



Fair Evasion? Varied Transit Enforcement in New York City

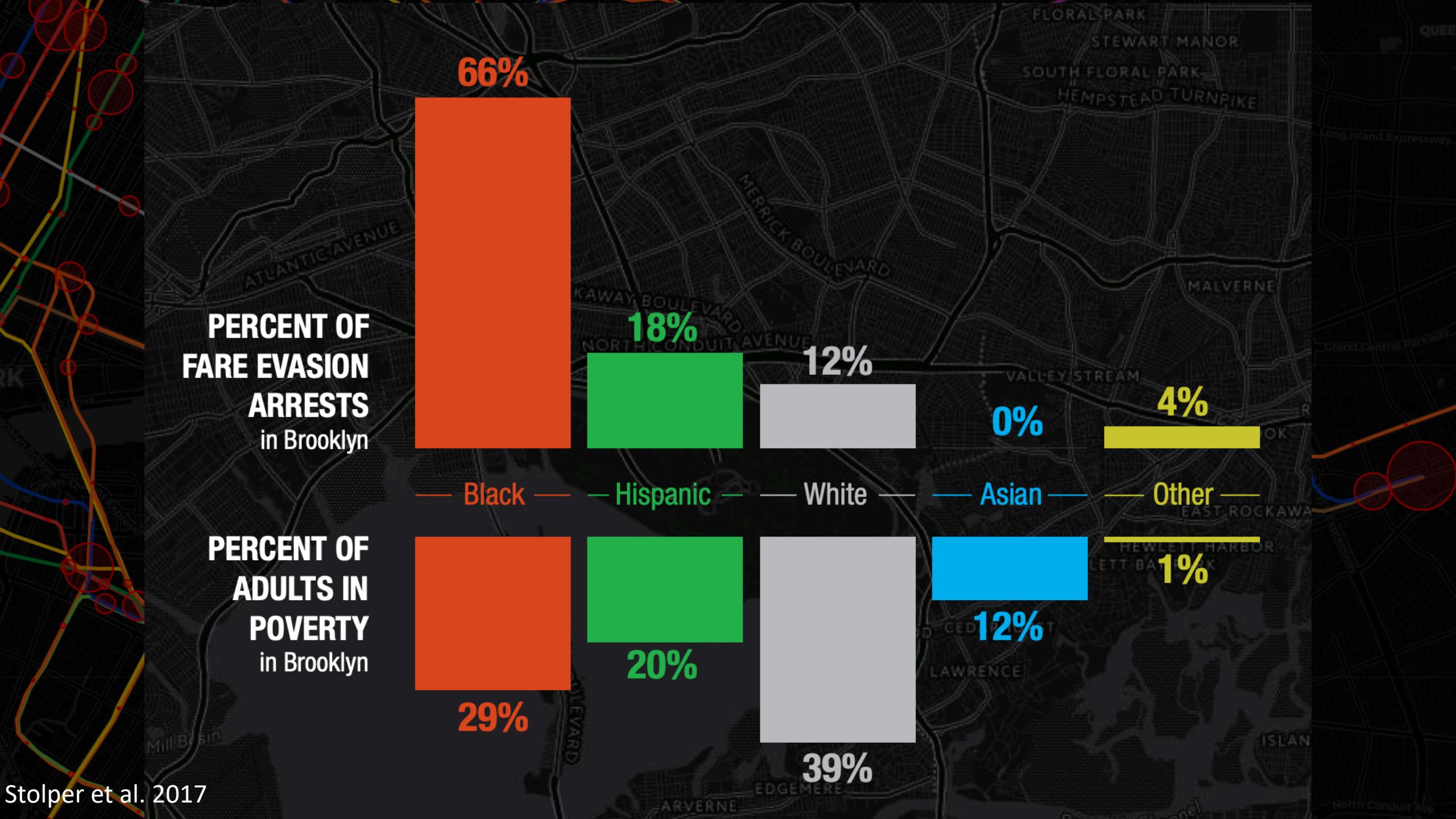
Nick Sawhney



Ending the Prosecution of Low-Level Offenses

Since 2010, D.A. Vance has markedly reduced unnecessary incarceration and collateral consequences in the justice system by ending the prosecution of tens of thousands of low-level offenses annually.

On February 1, 2018, D.A. Vance ended the criminal prosecution of subway fare evasion (known as “turnstile-jumping”), except in limited cases where there is a demonstrated public safety reason to prosecute the offense. In 2017, the D.A.’s Office prosecuted more than 8,000 fare evasion cases. In 2018, following the first six months of the D.A.’s “decline-to-prosecute” policy, Manhattan fare evasion prosecutions are down -96.4%. The D.A.’s policy also contributed to a 90% reduction in arrests for fare evasion in Manhattan. According to the NYPD, transit crime is down -4.51% citywide in 2018.



