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)
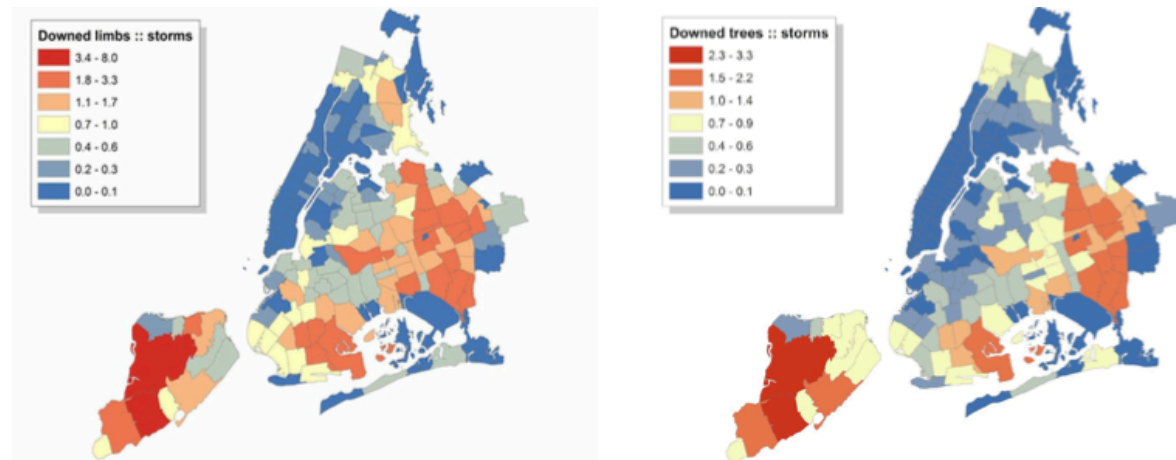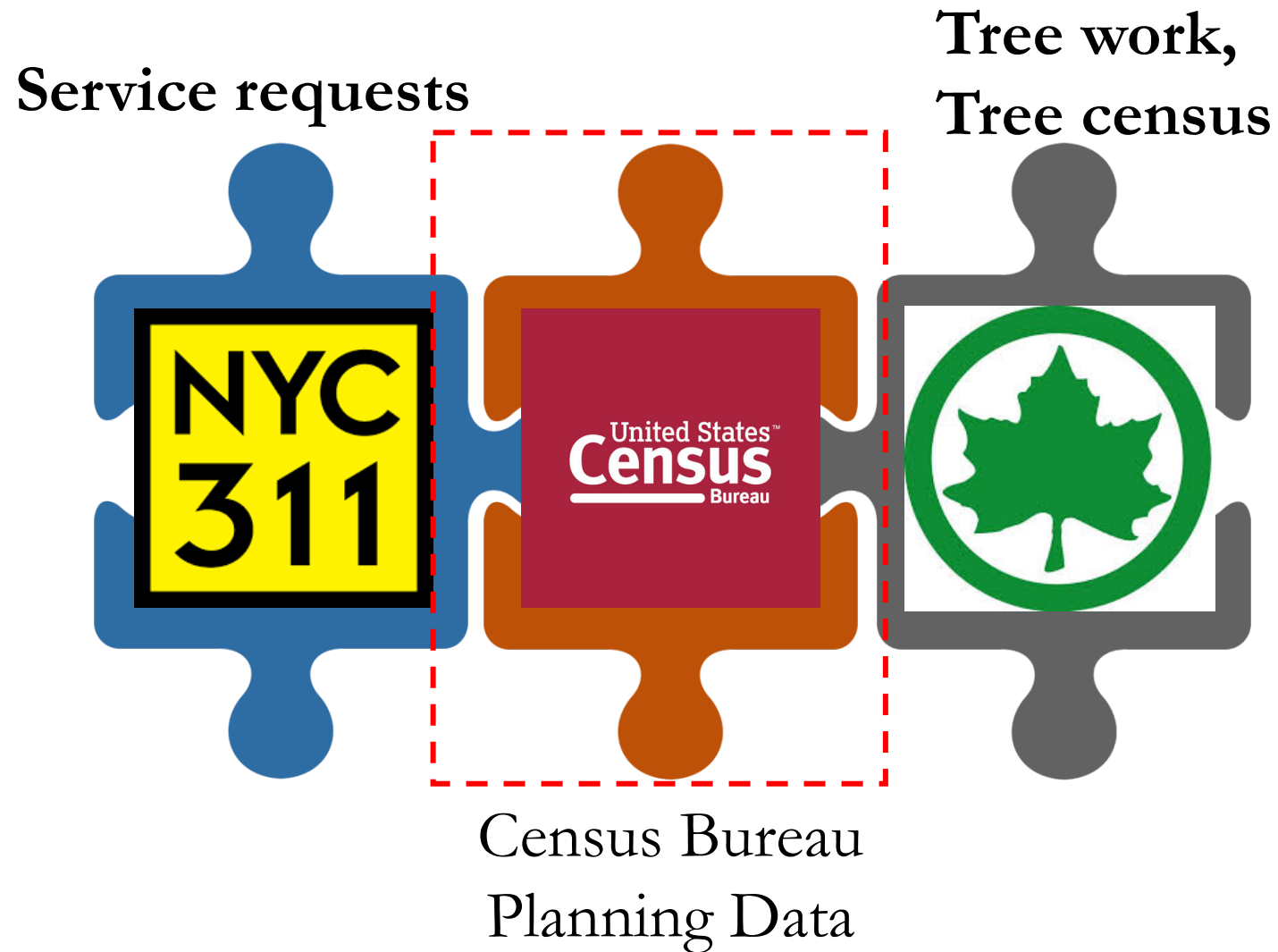
Motivation & background

