



APPENDIX B

LEVEL OF SERVICE STANDARDS

Appendix B: Level of Service Standards

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Level of Service Concept

Level of service (LOS) is a concept that is used to assess roadway system performance. It measures traffic flow *quality* as experienced by motor vehicle drivers and passengers. Typically, six levels of service are defined and each is assigned a letter designation from A to F, with LOS A representing the least congested conditions and LOS F the most congested.

For the purpose of identifying capacity deficiencies in the 2001 Eugene-Springfield-Lane County local Transportation System Plan (*TransPlan*), a roadway’s LOS is based on the ratio of its peak-hour traffic volume to the maximum hourly volume the roadway can accommodate. This is referred to as the roadway’s *volume-to-capacity ratio* (V/C).

Roadway Congestion Impacts

When the volume of traffic using a roadway nears the roadway’s capacity, the resulting congestion has several types of undesirable impacts:

- Travel speeds fall, which lengthens travel times and significantly increases the overall cost of transportation.
- Congestion on main routes causes traffic to spillover onto local routes through neighborhoods.
- Slowdowns and backups on high-speed freeway facilities can produce more frequent and severe vehicle collisions.
- Vehicle idling time caused by severe traffic congestion is a primary source of excessive auto emissions that degrade air quality.

Responses to Roadway Congestion

A key *TransPlan* strategy for meeting the region's mobility needs using available resources is to extract maximum value from the existing roadway system. Transportation System Improvements (TSI) System-Wide policies and implementation actions set a high priority on managing and protecting existing and future transportation infrastructure. When combined with policies and implementation actions for land use, transportation demand management and transit, TSI System-Wide policies provide direction for a wide range of actions that reduce the need to construct new roadway capacity improvements. Examples of such actions include the following:

- Reconfigure roadway accesses to minimize traffic conflicts at intersections;
- Limit parking near signalized intersections to increase intersection capacity;
- Coordinate and operate traffic signals to improve traffic progression;
- Relocate driveways and improve local street connections to direct traffic away from overburdened intersections and intersections where side-street capacity is limited in order to optimize traffic progression on arterials and collectors;
- Improve turning-radii at intersections that are heavily used by trucks to avoid lane blockages;
- Install raised medians to reduce traffic conflicts; and
- Improve accesses so that traffic can enter or exit the highway with minimal disruptions of flow.

Even with the above actions, significant components of the roadway system are forecast to fall below acceptable LOS standards. Where management actions have failed to produce acceptable LOS, construction projects to add roadway capacity must be considered.

LOS Standards – Application

TSI Roadway Policy #2: Motor Vehicle Level of Service guided *TransPlan*'s transportation system needs analysis and is intended to guide the transportation aspects of future land use decisions. OAR 660-12-0060 (1) "Transportation Planning Rule" states that,

"Amendments to functional plans, acknowledged comprehensive plans, and land use regulations which significantly affect a transportation facility shall assure that allowed land uses are consistent with the identified function, capacity, and performance standards (e.g., level of service, volume to capacity ratio, etc.) of the facility."

Capacity Analysis Methodologies

The most current Highway Capacity Manual (HCM), *Special Report 209, Transportation Research Board* is the standard reference for roadway capacity analysis methodology. The basic concepts of *capacity* and *LOS* are described in Chapter 1 of the HCM.

In general terms, the HCM defines roadway capacity as the maximum hourly rate at which vehicles can reasonably be expected to traverse a uniform section of roadway during a given time period under prevailing roadway, traffic, and control conditions. Capacity is often stated in terms of Passenger Cars Per Lane Per Hour (pcplph).

The Highway Capacity Software (HCS) package is a tool that implements the HCM analysis methods. The HCM/HCS package has been developed over time as an integrated, comprehensive package of analysis methods that are widely understood and accepted.

The Oregon Department of Transportation (ODOT) has developed special analysis tools for use in analyzing capacity issues for certain types of facilities on the state highway system. In particular, the SIGCAP2 and UNSIG10 software packages are used for signalized and unsignalized intersection capacity/LOS analysis, respectively. Other more specialized analysis methods are also used, depending on the nature of issues being analyzed.

Roadway System Needs Analysis

Transportation system needs analysis for the Central Lane MPO area’s collector and arterial roadway network was conducted using a computer model (EMME/2). Output from this model was used as a primary source of information about locations on the roadway network where roadway volumes are forecast to exceed capacity.

The traffic volume forecasted to occur on each network link was compared to the link’s assumed capacity to produce a V/C ratio. The following thresholds were established to relate these V/C ratios to the roadway LOS performance standards:

Facility Type	LOS D	LOS E
Freeways, 55 MPH	V/C ≤0.78	V/C ≤1.0
Non-freeways, 55 MPH	V/C ≤0.87	V/C ≤1.0
Other Arterials and Collectors	V/C ≤0.87	V/C = 0.88 - .97

Oregon Highway Plan Mobility Standards

Through the *Oregon Highway Plan* (OHP), ODOT establishes performance standards for the state highway system, including all state facilities considered in *TransPlan*. The adopted OHP sets V/C standards based on various combinations of highway and land use categories. Due to the prominent role that state facilities play in the local transportation system, these standards are reproduced below for reference. As referenced in *TSI Roadway Policy #2: Motor Vehicle Level of Service*, the OHP Mobility Standards are the operable standards on state facilities within the Central Lane MPO area.

