Oregon Department of Transportation

ODOT Tolling and Pricing White Paper Stakeholder Outreach Process

Summary of Stakeholder Comments (March-July 2009), Stakeholder Outreach Evaluation and Recommended Next Steps

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Introduction and background

The purpose of this document is to summarize the ODOT Tolling and Pricing stakeholder outreach process around the development of seven technical papers. This report is broken into two primary pieces: first, an overview of the stakeholder outreach process for the white papers and a summary of comments received; secondly, an evaluation of the effectiveness of the process in meeting stated objectives. Recommendations for future stakeholder and public involvement activities relative to the advancement of tolling policy in Oregon are also included.

The 2007 Legislature directed the Oregon Transportation Commission (OTC) to initiate policy development regarding the potential use of tolling and pricing on Oregon highways. ODOT and OTC determined that early stakeholder input is critical to the longer-term goal of policy development. ODOT retained Cambridge Systematics in 2007 to develop a policy framework that considered a range of potential congestion pricing objectives and tolling applications for Oregon. This framework included a matrix identifying four primary tolling objectives against which a series of tolling and pricing applications were evaluated. Next, a series of white papers was produced in early 2009 to provide in-depth discussion of the issues identified in the framework and to constitute a base of knowledge to consider in deciding whether and how tolls could be implemented in Oregon. The seven white paper topics are:

1. Air Quality/Greenhouse Gas Emissions
2. Geographic and Situational Limits
3. Demand Projection Sufficiency
4. Economic Evaluation of Improved Reliability
5. Assessing the Economic Effects of Congestion Pricing
6. Economic Comparison of Alternatives
7. Truck-Only Toll Lanes

These papers thoroughly discuss the issues associated with various potential tolling and pricing objectives and applications and refine analytic methodologies that may be relevant to Oregon.

Stakeholders from around the state reviewed the white papers, listened to presentations by white paper authors, engaged in discussions with ODOT staff and other stakeholders, and provided written and verbal comments. Stakeholder input on the tolling and pricing white papers will be presented to the OTC and ODOT management in September 2009. This report will also be distributed to stakeholders and posted on ODOT's web site.

Summary of public outreach process

Statewide stakeholder outreach occurred from March through July 2009. Approximately 105 key stakeholders from across the state were contacted about the white papers. This process did not include discussions of potential project-specific tolling.

The complete list of stakeholders can be found in Appendix A. Stakeholders generally fit into one of the following categories:

- Advocacy groups
- Area Commissions on Transportation (ACTs)
- Cities/Counties
- Environmental groups
- Environmental justice groups
- Federal agencies
- Governor's Natural Resources Office
- Higher education
- Metropolitan planning organizations
- Professional and business associations
- Regional governments
- State agencies/committees
- State/ODOT advisory committees
- Transit districts and associations

Feedback was solicited through one-to-one discussion sessions, a series of white paper forums, and an online survey. This input is collected in the following *Summary of Stakeholder Comments*. Additional details regarding the stakeholder outreach process can be found in the accompanying section *Stakeholder Outreach Evaluation and Recommended Next Steps*. A list of white paper forums dates and locations as well as one-to-one interviews can be found in the appendices of this document.

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Summary of Stakeholder Comments (March-July 2009)

An overview of the stakeholder outreach process for the white papers and a summary of comments received.

Purpose

The purpose of this section is to provide the comments and questions received from stakeholders on each of the topic-specific white papers and to highlight key themes that emerged throughout the outreach process. Much of the feedback received was specific to the white paper topics. General comments and white paper-specific comments are summarized below. Example comments from stakeholders are also provided.

General comments

There were a number of comments heard throughout the outreach process that addressed issues that were not specific to any one white paper topic, or that applied to multiple papers. These comments relate to the public process and provide insights into potential next steps with Oregon's evaluation of tolling and pricing options. Overarching comments have been summarized below:

- Many stakeholders provided positive feedback about the outreach process and appreciated being consulted early-on in the policy development process. Comments included an understanding of the approach taken to address specific topics through white papers. Stakeholders also liked the fact that the white papers were not "position papers" and were objective in their exploration of the issues. In general, stakeholders felt that the papers fit together well despite the fact that they were produced by different authors.
- Stakeholders appreciated the approach taken by ODOT to advance the questions around tolling and pricing policy in Oregon through evaluation of specific technical and economic issues. In particular, several stakeholders stressed the importance of considering the economic effects of tolling. At the same time, some stakeholders encouraged ODOT not to evaluate the effectiveness of tolling in a piecemeal manner because they felt no single policy objective should drive decisions around tolling in Oregon. There was concern that the white paper approach could lead some to the conclusion that tolling is not worth pursuing. It was suggested by a few stakeholders that ODOT develop a synthesis report that shows the cumulative potential of tolling.
- With respect to the tradeoffs of various tolling approaches, stakeholders acknowledged that tolling and pricing applications are very site-specific, and that there are major differences depending on the objective. Some were concerned that there may be a point at which the response achieved to meet one tolling objective begins to contradict other objectives. However, there was also an acknowledgement that for each project there is likely a spot that balances the factors of price, benefits, scale, and timing of implementation.
- It was noted that no specific paper looked at technology's impact on tolling application effectiveness. In-vehicle Wi-Fi that can deliver traffic congestion information and/or interact with electronic tolling systems was discussed as a potential incentive for drivers. Under this concept, individuals would receive in-vehicle Wi-Fi access in exchange for providing ODOT access to data about mileage.
- Multiple stakeholders noted the need for an extensive information and education effort to gain public understanding and acceptance of tolling and pricing. Many advocated for

more dialogue between technical modelers, decision makers and the public. Social and economic equity was discussed at most forums. Stakeholders specifically noted the need to involve people of color, low-income individuals, representatives of environmental justice communities, and the need to consider social and economic equity issues as the policy development process continues.

- Questions were raised about the potential for induced growth and land use effects. This was noted as an area of interest and/or concern by some stakeholders.
- There was a diversity of opinion as to whether people support the concept of congestion pricing in Oregon. Of those who do, the reasons for their decisions vary from getting more cars off the road, easing traffic and raising revenues. Of those who don't support congestion pricing, reasons include perceptions about the lack of public support, administrative costs, and fairness, and the belief that the concept it too new and should be more thoroughly tested in other states, or even across state boundaries.

White Paper #1: Air Quality/Greenhouse Gas Emissions

For Paper #1, the comments received generally indicate an understanding of the limited ability of project-specific tolling to improve air quality and/or reduce greenhouse gas (GHG) emissions on a statewide basis. While there was the expectation of some benefits to environmental/air quality from tolling, it was understood that the extent of these benefits would be specific to each application. Some stakeholders felt that even a small projected improvement was important to the statewide effort of reducing emissions. Stakeholders also had questions about the success of other states in establishing a relationship between the use of tolling and pricing and reductions in air pollutants.

Questions from stakeholders and forum participants:

- Do certain levels of toll rates correlate to a certain driver response? If so, how are these real-time choices presented to a driver?
- What studies are being done elsewhere on the relationship of tolling to air pollution/GHG reduction, especially in light of the policy options available for the use of revenues?

Example comments from stakeholders and forum participants:

- *Tolling as an effective method to achieve air pollution/GHG reductions:*
  - Transportation problems should be approached in ways that will reduce greenhouse gases/air pollution as much as possible. There may be some regional benefits, depending on the application and whatever reductions can be identified from these efforts should be claimed.

