NBER-DOT Data Portal Update[1]

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New Directions in Transportation Economics
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Resource for Economic Research in Transportation

Provide a **centralized hub** to be researchers' go-to for transportation related data:

- ▶ **Complementary** to existing Department of Transportation (DoT) and Bureau of Transportation Statistics (BTS) datasets

- ▶ **Digitized or Edited Data:**
  - ▶ Data from digitized maps: PR-511, historical streetcar shapefiles
  - ▶ Old waves of current products: HPMS, commuting flows
  - ▶ Hand collected data: Ridesharing entry, global subway stations
  - ▶ Aggregates of Proprietary Data: Cell phone tracking, airport links

- ▶ Centrally contained and **easy to access**
  - ▶ Housed at NBER's "Public Data Use Archive"

Transportation Economics in the 21st Century

PEOPLE   RESEARCH PROJECTS   DATA RESOURCES

This project supports research on three central issues in transportation economics: the impact of the transportation sector on the economy, new transportation technologies and initiatives such as automation and ride-sharing, and the role of transportation in contributing to household welfare. It also seeks to develop new data resources to support empirical research in transportation economics. The project supports a diverse set of research studies. The findings of these studies are presented and discussed at an annual research conference, and distributed in the NBER Working Paper series.

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Data Resources

Since our last update: from 6 datasets to ~ 35

1. DOT sources
2. Flows of People
3. Flows of Goods
4. Travel Costs and Financing
5. Shapefiles

Data Sources

1. DOT Sources
   - **broad summary** of DOT data products
   - **comprehensive list of tables** available through DOT

   National Transportation Statistics

Table Number	Table Name	Source	Years of data
Physical Extent			
1-A-01	System Mileage Within the United States	DOT, FHWA, Highway Statististics AAR, Railroad Facts DOT, FTA, National Transit Database, Annual Data Tables U.S. Army, Corps of Engineers DOT, PHMSA, Office of Pipeline Safety, Pipeline Statistics	1960, 1965, 1970, 1975, 1980, 1985, 1990-2017

   - Great first stop for those with interest in transportation topics!

Data Sources

2. Flows of People

Air Data
Commuting Data
For-Hire Vehicle Data
Highway Data
Mobility Data
Public Transit Data
Rail Data

Data Sources

3. Flows of Goods

Commodity Flow Survey Data
Commodity Transportation Survey Data

4. Travel Costs and Financing

Congestion and Travel Time Data
Personal Travel Survey Data
Planning and Government Data

5. Shapefiles

Infrastructure Shapefiles

Building our Data Archive: HPMS Example

2. **Highway Performance Monitoring System, Dept. of Transportation**

Annual US road segment data providing length, number of lanes, number of vehicles per lane per day for the universe of the interstate highway system. Available from 1980.

Provided by Matthew Turner.

- **Data** (1980-2008)
- **Data** (2011-2017)

As used in: Duranton, Gilles and Matthew A. Turner (2011) "The Fundamental Law of Road Congestion: Evidence from US Cities," American Economic Review, 101(6), 2616-52.

Building our Data Archive: HPMS Example

2. **Highway Performance Monitoring System, Dept. of Transportation**

Link to website describing dataset (if available)

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Brief data description

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Provided by Matthew Turner. Dataset Contributor

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Provided by Matthew Turner.

- **Data** (1980-2008) Direct download
- **Data** (2011-2017)

As used in: Duranton, Gilles and Matthew A. Turner (2011) "The Fundamental Law of Road Congestion: Evidence from US Cities," American Economic Review, 101(6), 2616-52.

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- **Data** (2011-2017)   Link to DoT-FHWA for publicly available data

As used in: Duranton, Gilles and Matthew A. Turner (2011) "The Fundamental Law of Road Congestion: Evidence from US Cities," American Economic Review, 101(6), 2616-52.

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Example paper which used this data

New Data Sources: For-Hire Vehicles

1. **New York City Taxi & Limousine Commission (TLC)**

The NYC TLC provides trip records for yellow taxis, green taxis, for-hire vehicles (such as Uber and Lyft) from 2009-present. Green taxi data available from roll-out date in August, 2013, while FHV data begins in 2015, a few years after introduction to the city.

- **NYC TLC**

As used in: Buchholz, Nicholas. "Spatial Equilibrium, Search Frictions and Dynamic Efficiency in the Taxi Industry."

Similar data exist for many other U.S. cities, over different time periods, for example:

- **Chicago Taxi Trips** (2013-present)
- **Chicago Rideshare** (2018-present)
- **Washington, D.C. Taxi Trips** (2015-present)

2. **Uber Entry Dates**

Uber entry dates for U.S. and Canada through 2018, collected from Uber's newsroom as well as local news sources.

Data provided by Jonathan D. Hall

- **Data**
- **Notes**

As used in: Hall, Jonathan D., Craig Palsson, and Joseph Price. "Is Uber a substitute or complement for public transit?" Journal of Urban Economics, 2018. 108: 36-50.

New Data Sources: Mobility

1. **PlaceIQ Exposure Indices**

Anonymized and aggregated mobility data based on smartphone movements provided by PlaceIQ. Available from 2020-present, updated weekly. The data provides a variety of exposure measures across and within states, counties, and CBSA's.

Data provided by Victor Couture, Jonathan I. Dingel, Allison Green, Jessie Handbury and Kevin R. Williams.

- **Device Exposure**
- **Location Exposure**

As used in: Couture, Victor, Jonathan I. Dingel, Allison Green, Jessie Handbury, and Kevin R. Williams. "Measuring movement and social contact with smartphone data: a real-time application to COVID-19." Journal of Urban Economics, 2021.

2. **Google COVID-19 Community Mobility Reports**

Mobility indices tracking movement patterns for a myriad of countries, and regions within countries. For example, in the United States, mobility is broken down by country, state and county. The indices make distinctions between trips for retail and recreation, grocery and pharmacy, parks, transit stations, workplaces and residences. Available from February, 2020 – present.

- **Data** (as of Feb 16 2020)

As used in: Wilson, Dan. "Weather, Social Distancing, and the Spread of COVID-19." FRBSF Working Paper 2020-23, June 2020.

3. **SafeGraph Weekly Patterns**

Weekly data on cell phone trips between December 31st, 2018 – present, tracking the number of visitors to a point of interest (POI) in a given week. Each POI observation also includes information on visitors' home census blockgroup.

- **Apply for Access**

As used in: Glaeser, Edward L., Caitlin S. Gorback and Stephen J. Redding. "JUE Insight: How much does COVID-19 increase with mobility? Evidence from New York and four other U.S. cities." Journal of Urban Economics, 2020.

Moving Forward: Let's keep this growing!

- ▶ Collecting ideas on data to include
    - ▶ Procurement
    - ▶ Shipping
    - ▶ Supply Chain
    - ▶ Vehicle Fleet Electrification
    - ▶ Water Transport

- ▶ Let us know if you would like to contribute datasets

We invite ideas for continued development!

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