Alternative Mobility Standards

The Oregon Highway Plan (OHP) Policy 1F establishes highway mobility standards to “maintain acceptable and reliable levels of mobility on the state highway system.” The mobility standards are expressed as maximum allowable volume to capacity ratios in the peak hour. The standards vary by facility type, and different standards are applied to urban and to non-urban areas; to Portland Metro, to other Oregon MPO and to non-MPO urban areas; and to Special Transportation Areas (STAs). The OHP recognizes that it may be infeasible, in some cases, to meet the standards in Policy 1F, and allows for the adoption of alternative mobility standards in

metropolitan areas or portions thereof, provided that the local plan also includes specific actions to manage transportation demand and ensure efficient use of the capacity of the state highway system.

A TGM-grant funded project began the development of a set of Alternative Mobility Standards for the Central lane MPO area, where determined necessary by an alternative mobility standards analysis.

Maximum Volume-to-Capacity Ratios for Peak Hour Operating Conditions Through a Planning Horizon for State Highway Sections Located Outside the Portland Metropolitan Area Urban Growth Boundary*

Highway Category	Inside Urban Growth Boundary					Outside Urban Growth Boundary	
	Special Transportation Areas (STAs)	MPO	Non-MPO Outside of STAs where non-freeway posted speed <= 35 mph, or a Designated UBA	Non-MPO outside of STAs where non-freeway speed > 35 mph	Non-MPO where non-freeway speed limit >= 45 mph	Unincorporated Communities	Rural Lands
Interstate Highways	N/A	0.80	N/A	0.70	0.70	0.70	0.70
Statewide Expressways	N/A	0.80	0.70	0.70	0.70	0.70	0.70
Freight Route on a Statewide Highway	0.85	0.80	0.80	0.75	0.70	0.70	0.70
Statewide (not a freight route)	0.90	0.85	0.85	0.80	0.75	0.75	0.70
Freight Route on a Regional or District Highway	0.90	0.85	0.85	0.80	0.75	0.75	0.70
Expressway on a Regional or District Highway	N/A	0.85	N/A	0.80	0.75	0.75	0.70
Regional Highways	0.95	0.85	0.85	0.80	0.75	0.75	0.70
District / Local Interest Roads	0.95	0.90	0.90	0.85	0.80	0.80	0.75

Lane County Level of Service Standards

Lane County has developed a set of Level of Service Standards in its adopted 2004 Transportation System Plan. Similar to ODOT's Mobility Standards, these standards apply on the County's roads within the Central Lane MPO area.

Lane Code 15.696 provides peak hour performance standards, and Lane Code 15.697 provides traffic impact analysis requirements. Traffic impact analyses, when required for proposed plan amendments, zone changes, or land developments, must demonstrate that the maximum volume to capacity ratios specified in Lane Code 15.696 will not be exceeded. Level of service calculations may also be useful in completing the analysis, and may be required by the County. The minimum peak hour level of service standard for Lane County is "LOS D." Where level of service analysis is required, both the v/c ratio standard and LOS D must be achieved or maintained. Achieving or maintaining the v/c standard means the v/c ratio is numerically equal to or less than the v/c ratio in the table in Lane Code (see below). Achieving or maintaining LOS D means the level of service is "D" or better, i.e. "A", "B", "C", or "D". Failure to meet the standard, or "exceedence" of the standard means that the predicted level of service is "E" or "F". The v/c ratio standards shown below are taken from the June 4, 2004 Lane County Transportation System Plan and are provided for informational purposes only.

Maximum Volume to Capacity Ratios for Peak Hour Operating Conditions on Lane County Roads

Highway Category	Land Use Type/Speed Limits					
	Inside Urban Growth Boundary				Outside Urban Growth Boundary	
	STAs	MPO	Non-MPO outside of STAs where non-freeway speed limit <45 mph	Non-MPO where non-freeway speed limit >= 45 mph	Unincorporated Communities	Rural Lands
Interstate Highways and Statewide (NHS) Expressways	N/A	0.80	0.70	0.70	0.70	0.70
Statewide (NHS) Freight Routes	0.85	0.80	0.75	0.70	0.70	0.70
Statewide (NHS) Non-Freight Routes and Regional or District Expressways	0.90	0.85	0.80	0.75	0.75	0.70
Regional Highways	0.95	0.85	0.80	0.75	0.75	0.70
District/Local Interest Roads	0.95	0.90	0.85	0.80	0.80	0.75

Notes:

- Interstates and Expressways shall not be identified as Special Transportation Areas (STAs).
- For the purposes of this policy, the peak hour shall be the 30th highest annual hour. This approximates weekday peak hour traffic in larger urban areas.



