Discussion Post

- Hypothesis: spatially-identified “transport deserts” in the Paris metropolitan region will likely share lower socioeconomic outcomes.
- Datasets: RATP transit network, INSEE census data, and boundaries for department/regional/neighborhood polygons.
- Spatial analysis: calculate number of direct stations per neighborhood; calculate neighborhood centroids; calculate travel time between central Paris to the closest station of a neighborhood centroid; calculate average unemployment/income at multiple administrative levels; calculate average unemployment/income in transit desert clusters.
- Spatial joins: administrative boundaries, census neighborhoods, centroids, transit networks, travel times, socioeconomic indicators.
- Spatial weights: find best neighbors (with better connections to central Paris) for transit deserts.
- Choropleth maps: transit desert clusters and socioeconomic indicators.

Spatial Equity of Transit Accessibility and Economic Opportunity in Greater Paris

The analysis hopes to identify clusters of neighborhoods with limited transport accessibility (“transit deserts”) and looks at how these patterns correlate with socioeconomic indicators (unemployment, income, housing prices, etc.).

Hypothesis:
Transport deserts lead to lower socioeconomic outcomes in the Paris metropolitan region.

Datasets:

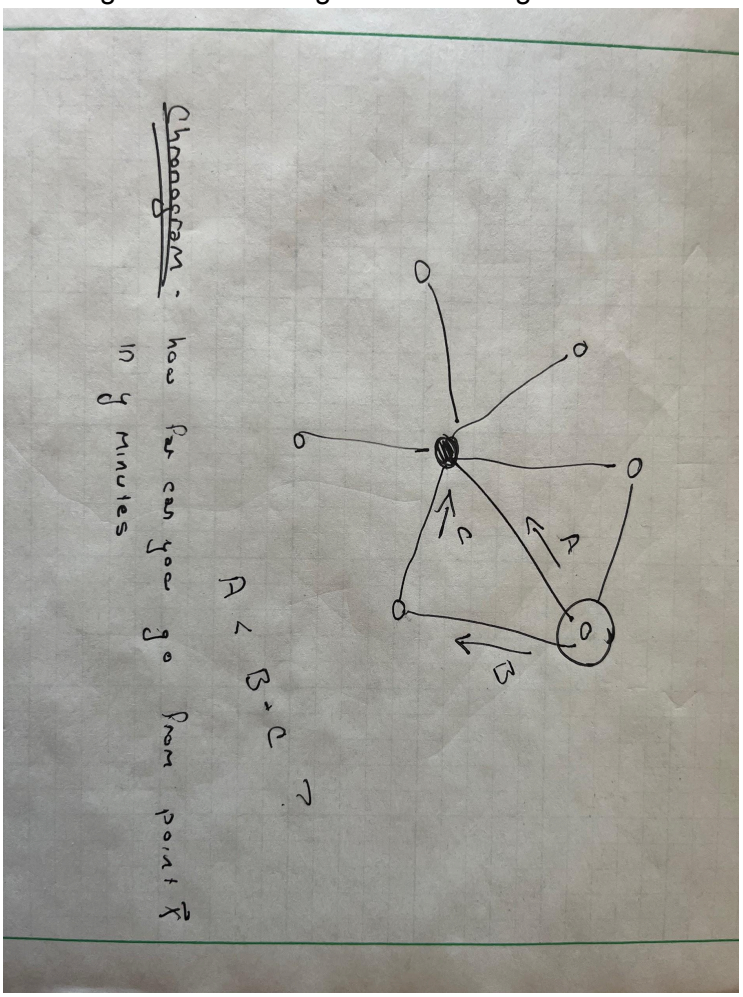
- IRIS administrative boundaries
- RATP GTFS (Metro, RER, bus stops)
- INSEE socio-economic indicators (income, unemployment, employment counts)

Spatial joins:

- Add to geoframe of Transit Network
  - Travel time to central point (Les Halles) for each station
- Add to geoframe of IRIS polygons:
  - Transport stations (name, lines served, lat/lon, travel time to central Paris)
  - Population/Employment/Unemployment counts
  - Income
  - Vehicle/bike ownership
  - Commute information: no transport for work, walk/bike/vehicle/public transit to work, commute to different region, etc.
  - Housing prices
- Additional calculations:
  - Station count per IRIS, by type (metro/tram/RER/bus)
  - Unemployment rate (chomage/population)

Spatial weights

- Calculate how many neighboring IRIS have direct connection to Paris Center
- Find out closest neighbor IRIS with direct connection to Paris center
- Identify which of neighboring IRISs have multiple direct connections to Paris city center, and which neighboring IRISs have zero direct connections to Paris city center
- Tell you how far away the neighbors are

- Jesses's suggestionsFor 5 worst transport deserts, what are the neighbors, and how long does it take to get to those neighbors
- 

Develop index

- For each IRIS, base score on: unemployment rate + travel time to central Paris + IRIS/neighbor transit connectedness
- Final product: Choropleth map of scored IRISs to reveal "transit deserts"