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► To cite this version:

Mostafa Ameli, Negin Alisoltani, Ludovic Leclercq. Lyon Metropolis realistic trip data set including home to work trips with private vehicles during the morning peak. 2021. hal-03680839

HAL Id: hal-03680839

<https://hal.science/hal-03680839v1>

Submitted on 28 Jul 2022

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Lyon Metropolis realistic trip data set including home to work trips with private vehicles during the morning peak

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This data set is generated based on raw data collected by LICIT laboratory (<https://licit-lyon.eu/>) in Lyon reported in the study of Krug J, Burianne A, and Leclercq L: Reconstituting demand patterns of the city of Lyon by using multiple GIS data sources, technical report, University of Lyon, ENTPE, LICIT. The demand profile is based on the results of EMD (Enquetes menage déplacements) to generate the OD matrix. The trip-based OD matrix is the transformation in individual trips of the zonal OD matrix.

Description of the demand profile:

The data contains the home to work trips traveling by private vehicles, including departure time, arrival time, and trip length of all users in Lyon metropolis traffic network. Lyon is the second-largest urban area of France with an area of 80 km². The city is located in the south of Paris and is close to other mega-cities in France and Switzerland (Marseille, Grenoble, and Geneva). The trip set contains all trip come from outside and travel to outside the city. This data set represents the demand dynamics, which is typical for a peak period from 6:30 AM to 12 PM. The number of trips during this period is 99,138. The geographical coordinates system is RGF93 / Lambert-93. This dataset is used in [1] and [2].

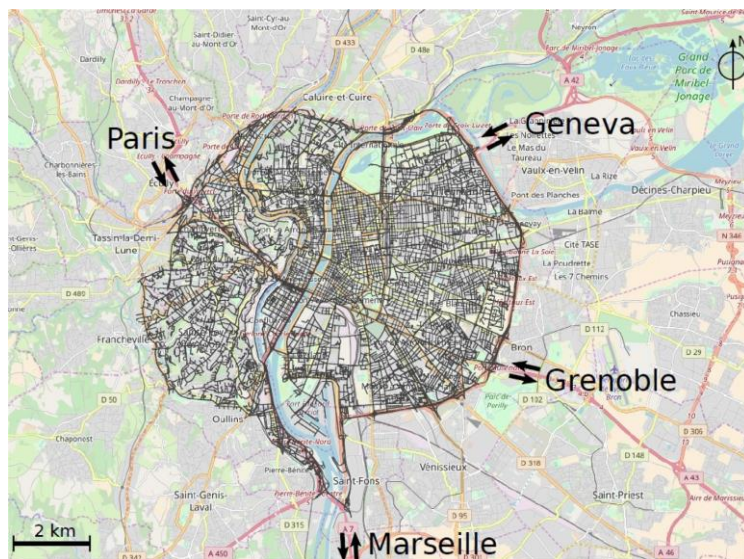


Figure 1: Lyon city in France.

Data set and references:

Referencing: You can find the data set, DOI and BibTex in the following link and please cite the following papers for the description:

Link to the data: <https://research-data.ifsttar.fr/dataset.xhtml?persistentId=doi:10.25578/MLIDRM>

- [1] Alisoltani, Negin, Mostafa Ameli, Mahdi Zargayouna, and Ludovic Leclercq. "Space-time clustering-based method to optimize shareability in real-time ride-sharing." *Plos one* 17, no. 1 (2022): e0262499.
- [2] Alisoltani, Negin, Ludovic Leclercq, and Mahdi Zargayouna. "Can dynamic ride-sharing reduce traffic congestion?" *Transportation research part B: methodological* 145 (2021): 212-246. doi: 10.1016/j.trb.2021.01.004.

Funding for this project: European Research Council (ERC) under the European Union's Horizon 2020 research and innovation program (grant agreement No 646592 --MAGnUM project).

Data files:

The index of trips are determined by the row number.

- Lyon_DataSet.csv: include the following information about each trip:
 - Age (Age category of the user)
 - Motif_Origine (Origin tag)
 - Motif_Destination (Destination tag)
 - Origine (Origin) [The geographic coordinates can be translated by Nodes_Translation file]
 - Destination [The geographic coordinates can be translated by Nodes_Translation file]
 - Heure_Depart (Departure time) [hh:mm:ss]
 - Heure_Arrivee (Arrival time) [hh:mm:ss]
 - Trip_Distance [meter]
- Nodes_Translation.csv
 - Node (Node Name)
 - x (Geographic geographical coordinates (X))
 - y (Geographic geographical coordinates (Y))

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