APPENDIX C

LIST OF SUPPORTING DOCUMENTS

Appendix C: List of Supporting Documents

Doc No.	Title	Date Published	Location
1.	Eugene Bikeways Master Plan	November-74	LCOG, City of Eugene
2.	Eugene-Springfield Transportation Alternatives	September-75	LCOG
3.	Eugene-Springfield Area 2000 Transportation Plan	December-78	LCOG
4.	Evaluation of the Eugene Bikeways Master Plan	January-79	LCOG, City of Eugene
5.	Springfield Bikeway Plan	April-82	LCOG, City of Springfield
6.	Evaluation Report of the Eugene-Springfield Area 2000 Transportation Plan	May-84	LCOG
7.	Eugene-Springfield Area Metropolitan Area Transportation Plan	May-86	LCOG
8.	Eugene/Springfield Metro Area General Plan	April-87	LCOG
9.	Lane County Long Range Paratransit Plan - Final Metro Paratransit Plan	April-92	LCOG
10.	Lane Council of Governments TransPlan Update Base Line Data	April-93	LCOG
11.	Trends, Issues, and Opportunities	November-93	LCOG
12.	Glossary of Transportation and Land Use Terms	December-93	LCOG
13.	Eugene Sidewalk Program	December-93	LCOG, City of Eugene
14.	Transportation Rule Implementation Project (TRIP) Code Amendments as adopted by the Eugene City Council	December-93	LCOG, City of Eugene
15.	Picture Your Future - TransPlan Visual Preferences	February-94	LCOG
16.	Household Activity and Travel Survey Technical Memorandum, Stated Preference Focus Groups Report	March-94	LCOG
17.	LTD May 1994 Origin and Destination Survey: Summary Report	May-94	LCOG, LTD
18.	Transportation System Improvement Final Report	June-94	LCOG
19.	Land Use Measures Strategies Document	June-94	LCOG
20.	Transportation Demand Management Task Force Final Report	June-94	LCOG
21.	Proposed Design Principles for Nodal Development	September-94	LCOG
22.	Citizen's Guide to Transportation Planning	November-94	LCOG
23.	Strategies to Balance and Improve Our Transportation System	December-94	LCOG
24.	1994 Commuter Pack Survey	January-95	LCOG
25.	LTD Market Area Survey	March-95	LCOG, LTD
26.	Household Activity and Travel Survey Final Report	March-95	LCOG
27.	Eugene/Springfield Urban Rail Feasibility Study - Potential Rail Corridor Screening	April-95	LCOG
28.	1994 Origin-Destination Surveys Final Report Volume II: Eugene Surveys	May-95	LCOG

29.	Nodal Development Strategy Implementation Options, Working Paper	June-95	LCOG
30.	Design Team Report and Recommendations to the Land Use Measures Task Force	June-95	LCOG
31.	Design Principles for Mixing Uses and Increasing Densities - Workshop Process, Key Findings, and Recommendations	June-95	LCOG
32.	A Comparison of Development Costs in Eugene/Springfield: Standard Subdivision vs Nodal Development	June-95	LCOG
33.	How Do We Grow From Here?	June-95	LCOG
34.	Regional Parking Inventory Eugene/Springfield Final Report	July-95	LCOG
35.	Pacific Northwest High Speed Rail Southern Terminus Study	July-95	LCOG
36.	Urban Rail Feasibility Study - Final Report	July-95	LCOG
37.	Transportation Demand Management Strategies: Technical Evaluation and Model Results	July-95	LCOG
38.	Eugene-Springfield Metropolitan Area Transportation Plan: Summary Descriptions of Proposed Nodal Development Areas	August-95	LCOG
39.	Pricing Study (Technical Memo)	September-95	LCOG
40.	TransPlan Focus Groups with Area Residents	February-96	LCOG
41.	User Manual for Land Use Allocation Spreadsheets	April-96	LCOG
42.	Transportation-Efficient Development	May-96	LCOG
43.	TransPlan Community Survey Report	June-96	LCOG
44.	Exploratory Research on TransPlan with Area Business Owners/Managers	June-96	LCOG
45.	Exploratory Research on Bus Rapid Transit Report	July-96	LCOG, LTD
46.	TransPlan Update 3rd Symposium Materials	August-96	LCOG
47.	Eugene Local Street Plan	August-96	LCOG, City of Eugene
48.	Market Demand Study for Nodal Development	October-96	LCOG
49.	Policy Makers' Decision Package for Draft Plan Direction	November-96	LCOG
50.	TransPlan and Metro Plan Periodic Review Future Land Use Assumptions	May-97	LCOG
51.	Improving Our Transportation Choices newsletter (Public Decision Document)	June-97	LCOG
52.	Springfield Conceptual Local Street Map	June-97	LCOG, City of Springfield
53.	Draft Design Guidelines for Multi-Unit Housing	June-97	LCOG
54.	Metro Area General Plan, 1987 Update with Amendments	July-97	LCOG
55.	Analysis and Findings on the Potential for Public Transportation in the Eugene-Springfield Area	August-97	LCOG
56.	Analysis of the Suitability and Effectiveness of Transportation Demand Management Strategies in Selected Areas	August-97	LCOG
57.	Eugene-Springfield Area Transportation Improvement Program FY 1997-98 to FY 2000-2001	September-97	LCOG
58.	Local Jurisdiction Review Edition Draft TransPlan	November-97	LCOG
59.	Evaluating Redevelopment Potential in the Eugene/Springfield Metropolitan Area	December-97	LCOG
60.	Draft TransPlan	February-98	LCOG

