Census/ACS data and the municipal government-constituent relationship

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Research question

- Can we (administrators, the public, policy makers) trust 311 data enough to inform service delivery?
Motivation & background

• Competition! ASA, Government Statistics Section, 2015

• Data set at focus: Planning Database (2010 Census + ’08-’12 ACS)

• Familiarity: 2013 collaboration, NYC Mayor’s Office and Columbia U. (Below)
Motivation & background

... Lingering question: how might demographics inform this analysis?
Data sets

Service requests
Census Bureau Planning Data

Tree work,
Tree census

NYC 311
United States Census Bureau

United States Census Bureau

United States Census Bureau

Tree

United States Census Bureau
Context: conditions

- Major storms hitting NYC from 2009-2013.
- Sandy destroyed 8,500 street trees, cost City over $12 million.
- Service request (311) data available from City data portal.
- Parks Dept. work data made available from City administrators.
Eight major storms considered.
Limited 311 data collection to 24 hours following storm — excludes overexcited 311 callers.

Seven of eight storms distributed damage citywide.
Parks officials intuitively know where much damage will occur.
Exploration

- Categorize normalized 311 data by quantile of census variables.
- Question: does 311 use vary by neighborhood characteristics (count of trees (left), population (right)?)

- Use: sanity check.
- Use: understand confounders.
  - Maybe tree damage isn’t a problem in densely populated neighborhoods.
  - ... But maybe those residents are just less likely to use 311.
Modeling & outcomes
Modeling & outcomes

- Different groups distributed across NYC neighborhoods (left).
- Do some request damaged tree removal at higher levels, holding demographic & tree characteristics constant?

- Regression results (right) show some spatial, social characteristics matter.
  - Upper East Side, East Inwood in Manhattan, and Brighton Beach in South Brooklyn
  - Neighborhoods with high rates of owner-occupied homes
Implications

• Use of 311 obviously varies across constituent groups
• Cities must consider public service requests a biased cue regarding actual need for neighborhood-level public services
• Cities should consider explicitly reaching out to less engaged neighborhoods, constituent groups
Select references

• Eshleman, C, H Gursoy and G Ng. 2013. Major storms and NYC trees: an analysis of damage and tree characteristics.


• Trump, KS and A White. 2015. Research note: the promises and pitfalls of 311 data.