

Appendix D: Glossary



APPENDIX D

Glossary

Accessibility – Accessibility is a concept used in transportation planning to describe the ease with which an individual has an opportunity to participate in an activity. The more accessible the activity is, the fewer travel barriers and less travel friction need be overcome to reach the activity. In common usage, accessibility is often used to mean the ability of the physically disabled to use transit or transportation facilities.

Availability of Service – For fixed-route systems, this factor can be expressed as frequency (the number of times per day or per week that a particular route is served); for demand-responsive systems, it is the reservation time (the number of hours or days between a call for a ride and the pickup). Also see **Fixed-Route** and **Demand-Responsive**.

Client Population – This measure consists of those persons who participate in or benefit from an agency's program. Some of these will use their transportation system; some may not.

Corridor Investment Study – An element of the transportation planning process that considers a full range of mobility alternatives where the need for a major transportation investment has been identified in a corridor or subarea outside a metropolitan area and determines the most appropriate transportation investment(s) therein.

Cost per Passenger-Trip (One-Way) – Total system costs (all operating expenses plus administrative costs plus capital costs on a depreciation schedule) divided by the number of passenger-trips. Costs and trips must be recorded over the same period of time.

Cost per Vehicle-Hour – Total system costs divided by the sum of the number of hours that each vehicle is operated in service.

Cost per Vehicle-Mile – Total system costs divided by the total distance traveled by all vehicles in the system when they are in service.

Deadhead Miles – Mileage driven when no passenger or package service is being provided. For demand-responsive systems, this is the total of all mileage at times when there is no reasonable expectation of carrying a passenger or package. This includes travel between the dispatch point and passenger pick-up or drop-off. For fixed-route systems, it is the mileage between the vehicle storage location and the start of the route (and vice versa at the end of the day). It does not cover mileage on the route.

Demand-Responsive – Demand-responsive refers to any mode of transportation in which passengers are picked up upon their request. This is opposed to fixed-route, fixed-schedule transportation in which vehicles run fixed routes and schedules. Demand-responsive service will provide transportation for the traveler when and where he wants to go (within certain limits). Also see **Fixed-Route**.

Destination – Terminal end of a trip or the zone in which a trip terminates.

Dynamic Routing – The process of constantly modifying vehicle routes to accommodate service requests received after the vehicle began operations, as distinguished from predetermined routes assigned to a vehicle.

Effectiveness – For a **transportation system**, the effect is that people are moved from one place to another (i.e., trips). Measures of the effectiveness of a transportation system are, for example, the number of trips taken on it or the number of individual persons that it serves. Or, a transportation system can be evaluated in terms of its effectiveness toward a social goal; for example, the number of persons who can take

advantage of a particular social service because of the transportation system.

Efficiency – The efficiency of a transportation system will be some measure of the relationship of system inputs to system outputs. Transit planning has generally expressed this efficiency measure in terms of the ability to minimize an input (i.e., costs) to produce a unit of output. The most often used measures are cost per passenger or cost per vehicle-mile.

Elderly – The elderly are generally defined as those persons of 60 years or older; however, among the many federal statutes (and supporting regulations) which are concerned with the needs of the elderly, there are variations in the age specified for eligibility ranging from no specific age designated to age 65 and older: Older Americans Act, Title VII – eligibility requires 60 or over; Older Americans Act, Title III – no age-related eligibility requirements; Older Americans Act, Title IX – eligibility specified as 55 or over, etc.

Fare Recovery Ratio (Farebox Recovery) – The ratio of fare revenue to direct operating expenses. See **Operating Ratio**.

Feeder Services – Those services which provide access to already existing public transportation systems.

Fiscally Constrained – The financial limitation on transportation plans based on the projection of federal, state, local, and other revenues reasonably expected to be available over the 20-year planning period as adopted by the State Transportation Commission each six years prior to updating regional and statewide plans.

Fixed Costs – Typically those costs that are less (or not at all) sensitive to changes in service. They include such items as general supervision, overhead and administration, rents, debt service, etc. Fixed costs are differentiated from variable costs because they represent those costs that

must be met whether the service operates or not. If the project runs into operating problems (e.g., loss of traffic), fixed costs will continue.