PERCENT OF FARE EVASION ARRESTS

in Brooklyn

66%

PERCENT OF ADULTS IN POVERTY

in Brooklyn

29%

18%

12%

0%

4%

1%

39%

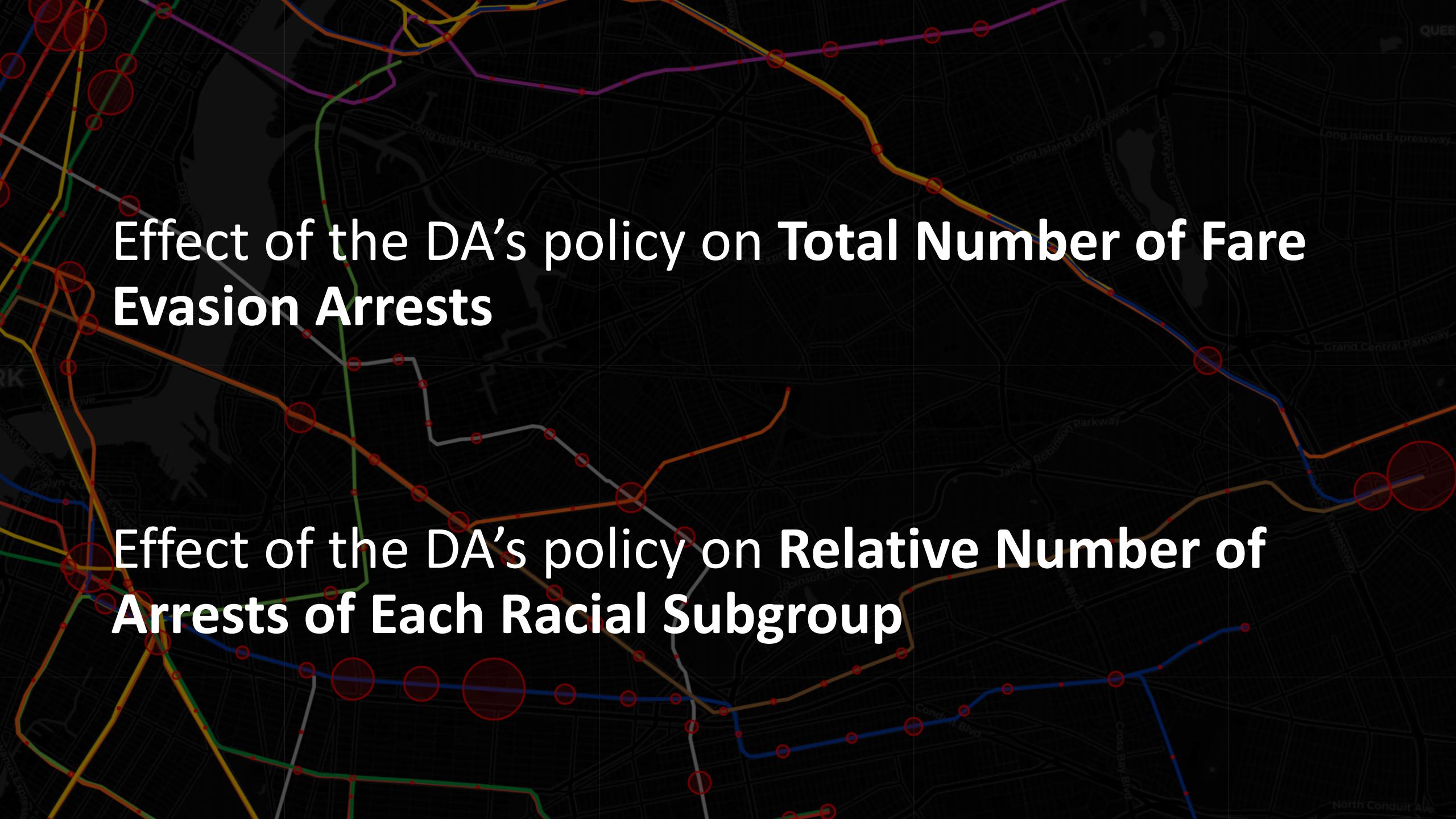


Broken Windows Policing?

- Harsher punishment of minor crimes to prevent major crimes in the future.
- Generally marked by clear racial/socioeconomic disparities (Howell 2016) (Alexander 2010)

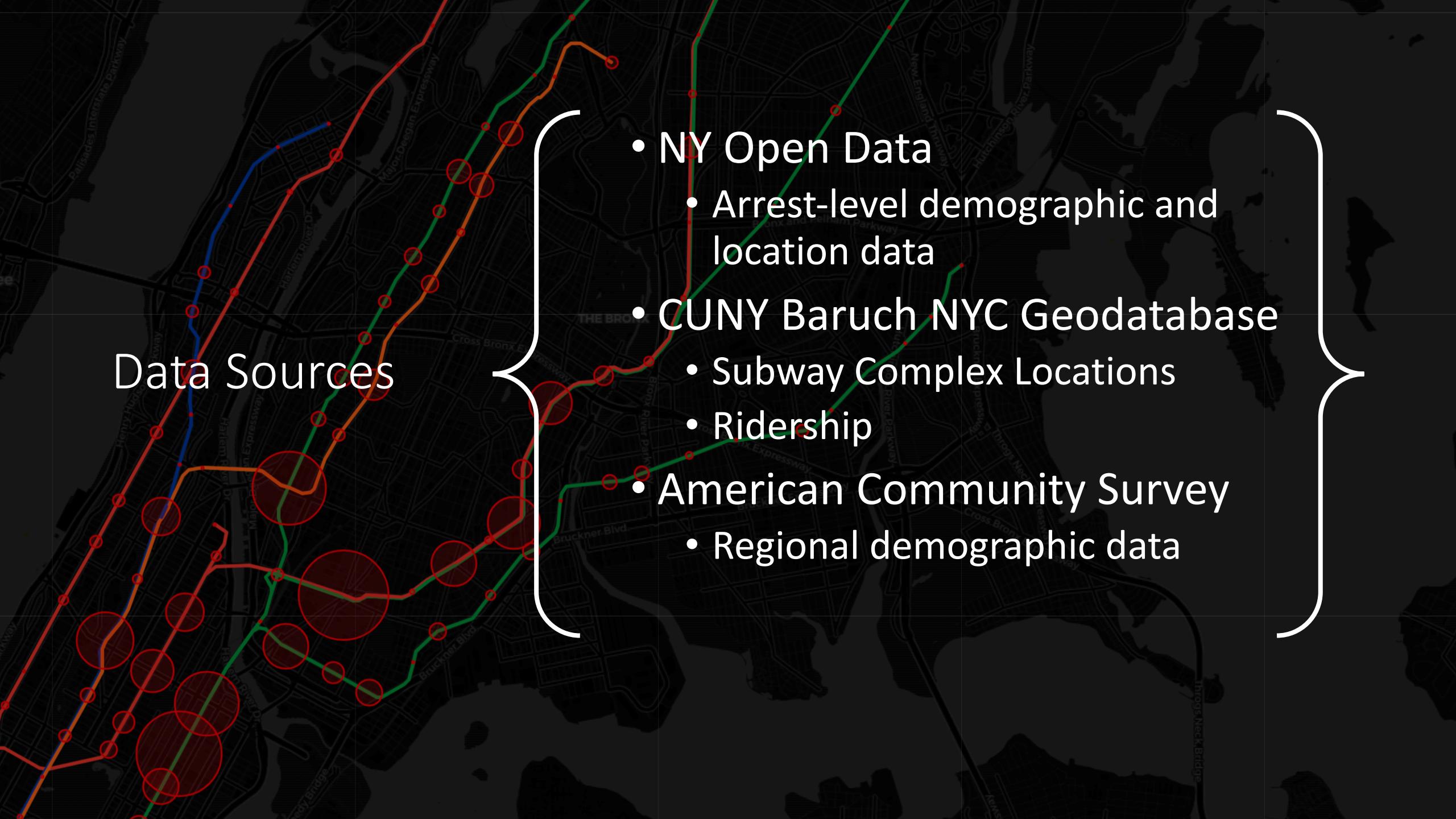
Interactions with Grassroots Social Movements?

- Multiple large protests specifically regarding fare evasion enforcement following policy to reduce number of arrests
- Organized by coalition including BLM, Decolonize This Place.
- Presence of increased police at protests indicate that the NYPD is aware of public perceptions



