Big Data for Cities

Week 4

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Agenda

- **Recap on last week**
- **311 Data Deep Dive**
- **More R Demo**
- **Q&A**

Recap

- **Readings / Questions on Policy?**
- **Is R getting a bit easier?**
- **Other Questions on last week?**

311 Systems and City Operations

- What's a 311 System for?
  - These systems vary by city but in general are used for non-emergency service requests <u>from citizens</u> such as road and infrastructure, housing, parks, and scheduling city services
  - Requests may be received through phone, email, web, apps
  - There are over 100 different types of cases in Boston's 311 system covering several departments. The biggest receiver of cases is Public Works

311 Systems and City Operations

- What can we learn from these systems?
  - How city departments perform
  - What citizens care about and perceive as critical issues
  - How engaged a certain neighborhood is in civic space
  - The "signatures" of the city, the seasonal patterns, the hours of the day, the story of how people move around and live/work/play

311 Systems and City Operations

- Some Notes:
  - **Closed_dt - Open_dt** is duration of case, most cases have an expected time to complete. Not all departments have good ontime records
  - **Subject - Reason - Type** are a hierarchy. Subject corresponds to the agency, reason often to the business unit and type to the actual case. This is managed like this as the 311 system also functions as a case management tool for many departments
  - **Source** column is how the city received the case. Note, some of these are from internal sources i.e. employees reporting things they find
  - The biggest driver of call volume is snow

311 Systems and City Operations

- Some Further Notes:
  - Knowing about a neighborhood/location helps make sense of the data.
    - Which neighborhoods have a lot of trees?
    - Which have a lot of single family homes?
    - Which have gas lamps?
    - Which have heavily used parks and other seasonal use places?
    - Which have large pedestrian commercial districts?

311 Systems and City Operations

- https://drive.google.com/file/d/0B-aGQHqEGGeUSjJaRGJBV3RIX0U/view?usp=sharing
- https://drive.google.com/file/d/0B-aGQHqEGGeUZEt1SVgyNkJfTGc/view?usp=sharing

311 Systems and City Operations

- **FILES TO USE!!! You can use files from the city website as well, they just might not be pre-cleaned**
- **USE THIS VERSION:**
  - https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi%3A10.7910%2FDVN%2FCVKM87
  - (use the 2015-2019 .tab files to get started but feel free to look at others)
- **DOCUMENTATION:**
  - https://dataverse.harvard.edu/file.xhtml?fileId=2801248&version=RELEASED&version=.0

For Next Week

- **Reading on theory and practice**
  - https://www.wired.com/2010/11/ff_311_new_york/
  - http://www.governing.com/topics/urban/gov-311-systems-cost.html
  - http://datasmart.ash.harvard.edu/responsivecity
  - **COME WITH 311 QUESTIONS NEXT WEEK!!!!**
- In R
  - homework!