

Glossary of Mobility Planning Terminology

Acceleration Lane – A speed change lane for the purpose of enabling a vehicle entering a roadway to increase its speed to a rate at which it can more safely merge with through traffic.

Average Daily Traffic (ADT) – The term used to describe the number of vehicles on a roadway segment during a non-holiday week day.

Bus Rapid Transit (BRT) – BRT combines quality of rail transit and flexibility of buses. It can operate on exclusive lanes, HOV lanes, expressways or local streets. BRT on busways provides the speed and guideway advantages typically attributed to a rail line with the added advantage of circulation within local areas. BRT vehicles are designed to look more like rail vehicles with wide doors, large windows, and low floor access. Stations are also designed to resemble rail stations with off-vehicle fare collection, and intelligent transportation systems (ITS) that show the arrival time for the next bus.

Center Line – This term defines a line indicating the division of the pavement between traffic moving in opposite directions. It is not necessarily at the exact geometric center of the pavement.

Class I Bikeway – Typically called a bike path, a Class I Bikeway provides bicycle travel on a paved right-of-way completely separated from any street or highway. Generally, bike paths should be used to serve corridors not served by streets and highways or where wide right-of-way exists, permitting such facilities to be constructed away from the influence of parallel streets. Bike paths should offer opportunities not provided by the road system. They can either provide a recreational opportunity, or in some instances, can serve as direct high-speed commute routes if cross flow by motor vehicles and pedestrian conflicts can be minimized. Another common application of Class I facilities is to close gaps to bicycle travel caused by construction of freeways or because of the existence of natural barriers (rivers, hills, etc.). Examples of Class I Bikeways include shared-use paths and sidepaths.

Class II Bikeway – Often referred to as a bike lane, a Class II Bikeway provides a striped and stenciled lane for one-way travel on a street or highway. Bike lanes are established along streets in corridors where there is significant bicycle demand and where there are distinct needs that can be served by them. The purpose should be to improve conditions for bicyclists in the corridors. Bike lanes are intended to delineate the right-of-way assigned to bicyclists and motorists and to provide for more predictable movements by each. Examples of Class II Bikeways include: bike lanes, buffered bike lanes, cycle tracks, and climbing lanes.

Class III Bikeway – Generally referred to as a bike route, a Class III Bikeway provides for shared use with motor vehicle traffic and is identified by signing and/or pavement markings. Bike routes are shared facilities which serve either to: 1) provide continuity to other bicycle facilities (usually Class II Bikeways) or 2) designate preferred routes through high demand corridors. As with bike lanes, designation of bike routes should indicate to bicyclists that there are particular advantages to using these routes as compared with alternative routes. Normally, bike routes are shared with motor vehicles. The use of sidewalks as Class III Bikeways is strongly discouraged. Examples of Class III Bikeways include signed bike routes, shared lane markings and paved shoulders.

Collin County Toll Road Authority (CCTRA) – A county-wide toll road authority established by the Collin County Commissioners Court to support funding of roadway projects throughout the county.

Commuter Rail Transit – Commuter rail is a high-speed, high capacity, long-distance transit service that operates on tracks of the general railroad system. Commuter rail may use conventional locomotives with passenger cars similar to intercity trains or with self-propelled passenger cars known as diesel multiple units (DMU). Both types of vehicles operated on the Trinity Railway Express. Commuter rail generally shares tracks with freight railroads.

Complete Streets – Defined as roadways that enable safe and convenient access for all users, including motorists, bicyclists, pedestrians, transit users and operators, commercial vehicles, and emergency responders of all ages and abilities and are conducive to efficient movement of people.

Control of Access – In some cases, such as an Interstate Highway or a State Highway, access control is necessary, meaning that the right of direct access to and from an abutting property may be either limited or completely denied.

Cross-Section – A term used to describe the total number of lanes on a road, along with the median type and parkway usage. For instance, a road that has two lanes of northbound traffic, two lanes of southbound traffic, and a center two-way left-turn lane (TWLTL) is commonly referred to as a five-lane cross-section. If the same road has a median instead of the TWLTL, it is referred to as a four-lane divided cross-section. Median, bike lanes, and sidewalks may be included in the cross-section.

Dallas Area Rapid Transit (DART) – Regional transit service provider operating commuter and light rail technology, fixed-route bus service, paratransit, HOV lanes and ride share services. DART serves 13 cities and provides access to all or parts of Collin County, Dallas County, Denton County, Ellis County, Kaufman County, Rockwall County, and Tarrant County.

