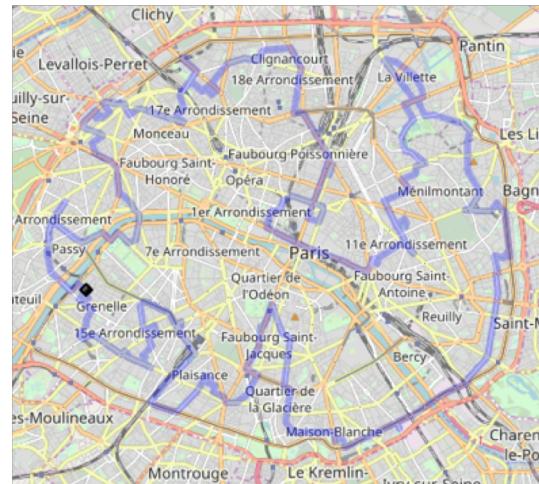
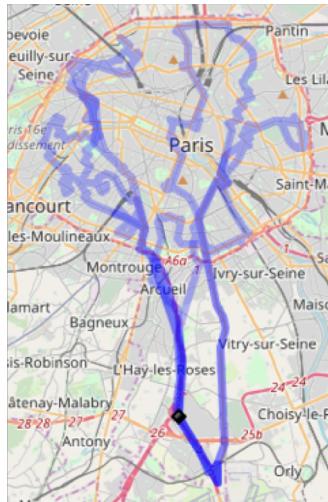


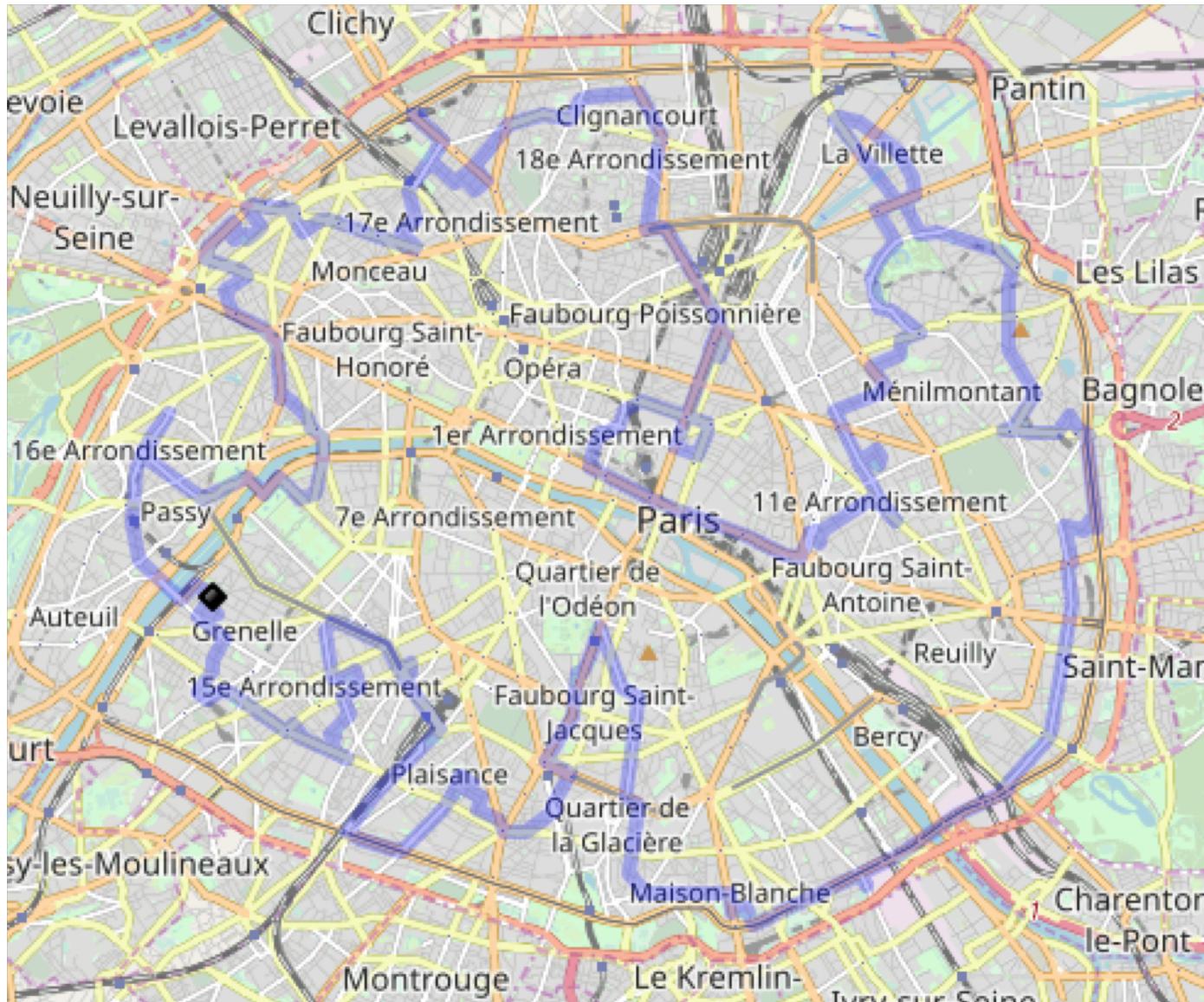
TWO TYPES OF BUSINESS

We consider that the two companies are leaders on their market with no contractors.

