might be too general to be helpful for local planning decisions.
- Several recommended that pilot planning efforts should focus on individual communities to assure that information is sufficiently specific to support planning decisions.
- Several supported evaluation of how existing policies and plans (business as usual) affect greenhouse gas emissions to guide consideration of changes to policy.

**Institutional Programs** addressing climate change – Oregon Climate Leadership Institute, Oregon Climate Change Research Institute

- Several supported evaluation of how existing policies and plans (business as usual) affect greenhouse gas emissions to guide consideration of changes to policy.
- Expressed concern that a new goal would treat climate change as a separate issue rather than an integral part of planning decisions that would be better addressed through amendment or refinement of existing goals and rules.
- Felt that more work needs to be done to develop public understanding of effects of climate change and range of necessary actions before policy making can be successful.

- Suggested more work with interested local communities to develop effective local programs to serve as a basis for policy making.

### **III. DEPARTMENT RECOMMENDATION – AN INTERIM STRATEGY AND WORK PLAN ON CLIMATE CHANGE**

The department has further developed a recommended strategy and work plan based on commission feedback from the June meeting, as well as input from interest groups. The first part of the department's recommendation is an interim strategy on climate change. That strategy provides the framework for a proposed work plan for the next two years. The work plan consists of a series of specific proposed actions by the agency, including the preparation (in cooperation with others) of a state-level adaptation plan, pilot planning efforts with communities in different regions of the state to develop local adaptation plans, implementation of the mitigation efforts called for in HB 2001 and HB 2968, and development of a public engagement program for a more comprehensive assessment and program integrating climate change into the land use program beginning in 2011.

#### **A. INTERIM STRATEGY ON CLIMATE CHANGE**

In June, the department proposed that the commission adopt a climate change strategy to guide department and commission efforts over the next several years. The strategy would direct the department and commission to support changes to local plans and the statewide planning program to address climate change.

Based on discussion at the June commission meeting, the department has revised the climate change strategy and focused the work program discussion on opportunities and priority actions.

The strategy consists of a purpose statement; interim objectives; and a work plan made up of four elements: adaptation; urban mitigation; other mitigation opportunities; and public engagement. Each element includes priority actions and likely partners for those actions.

##### **1. Purpose Statement:**

The proposed interim climate change strategy is to build the foundation and context for Oregon to be able to identify and plan for the physical effects that climate change will have on Oregon's built and natural environment. With this information, citizens can work with state and local governments to determine how we should adapt to a changing climate. This information also will help Oregonians understand how we can reduce greenhouse gas emissions through the design of our communities, and by retaining our forest and farm resources. Once we have more information about what changes are likely to occur in different areas of the state over what time frame, and develop examples of how communities can adapt to those changes over time, we will be ready for a broad public conversation about how Oregon should be planning for climate change.

## **2. Interim Objectives**

- Develop the applied scientific bases to predict the future effects of climate change on Oregon's built and natural environments, including the ability to distinguish effects at regional and local scales within the state.
- Develop a state-level framework for climate change adaptation planning, in partnership with other state and federal agencies, local governments, academia and the private sector.
- Develop, on a pilot basis, local adaptation plans that serve as models for planning in particular regions within Oregon and that represent distinct arrays of types and levels of climate-related effects.
- Develop models for communities to predict what changes in land use patterns may be necessary to meet state goals for reducing greenhouse gas emissions.
- Begin developing and cataloging tools (including tools from other areas of the U.S. and other countries) to document (for information purposes only) the climate-related effects of significant land use decisions.
- Develop a program for communicating this information to the public, and creating a productive dialogue for a more comprehensive state and local effort to plan for climate change in 2011-2013, which may include but which is not limited to alterations to the statewide planning goals.

## **3. Climate Change Work Plan**

### **a. Adaptation Planning**

#### **i. Climate change adaptation objectives**

- Identify broad landscape-level predicted effects of climate change by major regions in the state.
- Determine what key resources and facilities are likely to be subject to new or increased hazards as a result of climate change.
- Analyze the timing of risks, and determine when planning to adapt to or otherwise avoid or limit risks needs to begin.
- Integrate with adaptation planning efforts focused on the natural environment –e.g., ODFW's Oregon Conservation Strategy update.
- Prepare a state-level adaptation plan adequate to position the state to be eligible for potential federal funding.

In general, the department's work on adaptation to climate change will emphasize integration of climate change considerations into planning for the built environment. The primary work will be in the area of assisting communities in identifying, mapping, and planning for climate-related natural hazards.

#### **ii. Adaptation planning partners**

Given limited resources, the department can be most effective in this arena by assisting and coordinating work that other entities are carrying out, or that they would like to

undertake. At this stage, we expect our work to be at two levels: (a) at the local level where we can assist a small number of cities that wish to proceed with planning for climate-related risks specific to their conditions; and (b) at the state level, where we can work with other agencies already carrying out pieces of adaptation planning at a state or regional scale, to put those pieces in a comprehensive framework that serves as the basis for a state climate change adaptation plan. We are still developing who the partners will be for these efforts, but they will include:

- Local Governments
- Federal Emergency Management Administration (FEMA)
- Oregon Department of Geology and Mineral Industries (DOGAMI)
- Oregon Department of Water Resources (OWRD)
- Oregon Department of Fish & Wildlife (ODFW)
- Oregon Department of Transportation (ODOT)
- Oregon Climate Change Research Institute (OCCRI)
- University of Oregon Climate Leadership Initiative
- Institute for Natural Resources (INR)

### **iii. Work program for adaptation**

- Identify broad landscape-level predicted effects of climate change by major regions in the state. Currently, the Climate Leadership Initiative at the University of Oregon has completed two projects to analyze the predicted effects of climate change in specific areas of Oregon: the Rogue River Basin and the Upper Willamette Basin largely using existing data sources and models. Similar efforts in other basins around the state will help establish what the most significant climate change related effects are likely to be in different regions of the state. 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, working in conjunction with other agencies, will seek additional resources to supplement current programs.
- Determine what key resources and facilities are likely to be subject to new or increased hazards as a result of climate change. Key transportation facilities that may be at increased risks due to flooding, landslides or wildfire; water supply facilities that rely on snowpack; and agricultural industries that may be particularly sensitive to changes in climate are just three examples of the types of resources and facilities that should be evaluated for their climate-related changes.
- Analyze the timing of risks, and determine when planning to adapt to or otherwise avoid or limit risks needs to begin. At the statewide and regional level, as more information becomes available, the department will assess the timing of when additional planning work should begin.
- Integrate/coordinate with adaptation planning efforts focused on the natural environment –e.g., ODFW’s Oregon Conservation Strategy update. The department

will work with other state agencies that are beginning to undertake adaptation planning related to their specific areas of responsibility to create a framework for coordinating these efforts in a statewide adaptation plan. As part of this work, the department will continue to monitor evolving ideas at the federal level so Oregon is positioned to utilize any federal assistance that may become available for these purposes.

- Prepare a state-level adaptation plan adequate to position the state to be eligible for potential federal funding. Working with other state agencies and local governments, the department will create a framework for a state-level adaptation plan that provides a consistent and integrated organization of the work being done by other agencies and by local governments. This should include working with a small number of cities in Oregon that are ready to prepare local adaptation plans that can serve as pilots for a state-level plan.
- Working with the Global Warming Commission, ODFW, OWRD and other state, federal and local interests, develop a framework for a state-level climate change adaptation plan. The framework is expected to incorporate specific work already underway in a number of agencies, including ODFW's work to update the Oregon Conservation Strategy, and OWRD's water supply planning efforts.
- Identify 4 to 5 specific communities that want to work with the department to prepare local climate change adaptation plans (as demonstration projects, and reflecting the differing eco-regions of the state) using existing grant and technical assistance resources.