  - Least cost planning requirements will create a potential trade-off in the consideration of tolling as a method to reduce GHG levels.
  - Cordon pricing would not be as effective as working on coal plants or improving the fuel economy of the auto fleet to reduce GHG.
  - Peak period pricing has the ability to reduce the environmental impact of traffic and road building. There is potential for peak period pricing to reduce greenhouse gas emissions by 1) easing traffic, 2) encouraging mode split, and 3) perhaps most importantly, reducing the perceived need to build more road capacity (additional road capacity leads to induced travel which adds GHGs). Individual applications of pricing may not achieve all these objectives equally in any one application, but these benefits exist and could result from well-structured pricing programs.

- *Studies/best practices:*
  - Future studies should involve the input of behaviorists.
  - The Climate Trust of Oregon may be able to assist in future GHG planning.

White Paper #2: Geographic and Situational Limits

The feedback received on Paper #2 indicates that stakeholders accept that there are logical thresholds for the application of tolling that are dependent upon traffic volumes, geographic proximity of alternate routes, and revenue generation. Stakeholders also discussed the relationship of tolling applications to projects identified in the Statewide Transportation Improvement Program (STIP). In one-to-one conversations, many of the Area Commissions on Transportation (ACTs) representing rural areas agreed with the conclusions of the paper and did not see the potential for application of tolling in rural areas.

Questions from stakeholders and forum participants:

- Options for tolling seem limited. Are there any obvious tolling opportunities in Oregon?
- Washington state mandates a 25 percent funding level from toll revenues for tolled projects. Will Oregon set a similar level?
- What is the basis for the 15-minute time savings threshold mentioned in the paper?
- Did this or other papers look specifically at the potential for induced growth related to tolling applications?

Example comments from stakeholders and forum participants:

- *Limited opportunities for tolling in Oregon:*

  - The Northwest ACT discussed the potential for tolling a single bridge or facility along Highway 101, as there are no alternate routes.
  - The South Central Oregon ACT discussed the need for resources and improvements for Highway 97, given its importance to the State's economy and the fact there are no alternate routes close by. However, the number of vehicles traveling this corridor are likely too low for a tolling application to help pay for construction bonds.
  - Revenue generation and traffic management are very different objectives that seem like they would have different results in terms of project design. However, regardless of the objective, the threshold for tolling applications should always be tied to the revenue they generate and not solely on traffic management results, so that projects are able to pay for themselves.

- *Criteria for managing the use of state modernization funds for toll projects that are not fully funded:*
  - Tolls should not be considered until traffic demand management and transit alternatives have been fully considered, attempted, and found insufficient.
  - The criteria summarized at the end of the paper seemed to relate to whether the toll road would be viable on a financial basis. But there may be traffic management reasons for tolls as well. It would help to have three sets of criteria: (a) for any toll road, (b) for roads where tolls are intended to make a significant contribution to their cost, and (c) for roads in which tolls are used as a traffic management tool.
  - It would be better to decide you aren't going to toll until one of three things happens: 1) A toll project of substantially the same situation is shown to be successful somewhere else; 2) Technology develops to a point where mileage fees were applicable; or 3) The merits of the case could be decisively demonstrated by someone besides ODOT.
  - Familiarity with success of tolling in another project or location does not guarantee success in a similar application; land use effects are one issue to consider, in particular.

White Paper #3: Demand Projection Sufficiency

Paper #3 received more written comments than any of the other papers, which reflects the importance of modeling to the other topics, interest from a community of technical modelers on a concrete issue, and relevance to work in the state that is already underway. Overall, stakeholders identified a number of model improvements that are needed and posed several questions about the conclusions that were drawn in the white paper. Comments stressed the importance of funding and timing of improvements, as well as the need for close coordination and education between modelers and decision-makers around model development and implementation. There was general recognition amongst stakeholders that many models in the state were nationally recognized. However, even the best models were not designed to incorporate the changes in driver behavior that tolling and pricing may produce. The Oregon Modeling Steering Committee (OMSC) provided extensive written comment in a letter submitted to ODOT. The full text of this letter is included in Appendix C of this report.

Questions from stakeholders and forum participants:

- Do models need to be improved now before considering projects?
- Does information from other state studies apply here?
- Is there information to be gained from a comparison of a tour-based model and a trip-based model for the same location?
- The paper focuses on the demand side of modeling. What about the supply side?
- What is the minimum needed for a "simple" model that incorporates tolling?
- What is the relationship between this white paper and the Multi-Modal Tradeoff paper produced last year?

Example comments from stakeholders and forum participants:

- *Paper-specific observations:*
  - Several comments focused on the content of the white paper. Additional comments can be found in the full text of the OMSC letter in Appendix C of this report. Comments focused on the following:
    - Land Use Scenario Developer (LUSDR) and Metroscope models that are complementary land use models for tolling/pricing analysis and risk assessment.
    - Evidence that value of time may not need to be treated equally across mode choice and route choice, as the paper suggests.
    - The influence of congestion and pricing on time of travel decisions, and the influence of overriding congestion and pricing effects such as household obligations and work rigidity.
    - The suggestion that travel models ought to account for trip distribution.
    - Model implementation that requires extensive "borrowing" of coefficients from other regions may not be desirable.
    - Post-processing of model output data is needed to adjust "raw" forecast volumes produced by the trip assignment model.

- *Potential model improvements:*
  - Need to consider interval years for models, not just the forecast year. This will depend on the sensitivity of the model, land use considerations, and the level of confidence in the ability to predict future driving behaviors.
  - Precise time/travel data is needed.
  - Several recommendations to the Metro model, although desirable, would be difficult to implement in Metro's current model structure. These include pre-route choice, additional class and car occupancy segmentation, and flexible trip generations. However, the work being done by Metro, ODOT and PSU may be ideally suited to tolling

analysis, and the recommendations in this white paper may help shape implementation. The white paper also offers a straightforward example of a simplified approach to incorporating reliability measures, which looks promising.

  - It should be noted that a comprehensive data collection program is being conducted in Oregon, coordinated by the OMSC. The Oregon Household Activity Survey includes a core survey instrument with a provision for additional questions to address unique issues for different areas of the state. It also provides the opportunity to include specialized surveys, such as a stated preference survey on tolling in the Portland Metro area. The survey is underway in several areas of the state and will be completed in all Metropolitan Planning Organizations and ODOT regions by 2011.
  - The Metro values of time are low. Much of this has been dictated by the need to comply with Federal Transit Administration (FTA) guidelines. Models have been estimated with higher values of time in Portland that are not endorsed by FTA.
  - Metro demand models can link with a land use allocation tool. The analysis technique as to whether to include household and employment allocation influences is defined by the project sponsor and is influenced by the time and budget. More research is needed to quantify the impact that a toll would have on a residential choice decision since housing decisions are primarily driven by other factors - cost, neighborhood amenities, school quality, etc.
  - Models are calibrated at a consistent level region wide. If more data is collected for one part of the data (a corridor) and the model is calibrated consistent with that select data, overall calibration may be brought into question.
  - Recent studies indicate that models underestimate auto travel. The Optimism Bias figures should be verified.

- *Funding and implementation of model improvements:*
  - The identification of funding sources for model improvements is critical.
  - OTC will need to consider the right level of investment needed to improve models and technical accuracy. A risk analysis process needs to be considered in addition to modeling and applies to conversations early in the project planning phase.
  - The non-technical and policy/educational process that will accompany model improvements needs to be considered.
  - It may be useful to identify which of the top drivers of forecast failure are modeling related and which are due to decisions/actions external to the model. This clarification should also be made in the introduction to risk factors, as the factors listed are model input and not a result of running the models. The importance of a good decision-making process to develop model inputs and scenarios cannot be overstated.
  - The white paper recommends modeling "optimistic" and "pessimistic" variants on each important risk variable. This could produce an unworkable array of scenarios to model

and a data accounting challenge. Producing appropriate optimistic and pessimistic variants for some of the variables, judging what would constitute suitably optimistic and pessimistic variations, and implementing those in the integrated model will be difficult.