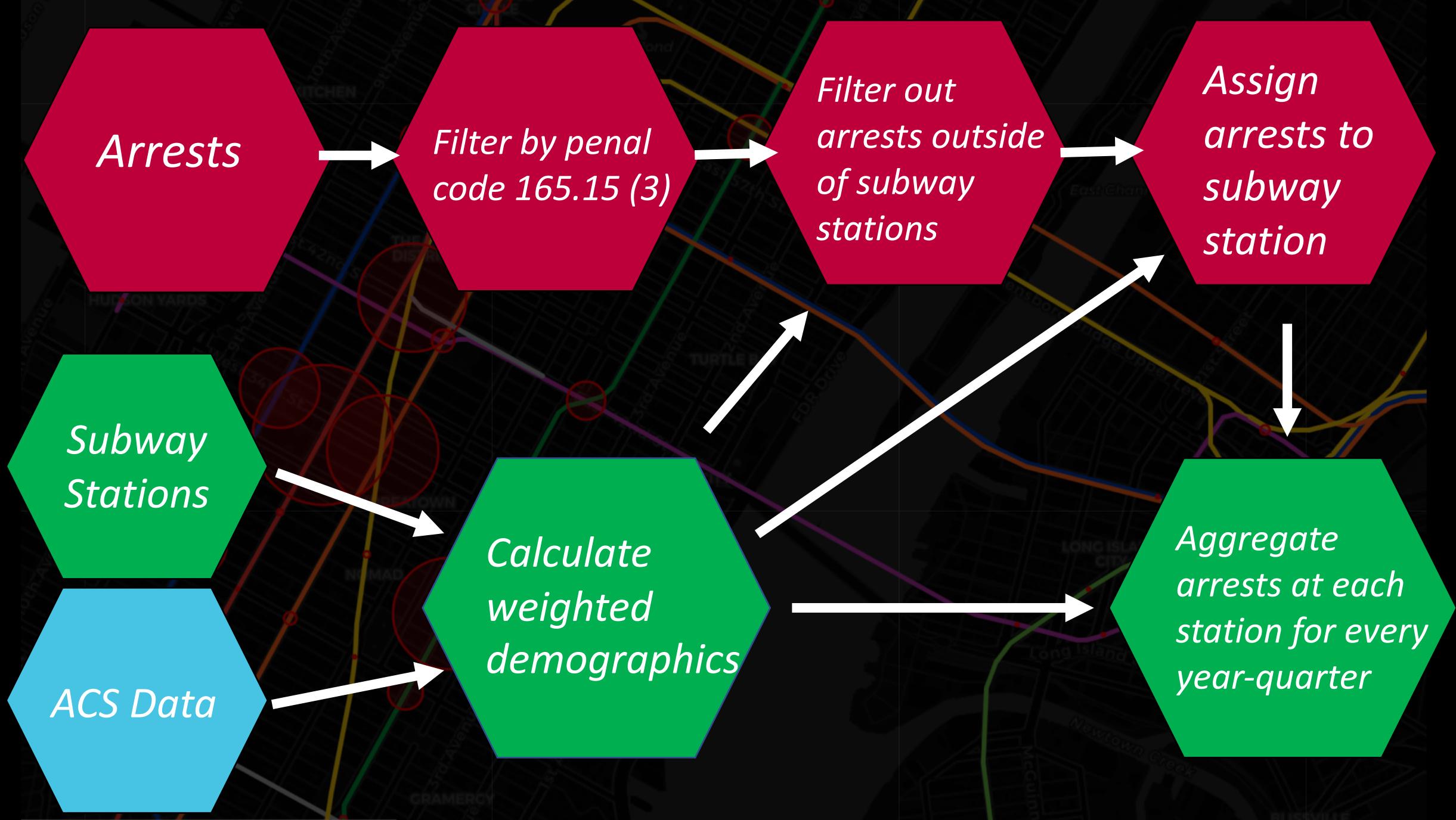
Effect of the DA's policy on Total Number of Fare Evasion Arrests

Effect of the DA's policy on Relative Number of Arrests of Each Racial Subgroup

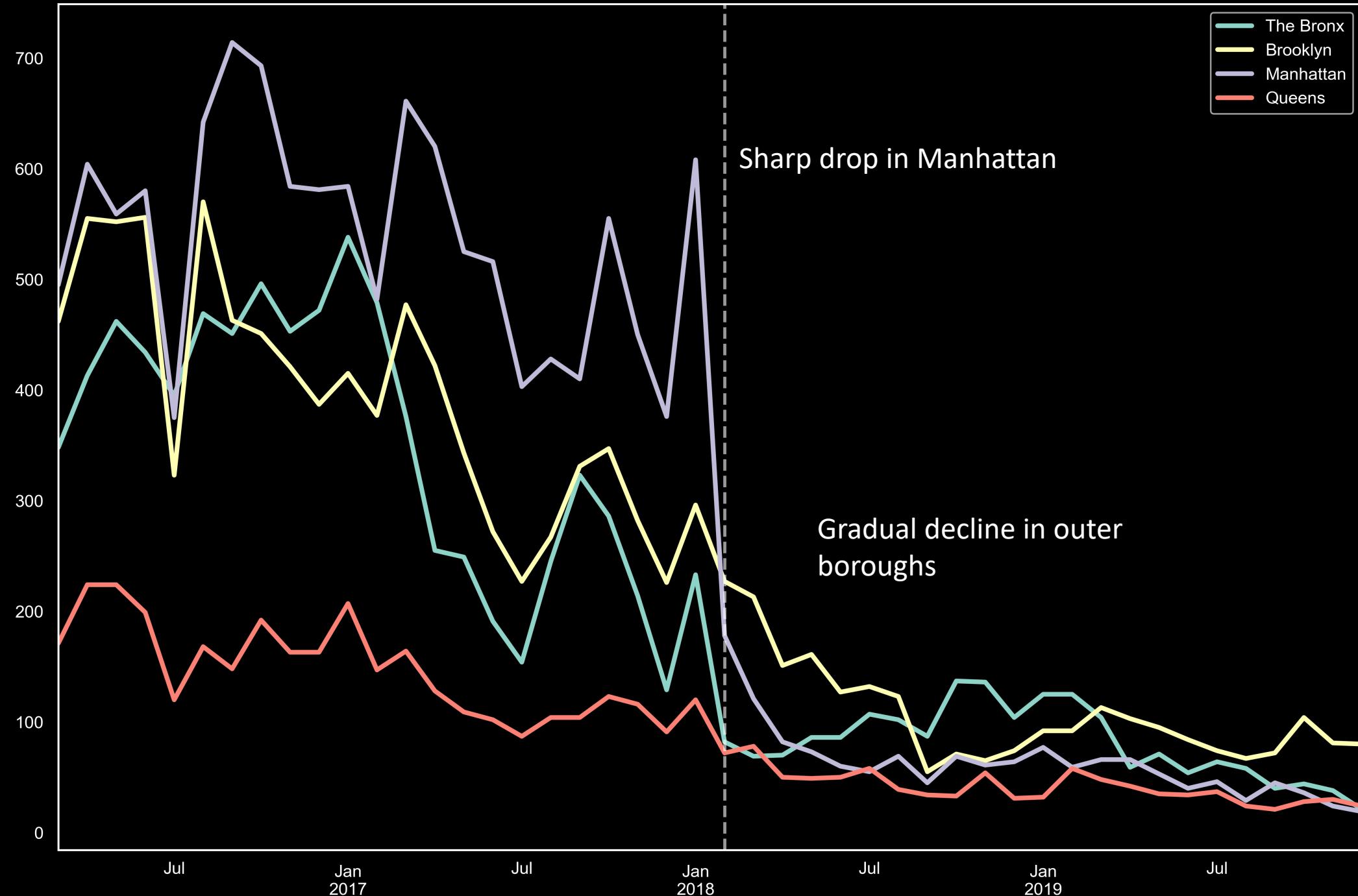


Data Sources

- NY Open Data
 - Arrest-level demographic and location data
- CUNY Baruch NYC Geodatabase
 - Subway Complex Locations
 - Ridership
- American Community Survey
 - Regional demographic data



