



**FURMAN CENTER**  
FOR REAL ESTATE & URBAN POLICY  
**NEW YORK UNIVERSITY**  
SCHOOL OF LAW • WAGNER SCHOOL OF PUBLIC SERVICE



**NYU Wagner**

Robert F. Wagner Graduate School of Public Service

# Studying Urban Neighborhoods

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# Critical Research Questions

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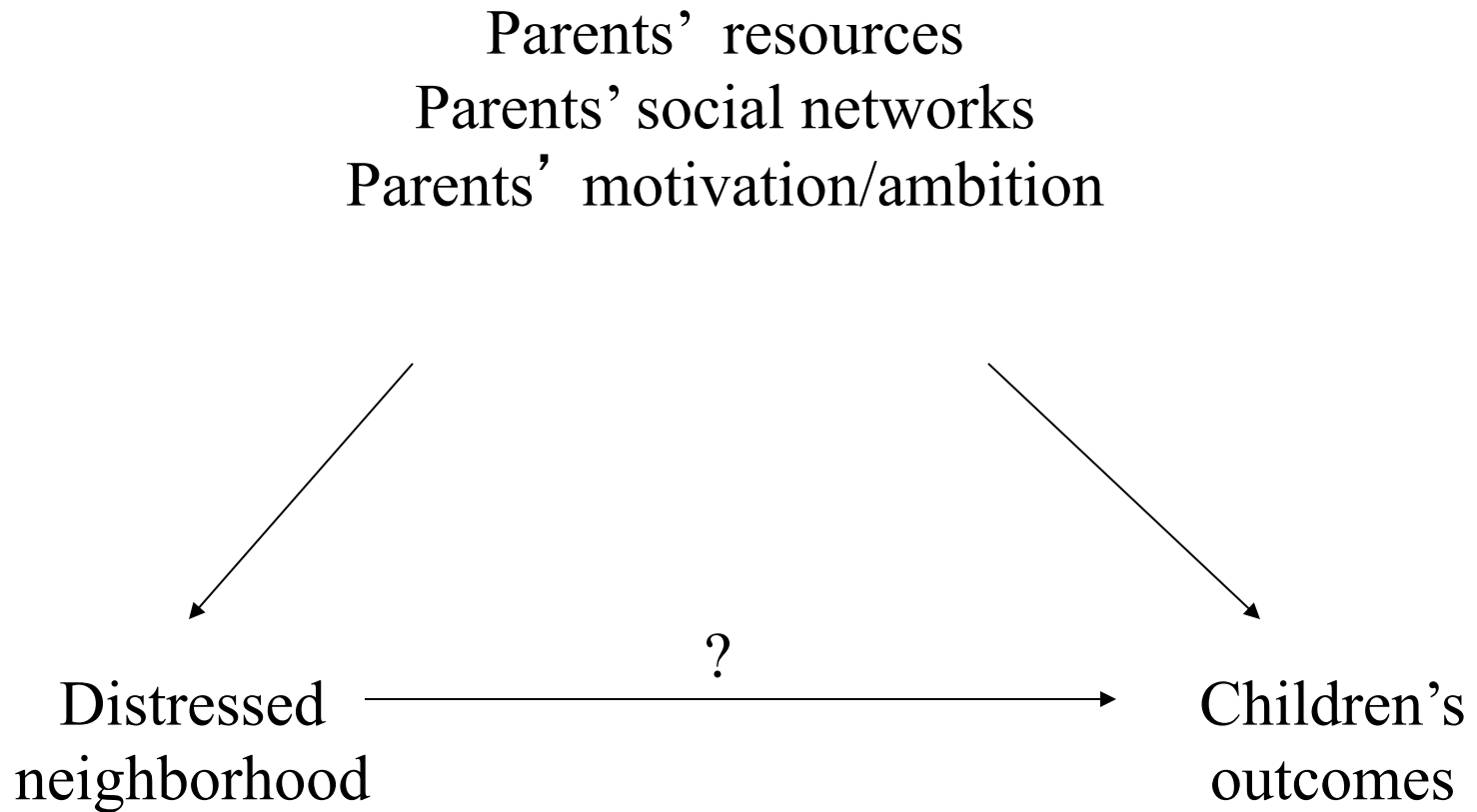
- How do neighborhoods matter to life chances?
  - How is residential segregation changing over time, and how much should we care?
  - What motivates individuals to choose to live in particular neighborhoods?
  - What investments and disinvestments shape the trajectory of neighborhoods?
  - How concerned should we be about gentrification?
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# Critical Questions

