Data Required from TPF

* OD matrix/anything that can help us with the demand estimation
* Dedicated bus lanes, current network infrastructure, bus route
* Traffic data
* Two regions of interest related to the two threads: one rural with a transport hub where buses are deficient, and another one in the city center where we expect congestion, delays, bus bunching, and bus breakdowns down
* Bus network in the region of interest, bus routes, schedules, number of buses operating on each line
* Bus delays: expected vs actual arrival time at stations
* Instances of sudden non-recurrent events, causes, and what has been done in that case

Number of lanes, road length and width(capacity), speed limitation, traffic signal (circle length, signal state), accident information (duration)

Socio-economic information, population density, POI, business activity, taxi/bike demand, travel demand, weather

Road topology with simulator? Bus network; Depot and charging infrastructure?

Do we need stops for shuttle bus?

**1st thread last-mile or first-mile**

* Public transit data
  + PLC files, one per vehicle row is a bus stopping at the stop.
    - The last stop doesn’t know very much. It arrives when the next journey starts
    - Schedule is at the minute level, so delay is computed wrt the floor minute, wrt to departure
    - gare in the stop name, there’s a train station.
    - Opening and closing of doors for the arrival and departure in the stops. Don’t use DoorCounter and all the columns after
    - Stops are “Lieu”, doesn’t really know about the direction
    - Speed estimated as average speed per vehicle between two stops
  + geo.admin.ch with pt stops in CH,
  + Typical day with all the lines Excel
    - Lieu vs bordure. Lieu: name of the stop /place, bordure: one for each direction
    - Description: Only a way to indicate the direction of the bus
    - Zone: zone tarifaire,
    - Didok: number of the “quai”
  + Occupancy:
    - Csv file, one for the whole month
    - Jours feries as Sunday
    - ZugNr is actually bus number
    - Journeys starting 9999, empty journeys. All pied. Not a commercial journey
    - Fahrtstart fahrtend, at the journey level. Not stop level
    - Belegung: people inside the bus
    - Occupancy is not raw data, they have sensors at the doors. Decimals
  + No labeling of special events like breakdowns or bus bunching. We don’t know if an accident happened or what.
  + Maybe Belfaux, Rosé could be a hub