Number of Arrests Per Month



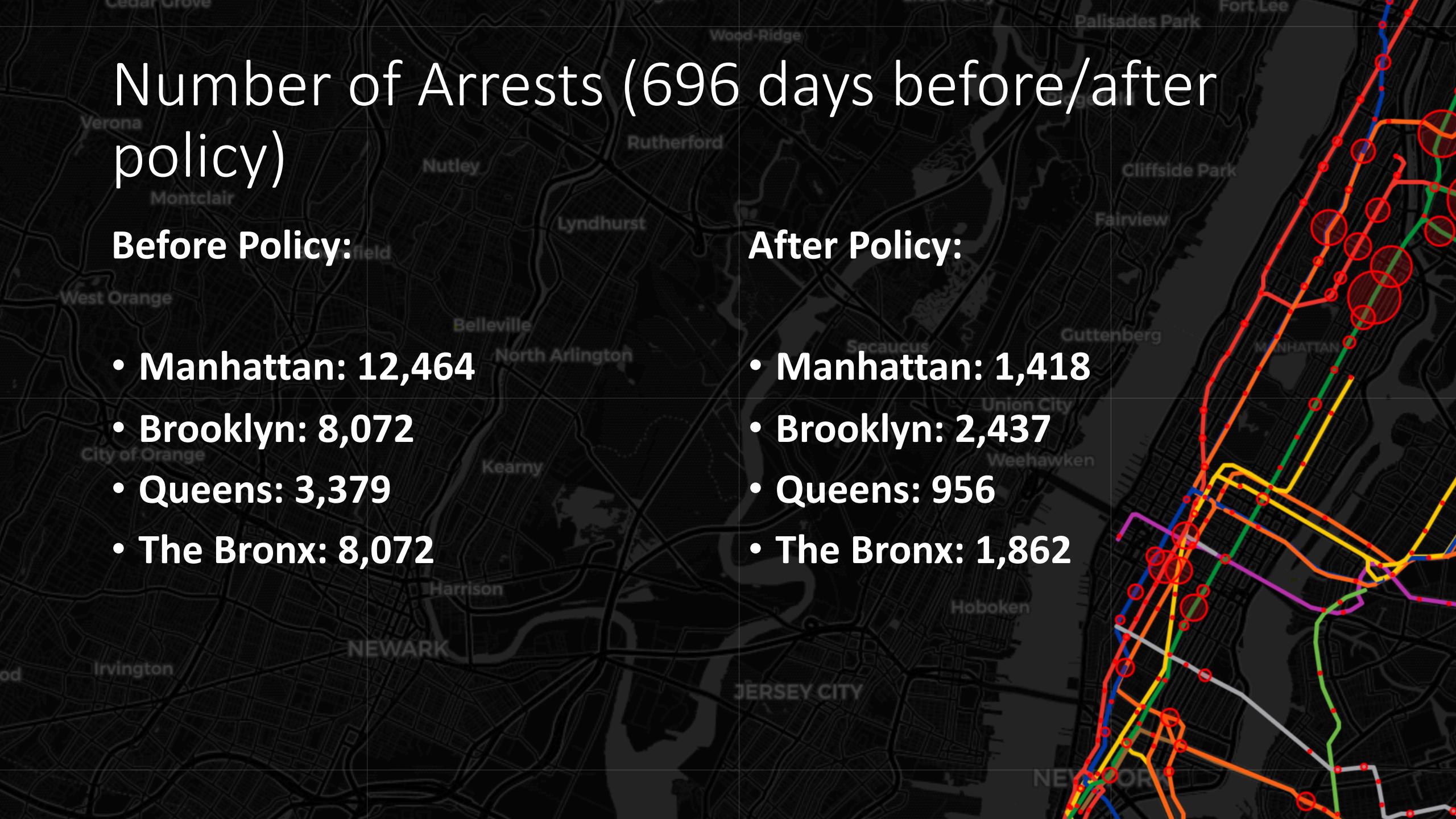
Number of Arrests (696 days before/after policy)

Before Policy:

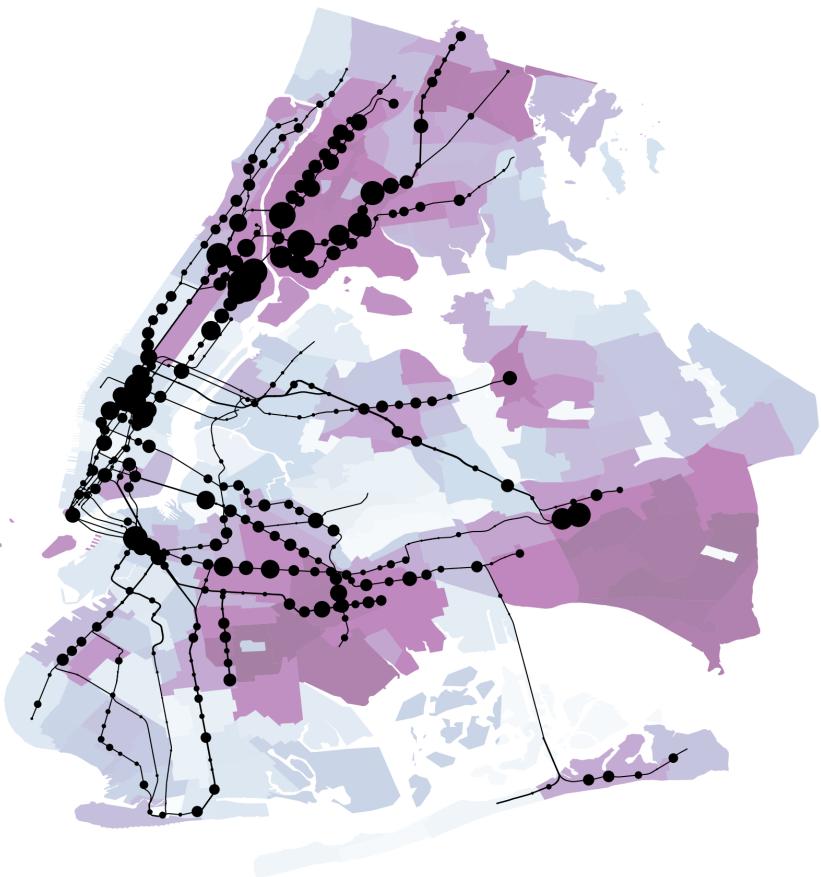
- Manhattan: 12,464
- Brooklyn: 8,072
- Queens: 3,379
- The Bronx: 8,072

After Policy:

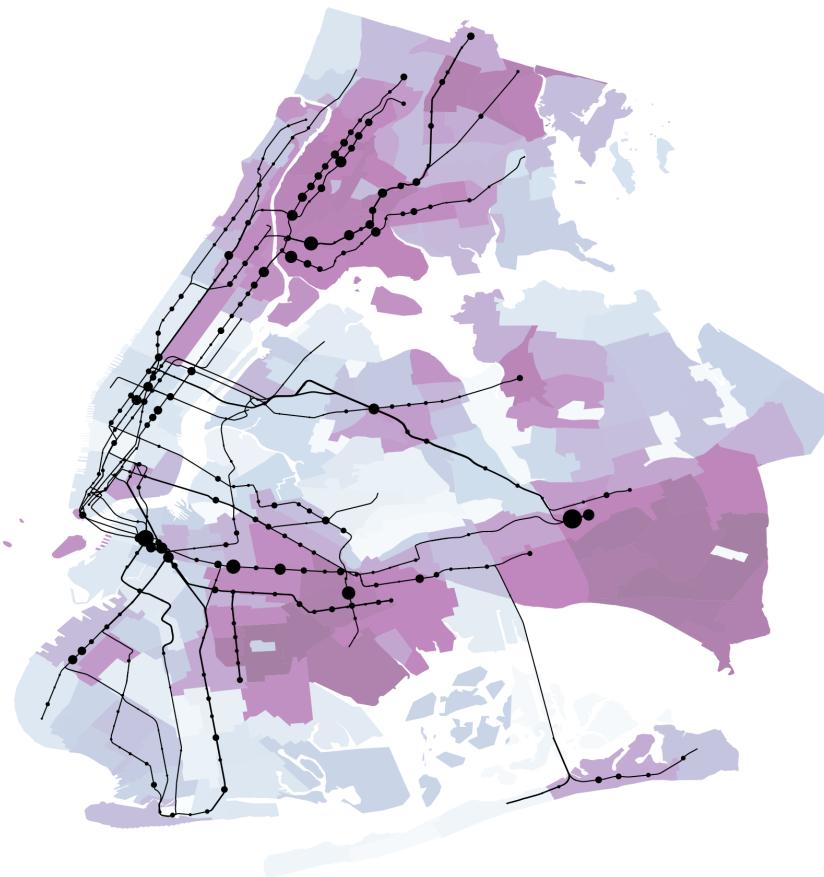
- Manhattan: 1,418
- Brooklyn: 2,437
- Queens: 956
- The Bronx: 1,862