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# Measurement and identification



# Little Focus on Mechanisms

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- Researchers have debated at length WHETHER neighborhoods matter rather than HOW.
  - Traditionally, economists thought neighborhoods mattered because of job access, if at all.
  - Sociologists have focused on role models/peers
  - Few researchers or policymakers have focused on the exposure to neighborhood violence.
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# Differences in Neighborhood Violent Crime Rates, by Race and Poverty of Household

	Average Violent Crime Rate Rank in Typical Neighborhood	
	Full Population	Poor Population
White	35.0	53.7
Black	66.5	75.7
Hispanic	56.6	64.5
Asian	41.6	

# RACE/ETHNICITY OF VICTIM

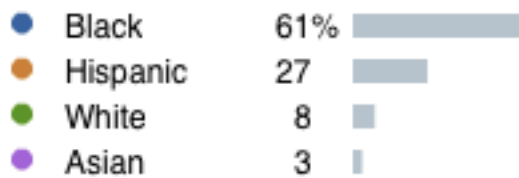
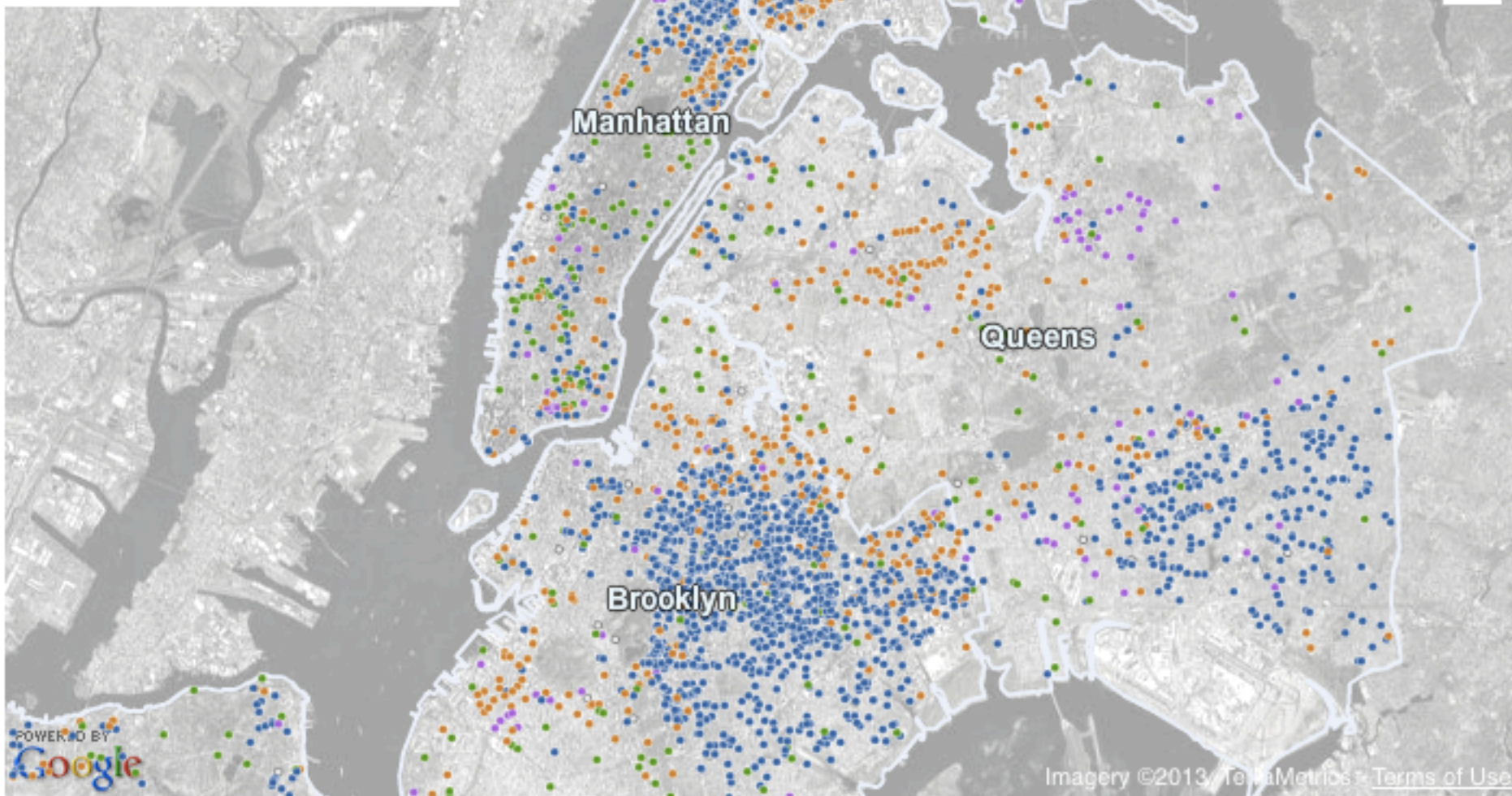


