

# Appendix B

## Glossary

**30<sup>th</sup> Highest Hour (30 HV)** - Also see Design Hour. This is the 30<sup>th</sup> highest hour of the year, which represents the hourly volume used for design of projects. This hour is the breakpoint on the curve from the steeper part to the flatter part if all the hours in a year were graphed. Hours higher than the 30<sup>th</sup> are typically holidays and other high-traffic days of the year, and it is not appropriate to design for the highest hour as the design may be overbuilt.

**AADT** - Annual Average Daily Traffic

**AASHTO** - American Association of State Highway and Transportation Officials

**aaSIDRA** - Akcelik and Associates Signalized and Unsignalized Intersection Design and Research Aid

**ACT** - Area Commission on Transportation

**ADT (Average Daily Traffic)** - The total traffic volume during a given period (1-365 days) divided by the number of days in that period.

**AMP** - Access Management Plan

**APM** - Analysis Procedure Manual

**AQMA** - Air Quality Maintenance Area

**ArcGIS** - Geographic Information Software by ESRI.

**ARRB** - Australian Road Research Board

**art (Arterial)** - A thoroughfare, usually with at least two lanes in each direction and regularly spaced traffic signals, designed to serve major travel flows within an urban area.

**ATR (Automatic Traffic Recorder)** - Electronic counting site on a roadway that counts vehicles continuously.

**AUSTROADS methodology** - aaSIDRA is an update of the AUSTROADS methodology.

**AVC (Automatic Vehicle Classifier)** - Similar to an ATR, but these new installations also record the 13 FHWA vehicle types including passenger cars, buses and trucks.

**ave** - avenue

**AWSC** - All Way Stop-Controlled

**AWT** - Average Weekday Traffic

**Back of Queue** - Refers to how far back it is to the last car lined up at a traffic signal. Maximum extent of the queue relative to the stop line during a signal cycle. The last queued vehicle that joins the back of queue is the last vehicle that departs at the end of the saturated part of green interval or the available gap interval.

**blvd** - boulevard

**BMP** - Beginning Mile Post

**CAC** - Citizen's Advisory Committee

**Calibration** - The act of checking or adjusting, by comparison with a standard, the accuracy of a measuring instrument. In this context, calibration refers to comparing the output from travel demand models run using data on existing population, employment and travel patterns with current traffic counts. Adjustments are made to the model when inconsistencies are identified between the models and actual counts. Calibration also applies to micro-simulation models. Parameters, such as capacity and speed, are compared and adjusted against field-collected data.

**Capacity** - The maximum sustainable flow rate at which vehicles or persons can reasonably be expected to traverse a point or uniform segment of a lane or roadway during a specified time period under given roadway, geometric, traffic, environmental, and control conditions; usually expressed as vph, pcph, or pph. In other words, capacity is the maximum number of cars per hour that can travel on a particular stretch of roadway, with consideration given to the number of lanes, lane width, traffic signals, speed limit and other features.

**CAR Unit** - Crash Analysis and Reporting Unit

**cc** - courtesy copy

**Centroid Connectors** - Links that connect centroid nodes with the model network. These can represent local streets not included in the model network. Centroid Connectors provide the linkage between the trips associated with the TAZ land uses and the roadway segments (or links).

**Centroids (special nodes)** - They represent the center of an activity zone called a TAZ. This is not necessarily the geometric center of the zone.

**CIP** - Capital Improvement Program

**CMS (Congestion Management System)** - A systematic process which provides information on transportation system performance and alternative strategies to alleviate congestion and enhance the mobility of persons and goods.

**COG** - Council of Governments

**Congestion Pricing** - The policy of charging drivers a fee that varies with the level of traffic on a congested roadway. Congestion pricing is designed to allocate roadway space more efficiently. Congestion pricing is also known as relief tolling, variable pricing and road pricing.

**Construction Zone Traffic Management** - The system of devices and measures taken by an implementing agency to safely manage traffic flows in and around areas of construction.

**Coordinated** - Signals that are adjusted or connected so that they provide for continuous flow of traffic between intersections at a given speed. Coordinated signals all have the same speed. Coordinated signals can be timed, wired together, or controlled from a central operations center.

**Cordon** - An imaginary boundary (non-linear) strategically drawn across an area. The volumes on the links crossing the cordon are typically summed to understand the amount of trips entering and exiting an area.

**CORSIM** - Corridor Simulation Software by FHWA

**Cycle Length** - The time it takes for a signalized intersection to go through all movements and indications.

**d/c** - demand-to-capacity ratio

**Delay** - The additional travel time experienced by a vehicle or pedestrian with reference to a base travel time, e.g., the free-flow travel time.