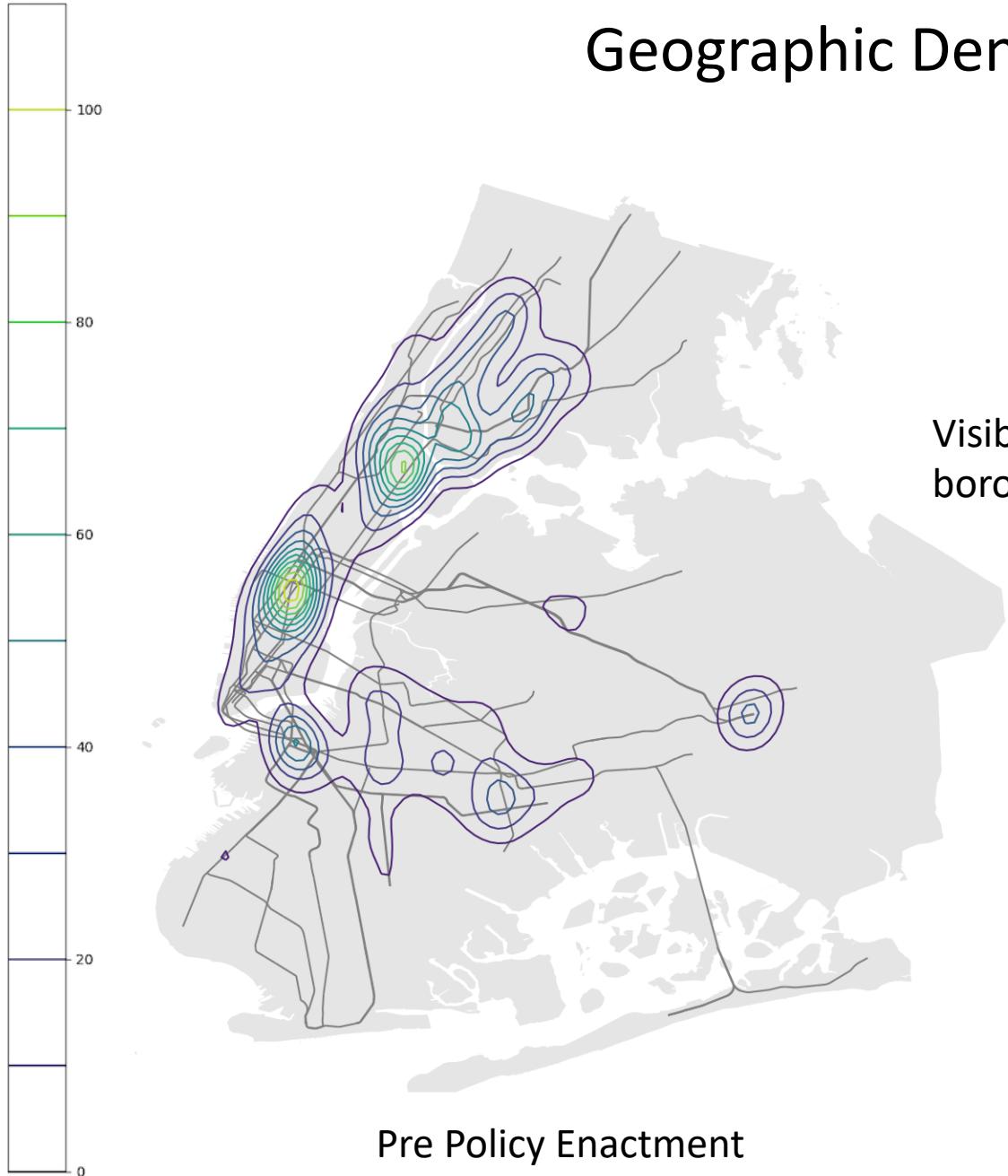
Number of Arrests, Pre Cutoff



Number of Arrests, Post Cutoff



Geographic Density of Arrests



Pre Policy Enactment

Visible shift to outer
boroughs



Post Policy Enactment

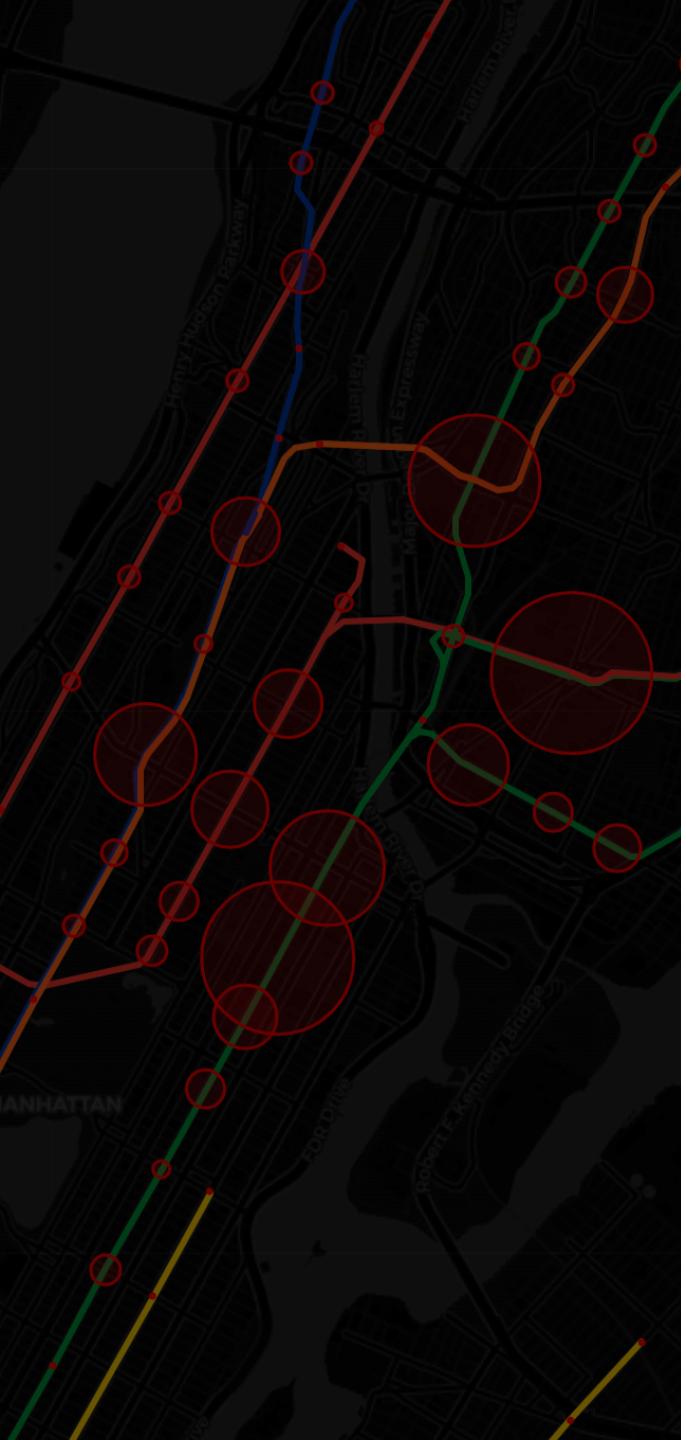
I. Change in Arrests

H_0 : The DA's Policy had no effect on the expected number of fare evasion arrests in Manhattan

