Public Opinion of Bike Lanes: New York City

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Overview

- Motivation and Purpose

- Literature and Background

- Data and Methods

- Results and Discussion

Motivation and Purpose

- Relevance for policymakers
- Available ICPSR dataset
- **No literature** on this topic; first multivariate analysis
- Contentious nature of the issue in NYC
- Research questions:
  - Which characteristics relate to support of bike lanes?
  - Do characteristics associated with bicycle ridership also predict support of bike lanes?
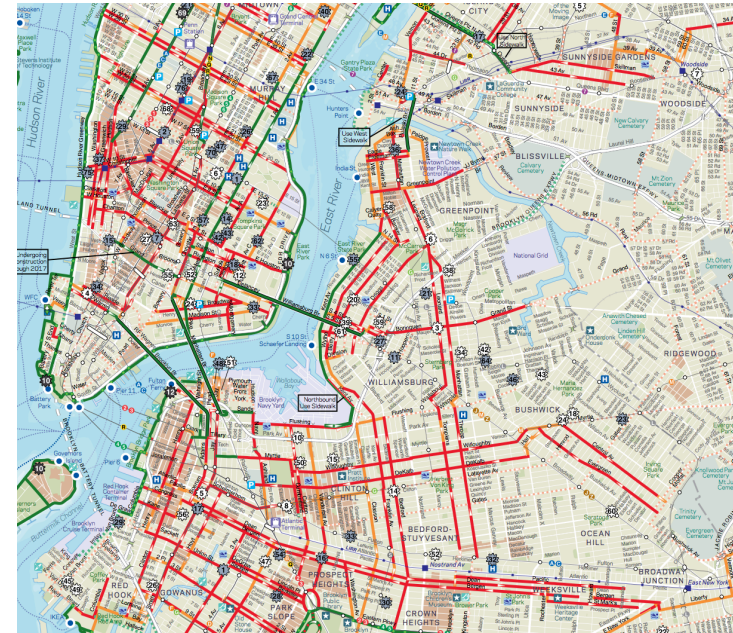
Video

The Case of New York

- About 600 miles of bike lanes
- 58% increase in cycling since 2008
- Progressive for U.S.
- But, notoriously dangerous

Presenting the Literature

- Unstudied topic → Many plausible variables
- Impact and relevance of bike lanes
  - Environmental policy
  - "Last mile" trips
  - Safety
- Characteristics that affect cycling

Space

Amount of space required to transport the same number of passengers by car, bus, or bicycle.
Event info at www.facebook.com/Urban.Ambassadors - Photos by www.tobinbennett.com
(Des Moines, Iowa - August 2010)

Ridership Demographics

- Cycle more *to commute*:
    - Men (e.g. Garrard et al. 2006)
    - Young people (e.g. Moudon et al. 2005)
    - Lower income (Plaut 2005)
    - Hispanic (U.S. DOT 2008)
    - Students (Buehler &Pucher 2012)
    - High density, mixed-use zoning (Buehler & Pucher 2012)
    - Temporarily unemployed, part-time workers (Ryley 2006)
- Safety considerations (Tin Tin et al. 2010)

Data and Methods

- 2012 CBS and *NY Times* Survey
- 1,026 variables, 97 questions
- Demographic, socioeconomic, attitudinal data
- **Bike lanes: good or bad idea?**
  - 65% good; 28% bad; 7% don't know or N/A
- Multiple logistic regression (STATA)
  - 19 variables + 3 interaction terms

Logistic regression (fig. 7.1)
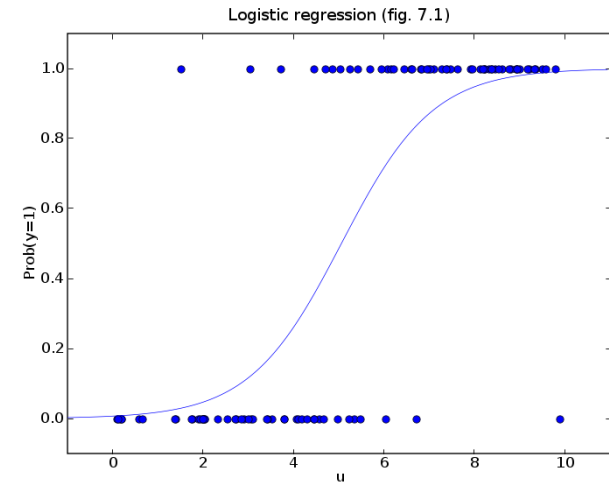
Results

- Eight demographic variables significant at α = .05 (out of 19)

  - Income (-)
  - Black (+)
  - Bicycle Access (+)
  - Young (+)

  - Brooklyn (-)
  - Queens (-)
  - Staten Island (-)
  - Time in NYC (-)

- Three significant interaction terms

  - Hispanic × Brooklyn (+)
  - Young × Married (-)
  - Education × Black (-)

Example : Elizabeth (78%)

- White, college-educated female
- Earns $45,000 yearly, and is 48 years old.
- Single, employed, lives in Manhattan,
- Has lived in NYC for five years
- Does not own a bike.