Chart shows non-Hispanic black and non-Hispanic white totals, as reported by the N.Y.C. Police Department.





# Does Exposure to Neighborhood Violence Affect Kids' Academic Performance?

- What is the acute effect of exposure to specific incidents of violence on students' performance on standardized tests?
- How do effects vary by race and gender?



# Research Design

- We compare test scores of students who are exposed to a violent crime in the 7 days prior to an exam to students with comparable backgrounds who are exposed to a violent crime in the 7 days after an exam.

Individual 2



Individual 1



7/1/2001

8/1/2001

9/1/2001

10/1/2001

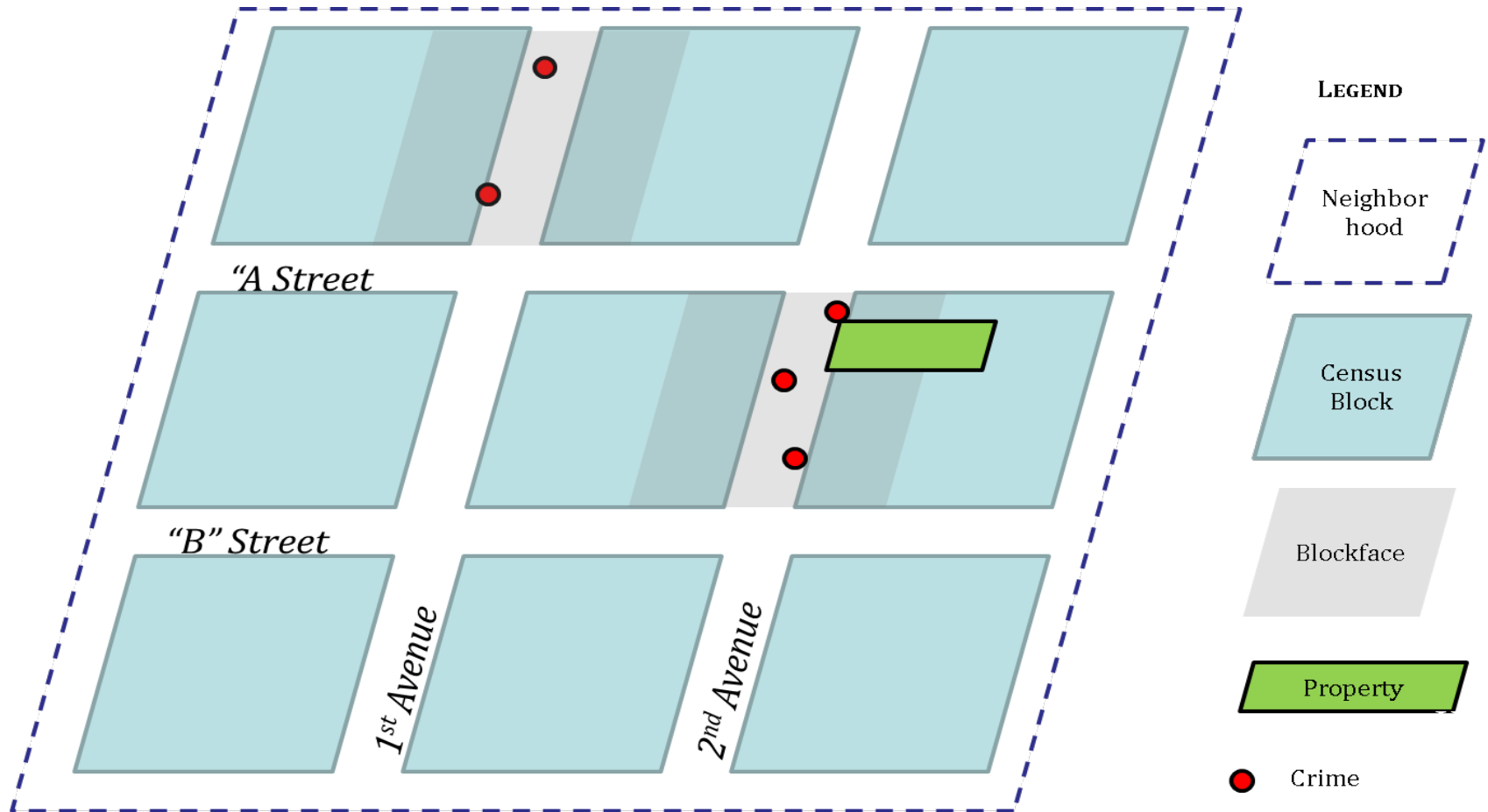
● = crime

● = NYC assessment

# Measures

- Independent Variable: Exposure to Violent Crime
  - ❑ “Treatment” group consists of students living on a blockface where at least one violent crime occurs in 7 days prior to exam.
  - ❑ Violent Crime is defined as homicide or felony assault.
- Dependent Variables: Educational Outcomes
  - ❑ ELA and Math standardized test scores (z scores)
  - ❑ Probability of Passing the ELA or Math Exam

# Geographic Unit of Analysis: Blockface



# Data Sources

- NYC Department of Education
  - Individual, student-level academic records (2004-2010)
  - Includes scores from standardized exams, student characteristics, and residential addresses.
- NY Police Department
  - Point-specific offense data (2004-2010)
  - Includes spatial coordinates, date, time, offense class and description.