  - Risk analysis is "not beyond the modeling resources already available". The skill set definitely exists, however, project schedules typically do not permit time for the risk analysis. Furthermore, as more time is spent on a particular project, staff time available for other projects diminishes. It must be clear that if scope increases are required, decisions need to be made to delay other projects or more resources need to be made available.

- *Model complexity:*
  - Some projects include tolled alternatives for analysis. The current model needs improvement, but there is not a clear path for developing a more complex model.
  - Can a simpler model be used to analyze alternatives and a more robust model be developed at the "investment grade" analysis phase? This is often the case and will be dependent upon the audience of the analysis.
  - There are potential challenges in determining the true long-term effects of tolling through modeling.
  - It should be noted that the degree of sophistication used in analysis will vary by the project needs. Not all projects require sophisticated modeling. Techniques used for feasibility analyses could vary from those used in a bonding exercise.

- *Coordination:*
  - Surveys regarding driving behavior will be important to support the improvement effort.
  - Coordination between efforts around GHG and vehicle miles traveled is necessary.
  - The need for overall project management and a solid management plan is equally important as the technical needs for modeling. The burden for good tolling practices does not lie solely with the technical modeler. The importance of the decision-making elements to support modeling analysis cannot be overstated. This includes developing the parameters or assumptions needed to define the tolling analysis, and development of scenarios or alternatives to be analyzed. The time and effort devoted to assessing the risk surrounding the forecast is understandable, but a streamlined process, especially with respect to land use uncertainty, needs to be developed. These efforts are often not included in "modeling" considerations and it should be noted that sufficient budget, time, and staff resources need to be provided for these activities.
  - Current research is being conducted in the state. For example, Metro is working with Portland State University (PSU) to develop a dynamic tour based model. This will offer the opportunity to segment vehicle classes in a very informed way and, like SWIM, offers the opportunity to use distributed rather than aggregated value of time. Departure

time choice for activity and travel scheduling will be addressed in a comprehensive way. ODOT is also working with PSU to investigate dynamic assignment methods. The intent is for Metro, ODOT and PSU to work together to link the two, which will be a big step in improving the ability to address toll analysis at the MPO level.

White Paper #4: Economic Evaluation of Improved Reliability

Comments around Paper #4 ranged from discussions of data needed to support a better understanding of reliability, to the specific impacts tolling may have on issues such as diversion and vehicle miles traveled (VMT). Several stakeholders mentioned that the state and Metro region have enough data to begin modeling around the issue of reliability. Stakeholders were also interested in baseline equity considerations. These include enforcement, cost of management versus revenue generation, and increased transit investments to offset income issues. There was general understanding of the complexities of evaluating changes in reliability. In addition, the concepts of diversion and "winners and losers" were understood and acknowledged by stakeholders as being significant components of the tolling and pricing conversation.

Questions from stakeholders and forum participants:

- Do we need tolling to improve reliability?
- What is the horizon year for analysis?
- Why haven't ODOT and Metro introduced a reliability variable into their models?
- Where can we obtain more information about the FHWA reliability pilot projects?
- Would not improving reliability make businesses worse off? Could businesses leave the area to be closer to employees or markets?
- Decreased reliability seems likely to reduce VMT- is this the case?

Example comments from stakeholders and forum participants:

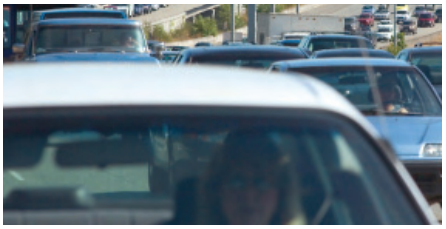
- *Tolling and improving reliability:*
  - This is not a new subject. It was being discussed by economists and modelers 20 years ago. I am surprised more progress has not been made.
  - The paper could have made a stronger recommendation on a specific method to start using to measure impact of reliability.
  - VMT and tolling goals may not necessarily tie together. VMT could increase for some due to diversion.

- *Equity and fairness:*
  - Economic effects seem worse for lower income users and small businesses. Income, modal options, and geography are all important considerations for determining impacts on households.

  - Business impacts are so unique to each business, how can it be generalized across society? Diversion already exists, even without tolling. The issue seems overstated here. The system is lacking equity now. Ubiquitous pricing can create free flow conditions. Transit can mitigate issues of equity for lower income. Proper pricing creates the most winners.

- *Data development programs for establishing baseline conditions:*
  - The paper seemed to imply that mountains of new research are needed before reliability can be taken into account. Yet it discussed a couple of alternatives for measuring reliability benefits to autos that seemed quite reasonable -- just pick one and start doing it. Not measuring it probably introduces a larger error into project and strategic comparisons than would be the case if an imperfect means of measuring it were used.
  - We already understand the baseline condition in the Metro region.
  - How perfect do models have to be before we actually start analysis? It seems as though policy framework can provide guidance for monitoring, assessment, and adaptive management of the process.

White Paper #5: Assessing the Economic Effects of Congestion Pricing



Comments on Paper #5 included feedback on a number of issues for which there are differing opinions. Social equity and the potential for tolls to disproportionately affect the low-income population and small businesses were raised as concerns by several stakeholders. Diversion and "winners and losers" were acknowledged by stakeholders as being significant questions. The use of toll revenues was also a subject of contrasting perspectives, centered around whether tolls should be used to pay for improvements to the tolled facility, or if these funds could be diverted to other uses that met similar objectives, such as public transit improvements.

Questions from stakeholders and forum participants:

- Has the maximum tolling price been applied anywhere?
- How is a rate determined to decrease congestion by "x" percent?
- Transit modeling uses the concept of "elasticity"- discretionary and non-discretionary trips. Can this concept apply here?
- Has the potential future scarcity of petroleum fuel been taken into account when thinking about future congestion?
- What could contribute to supply side or institutional charges?

- Is there a paper that looks at the effects on freight/trucks? Is there a point at which freight would be priced off the roads?

Example comments from stakeholders and forum participants:

- *Tolled/non-tolled alternatives:*
  - Is there an accurate understanding of the current system of gas taxes and who might be a winner or loser as a result? It seems as though there is not good information on these taxes and their effect on congestion.
  - I am surprised by how little experience there is with congestion pricing. SR 91 started a tsunami of interest in the subject, but little seems to have been done. Given that it seems to be best suited for high volume, very highly congested areas I really have to wonder how applicable the concept is to Oregon.
  - I'm interested in further study of a cordon pricing scheme and effects on business and the local economy.
  - I'm interested in the option of cordon pricing at the Metro Urban Growth Boundary.
  - I'm skeptical about the paper's description of negative impacts associated with cordon pricing.
  - ODOT should look at cost avoidance instead of tolls.
  - Toll choke points only and put revenue back into that facility.
  - A vehicle miles traveled tax may be a better way to go than tolling a specific facility.

- *Equity and revenue use:*
  - Many toll revenue distribution ideas may not be allowed; they are prohibited by the current state constitution.
  - Lower income communities do not necessarily value time less; some studies show that low-income users have a high value of time.
  - ODOT should get input from environmental justice groups.
  - An increase in the gas tax would be a fairer way than tolling to generate revenues.
  - The tourism industry anticipates it may be difficult to deal with out of state travelers; some mechanisms may be better suited for this than others.
  - Cordon pricing could hit small businesses hard.
  - Could the number of "winners" be increased if a free transit pass were provided? In London, toll revenues were used to improve transit facilities.
  - If congestion pricing is implemented as a strategy to reduce congestion, a portion of tolling revenues should be used to expand transit services during peak periods to encourage ridership and provide an alternative to paying tolls. Transit should also be exempt from paying tolls.