H_1 : The DA's Policy **decreased** the number of fare evasion arrests in Manhattan

Difference In Differences Design
Borough and Year Fixed Effects

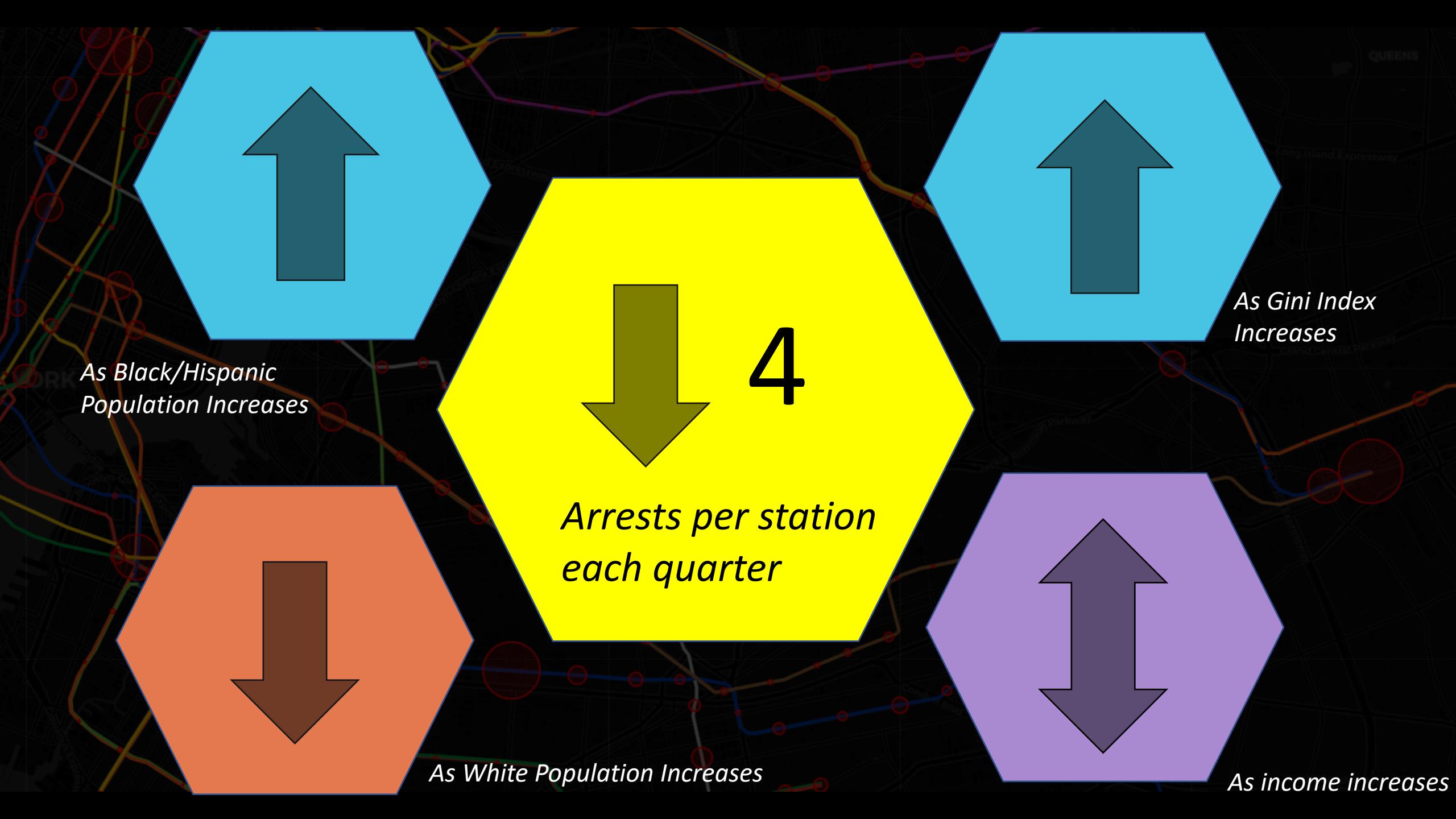
Station-Year-Quarter



	<i>Model 1a</i>	<i>Model 1b</i>	<i>Model 1c</i>
Arrests	-9.042*** (0.437)	-9.042*** (0.394)	-8.485*** (0.628)
Treated	4.348*** (0.365)	4.532*** (0.380)	5.240*** (0.568)
Period * Treated	-4.701*** (0.816)	-4.701*** (0.736)	-4.701*** (0.732)
Ridership		0.000333*** (0.00000808)	0.000335*** (0.00000805)
Percent Black Population		12.25*** (1.091)	10.99*** (1.122)
Percent White Population		-11.08*** (1.136)	-12.32*** (1.166)
Percent Asian Population		-0.218*** (0.0494)	-0.209*** (0.0498)
Percent Hispanic Population		13.02*** (0.919)	13.73*** (0.967)
Income (per \$10,000)		-1.40** (0.492)	-1.14* (0.494)
Gini Index		10.57*** (0.983)	9.993*** (1.008)
_cons	11.49*** (0.196)	2.633* (1.043)	1.381 (1.202)
Year and Borough Fixed Effects	No	No	Yes
<i>N</i>	17000	17000	17000
<i>R</i> ²	0.052	0.230	0.239

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$



II. Racial Sub-groups

H_0 : The DA's Policy had no effect on the expected relative number of fare evasion arrests in Manhattan for each race.

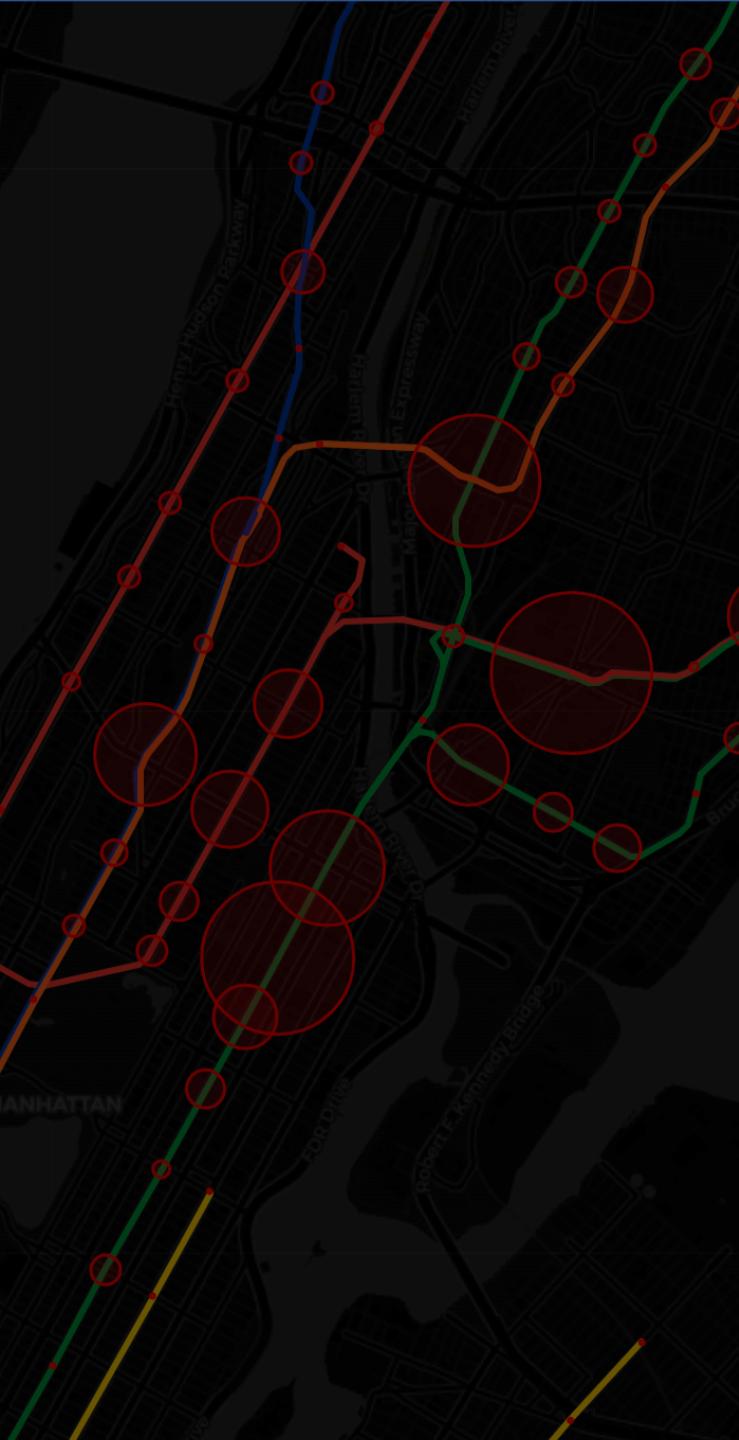
H_1 : The DA's Policy decreased the relative number of White fare evasion arrests.

