

# Data Integration Guide



## What is this guide for?

This guide aims to help you reach PTV Lines' full potential.

It gives you an overview on which data sources you might want to use and how to implement them step-by-step.

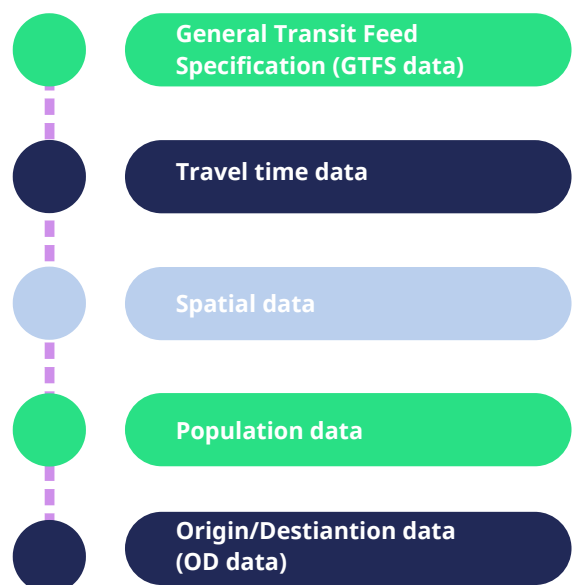
As a service planner, you receive inquiries regarding issues with the current network and timetable design. These may include overcrowding, unstable transfer connections, or construction sites that need to be addressed in a timely manner, such as within days, weeks, or before the next season's timetable is released.

## Which use cases can I work on with PTV Lines?

- Line planning and service optimization
- Summer break / seasonal (touristic) planning
- Construction works detour
- School bus routes
- Cost analysis / cost effective planning
- Major events / expected vs. unexpected events
- Rail replacement bus service
- Equity in transportation planning

## What kind of data do I need to digitize my network?

- **General Transit Feed Specification (GTFS data):** Common format for public transportation schedules and associated geographic information.
- **Travel time data:** Real-time traffic data between two stops. Automatically available in PTV Lines for free. Data provider: HERE Technologies.
- **Spatial data:** Information that identifies the geographic location and characteristics of natural or constructed features and boundaries on the Earth.
- **Population data:** Amount of people living in a specific geographical location.
- **Origin/Destination data (OD data):** Movement from an origin (O) to a destination (D) anonymized and compliant with data privacy regulations. Find out how many people would travel, if you extended line A and/or line B? Or how many vehicles you need in the morning, at midday and in the evening to cover the changing demand?



## What steps do I need to take?

**Step 1:** Search and find the correct **GTFS data** (look for "city name" + GTFS on the internet or go through the sources listed below).

**Step 2:** Download GTFS data.

**Step 3:** Import GTFS data in PTV Lines. Find detailed information in the chapter "[Import GTFS file](#)" of the online help.

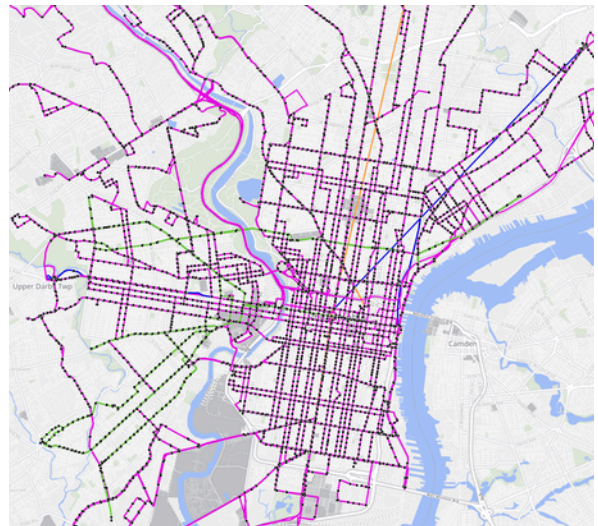
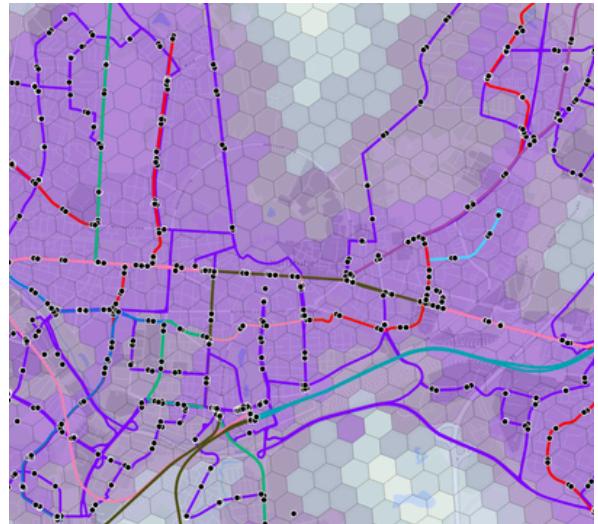
**Step 4:** Depending on the data quality, the lines fall into place right on the map. If not, you need to draw your lines manually.

**Step 5:** **Travel time data** is already available in PTV Lines as the map relies on trustworthy data from HERE Technologies.

**Step 6:** Upload **spatial data, population data and background data** for specific use cases such as **catchment area analysis**. You find those datasets in the sources listed in this document or by contacting the regional or municipal administration.

**Step 7:** This data needs to be in **Geojson format**. There are free online converter, if you do not hold the data in the correct format.

**Step 8:** **O/D data** can help to refine the analysis. A lot of companies or neighbouring departments already have such data available (check-in/check-out data e.g.).



## Data sources

- **GTFS:** Many cities and transportation agencies worldwide provide their public transit datasets.
- **Transitland:** Platform for global GTFS data.
- **Transitdata:** Platform for latinamerican GTFS data. You must contact website maintainers directly to access feeds.
- **US Bureau of Labor Statistics (BLS):** Detailed data on the US job market.
- **Citylines.co:** Collaborative platform for mapping transit systems. The data can be downloaded as GeoJSON or CSV.
- **Kaggle Datasets:** Datasets from various fields, provided and maintained by the community.
- **Google Dataset Search:** Find datasets from various sources worldwide.
- **Mobility Data (Git Hub):** JSON and CSV files. Repository of 2000+ mobility datasets across the world.
- **Census Demographic Data Map Viewer:** Web map application that includes state, county and tract level data from the 2020 census.
- **World Pop - Humanitarian Data Exchange:** Combines the African Population, Asian Population and American Population mapping projects.