**Design Hour** - The design hour is the amount of traffic that a new facility is designed to accommodate. The 30<sup>th</sup> highest hour traffic is generally used as the design hour for most highway facilities and is mandated through AASHTO standards.

**Design Life** - The number of years into the future that an intersection operates satisfactorily considering increases in traffic demand volumes.

**Design Speed** - The maximum safe speed that can be maintained over a specified section of highway. The design speed of a roadway dictates which geometric design standards are used, such as stopping sight distance, radius of curves, and banking (super-elevation) of road surfaces. This differs from posted speed.

**Detector** - A device by which vehicle or pedestrian traffic registers its presence. The most common detectors are the inductive loop detectors in the pavement for vehicles and the push-button detectors for pedestrians. The most common use of detectors is at intersections where they can be used to manage the traffic and pedestrian signals, however detectors are also used on freeways and freeway ramps to provide information such as speed and volumes for freeway traffic.

**DHV** - Design Hour Volumes

**DLCD** - Department of Land Conservation and Development

**Division 51** - General reference to OAR 734-051, which pertains to Highway Approaches, Access Control, Spacing Standards and Medians.

**dr** - drive

**E** – East

**EA** - Environmental Assessment

**EB** - Eastbound

**EFU** - Exclusive Farm Use

**EIS** - Environmental Impact Statement

**EISBase** - An Environmental Impact Study Traffic Data Processing Program by JRH.

**EMME/2** - Travel demand modeling software by INRO

**Environmental Justice** - Process that ensures that highway projects do not disproportionately impact one segment of the population, e.g., low-income or minorities.

**ES202** - Quarterly Census of Employment and Wages

**Exponential (compound)** - Compound growth is typically associated with brand new growth in an area that has plenty of land and road capacity. This is typically limited to five years or less. Use of an exponential curve over a prolonged period can seriously overestimate future growth.

**Expressway** - An expressway is a divided highway facility usually having two or more lanes for the exclusive use of traffic in each direction and incorporating partial control of access.

**FC** - Functional Class

**FEIS** - Final Environmental Impact Statement

**FHWA** - Federal Highway Administration

**Flyover** - A directional ramp structure that is typically used to remove a left turn movement out of an at-grade intersection to improve operations.

**FONSI** - Finding of No Significant Impact

**Free-Flow Speed** - Speed at which vehicles travel unimpeded by effects of other vehicles. Typically taken as 5 mph over the posted speed.

**Frontage Road** - A roadway that parallels a major transportation facility, such as a freeway, and provides access to residents and businesses.

**fwy (Freeway)** - A divided highway facility having two or more lanes for the exclusive use of traffic in each direction and full access control.

**GIS** - Geographic Information System

**Grade** - The slope (ratio of change in elevation to change in distance) of a roadway typically given in percent. For example, a 2% grade represents a 2-foot elevation change over a 100-foot distance.

**Grade Separation** - A vertical separation between intersecting roads or railroad tracks. One facility travels over the other via an overpass or other structure.

**Growth Rate** - This is the rate at which traffic is expected to increase annually on a specific facility.

**HCM** - Highway Capacity Manual

**HCS** - Highway Capacity Software

**HDM** - Highway Design Manual

**Headway** - The time between vehicles, expressed in seconds.

**HEP** - Hazard Elimination Program

**HERS** - Highway Economic Reporting System

**Hot/Cold Start Percentages** - These are calculations used in air quality analysis. They provide an estimate of the amount of time vehicles have been running when they enter a section of roadway.

**HOV** - High Occupancy Vehicle

**HOV Lane** - An exclusive road or traffic lane limited to buses, vanpools, carpools, emergency vehicles, and, in some cases, single occupant motorcycles. HOV lanes typically have higher operating speeds and lower traffic volumes than adjacent general-purpose lanes.

**HPMS** - Highway Performance Monitoring System

**HPMS-AP** - HPMS Analytical Package

**hwy** - highway

**IAMP** - Interchange Area Management Plan

**ICU** - Intersection Capacity Utilization

**Incident** - An event or condition that is likely to or results in a traffic back-up.

**ISD** - Intersection Sight Distance

**ITE** - Institute of Transportation Engineers

**ITS (Intelligent Transportation Systems)** - The application of state-of-the-art technology to provide real-time traffic information, which can be used to improve transportation system operations.