  - The authors took the position that the use of revenue collected in congestion pricing was important. I disagree. Use of revenue has no bearing on the conclusions reached by economic theory on pricing impacts. Success of SR 91 did not depend on what the owners did with the revenue. Whether or not congestion pricing is effective should be determined solely on the impacts of pricing. Use of revenue and any consideration of how to fund alternative means of transportation are separate questions.

White Paper #6: Economic Comparison of Alternatives

Comments on Paper #6 included feedback on specific approaches to comparing tolled and non-tolled alternatives. Stakeholders commented on their perception of the value of a benefit cost analysis (BCA) approach. Of those that supported benefit cost analysis, there was agreement that a more detailed methodology is needed to supplement the BCA.

Questions from stakeholders and forum participants:

- What is the relationship of BCA and least cost planning?
- What is the outcome of BCA versus financial analysis or income analysis? If driven by the same traffic data, wouldn't they arrive at the same result?
- Is the successful use of BCA to conduct a comparison of tolled and non-tolled alternatives dependent upon the particular tolling objective (e.g. congestion management versus revenue generation)?
- Project design could change if tolling was considered earlier in the process for some projects. How does one utilize BCA at a project planning level?
- How do you ensure that the inputs to a BCA are well thought out to prevent a "garbage in, garbage out" situation?
- What are the essential elements of a BCA to compare tolled and non-tolled alternatives?
- How can the "trip not taken" be evaluated?

Example comments from stakeholders and forum participants:

- *Paper-specific observations:*
  - I appreciate that the authors recommended multiple tools rather than trying to fold everything into a single benefit-cost analysis.
  - The paper makes a great case for benefit cost analysis of toll alternatives. Why doesn't the state make more use of that tool in selecting all major capital projects?
  - First, the use of rigorous benefit-cost analysis should be limited to toll projects. Especially if toll projects are to be compared to other strategies. Second, other papers did not support broad use of tolling or congestion pricing at this time. With that in mind, how important is it to have a manual on toll facility evaluation?

- The discussion in the paper is still at a pretty high-level. Need more details on the value of time calculations.
- Develop methodologies and tools and more detail on how to establish the value of time, value of safety, discount rate, and sensitivity of toll rate changes.
- The development of a Benefit/Cost Analysis tool that includes reliability will be a complex process and needs to be done with appropriate input.

White Paper #7: Truck-Only Toll Lanes

Comments on Paper #7 indicate that stakeholders believe truck-only toll (TOT) lanes may have very limited application, if any, in Oregon. Stakeholders provided insights to the specific behavior of freight in the region, the relationship of freight movement to other local and regional land use decisions, and the importance of modeling freight patterns.

Questions from stakeholders and forum participants:

- If bicyclists don't have to fully fund bike paths, why would truckers have to fund TOT lanes?
- What is the potential for a TOT from border-to-border on I-5?
- Would truckers start traveling during peak hours if congestion was reduced through TOT lanes?

Example comments from stakeholders and forum participants:

- *TOT lane benefits:*
  - It is important to understand who the decision-makers are within the trucking industry. The perception of benefits depends on whom you ask.
  - Customers (truckers) and constituents (public) are not the same.
  - Non-recurrent delay would decrease for general purpose lanes, which is a big benefit.
  - Arterial diversion trips would return to the highway, which benefits adjacent communities.

- *Support and funding:*
  - Truckers typically support tax increases more than tolls.
  - Stakeholders discussed potential funding sources for TOT lanes. Because general purpose lanes would also benefit from congestion/delay improvements due to TOT lanes, these lanes should also be tolled at a rate that reflects this benefit.
  - Metro is currently looking at its 2040 plan, which seems like an opportunity for freight stakeholders to assert a vision for the region.

- *Trucking behavior:*
  - Truckers are forced to drive through congestion because they can't stop their work clocks. This adds more trips to urban areas.
  - Cities and counties have many oversize restrictions that affect trucking movement.
  - The Port of Portland could charge a fee during peak periods to encourage off-peak use.
  - About one third of truck trips in the Portland area are thru-trips. Long trips will generally adjust their departure time to miss congestion in Portland.
  - Efficiencies can be gained for operations in other ways, especially if you are on a fixed route. Future technology may have a role to play in this.

- *TOT lane economic effects:*
  - Increased productivity could reduce available jobs.
  - More deliveries per day would benefit the local economy.
  - Community planning does not consider the economic impacts of land use decisions that impact freight, such as arterial calming measures. For example, truck traffic is confined to I-5 through Portland.

- *Modeling freight:*
  - Consider the following modeling elements relative to freight:
    - Land use, where trucks can be operated and at what times.
    - The approximately 25 year timeframe for freight planning seems sufficient.
    - The movement of workers is also important to consider.
    - Certain corridors and markets are critical and need to be accounted for.

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Stakeholder Outreach Evaluation and Recommended Next Steps

An evaluation of the effectiveness in meeting stated objectives and recommendations for future stakeholder and public involvement activities relative to the advancement of tolling policy in Oregon.

Purpose

The purpose of this section is to summarize the ODOT Tolling and Pricing stakeholder outreach process, evaluate its effectiveness at meeting stated objectives, and to identify recommendations for future stakeholder and public involvement activities relative to the advancement of tolling policy in Oregon.

Strategic Communications Plan

ODOT's Tolling and Pricing White Paper Strategic Communications Plan includes a project profile that outlines communications risks and opportunities, identifies statewide stakeholders, lists key project messages, and provides implementation plans for engaging stakeholders. The primary goal of the plan was to collect statewide feedback regarding tolling and pricing issues to inform future steps of the policy development process. The plan was developed by EnviroIssues and presented to the OTC in October 2008. The approach proposed in the original Strategic Communications Plan was modified throughout the outreach process to adapt to changing project conditions while still meeting outreach objectives.

> Strategic Communications Plan Goal: Collect feedback from stakeholders regarding tolling and pricing issues that will inform future steps of the policy development process.

Summary of public involvement activities

A number of outreach techniques were used to identify stakeholders and gather feedback on the seven tolling white papers.

Stakeholder identification

More than 100 stakeholders from across the state were identified within several categories, including the following:

- Regional governments
- Area Commissions on Transportation
- Cities/Counties
- Governor's Natural Resources Office
- Federal agencies
- State agencies/committees
- State/ODOT advisory committees
- Transit districts and associations
- Environmental justice groups
- Advocacy groups
- Higher education
- Metropolitan planning organizations
- Environmental groups
- Professional and business associations

In general, stakeholders that were contacted held executive or leadership positions within their respective organizations and agencies. A complete list of stakeholders contacted throughout the process can be found in Appendix A.

Stakeholder outreach

Statewide stakeholder outreach began in March 2009 and concluded in July 2009. Approximately 105 stakeholders were contacted to solicit their feedback on the seven white papers. Stakeholder input was requested in-person, via email or online survey, and through white paper-specific discussion forums. Stakeholders were invited to access the full text of each of the white papers, their executive summaries, and two-page white paper overview documents posted on the ODOT web site.

In-person interviews and presentations

Between March-July 2009:
105 stakeholders contacted
60 stakeholders interviewed
60 stakeholders engaged in white paper forums

From this larger group of stakeholders, ODOT contacted and met with individuals and small groups from across each of the identified stakeholder categories (see "Stakeholder identification" above). In all, approximately 60 in-person discussions took place between March and July 2009. Participants were asked questions specific to their area of work or interest, and the substance of discussions ranged from general tolling objectives and applications to specific comments on white paper content.

Email/online comment forms

Specific questions were drafted for each of the white papers and published as online comment forms. Stakeholders were given the opportunity to provide comments on as many or as few of the white papers as they chose. There was also a general comment form that addressed topics across the seven white paper categories.

