MOSAIC:
OREGON’S VALUE- AND COST-INFORMED
PLANNING TOOL

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ABSTRACT

Mosaic is Oregon’s value- and cost-informed transportation planning tool, developed by the Oregon Department of Transportation (ODOT). It is designed to evaluate multimodal investments and demand management strategies as part of complex corridor or transportation system plans. It supports decision making during the development, evaluation, and recommendation of solutions.

The Mosaic tool offers two different methods for comparing benefits to costs. The first is a rigorous benefit-cost analysis. It incorporates the latest findings with respect to monetizing traditional user benefits and externalities, and it includes new or enhanced methods for estimating others. In addition to benefit-cost analysis, Mosaic offers an integrated method for scoring and weighing non-monetized indicators (multi-objective decision analysis).

Because the tool is designed to measure the costs and benefits of transportation bundles that contain programs as well as projects, Mosaic includes a programs guide, covering eight subject areas:

- Bicycle and pedestrian
- Equity
- Land use and built environment
- Operations/intelligent transportation systems (ITS)
- Pricing
- Public transportation
- Safety
- Transportation demand management

Each subject area includes a range of programs and a discussion of benefits and costs. This enables users to select, evaluate, and incorporate the programs best suited to their local conditions.

The development of Mosaic is currently at the pilot testing stage, with completion planned for mid-2014. Results of the pilot, including recommendations for modifications or further enhancements, will provide a basis for ODOT’s decision making regarding Mosaic’s role in state, regional, and local transportation planning and programming in Oregon.
Introduction

Transportation agencies today are challenged by the need to obtain and measure value for money invested. In less than a generation, the decision-making paradigm has changed—from one in which agencies had funds but struggled to gain consensus for project priorities—to one in which agencies often have consensus on priorities but lack the funds to implement them. In this context, there has been a growing need to identify and demonstrate value, and to measure it in a comprehensive manner.

Mosaic is Oregon’s value- and cost-informed transportation planning process and tool, developed by the Oregon Department of Transportation (ODOT) in collaboration with CH2M HILL and HDR Inc., representatives of federal, metropolitan, and local agencies, and a cross section of stakeholder groups. Mosaic offers transportation planners and decision makers an efficient way to evaluate the economic, social, and environmental costs and benefits of transportation investments. While Mosaic builds on Oregon’s adopted transportation policies and legislative mandates, it applies broadly to any situation in which decision makers seek to evaluate trade-offs among transportation investment strategies in order to select a preferred bundle of investments and programs for implementation. Its flexible structure suits users engaged in medium- to large-scale transportation system and/or project planning.

Mosaic measures value in both monetary and non-monetary terms. Value here is defined as a measure of relative worth and importance. This concept expands on the classic principle of maximizing financial return on investment by adding social and environmental returns into the mix. Mosaic monetizes many externalities—air pollution, noise, and the health effects of active transportation—so they can be included in benefit-cost analysis alongside traditional owner and user costs such as construction costs and travel time. In addition to a benefit-cost analysis framework, Mosaic offers planners and decision makers a method to score, weigh, and summarize non-monetized indicators (multi-objective decision analysis or MODA). The resulting comparison supports decisions that maximize the value of the mix of projects and programs for the local, regional, or statewide transportation system. In this way, Mosaic reflects the unique values and context of the owner agency and the community engaged in the planning and decision-making process.

In this paper, the authors further define Mosaic and identify its characteristics, functions, origins, structure and content, and current state of testing and use.
Development of the Mosaic Decision Support Tool

Oregon has a history of high levels of citizen and agency interest in the underlying issues and trade-offs involved in transportation decision making. Agencies have used a variety of models, tools, and decision-making processes, including travel demand models, multimodal level of service analysis, scenario planning, and cost-benefit studies, to make decisions. However, sound policy and resource allocation decisions are becoming increasingly complicated in the context of an expanding list of transportation needs, diminishing funding levels, and changing societal values.