**ITS (Intelligent Transportation Systems) Unit** - TRS Unit

**Links** - Represent road segments and are identified by nodes at each end.

**In** - lane

**Logarithmic (Decelerating)** - Growth tapers off as land approaches built-out status and capacity of roadways. Future growth is mainly contributed by growth in background (through) traffic.

**LOS (Level of Service)** - A qualitative measure describing operational conditions within a traffic stream and motorists' perceptions of those conditions. For example, LOS A represents free flow - almost complete freedom to maneuver within the traffic stream. LOS F represents forced flow - more vehicles are attempting to use the highway than can be served, resulting in stop-and-go traffic.

**LRT** - Light Rail Transit

**It** - left

**MEV** - Million Entering Vehicles

**MIS** - Major Investment Study

**Mobility** - The ability of the transportation system to facilitate the movement of people, goods and services to and from desired destinations.

**Model Volumes and 30 HV Volumes** - These two volumes cannot be compared directly. Models are mathematical representations of the population and employment data that is arranged by TAZ. What matters is the relative (proportional) change between two sets of model data. This change is applied to the field data. This is what is meant by post-processing. Post-processing is basically applying proportions and percents.

**MP** - milepoint

**MPO (Metropolitan Planning Organization)** - An association of local agencies established by federal law to coordinate transportation planning and development activities within a metropolitan region.

**MUTCD** - Manual of Uniform Traffic Control Devices

**MVM** - Million Vehicle Miles

**N** - North

**NB** - Northbound

**NCHRP** - National Cooperative Highway Research Program

**NEPA** - National Environmental Policy Act

**NHI** - National Highway Institute

**NHS** - National Highway System

**NHTSA** - National Highway Traffic Safety Administration

**Nodes** - Indicate the intersections of links.

**OAR** - Oregon Administrative Rules

**O-D** - Origin-Destination

**ODOT** - Oregon Department of Transportation

**OHP** - Oregon Highway Plan

**ORS** - Oregon Revised Statutes

**OTC** - Oregon Transportation Commission

**OTP** - Oregon Transportation Plan

**Oxing** - overcrossing

**Park-and-Ride** - Park-and-Ride lots are designed for automobile parking at outlying locations along transit routes.

**PCE** - Passenger Car Equivalent

**pcph** - Passenger Cars Per Hour

**pcphgl** - Passenger Cars Per Hour of Green Per Lane

**pcphpl** - Passenger Cars Per Hour Per Lane

**PDT** - Project Development Team

**PE** - Professional Engineer

**Phase Split** - Time for an individual signal indication in a signal cycle.

**PHF** - Peak Hour Factors

**PHV** - Peak Hour Volume

**pl** - place

**Posted Speed** - The posted speed is based on sampling of existing traffic speeds, safety issues, etc., and is typically lower than design speed.

**PSA** - Public Service Announcement

**PT** - Project Team

**Queue** - A line of vehicles or pedestrians waiting to proceed through an intersection. Slow-moving vehicles or pedestrians joining the back of the queue are usually considered part of the queue.

**Queue Spillback** – When traffic queues at an intersection build up to the point that they block turning bays or even upstream intersections.

**rd** - road

**REA** - Revised Environmental Assessment

**RICS Unit** - Roadway Inventory and Classification Services Unit

**ROW (Right of Way)** - The land (usually a strip) acquired for, or devoted to, transportation purposes.

**rt** - right

**RTP** - Regional Transportation Plan

**S** - South

**Saturation Flow Rate** - The maximum departure (queue discharge) flow rate achieved by vehicles departing from the queue during the green period at traffic signals. Basically, the number of cars that can get through a signal phase.

**SB** - Southbound

**Screenlines** - Imaginary lines that are strategically drawn across network links. The volumes on the links crossed by the screenlines are summed. One use of a screenline might be to compare the volume of traffic entering and leaving the study area for each alternative.



**SIDRA** - Signalized and Unsignalized Intersection Design and Research Aid

**SIGCAP** - Signalized Intersection Capacity Analysis Program (by ODOT)

**SIGCAP2** - Signalized Intersection Capacity Analysis Program Version 2 (by ODOT)

**SimTraffic** - performs micro simulation and animation of vehicle traffic, modeling travel through signalized and unsignalized intersections and arterial networks, as well as freeway sections, with cars, trucks, pedestrians and buses. SimTraffic includes the vehicle and driver performance characteristics developed by the Federal Highway Administration for use in traffic modeling.

