



# Big Data for Cities

## Week 8

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# Agenda

- MIDTERM RECAP!!!
- **Urban Geography / Location Based Data / Transportation**
- R Demo
- Q&A



# Recap

- Midterm in review!
  - How was it? Too much, too easy?
  - Our comments



# Urban Geography

- Keys to using geographical data
  - Census, Census, Census!!!
  - Control for population difference
    - For example looking at city neighborhoods per capita can give a better picture depending on what you are trying to measure (i.e. normalize!)
  - Pick a granularity that adds meaning, but doesn't make sample size too small to get meaningful info from
  - Look for stories that tell you something about place



# Addressing

- Ummm, it's complicated
- Let's just look...
  - <https://data.boston.gov/dataset/live-street-address-management-sam-addresses>
  - <https://data.boston.gov/dataset/property-assessment>



# Transportation

- Two interesting uses for transportation data (apart from just studying it on its own merits)
  - How transportation affects other things like housing, environment, and economics
  - Network effects and mobility



# Transportation

- <http://www.digitalmatatus.com/map.html>
- <https://www.tillberg.us/mbta>
- <http://chriswhong.github.io/nyctaxi/>
- <http://zsobhani.github.io/hubway-team-viz/>
- <https://eng.uber.com/data-viz-intel/>
- <http://hubway.virot.me/one-to-all-tree.html>
- <http://russellgoldenberg.com/hubway/>



# Transportation

- Examples of transportation data:
  - Waze
  - MassDOT / MBTA
  - US Bureau of Transportation Statistics
  - Uber / Taxi data
  - Hubway (bike share)





## Links to Data

- <https://www.bts.gov/> (Federal transportation)
- <http://realtime.mbta.com/portal> (MBTA API access)
- <http://www.massdot.state.ma.us/DevelopersData.aspx> (MassDOT)
- <https://www.mass.gov/orgs/massgis-bureau-of-geographic-information> (MassGIS)
- <http://boston.maps.arcgis.com/home/index.html> (Boston GIS)
- [http://old.mbta.com/rider\\_tools/developers/](http://old.mbta.com/rider_tools/developers/) (MBTA)
- <https://www.census.gov/data.html> (US Census)



# For Next Week

- **Reading on theory and practice**
  - Explore different spatial data sources and think about how they might be useful for final
  - Great intro on complex networks!!!
    - <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.450.8192&rep=rep1&type=pdf>
  - Broken Windows
    - <http://www.npr.org/2016/11/01/500104506/broken-windows-policing-and-the-origins-of-stop-and-frisk-and-how-it-went-wrong>
- **In R**
  - More homework