Other specific priority actions for the work program (the numbers in the following list refer to the department's June 2009 report to the commission on this same subject) include:

**2C Execute interagency agreement with DOGAMI.** Based on the successful outcome of the DOGAMI's pilot project to update and maintain FEMA's FIRM maps, DLCD will initiate an Interagency Agreement with DOGAMI so 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.

**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. 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.

**3B Develop new analytical tools.** Partner with government agencies, universities, and others to develop and deploy analytical tools to quantify and map risks<sup>1</sup> 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 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,<sup>2</sup> map future conditions hydrology and conduct 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.

**5C Proposed public investments.** Review and comment on proposed public investment decisions that are likely to be at significant risk due to the effects of climate change.

**6E Consider 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 (particularly in regard to timing and phasing) and how it relates to hazards resulting from climate change.

**b. Planning to Reduce Greenhouse Gas Emissions in Urban Areas**

The agency's urban mitigation element has been largely superseded by legislative action. Department resources available to develop and implement an urban mitigation strategy element will be devoted to implementation of HB 2001 and HB 2186.

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<sup>1</sup> As used here, *risk* = threat \* likelihood of exposure to threat \* consequences of exposure.

<sup>2</sup> 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

**i. Emissions reduction objectives**

- Begin creating the tools to develop scenario plans that illustrate for communities how alternative future land use scenarios effect greenhouse gas emissions. Work with ODOT and Portland Metro.
- Utilize existing tools (TPR) for Metropolitan Planning Areas to plan for compact land use, urban design, and expanded transportation options to continue to reduce vehicle miles traveled (VMT).

**ii. Mitigation planning partners**

- Oregon Department of Transportation
- Department of Environmental Quality (DEQ)
- Oregon Department of Energy (ODOE)
- Metro and other MPOs
- Cities and counties (with large unincorporated urban areas)

**iii. Work program for urban mitigation**

- HB 2186 and HB 2001 – adopted by the 2009 Oregon Legislature last month – direct the department to work with ODOT and the MPO Greenhouse Gas Emissions Task Force and other agencies to carry out specific work to advance land use and transportation scenario planning to reduce greenhouse gas emissions in Oregon’s metropolitan areas. This mandated work will require significant work over the next six months and will, of necessity, be the major element of the department’s work over that period of time. Attachment B includes copies of relevant portions of both bills and a chart summarizing the schedule and requirements of the two bills.
- **HB 2186 implementation.** (New action) Work with ODOT and the MPO Greenhouse Gas Emissions Task Force to prepare recommendations to the legislature for legislation requiring Oregon’s metropolitan areas to conduct land use and transportation scenario planning to aid in meeting state targets for greenhouse gas emission reductions. Report to the legislature due in January 2010.
- **HB 2001 Implementation.** (6E) Work with ODOT, ODOE, DEQ and Metro to develop rules (1) setting targets for greenhouse gas emission reduction in the Portland Metropolitan area, and (2) outlining a process and schedule for adoption and implementation of a land use and transportation scenario in the Portland metropolitan area that meets the target for greenhouse gas emission reductions.
- **TGM Outreach/DLCD Outreach.** (1A, 1B, 1C) 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. Expand outreach to MPOS and local governments to address climate change. Outreach workshops to MPOs and local governments on scenario planning for VMT reduction.

- **Scenario Planning Tools.** (3D) 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.
- **Plan, UGB and Urban Reserve Amendment Review.** (4A) Develop tools to be able to evaluate plan amendments to provide advisory information about GHG/VMT impacts of proposed plan and land use regulation amendments.
- **TGM Grants.** (5D) Work with ODOT to target more TGM grant funds to local efforts to make land use and transportation plan changes that reduce VMT.

**c. Energy use and sequestration**

**i. Energy use and sequestration objectives**

The draft strategy element for “other mitigation” includes actions to increase the amount of carbon retained on resources (forest and agricultural) lands (carbon sequestration) and to support the development of alternative energy resources.

- Promote protection and management of resource lands and natural resource areas that increase carbon sequestration.
- Support the development and use of low-carbon energy sources.
- Promote urban forestry efforts to increase urban sequestration.

In general, the department’s work on energy use and sequestration will emphasize the need to promote the continued resource use of forest and farm lands, and to avoid conversion of forest lands to other uses. The primary emphasis of the department’s work on energy use and sequestration will be in the area of transfer of development rights, incentives for forest management and developing model ordinances.

**ii. Energy use and sequestration planning partners:**

- Oregon Department of Energy
- Oregon Department of Forestry (ODF)
- Oregon Department of Agriculture (ODA)
- Oregon Department of Fish and Wildlife
- Counties (forest land retention)
- Cities (urban forestry)

**iii. Work program for energy use and sequestration**

Two primary tasks are to develop rules to implement the transfer of development rights bills (SB 763 and HB 2228) that were passed by the legislature this session. In addition, the department will develop guidance for and offer technical assistance to both pilot project TDC communities and other communities that wish to develop and adopt TDC programs. Finally, the department

will support public and private efforts to combine environmental services crediting efforts to restore natural resources with TDC programs.

In addition, the department will coordinate with the ODOE on the siting of solar, wind and other non-carbon energy sources through the development of model ordinances to place online and otherwise disseminate to communities. We will seek to coordinate on identifying future energy transmission corridors.

We will coordinate with ODF to reduce forest land conversion, promote restocking of forest lands and promote urban forestry efforts, with ODA to reduce regulatory barriers to lowering greenhouse gas emissions on farms, such as by permitting methane digesters, and with ODFW to better protect riparian areas, wetlands and wildlife habitat.

Priority actions in the work plan include:

- 2A State agency coordination.** Work with ODF to provide clear policy direction to local governments concerning forest land conversion.
- 2B Transmission corridors.** Work with ODOE and local governments to plan for future energy transmission corridors that will result from the development of low-carbon energy sources.
- 3A Development of technical assistance guides.** Develop technical assistance materials and model ordinance provisions for promoting alternative energy sources.
- 4B Pilot TDC program.** Provide funds to develop a pilot program for transfer of development credits.
- 6C Adopt rules to implement TDC programs.** Adopt rules to ensure that local transfer of development credit programs promote carbon 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 forests. Use this policy to identify statute and rule changes that may be desired for its implementation.

**d. Community engagement**

Develop a program for communicating information to the public about the effects of climate change on communities around the state. Create the basis for a comprehensive public engagement program on climate change in 2011-2013, which *may* include (but which is not limited to) alterations to the statewide planning goals.

**i. Objectives**

Objectives of community engagement are to:

- Help increase public awareness of the causes and effects of climate change.
- Foster public understanding of the relationship between land use and climate change.

- Encourage communities to use land use planning tools to adapt to the effects of climate change.

## **ii. Partners for community engagement**

The department has some capacity to develop messages and informational materials about land use and the relationship between land use and climate change. However, several other organizations and agencies also have capabilities and resources to develop messages and informational materials about aspects of climate change that will be useful in engaging communities about land use and climate change.

The department will partner with other agencies and organizations with expertise in outreach and public involvement to engage Oregonians about the relationship between land use and climate change. The department will solicit the assistance of others in crafting messages and materials to improve public understanding of the relationship between climate change and land use. As opportunities and needs arise, the department will partner with other entities to develop messages and informational materials to use to achieve the objectives of this strategy. Partner organizations include:

- Local governments
- The Climate Leadership Initiative at the University of Oregon
- Oregon Sea Grant
- The Institute for Natural Resources
- The Oregon Climate Change Research Institute
- Oregon University System
- Non-governmental organizations

## **iii. Priority actions for community engagement**

**1A Outreach program development.** The department will

- Collaborate with CIAC, LOAC, and local governments to outline a strategy for outreach related to climate change adaptation.
- Develop presentations on climate change and land use planning for local elected and appointed officials and citizen-based climate change work groups.

