**Process to Simulate a New Date**

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Color key: name of **script**, **dictionary or csv files**, **environment**, **directory**

Descriptions of what each script does in and the files it creates can be found in the comments at the top of each script.

**Step 1:** Download trip data.

**Languages Required:** none

**Description:** Download trip data for your day of interest (2:30 AM on day of interest to 4:30 AM on subsequent day) from the Chicago TNC Trip Dataset [[linked here](https://data.cityofchicago.org/browse?q=transportation+network+providers&sortBy=relevance)].

**Step 2:** Preprocess downloaded trip data.

**Languages Required:** julia

**Description:** Preprocess the raw trip data you just downloaded using **Newest\_pre\_processing.jl** to get your new input file. To do this, you will need to activate and instantiate the **V4** julia environment provided.

**\*\*Steps 3 & 4 only need to be completed if you are simulating a date after May 31st, 2024, or between September 1st, 2023 to December 31st, 2023.\*\***

**Step 3:** Update the driver home dictionary (**driver\_home\_dict.jld**) in the **Input Files** directory.

**Languages Required:** julia + R

**Description:** the drive home dictionary contains information about the residences of TNC drivers registered to drive in Chicago in a particular month and year. This is used to determine where drivers start their shifts during the simulation. Here, we update it to include the month and year of the day of trips you wish to simulate.

**Sub steps:**

* 1. Download driver data for your date of interest (filter data based on MONTH\_REPORTED) from the Chicago TNC Driver Dataset [[linked here](https://data.cityofchicago.org/Transportation/Transportation-Network-Providers-Drivers/j6wf-834c/about_data)]. Move the data to the **Creating Driver Home Dict** folder, where you’ll be working out of; this is where all scripts and input files needed for subsequent sub steps are located.
  2. Use **driver\_CA\_distributions.R** to create a new distribution. This new distribution will be automatically saved in the **Driver CA Distributions folder**.
  3. If you haven’t already, instantiate and activate the **V4** environment in julia. Run **driver\_dict\_creator.jl** to create a new driver origin dictionary that includes the new distribution (it will do this automatically by searching the **Driver CA Distributions folder**).
  4. Replace the dictionary in the **Input Files** directory with this new version. Do not change the name from **driver\_home\_dict.jld**.

**Step 4:** Create new driver repositioning file

**Languages Required:** julia + python

**Description:** the driver repositioning files are each dictionaries containing the top 5 most trip-dense community areas for each hour of the day for a given month. Driver agents refer to these files when deciding where to reposition during simulation.

**Sub steps:**

1. Navigate to the **Creating Repositioning Files** folder.
2. Make sure you have downloaded an OpenStreetMap file of Chicago (the one we used can be found here).
3. Create a conda or virtual environment or whatever you prefer which includes the packages sodapy and pandas. Activate this environment.
4. Run **Endpoint\_data\_retrieval.py** to get your new data for the appropriate month and year. It might take a little while, but there is a time limit set; if the code times out, try rerunning. If not, data can be downloaded manually from the Chicago TNC Trip database linked in step 1.
5. Run **repositioning\_v2\_no\_AP\_jld\_creator.jl** to create a new jld2 file.
6. Add your new jld2 file to the **Repositioning Files** folder in the **Input Files** folder.