H_2 : The DA's Policy increased the relative number of Black fare evasion arrests.

H_3 : The DA's Policy increased the relative number of Hispanic fare evasion arrests.

Difference In Differences Design for each race
Control for Race Population and Total Arrests
Borough and Year Fixed Effects

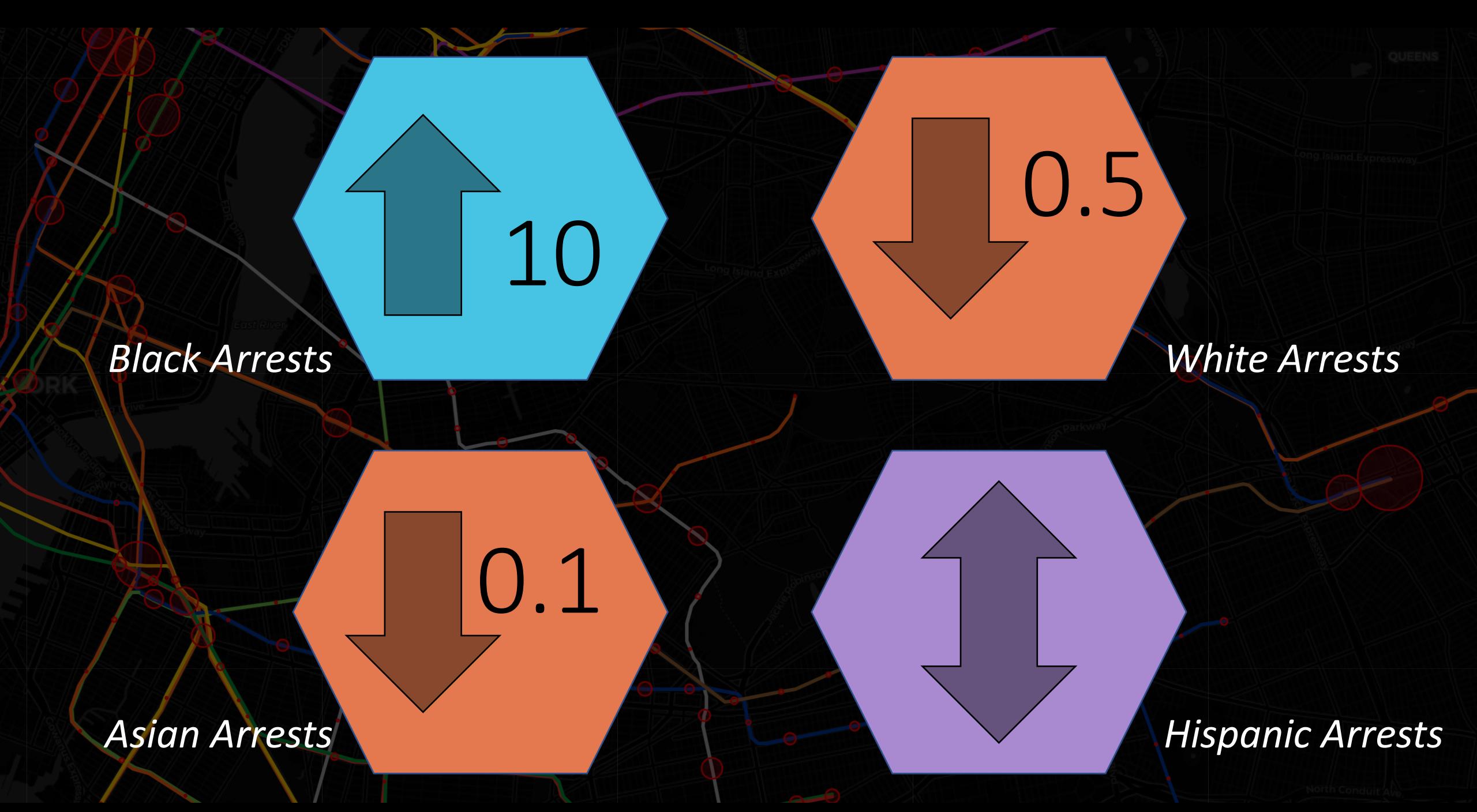
Station-Year-Quarter

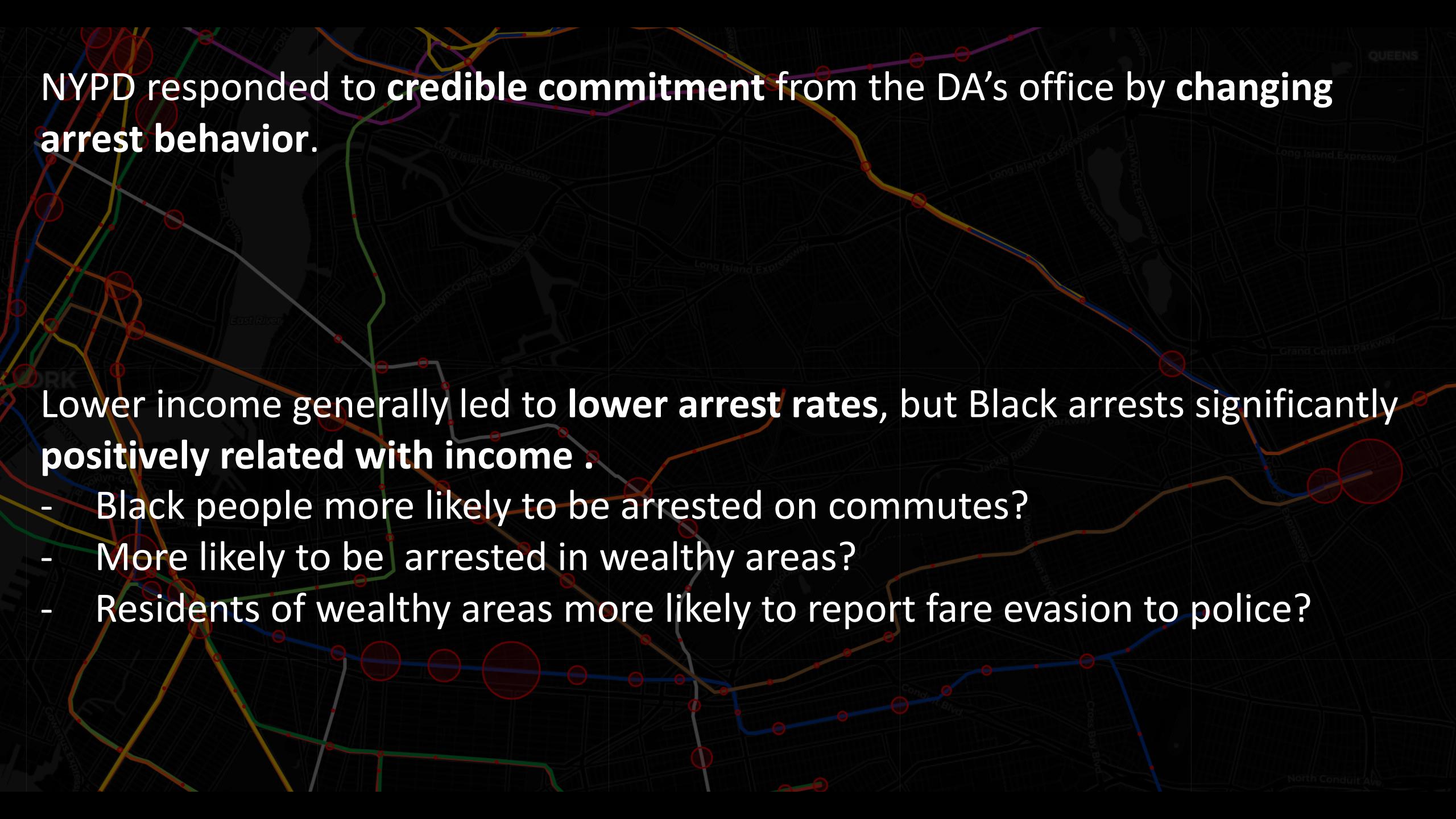


	Black Arrests	White Arrests	Asian Arrests	Hispanic Arrests
Period	0.118 (0.122)	0.131** (0.0466)	-0.0309 (0.0241)	-0.400*** (0.112)
Treated	0.570*** (0.0986)	0.363*** (0.0395)	0.0723*** (0.0196)	0.830*** (0.0976)
Period*Treated	0.763*** (0.141)	-0.594*** (0.0541)	-0.102*** (0.0279)	-0.151 (0.129)
Ridership	-0.0000193*** (0.00000160)	0.0000177*** (0.000000612)	0.00000970*** (0.000000317)	0.00000737*** (0.00000147)
Total Arrests	0.591*** (0.00145)	0.0530*** (0.000561)	0.0113*** (0.000281)	0.315*** (0.00132)
Percent Black Population	6.306*** (0.129)			
Percent White Population		1.088*** (0.0520)		
Percent Asian Population			0.0181*** (0.00164)	
Percent Hispanic Population				6.373*** (0.143)
Income (Per \$10,000)	1.55*** (0.0879)	-4.92e-03 (0.0357)	-2.91e-03 (0.0168)	3.24e-06*** (0.0813)
Gini Index	-2.795*** (0.192)	0.239** (0.0745)	0.0726 (0.0372)	0.801*** (0.172)
_cons	-1.928*** (0.124)	-0.989*** (0.0487)	-0.254*** (0.0239)	-2.394*** (0.141)
Year and Borough Fixed Effects	Yes	Yes	Yes	Yes
