

## **MATSim Brooklyn Bus Redesign Project Dataset**

**Dataset available at:** <https://doi.org/10.5281/zenodo.3894549>

(This dataset supports report **Evaluation of Bus Redesign Alternatives in Transit Deserts under Ride-Hail Presence**)

This U.S. Department of Transportation-funded dataset is preserved in the Zenodo Repository (<https://zenodo.org/>), and is available at <https://doi.org/10.5281/zenodo.3894549>

The related final report **Evaluation of Bus Redesign Alternatives in Transit Deserts under Ride-Hail Presence**, is available from the National Transportation Library's Digital Repository at <https://rosap.ntl.bts.gov/view/dot/59183>.

### **Metadata from the Zenodo Repository record:**

Title: MATSim Brooklyn Bus Redesign Project

Author: Ziyi Ma

Description: Code to create GTFS from shapefile: This is the code to create GTFS from the network shapefile and frequency data.

- GTFS for redesigned Brooklyn Bus network: This is the GTFS version of the network and frequencies proposed by Goldwyn and Levy (2020).
- Code for simulation-based frequency setting: This is the iterative algorithm code that solves the optimal frequency for Eq. (4) given a demand, and calls MATSim-NYC to update the demand based on the new frequencies.
- GTFS for redesigned Brooklyn Bus network v2: This is the GTFS version of the network proposed by Goldwyn and Levy (2020) with frequencies set by the proposed algorithm.
- MATSim-NYC-Marron model: This is the MATSim-NYC-Marron model, which takes the baseline MATSim-NYC and replaces the Brooklyn bus network with the network and frequencies proposed by Goldwyn and Levy (2020).
- MATSim-NYC-Marron-V2 model: This is the MATSim-NYC-Marron-V2 model, which takes the baseline MATSim-NYC and replaces the Brooklyn bus network with the network proposed by Goldwyn and Levy (2020) and the frequencies proposed in this project.
- User guide: This is a user guide that provides instructions to users on going through the implementation process.

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### **Recommended citation:**

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### **Dataset description:**

This dataset contains 6 file collection and 1 .docx file, described below.

**Code for simulation-based frequency setting.zip:**

- Code for simulation-based frequency setting.ipynb
- FrequencyByHour\_Template.csv
- RouteLength.csv
- Stop\_from GIS.csv
- routes.txt
- shapes.txt
- updated\_output\_9.csv

**Code to create GTFS from analysis.zip:**

- Code to create GTFS from analysis.ipynb
- ODMatrix.csv
- Stop\_from GIS.csv
- routes.txt
- shapes.txt
- updated\_frequency\_output\_dir0\_1\_9.csv
- updated\_frequency\_output\_dir1\_9.csv

**GTFS for redesigned Brooklyn Bus network v2.zip:**

- agency.txt
- calendar.txt
- routes.txt
- shapes.txt
- stop\_times.txt
- stops.txt
- trips.txt

**GTFS for redesigned Brooklyn Bus network.zip:**

- agency.txt
- calendar.txt
- routes.txt
- shapes.txt
- stop\_times.txt
- stops.txt
- trips.txt

**MATSim-NYC-Marron model.zip:**

- AllVehicle.xml
- Redesign\_Schedule.xml
- config-with-mode-vehicles.xml
- count.xml
- final\_population.xml
- final\_subpopulation.xml

- mapped\_all\_network.xml
- vehicle\_type.xml

#### **MATSim-NYC-Marron-V2 model.zip:**

- AllVehicle.xml
- Redesign\_Schedule\_V2.xml
- config-with-mode-vehicles.xml
- count.xml
- final\_population.xml
- final\_subpopulation.xml
- mapped\_all\_network.xml
- vehicle\_type.xml

#### **User Guide Work in Progress.docx:**

##### File Type Descriptions:

- The .ipynb file type is associated with the IPython, a rich architecture for interactive computing written in Python and available for various platforms. The ipynb file stores browser-based notebook with support for code, rich text, mathematical expressions, inline plots and other rich media (for more information on .ipynb files and software, please visit <https://www.file-extensions.org/ipynb-file-extension>).
- The .csv, Comma Separated Value, file is a simple format that is designed for a database table and supported by many applications. The .csv file is often used for moving tabular data between two different computer programs, due to its open format. The most common software used to open .csv files are Microsoft Excel and RecordEditor, (for more information on .csv files and software, please visit <https://www.file-extensions.org/csv-file-extension>).
- The .txt file type is a common text file, which can be opened with a basic text editor. The most common software used to open .txt files are Microsoft Windows Notepad, Sublime Text, Atom, and TextEdit (for more information on .txt files and software, please visit <https://www.file-extensions.org/txt-file-extension>).
- The .xml file type is commonly used for files written in Extensible Markup Language (XML). XML is a human-readable, machine-understandable, general syntax for describing hierarchical data, applicable to a wide range of applications (for more information on .xml files and software, please visit <https://www.file-extensions.org/xml-file-extension>)
- The .docx file is a Microsoft Word file, which can be opened with Word and other free word processor programs, such as Kingsoft Writer, OpenOffice Writer, and ONLYOFFICE.

#### **National Transportation Library (NTL) Curation Note:**

As this dataset is preserved in a repository outside U.S. DOT control, as allowed by the U.S. DOT's Public Access Plan (<https://ntl.bts.gov/public-access>) Section 7.4.2 Data, the NTL staff has performed *NO* additional curation actions on this dataset. NTL staff last accessed this dataset at <https://doi.org/10.5281/zenodo.3894549> on 2022-05-11. If, in the future, you have trouble

accessing this dataset at the host repository, please email [NTLDataCurator@dot.gov](mailto:NTLDataCurator@dot.gov) describing your problem. NTL staff will do its best to assist you at that time.