



Transit Service Types

INTRODUCTION

The basis for any short-range transit plan is the careful consideration of the realistic service types. The main purpose of Chapter VIII is to develop a basic level of understanding of the different types of transit services that could be implemented. This chapter reviews the way that various transit services function. This information—along with vehicle type, goals, and objectives—was used in the selection of the preferred transit service.

TYPES OF TRANSIT SERVICE

The term “transit service” encompasses a wide range of alternatives. Traditionally, people think of transit service as buses operating on a strict schedule. A number of other transit service alternatives exist, such as demand-response service and commuter transportation. Chapter VIII explores the realistic transit service alternatives for the Carroll County area.

Fixed-Route Service



Fixed-Route Service

Fixed-route transit service fits the popular description of a bus system—with transit vehicles operating on specified routes and following set schedules. Specific bus stops are typically identified for the locations where passengers will be picked up and dropped off. Routes are usually laid out in either a radial or grid pattern.

In a radial route structure, all of the routes originate from a common point and extend to the outlying areas. The central location serves as a transfer point and is frequently located at a destination with high transit activity. In many communities, this is the central business district or downtown area.

Transit Service Types

In a grid route structure, all of the routes function along a two-way direction (either north/south or east/west). The routes are normally spaced equidistantly if the roadway structure permits. This structure has no center transfer location. Instead, the transfers are conducted at intersections of the routes. This type of service is mainly used in urban areas where the population density is greater and equally distributed across the area. In rural areas, fixed-route service may be provided between major communities with connections to local services that operate within the communities.

Fixed-route service is particularly convenient for passengers without disabilities. Research has shown that fixed-route passengers are willing to walk up to one-quarter mile to reach the bus stop. Therefore, a fixed-route service pattern may be efficiently laid out with routes having one-half-mile spacing. However, individuals with mobility impairments may have difficulty in accessing the fixed-route system.

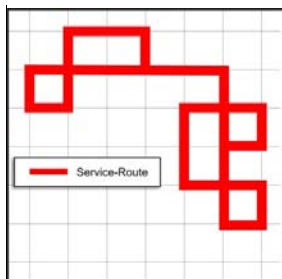
The advantages of fixed-route service are that it can be provided at a relatively low cost on a per passenger-trip basis, schedule reliability is high since buses do not deviate from their routes, service does not require advance reservations, and service is easy to understand.

Fixed-route transit service is seldom attractive for people with automobiles in smaller communities and rural areas. A private automobile offers flexibility compared to the rigid schedule of a fixed-route system. The need to walk even a few hundred feet to a bus stop, wait for the vehicle, and the comparatively slow travel time make the option of a private automobile an easy choice. Where there are significant congestion issues or limited parking availability, fixed-route transit service becomes a more attractive alternative. The low cost of transit as compared to owning and operating a private automobile can also be attractive, especially to young working couples who may be able to use the bus rather than own two vehicles.

The Americans With Disabilities Act requires that communities with fixed-route transit service also provide complementary paratransit service that operates, at a minimum, in a three-quarter-mile radius of each fixed route. Paratransit service

is typically much more costly to operate than fixed-route service because of the characteristics of the service. Fixed routes are established to meet the highest demand travel patterns, while paratransit service must serve many origins and destinations in a dispersed pattern. Fixed-route operations lack the flexibility to meet the needs of passengers with any special requirements in low density areas.

Service Routes



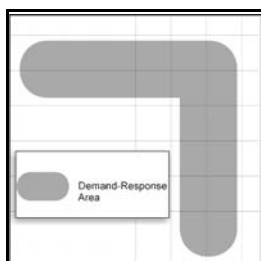
One concept which is being implemented in some communities as an alternative to traditional fixed-route or demand-response service is the service route. A service route is essentially a fixed route specifically designed to serve the elderly and disabled. Typically, a service route winds through residential neighborhoods with high concentrations of elderly and disabled persons in a pattern that passes within a block or two of all houses. It also directly serves important destinations, such as senior centers and commercial areas. The service provides a higher in-vehicle travel time and a longer wait for the bus than would normally be acceptable to the general public. The Bus (operating in Butte, Montana) and MET (in Billings, Montana) provide successful service routes to their local residents.

Demand-Response Service

Demand-response transit service, frequently termed dial-a-ride, is characterized as door-to-door transit service scheduled by a dispatcher. With demand-response service, advance reservations are typically required, although some immediate requests may be filled if time permits and if the service is particularly needed.



Demand-Response Service in small communities



Demand-Response Service

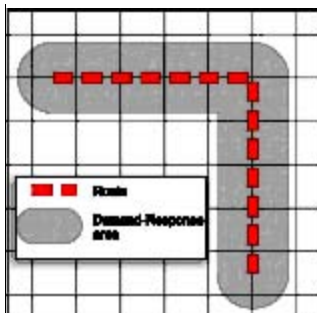
The concept of demand-response was originally developed in the early 1970s as an alternate form of public transportation for the general public. The original efforts proved to be more expensive than envisioned and did not attract the ridership that was forecast. As a result, demand-response transit has been used almost exclusively in this country for elderly and

disabled passengers. However, many communities are beginning to recognize the advantages of demand-response service for low density areas with low levels of transit demand. Improved technology has led to improvements in dispatching and scheduling, which has increased the efficiency of demand-response service and allows for real-time dispatching.

Flexible Routes

Another alternative is flexible routes, such as route deviation or checkpoint service. With flexible routes, vehicle dispatching and scheduling must be done carefully to ensure that vehicles are available to serve the designated stops at the scheduled times. To provide a reasonable amount of flexibility, a lenient definition of on-time performance is typically used. A reasonable policy for route deviation or checkpoint service within the Carroll County area is a 10 to 15-minute window at each designated stop.

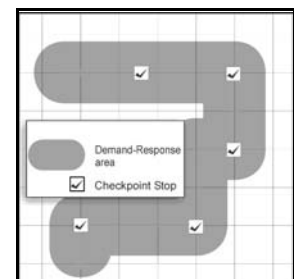
Route Deviation



With route deviation, transit vehicles follow a specific route, but leave the route to serve demand-response origins and destinations. The vehicles are required to return to the designated route within one block of the point of deviation to ensure that all intersections along the route are served. The passengers on the bus may have a longer travel time than for fixed-route service and the service reliability is lower. However, the ADA-mandated complementary paratransit service is therefore not necessary since the bus can deviate from the route to pick up disabled passengers.

Checkpoint Service

Under checkpoint service, the vehicles make periodic scheduled stops at centers of activity (such as program sites, shopping areas, or residential communities). The specific routes are not established between checkpoints, allowing the vehicles to provide demand-response service, again alleviating the need for the ADA complementary paratransit



Checkpoint Service

service. Riders are picked up, typically at a reduced fare, at the checkpoints and taken either to another checkpoint or to a demand-response specific destination. Service between the checkpoints does not require advance reservations. However, service from any other location on a demand-response basis requires an advance reservation so that the vehicles can be scheduled for pick-up and drop-off.

Checkpoint service offers an advantage over route deviation because there is no specified route for the vehicles to use. Checkpoint service requires only that the vehicle arrive at the next checkpoint within the designated time window.

Regional and Commuter Service

With regional and commuter service, the route is primarily designed to link different communities together for employment purposes, instead of linking all areas adjacent to the route. These communities may be within the same geographic area. In urban areas, this type of service is commonly known as an express or limited express service. This type of service can range from long-distance medical trips to commuter trips between communities in the study area. An efficient intercity service needs to connect with local and regional transportation services in the study area.