**SIP** - State Implementation Plan (Air Quality)

**SOW** - Scope of Work

**SPIS** - Safety Priority Index System

**SPUI** - Single Point Urban Interchange

**st** - street

**STA** - Special Transportation Area

**Stack** - Term defining levels of vertically overlapping bridges and ramps at an interchange.

**STIP (State Transportation Improvement Program)** - A multi-year, statewide, multi-modal program of transportation projects. The STIP must be consistent with the *1999 Oregon Highway Plan*, *Oregon Transportation Plan* and regional and local transportation system plans.

**STIP-SIP** - Statewide Transportation Improvement Program – Safety Investment Program

**Straight-Line** - Steady growth over time.

**Synchro** - A software application by Trafficware for optimizing traffic signal timing and performing capacity analysis.

**T-21** - Transportation Equity Act for the 21st Century

**TAZ (Transportation Analysis Zone)** - A geographic unit used in travel demand models. The model or study area is broken into sections. Each of these sections is called an analysis zone. Data on existing population, employment and trip-making patterns, and forecast population and employment is collected and used to determine the number of existing and future trips traveling to and from each TAZ. A moderate sized metropolitan area may be broken down into a hundred or more TAZ's, a large metropolitan area, such as Portland, can be broken down into two thousand or more TAZ's.

**TDD** - Transportation Development Division

**TDM (Transportation Demand Management)** - Actions or programs that encourage people to travel at alternative times or with fewer vehicles, e.g., rideshare/carpool programs, transit fare discount programs, flextime.

**TDM (Travel Demand Model)** - A computerized model which estimates travel patterns based on infrastructure characteristics (e.g., number of lanes, access points), demographics (e.g., population characteristics, employment) and observed travel patterns for a given of roadways.

**TRS** - Traffic Engineering Operations Section

**TESU (Traffic Engineering Services Unit)** - TRS Unit

**TEV** - Total Entering Volume

**TGM** - Transportation Growth Management

**TH** - through

**TIA** - Traffic Impact Analysis

**TIP** - Transportation Improvement Program

**TIS** - Transportation Impact Study

**TM** - Technical Memorandum

**TPAU** - Transportation Planning Analysis Unit

**Trip Generator** - A specific type of land use that will result in an increase in vehicle trips. The ITE Manual provides the accepted source for estimates of traffic generation for various land use types. Trip generation rates are typically reported as the number of peak hour or daily trips per building square foot, per site acre or per employee. Trip generation rates fluctuate dramatically based on the type of business, with a busy retail site generating many times more trips than a similar sized industrial site.

**TSAM (Traffic Standards and Asset Management) Unit** - TRS Unit

**TSM (Transportation System Management)** - Actions (e.g., ramp metering) or construction that control or improve the movement of cars and trucks on the highway system or buses on the transit system. TSM also includes the coordination of the available transportation systems for more efficient operation.

**TSP** - Transportation System Plan

**TSRM** - Technical Services Resource Manager

**TTI** - Texas Transportation Institute

**TVT** - Traffic Volume Tables

**TVT** - Transportation Volume Tables

**TWLTL** - Two-Way Left-Turn Lane

**TWSC** - Two-Way Stop Controlled

**UBA** - Urban Business Area

**UTDF** - Universal Traffic Data Format

**v/c (Volume-to-Capacity Ratio)** - The ratio of traffic flow rate to capacity of the road to handle that traffic flow. The v/c may be the actual or projected rate of flow on a designated lane group during a specific time period (e.g., p.m. peak hour). A v/c ratio over 1.0 indicates the road or intersection is over-capacity; a v/c ratio under 1.0 indicates there is still room to accommodate additional vehicles.

**Validation** - Process in which model output is compared to actual field data. The field data used is separate from the data used to develop the model.

**VHT (Vehicle Hours of Travel)** - A measurement of the total amount of time spent in travel on the roadway system. This is usually reported as a daily measure for a specific geographic area, such as a metropolitan region or a city or county.

**VISSIM** - A microscopic simulation model by PTV

**VMS** - Variable Message Sign

**VMT (Vehicle Miles of Travel)** - A unit to measure travel for private vehicles, such as automobiles, vans, pickup trucks, or motorcycles. Each mile traveled is counted as one vehicle mile regardless of the number of persons in the vehicle.

**Vph** - Vehicles Per Hour

**vphpl** - Vehicle Per Hour Per Lane

**VR** - Volume Ratio

**W** - West

**WB** - Westbound

**Weave** - A section of a highway where two or more vehicle flows must cross each other's path along a freeway. Weaving areas are usually formed when merge areas are closely followed by diverging areas. For example, a weave is formed when a freeway on-ramp is followed by an off-ramp, and the two are connected by a continuous auxiliary lane.