# Samples

- Full Sample (roughly 50,000 students)
  - ❑ 3rd-8th grade students in NYC public schools
  - ❑ Students with observations for at least 3 years
  - ❑ Exposed to violent crime in the 7 days before or after the exam period
- High Poverty Sample (roughly 40,000 students)
  - ❑ Students living in Census tracts with above median child poverty rates in 2000.
- Race/Ethnicity Interactions
  - ❑ Some specifications include interactions between the exposure variable and student race/ethnicity.

# Test Score Models

## Impact of Exposure to Violent Crime, High Poverty Sample (SY 2004-05 to 2009-10)

DV:	ELA			MATH		
	<i>Before</i>	<i>Interactions</i>	<i>Lagged Z Score</i>	<i>Before</i>	<i>Interactions</i>	<i>Lagged Z Score</i>
7 Day Window	(1)	(2)	(3)	(4)	(5)	(6)
Exposed Before	-0.0262*** (0.0080)			-0.00283 (0.0079)		
Exposed*Black		-0.0582*** (0.0124)	-0.0335*** (0.0104)		0.0126 (0.0125)	0.0146 (0.0097)
Exposed*Hispanic		-0.00168 (0.0113)	-0.0105 (0.0096)		-0.0126 (0.0111)	-0.00379 (0.0087)
Exposed*Asian		0.00330 (0.0343)	0.0156 (0.0292)		-0.0349 (0.0331)	-0.00863 (0.0260)
Exposed*White		-0.0513 (0.0469)	-0.0119 (0.0402)		0.0287 (0.0460)	-0.0223 (0.0360)
Exposed*Other		-0.0154 (0.106)	-0.128 (0.0914)		-0.0546 (0.110)	-0.0584 (0.0887)
Constant	0.461*** (0.0315)	0.474*** (0.0394)	0.539*** (0.0456)	0.446*** (0.0317)	0.431*** (0.0388)	0.786*** (0.0423)
Observations	39,322	39,322	32,707	43,043	43,043	36,719
R-squared	0.176	0.177	0.474	0.172	0.172	0.554

Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

# Summary of Results

- Acute exposure to very localized violent crime decreases standardized test scores in English and language arts, but not in math.
- Although black and Hispanic students are exposed to similar levels of violence, the estimated effects of exposure are much larger for black students.
- Significant effect for elementary school students, not for middle school students.



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# Do Foreclosures Cause Crime?



# Media Attention

- “Empty driveways, overgrown lawns, realty signs, lockboxes and ‘No Trespassing’ notices in windows are all signals to would-be violators, police said.”

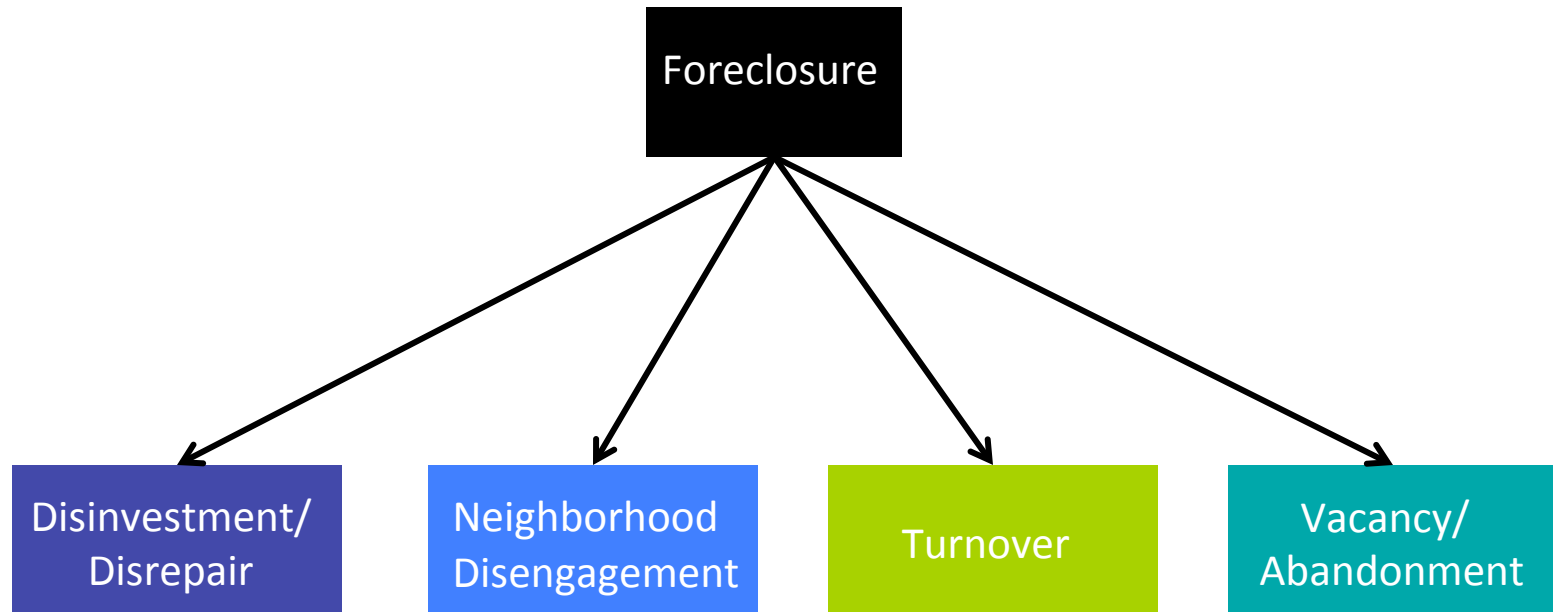
*Washington Post, 4/27/2008*

- “Empty homes are vandalized by teens and occupied by vagrants. They're stripped of their valuable metals by thieves who destroy them in the process. Then they get taken over by drug dealers and burglars.”