- … Lingering question: how might demographics inform this analysis?

Data sets

Service requests

Tree work,
Tree census
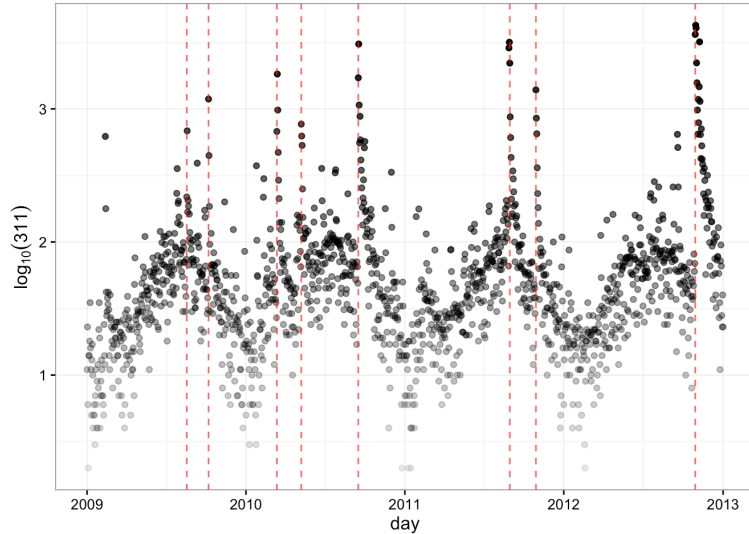
Census Bureau
Planning Data
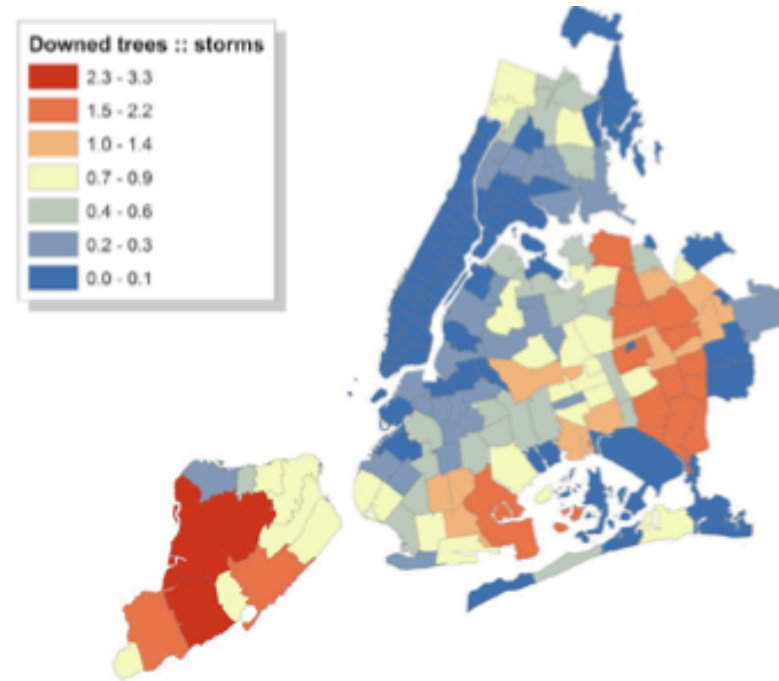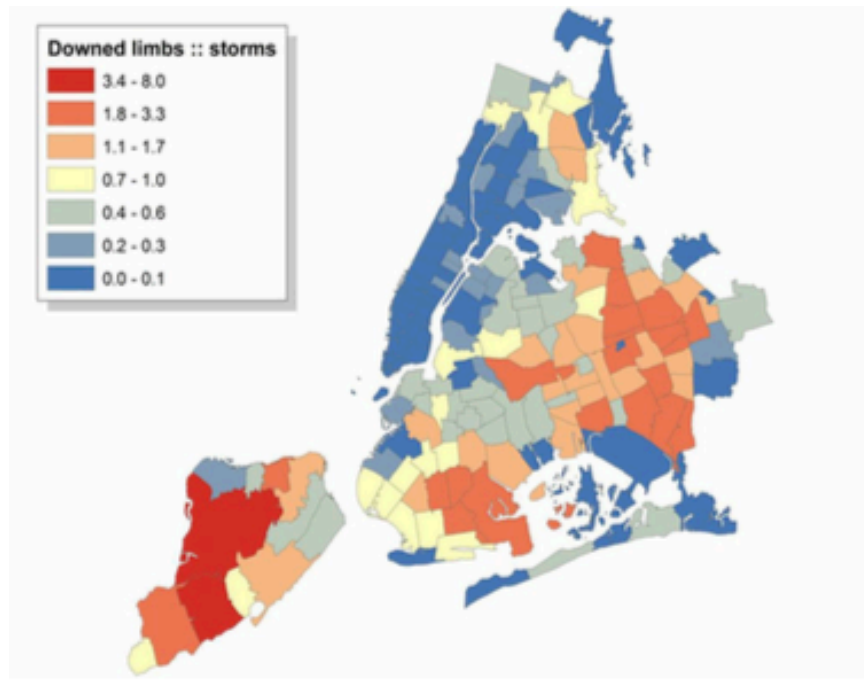
Context: conditions

