Technical Tutorial:
General Transit Feed Specification

POLIS Capacity Lab

MobilityData

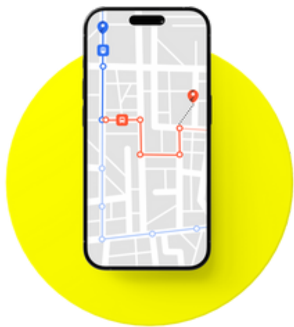
What is GTFS?

GTFS (General Transit Feed Specification) is a data specification for sharing **passenger-facing public transport information**, such as routes, stops, timetables, fares and real-time service updates.

Stewarded by **MobilityData** and used by over **10,000 transport agencies and authorities** worldwide, GTFS allows **public transport data to be reused** across journey planners, mobility services and European data platforms.

Why GTFS matter

- Public transport visibility in digital journey planners, improving passenger information and usability
- Broad support by European National Access Points (NAPs) for public transport data publication
- Low implementation effort with high reuse across multiple apps and platforms
- Support for multimodal travel and modal shift through integration with active travel and shared mobility



GTFS' open, **community-driven governance** allows the data specification to evolve with public authority, policy and operational needs.

Components

GTFS Schedule

Forms the foundation of passenger-facing public transport information, providing **essential, static data**.

Other components such as **transfers, pathways, vehicles, boarding areas, fares...**

Core areas

- Stops
- Routes
- Agencies
- Calendar
- Trips
- Stop times

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GTFS Realtime

Focuses on the ever-changing world of public transport, providing **live updates** that keep passengers informed.

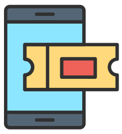
Use cases

- Trip updates
- Vehicle localisation
- Service alerts

Latest extensions

GTFS Fares (v2)

Allows agencies to add **ticket and pricing information** on trip planners, so users can plan their trip budget. It covers **most global fare schemes** (time, zone, and route-based) and **fare conditions** (passenger categories, transfer conditions)



GTFS Flex

Allows riders to learn about **demand-responsive transport (DRT) solutions** available including:

Zone-based DRT

Fixed-stops DRT

Predefined routes with deviation

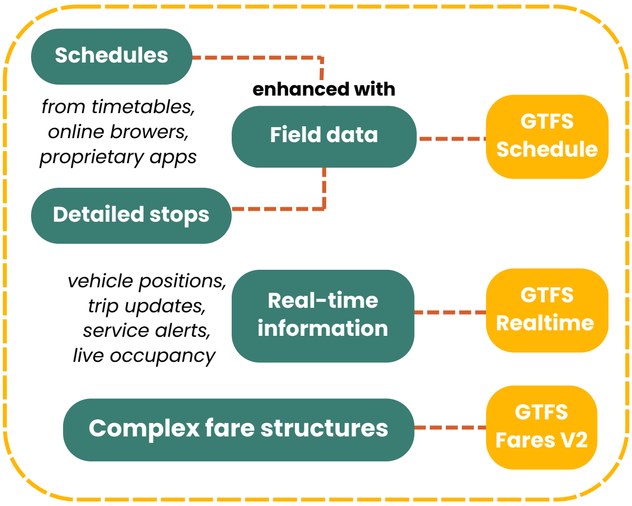
Example: Bucharest, RO

Why Bucharest adopted GTFS

Bucharest's public transport is operated by multiple operators under the coordination of the TPBI authority. Passenger **information was fragmented across different channels and systems**. GTFS was adopted to **standardise and unify** the publication of passenger-facing data.

What Bucharest is doing with GTFS

Passenger information from **multiple sources was consolidated into a single GTFS ecosystem**, combining schedules, real-time information, and fare data. This ecosystem is maintained as the reference for publishing passenger-facing public transport information.



GTFS ecosystem

Consistent passenger-facing public transport information

- Journey planners and mobility apps
- Station displays and websites
- Consistent information across channels

What this enables for the public authority

GTFS provides a **single, authoritative source of passenger information** across the network. It improves system legibility for new and regular users and enables transparent communication of fares and new payment options without replacing existing systems.

Resources

Learn more about GTFS and how to start implementing in your city with:

- gtfs.org: Discover GTFS and stay updated
- GTFS GitHub repository: Developments, discussions, and best practices
- MobilityData: Global non-profit advancing open transport data standards

Discover the POLIS Capacity Lab

Plus, you can learn more about data standards and specifications in urban mobility through **full access to the POLIS Capacity Lab's activities and content**.

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