61.	Springfield Bike Plan	June-98	LCOG, City of Springfield
62.	Draft TransPlan Reference Materials for Joint Planning Commission/RAC Worksession	September-98	LCOG, managers and administrators offices
63.	Revised Draft TransPlan	May-99	LCOG
64.	Oregon Highway Plan	May-99	LCOG, ODOT
65.	Residential Lands Study	August-99	LCOG, City of Eugene, City of Springfield
66.	Coburg Transportation System Plan	September-99	Coburg, LCOG
67.	Eugene Arterial and Collector Street Plan	November-99	LCOG, City of Eugene
68.	Public Testimony - Volumes I, II and Alternative Performance Measures	November-99	LCOG
69.	Land Use Code Update	February-01	City of Eugene
70.	TransPlan Update Public Involvement Documentation Working Paper	June-01	LCOG
71.	Joint Adopting Officials Schedule	June-01	LCOG
72.	Alternative Measures Approved by LCDC	June-01	LCOG
73.	Adopted TransPlan Update	December-01	LCOG
74.	TransPlan, as Ammended	July-02	LCOG
75.	TransPlan Transportation Demand Management Element Refinement Preliminary Draft	May-03	LCOG, LTD
76.	Regional ITS Operation and Implementation Plan for the Eugene-Springfield Metropolitan Area	November 2003	LCOG
77.	Willamalane Park and Recreation Comprehensive Plan	March-04	Willamalane, Lane County, LCOG
78.	Lane County Transportation System Plan	June-04	Lane County, LCOG
79.	Jasper-Natron Specific Development Plan	June-99	City of Springfield
80.	Chase Gardens Node (6K) Designation	November-02	City of Eugene
81.	Royal Node (4F) Designation	January-03	City of Eugene
82.	Crescent Village Node (6D) Designation	February-03	City of Eugene
83.	Danebo Node (4G) Designation	February-03	City of Eugene
84.	Razor Park / Lower River Road (5F) Designation	May-03	City of Eugene
85.	Downtown and Southbank - Downtown Plan	April-04	City of Eugene
86.	City of Springfield Traffic Count Map	June-04	City of Springfield
87.	2004 Origin/Destination Study Research Report	September-04	Lane Transit District
88.	Lane County Coordinated Population Projections	February-05	LCOG
89.	ODOT Transportation Volume Tables, 2004	June-05	ODOT TSM Unit
90.	Employment Projections by Industry, 2004-2014	July-05	Oregon Employment Div
91.	Employment Projections by Occupation, 2004-2014	October-05	Oregon Employment Div
92.	City of Springfield and City of Eugene Nodal Development Assumptions	August-06	LCOG, Eugene, Springfield, Planners Work Product
93.	City of Eugene Traffic Flow Map	July-07	City of Eugene
94.	Glenwood Riverfront District (8A)	September-07	City of Springfield

NOTE: All documents show original references relied on for the development of the relevant RTP. The RTP adopted in December 2001 relied on documents #1-72. The 2002 RTP update additionally relied on document #73. The RTP update in 2004 added documents #74-78. The 2007 update lists additional supporting documents #79-94 (note that in an effort for completeness, this range of documents includes older documents that may have been referenced in earlier RTP updates). All subsequent RTP updates have also relied on the original or updated versions of documents used in earlier updates.



APPENDIX D

GLOSSARY AND ACRONYMS

Appendix D: Glossary and Acronyms

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Glossary

Access management

Measures that regulate access to streets, roads, and highways from public roads and private driveways while simultaneously preserving traffic flow on the surrounding road system in terms of safety, capacity, and speed. Measures may include but are not limited to restrictions on the siting of interchanges, restrictions on the type and amount of access to roadways, and the use of physical controls, such as signals and channelization, including raised medians, to reduce impacts of approaching road traffic on the main facility.

Accessibility

Physical proximity and ease of reaching destinations throughout the urban metropolitan area.

Alternative modes

Means of travel such as rail, transit, bicycles, and walking that provide transportation alternatives to the use of the automobile.