Against this backdrop, in 2009, the Oregon legislature passed the Jobs and Transportation Act, which called for ODOT to develop a least cost planning tool to help inform transportation decision making. The term “least cost” is defined by the Act (now Oregon Revised Statutes [ORS] 184.653) as: “a process of comparing direct and indirect costs of demand and supply options to meet transportation goals, policies, or both, where the intent of the process is to identify the most cost-effective mix of options.” Over the past 3 years, ODOT has worked with consultants CH2M HILL and HDR to develop a decision-making process and tool that responds to the legislature’s directive.

The origins of least cost planning have been documented in a number of publications, including the “1995 LCP Feasibility Report,” commissioned by ODOT (1) and a report in the same year prepared for the U.S. Federal Highway Administration (FHWA). (2) As explained in that report, least cost planning was developed as part of the energy debate in the 1970s to consider a “broader set of choices” for meeting energy requirements while reducing total societal cost. A basic tenet of least cost planning is to identify capacity options to meet expected requirements, identify demand-side initiatives, and select a cost-minimizing combination of the two. But utilities found that the actual applications of least cost planning were far more diverse and complex. As explained by Mark Hanson, “A central goal of least cost planning is to provide energy services at minimum cost using demand and supply options. Minimizing the cost of energy services extends beyond achieving the lowest cost for power supply; meeting energy requirements efficiently requires attention to economic, environmental, and social effects. Thus, the intent of least cost planning is to consider all relevant factors explicitly, and to balance competing interests.” (3) The commitment to “consider all relevant factors explicitly” is central to ODOT’s application of this methodology.

Honoring this commitment required ODOT to address the ways that a unit of transportation service differs from a unit of electricity. Transportation capacity cannot be moved around the network. Electricity is a homogenous commodity, whereas trips are not—there is no kilowatt-hour equivalent in transportation. Users of transportation services and systems can choose among different modes with different features. They supply important inputs themselves (e.g., their time, their own vehicle). In transportation, the analyst must account for different benefits to different users, as well as different costs to them and to society. Least cost transportation plans thus must account for the preferences, behaviors, and impacts of trip making at different times and locations, as well as the different ways in which people value those benefits or costs.

In response to these circumstances, Oregon’s Mosaic tool offers two different methods for comparing benefits to costs. The first method is a rigorous benefit-cost analysis. It incorporates the latest findings with respect to monetizing traditional user benefits and externalities, and it includes new or enhanced methods for estimating others. The second is a scoring and weighting framework, or “multi-objective decision analysis - MODA.” This method,
also known as multi-criteria decision analysis (MCDA) or multi-criteria analysis (MCA), is widely applied in decision-making environments where it is not possible to agree on a single approach to valuing a certain type of impact or benefit. (4) Under those circumstances, decision-makers and analysts typically weight impacts subjectively. They apply weights to the impacts, which can be expressed quantitatively or qualitatively, to generate an aggregate score—or ranking—for the alternatives being evaluated. They may come to agreement on the weights through a structured elicitation process, or have each evaluator to weight impacts individually. They may also evaluate the effects of varying those weights on the resulting score or ranking of alternatives.

Theoretical Framework
The integrated or parallel use of benefit-cost analysis and MODA in transportation decision making has been evaluated favorably over the past 3 years by researchers in Denmark, Ireland, and South Africa. In the Danish application, researchers developed and tested a method comparable to Mosaic, using a similar set of criteria. Those researchers reported the following:

“A composite model for assessment (COSIMA) has been presented as a decision support system (DSS)...The following characteristics of the COSIMA DSS can be noted. COSIMA is simple in its design and application compared to earlier attempts to composite analyses...as the methodology basically just “adds to” and does not hide or change the information given by the CBA [cost-benefit analysis]. Furthermore, it contains qualities that make it suitable for handling complex assessment problems by incorporation of relevant MCDA criteria and applications based on weights. In this way the methodology behind COSIMA sets-out guidelines for dealing with the overall feasibility issues of a project appraisal by exploring whether other issues or criteria complementing the CBA can make a project change from being non-feasible to attractive. The methodology has been formulated to deal with the often occurring issue that the CBA result is not sufficient for the actual problem as decision-makers often want additional, systematic examinations that can supplement the CBA.” (5)

