Some Characteristics of Public Transportation

The two most important characteristics in the performance of the transportation system are mobility and accessibility, and these terms need careful appreciation. Mobility refers to how frequently you travel, and is commonly measured as the product of the number of persons or vehicles and their distances travelled. Accessibility refers to how easily you travel between activities, or the overall difficulty in getting from an origin to a destination.

Problems of mobility-accessibility for public transport users: unreliable operation, too long headway (time between vehicles), congestion, improper location of bus stops, lack of park-and-ride facilities, too high cost, and limited service network (too far to walk).

Problems of mobility-accessibility for public transport operators: too high operating cost, no priority, no concessions, poor amenities, and no administration.

Ashish Verma and T.V. Ramanayya wrote in their book, "The Public Transport Planning and Management in Developing Countries (2015), pages 98-99, that mobility is the capacity that a person has for getting around; it is usually measured in terms of the number of trips or journeys make per unit of time (normally in a day or a week); and that accessibility is the case with which people can reach distant but necessary services.

Typical Attributes Considered for Service Quality for public transportation (Verma and Ramanayya, 2015):

1. Comfort and Convenience: (a) overloading, (b) boarding and alighting, (c) seating arrangement, (d) driving comfort, (e) travel time, and (f) luggage allowance.
2. Schedule and Operations: (a) notification of schedules, (b) following the schedule, (c) prompt service during break down, (d) maintenance of vehicles, (e) cancellation of schedules, and (f) arrival/ departure timings.
3. Driver (and assistant) Behaviour: (a) courteousness with passengers, (b) helping children and old age people, (c) rash and negligent, (d) neatness and professionalism, (e) attitude in general.
4. Cost: (a) notification of fares, (b) returning small change, (c) adequacy of fares, and (d) charges for luggage.

Typical factors influencing the choice of public transport mode (Verma and Ramanayya, 2015):

1. Characteristics of the trips maker: The following features are found to be important: (a) car availability and/ or ownership, (b) possession of a driving license, (c) household structure (young couple, couples with children, retired people, etc.), (d) income, (e) decisions made elsewhere, for example the need to use a car at work, take children to school, etc., and (f) residential activity.
2. Characteristics of the journey: Mode choice is strongly influenced by: (a) the trip purpose; for example, the journey to work is normally easier to undertake by public transport than other journeys because of its regularity and the adjustment possible in the long run, (b) time of the day when the journey is undertaken, and (c) late trips are more difficult to accommodate by public transport
3. Characteristics of the transport facility: There are two types. One is quantitative and the other is qualitative. Quantitative factors are: (a) relative travel time: in-vehicle, waiting, and walking times by each mode, (b) relative monetary costs (fares, fuel, and direct costs), and (c) availability and cost of parking. Qualitative factors which are less easy to measure are: (a) comfort and convenience, (b) reliability and regularity, and (c) protection and security.

Several public transport service quality parameters have been adapted from a paper by A. R. Danaher, (2000) Transit Quality of Service Evaluation, delivered at the ITE Annual Meeting:

1. Urban Scheduled Service for the following headways (time between vehicles) in minutes: (a) for less than 10 min, schedules not needed, (b) between 10-14 min, riders consult schedule, (c) between 15-20 min, maximum desirable wait time, (d) between 21-30 min, unattractive to choice riders, (e) between 31-60 min, service provided during hour, and (f) more than 60 min, unattractive to all riders.
2. Intercity Service for the following number of vehicle trips per day: (a) more than 15, numerous trips throughout day, (b) 12-15, midday and peak hour service, (c) 8-11, midday or peak hour service, (d) 4-7, provides choice of travel times, (e) 2-3, round trip in one day possible, and (f) 0-1, round trip in one day not possible.
3. Hours of Service for the following Hours Per Day: (a) 19-24 hours, night or owl service provided, 17-18 hours, late evening service provided, (c) 14-16 hours, early evening service provided, (d) 12-13 hours, daytime service provided, (e) 4-11 hours, peak hour or midday service, and (f) 0-3 hours, yery limited or no service.
4. Service Coverage for the following percentage Transit-Supportive Area, where this is the area within walking distance of transit with minimal density of 3 households per gross acre, 4 employees per gross acre: (a) 90-100, (b) 80-89.9, (c) 70-79.9, (d) 60-69.9, (e) 50-59.9, and (f) less than 50.

As discussed recently, very little transit service is provided in TnT, with very few buses being functional, and so most public transport services are provided by privately-owned para-transit service operators. When will we be ready for a good level-of-service?

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