Deceleration Lane – A speed change lane designed to enable a right-turning or left-turning vehicle to slow to a safe turning speed after it has moved out of the main stream of faster-moving through traffic.

Department of Transportation (DOT) – An agency at the state or national level with authority to fund, construct, maintain and operate certain types of roadways, such as Interstate Highways (e.g. IH 35E), US Highways (e.g. US 75), State Highways (e.g. SH 5) and Farm to Market Roads (e.g. FM 2514). Most state departments of transportation place one or two letters before the DOT in their name. For instance, the Texas DOT is TxDOT.

Design Capacity – The maximum number of vehicles that can pass over a given section of a lane or roadway in one direction on a multi-lane highway (or in both directions on a two or three lane highway) during a specified time period while operating conditions are maintained corresponding to the selected or specified level of service.

Design Speed – A speed selected for purposes of design and correlation of those features of a highway, such as vertical profile, horizontal curvature, super-elevation, and sight distance, upon which the safe operation of a vehicle is dependent.

Divided Road – A directional roadway on which opposing traffic is separated by a median, either raised or depressed.

Fixed-Route Bus Service- Bus service provided along defined routes which stop at designated locations or on demand.

Free-flow Operating Speed – Operating speed of a passenger car over a section of highway during extremely low traffic densities (i.e., when congestion does not slow down traffic).

Frontage Road - A road contiguous to and generally paralleling an expressway, freeway, parkway, or through-street, and designed to intercept, collect, and distribute traffic desiring to cross, enter, or leave the highway. Frontage roads can also be designed to provide access to properties that otherwise would be isolated as a result of the controlled-access feature of the highway; sometimes called a service road or feeder road.

Geometric Improvements – Improvements to roads such as widening, adding signals to intersections, or adding turning lanes. These are required to mitigate traffic impacts and maintain a desired level of service.

Grade Separation – A structure used to separate vertically two or more intersecting roadways, thus permitting traffic to cross over or under the intersecting road without interference.

High Occupancy Toll (HOT) – A carpool lane that may be used by a single-occupant vehicle for a fee, which typically is higher during peak periods. HOT lanes are also referred to as Managed lanes.

High Occupancy Vehicle (HOV) – This term defines any vehicle carrying two or more passengers. HOV lanes on major highways permit only HOVs to use them; also referred to as Managed Lanes.

Institute of Transportation Engineers (ITE) – Organization for professional transportation engineers. ITE publishes the *Trip Generation Manual*, which provides information on trip generation for land uses and building types. For instance, if an individual needs to know the number of trip ends (see definition below) produced by an industrial park, the report provides a trip rate based upon the size of the building. The report also divides the trip rate into peak hour rates, weekday rates, etc.

Interchange – A system of interconnecting roadways in conjunction with one or more grade separations, providing for the interchange of traffic between two or more roadways or highways on different levels.

Level of Service (LOS) – A generalized measure of a road's operational characteristics. There are six levels of service letter grades typically recognized by transportation planners and engineers. They are as follows:

- **Level of Service A** describes a condition of free flow, with low volumes and high speeds.
- **Level of Service B** is the zone of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation.
- **Level of Service C** is the zone of mostly stable flow, but speeds and maneuverability are more closely constricted by the higher volumes.
- **Level of Service D** is a zone that approaches unstable flow, with tolerable operating speeds, however driving speed is considerably affected by changes in operating conditions.
- **Level of Service E** is a zone that cannot be described by speed alone. Operating speeds are lower than in Level D, with volume at or near the capacity of the highway.
- **Level of Service F** is a zone in which the operating speeds are controlled by stop-and-go mechanisms, such as traffic lights. This is called forced flow operation. The stoppages disrupt the traffic flow so that the volume carried by the roadway falls below its capacity; without the stoppages, the volume of traffic on the roadway would be higher, or in other words, it would reach capacity.

Light Rail Transit (LRT) – Light rail is an intermediate-to-high capacity transit option that operates on steel tracks. LRT, a modern version of streetcar systems once common in North American cities, is powered through an overhead electric wire (catenary) and can operate on city streets, in pedestrian malls, or on dedicated rights-of-way, including subways, on aerial structures, or at-grade. Light rail typically operates with a single driver and one or two cars, but trains of four or more vehicles can be operated by a single driver. This high carrying capacity generally offsets the higher operating costs, proving light rail a cost-effective alternative where transit demand is high.

