



CHAPTER II

Terminology

This chapter presents common transportation and transit industry terminology. Many of the terms are transit/transportation-specific, while some are general social terms. The definitions provide a common base from which to effectively discuss and debate future coordination efforts.

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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.

Note that accessibility is also used, in common transportation parlance, as a measure of the number of activities that can be reached from a given location in a given time (e.g., the number of jobs within 45 minutes).

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 (or who are eligible to) participate in or benefit from an agency's program. Some of these will use their transportation system; some may not.

Communication - Involves recognition and understanding of a problem and discussion of possible solutions. This improves the working relationships among

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various bodies who are in a position to influence transportation services within their particular jurisdiction.

Cooperation - Involves the active working together of agencies in some loose association in a cooperative way. The individuals or individual agencies retain their separate identities.

Consolidation - Involves joining together or merging agencies for mutual advantage. In the case of transportation services and in the context of this report, consolidation is used in reference to a fully-integrated transportation system in which all individual units have been combined or consolidated into one integrated system. Individual agency identity for the purpose of transportation is no longer maintained.

Coordination - The process of agencies striving to maximize the effective use of public transportation resources by actively sharing information and working to avoid duplication of activities or services. In coordination, the primary concern is in the form of common funds, equipment, facilities, or operations. Members or agencies preserve their separate identities.

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. The typical usage is vehicle revenue-hours.

Cost per Vehicle-Mile - Total system costs divided by the total distance traveled by all vehicles in the system when they are in service. The typical usage is vehicle revenue-miles.

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 - The number of passenger-trips making use of a transportation service (or other service or resource). Demand will vary with changes in the inclusive cost (time, money, inconvenience, frequency of service, and other factors).

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.

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.

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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 III - Eligibility requires age 60 or over; Older Americans Act, Title III; Older Americans Act, Title IX – eligibility specified as 55 or over.

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 a route serving a set of stops in a designated sequence, typically following an established schedule. The riders of such a system must schedule their activities around the locations at which service is provided during 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

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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 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. Under the 2000 US Census, mobility-limited persons are those having a “go-outside-the-home disability.”

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

Transit/Transportation Need - A requirement that transportation be used by an individual so that he or she may engage in or partake of an activity, program, or service. A community transport need is the sum of individual needs.

Activity Need - A requirement that an individual engage in, make use of, or partake of some activity, program commodity, or service in order to maintain their physical and/or mental well-being.

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 and Miles - Hours and miles which reflect time spent by a transit vehicle 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.

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 paratransit 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.

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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 transit service, sometimes referred to as checkpoint service. The vehicle travels through prespecified points in accordance with a prearranged and published schedule. There is no specified route for the vehicle to follow between these points. The service may include door-to-door or curb-to-curb service, meeting the requirements for accessible demand-response service. Also see Route Deviation.

Productivity - The basic performance parameter that describes transit and para-transit 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.

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

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. The time of the trip and the destination are established by the program and not the traveler.

Public Transportation - Transportation by bus, rail or other conveyances, either publicly or privately owned, providing service to the public on a regular and continuing basis (but not including school buses, charter, or sightseeing service). Often referred to as mass transportation or transit.

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.

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

Revenue-Hours and Miles - Those vehicle-hours and miles during which the transit vehicle is actively providing service to passengers. For fixed-route service, this includes all the time spent on routes when passengers may board the vehicle. For demand-response service, this includes all time spent in actively providing passenger service. It includes the time and miles between dropping off one passenger and picking up another even though there may be no passengers onboard at the time.

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

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Route Deviation - A hybrid of fixed-route and demand-response service. The vehicle may deviate from a particular route occasionally in response to a specific request to pick up or discharge a passenger at a requested location and then return to the regular route. Deviations are generally small and must be limited to meet the designated schedule. 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.

Subscription Service - A bus or van service in which routes and schedules are prearranged 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 - 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.

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.

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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.

Unmet Need - A transportation need (see previous definition) for which an individual does not have a means to travel. Community unmet needs may be expressed as the aggregate of individual unmet needs.

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).

User - An individual who makes use of a service or program.

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 measuring 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.

Want - A desire by an individual to partake of some service or engage in some activity. Wants may also relate to the character of transportation such as the type of service, type of vehicle, or frequency of service. Wants are highly individualized and not quantifiable on an aggregate basis.