Americans with Disabilities Act (ADA)

Federal civil rights legislation signed into law in 1990 that includes requirements for accessible public transportation services for persons with disabilities. Services include complementary or supplemental paratransit services for persons who are unable to use regular bus service due to a disability in areas where fixed-route transit service is operated. All new construction and modifications must be accessible to individuals with disabilities. For existing facilities, barriers to services must be removed if readily achievable.

Average daily traffic (ADT)

The average number of vehicles passing a specified point in a typical 24-hour timeframe.

Benchmarks

Target objectives for the RTP's Performance Measure assessment method. Benchmarks are required by the Transportation Planning Rule for use in evaluating progress at five-year intervals. Transportation system plans must be amended to include new or additional efforts where benchmarks are not met.

Bikeways

A facility intended to accommodate bicycle travel for recreational or commuting purposes. Examples include striped lanes, bike routes, and multi-use paths. Bikeways are not necessarily separate facilities; they may be designed and operated to be shared with other traffic modes.

Bus Rapid Transit (BRT)

High-frequency, fast bus service along major transportation corridors that is intended to emulate the positive characteristics of a light rail system. Feeder service in neighborhoods using small buses connect the BRT corridor service with nearby activity centers.

Clean Air Act Amendments of 1990 (CAAA)

Federal law that established criteria for attaining and maintaining National Ambient Air Quality Standards. A *nonattainment* area is a region that fails to meet one or more of the standards. CAAA shifts the emphasis of conformity analysis from a system-level review of the State Implementation Plan towards a more project-oriented approach. Transportation agencies are interested in projects that help to reduce pollutant levels by reducing vehicle congestion and vehicle miles traveled.

Capacity

The maximum rate of flow at which persons or vehicles can be reasonably expected to traverse a point or uniform segment of a lane or roadway during a specified time period under prevailing roadway, traffic, and control conditions; capacity is usually expressed as vehicles per hour or persons per hour.

Capital improvement program (CIP)

A plan for future capital infrastructure and program expenditures that identifies each capital project, its anticipated start and completion, and allocates existing funds and known revenue sources for a given period of time.

Conformity

Process to assess the compliance of any transportation plan, program, or project with air quality control plans. The Clean Air Act defines the conformity process.

Development review process

Process used by local governments to assess development proposals on a case-by-case basis.

Development standards

A measure of physical attributes and/or policy conformance that shall be satisfied to allow a proposed land use or development to be established or modified.

Differential nodal development infrastructure cost

The additional cost for infrastructure in nodal development areas that would not be built in typical development, such as street modifications, pedestrian amenities, transit centers and public open space. [Eugene-specific definition]

Functional classification

Street classification system that describes streets according to their purpose and capacity. The four main categories are detailed below.

Principal arterial

A street that serves the major centers of activity of a metropolitan area, the highest traffic volume corridors and the longest trip needs. Principal arterials should carry a high proportion of the total urban area travel on a minimum of mileage and provide important intra-urban as well as inter-city bus routes.

Minor Arterial

Includes all arterials not classified as principal arterials and offers a lower level of traffic mobility than the higher street classifications. Such facilities may carry local bus routes and provide intra-community continuity, but ideally should not penetrate identifiable neighborhoods.

Collector

A street designed to provide both land access service and traffic circulation within residential neighborhoods, commercial, and industrial areas. The primary function of a collector street is to distribute local trips to the arterial system.

Local

All streets that are not collectors or arterials. These facilities serve primarily to provide direct access to abutting land and access to the higher order systems. They offer the lowest level of mobility and usually contain no bus routes. Service to through traffic movement is usually discouraged.

The jurisdictions participating in the RTP have slightly differing classifications for arterial and collector streets. The breakdown and a source document for each are listed below.

City of Coburg:

City of Eugene: Major arterial, minor arterial, major collector neighborhood collector, and local (Eugene Arterial and Collector Street Plans, 1999)

City of Springfield: Major arterial, minor arterial collector, and local (Springfield Development Code Article 32)

Lane County: Principal arterial, minor arterial, major collector, minor collector, and local (Lane County Code, 15.010(3))

Oregon Department of Transportation: Interstate highway, state-wide highway, regional highway, and district highway. All Oregon Department of Transportation roads are arterials. (Oregon Highway Plan, 1992)

Goal

Broad statement of philosophy that describes the hopes of the community's residents for the community's future. A goal may never be completely attainable, but it is a point towards which to strive.

High-occupancy vehicle (HOV)

Any passenger vehicle carrying more than one person. The term HOV is sometimes used to refer to lanes on large-volume roadways that are specifically set aside for the exclusive use of carpools, vanpools, and buses.

Implementation actions

Specific measures for achieving RTP policies.

Infill development

Development that consists of either construction on one or more lots in an area that is mostly developed or new construction between existing structures. Development of this type can conserve land and reduce sprawl.

Intelligent Transportation Systems Technology (ITS)

Computer and communication technology that provide information to travelers about road and transit conditions. Research in the field may eventually lead to a system that monitors, guides, and/or controls the operation of vehicles.