Changes (*cp*)

24 years instead*	+14%	92%
Black instead**	+1%	79%
Makes $25,000 instead	+2%	80%
Makes $110,000 instead	-8%	70%
Owns a bicycle	+6%	84%
Lived in NYC for 30 years	-5%	73%

*24 years old and *not* married (avoid interaction)
**Black variable interacts with education; higher education level decreases magnitude of this change

Example Case: Borough

- Default = Manhattan
- Follows trends in density and car ownership
- Staten Island also more conservative

Manhattan

Bronx: N/A

Brooklyn*: -15%

Queens: -11%

Staten Island: -20%

Source: Wikimedia; *Lives in Brooklyn and is *not* Hispanic (interaction)

Non-Causal, Associated Variables

- Correlation, not necessarily causation
- Magnitudes determined using "Elizabeth"
    - Approval of Mayor Bloomberg vs. disapproval: +17%
    - Liberal vs. conservative: +12%
    - Read "a lot" about bike share vs. "not much":   - 6%
    - "Very likely" to use bike share vs. "not likely":   +29%
    - Cycled in the last month vs. not: +10%
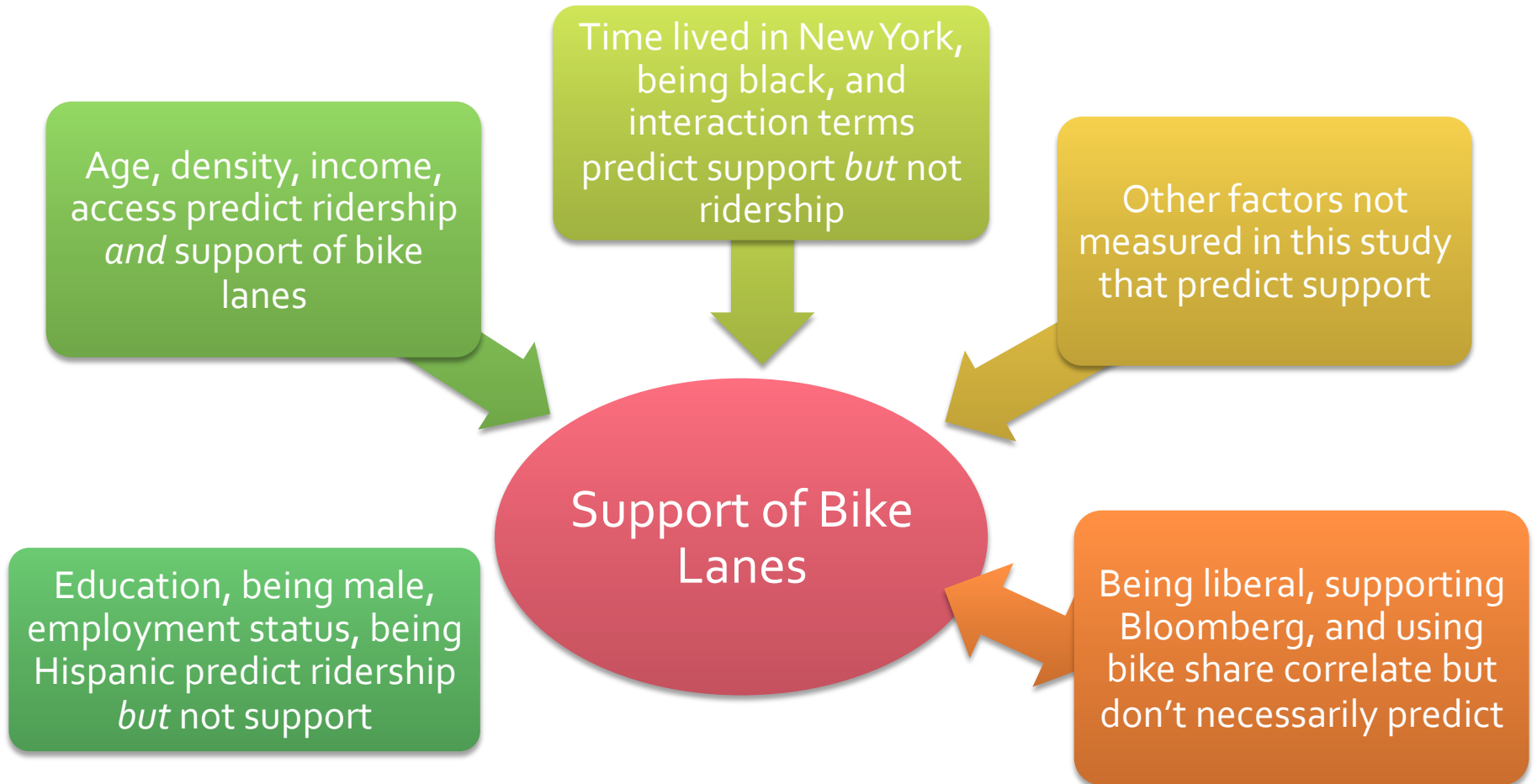
Change in Support (Default Value in Parentheses; Interactions*)
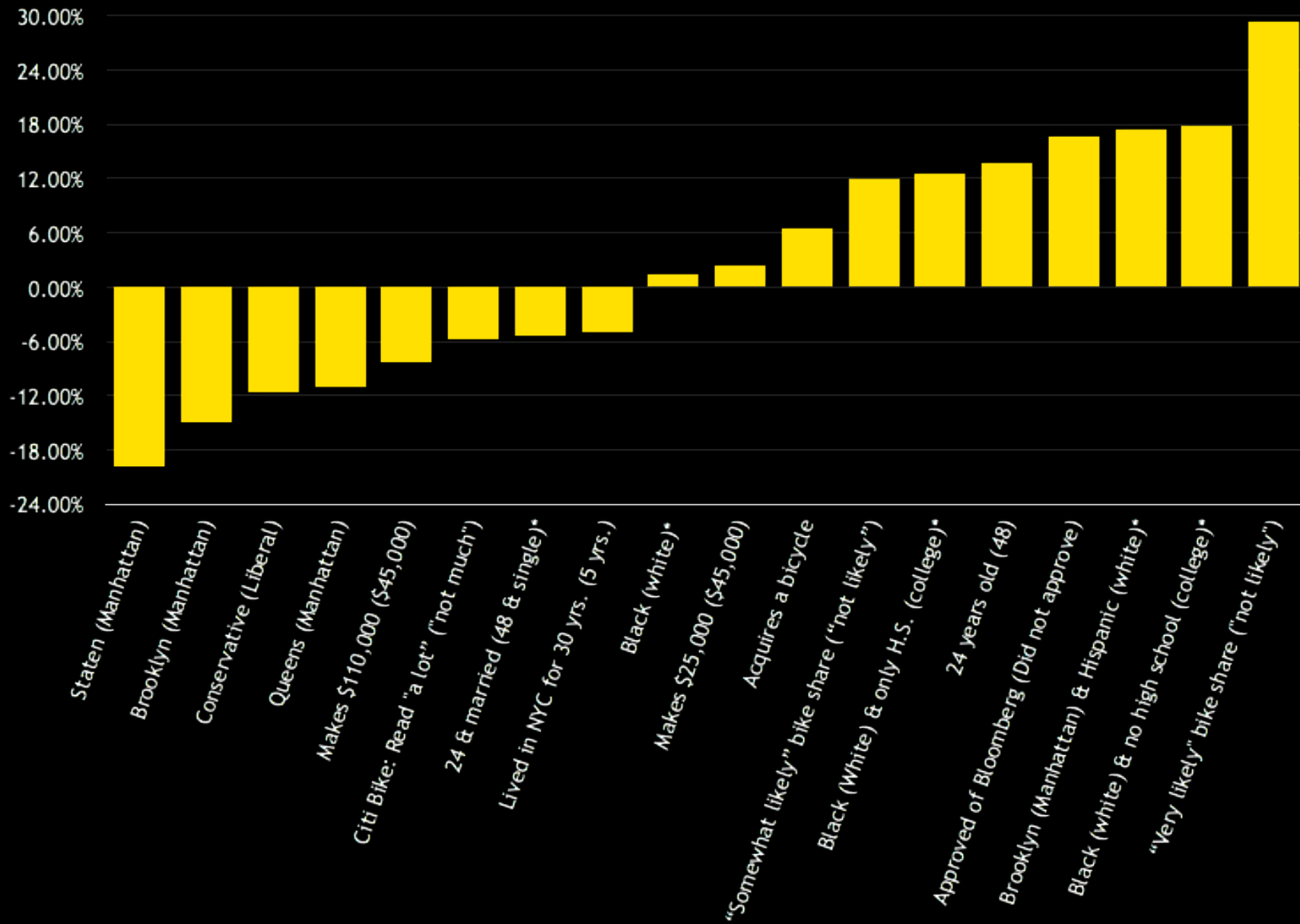
What increases support?

- Traits that increase support:
  - Young (not married)
  - Lower income
  - Denser neighborhood
  - Neighborhood with fewer cars
  - Having a bicycle
  - Living in NYC for less time
  - Black (if black, less educated)
  - Hispanic *and* living in Brooklyn
- Associated traits that do not predict:
  - Liberal
  - Supporting Bloomberg
  - Planning to use bike share
  - Having read less about bike share

Predictive Ability of Ridership

Age, density, income, access predict ridership *and* support of bike lanes

Time lived in New York, being black, and interaction terms predict support *but* not ridership

Other factors not measured in this study that predict support

Education, being male, employment status, being Hispanic predict ridership *but* not support

Support of Bike Lanes

Being liberal, supporting Bloomberg, and using bike share correlate but don't necessarily predict

Conclusions

- Ridership does *not* predict support of bike lanes (only 4 of 11)
- Bike lane supporters not necessarily cyclists
- People can support policies without benefitting
  - Political altruism (Anthony Downs, 1957)
- Practical results for policymakers and planners
  - Which groups have concerns to be addressed?
  - Next: How should policy be altered to fit concerns?
- Merits future research – larger scope, cross-sectional comparison

Selected Bibliography

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