White Paper Forums

Seven forums, one for each white paper, were held in June 2009. Dates and locations for each forum are below:

- Paper # 1, Air Quality/Greenhouse Gas Emissions: June 12 in Portland
- Paper # 2, Geographic and Situational Limits: June 29 in Eugene
- Paper # 3, Demand Projection Sufficiency: June 5 in Salem
- Paper # 4, Economic Evaluation of Improved Reliability: June 26 in Portland
- Paper # 5, Assessing the Economic Effects of Congestion Pricing: June 8 in Portland
- Paper # 6, Economic Comparison of Alternatives: June 22 in Wilsonville
- Paper # 7, Truck-Only Toll Lanes: June 16 in Salem

Each of the forums provided an overview presentation including the history and development of tolling policy in the state and background on each of the white paper topics. White paper authors were present at each of the forums and provided detailed presentations on their specific findings. The author presentations were followed by discussion between the author and stakeholders present. Participants shared comments on the paper topic and took the opportunity to engage the experts and others in the room.

Outreach performance measures

Five stakeholder outreach objectives were identified in the Strategic Communications Plan presented to the OTC in October 2008. The following provides a critique of the process against these identified measures:

Objectives

1. **Communicate with at least 50 stakeholders regarding specific issues within the white papers (i.e., not big picture responses to tolling).**

   ODOT staff exceeded this objective, meeting with approximately 60 individuals and groups of stakeholders between March and July of 2009. In addition, the seven forums had approximately 60 attendees. Some people attended more than one forum. A wide range of input was collected from a diverse group of stakeholders, however, input from environmental justice groups and communities was limited.

2. **Receive comments/input (electronic or written) from 70 percent of identified stakeholders.**

   This objective was not directly achieved. While comments and input were received from a diverse cross-section of the stakeholders identified, only 54 percent of the originally-identified stakeholders provided written and verbal comments. However, all stakeholders who attended a forum or a one-to-one interview provided comments that were captured for purposes of the outreach comment summary. Approximately half of the stakeholders identified for this process were engaged in one-to-one conversations with ODOT.

   The participation in forums brought additional stakeholders to the conversation, oftentimes from organizations identified in the original list of stakeholders. While forum attendance did not always match the anticipated attendance, the discussions were robust and successfully met ODOT's objective to receive feedback on the white papers from informed key stakeholders. Attendance at the forums may have been influenced by the fact that half of the one-to-one conversations took place before the first forum, and 90 percent were complete by the time of the last forum. Many stakeholders indicated they felt sufficiently engaged in the process and did not need to attend a forum to learn more.

Stakeholders were regularly encouraged to provide written feedback by means of the online forms or the written forms (which included white paper-specific and general questions). A kick-off email was distributed to approximately 105 stakeholders announcing the posting of the white papers on ODOT's website and asking for review and written feedback via the comment forms. In addition, participants were provided comment forms at each of the seven white paper forums. Despite a concerted effort to gather feedback via comment forms, few who participated in the process elected to provide their comments in written form. At the beginning of the process, participants were required to enter a code to access the comment form, which might have deterred some stakeholders. The number of comment forms received per white paper did not constitute a relevant source of feedback for determining trends in stakeholder perceptions. Narrative comments from the forums were incorporated in the stakeholder comment summary. Letters were submitted by the Oregon Modeling Steering Committee and Oregon Environmental Council in lieu of completing a comment form.

The feedback received at the forums and through one-to-one conversations provided relevant insights to the issues. ODOT received a number of comments from stakeholders expressing appreciation for the policy evaluation and outreach efforts, validating the approach to focus on these topics through a series of white papers and meet with key stakeholders during this early outreach phase. Furthermore, stakeholders showed widespread appreciation for the impartial approach taken by the white papers and for providing a thorough evaluation of economic issues.

The original list that identified statewide stakeholders generally provided a balanced representation of interests around the issues raised by the white papers. Additional effort could have included more stakeholders representing organizations involved with the social equity and environmental justice concerns that were raised through this outreach process.

3. **Receive positive feedback from ODOT leadership, the Tolling Steering Committee and OTC on stakeholder outreach effectiveness.**

   This measure will be addressed in a subsequent update to this summary, after the OTC and Tolling Steering Committee have the opportunity to review these findings and express their opinions about the process.

4. **Evaluate media coverage to determine if our key messages are included.**

   The Strategic Communications Plan assumed some coordination with media and the State Legislature. As the stakeholder outreach process was implemented, these assumptions were reevaluated with ODOT leadership. Media coordination did not occur during this phase of stakeholder outreach. Coordination did occur between the Governor's office and the ODOT legislative office. Future public and stakeholder processes would likely include media and legislative coordination.

5. **Complete an objective summary of input for use by ODOT and the OTC in developing toll policy.**

   A summary of stakeholder comments was developed based on input received through the seven white paper forums, one-to-one discussions, and written comments.

Recommendations for future public involvement activities

As ODOT and the OTC reflect on this preliminary stakeholder involvement effort and look to a continued and broadened public process around tolling and pricing policy development in Oregon, there are a number of recommendations for public involvement activities that resulted from stakeholder comment themes, a critique of this initial stakeholder involvement process, and anticipated communication with new audiences. Assuming the OTC decides to move forward with tolling and pricing policy development, several considerations may factor into future outreach.

The technical discussions that characterized the white papers and the first round of stakeholder outreach were necessary for understanding the various white paper topics. However, there also needs to be sufficient political understanding and will for tolling and pricing policy recommendations to advance. Stakeholders generally felt that the white papers fit well together in addressing a suite of specific topics. Some participants in the forums also commented that looking at these topics in a more integrated manner would allow for consideration of the areas of overlap between issues. While it makes sense to separate the issues surrounding tolling and pricing for purposes of policy analysis, ODOT should prepare to deliver messages that thread these various issues together into a more comprehensive story that will help to engage and educate a broader public and decision makers.

ODOT should prepare to deliver messages that thread these various technical and methodological issues together into a more comprehensive story as part of a broader public education and involvement process.

Stakeholders who participated in forums and one-to-one conversations were appreciative of the clear white paper process described by ODOT and interested in sharing their opinions. ODOT should continue this transparent approach as it develops a public outreach and communications plan. The plan should include an integrated set of key messages and an outreach strategy to educate the general public, engage the media, and collaborate with state legislators. This communications strategy should emphasize public education. Market research may be useful to learn more about public perceptions of tolling and inform message development. As discussed in a number of the white papers, tolling applications are very site and corridor specific. As Oregon advances the conversation around tolling and pricing policy, it will need to determine how best to insert the public into discussions around objectives, geography, and screening criteria.

In addition, a future communications and outreach effort should consider and prepare to address the relationship of the tolling and pricing policy development process to legislation from the 2009 session (e.g. House Bill 2001) focused on pilot projects for congestion pricing in the Portland metropolitan area, least-cost planning at the state and regional level, and increasing various transportation taxes and fees. Environmental legislation and statewide greenhouse gas reduction goals will also need to be discussed, as should the relationship of congestion pricing/ tolling to a potential vehicle miles traveled tax.

Several recurring issues are likely to appear in future public conversations around tolling and pricing:

- As a general concept, some portion of the public supports tolling as a user fee but does not support tolling as a source of revenue to pay for a project. Oftentimes the support for tolling does not materialize until a project is built and people can see the benefits.
- The concepts of diversion and "winners and losers" were understood and acknowledged by stakeholders as being significant questions. Social equity issues will likely continue to be at the forefront of a discussion with a broader public, especially as unemployment remains high in Oregon.
- ODOT should seek a broader level of input from services and groups that represent environmental justice populations. This will help ODOT understand their specific concerns and use this information to inform future communications planning.
- The options for the use of toll revenue were raised during this public process. While Oregon has limited latitude for application of tolling revenues, some are interested in changing these restrictions to allow revenues to be applied beyond highway uses to areas such as transit. Also, several stakeholders expressed a preference that tolling revenues should be spent in the area they are collected. The OTC will need to develop a response to revenue-related issues and determine next steps.