- Major storms hitting NYC from 2009-2013.
- Sandy destroyed 8,500 street trees, cost City over $12 million.
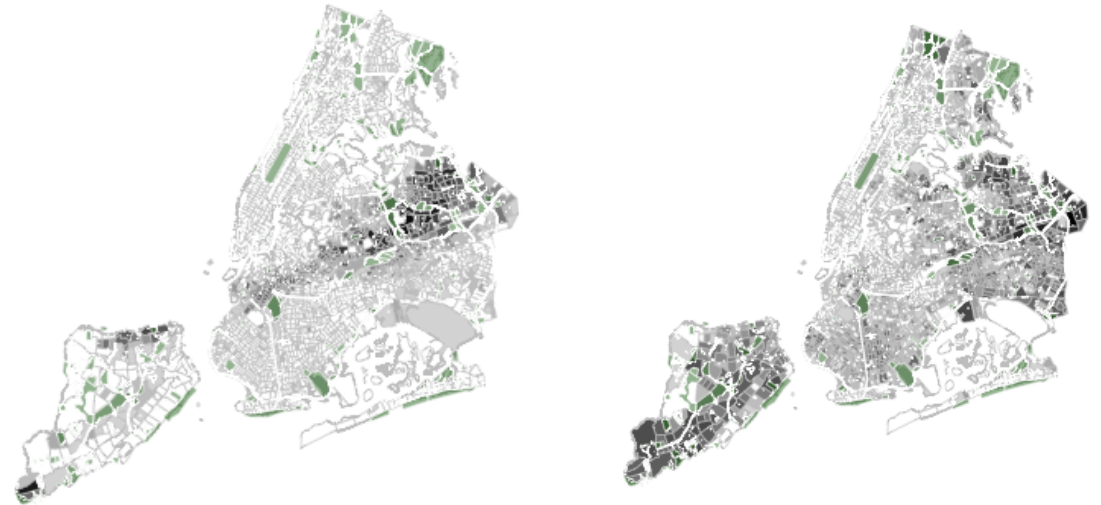
- Service request (311) data available from City data portal.
- Parks Dept. work data made available from City administrators.
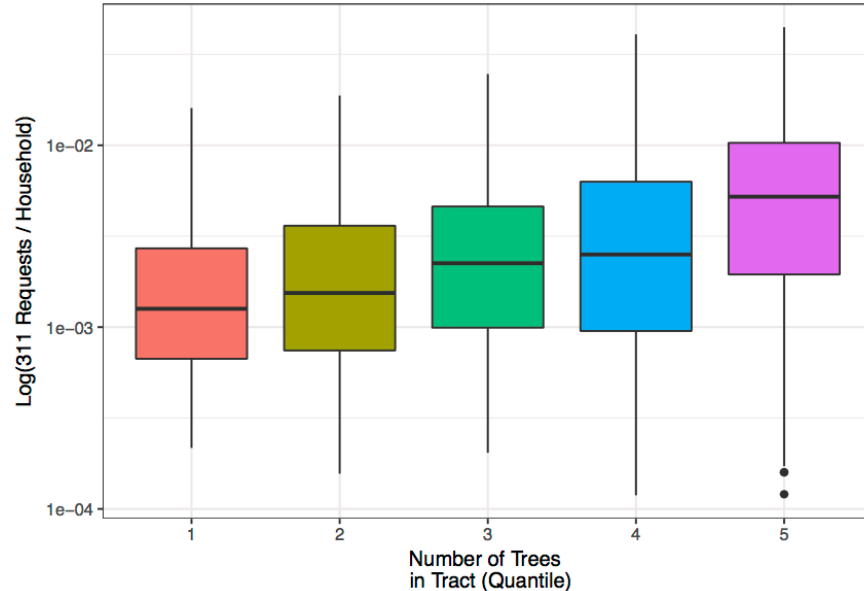
Context: major storms