In the South African case, researchers reviewed current methods of evaluating and ranking transportation investments and compared them to the use of a balanced benefit-cost analysis/multi-criteria analysis method. They reported the following:

“Cost-benefit analysis, when applied in a classic sense, is not suitable for this purpose, given its exclusive focus on economic efficiency, whilst attempts to broaden it to include other impacts (or objectives) are not generally accepted. Multi-criterion [sic] analysis, however, is capable of facilitating project ranking in a multi-objective decision-making environment, but needs to be customised first to accurately reflect local conditions. The paper concludes that an appraisal framework should combine these two types of analysis by adopting an overall multi-criterion approach with economic efficiency (optimal allocation of resources), equity (impact distribution aspects), sustainability (environmental considerations) and compatibility (alignment with community goals and objectives, and other strategic initiatives) as decision criteria. This will ensure a usable protocol for the appraisal of this type of transport infrastructure project in an essentially multi-criterion decision-making environment.” (6)
In the Irish case, researchers offered the following conclusions:

“This paper develops and then applies a novel approach of combining cost-benefit analysis (CBA) and multi-criteria analysis (MCA) within a road infrastructure development programme with the aim to support the effective implementation of transport policy when prioritising projects. By incorporating CBA results into an MCA framework this approach retains the strengths of each appraisal method and provides a procedure for decision makers to create an initial ranking of projects which is consistent between all candidate investments and has a clear link to policy goals. … Stakeholder confidence in the outcome of any infrastructure investment ranking exercise is important and can be enhanced by an understanding of the robustness of the ranking to variations in key inputs to the assessment exercise. Two complementary perspectives on sensitivity testing are outlined which between them facilitate an assessment of the robustness of the project ranking obtained. The applicability of the approach has been successfully demonstrated for the National Secondary Road Network in Ireland.”(7)

During the process of developing the Mosaic tool and methodology, ODOT selected an abstract name with a concrete tagline: “Mosaic: Value and Cost-informed Planning.” The name conveys the nature of the desired end result, namely a big picture constructed skillfully from smaller pieces to create something solid and durable. Today, Mosaic (www.oregonmosaic.org) is an Excel workbook toolkit that includes a workbook, user guide, programs guide, and other features that enable users to consider supply- and demand-focused transportation actions, incorporate monetized and non-monetized indicators, and allow a range of projects and programs to be considered in decision making. Mosaic improves the ability to measure the costs and benefits of transportation strategies and actions. In doing so, it increases transparency and the diversity of information considered in transportation decision making in Oregon. Applying Mosaic in a planning process will help provide a more accurate assessment of potential benefits and costs in a way that is consistent and easy to analyze.

Mosaic Structure and Content
Mosaic is designed to evaluate multiple bundles of investments and programmatic actions as part of a larger planning process, for example, to the development of a complex corridor plan or transportation system plan. It supports decisions to be made during the middle stages of a typical transportation planning process, namely, the development, evaluation, and recommendation of solutions (see FIGURE 1).
FIGURE 1 Mosaic’s Role in Transportation Planning.

Mosaic identifies nine broad “categories” of impacts:
- Accessibility
- Economic vitality
- Environmental stewardship
- Equity
- Funding
- Land use
- Mobility
- Quality of life
- Safety and security

Each category links to one of the policy goals in the Oregon Transportation Plan. All are common headings for evaluation measures used in transportation corridor and system planning. As a group, Mosaic categories address the three pillars of sustainability: social, economic, and environmental considerations.

Nested under each category are a group of measures, referred to in Mosaic as “general indicators.” For each general indicator, there is at least one metric, termed a “specific indicator” (see TABLE 1).

