

Types of Transit Services and Supporting Data Specifications

Rural agencies in Michigan provide an array of demand-response transit services for their communities. The pilot agencies in this project, [Benzie Transportation Authority \(Benzie Bus\)](#), [Cadillac/Wexford Transit Authority \(WexExpress\)](#), [Charlevoix County Transit](#), and [Roscommon County Transportation Authority](#), all provide curb-to-curb demand-response transportation services within their respective areas. Currently, these services are not easily discoverable on trip-planning platforms (e.g., GoogleMaps and Transit app), which typically lack demand-response service discovery support.

Generally, transit services are divided into two primary categories: fixed-route and demand-response transportation. **Fixed-route systems** operate vehicles that travel along predetermined routes at scheduled intervals. These systems feature printed or displayed timetables and specified stops where riders are picked up and dropped off.

Demand-response transportation is any flexible or non-fixed-route service that allows travelers to deviate from the predetermined route or arrive at a custom origin or destination point, typically requiring advanced booking. Demand-response transportation is more dynamic than fixed-route transportation because it adjusts routes and schedules according to passenger demand. This type of transportation is often better suited for servicing customers in rural areas because it offers greater responsiveness to riders' needs, which is important in areas with lower densities.

Essential transit information like route and schedule data is shared and displayed using open standard General Transit Feed Specification (GTFS) data feeds. Traditionally, GTFS data specifications were limited to describe fixed-route services only. However, the latest extension of the data specification has expanded GTFS to include service descriptions of demand-responsive services as well. The GTFS-Flex extension was adopted in March 2024 as the official GTFS specification and represents the latest iteration of the GTFS data ecosystem.

Trip planners incorporating GTFS-Flex yield more comprehensive (and often a higher number of) trip options and more accurate trip time estimates in trip-planner search results. This is because GTFS-Flex-enabled trip planners provide directions for fixed points along a pre-existing route and multiple modes between user-defined points, with increased territorial coverage and improved service descriptions.

The Advancing Rural Mobility pilot will incorporate complex service information into a joint trip planner with GTFS-Flex, defining the unique models and conditions that make up local services and translating these services into a common language. Implementation will translate participating agencies' transit service schedules, route information, booking rules, and service areas into a comprehensive data stream. The development of the data will require a thorough understanding of transportation services at each agency. Development of common data infrastructure and technology will increase awareness of transit services and enhance the trip-planning

experience for residents and visitors alike. The program will provide travelers access to clear and consistent transit information that make standard services easily discoverable, showcasing all that agencies offer.