

# GTFS-flex

GTFS-flex white paper  
prepared by Trillium for N-CATT

A PROPOSED EXTENSION TO THE GENERAL TRANSIT FEED SPECIFICATION THAT REPRESENTS DEMAND RESPONSE, ROUTE DEVIATION, AND OTHER FLEXIBLE SERVICES

## GTFS-FLEX IS AN OPEN DATA SPECIFICATION

### Why does this technology exist?

Currently, major trip planning apps like Google Maps only represent fixed-route transit services. GTFS-flex adds fields and files to GTFS to make trip planning for flexible transit services possible.

### What are the goals of GTFS-flex?

1. Increase discoverability of flexible transit services
2. Make using flexible transit services easier for riders
3. Power transportation analysis of flexible transit services

### What are the challenges surrounding GTFS-flex today?

- The industry has not yet fully adopted the technology.
- There are few inexpensive ways for agencies to immediately benefit from GTFS-flex today.
- GTFS-flex will remain incomplete until real-time and booking capabilities are added to the specification.

## ADDITIONAL DETAILS/RELATED TECHNOLOGY

- GTFS-flex is a relatively simple open-source technology that can integrate into already-existing GTFS data.
- OpenTripPlanner has historically been the primary supporting technology and is the only trip planning environment in which GTFS-flex fully manifests.

### Hypothetical demand response rider walkthrough

Joey has a disability that makes it difficult for him to drive a car. He lives in a small, rural county with one demand response transit service. Sometimes, Joey can get a ride from a family member, but his family is not always available when he needs transportation. Joey wants to find a more reliable mode of transportation to access social services on his terms. Joey navigates to his regional trip planning web app, inputs a trip query, and discovers there is a county dial-a-ride service. He also sees instructions on how to schedule a ride and how much it will cost. He calls the number listed and books a trip for the next day.

## WHERE IT IS USED

- Google Maps Flag Stops
- Northwest Oregon Transit Alliance
- Vamos Mobility App

## MORE ON GTFS-FLEX

- [GTFS-flex GitHub](#)
- [gtfs.org](https://gtfs.org)
- [OpenTripPlanner](#)

## ABOUT N-CATT

[The National Center for Applied Transit Technology](#) is a technical assistance center funded through a cooperative agreement with the FTA. N-CATT's mission is to provide small-urban, rural, and tribal transit agencies with practical, replicable resources that help them apply technological solutions and innovations.

## ABOUT TRILLIUM

[Trillium](#) is a transit software and consulting company based in Portland with a focus on developing GTFS-based technologies. The company maintains over 350 GTFS feeds for transit agencies across the world.