The stakeholder outreach effort was adjusted throughout this process, and will need to remain flexible in future outreach around tolling and pricing. ODOT was successful at meeting the goal identified in the Tolling and Pricing Stakeholder Outreach Strategic Communications Plan: to collect feedback from stakeholders regarding tolling and pricing issues that will inform future steps of the policy development process. The input stakeholders provided about the paper topics and the outreach process itself will be a valuable resource for ODOT and OTC as next steps are determined.

Appendix A: List of Tolling and Pricing Stakeholders

●=interview complete ○=interview scheduled

Category	Organization	Position	Attended one-to-one, forum, or provided comment
Regional Governments	Metro	Councilors	●
	Central Oregon Intergovernmental Council	Executive Director	●
	Lane Council of Governments	Executive Director	●
	Mid-Columbia Council of Governments	Executive Director	
	Mid-Willamette Valley Council of Governments	Executive Director	●
	Oregon Cascades West Council of Governments	Executive Director	
	Rogue Valley Council of Governments	Executive Director	
Area Commissions on Transportation	Central Oregon	ACT Chair	●
	Cascades West	ACT Chair	●
	East Multnomah County Transportation Committee	Committee members	
	Lane County Board of Commissioners	County Commissioner	●
	Lower John Day	ACT Chair	●
	Mid-Willamette Valley	ACT Chair	●
	Northeast Oregon	ACT Chair	●
	Northwest Oregon	ACT Chair	●
	Rogue	ACT Co-Chair	●
	South Central Oregon	ACT Chair	○
	South East	ACT Chair	●
	South West	ACT Chair	

Category	Organization	Position	Attended one-to-one, forum, or provided comment
Cities/Counties	League of Oregon Cities	Community Development, Transportation Committee	●
	Washington County Coordinating Committee	Chair	
	Association of Oregon Counties	Transportation Committee; Natural Resources Committee; Community Development Committee	●
	City of Portland	Mayor, City of Portland; PDOT Commissioner	●
	City of Salem	Mayor, City of Salem	●
	City of Eugene	Mayor, City of Eugene	●
	Multnomah County	Chair, Multnomah County	●
	Washington County	Chair, Washington County Board of Commissioners	●
	Clackamas County	Chair, Clackamas County Board of Commissioners	●
	Portland Office of Transportation	Principal Transportation Planning Manager	●
	City of Gresham	Mayor, City of Gresham	
	City of Tigard	Mayor, City of Tigard	●
	City of Hillsboro	Mayor, City of Hillsboro	
	City of Keizer	Mayor, City of Keizer	
	City of Beaverton	Mayor, City of Beaverton	●
	City of Springfield	Mayor, City of Springfield	●
	Clackamas County Coordinating Committee	Chair, Clackamas County Board of Commissioners	
Governor's Natural Resources Office	Sustainability Policy Advisor	Governor's Sustainability Advisor	●
Federal agencies	Federal Highway Administration	Oregon Division Administrator	●
	Federal Transit Administration	Region 10 Administrator	
	US Environmental Protection Agency	Region 10 Air Liaison to Oregon	
State agencies/ committees	Department of Environmental Quality	Office of the Director	●
	Land Conservation and Development Department	Transportation & Growth Management Program staff	●
	Oregon Economic and Community Development Department	Office of Director	●
	Oregon Tourism Commission, Travel Oregon	Oregon Tourism Commission CEO	●

Category	Organization	Position	Attended one-to-one, forum, or provided comment
ODOT	ODOT Government Relations	Staff	●
	PBLT	Staff	●
	Planning	Staff	●
	Columbia River Crossing	Staff	●
	Bicycle & Pedestrian Program	Staff	●
Tribal Government	Legislative Commission on Indian Services	Executive Director	
Governor/ ODOT advisory committees	Freight Advisory Committee	Freight Mobility Section Manager	●
	Governor's Small Business Council, Oregon Economic & Community Development Department	Small Business Services Officer	
	Columbia River Gorge Commission	Executive Director	●
	Oregon Bicycle Advisory Committee	ODOT Staff Liaison	●
	Oregon Sustainability Board	Secretary of State's office	●
	Public Transportation Advisory Committee	Staff	
	Global Warming Commission	Chair c/o Oregon Department of Energy	
Transit districts and associations	Albany Transit System	Transit Coordinator	
	Basin Transit Service	Chair, Board of Directors	
	Bend Area Transit	Manager	
	Canby Transit	Director	
	Corvallis Transit System	Transit Coordinator	
	Hood River County (Columbia Area Transit)	Board President	
	Lane Transit District	General Manager	●
	Lincoln County Transit District	Transit Program Coordinator	
	Oregon Transit Association	President	
	Rogue Valley Transportation District	General Manager	●
	Sandy Area Metro	Transit Manager	
	Salem Keizer Transit	Board President	
	South Clackamas Transit District	Manger	
	South Metro Area Regional Transit	Operations Manager	
	Sunset Empire Transit District	Executive Director	
	Tillamook County	General Manager	
	Tri-County Metropolitan Transportation District of Oregon	General Manager	●
	Umpqua Transit (Douglas County)	General Manager	●
	Yamhill County Transit Area	Transit Manager	

Category	Organization	Position	Attended one-to-one, forum, or provided comment
Environmental justice groups/ associations	Oregon Association of Minority Entrepreneurs (OAME)	President	●
	Urban League	President	
	Governor's Environmental Justice Task Force	Governor's Natural Resources Office	●
Advocacy groups	AAA of Oregon	CEO	●
	Cascade Policy Institute	President and CEO	●
	Oregon Public Ports Association	Executive Director	
	Portland City Club	Executive Director	●
	Oregon Center for Public Policy	Executive Director	
	Oregon Economic Development Association	Executive Director	●
	Oregon Highway Users Alliance	Executive Director	
	Oregon Trucking Associations	President	●
	Willamette Pedestrian Coalition	Director	●
Higher education	Center for Transportation Studies – Portland State University	Director	●
	Oregon State University- The Kiewit Center for Infrastructure and Transportation	Director	●
	University of Oregon, Department of Planning, Public Policy, and Management	Department Head	
	Oregon Transportation Research and Education Consortium (UO, OSU, PSU, OIT)	Director	
Metropolitan planning organizations	Bend MPO	MPO Director	
	Central Lane MPO	Program Manager	●
	Corvallis	Director	●
	Metro-JPACT	Chair	●
	Rogue Valley MPO	Director	
	SKATS (Salem-Kaiser)	Transportation Program Director	

Category	Organization	Position	Attended one-to-one, forum, or provided comment
Professional and Business Associations	American Public Works Association	Board President	●
	Associated General Contractors	Executive Director	
	Associated Oregon Industries	President and CEO	●
	Oregon Business Council	President	●
	Oregon Home Builders Association	CEO	●
	Oregon State Chamber of Commerce	Chair, Board of Directors	●
	Oregon Business Association	President	●
	American Planning Association, Oregon Chapter	President	
	Oregon Association of Minority Entrepreneurs	President	●
	Women's Transportation Seminar	President	
Environmental groups	1000 Friends	Executive Director	●
	Friends of the Columbia Gorge	Executive Director	
	Oregon Environmental Council	Executive Director	●
	Sierra Club – Oregon Chapter	Conservation Program Coordinator	
	Audubon Society	Executive Director	
	Coalition for a Livable Future	Co-Director	●
	Climate Trust of Oregon	Director	●