**1B Develop informational materials.** 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 Climate work group.** In conjunction with a pilot project to develop a climate adaptation plan in a coastal community, convene a climate change work group 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.

**B. SUMMARY RECOMMENDED WORK PROGRAM FOR ADDRESSING CLIMATE CHANGE**

In June, the department presented three sets of work program options – low, medium, and high – for addressing climate change. Since the commission expressed support for a high level of effort, the department has consolidated the proposed work program options into a single revised recommendation. The detailed descriptions of proposed actions are included in the June staff report - which is included as Attachment A to this report. Major or priority tasks to be completed as part of the revised alternative are summarized here.

**Table 1. Summary of Work Program for Climate Change**

Climate Change Element/ Objectives	Work Program Tasks
<p><b>Adaptation</b></p> <ul style="list-style-type: none"> <li>- Identify areas subject to hazards; revise plans to avoid hazards, limit development</li> <li>- Better protection for resources subject to climate change</li> </ul>	<ul style="list-style-type: none"> <li>- Develop informational materials (1B)</li> <li>- Interagency adaptation work group (2A)</li> <li>- Interagency agreement with DOGAMI (2C)</li> <li>- Data and information for decision support (3A)</li> <li>- Inventory of coastal dikes and levees (3E)</li> <li>- Develop new analytical tools (3B)</li> <li>- All-hazards mapping pilot project (3C)</li> <li>- Technical assistance grants (4A)</li> <li>- Proposed public investments (5C)</li> <li>- State agency plans and programs (5D)</li> <li>- Revise grant allocation criteria (4B)</li> <li>- Periodic review (5E)</li> <li>- Draft and adopt implementing rules for Goal 7 (6E)</li> </ul>
<p><b>Urban Mitigation</b></p> <p>Plan for development scenarios in MPO areas and transportation options to reduce VMT</p>	<ul style="list-style-type: none"> <li>- Increased work with MPOs, state agencies to address VMT reduction (2A)</li> <li>- TGM model ordinances for climate friendly development (3C)</li> <li>- Expanded outreach to metropolitan areas for scenario planning (1C)</li> <li>- Participate in interagency climate change work group (2B)</li> <li>- Comment on major local land use decisions affecting GHG (4C)</li> <li>- Work with ODOT to target TGM grants (5D)</li> <li>- Redirect TGM code assistance and quick response projects (5E, 5F)</li> <li>- Develop GHG/VMT impact assessment tool for local governments (3A)</li> <li>- Develop scenario planning tools for use by metropolitan areas (3D)</li> <li>- HB 2001 Implementation (6E)</li> <li>- TPR evaluation (6C)</li> </ul>
<p><b>Other Mitigation</b></p> <p>Manage lands to increase carbon sequestration and conserve energy</p>	<ul style="list-style-type: none"> <li>- Sequestration outreach (1A)</li> <li>- Support environmental services crediting efforts (1B)</li> <li>- State agency coordination (2A)</li> <li>- Develop TDC guide (3A)</li> <li>- Informal planning guidance (3B)</li> <li>- Develop model ordinances for non-carbon energy sources (3A)</li> <li>- Pilot TDC program (4B)</li> </ul>

**IV. CLIMATE CHANGE GOAL OPTIONS**

At its June meeting, the commission asked that the department prepare an additional work plan option that includes either a new goal or amendments to existing goals to address climate change. Table 2 outlines three options for a new goal or goal amendments. Each option involves a

slightly different approach. A new ‘climate change goal’ could be written either very broadly – like most of the original statewide planning goals, or it could set forth very specific planning requirements or considerations – like the coastal goals (Goals 16-19). A “high level policy goal” would direct local governments to address climate change, but would include only broad guidance about expected considerations or outcomes. This would leave it to local governments to decide specific actions to meet the goal, based on available information and local policy choices. A “high level general” goal might be adapted and refined later through administrative rules that provide detailed guidance on appropriate planning considerations. A “prescriptive” goal or amendments to existing goals would outline specific requirements or considerations to guide development of local plans.

**Table 2. Possible Goal Adoption/ Goal Amendment Options**

	New Climate Change Goal <b>High Level Policy</b>	New Climate Change Goal <b>Prescriptive</b>	Amendments to existing goals <b>Prescriptive</b>
Overall	Direct local governments to consider climate change in plan updates and major planning decisions (UGB amendments, plan and zone changes)	Direct local governments to update comprehensive plans to address climate change in compliance with state objectives and state adaptation plans	Amend existing goals (and rules) to require specific additional planning to address climate change
Adaptation Elements	Require local governments to consider effects of climate change when making major planning decisions: -Base decisions on best available information about effects of climate change in the planning area -consider or give preference to alternatives that avoid or minimize exposure to climate related hazards or that promote long-term resilience to expected effects of climate change Require state agencies to consider climate change effects when taking actions that affect land use.	-Direct state agencies to prepare a state adaptation plan, identifying areas and resources subject to risk from climate change -Require local plans to identify climate change hazards, resources at risk and take actions to limit development and protect resources	Goal 5 – Require plans to inventory and protect climate-sensitive natural resource sites and habitats Goal 7 – Inventory and avoid /limit development in climate hazard areas Goal 11 – Consider effects of climate change in locating and designing public facilities Goal 16-18 – Address sea level rise, effects on estuarine, shoreland built environment and natural resources
Urban Mitigation Elements	- Require major plan amendments to assess greenhouse gas emissions of proposed changes - Urban plans must consider/give preference to alternatives that support meeting adopted state goals for greenhouse gas emission reductions	-Require plan updates for urban areas to meet state targets for GHG emission reduction -Require planning in urban areas to favor compact, mixed use development to reduce building energy needs and to build in transportation options to reduce greenhouse gas emissions. Likely include specific targets for GHG or VMT reduction	Goal 2 – Consider GHG impacts of population and employment allocations Goal 14 – Require UGB expansions to meet GHG emission reduction targets Goal 9/10/14 - Plan for higher densities, more infill redevelopment; buildable lands analysis considers climate related hazards Goal 12 – Expand planning for transportation options (transit, walking, cycling, street connectivity)
Other Mitigation Elements	Encourage/promote sequestration and availability of low carbon energy sources	-Require plans to promote sequestration and to permit low carbon energy sources and supporting infrastructure	Goal 3/ 4/ 5/ 6 – Require plans to promote sequestration and urban forests Goal 13 – Require plans to permit low carbon energy sources; coordinate with ODOE on siting transmission corridors

### Goal Adoption / Amendment Process

A new “climate change goal” or amendments to existing goals would be a significant undertaking for the commission and department:

- Goal adoption or amendments would require at least ten public hearings around the state. It is likely that two rounds of hearings would be needed; the first to assess scope of a possible goal or goal amendments; and the second to seek public review and comment on proposed goals.
- Significant preparatory work would be required. The commission would likely appoint at least three advisory committees (one each addressing adaptation, urban mitigation and other mitigation) to assist with the assessment and goal development process.
- Significant staff and volunteer time from affected agencies and institutions would be required to support goal development and public engagement. The department estimates that 4 to 6 staff would need to be involved to support advisory committees and policy analysis and development. In addition, the department would rely heavily on technical assistance from other state agencies and institutions to inform goal development.
- The process would be lengthy and could easily take two years or more. A broad policy level goal that directs local governments to address climate change, but leaves details to be decided locally or addressed through later administrative rules could be adopted sooner. A more prescriptive goal or set of goal amendments that sets specific standards or considerations for local plans would likely take longer.
- Goal amendments or adoption would likely become the major work effort for the department and commission – to provide the level of support needed for public engagement and technical work to develop proposed goal amendments.