Link Volumes – The number of vehicles using a specific roadway segment. It is typically expressed as average daily traffic (ADT) or vehicle per peak hour (VPH).

Linked Trip/Trip Chain – This term defines the sequence of grouping stops between the origin and ultimate destination. The intermediate stops made while en route to the ultimate destination are referred to as pass-by trips. The term is used in the evaluation of the operation of the accesses or driveways serving the uses at the intermediate stops.

MAP-21 – The Moving Ahead for Progress in the 21st Century Act (P.L. 112-141), was signed into law by President Obama on July 6, 2012. Funding surface transportation programs at over \$105 billion for fiscal years (FY) 2013 and 2014, MAP-21 is the first long-term Federal transportation act enacted since 2005.

Median – A physical divider separating lanes of traffic that typically are traveling in opposite directions. A median is often installed to prohibit unsafe turning movements. It can also be used to beautify a streetscape.

- **Raised Median** – A raised-curb facility separating two main directions of traffic often with the intent to restrict mid-block turns.
- **Flush Median** – A median painted along the middle of a roadway with the purpose of separating opposing traffic.
- **Depressed Median** – A median with sloped shoulders dividing roadway surfaces, which provides benefits in terms of drainage.

Metropolitan Planning Organization (MPO) – The agency which administers the federally required transportation planning processes in a metropolitan area. An MPO must be in place in every urbanized area with a population over 50,000, and is responsible for the 20-year long-range plan and the Transportation Improvement Program (TIP). The MPO is the coordinating agency for grants, billings and policymaking for transportation. The North Central Texas Council of Governments (NCTCOG) serves the region as its MPO by developing transportation plans and programs that address the complex needs of the rapidly growing Dallas-Fort Worth area and the North Central Texas region.

Modal Split – The term defines the proportion of total person-trips that use each of the various modes of transportation, such as automobiles, buses, carpools, transit, bicycles and pedestrians.

Mode of Travel – The means of travel, such as an auto driver, vehicle passenger, mass transit passenger, cyclist or a walker.

Model – A mathematical formula that expresses the actions and interactions of the elements of a system in such a manner that the system may be evaluated under any given set of conditions (e.g. land use, economic, socioeconomic, and travel characteristics). A travel demand model is a computer program, mathematical equation or graphical technique which simulates travel patterns, particularly those in urban areas.

Multimodal – This term refers to more than one mode of transportation in the same geographic area.

National Highway System (NHS) – A system of roadways which includes the Interstate Highway System as well as other roads important to the nation's economy, defense, and mobility. The NHS was developed by the Department of Transportation (DOT) in cooperation with the states, local officials, and metropolitan planning organizations (MPOs).

Network – A system of roadway links and land use activity nodes (e.g. shopping centers, offices) which make up the transportation system; the skeleton of movement.

North Texas Tollway Authority (NTTA) – The NTTA is an organization sanctioned by the State of Texas to develop and maintain high-quality roadways in North Texas. It was created to finance, construct and oversee turnpike projects in North Texas.

Operating Speed – The highest overall speed at which a vehicle can travel on a given highway under favorable weather conditions and under prevailing traffic conditions without at any time exceeding the safe speed as determined by the design speed on a section-by-section basis.

Paddling Trails – A recreational waterway facility for canoers and kayakers.

Paratransit – Also known as demand-response transportation (DRT), paratransit is a transit mode comprised of passenger cars, vans or small buses operating in response to calls from passengers to the transit operator, who then dispatch vehicles to pick up passengers and transport them to their destinations. Paratransit does not operate over a fixed-route or on a fixed- schedule.

Pavement – That part of a roadway having a constructed surface for the facilitation of vehicular movement.

Peak Hour – The one hour period during which the roadway carries the greatest number of vehicles. Traffic impacts are typically evaluated during the morning and afternoon peak hours when the greatest number of motorists are traveling to and from work.

Person Trip – A trip made by a person using any mode of transportation for any purpose. See the definition for **Trip**.

Platoon – A grouping of vehicles traveling together in the same direction at the same approximate speed.

Refuge Lane – An area of a highway designated for stalled vehicles.

Regional Transportation Plan (RTP) – The RTP is created by the Metropolitan Planning Organization (MPO) or the regional planning commission.