Intermodal

Connecting individual modes of transportation and/or accommodating transfers between such modes. Intermodal transportation emphasizes the transfer of people or freight in a single journey through connections, provides options to facilitate trip making, and promotes coordination among transportation providers.

Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991

The 1991 federal transportation funding legislation that provides for a new direction in transportation planning, with an emphasis to protect the environment and reduce congestion, relying on the most efficient transportation mode, and providing increased flexibility to state and local governments on the use of federal funds.

Level of service

A qualitative rating of how well a unit of transportation supply (e.g., street, intersection, sidewalk, bikeway, transit route, ferry) serves its current or projected demand.

- A: Free flow conditions, 32% of capacity
- B: Reasonably free flow conditions, 51% of capacity
- C: Operation stable, but becoming more critical, 75% of capacity
- D: Lower speed range of stable flow, 92% of capacity
- E: Unstable flow, 100% of capacity
- F: Forced flow, +100% of capacity, stop-and-go operation

Major investment study (MIS)

A method of analyzing and evaluating the transportation needs and related problems of a corridor or subarea within a region. The MIS may identify a multi-modal set of investment and policy options to address identified needs and problems, develop measures of benefits, calculate costs, and determine impacts. The process is intended to provide decision makers with better and more complete information on the options available for addressing identified transportation problems before decisions are made.

Metro Plan

The *Eugene-Springfield Metropolitan Area General Plan, 1987 Update*, amendments incorporated as of July 1997, 1998 Reprint. The official document adopted by local governments that contains the general, long-range policies on how the community's future development should occur.

Metropolitan Planning Organization (MPO)

The organizational entity designated by law to have the lead responsibility for developing transportation plans and programs for urbanized areas of 50,000 or more in population. MPOs are established by agreement of the Governor and units of general purpose local government that together represent 75 percent of the affected population of an urbanized area. Lane Council of Governments is the MPO for the Eugene-Springfield metropolitan area.

Mixed-use development

A development that has a mixture of land uses that may include office and other commercial uses, residential uses, parks and public places, and supporting public facilities and services.

Mobility

The ease with which a person is able to travel from place to place. It can be measured in terms of travel time.

Modal split

The proportion of total persons using a particular mode of travel.

Mode

A means of moving people and/or goods. Modes may include motor vehicles, public transit, bicycles, railroads, airplanes, waterways, pipelines, and pedestrian walkways.

Multi modal

Refers to the diversity of transportation options for the same trip. Also, an approach to transportation planning or programming that acknowledges the existence of or need for transportation options.

Nodal development (Node)

Nodal development is a mixed-use, pedestrian-friendly land use pattern that seeks to increase concentrations of population and employment in well-defined areas with good transit service, a mix of diverse and compatible land uses, and public and private improvements designed to be pedestrian and transit oriented. Fundamental characteristics of Nodal development require:

- Design elements that support pedestrian environments and encourage transit use, walking, and bicycling;
- A transit stop which is within walking distance (generally 1/4 mile) of anywhere in the node;
- Mixed uses so that services are available within walking distance;
- Public spaces, such as parks, public and private open space, and public facilities, that can be reached without driving; and
- A mix of housing types and residential densities that achieve an overall net density of at least 12 units per net acre.

Nodal developments will vary in the amount, type, and orientation of commercial, civic, and employment uses; target commercial floor area ratios; size of buildings; and the amount and types of residential uses.

Objective

An attainable target that the community attempts to reach in striving to meet a goal. An objective may also be considered as an intermediate point that will help fulfill the overall goal.

1991 Oregon Highway Plan (OHP)

Document that outlines the policies and strategies that will guide the Highway Division's operation and fiscal activities during the 1991-2012 period. The current document represents an update to the 1985 Highway Plan.

Oregon Statewide Planning Goals

A mandated statewide program for land use planning in place since 1973. The foundation of the program is a set of 19 goals that express the state's policies on land use and related topics such as natural resources (Goal 5), housing (Goal 10), and transportation (Goal 12).

Oregon Transportation Plan (OTP)

The comprehensive, long-range plan for a multi-modal transportation system for the state that encompasses economic efficiency, orderly economic development, safety, and environmental quality. The OTP was adopted by the Oregon Transportation Commission in 1992.

Overlay zone

A set of zoning specifications that is imposed on an area, in addition to the underlying zoning district's requirements.

Paratransit

Transit alternative known as *special or specialized* transportation that often includes flexibly scheduled and routed transportation services that use low-capacity vehicles, such as vans, to operate within normal urban transit corridors or rural areas. Services usually cater to the needs of persons who cannot use standard mass transit services. Common patrons are the elderly and persons with disabilities.

Park-and-Ride

Public parking lots whose primary purpose is to provide access to public transportation services. These parking areas may function as shared use parking areas.