A statewide committee of stakeholders, which has regularly advised the Oregon Transportation Commission, actively participated in identifying Mosaic categories and indicators. Members included leaders representing the FHWA, state Department of Land Conservation and Development (DLCD), business community, state economic development interests, freight community, environmental community, metropolitan planning organizations, and transit agencies. Nine multidisciplinary teams (“indicator development teams”) of ODOT technical experts, planning and measurement experts from transportation agencies around the state (in particular, modelers), and experts from CH2M HILL and HDR vetted the metrics and methods for calculating Mosaic “scores.” Robust peer review was provided by ODOT technical experts, planning and measurement experts from transportation agencies around the state (in
particular, modelers), and experts from CH2M HILL and HDR. Reports and recommendations of these groups are available on the Mosaic website.
### TABLE 1 Mosaic Specific Indicators.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>GENERAL INDICATORS</th>
<th>SPECIFIC INDICATORS</th>
<th>MONEY MODA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Stewardship</td>
<td>Air</td>
<td>Criterion air contaminants</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mobile source air toxics</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-MSAT air toxics</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Greenhouse Gases</td>
<td>Life cycle CO2e</td>
<td>✓</td>
</tr>
<tr>
<td>Accessibility</td>
<td>Resources at Risk</td>
<td>Natural, built, and cultural resources at risk</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Proximity</td>
<td>Transportation Access Index</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Population within X minutes between work and home</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ease of Connections</td>
<td>Location of industrial jobs in relation to the regional freight network</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Modal Availability</td>
<td>Population and employment within ¼ mile of a transit stop served by at least 30 vehicles per day</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Amount of multi-use paths and bike boulevards</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sidewalk coverage</td>
<td>✓</td>
</tr>
<tr>
<td>Land Use and Growth Management</td>
<td>Population and Employment Density</td>
<td>Population and employment change and distribution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Land Value</td>
<td>Relative land value change compared to base case or no action</td>
<td></td>
</tr>
<tr>
<td>Quality of Life and Livability</td>
<td>Physical Activity</td>
<td>Lives saved due to active transportation</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduced incidence of disease due to active transportation</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Journey Ambiance</td>
<td>Quality of the travel environment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Noise</td>
<td>Noise impacts</td>
<td>✓</td>
</tr>
<tr>
<td>Mobility</td>
<td>Travel Time</td>
<td>Travel time</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Quality of Service</td>
<td>Hours of congestion</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reliability – recurring congestion</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reliability – non-recurring congestion</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Out of Pocket Costs</td>
<td>User costs</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Travel Characteristics</td>
<td>Mode split</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VMT/capita</td>
<td></td>
</tr>
<tr>
<td>CATEGORY</td>
<td>GENERAL INDICATORS</td>
<td>SPECIFIC INDICATORS</td>
<td>MONEY MODA</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------</td>
<td>---------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Funding the Transportation System/Finance</td>
<td>Capital Costs</td>
<td>Capital costs</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Life Cycle Costs</td>
<td>Other lifecycle costs</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Operating Revenues</td>
<td>Total revenues</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Leveraging Funds from Private Sector and Other Agencies</td>
<td>Share of lifecycle funds that are “new” or “recycled”</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Net Impact on State and Local Fiscal Balance and Debt</td>
<td>Net impact of program on state and local fiscal balance</td>
<td></td>
</tr>
<tr>
<td>Economic Vitality</td>
<td>Economic Impacts of Spending for Construction</td>
<td>Number of jobs associated with action</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Economic Impacts of More Efficient Transportation Services</td>
<td>Changes in transportation costs by industry</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changes in employment by industry</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Structural Economic Effects</td>
<td>Changes in productivity from increased connectivity</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changes in the total value of exports and imports</td>
<td></td>
</tr>
<tr>
<td>Safety and Security</td>
<td>System Safety</td>
<td>Fatal, Injury A, and Injury B crashes</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>System Security</td>
<td>Emergency management systems</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Resiliency of the network</td>
<td>✓</td>
</tr>
<tr>
<td>Equity</td>
<td>Accessibility</td>
<td>Transportation Access Index, in different geographic areas (e.g., urban vs. rural) and/or for different population groups</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Environmental Stewardship</td>
<td>Distribution of PM and PM diesel emissions across population groups, based on geographic distribution of emissions</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Quality of Life</td>
<td>Reduced incidence of disease due to active transportation</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Safety</td>
<td>Distribution of accident rates (fatalities and injuries) across population groups</td>
<td>✓</td>
</tr>
</tbody>
</table>
Applying Mosaic in a Planning Process