<i>N</i>	17000	17000	17000	17000
<i>R</i> ²	0.927	0.471	0.218	0.827

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$





NYPD responded to **credible commitment** from the DA's office by **changing arrest behavior**.

Lower income generally led to **lower arrest rates**, but Black arrests significantly **positively related with income**.

- Black people more likely to be arrested on commutes?
- More likely to be arrested in wealthy areas?
- Residents of wealthy areas more likely to report fare evasion to police?

Attempts to **decrease** bias by **reducing** the severity of punishment rather than **eliminating it entirely** are prone to **increases** in bias. Exact **mechanism** is unclear.

- Placement of police officers?
- Individual officer behavior?
- Response to protests (exogenous effect)?

Bias towards Black **individuals**. Bias towards Black and Hispanic **communities**.

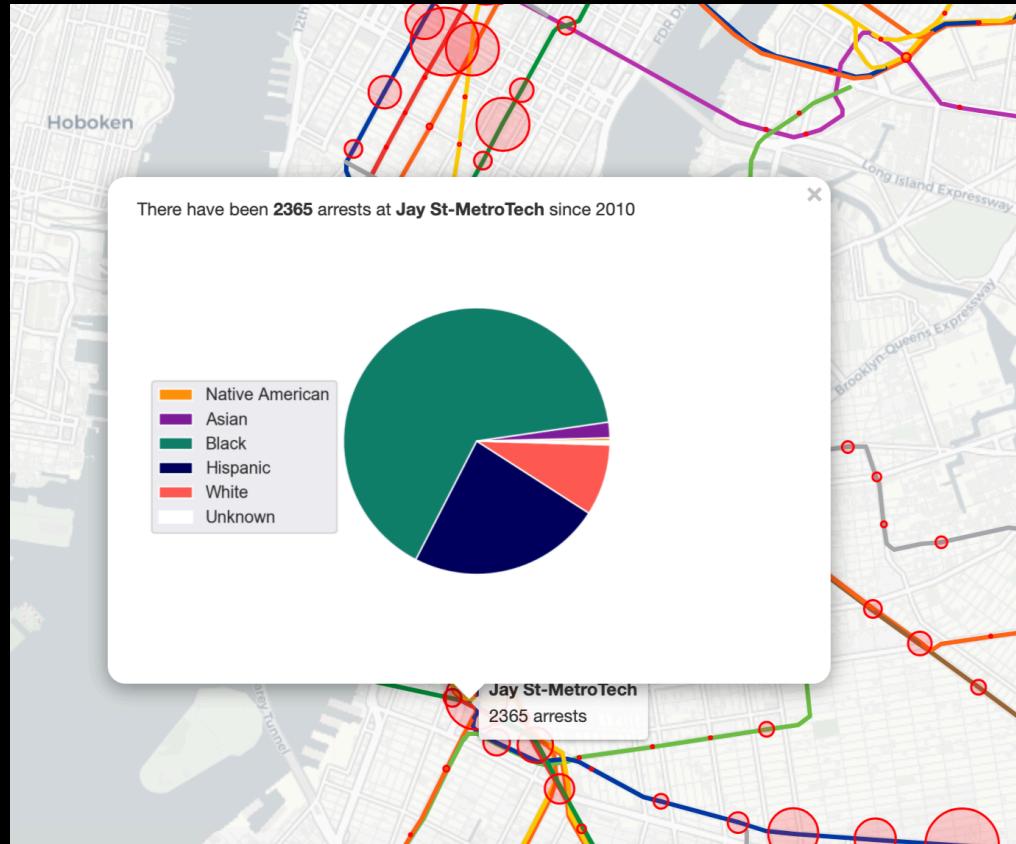
- Central decision-making bodies biased towards communities of color?
- Individual officers biased towards Black individuals?

Notes/Future Work

The overall time trend indicates spillover effects into the NYPD

- Regression Discontinuity on arrests in each borough
- Geographic RD on stations at the edge of boroughs

Study incentive structures which motivate these results.



Interactive Tool

https://nicksawhney.github.io/fare_evasion/

Questions?

Thanks!