Major Park-and-Rides

Park-and-Rides provide public parking for access to public transportation. In general, this type of Park-and-Ride includes capacity for 100 cars or more. A major Park-and-Ride generally includes buses operating on-site and passenger amenities such as a larger style bus shelter, lighting, and passenger information and may include restrooms for operators. Major Park-and-Rides are not transfer points and usually are on-street bus stops.

Minor Park-and-Rides

A minor Park-and-Ride is smaller in scale than a major Park-and-Ride, with capacity for fewer than 100 cars. Buses typically will not operate on-site. Buses may serve the Park-and-Ride via an on-street bus stop, which may include a bus turnout and standard LTD bus shelter adjacent to the bus stop. A minor Park-and-Ride generally is a public parking lot less than two acres in size. These stops are not transfer points and the bus stop is on-street.

Parking management

Management strategies designed to address the supply and demand for vehicle parking. They contribute to balancing the travel demand within the region among the modes of transportation.

Pavement Condition Rating (PCR)

Pavement condition ratings provide an assessment of pavement condition. Local and state road agencies use a pavement management process that provides, analyzes, and summarizes information for use in selecting and implementing cost-effective pavement construction, rehabilitation, and maintenance programs designed to accommodate current and forecasted traffic.

Performance measure

Predetermined indicators monitored during the life of the RTP as a method of evaluating the plan's effectiveness. To provide numerical targets needed to assess plan progression, *benchmarks* are established for each performance measure at five-year intervals.

Person trip

A movement from one address to another by one person by any mode.

Policy

Statement adopted as part of a plan to provide a specific course of action that moves the community towards attainment of its goals.

Regional roadway system

Streets with classifications of arterial and major collector.

Single-occupant vehicle (SOV)

A vehicle, usually referring to a private automobile, that is carrying only one person.

Special transportation area (STA)

As defined by the OHP, STAs are designated existing or future compact, mixed-use areas within an urban growth boundary in which growth management considerations outweigh the considerations underlying the highway level-of-service policy. STAs include central business districts, transit-oriented development areas and other activity centers that emphasize non-auto travel. They are high-density areas with an interconnected local street network. They are not located on interstates or limited-access highways and are not encouraged on major designated freight routes.

State implementation plan (SIP)

An air quality plan mandated by the Federal Clean Air Act that contains procedures to monitor, control, maintain, and enforce compliance with federal air quality standards.

Statewide Transportation Improvement Program (STIP)

Statewide budget and programming document for funding. Required by the ISTEA legislation as a prioritized, fiscally constrained list of transportation projects that covers, at a minimum, a three-year period. STIPs are compiled by the Oregon Department of Transportation in order to program authorized levels of federal funding.

Systems development charge (SDC)

A fee collected from new development by local governments to pay for offsite public facility improvements to mitigate impacts associated with development. SDCs are imposed on development projects by local governments to cover the capital costs for certain types of infrastructure and public facilities needed to serve those developments. Under Oregon's SDC Act of 1989, transportation facilities are eligible capital improvements that may be funded by SDCs. Examples include arterial and collector streets; acquisition of street rights-of-way, easements, and other property interests necessary to construct a capital improvement; and traffic control devices.

Traffic calming

A variety of techniques designed to reduce the speed and impacts of motor vehicle traffic. It is an attempt to mix the different modes of transportation and to create an efficient mix between them. Examples include road humps, roundabouts, and woonerfs.

Transit station

Major transit station

Provides room for three or more buses for customer transfers and facilitate bus operations. A major transit station typically includes a larger facility than minor stations to accommodate passenger transfers (to three or more routes and/or serves major destinations) and may include parking for customers and restrooms for Lane Transit District employees or the public. A major station is usually an off-street facility.

Minor transit station

Provides room for two or three buses. Minor transit stations are primarily large bus turnouts near key intersections to facilitate customer transfers (to two to four routes) or bus operations. Minor stations may include parking. Typically, a minor transit station is an on-street facility.

Transit-oriented development (TOD)

A mix of residential, retail, and office uses and a supporting network of roads, bicycle, and pedestrian ways focused on a major transit stop designed to support a high level of transit use.

The key features of transit-oriented development include:

- A mixed-use center at the transit stop, oriented principally to transit riders and pedestrian and bicycle travel from the surrounding area;
- High density of residential development proximate to the transit stop sufficient to support transit operation and neighborhood commercial uses within the TOD; and
- A network of roads, and bicycle and pedestrian paths to support high levels of pedestrian access within the TOD and high levels of transit use.

TransPlan

The Eugene-Springfield Metropolitan Area Transportation System Plan (TSP). A policy document intended to guide transportation system planning in the Eugene-Springfield metropolitan area by setting forth goals, policies, and implementation actions.

Transportation Demand Management (TDM)

Demand-based techniques that are designed to change travel behavior in order to improve performance of transportation facilities and to reduce need for additional road capacity. Methods include the use of alternative modes, ride-sharing and vanpool programs, and trip-reduction ordinances.

Transportation disadvantaged

Persons who must rely on public transit or paratransit services for most of their transportation. Typically refers to individuals without access to a personal vehicle.