*St. Petersburg Times, 1/10/2010*

# How might foreclosures affect crime?

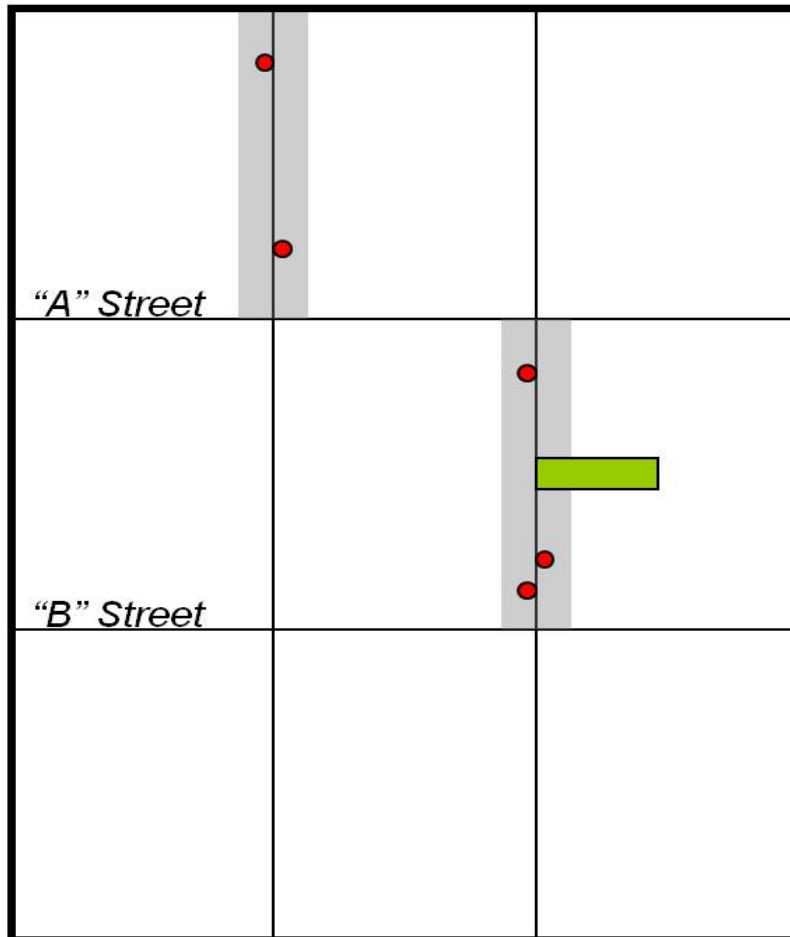
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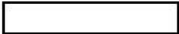
# Empirical Challenge: Identifying Causality


- Neighborhoods where foreclosures tend to occur are likely to be systematically different from other neighborhoods – and are likely to have more crime.
- We need to ‘weed out’ these baseline differences to test if additional foreclosures actually lead to additional crime using longitudinal and spatially-disaggregated data.