Fixed-Route – Fixed-route systems operate over the same route according to a pre-established schedule. The riders of such a system must schedule their activities around the times when the service is being provided. This is in contrast to a demand-responsive system. Also see **Demand-Responsive**.

Headway – The time interval between transit revenue vehicles moving in the same direction passing a specified location.

Hours of Service – The number of hours during the day between the start and end of service on a transit route, also known as the service span.

Intermodal – Those issues, facilities, or activities which involve or affect more than one mode of transportation, including transportation connections, choices, cooperation, and coordination of various modes.

Level of Service – In transportation literature, level of service is generally defined as a measure of the convenience, comfort, safety, and utility of a system or system component (vehicle, facility, etc.) from the passenger's point of view. A variety of measures can be used to determine a particular component's level of service. In transit, level of service measures incorporate such factors as availability, frequency, etc. Level of service is typically designated in six ranges from A (best) to F (worst) for a particular service measure based on the passenger's perception of a particular aspect of the transit service.

Linked Trip – A trip from the point of origin to the final destination, regardless of the number of modes or vehicles used. See also **Unlinked Trip**.

Major Investment Study (MIS) – An element of the metropolitan transportation planning process that considers a full range of mobility alternatives

where the need for a major transportation investment has been identified in a metropolitan area and determines the most appropriate transportation investment(s) therein.

Major Transportation Investment – A high-type highway or transit improvement of substantial cost that is expected to have a significant effect on capacity, traffic flow, level of service, or mode share at the transportation corridor or subarea scale.

Measures of Operating Costs – For the measurement of operating costs, there are four major unit cost measures that can be used (either separately or together) in determining cost effectiveness: 1) cost per vehicle-hour, 2) cost per vehicle-mile, 3) cost per passenger-trip, and 4) cost per passenger-mile. See also **Vehicle-Hour, Vehicle-Mile, Passenger**.

Metropolitan Planning Organization (MPO) – An organization within the State of Colorado designated by agreement among the units of general purpose local government and the Governor, charged to develop the transportation plans and programs in a metropolitan area.

Mobility – Access to a transportation service; mobility represents the supply function of transportation services facing an individual (or group) when using transportation services. If two people have access to the same transportation services at the same price, then they have equal mobility.

Mobility Gap – The difference in household trip rate between households with vehicles and households without vehicles.

Mobility-Impaired/Limited – This term is used to refer to those with specific categories of physical or mental limitations to travel.

Multimodal – Refers to: (1) all transportation modes individually; or (2) a comprehensive or integrated transportation model approach, often used interchangeably with **intermodal**.

Non-Program-Related Trips – Non-program-related trips are those trips made for various purposes by individuals. The trips are not associated with a specific social service program, but are generated by the mobility needs of individuals including the elderly, people with disabilities, students, and the general public. Trips may be for any purpose other than travel directly to and from a social service program.

Non-Revenue Hours – Hours which reflect time spent waiting between pickups, deadheading, and carrying out some administrative task.

Off-Peak – Off-peak refers to those portions of a day in which demand for transportation service is comparatively low.

One-Way Passenger-Trips – Refers to the total number of boarding passengers carried on all routes.

Operating Ratio – The ratio of operating expenses to operating revenue. Thus, operating ratio indicates the financial efficiency of a system.

Origin – The beginning point of a trip or the zone in which a trip begins.

Other Regional Priority Funds - The Colorado Transportation Commission allocates the state and federal revenues it receives into three primary categories:

- Strategic Project Program (also referred to as the “7th Pot”);
- Statewide Programs, such as Surface Treatment, Bridge, Maintenance, Safety, Operations, Noise Barriers, Rest Areas, ITS, and Small Urban programs; and,
- Regional Programs, which include Other Regional Priorities, available for funding a variety of projects such as reconstruction, capacity improvements, safety improvements, etc. These funds are “flexible”—meaning they can be used for non-highway capital projects such as new or replacement buses, intermodal facilities, etc.

