Oregon Least Cost Planning
Livability and Quality of Life Indicators

TTI Conference on Performance Measures for Transportation and Livable Communities

September 7, 2011
Project Background
Least cost planning (LCP) was defined by the 2009 Oregon Legislature in the Jobs and Transportation Act (House Bill 2001):

“Least-cost planning means 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.”
Origins and Attributes of Least Cost Planning

- Least cost planning developed in the electric utility industry
  - to consider a **broad set of choices** for meeting electricity demand

- **Key characteristics:**
  - As often as possible, **measures costs and benefits** of investments and actions
  - **Uses quantitative and qualitative evidence**
  - Accounts for **environmental, social and economic effects**
Oregon LCP Categories

- Mobility
- Accessibility
- Economic Vitality
- Environmental Stewardship
- Safety and Security
- Funding the Transportation System/Finance
- Land Use and Growth Management
- Quality of Life and Livability
- Equity
# Examples of General Indicators

<table>
<thead>
<tr>
<th>CATEGORIES</th>
<th>DESCRIPTION</th>
<th>GENERAL INDICATORS</th>
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</table>
| Environmental Stewardship | Does the plan or action help provide a transportation system that meets present needs without compromising the ability of future generations to meet their needs from the perspective of ecological and social objectives? | Air  
Energy and greenhouse gases  
Biodiversity  
Land  
Water  
Community resources |
| Safety and Security  | Does the plan or action improve the safety of transportation facilities and systems? Does it help improve security at existing or planned transportation facilities?                                              | Safety  
Property damage only incidents  
Injury incidents  
Fatality incidents  
(Emergency vehicle response time)  
Security  
Crime  
Perception of security  
Resiliency of the transportation network |
| Quality of Life and Livability | Does the plan or action improve the quality of living and working environments, and the experience for people in communities across Oregon?                                                                  | Physical activity  
Exposure to pollutants  
Community cohesion/severance  
Streetscape/journey ambiance  
Access to recreational resources and open space |
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Livability & Quality of Life

General Indicators
Introduction

Research Objectives:

- Understand the **current application** of livability and quality of life indicators **to transportation systems**

- Facilitate a decision regarding the **inclusion** of livability and quality of life indicators **in the Least Cost Planning tool**
Introduction

Key Questions:

1. How are livability and quality of life currently defined in the literature?

2. What do we know about how transportation impacts livability and quality of life?

3. How are livability and quality of life impacts currently being measured by other agencies?
Examples of Sources Reviewed

- Academic Journals
  - Applied Research in Quality of Life Journal
  - Social Indicators Research Journal
- Recent Reports
  - HUD-DOT-EPA Partnership for Sustainable Communities
  - FHWA Livability in Transportation Guidebook
- Regional Transportation Plans
- Transportation-Related Health Impact Assessments
Livability and quality of life definitions are varied!

Livability refers to a community’s services and amenities

Quality of life refers to how those amenities shape and benefit the human experience

For example, where livability might be concerned with the transportation choices a community offers its residents, quality of life refers to the associated health benefits received by residents who have the choice to select more active travel modes.
Findings – How does Transportation Impact Livability and Quality of Life?

- In many ways!

<table>
<thead>
<tr>
<th>Category</th>
<th>Examples of Transportation's Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Development</td>
<td>Traffic congestion affects businesses</td>
</tr>
<tr>
<td>Housing</td>
<td>Transportation amenities influence housing price and development locations</td>
</tr>
<tr>
<td>Environment</td>
<td>Transportation emissions affect air quality and greenhouse gases</td>
</tr>
<tr>
<td>Community Development</td>
<td>Transportation projects can divide communities; some modes may increase social capital</td>
</tr>
<tr>
<td>Transportation</td>
<td>Transportation projects affect modal availability, access to destinations, streetscape amenities, etc</td>
</tr>
<tr>
<td>Equity</td>
<td>Transportation networks can serve some populations more than others</td>
</tr>
</tbody>
</table>
How are Livability and Quality of Life currently being measured?

Reviewed:
- Regional Transportation Plans
  - Puget Sound Regional Council Transportation 2040 Plan
  - Central Indiana Transportation Plan
  - Portland Metro 2035 Regional Transportation Plan
  - San Francisco Bay Area Transportation 2035 Plan
- Transportation Project Evaluation Criteria
- Transportation-Related Health Impact Assessments
The PSRC Transportation 2040 plan included “health,” “safety,” and “security” indicators under the heading “quality of life.”

The MTC RTP included just one “affordability” indicator designed to measure both equity and “livable community” goals.
Findings – In Many Different Ways!

- The Central Indiana Task Force identified a single “property value premium” indicator to measure community livability benefits.

- HIAs measured impacts to air quality, traffic collisions, physical activity, and included specific accessibility indicators.
1. Able to distinguish portfolios of actions at the system level

2. Can be used to *forecast* the impacts of various alternatives

3. Data is readily available

4. Does not belong in/overlap too much with a different OLCP indicator category
Relevant Indicators for OLCP

Recommended General Indicators:
- Physical Activity
- Exposure to Pollutants
- Community Cohesion
- Streetscape/Journey Ambiance
- Access to Recreational Resources and Open Space
- Social Capital (for future consideration)
Next Steps

- Work with project stakeholders to develop specific indicators for each general indicator
- Arrange these in an LCP tool ready to test on a planning process
- Prepare a guidebook for how to use the LCP tool
- Project Website: http://www.oregon.gov/ODOT/TD/TP/LCP.shtml
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Questions?