Application of Matsim in Lyon - Initial scenario

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Overview

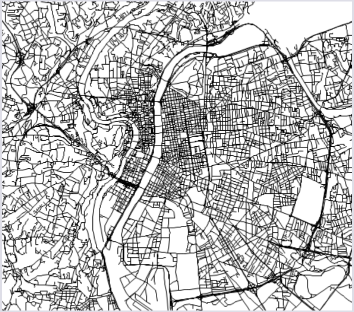
Feedback from initial scenario exercise

- Data acquisition
- Generation of the Synthetic Population
- Initial Trip distribution ("primloc")

Data acquisition

Sources of data

- Navteq car network



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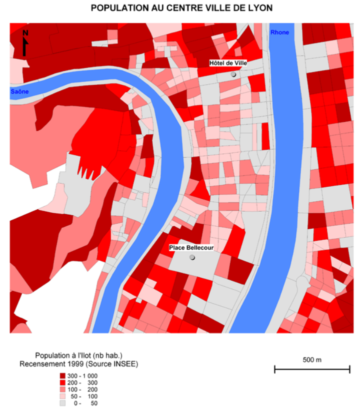

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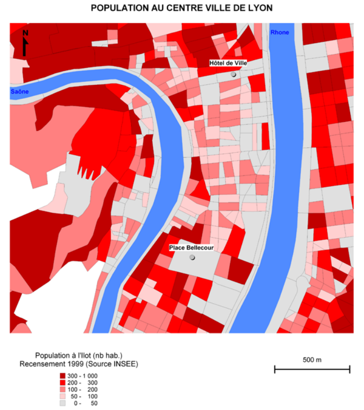

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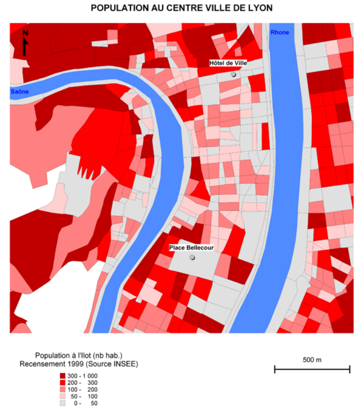
- Traditional travel survey (ca. 11k. resp.)



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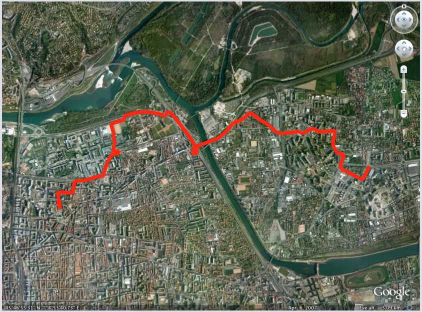
- GPS tracks



Generation of the Synthetic Population

→ Wisinee's presentation

Initial Trip distribution

(a.k.a. "primary location choice")

Properties

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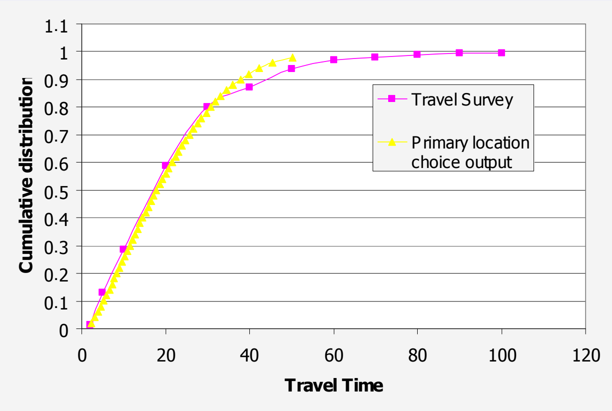
- Let $x_i = e^{\left(\frac{-r_i}{\mu}\right)}$, $c_{ij} = e^{\left(\frac{-C_{ij}}{\mu}\right)}$.
- $\begin{cases} H_i = x_i \sum\limits_{j=1..N} \dfrac{J_j c_{ij}}{Z_j} \\ Z_j(\mathbf{x}) = \sum\limits_{j=1..N} x_i C_{ij} \end{cases}$ N equ., fixed point problem.

Initial Trip distribution

Properties

- Assigns primary locations (or trips) w/ logit
- Controls capacities (i.e. #jobs)
- Requires aggregation layer (i.e. municipalities)
- Calibration: 1 logit scale parameter
- $\longrightarrow$ demo...

Primary location choice - calibration



Comparison travel time distribution between travel survey and the output from primary location choice