### Stakeholder Comments

Over the last month, the department discussed the possibility of pursuing a new goal or goal amendment with stakeholders. Most felt that it is at least premature for the commission to consider a new goal or goal amendments. Reasons vary and include:

- More work needs to be done to develop public awareness of effects of climate change to support changes to plans and other public policies to address climate change.
- More information about on-the-ground effects of climate change and appropriate planning responses is needed to inform goal-level policy making.
- Without detailed information or a statewide plan and strategy the result might be overly general or ineffective.
- The goal development and amendment process would be time-consuming and prevent the commission from taking immediate actions to address climate change.
- Initiation of goal amendments may have a chilling effect on local planning efforts to address climate change – local governments would wait for the commission to provide specific direction.
- Voluntary efforts and guidance should be tried before goal or rule amendments are proposed.

- If goal changes are considered, the commission should amend existing goals or rules rather than adopt a new goal; climate change should be an integral part of the planning framework, not treated as a separate consideration.

### Advantages and Disadvantages

Adoption of a new goal or goal amendments addressing climate change has advantages and disadvantages:

#### Advantages

- The goal adoption/amendment process is an effective way to engage the public and local governments.
- Conveys the seriousness of climate change and need for changes to land use plans to address climate change impacts.
- Recognizes that changes to statewide planning goals and rules will be needed; that current goals and rules do not adequately address climate change.

#### Disadvantages

- While the general scope of actions needed to address global warming are known, more detailed information is needed to decide appropriate planning responses and to set specific standards to guide planning decisions.
- The goal amendment process is likely to be lengthy.
- Initiating goal amendments may send the wrong signal to local governments – indicating that the agency is intending to take a top-down regulatory emphasis rather than a bottom-up effort that works to extend and encourage local initiatives to address climate change.
- Because information about climate change is fairly general, the result may be a very general goal or set of goal requirements.
- Public may not be fully supportive without more information and better communication.

## **V. CONCLUSION**

The department believes that changes to the statewide planning goals and implementing rules likely will be needed for the state to fully and properly respond to the various challenges of climate change. The question for the commission is whether it is timely now to pursue adoption of new goals or goal amendments, or instead, take other steps that provide a better foundation and framework for goal or rule amendments in the future.

As noted above, considering a new goal or goal amendments would be an effective way to promote serious public discussion of the proper planning response to climate change. It would raise the level of public engagement and prominence of climate change as a factor in planning decisions. At the same time, a serious effort to consider a new goal or goal amendments is a major undertaking for the commission and department. Done well, it would require a large share of the commission's time and department's resources available for policy work. It would also draw heavily on the time and resources of local governments, state agencies and stakeholders – many of which are undertaking their own efforts to address climate change.

The department agrees with sentiments expressed by most stakeholders that consideration of goal amendments is premature. Fundamentally, to get a good result we need to have a better understanding of the details of the appropriate planning response to climate change than is currently available, or that we are likely to obtain in the goal development and amendment process.

The department believes it would be more effective to do additional work, in coordination with other agencies, to more specifically identify expected climate change impacts and to develop appropriate and effective planning responses. As more detailed inventories become available and as effective planning techniques are demonstrated, the commission will be in a position to consider goal or rule amendments.

The department also believes it is important to consider how its work fits with other state efforts to address climate change

- Adaptation efforts need to be coordinated with local government and other state agencies to inventory expected effects of climate change on the built and natural environment and determine appropriate remedial actions. The department and commission can play a key role in encouraging and supporting this work so that it is prepared in a form and detail so that it can be readily used to guide planning decisions. However, until this work is completed, new or amended goals or rules are premature.
- For urban mitigation, legislative action adopting HB 2182 and HB 2001 sets specific policy and rulemaking tasks for the department and commission. The work called for in these bills is likely to decide the role of the land use program in addressing greenhouse gas emission reduction – or at least provide a foundation for subsequent work. Since this work begins immediately, and will require considerable staff time, it is logical to focus primarily on this work to frame the commission and department’s work on urban mitigation over the next 6-12 months.
- For energy use and sequestration, the department plays primarily a supporting role to other state agencies. However, because these agencies are in part dependent on the department to make specific, land use-related contributions to their efforts, the department should begin now to coordinate with these agencies. In addition, the department will take the lead beginning now in providing guidance on the use of transfer of development credits.

## **VI. ALTERNATIVES FOR COMMISSION ACTION**

1. Adopt the recommended climate change planning strategy and work program
2. Direct department to make further changes to the recommended strategy and work program and present the revisions to the commission at its September meeting
3. Direct the department to pursue a goal adoption or goal amendments

## VII. RECOMMENDATION

The department recommends that the commission:

- a. Adopt the Interim Climate Change Strategy described in this report to guide department and commission work on climate change.
- b. Adopt the proposed work program, which includes the following major elements:
  - a. Work with other state agencies to develop a state-level adaptation plan that identifies areas, resources and facilities at risk from the effects of climate change.
  - b. Conduct a series of pilot planning projects with interested communities in various regions of the state to develop effective planning tools and measures to plan for adaptation to climate change.
  - c. Consider climate change in agency rulemaking and policymaking.
  - d. Work on adaptation will emphasize planning to document risks of sea level rise and other natural hazards through the coastal management program and the federal hazard mapping program.
  - e. Work on urban mitigation will focus on implementation of HB 2186 and HB 2001 to develop land use scenarios that achieve existing statutory goals for greenhouse gas emissions reductions.
  - f. Work on energy use and sequestration will focus on state agency coordination to combat forest land conversion and promote low-carbon energy sources.
  - g. Preparation for expanded public outreach to engage the public, local governments and others in beginning to plan for the effects of climate change.

## ATTACHMENTS

- A. DLCD Staff Report from the June LCDC Meeting, May 21, 2009
- B. Land Use and Transportation Scenario Planning Requirements of HB 2001 & HB 2186



# Oregon

Theodore R. Kulongoski, Governor

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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](mailto:jeff.weber@state.or.us); or Robert Cortright at 503-373-0050, ext. 241, or by e-mail [bob.cortright@state.or.us](mailto:bob.cortright@state.or.us).

## **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

Temperatures. Temperatures in the Pacific Northwest increased about 1.5°F over the entire 20<sup>th</sup> 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 20<sup>th</sup> 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 20<sup>th</sup> century.

Precipitation. Precipitation increased about 14 percent in the Pacific Northwest over the 20<sup>th</sup> 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.

Storm Intensity. 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.

Sea levels. 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<sup>th</sup> 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 CO<sub>2</sub> 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, the department recommends that the commission seek public comment on the proposed 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 review or involvement 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.

**Table 1. Summary of Work Program Options for Climate Change**

Climate Change Element/ Objectives	Work Program Options		
	Low Modest expansion of existing efforts; modest redirection of existing resources	Medium Leadership, significant redirection of existing resources	High Leadership, significant new resources required
<b>Adaptation</b> - 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)
<b>Urban Mitigation</b> 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)
<b>Other Mitigation</b> 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)

## **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 services<sup>1</sup>
- 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.

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<sup>1</sup> "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 adaptation 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' climate-related 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 Program (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.<sup>2</sup> 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.