Mosaic instructs users to follow six steps:

Step 1: Identify bundles of actions
Step 2: Establish the framework
Step 3: Weight modal indicators with stakeholders
Step 4: Populate the tool
Step 5: Interpret the results
Step 6: Use the results to make decisions

The bundles of actions referred to in Step 1, and throughout Mosaic, are essentially synonymous with the terms “scenarios” or “alternatives,” commonly used in transportation planning. FHWA’s scenario planning website (http://www.fhwa.dot.gov/planning/scenario_and_visualization/scenario_planning/scenabout.cfm) includes an excellent explanation of scenarios and offers links to metropolitan examples.

Similar scenarios can and have been developed for statewide planning purposes.

Mosaic’s roots in least cost planning have informed the bundle creation/scenario planning process. The statutory obligation to address demand management has required the development of an up-to-date guidance document as part of the Mosaic tool. The document—“Programs Guide”—includes eight subject areas:

- Bicycle and pedestrian
- Equity
- Land use and built environment
- Operations/intelligent transportation system (ITS)
- Pricing
- Public transportation
- Safety
- Transportation demand management

Each subject area includes specific programs, and the description of each program includes a discussion of the range of benefits and costs observed in comparable locations across the U.S. This practical information enables users to select, incorporate, and evaluate the set of programs best suited to their local conditions.

Step 2—Establish the framework—involves determining how Mosaic will measure impacts, in particular, which measurements will be monetized. Mosaic is designed to express as many indicators as possible in monetary terms; it is programmed to monetize 16 of the 41 specific indicators. However, users have the option to express impacts in other units (e.g., minutes, tons, acres, etc.) or directly on a qualitative scale (the workbook uses a default setting involving a 1- to 10-point scale). This flexibility is consistent with Mosaic’s emphasis on enabling users to adapt the tool to circumstances, data, and values. While the acceptable measurement options (monetized, quantitative, or qualitative scoring) are specified in the documentation and coded into the tool on the basis of research and peer recommendation, in many cases, the choice among these methods rests with the user. For example, the user must monetize project costs. On the other hand, the indicator development teams determined that there was not yet a reliable method for monetizing the health costs of certain air toxins; in which case, quantitative or qualitative evaluation methods can be selected. All recommendations are documented on the Mosaic website, and all sources are documented in the tool itself.

Step 3 is the process by which stakeholders weight categories and indicators. While monetary benefits and costs can be summed easily, non-monetary information must be scored...
and weighted before summation. Weighting allows a group of stakeholders to assign measure of relative importance to each Mosaic category and indicator. For example, the group might consider the relative value of each, submit individual results, then come back to discuss individual weights as a group. This process can be repeated several times until agreement is reached. In addition to providing an approach for evaluating non-monetized effects, the MODA weighting process builds a sense of stakeholder ownership in decisions.

The final steps of the Mosaic process (Populate the tool, Interpret the results, and Use the results to make decisions) are self-explanatory. Each step is documented in written guidance found on the project website.