# Research Design




Foreclosure 

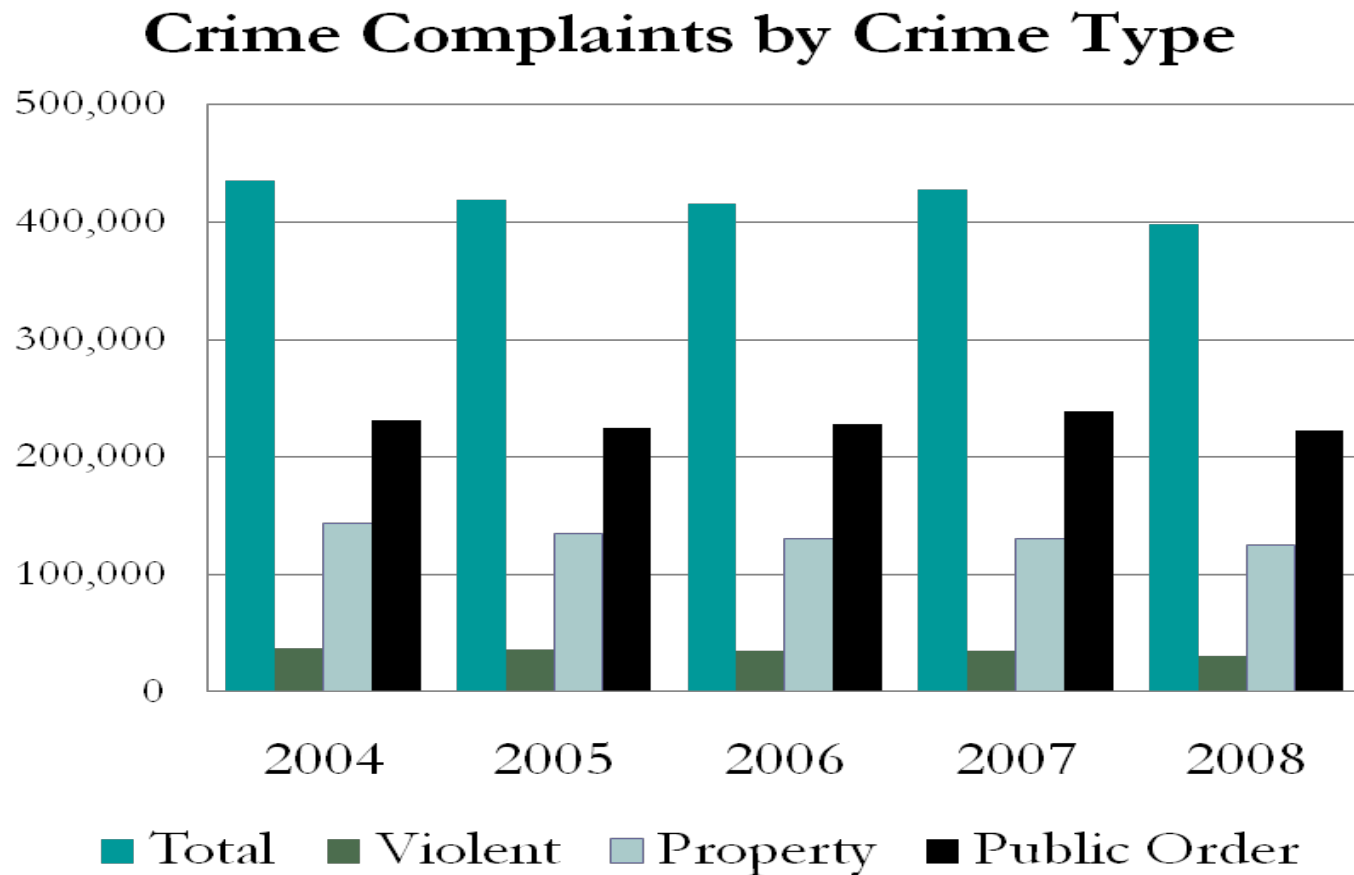
Census Block 

Police Precinct 

Blockface 

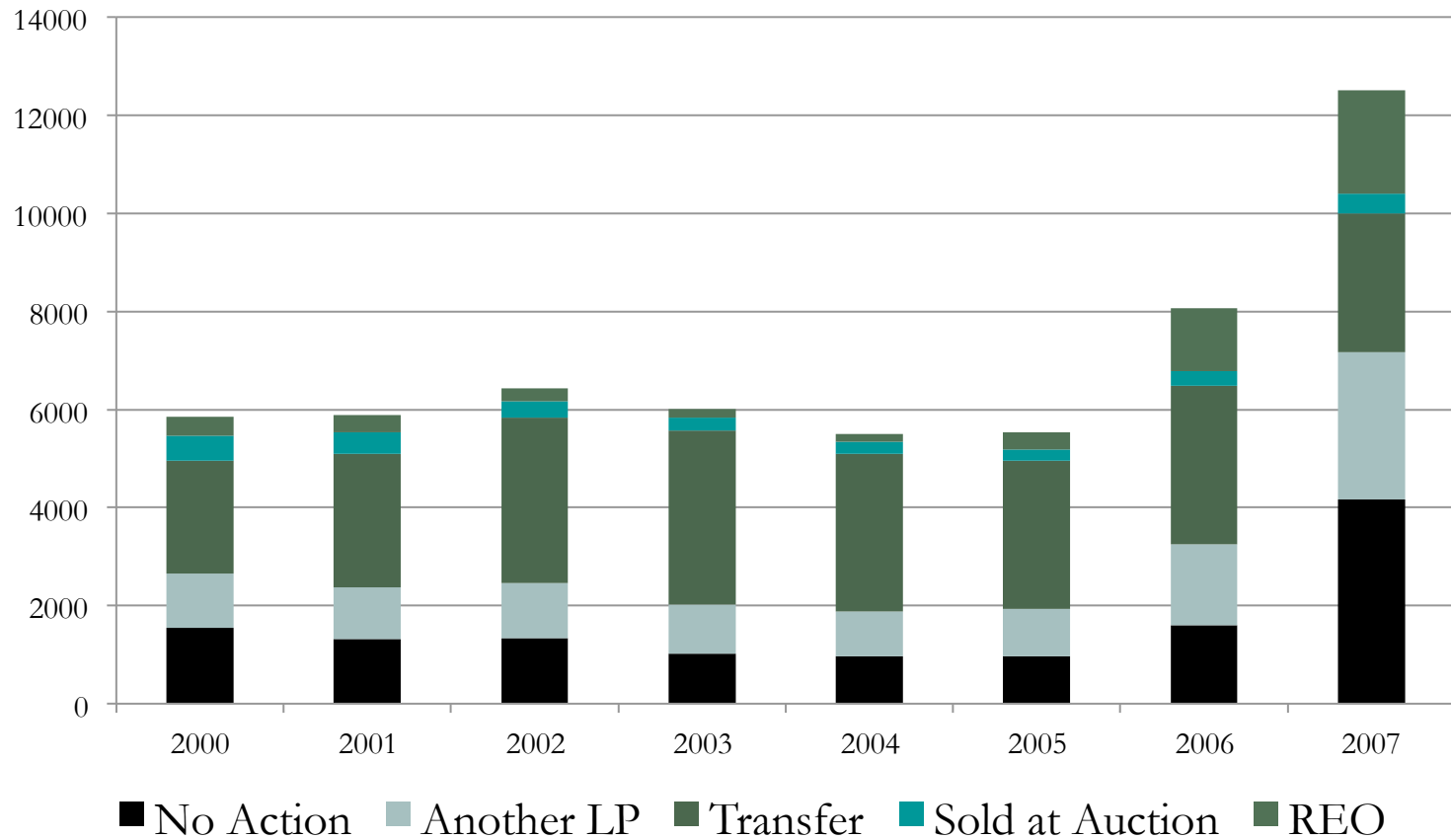
Crime 

# Geocoded NYPD Crime Data: 2004-2008





# Foreclosure Data: 2002-2008



# Results

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- An additional foreclosure leads to around a 1 percent increase in crime on average
  - Strongest impacts on violent and public order crime
  - Properties that go all the way through the foreclosure process to a foreclosure auction have largest effect on crime
  - The effects extend to crime on neighboring blockfaces, but these effects are attenuated
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# Replicating Analyses in Four Cities

- Extending analysis to four additional cities: Atlanta, Chicago, Miami, and Philadelphia
  - Do differences in intensity of crisis or in requirements of foreclosure process shape effects on crime?
- Do more to try to understand mechanisms
  - Focus on 'limbo' properties – on way to foreclosure auction but not yet owned by bank
  - Study where crime occurs – in vacant buildings or on street