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<sup>2</sup> 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 risks<sup>3</sup> 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,<sup>4</sup> 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"<sup>5</sup> 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.

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<sup>3</sup> As used here, *risk* = threat \* likelihood of exposure to threat \* consequences of exposure.

<sup>4</sup> 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

<sup>5</sup> "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.<sup>6</sup> 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.

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<sup>6</sup> 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.<sup>1</sup> 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**

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<sup>1</sup> 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.<sup>2</sup> 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 rules will be needed to guide changes to plans. To support such changes, the department and commission should conduct a more detailed assessment of changes to plans, policies and regulations needed to meet goals for GHG emission reductions.

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<sup>2</sup> 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.

### Options

- 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.<sup>3</sup>
- 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.

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<sup>3</sup> 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

**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 cities 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 CO<sub>2</sub>.

**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 Non-carbon 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 ocean-based 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 current 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.

## Land Use and Transportation Scenario Planning for GHG Reduction

### HB 2186

**Scope:** All 6 MPOs  
**Outcome:** Report & recommendation to Legislature with draft legislation

### HB 2001 – Jobs & Transportation Act

**Scope:** Applies only to Portland Metro (advisory to Eugene/Springfield MPO)  
**Outcome:** LCDC adopts rules to set targets for GHG emission reductions, planning standards and schedule for adoption and implementation of land use and transportation scenarios; Progress reports to Legislature

2009		2010		2011		2012		2013		2014							
Jul-Dec Section 10(2)		Jan 1 Section 10(9)		March 1 Section 37 (7)		June 1 Section 37(6)		Jan 1 Section 37 (2)(a)		Feb 1 Section 38 (1)							
16-member MPOGHG Task Force appointed by Governor, Speaker, President Task Force to: <ul style="list-style-type: none"> <li>study and evaluate development of alternative land use and transportation scenarios</li> <li>evaluate fiscal and other resource needs</li> <li>evaluate impediments</li> <li>recommend legislation establishing a process and schedule for adoption and implementation of plans, with funding estimate</li> </ul>		MPOGHG Task Force Report and Recommendation on submitted to Legislative Committees on environment and natural resources; including draft legislation		ODOT/ DEQ/ ODOE provide GHG information and projections to LCDC including: <ul style="list-style-type: none"> <li>Estimate of 2035 VMT for Metro that is consistent with meeting state GHG reduction targets</li> </ul>		LCDC adopts rules setting GHG targets for 2035 for Metro		Metro "develops" two or more land use and transportation scenarios that meet GHG targets in LCDC rules		ODOT/ DLCD progress report to legislature including: <ul style="list-style-type: none"> <li>Metro scenarios</li> <li>adopted rules</li> </ul>		LCDC adopts rules to guide development and implementation of land use and transportation scenarios including: <ul style="list-style-type: none"> <li>"cooperative selection" of scenarios</li> <li>minimum planning standards</li> <li>planning assumptions and approaches</li> <li>cycle for local plan adoption and updates</li> </ul>		Before July 1 Eugene-Springfield MPO develops modeling/ other capabilities for scenarios <ul style="list-style-type: none"> <li>after July 1 Eugene-Springfield MPO prepares scenarios subject to statutory criteria (not LCDC rules)</li> </ul>		ODOT/DLCD progress report to legislature on: <ul style="list-style-type: none"> <li>adopted rules</li> <li>completed planning &amp; work remaining</li> <li>recommendations on extending planning requirements to other MPOs and cities in commute sheds</li> </ul>	

<sup>1</sup> Task Force is staffed by ODOT and DLCD. Funding for staff and work of the Task Force to be provided by ODOT from flexible federal funds. (Section 10(10))

**C-Engrossed**  
**House Bill 2186**

Ordered by the Senate June 22  
Including House Amendments dated May 4 and Senate Amendments dated  
June 8 and June 22

Ordered printed by the Speaker pursuant to House Rule 12.00A (5). Pre-session filed (at the request of Governor Theodore R. Kulongoski for Department of Environmental Quality)

**SUMMARY**

The following summary is not prepared by the sponsors of the measure and is not a part of the body thereof subject to consideration by the Legislative Assembly. It is an editor's brief statement of the essential features of the measure.

**Directs Department of Environmental Quality to conduct study of medium-duty and heavy-duty trucks for purpose of reducing greenhouse gas emissions. Directs department to submit report of study to specified interim committees on or before October 1, 2010.**

Authorizes Environmental Quality Commission to adopt rules to help state reduce greenhouse gas emissions. Specifies rules that commission may adopt. Specifies criteria by which commission must adopt rules. **Sunsets certain provisions on December 31, 2015.**

Requires [*commission*] **department** to report on rules to specified legislative committees and to Seventy-sixth, Seventy-seventh and Seventy-eighth Legislative Assemblies.

**Creates Metropolitan Planning Organization Greenhouse Gas Emissions Task Force for purpose of studying alternative land use and transportation scenarios that reduce greenhouse gas emissions from certain motor vehicles in areas served by metropolitan planning organizations. Directs task force to recommend legislation to specified interim legislative committees. Sunsets task force on convening of next regular biennial legislative session.**

Declares emergency, effective on passage.

**A BILL FOR AN ACT**

1  
2 Relating to greenhouse gas emissions; and declaring an emergency.

3 **Be It Enacted by the People of the State of Oregon:**

4 **SECTION 1.** (1) As used in this section:

5 (a) "Greenhouse gas" has the meaning given that term in ORS 468A.210.

6 (b) "Heavy-duty truck" has the meaning given that term in ORS 468A.795.

7 (c) "Medium-duty truck" has the meaning given that term in ORS 468A.795.

8 (d) "Return on investment" means:

9 (A) A net monthly savings gained through fuel efficiency that is equal to or greater than  
10 the net monthly payment obligation under a financing instrument; or

11 (B) The owner's or operator's initial capital costs, if self-funded, to comply with any po-  
12 tential requirements under this section are recouped in fuel savings within three years of the  
13 owner's or operator's expenditure of the initial capital costs.

14 (2)(a) The Department of Environmental Quality shall conduct a study of potential re-  
15 quirements regarding the maintenance or retrofitting of medium-duty trucks and heavy-duty  
16 trucks in order to reduce aerodynamic drag and otherwise reduce greenhouse gas emissions  
17 from those trucks. In conducting the study, the department shall evaluate:

18 (A) Comparable requirements of other states or the United States Environmental Pro-  
19 tection Agency;

NOTE: Matter in boldfaced type in an amended section is new; matter [*italic and bracketed*] is existing law to be omitted. New sections are in boldfaced type.

1       (2) The reports required under subsection (1) of this section must contain a description  
2 of:

- 3       (a) Rules adopted under sections 3 and 6 of this 2009 Act;
- 4       (b) The manner in which the Environmental Quality Commission complied with the re-  
5 quirements of sections 3 and 6 of this 2009 Act in adopting the rules;
- 6       (c) Significant policy decisions made by the commission in adopting rules under section  
7 3 of this 2009 Act; and
- 8       (d) The anticipated effects of the December 31, 2015, repeal of sections 6 and 7 of this 2009  
9 Act on the availability of low carbon fuels and the development of biofuels production facili-  
10 ties and electric vehicle infrastructure in Oregon.

11       **SECTION 10.** (1) There is created the Metropolitan Planning Organization Greenhouse  
12 Gas Emissions Task Force consisting of 16 members appointed as follows:

13       (a) The President of the Senate shall appoint two members from among members of the  
14 Senate.

15       (b) The Speaker of the House of Representatives shall appoint two members from among  
16 members of the House of Representatives.