Appendix B: White Paper Forum and One-to-one Interview Dates

White Paper forums

- Paper # 1, Air Quality/Greenhouse Gas Emissions: June 12th in Portland
- Paper # 2, Geographic and Situational Limits: June 29th Eugene
- Paper # 3, Demand Projection Sufficiency: June 5th in Salem
- Paper # 4, Economic Evaluation of Improved Reliability: June 26th in Portland
- Paper # 5, Assessing the Economic Effects of Congestion Pricing: June 8th in Portland
- Paper # 6, Economic Comparison of Alternatives: June 22nd in Wilsonville
- Paper # 7, Truck-Only Toll Lanes: June 16th in Salem

One-to-one interviews

- SW ACT
- SE ACT
- Lower John Day ACT
- NE ACT
- ODOT Government Relations
- Cascades West ACT
- Portland City Club
- ODOT Planner's Meeting
- NW ACT
- ODOT, PBLT
- MW Valley ACT
- Columbia River Crossing
- OECDD
- Bend ACT
- Eugene ACT
- City of Tigard
- Lane Transit District
- Oregon State Chamber of Commerce
- AAA of Oregon
- Columbia River Gorge Commission
- Oregon Business Association
- Oregon Business Council
- Corvallis MPO
- Association of Oregon Counties
- ODOT, Pedestrian and Bicycle Program
- FHWA
- Willamette Pedestrian Coalition
- DEQ
- Metro, JPACT Chair
- Governor's Sustainability Advisor
- Association of Oregon Industries
- Oregon Trucking Association
- Oregon State University
- City of Salem
- Oregon Economic Development Association
- Oregon Environmental Council
- City of Eugene
- Multnomah County, Planning
- 1000 Friends of Oregon
- Metro, Policy Advisor
- Oregon Tourism Council
- American Public Works Association
- Assoc. of Minority Entrepreneurs
- Cascade Policy Institute
- Metro, Planning and Development
- City of Beaverton
- Lane County Board of Commissioners
- Climate Trust
- Metro TPAC
- Washington Co Board of Commissioners
- League of Oregon Cities
- City of Springfield
- Oregon Home Builders Association
- Eugene MPO Transit
- Governor's Environmental Justice Task Force

Appendix C: ODOT Tolling Comment Letters

Oregon Environmental Council
It's Your Oregon

222 NW Davis Street
Suite 309
Portland, OR 97209-3
503.222.1963
www.oeconline.org

June 24, 2009

RECEIVED
JUN 25 2009
Planning Section

Robert Maestre & Dave Williams
ODOT Long Range Planning Unit
555 13th Street NE, Suite 2
Salem, OR 97301-4178

Dear Robert and Dave,

Thank you for the opportunity to provide comment on the tolling white papers. I attended the forum on Tolling White Paper #1: Air Quality/Greenhouse Gas Emissions, and my completed comment form is enclosed. My background on the subject of tolling includes participation in the Traffic Relief Options Study run several years back by Metro and introduction of a bill in 1999 which requires ODOT to determine "willingness to pay" through tolls on drivers when it plans major new capacity increases (this legislation passed).

OEC is interested in peak period pricing due to its ability to reduce the environmental impact of traffic and road building. We see potential for peak period pricing to reduce greenhouse gas emissions by 1) easing traffic, 2) encouraging mode split, and 3) perhaps most importantly, reducing the perceived need to build more road capacity (additional road capacity leads to induced travel which adds GHGs). We acknowledge that individual applications of pricing may not achieve all these objectives equally in any one application, but we can all agree that these benefits exist and could result from well structured pricing programs.

Thus we strongly encourage you to not evaluate tolling's effectiveness piecemeal. Your papers may have found that it's not the be-all-and-end-all for any particular goal, but given that tolling, particularly peak period pricing, has the potential to address several goals simultaneously, it seems like an important arrow in the quiver. Because you evaluated each goal separately, a person could read each report and assume tolling is not worth it.

In fact, one can argue that the same factors that limit the ability of pricing and tolling to achieve certain policy outcomes – namely, that there are winners and losers, that the solutions don't work equally well in all parts of Oregon, that implementation may have unintended consequences, and that there are few successful recent examples – apply equally to road construction.

To remedy these deficiencies, I suggest you develop a synthesis report that shows tolling's additive (perhaps even synergistic) potential. Surely both ODOT and the State of Oregon would be well served by acknowledging that pricing and tolling, broadly defined, represent effectively the only way forward if we want to raise enough money to operate an efficient, safe and sustainable transportation system. Yet this obvious

conclusion is missing in each report. A balanced summary, or synthesis report, can and should put your many sound findings in a more constructive perspective.

We wish you luck on completing this project and, if the above points are not clear, would be happy to clarify them.

Sincerely,

Chris Hagerbaumer

Chris Hagerbaumer
Deputy Director

Oregon Modeling Improvement Program

Oregon Modeling Steering Committee

- Federal Highway Administration
- Oregon Department of Transportation
- Oregon Department of Administrative Services
- Oregon Department of Environmental Quality
- Oregon Department of Energy
- Oregon Department of Land Conservation & Development
- Bend Metropolitan Planning Organization
- Corvallis Area Metropolitan Planning Organization
- Lane Council of Governments
- Mid-Willamette Valley Council of Governments
- Portland Metro
- Rogue Valley Council of Governments
- SW Washington Regional Transportation Council
- Port of Portland
- Oregon Transportation Research & Education Consortium

COMMENTS OF THE
OREGON MODELING STEERING COMMITTEE
REGARDING
TOLLING WHITE PAPER 3: TRAVEL DEMAND MODEL SUFFICIENCY
June 4, 2009

The Oregon Modeling Steering Committee (OMSC) was requested to host a forum to discuss the *Tolling White Paper 3: Travel Demand Model Sufficiency*. The white paper was prepared for the Oregon Department of Transportation (ODOT) in February 2009 by Parsons Brinckerhoff, David Evans & Associates, Inc., and Stantec Consulting Services, Inc. The forum will be held on Friday, June 5, 2009 and will include OMSC members and others.

This comment paper was prepared to provide a high-level review of key assumptions and conclusions to help facilitate the discussion. The OMSC was not requested to conduct a peer review of the white paper and no detailed review was conducted of the appendix materials.

GENERAL COMMENTS

In general, the white paper is thorough and well written. It describes modeling features that are important to modeling road tolling and pricing policies, and it provides a good description of how different types of models work.

The white paper accentuates the need for Oregon to invest in a continuous model improvement program. The program must address state applications and the needs of the metropolitan planning organizations (MPOs), and investment must include research, data collection, professional services, and staff. Current investments in modeling are very limited, and the program is important to provide models that effectively support good public decision-making and emerging policy needs.

The title of the white paper, *Travel Demand Model Sufficiency*, is somewhat misleading. The white paper includes good research on tolling and modeling. However, it appears to be based on travel demand models and implies that findings on these models apply to all of the modeling work in Oregon. The Oregon modeling program includes fully integrated models that are not really travel demand models, including the Statewide Integrated Model (SWIM) and the Metro modeling suite. Although these are mentioned in the white paper, it is not clear whether all available models were included in the research for the white paper. The Land Use Scenario Developer (LUSDR) and Metroscope models are complementary land use models that are important for tolling/pricing analysis and risk assessment, but they are only briefly mentioned in the report.

It is likely that the Executive Summary will be read by many more people than the report itself. As written, the Executive Summary seems to focus on modeling sufficient to support investment grade analysis. For the broader audience, it should also include a summary of the levels of scope and detail for tolling and pricing studies, and the capabilities of the existing models to be used in these studies. It should also include a paragraph on the need for more data collection to support model improvements.

