



Oregon Least Cost Planning Livability and Quality of Life Indicators

**TTI Conference on Performance Measures for
Transportation and Livable Communities**

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CH2MHILL

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Oregon Least Cost Planning

Project Background

What is Least Cost Planning?

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

CATEGORIES	DESCRIPTION	GENERAL INDICATORS										
 Environmental Stewardship	<p>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?</p>	Air Energy and greenhouse gases Biodiversity Land Water Community resources										
 Safety and Security	<p>Does the plan or action improve the safety of transportation facilities and systems? Does it help improve security at existing or planned transportation facilities?</p>	<table border="0"> <tr> <td data-bbox="1325 736 1412 768"><u>Safety</u></td> <td data-bbox="1630 736 1736 768"><u>Security</u></td> </tr> <tr> <td data-bbox="1224 776 1512 839">Property damage only incidents</td> <td data-bbox="1630 776 1727 808">Crime</td> </tr> <tr> <td data-bbox="1263 848 1470 879">Injury incidents</td> <td data-bbox="1543 811 1827 842">Perception of security</td> </tr> <tr> <td data-bbox="1257 888 1476 919">Fatality incidents</td> <td data-bbox="1576 851 1794 882">Resiliency of the transportation network</td> </tr> <tr> <td data-bbox="1292 925 1740 958">(Emergency vehicle response time)</td> <td></td> </tr> </table>	<u>Safety</u>	<u>Security</u>	Property damage only incidents	Crime	Injury incidents	Perception of security	Fatality incidents	Resiliency of the transportation network	(Emergency vehicle response time)	
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Property damage only incidents	Crime											
Injury incidents	Perception of security											
Fatality incidents	Resiliency of the transportation network											
(Emergency vehicle response time)												
 Quality of Life and Livability	<p>Does the plan or action improve the quality of living and working environments, and the experience for people in communities across Oregon?</p>	Physical activity Exposure to pollutants Community cohesion/severance Streetscape/journey ambiance Access to recreational resources and open space										

Oregon Least Cost Planning

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**

Findings – Proposed Working Definitions

- 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!

	Examples of Transportation's Influence
Economic Development	Traffic congestion affects businesses
Housing	Transportation amenities influence housing price and development locations
Environment	Transportation emissions affect air quality and greenhouse gases
Community Development	Transportation projects can divide communities; some modes may increase social capital
Transportation	Transportation projects affect modal availability, access to destinations, streetscape amenities, etc
Equity	Transportation networks can serve some populations more than others

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

Findings – In Many Different Ways!

- 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

General Indicator Selection Criteria

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 OLCIP indicator category

Recommended Livability and Quality of Life 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?