Paratransit – Paratransit is defined as those forms of passenger transportation which are distinct from conventional transit (scheduled bus and rail),

and can operate over the highway and street systems. Types of para-transit include dial-a-ride, shared taxicab service, jitneys, subscription bus, carpools, vanpools, and short-term carpools (either company-owned or rental), each of which has characteristics suitable for different types of urban travel.

Paratransit, complementary – Service provided within a certain distance of fixed-route transit service to accommodate disabled passengers unable to use the fixed-route service as required by the Americans with Disabilities Act.

Passenger-Miles – The sum of the trip distances traveled by all passengers.

Passenger-Trips – The number of one-way trips by persons using the system. Each passenger counts as an individual trip even if there is group boarding and alighting at common points.

Passengers per Vehicle-Hour – The number of passenger-trips divided by the sum of the number of hours that each vehicle is operated.

Passengers per Vehicle-Mile – The number of passenger-trips divided by the number of vehicle-miles provided by all vehicles.

Passengers per Service Area Population (Annual) – The number of passenger-trips taken during a year's time divided by the population of the service area.

Peak Hour – That hour period during which the maximum amount of travel occurs. Generally, there is a morning peak and an afternoon peak. Peak hour refers to that hour of the day in which a transportation system experiences its greatest demand.

Point Deviation – A hybrid of fixed-route and demand-response service, sometimes referred to as checkpoint service. The vehicle travels from point to

point under a pre-arranged and published schedule. The route which the vehicle takes to get from one point to the next varies according to the calls for service received. Thus, this system operates on a fixed schedule, but the route is demand-responsive. Also see **Route Deviation**.

Productivity – The basic performance parameter that describes transit and paratransit service, defined as the number of passenger-trips per vehicle-hour of operation. Also see **Trip**. It is possible to also define productivity in terms of revenue-hours once the utilization ratio is known. Also see **Utilization Ratio**.

$$\text{Productivity} = \frac{\text{Passenger-Trips}}{\text{Vehicle Service-Hours}}$$

Program-Related Trip – Program-related trips are those that would not occur but for the existence and operation of a specific social service program. These trips are associated with travel to or from a specific social service program and program activities. Travel is generally restricted to program participants traveling for program purposes.

Quality of Transportation Services – This has to do with the attractiveness or desirability of the service to the users—how well the service meets their needs. Some measures of the quality of service are frequency of service, fares, comfort, etc.

Ramp – Inclined passageway adaptable to mass transportation vehicles and capable of boarding and debarking a wheelchair user.

Regional Planning Commission (RPC) – The planning body formed and designated to prepare a **Regional Transportation Plan (RTP)**.

Regional Transportation Plan (RTP) – A technically-based, 20-year plan designed to meet the future mobility needs for a **Transportation Plan-**

ning Region including, but not limited to, anticipated funding, priorities, and implementation plans.

Retrofit – To retrofit is to install some feature in an existing piece of equipment.

Route – That combination of street and freeway sections connecting an origin and destination.

Route Deviation – A hybrid of fixed-route and demand-response service. The vehicle will deviate from a particular route to pick up or discharge a passenger at a requested location and will then go back to the regular route. Deviations are generally small. See **Point Deviation**.

Seat-Miles – The total number of seat-miles for all vehicles used to provide passenger service. This is found by multiplying the number of seats on each vehicle by the number of miles driven by that vehicle and adding all of the products for each vehicle together.

Shared-Ride Taxi – Shared-ride taxi service is demand-responsive group riding where the riders may be traveling between different origins and destinations. A rider does not have exclusive use of the vehicle and fares are lower than conventional taxi service because of the economics associated with joint use of the vehicle. Taxi carpooling refers to a subscription-type shared-ride taxi service.

Special (or Specialized) Transportation Service – This term refers to a transportation service usually provided for or paid for by a social service agency for transportation for disadvantaged people.

Statewide Transportation Improvement Program (STIP) – A staged, financially-constrained, multi-year, statewide, intermodal program of transportation projects which is consistent with the statewide transportation

plan and planning processes, and with metropolitan planning area plans, TIPs, and processes.