The white paper addresses the technical needs for tolling analysis and risk assessment. However, the need for overall project management and a solid management plan is equally important. The burden for good tolling practices does not lie solely with the technical modeler. The importance of the decision-making elements to support modeling analysis cannot be overstated. This includes developing the parameters or assumptions needed to define the tolling analysis, and development of scenarios or alternatives to be analyzed. The time and effort devoted to assessing the risk surrounding the forecast is understandable, but a streamlined process, especially with respect to land use uncertainty, needs to be developed. These efforts are often not included in "modeling" considerations and it should be noted that sufficient budget, time, and staff resources need to be provided for these activities.

It should be noted that the degree of sophistication used in analysis will vary by the project needs. Not all projects require sophisticated modeling. Techniques used for feasibility analyses could vary from those used in a bonding exercise.

It would be useful to include a section on current research being conducted in the state. For example, Metro is working with Portland State University (PSU) to develop a dynamic tour-based model. This will offer the opportunity to segment vehicle classes in a very informed way and, like SWIM, offers the opportunity to use distributed rather than aggregated value of time (VOT). Departure time choice for activity and travel scheduling will be addressed in a comprehensive way. ODOT is also working with PSU to investigate dynamic assignment methods. The intent is for Metro, ODOT and PSU to work together to link the two, which will be a big step in improving the ability to address toll analysis at the MPO level.

Several recommendations to the Metro model, although desirable, would be difficult to implement in Metro's current model structure. These include pre-route choice, additional class and car occupancy segmentation, and flexible trip generations. However, the work being done by Metro, ODOT and PSU may be ideally suited to tolling analysis, and the recommendations in this white paper may help shape implementation. The white paper also offers a straightforward example of a simplified approach to incorporating reliability measures, which looks promising.

It should be noted that a comprehensive data collection program is being conducted in Oregon, coordinated by the OMSC. The Oregon Household Activity Survey (OHAS) includes a core survey instrument with a provision for additional questions to address unique issues for different areas of the state. It also provides the opportunity to include specialized surveys, such as a stated preference survey on tolling in the Portland Metro area. The survey is underway in several areas of the state and will be completed in all MPOs and ODOT regions by 2011.

A table of contents would be useful. Generally, it should be reviewed to ensure that information on figures and tables is legible and that they are numbered correctly (for example, there is no Table 3 in the report). The appendices provide documentation on advanced techniques and are valuable, but it is not clear that this information belongs as part of the white paper.

Specific Comments

There are several important clarifications to make sure that the reader is correctly informed regarding current practice in Oregon.

- The author states that SWIM "is in a category all by itself: in fact, it is among the most advanced … models worldwide". SWIM is clearly a highly advanced model but this statement by the developer of the tool makes one question the objectivity of the white paper. (page 4 and others)
- The white paper states that VOT should be treated equally across mode choice and route choice. It is not clear that this is supported by the evidence. For example, the toll perception could vary depending upon the immediacy of the choice. A toll may be more important when the route choice is made – the decision has to be made as the driver proceeds on the roadway. The mode choice is a bit more removed and more considerations come into play in this choice. (page 17)
- It should be clarified that the SWIM model is not a travel demand model. (page 17)
- The white paper implies that congestion and pricing influences time of travel decisions, which is likely true. However, household obligations (picking up children, non-work appointments, etc.) or work hour rigidity often override congestion and pricing effects. Some travelers do not have a choice as to when to travel. This point is important because peak spreading is not a direct (linear) result of pricing and other forces must be considered. (page 18)
- The Metro VOTs are low. Much of this has been dictated by the need to comply with Federal Transit Administration (FTA) guidelines. Models have been estimated with higher VOTs in Portland that are not endorsed by FTA. (page 19)
- It should be noted that the white paper focused its model review of tolling practices at Metro on the techniques used in the Columbia River Crossing (CRC) project. These techniques were endorsed by a study team that included CRC consultants (including Stantec Consulting Services). Metro also conducted other studies, including the Highway 217 Tolling Study and Traffic Relief Options Study, using a segmentation of autos by purpose and income stratifications in assignment. The capability exists to conduct a more rigorous analysis, as encouraged by the white paper. (page 19)
- It is mentioned passively, but it should be clearly stated that Metro demand models can link with a land use allocation tool. The analysis technique as to whether to include household and employment allocation influences is defined by the project sponsor and is influenced by the time and budget. More research is needed to quantify the impact that a toll would have on a residential choice decision since housing decisions are primarily driven by other factors – cost, neighborhood amenities, school quality, etc. (page 21)
- It should be noted that the implementation of the model features described in Table 5 will require extensive "borrowing" of coefficients from other regions, which may not be desirable. Coefficients could vary by corridor due to project characteristics and any uniqueness that could be found in the corridor population, so survey work for each

corridor study is a better approach. This also depends, of course, on the stage of analysis – i.e., alternative analysis vs. bonding analysis. (page 26)

- Models are calibrated at a consistent level region wide. If more data is collected for one part of the data (a corridor) and the model is calibrated consistent with that select data, overall calibration may be brought into question. (page 29)
- Recent studies indicate that models underestimate auto travel. The Optimism Bias figures should be verified. (page 30)
- A better title for Section 3.1.3 is *Post Modeling Requirements*. The white paper does not speak to post-processing of model output data, which is very important and specific to the technical modeling process. Post-processing is an important element of the analysis process to adjust "raw" forecast volumes produced by the trip assignment model, and this process should be discussed in the white paper. (page 31)
- It may be useful to identify which of the top drivers of forecast failure are modeling related and which are due to decisions/actions external to the model. This clarification should also be made in the introduction to risk factors, as the factors listed are model input and not a result of running the models. The importance of a good decision-making process to develop model inputs and scenarios cannot be overstated. (page 36)
- The white paper recommends modeling "optimistic" and "pessimistic" variants on each important risk variable. This could produce an unworkable array of scenarios to model and a data accounting nightmare. The author suggests a process to reduce the number of possible scenarios, but this would probably require a sophisticated statistical analysis of the results. Producing appropriate "optimistic" and "pessimistic" variants for some of the variables (for example, the land use affecting a particular tolled facility would depend on regional forecasts and accessibilities that may differ given the presence or absence of the facility itself or the toll levels charged), judging what would constitute suitably "optimistic" and "pessimistic" variations, and implementing those in the integrated model will be challenging. (page 38)
- The author suggests that trip distribution be conducted by time of day. It is not clear that this is supported by the evidence. A person's daily travel is linked to a time budget and more time may be spent in the work commute at the expense of doing non-work travel later in the day. Ideally, a model should account for the travel budget in distribution. In the absence of this approach, Metro has found that a weighted impedance between peak and midday accessibilities yields a much better distribution (in terms of matching survey results). (page 42)
- It should be noted that Metro does extensive corridor-level auto and transit validation, as required for New Starts analysis. Clarifications on Metro improvements include: (pages 43-44)
    - Additional vehicle class segmentation: This can already be done (Highway 217 Tolling Study, Traffic Relief Options Study).
    - Detailed model validation: This is already done for New Starts and regionally significant projects.
    - Car occupancy segmentation: Very few 3+-occupant vehicles are found in the Portland region. Implementing this feature would require the porting of values from other locations and this approach introduces uncertainty.
    - Corridor level transit validation: Extensive validation is already done for New Starts.

- It should be noted that the CRC project is investing in significant Stated Preference (SP) survey work now that it is entering the bonding phase. (page 46)
- It should be noted that new household surveys are already underway in Oregon. (page 48)
- The author states that risk analysis is "not beyond the modeling resources already available". The skill set definitely exists, however, project schedules typically do not permit time for the risk analysis. Furthermore, as more time is spent on a particular project, staff time available for other projects diminishes. It must be clear that if scope increases are required, decisions need to be made to delay other projects or more resources need to be made available. (page 51)

Thank you for the opportunity for the OMSC members to review and comment on this white paper.

Sincerely,

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