“Under the Hood” of the Mosaic Tool

Mosaic calculations are performed through the use of a 35-sheet Microsoft Excel workbook, with supporting functions and procedures written in the Visual Basic for Applications (VBA) programming language. The formal structure of the tool is illustrated in FIGURE 2. The tool exhibits categories of impacts in a column at the center, supported by the use of a variety of tools and models (to the left of the shaded “scoring and evaluation” box containing the nine Mosaic categories). First in importance among the tools is a travel demand model, whose output supports calculation of multiple indicators in many categories. Other analytic tools and inputs include:

- Geographic information system data (for the analysis of spatial impacts)
- U.S. Environmental Protection Agency’s Motor Vehicle Emission Simulator (MOVES) for the estimation of changes in vehicular emissions
- PLANSAFE for the estimation of system-level safety impacts
- National EMS Information System (NEMSIS) for the identification of emergency routes also used in the analysis of safety
- IMPLAN, used for the generation of economic impacts

The use of each of these tools is explained in detail in the memoranda embedded in the specific indicator descriptions on the website (space limitations in this paper preclude a more complete discussion of their use here).

In addition to the model inputs and techniques previously described, the Mosaic tool incorporates several sketch-planning models. Three models, in particular, draw on peer-reviewed work and local data sources to enable estimation and monetization of transportation investment benefits that—while important to stakeholders—are still subject to ongoing research.

Under the category “economic vitality,” Mosaic offers a means for estimating the agglomeration benefits of transit. This model estimates the effects of transit (track mileage, revenue mileage, and seat capacity) on central city employment density and population. It further estimates the effects of these changes on wages and gross domestic product. (8)

Under the category heading of quality of life, Mosaic draws on a method developed in the United Kingdom (UK) for estimating the monetized value of the quality of the pedestrian and cycling environment (journey ambience). (9) The method focuses on six different features of pedestrian facilities and five different types of cycling lanes. It builds on published work by several UK researchers, cited in the reference section of the tool. It is a point of departure for work that could be done in the future in the U.S. to further refine the monetary values used.
FIGURE 2 Mosaic Workbook Structure.
A separate quality of life indicator estimates the monetized value of the reduced incidence of five diseases, as a result of the increase in physical activity associated with active transportation (walking and cycling). Recent work has been done on the effects of active transportation on mortality. Mosaic cites and uses this in a separate specific indicator. However, this morbidity model is the first, to the authors’ knowledge, to draw on peer-reviewed public health literature to estimate active transportation’s effect on the incidence of disease. As with all Mosaic data and tools, sources for this sketch model are cited in the reference section of the tool, and all calculations are displayed in the sketch models worksheet for this indicator.

Mosaic displays the measured values for each specific indicator in numeric and graphical formats in the Excel tool. There the user will find, among other valuable data, an easy-to-read comparison of the bundles’ monetary and MODA scores (See FIGURE 3). As explained in the literature previously cited, this comparison brings many useful questions into focus. Users may ask, for example, why the scores or their category components differ (if they do), how they might be affected by refining one of more of the bundles, and whether or how the MODA scores would change if different weights were used. Mosaic easily accommodates answers to some of those questions (though others may require further analysis).

FIGURE 3 Comparison of Illustrative Benefit-cost Analysis and MODA Scores.
Information on all sketch models used in Mosaic is described and documented in the Excel spreadsheets of the tool itself, including a discrete section listing references. While space limitations precludes a more complete discussion of these sketch tools and innovations here, the reader may download a copy of the Excel workbook tool from the Mosaic website (www.oregonmosaic.org homepage) (see FIGURE 4).

More generally, the Mosaic website contains information about Mosaic’s purpose, origins, development, and contents. This includes descriptions of all categories and indicators. Finally, the programs guide and a detailed user guide are available as companion documents for Mosaic users.

As of Summer 2013, Mosaic is being pilot tested by ODOT in partnership with the Portland region’s metropolitan planning organization and a select group of experienced staff from around the region and state. The goal of the pilot, which will include external peer review, is to test Mosaic’s features and functionality, tool sensitivity, scalability, and ease of use. The test is slated for completion in mid-2014. Results of the pilot test, including recommendations for modifications or further enhancements, will provide a basis for ODOT’s decision making regarding Mosaic’s role in state, regional, and local transportation planning and programming in Oregon.
REFERENCES