17       (c) The Governor shall appoint the following members:

18       (A) One representative from each of the six metropolitan planning organizations in this  
19 state, at least three of whom must be elected local government officials.

20       (B) Four members who are representatives of transportation and land use stakeholders.

21       (C) The chairperson of the Oregon Transportation Commission.

22       (D) The chairperson of the Land Conservation and Development Commission.

23       (2) The task force shall:

24       (a) Study and evaluate the development of alternative land use and transportation sce-  
25 narios that accommodate planned population and employment growth in those areas of the  
26 state that are served by metropolitan planning organizations while achieving a reduction in  
27 greenhouse gas emissions from motor vehicles with a gross vehicle weight rating of 10,000  
28 pounds or less. The task force shall take into account the amount of greenhouse gas emis-  
29 sions caused by motor vehicles with a gross vehicle weight rating of 10,000 pounds or less  
30 that need to be reduced by 2035 in order to meet the goals stated in ORS 468A.205. The task  
31 force shall take into consideration the reductions in vehicle emissions that are likely to re-  
32 sult by 2035 from the use of improved vehicle technologies and fuels.

33       (b) Evaluate potential fiscal and other resource needs to implement land use and trans-  
34 portation scenarios described in paragraph (a) of this subsection, including staffing and re-  
35 sources needed by state agencies, local governments and each metropolitan planning  
36 organization.

37       (c) Evaluate impediments to implementing land use and transportation scenarios that  
38 reduce greenhouse gas emissions.

39       (d) Recommend legislation to the interim Legislative Assembly committees related to  
40 transportation and to the environment establishing a process for adoption and implementa-  
41 tion of plans for reducing greenhouse gas emissions caused by motor vehicles with a gross  
42 vehicle weight rating of 10,000 pounds or less by 2035, in an amount sufficient to meet the  
43 goals stated in ORS 468A.205, in each area of this state served by a metropolitan planning  
44 organization, including a schedule for the planning process and an estimate of funding re-  
45 quired to complete the planning process.

1 (3) A majority of the members of the task force constitutes a quorum for the transaction  
2 of business.

3 (4) Official action by the task force requires the approval of a majority of the members  
4 of the task force.

5 (5)(a) The President of the Senate and the Speaker of the House of Representatives shall  
6 serve as cochairpersons of the task force.

7 (b) The chairperson of the Oregon Transportation Commission and the chairperson of the  
8 Land Conservation and Development Commission shall serve as vice chairpersons of the task  
9 force.

10 (6) If there is a vacancy for any cause, the appointing authority shall make an appoint-  
11 ment to become immediately effective.

12 (7) The task force shall meet at times and places specified by the call of the chairpersons.

13 (8) The task force may adopt rules necessary for the operation of the task force.

14 (9) The task force shall submit a report with recommendations for legislation to the in-  
15 terim legislative committees related to transportation and to the environment and natural  
16 resources prior to January 1, 2010.

17 (10) The Department of Transportation and the Department of Land Conservation and  
18 Development shall provide staff support to the task force. The Department of Transportation  
19 shall use available federal flexible funds for the staffing and support of the task force.

20 (11) Members of the task force who are not members of the Legislative Assembly are not  
21 entitled to compensation, but may be reimbursed for actual and necessary travel and other  
22 expenses incurred by them in the performance of their official duties in the manner and  
23 amounts provided for in ORS 292.495. Claims for expenses incurred in performing functions  
24 of the task force shall be paid out of funds appropriated to the Department of Transportation  
25 for purposes of the task force.

26 (12) All agencies of state government, as defined in ORS 174.111, are directed to assist  
27 the task force in the performance of its duties and, to the extent permitted by laws relating  
28 to confidentiality, to furnish such information and advice as the members of the task force  
29 consider necessary to perform their duties.

30 (13) For the purposes of this section, "metropolitan planning organization" means an  
31 organization located wholly within the State of Oregon and designated by the Governor to  
32 coordinate transportation planning in an urbanized area of the state pursuant to 49 U.S.C.  
33 5303(c).

34 SECTION 11. Section 10 of this 2009 Act is repealed on the date of the convening of the  
35 next regular biennial legislative session.

36 SECTION 12. This 2009 Act being necessary for the immediate preservation of the public  
37 peace, health and safety, an emergency is declared to exist, and this 2009 Act takes effect  
38 on its passage.

39

## B-Engrossed House Bill 2001

Ordered by the House May 22  
Including House Amendments dated May 4 and May 22

Sponsored by Representatives BEYER, BERGER, Senators METSGER, STARR; Representatives BENTZ, D EDWARDS, HUNT, Senators COURTNEY, JOHNSON (at the request of Governor Theodore R. Kulongoski)

### SUMMARY

The following summary is not prepared by the sponsors of the measure and is not a part of the body thereof subject to consideration by the Legislative Assembly. It is an editor's brief statement of the essential features of the measure.

Directs interim House and Senate committees related to transportation and Oregon Transportation Commission to conduct study. Sunsets January 2, 2012.

Directs Department of Transportation to develop one or more pilot programs to implement congestion pricing in Portland metropolitan area. Sunsets January 2, 2016.

Directs Department of Transportation to provide information about transportation projects on website.

Directs Department of Transportation to develop least-cost planning model.

Authorizes issuance of lottery bonds for transportation projects funded from Multimodal Transportation Fund. Specifies allocation of lottery bond proceeds.

Defines "medium-speed electric vehicle."

Creates offense of unlawfully operating medium-speed electric vehicles on highway. Punishes by maximum fine of \$360.

Directs Department of Transportation to adopt safety standards for low-speed vehicles and medium-speed electric vehicles.

Directs Department of Transportation to include specific request for capital construction funding to facilitate sharing of offices and other facilities with local government in budget request prepared for Oregon Department of Administrative Services.

Directs Oregon Transportation Commission to work with stakeholders to review and update criteria used to select projects within Statewide Transportation Improvement Program.

Directs Department of Transportation to develop environmental performance standards for highway projects.

Directs Department of Transportation to implement certain transportation design practices.

*[Directs Oregon Transportation Commission to determine amount of federal transportation funds available to Department of Transportation that may be used for eligible nonhighway projects.]*

*[Permits city with population of more than 500,000 to establish vehicle registration fees. Becomes operative July 1, 2013.]*

**Enables counties to establish vehicle registration fees under certain circumstances.**

Prohibits local government from enacting or enforcing provision *[regulating use of fuel in]* **taxing fuel for motor vehicles. Sunsets January 2, 2014. Permits tax, after sunset, with voter approval.**

Prohibits car rental company from imposing surcharge in rental agreement that is greater than costs to register and title vehicles.

*[Removes requirement, for counties with population of 350,000 or more, that ordinance establishing county registration fees for vehicles be approved by electors of county. Becomes operative July 1, 2013.]*

Changes certain vehicle fees and motor vehicle fuel tax.

Extends credit against corporate excise or corporate income tax for corporation that provides motor vehicle insurance issued under mile-based or time-based rating plan.

**Creates specified funds. Continuously appropriates moneys in funds to Department of Transportation for specified purposes.**

Directs Travel Information Council to manage, maintain and improve certain roadside rest areas.

**Requires metropolitan service districts to develop land use and transportation scenarios designed to reduce greenhouse gas emissions from certain vehicles.**

**Creates program related to transportation projects and describes projects. Authorizes issuance of Highway User Tax Bonds for funding program.**

**Takes effect on 91st day following adjournment sine die.**

1 (3) The council shall issue a permit to the selected organization not less than 30 days in  
2 advance of the date for which the permit is issued. If there is more than one request for the  
3 same date and the same place, the council shall select one organization by random drawing  
4 and shall issue the permit to that organization.