Reverse Commute – Travelling from a home in the city center to a suburban work location, moving counter to the primary or major volume of traffic flow.

Reversible Lane(s) – A lane or lanes where traffic moves in one direction only during some period of time, then in the reverse direction during another period of time.

Roadway – That portion of a road which is improved, designed, or ordinarily intended for vehicular use. Roadways are designed and built as divided, undivided, or one-way roads.

Shared Lane – A marking placed in the center of a travel lane to indicate that bicyclists are allowed to use the full lane. The new *Manual on Uniform Traffic Control Devices* provides for a specific shared-lane marking called a Sharrow.

Single Occupant Vehicle (SOV) – A vehicle occupied by only one person.

Stacking – The process of vehicles forming a line or queue. If the stacking in a turn lane extends into the through lanes, delays and unsafe conditions become prevalent.

System Analysis – A method by which the transportation system may be studied to determine its effectiveness in meeting the objective of satisfying travel demand.

Toll Road – Roadway that users must pay to use each time they travel on it.

Traffic Calming – The design process to tame fast traffic and address unsafe traffic conditions. Design elements that could be added to accomplish traffic calming include, for example, speed humps, narrowed streets, traffic circle/roundabouts, on-street parking or similar measures. Good initial design and roadway layout can prevent the need to install traffic calming measures after the road is built.

Traffic Control Device – Any sign, signal, marking, or device placed or erected for the purpose of regulating, warning, or guiding vehicular traffic and/or pedestrians.

Traffic Impact Study (TIS) – A study conducted using transportation modeling and analysis software to predict the volumes and associated impacts from traffic generated by a proposed land use or development project. The study analyzes the impacts to roads and intersections and includes recommendations for roadway improvements that may be needed to mitigate unacceptable levels of service or unsafe situations, and to comply with the regulations of the reviewing jurisdiction.

Traffic Island – An island provided in the roadway to separate or direct streams of traffic, which includes both divisional and channelizing islands.

Traffic Lane – A strip of roadway intended to accommodate a single line of moving vehicles.

Traffic Sign – A traffic control device mounted on a fixed or portable support which conveys a specific message by means of words or symbols, and is officially erected for the purpose of regulating, warning, or guiding traffic.

Traffic Survey Zone (TSZ) – A geographic area that identifies land use, population, employment, and dwelling units, all of which are considered in projecting trip generation and performing travel demand modeling. Also referred to as a Traffic Analysis Zone (TAZ).

Transit Service – Buses, trains and other forms of transportation that charge fares and are available to the public.

Travel Forecasting – A method used to predict the future travel patterns on particular roadways or between travel modes by using current counts, predictions of intensity and location of land uses, population growth and availability of transit alternatives.

Trip – A one-directional movement which begins at the origin at the start time, ends at the destination at the arrival time, and is conducted for a specific purpose.

Trip Distribution – The process by which the movement of trips between zones is estimated.

Trip End – The term used to describe trips in terms of their common origins or destination.

Trip Generation - The number of trips caused by or resulting from a particular land use type and density.

Turn Lane – A lane devoted to vehicles making a turning movement to go in a different direction. Turn lanes are necessary to ensure the free-flow of traffic in the through lanes by providing a separate area/lane for turning traffic to slow down and complete the turning maneuver without impeding the through traffic.

Undivided Road – A road which has no directional separator, either natural or structural, separating traffic moving in opposite directions.

Vehicle – Any component of wheeled traffic. Unless otherwise qualified, the term vehicle will normally apply to free-wheeled vehicles.

Vehicle Miles Traveled (VMT) – The number of miles traveled by vehicles for a period of one year.

Vehicles per hour (VPH) – A ratio used to define the hourly volume of a roadway. The ratio represents the number of vehicles traveling on a roadway link during a single peak travel hour.

Volume – The number of vehicles that pass over a given section of a lane or a roadway during a time period of one hour or more. Volume can be expressed in terms of daily traffic or annual traffic, as well as on an hourly basis.

Volume/Capacity Ratio (V/C ratio) – A measure used to determine a road's ability to accommodate traffic. The v/c ratio is determined by dividing traffic volumes by the roadway design capacity.

Weaving – The process of entering a section of roadway (wither from another roadway or from a site) and merging across multiple lanes "with traffic" to reach a desired lane at a downstream intersection or ramp.