Transportation improvement program (TIP)

Required by the ISTEA legislation as a prioritized fiscally constrained list of transportation projects that covers, at a minimum, a three-year period. TIPs are compiled by a metropolitan planning organization in order to program authorized levels of federal funding.

Transportation Planning Rule (TPR)

A state planning administrative rule, adopted by the Land Conservation and Development Commission in 1991 and amended in 1995 and 1998, to implement state land use planning Goal 12, *Transportation*. The TPR requires metropolitan areas to show measurable progress towards reducing reliance on the automobile.

Transportation pricing measures

Market-based user fees used to manage traffic congestion and to partially support financing of future infrastructure and transportation services.

Transportation Rule Implementation Project (TRIP)

Document that contains recommended amendments to the Eugene code to address the requirements of the Transportation Planning Rule. The recommendations were prepared by a multijurisdictional team that consisted of staff from the City of Eugene, Lane County, and Lane Transit District.

Transportation System Improvements (TSI)

Supply side improvements of the transportation system. Strategies include the full range of system improvements from improving the capacity and efficiency of the existing system to the construction or expansion of a new facility. TSI strategies are not limited to improvements for the automobile but also incorporate system improvements, expansion, and construction for transit, bicycles, and pedestrians.

Transportation system plan (TSP)

A plan for one or more transportation facilities that are planned, developed, operated, and maintained in a coordinated manner to supply continuity of movement between modes, and within and between geographic and jurisdictional areas. Specific requirements are detailed in the Transportation Planning Rule.

Travel forecasting model

A technique for predicting future human choices in travel by using current travel trends in conjunction with future population, employment, and land use projections.

Unified Planning Work Program (UPWP)

An annual document that describes the transportation planning activities for a metropolitan area. ISTEA requires that each metropolitan planning organization develop this document as a prerequisite to obtaining federal planning funds.

Urban standards

Standards for all arterial and collector streets that include curb, gutter, underground drainage, and sidewalks, unless otherwise noted. When provisions for bicycles are anticipated, they are specifically mentioned.

Vehicle miles of travel (VMT)

Each mile traveled by a private vehicle. For example, one vehicle that makes a five-mile car trip would generate five vehicle miles of travel. A requirement of the state Transportation Planning Rule is to reduce vehicle miles traveled per capita.

Vehicle trip

Each time a private vehicle goes from one address to another for a purpose, a vehicle trip is counted, regardless of the number of people in the vehicle.

List of Acronyms

ADA	Americans with Disabilities Act
ADT	Average daily traffic
BRT	Bus Rapid Transit
CAAA	Clean Air Act Amendments of 1990
CATS	Central Area Transportation Study
CIP	Capital improvement program
Decision Package	Policy Makers' Decision Package for Draft Plan Direction
DEQ	Department of Environmental Quality
DLCD	Department of Land Conservation and Development
EPA	U.S. Environmental Protection Agency
EQC	Environmental Quality Commission
ESATS	Eugene-Springfield Area Transportation Study
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HCM	Highway Capacity Manual
HCS	Highway Capacity Software
HOV	High-occupancy vehicle
ISTEA	Intermodal Surface Transportation Efficiency Act
ITS	Intelligent transportation systems technology
LCDC	Land Conservation and Development Commission
LCOG	Lane Council of Governments
LOS	Level of service
LRAPA	Lane Regional Air Pollution Authority
LTD	Lane Transit District
LUM	Land use measures
Metro Plan	Eugene-Springfield Metropolitan Area General Plan
MIS	Major investment study
MPC	Metropolitan Policy Committee
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NHS	National Highway System
O&M	Operations and maintenance
OM&P	Operations, maintenance, and preservation
OAR	Oregon Administrative Rules
ODOT	Oregon Department of Transportation
OHP	1991 Oregon Highway Plan

ORFS	Oregon Roads Finance Study
OTC	Oregon Transit Commission
OTP	Oregon Transportation Plan
PCR	Pavement Condition Rating
RAC	Lane County Roads Advisory Committee
RCI	Roadway Congestion Index
ROW	Right-of-way
SDC	Systems development charge
SHTF	State Highway Trust Fund
SIP	State Implementation Plan
SOV	Single-occupant vehicle
STA	Special transportation areas
STFAC	Special Transportation Fund Advisory Committee
STIP	Statewide Transportation Improvement Program
STP	Surface Transportation Program
TCM	Transportation control measure
TDM	Transportation demand management
TEA 21	Transportation Equity Act for the 21 st Century
TIP	Transportation improvement program
TMA	Transportation Management Association
TOD	Transit-oriented development
TPC	Transportation Planning Committee
TPR	Transportation Planning Rule
TRIP	Transportation Rule Implementation Project
TSI	Transportation system improvements
TSP	Transportation system plan
TUF	Transportation utility fee
UGB	Urban growth boundary
UPWP	Unified Planning Work Program
V/C	Volume to capacity
VMT	Vehicle miles of travel