5 (4) The council may not issue more than one permit for the same time and place.

6 (5) An organization that receives a permit shall confine distribution of coffee, other  
7 nonalcoholic beverages or cookies to an area of the rest area designated in the permit or by  
8 the rest area attendant. The organization may not obstruct access to any building or other  
9 structure in the rest area.

10 (6) An organization providing coffee, other nonalcoholic beverages or cookies may accept  
11 donations at the rest area while providing coffee, other nonalcoholic beverages or cookies.

12 (7) An organization may post signs identifying the organization and the activity, provided  
13 that each sign is not more than 10 square feet in area and there are not more than two  
14 signs. The signs may be placed only on vehicles used in connection with the provision of  
15 nonalcoholic beverages and cookies or located in the area designated for the activity.

16 (8) The council may revoke the permit of any organization that fails to comply with the  
17 provisions of this section or with rules adopted by the council to implement the provisions  
18 of this section.

19 SECTION 34. Sections 32 and 33 of this 2009 Act are repealed January 2, 2020.

20 SECTION 35. (1) The Department of Transportation and the Travel Information Council  
21 shall work with the private sector to develop a plan for installing electric motor vehicle re-  
22 charging stations at any roadside rest area operated by the council or the department.

23 (2) The department and the council jointly shall report to the House and Senate interim  
24 committees related to transportation on the development of the plan.

25 SECTION 36. Section 35 of this 2009 Act is repealed on January 2, 2012.

26 SECTION 37. (1) As used in this section:

27 (a) "Comprehensive plan" has the meaning given that term in ORS 197.015.

28 (b) "Land use regulation" has the meaning given that term in ORS 197.015.

29 (c) "Metropolitan service district" means a metropolitan service district established un-  
30 der ORS chapter 268.

31 (2)(a) Except as provided in subsection (5) of this section, on or before January 1, 2012,  
32 a metropolitan service district, in accordance with rules adopted under subsection (6) of this  
33 section, shall develop two or more alternative land use and transportation scenarios that  
34 accommodate planned population and employment growth while achieving a reduction in  
35 greenhouse gas emissions from motor vehicles with a gross vehicle weight rating of 10,000  
36 pounds or less.

37 (b) A metropolitan service district, in accordance with rules adopted under subsection (8)  
38 of this section, shall select, after public review and comment on the scenarios and in con-  
39 sultation with local governments within the jurisdiction of the metropolitan service district,  
40 one scenario described in paragraph (a) of this subsection as a part of its planning respon-  
41 sibilities under ORS 268.390.

42 (3) Except as provided in subsection (5) of this section, a local government within the  
43 jurisdiction of the metropolitan service district shall amend its comprehensive plan and land  
44 use regulations implementing the plan to be consistent with the scenario adopted by a met-  
45 ropolitan service district in a manner provided by rules adopted under subsection (8) of this

1 section.

2 (4)(a) The Department of Transportation and the Department of Land Conservation and  
3 Development shall provide technical assistance and guidance for the land use and transpor-  
4 tation scenarios and local planning described in subsections (2) and (3) of this section.

5 (b) The Department of Transportation and the Department of Land Conservation and  
6 Development shall provide grant support to each government entity required to carry out the  
7 provisions of subsections (2) and (3) of this section in amounts sufficient to fully reimburse  
8 the entities for any costs incurred in carrying out the provisions of subsections (2) and (3)  
9 of this section.

10 (c) The Department of Transportation and the Department of Land Conservation and  
11 Development shall provide funds for rulemaking, technical assistance and grants under this  
12 section from available funds.

13 (5) A metropolitan service district and local governments within the jurisdiction of the  
14 district are not required to comply with subsections (2) and (3) of this section unless the  
15 district and local governments receive sufficient funds for reimbursement of costs in carry-  
16 ing out the provisions of subsections (2) and (3) of this section.

17 (6) On or before June 1, 2011, the Land Conservation and Development Commission, in  
18 consultation with the Oregon Transportation Commission, shall adopt rules for metropolitan  
19 service districts. The rules must identify each district's needed reduction by 2035 in those  
20 greenhouse gas emissions caused by motor vehicles with a gross vehicle weight rating of  
21 10,000 pounds or less, based upon the goals stated in ORS 468A.205 and taking into consid-  
22 eration the reductions in vehicle emissions that are likely to result by 2035 from the use of  
23 improved vehicle technologies and fuels. On or before March 1, 2011, the Department of  
24 Transportation, the Department of Environmental Quality and the State Department of En-  
25 ergy shall provide the Land Conservation and Development Commission with the information  
26 or projections necessary to determine the proposed greenhouse gas emissions reduction goals  
27 for 2035.

28 (7) In order to carry out the responsibilities described in subsection (6) of this section:

29 (a) The Department of Transportation shall provide the Department of Environmental  
30 Quality and the State Department of Energy with an estimate of the vehicle miles traveled  
31 in the metropolitan service district in 1990 by motor vehicles with a gross vehicle weight  
32 rating of 10,000 pounds or less, based on available records;

33 (b) The Department of Transportation shall provide the Department of Environmental  
34 Quality and the State Department of Energy with an estimate of the rate at which new ve-  
35 hicles will replace existing vehicles among the vehicles described in paragraph (a) of this  
36 subsection;

37 (c) The Department of Environmental Quality and the State Department of Energy shall  
38 estimate the greenhouse gas emissions for 1990 for each metropolitan service district re-  
39 sulting from the travel by motor vehicles described in paragraph (a) of this subsection, using  
40 available records of the average emissions per mile emitted by motor vehicles in 1990 and the  
41 estimates provided by the Department of Transportation under paragraph (a) of this sub-  
42 section;

43 (d) The Department of Environmental Quality and the State Department of Energy shall  
44 estimate the predicted average greenhouse gas emissions by motor vehicles described in  
45 paragraph (a) of this subsection predicted to comprise the motor vehicles on the highways

1 in 2035 based on the predicted rate of replacement of the vehicles as described in paragraph  
2 (b) of this subsection and based on available reasonable estimates provided by public or pri-  
3 vate entities of the improvements in vehicle technologies that will be available for use by  
4 2035;

5 (e) The Department of Environmental Quality and the State Department of Energy shall  
6 recommend to the Land Conservation and Development Commission a percentage by which  
7 the emissions from motor vehicles described in paragraph (a) of this subsection should be  
8 reduced below their estimated 1990 emission levels by 2035 in order to achieve a reduction in  
9 emissions from the vehicles as part of the overall achievement of total carbon reduction set  
10 for 2050 by ORS 468A.205 and shall explain their reasons for any recommendations other than  
11 the midpoint between the 2020 and the 2050 emission reduction targets established by ORS  
12 468A.205;

13 (f) The Department of Environmental Quality and the State Department of Energy shall  
14 calculate the estimated miles of travel by motor vehicles described by paragraph (a) of this  
15 subsection predicted to be traveled and that may be accommodated in 2035 in each metro-  
16 politan service district based on the estimates performed under paragraphs (a) to (d) of this  
17 subsection and the recommendation required by paragraph (e) of this subsection;

18 (g) The Department of Transportation, the Department of Environmental Quality and the  
19 State Department of Energy shall recommend to the Land Conservation and Development  
20 Commission modeling tools or other methods by which a metropolitan service district may  
21 adjust the district's recommended target number of miles of travel described in paragraph  
22 (f) of this subsection to account for additional greenhouse gas emissions resulting from in-  
23 creased traffic congestion or reductions in such emissions resulting from measures that re-  
24 duce traffic congestion; and

25 (h) On or before March 1, 2011, the Department of Transportation, the Department of  
26 Environmental Quality and the State Department of Energy shall submit the information  
27 required by paragraphs (a) to (g) of this subsection to the Land Conservation and Develop-  
28 ment Commission, including but not limited to citations to sources relied on and calculations  
29 made.