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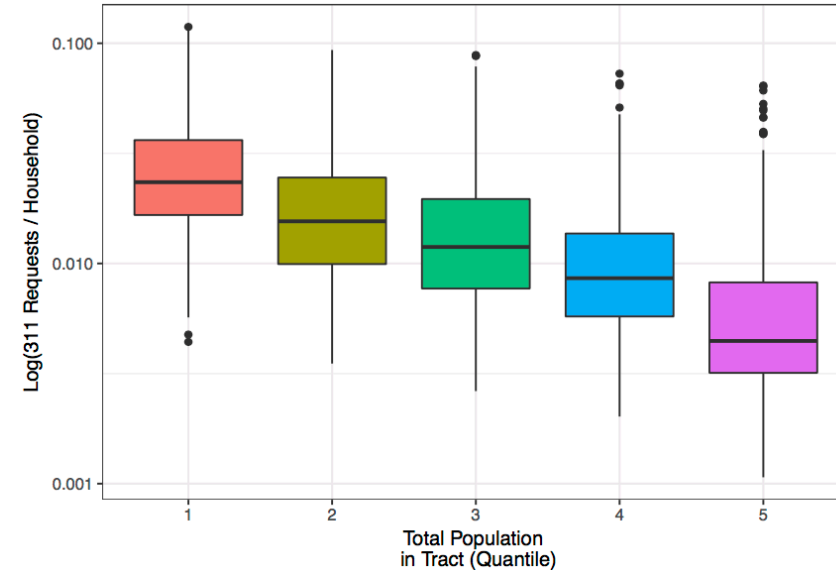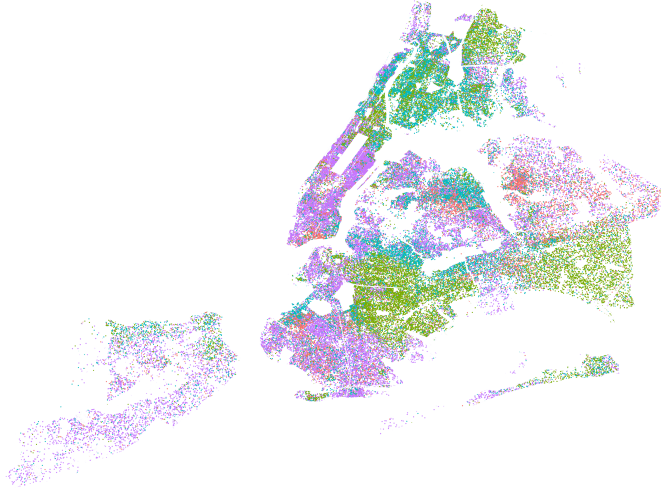
- Use: sanity check.
- Use: understand confounders.
  - Maybe tree damage isn't a problem in densely populated neighborhoods.
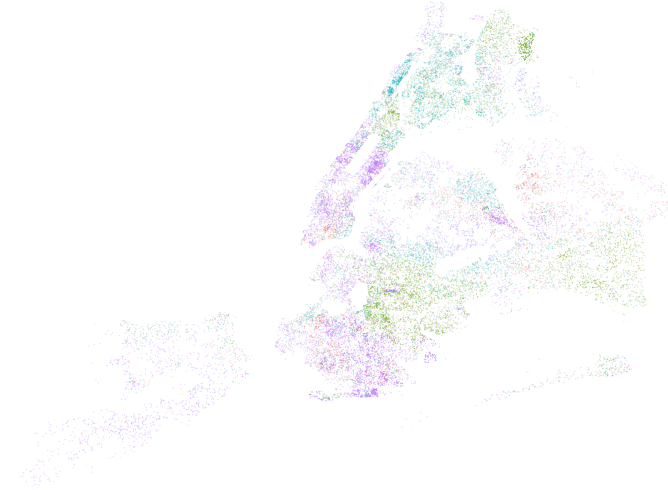 - ... But maybe those residents are just less likely to use 311.