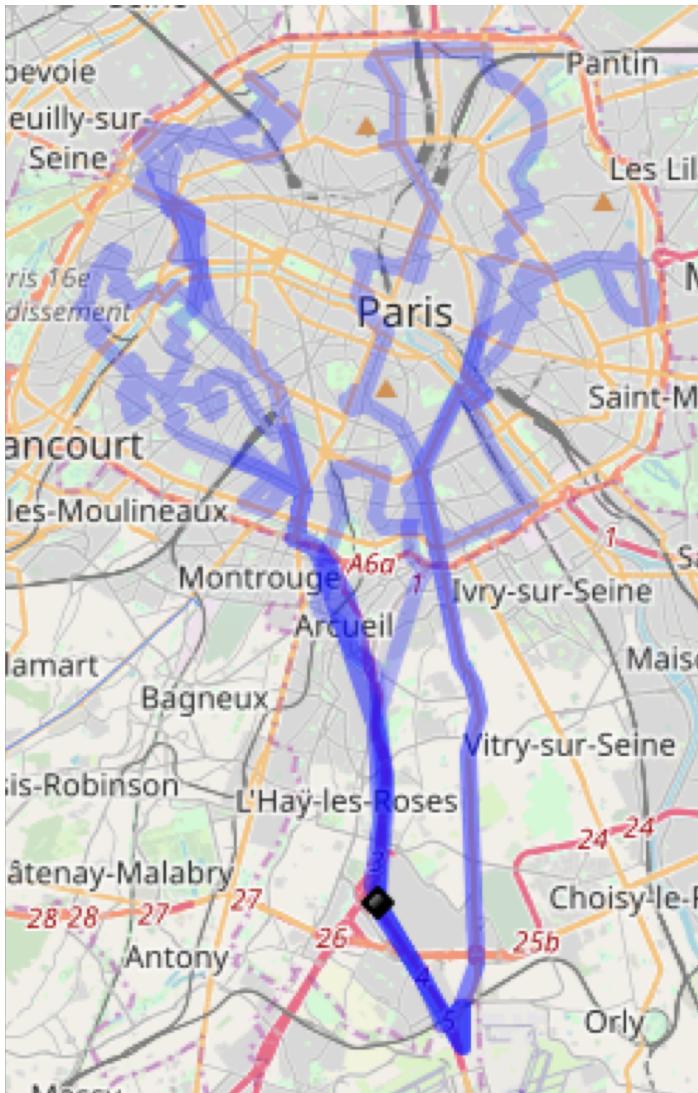
- Restaurants deliveries
 - Nb clients: 50+
 - Vehicle capacity: 15 clients
 - DC: suburbs (Rungis)
 - Dropoff duration: 11 min
- E-commerce deliveries
 - Nb clients: 50+
 - Vehicle capacity: 50 clients
 - DC: city (Beaugrenelle)
 - Dropoff duration: 2 min



E-COMMERCE DELIVERIES

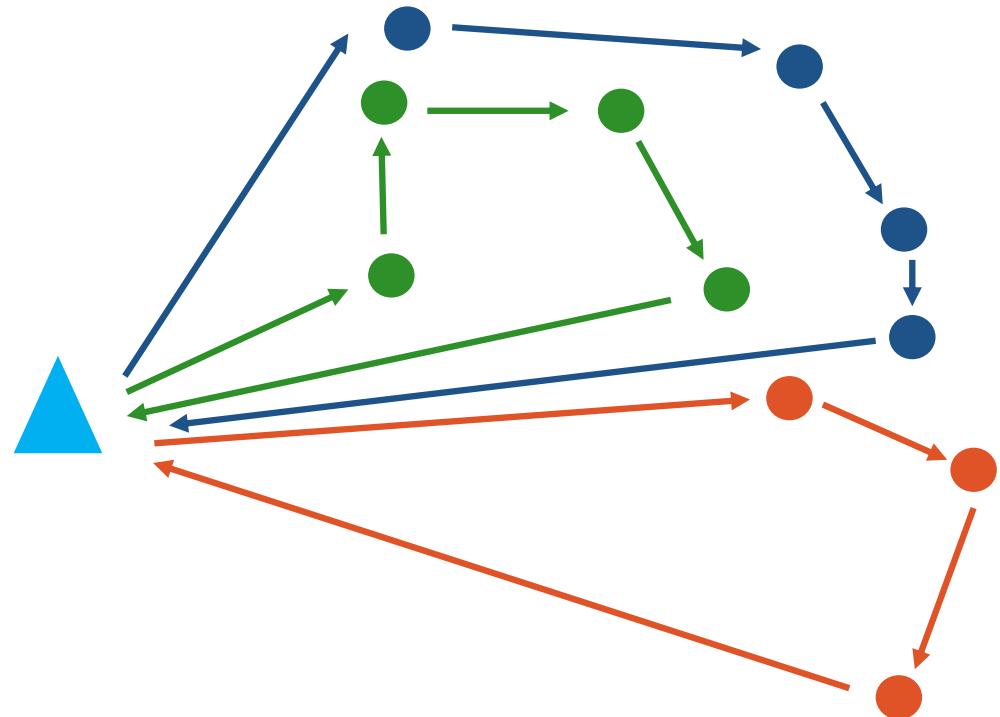


RESTAURANT DELIVERIES



MODEL: CAPACITED VEHICLE ROUTING PROBLEM

- n points to deliver
- Infinite number of vehicles
- Vehicles have limited capacity
- Optimization strategy: minimizing the total driving distance
- Output: driving distance (time is estimated)



FIVE REGULATIONS TO STUDY

- Vehicle size: trucks are forbidden.
- Time windows: deliveries are only allowed between 9:00 and 11:30 am.
- Land reserve for logistics: warehouse is far from the logistic demand.
- Motorization ban: only EURO 5 and 6 motorizations are allowed.
- Sustainable development: lower demand from the clients.