Statewide Transportation Plan – A 20-year comprehensive, multimodal state-wide transportation plan adopted by the Transportation Commission.

Subscription Service – A bus or van service in which routes and schedules are pre-arranged to meet the travel needs of riders who sign up for the service in advance.

Target Population – Target population consists of those persons eligible to receive the benefits of the programs of each participating agency whether, in fact, they take advantage of this opportunity or not.

Tie-Down – A position which may be used to restrain a wheelchair within the vehicle. Vehicle capacity usually includes the number of wheelchair positions or tie-down positions.

Transit Authority – The transit authority is a local or regional organization with responsibility for planning, funding, and sometimes operating public transportation services in an area.

Transit Dependent – Those who have to rely on transit services instead of the private automobile to meet their travel needs. Also referred to as captive riders and Transportation Disadvantaged.

Transportation Disadvantaged – Are those who for reasons of age, disability, or income lack accessibility to that group of goods and services deemed necessary for at least a minimum standard of living. The transportation disadvantaged include: 1) the elderly and the disabled who are unable to operate their own transportation and are unable to utilize the public transportation system due to steps being too high, etc.; 2) wheelchair users; 3) the low-income; and 4) zero-vehicle households.

Transportation Improvement Program (TIP) – A staged, financially- constrained, multi-year, intermodal program of projects which is consistent with the metropolitan transportation plan.

Transportation Planning Region (TPR) – One of 15 areas of the state, designated as geographically contiguous areas meeting some, or all, of the criteria for transportation commonality and for which a Regional Transportation Plan is developed.

Travel Time – The time required to travel between two points, not including terminal time.

Trip – A one-direction 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 Distance – The distance between origin and destination.

Trip Generation – A general term describing the analysis and application of the relationships which exist between the trip-makers, the urban area, and the trip-making. It relates to the number of trip ends in any part of the urban area.

Trip Priorities – Those trips which must be served, either because of the funding sources or by policy decision, before any optional trip purposes can be served. It is essential to identify these trip priorities because they represent a set of trips that must be considered fixed.

Trip Purpose – The reason for making the trip. Normally, the purpose is associated with the destination such as work, shopping, recreation, medical, or social. The purpose of the return trip to home is defined by the origin. For example, the trips from home to work and work to home are both work trips.

Trip Rates – This is a measure of travel demand. It is usually expressed in terms of the number of trips per person per day for a particular population segment.

Unlinked Trip – A trip segment made in a single vehicle or a single boarding of one transit vehicle in revenue service. See also **Linked Trip**.

Unit Cost – The unit costs of transportation services are the cost of providing a specific unit of service (i.e., cost/trip, cost/vehicle-mile, cost/vehicle-hour). The unit cost is used chiefly to measure efficiency of the system.

Urbanized Area – As defined by the Bureau of the Census, a population concentration of at least 50,000 inhabitants, generally consisting of a central city and the surrounding, closely settled, contiguous territory.

Utilization Ratio – Ratio of revenue-hours to service-hours is denoted as the vehicle utilization ratio. The utilization ratio relates the actual hours billed for service to the total number of hours of vehicle service availability (measured by driver payroll hours).

Variable Costs – Those costs that are sensitive to changes in the actual level of service. They are usually affected by the vehicle-miles, vehicle-hours, or some other measure of level of service. Variable costs typically include such items as fuel, oil, tires and tubes, drivers' wages, and other items of expense that are sensitive to the level of operation. Vehicles and equipment items purchased have life expectancies which require that a depreciation factor be included when figuring costs. Most typically, depreciation is figured on a straight-line basis with a 10 percent residual salvage value at the end of that time. The length of time depends on the type of vehicle.

Vehicle-Hour – Either the time the engine is running, or the time a driver is assigned to a vehicle; the operating time for a vehicle. Useful in mea-

suring operating costs. Revenue-hours are the hours when the vehicle is operating and available for passenger service.

Vehicle-Miles – The total number of miles driven on all vehicles used to provide passenger service. Revenue-miles are the miles operated by vehicles available for passenger service.