Modeling & outcomes
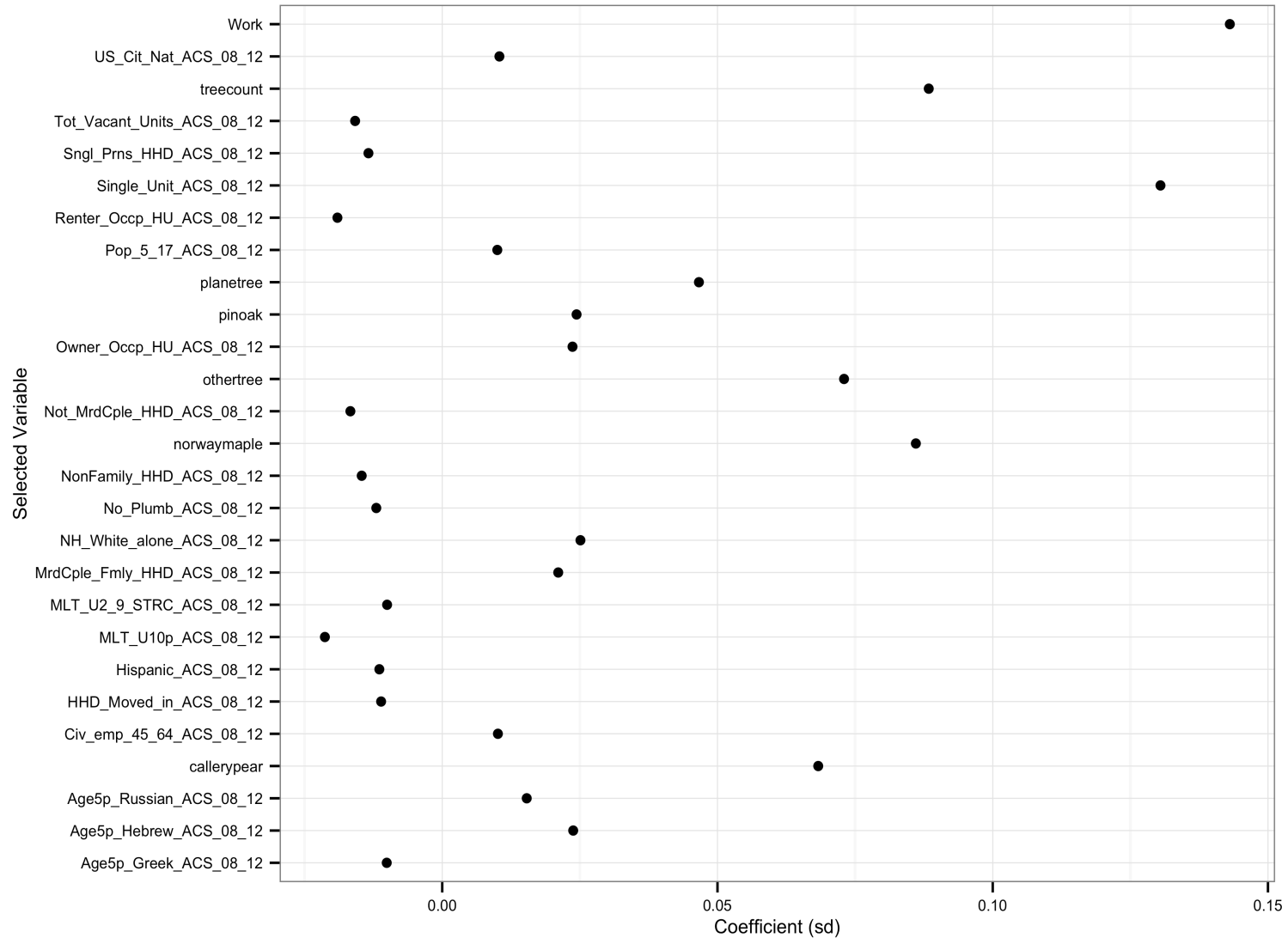
Modeling & outcomes

- 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

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- Prewit, K, TA Schwandt and ML Straf. 2012. Using science as evidence in public policy. Washington, DC: National Academies Press.

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