30 (8) On or before January 1, 2013, the Land Conservation and Development Commission,  
31 in consultation with the Oregon Transportation Commission, shall adopt rules that establish  
32 a process for cooperatively selecting a land use and transportation scenario for each metro-  
33 politan service district to achieve the greenhouse gas emissions reductions identified in the  
34 rules adopted pursuant to subsection (6) of this section and a process for the adoption of  
35 regional or local plans to implement the scenario. The rules shall:

36 (a) Identify minimum planning standards for achieving reductions in greenhouse gas  
37 emissions through comprehensive plans and transportation system plans;

38 (b) Identify planning assumptions and approaches to meet minimum planning standards  
39 identified in paragraph (a) of this subsection that ensure the Department of Land Conserva-  
40 tion and Development can approve the changes to the regional framework plan, comprehen-  
41 sive plans and land use regulations implementing the comprehensive plans;

42 (c) Establish a cycle for initial adoption and updating of the transportation and land use  
43 scenario required by this section, including planning periods beyond 2035, relating the cycle  
44 to periodic review under ORS 197.628 to 197.650 and to urban growth boundary planning under  
45 ORS 197.296 or 197.298; and

1 (d) Ensure that local standards and criteria for land uses and for land development and  
2 transportation plans that implement the scenarios selected under subsection (2)(b) of this  
3 section:

4 (A) Are contained in the amendments to regional framework plans, functional plans,  
5 comprehensive plans and land use regulations required by subsections (3) of this section; and

6 (B) Do not have the effect of preventing, discouraging or delaying the implementation  
7 of the scenarios, except as necessary to protect the public health and safety.

8 (9) The Land Conservation and Development Commission may extend the deadline for  
9 adoption of the rules required under subsection (6) of this section for up to 90 days if the  
10 commission determines that the extension will not delay a metropolitan service district's  
11 completion of land use and transportation scenarios as described in subsection (2) of this  
12 section.

13 SECTION 38. (1) As used in this section, "metropolitan service district" means a metro-  
14 politan service district established under ORS chapter 268.

15 (2) On or before February 1, 2012, the Department of Land Conservation and Development  
16 and the Department of Transportation shall report to the House and Senate interim com-  
17 mittees related to transportation on progress toward implementing the land use and trans-  
18 portation scenario described in section 37 of this 2009 Act. The report must include:

19 (a) The scenarios of a metropolitan service district that are described in section 37 (2)  
20 of this 2009 Act; and

21 (b) The rules adopted pursuant to section 37 (6) of this 2009 Act.

22 (3) On or before February 1, 2014, the Land Conservation and Development Commission  
23 and the Department of Transportation shall report to the House and Senate interim com-  
24 mittees related to transportation on progress toward implementing the land use and trans-  
25 portation scenario described in section 37 of this 2009 Act. The report must include:

26 (a) The rules adopted pursuant to section 37 (8) of this 2009 Act;

27 (b) A description of the completed planning and work remaining to be completed; and

28 (c) Recommendations as to how the planning requirements of section 37 of this 2009 Act  
29 should be extended to metropolitan planning organizations serving areas with populations of  
30 more than 200,000 or to cities located outside the boundaries of metropolitan planning or-  
31 ganizations that have significant levels of commuting trips to destinations within the  
32 boundaries of a metropolitan planning organization.

33 SECTION 38a. (1) As used in this section, "metropolitan planning organization" has the  
34 meaning given that term in ORS 197.629.

35 (2) Except as provided in subsection (6) of this section, on or before July 1, 2013, with the  
36 assistance of the Department of Transportation and a metropolitan service district, a met-  
37 ropolitan planning organization that serves Eugene and Springfield shall develop modeling  
38 and other capabilities needed to perform the planning functions described in subsections (3)  
39 and (4) of this section.

40 (3)(a) Except as provided in subsection (6) of this section, on or after January 1, 2013, a  
41 metropolitan planning organization that serves Eugene and Springfield, shall develop two or  
42 more alternative land use and transportation scenarios that accommodate planned popu-  
43 lation and employment growth while achieving a reduction in greenhouse gas emissions from  
44 motor vehicles with a gross vehicle weight rating of 10,000 pounds or less.

45 (b) When developing the land use and transportation scenarios described in subsection

1 (a) of this section, the metropolitan planning organization shall take into account the  
2 amount of greenhouse emissions, caused by motor vehicles with a gross vehicle weight rating  
3 of 10,000 pounds or less, that need to be reduced in 2035 in order to meet the goals stated in  
4 ORS 468A.205. The metropolitan planning organization shall take into consideration the re-  
5 ductions in vehicle emissions that are likely to result by 2035 from the use of improved ve-  
6 hicle technologies and fuels.

7 (4) The local governments within the boundaries of a metropolitan planning organization  
8 that serves Eugene and Springfield shall cooperatively select, after public review and com-  
9 ment on the scenarios within the boundaries of the metropolitan planning organization, one  
10 scenario described in subsection (3) of this section.

11 (5)(a) The Department of Transportation and the Department of Land Conservation and  
12 Development shall provide technical assistance, grant support and guidance for the land use  
13 and transportation scenarios and local planning described in subsections (3) and (4) of this  
14 section.

15 (b) Metro, with grant assistance provided by the Department of Transportation, shall  
16 make its land use modeling capabilities available to metropolitan planning organizations that  
17 lack similar capabilities.

18 (c) The Department of Transportation shall provide funds for rulemaking, technical as-  
19 sistance and grants under this section from available funds.

20 (6) A metropolitan planning organization that serves Eugene and Springfield, and local  
21 governments within the jurisdiction of the organization, are not required to comply with  
22 subsections (2) and (3) of this section unless the organization and local governments receive  
23 sufficient funds for reimbursement of costs in carrying out the provisions of subsections (2)  
24 and (3) of this section.

25 (7) A metropolitan planning organization that serves Eugene and Springfield shall report:

26 (a) On or before February 1, 2014, to the House and Senate interim committees related  
27 to transportation. The report shall include recommendations for a cooperative process of  
28 rulemaking and enforcement of the rules.

29 (b) To the Seventy-eighth Legislative Assembly, the manner provided in ORS 192.245, on  
30 the implications of implementing the land use and transportation scenario selected under  
31 paragraph (a) of this subsection by amendments to the local government's comprehensive  
32 plan and land use regulations.

33 **SECTION 39.** Sections 37, 38 and 38a of this 2009 Act are repealed on January 2, 2016.

34 **SECTION 40.** ORS 801.041 is amended to read:

35 801.041. The following apply to the authority granted to counties by ORS 801.040 to establish  
36 registration fees for vehicles:

37 (1) An ordinance establishing registration fees under this section must be enacted by the county  
38 imposing the registration fee and filed with the Department of Transportation. *[Any]*  
39 **Notwithstanding ORS 203.055 or any provision of a county charter, the governing body of a**  
40 **county with a population of 350,000 or more may enact an ordinance establishing registration**  
41 **fees** *[that is enacted by the governing body of a county must be submitted to the electors of the county*  
42 *for their approval.]* **for the purpose of designing, replacing, acquiring necessary property for,**  
43 **engineering and constructing a bridge and its approach that crosses the Willamette River in**  
44 **the City of Portland. Except for motor vehicles registered as government-owned vehicles**  
45 **under ORS 805.040, the bridge shall be restricted to motor vehicles with a gross vehicle**