

Twentieth Report of the Independent Monitor

Racial Disparities in NYPD Stop, Question, and Frisk Practices: An Analysis of 2013 to 2022 Stop Reports

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Floyd, et al. v. City of New York

Ligon, et al. v. City of New York, et al.

Davis, et al. v. City of New York, et al.



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I. Executive Summary

In 2013, the United States District Court for the Southern District of New York found that the New York City Police Department's ("NYPD") stop and frisk practices violated the Fourth Amendment, which requires stops to be based on reasonable suspicion, and the Fourteenth Amendment, which guarantees equal protection under the law. The Court found that the City had a "policy of indirect racial profiling by targeting racially defined groups for stops based on local crime suspect data . . . [that] resulted in the disproportionate and discriminatory stopping of [B]lacks and Hispanics in violation of the Equal Protection Clause."¹ The Court's remedial orders in the *Floyd*, *Ligon*, and *Davis* litigations led to a series of reforms designed to reduce racial disparities and to prevent unconstitutional stop, frisk, and search encounters. As a result of the Court's orders, the Monitor team has periodically reviewed the stop, frisk and search data to determine whether there are racial disparities in the Department's use of the "Stop, Question, and Frisk" law enforcement technique ("SQF").

The number of Black and Hispanic persons stopped as reported by the NYPD decreased by over 90 percent between 2013 and 2022. During the same time period, the overall percentage of stops by race and ethnicity remained largely the same. In other words, although the number of reported stops of Black and Hispanic individuals declined, the percentage of stops that were of Black and Hispanic individuals remains largely the same. Not surprisingly, the number of stops by NYPD officers of white, Asian, and other individuals was substantially lower than the number of stops of Hispanic and Black persons over the entire period.

- The rate of Black individuals stopped was 55.5 stops per 1,000 residents in 2013 and dropped to 5.5 stops per 1,000 residents in 2022.

¹ *Floyd v. City of New York*, 959 F. Supp. 2d 540, 562 (S.D.N.Y. 2013).

- The rate of Hispanic individuals stopped was 22.6 stops per 1,000 residents in 2013 and dropped to 1.8 stops per 1,000 residents in 2022.
- The rate of white/other individuals stopped was 7.7 stops per 1000 residents in 2013 and dropped to 0.4 stops per 1000 residents in 2022.

These decreases reflect a 90% and 92% reduction in reported stops of Black and Hispanic persons, respectively. Despite the reduction in reported stops, the relative percentage of people stopped by race and ethnic group (relative disparity) remains the same. Stops of Black and Hispanic individuals remained the highest proportion of all reported stops from 2013 to 2022.

This report uses multivariate statistical models to determine racial disparities in police action after the stop in the areas of frisks, searches, summonses, arrests, uses of force, and recoveries of illegal contraband or weapons by the NYPD. The analysis compares such outcomes by race to identify racially disparate policing in these six post-stop actions. The key analytic findings are:

- In 2021, police disparately frisked Black people whom they stopped, compared to people identified as white or other racial groups. The frisk rate of Black individuals was 62.5%, while the frisk rate of white/other individuals was 56%.
- In 2022, the differences in the rate of frisks of Black persons stopped compared to the rate of frisks for white/other persons were no longer statistically significant, after adjusting for similarly situated stop contexts.

- In both 2021 and 2022, there were no statistically significant differences or substantive differences in the rate of frisks of Hispanic persons stopped compared to the rate of frisks for white/other persons stopped.²
- In 2022, police disparately searched Hispanic individuals whom they stopped (45%), compared to white/other individuals (36.5%). In contrast, in 2021 and in 2022, search rates of Black persons stopped and the search rates of white/other persons stopped were not substantively different.
- In 2021 and 2022, the police did not disproportionately arrest or issue summonses to Black and Hispanic people who were stopped as compared to white/other persons who were stopped. There also were no substantive differences in use of force rates when Black and Hispanic persons were stopped compared to white/other persons stopped in 2021 and 2022.
- In 2021, the police recovered contraband and weapons from Black individuals at a higher rate than they did for white/other individuals, suggesting a higher threshold for searching Black individuals during that year. In 2022, there was no substantive difference between the recovery rate for stops of Black persons compared to the recovery rate for stops of white/other persons.

These analyses show that racial disparities in outcomes after the reported stops of Black and Hispanic persons and similarly situated white/other persons decreased since 2013 with respect to summonses, arrests, uses of force, and the recovery of a weapon or other contraband. But there is still cause for concern because there are still racial disparities in frisks and searches. Moreover,

² The term “statistically significant and “substantive differences” convey different concepts. Statistically significant means that the difference is unlikely to occur by chance. Substantively significant means that the magnitude of the effect is not “de minimis” and is practically large enough for the Court to be concerned (Rubinfeld, 2011).

a significant number of stops continue to not be documented: the Monitor's audits of body-worn camera videos indicates a substantial undocumented stop rate of 31.4%. Analysis of racial disparities and compliance using reported stops is limited by this documentation problem, and the actual results presented in this report might be different if all stops were documented. As such, the documentation of stops is essential for the NYPD to demonstrate substantial compliance with the court's remedial orders, and without accurate data on stops, frisks, and searches, the Monitor cannot make determinations regarding whether the NYPD is in substantial compliance.

This report also assesses the disparate impact of stop activity in specific areas within New York City. Analysis of racial disparities in stop rates by area shows that a significant share of disparities is driven by a small number of areas with higher rates of reported crime. In those areas, NYPD officers make stops of Black and Hispanic persons at a significantly higher rate than white, Asian, and other individuals—and at a rate much higher than would be predicted just by high crime rates. This suggests that even when controlling for crime and other factors, the level of stops is higher than would be predicted. These disparities in particular areas of the City are troubling, and the Department should be examining the reasons for these disparities to minimize them.

The NYPD has made progress in meeting its Fourteenth Amendment compliance requirements since 2013, but there is critical work left to do. After 10 years of the Monitorship, the NYPD has not yet begun monitoring their officers' compliance with the Fourteenth Amendment. This is disappointing. It has taken far too long for the Department to *begin* developing accountability mechanisms, let alone implement them. The Department needs to immediately develop a plan for effectively monitoring its officers' compliance with the Fourteenth Amendment and create incentives for commanders to ensure full compliance. The NYPD has developed a tool—the SQF dashboard—for identifying outlier areas and outlier precincts to pinpoint and

monitor commands that drive citywide racial disparities in stops. If the NYPD chooses to use this tool, it could generate this type of disparate-impact information regularly to inform the Department what should be done to address the areas with the most disparities. The Monitor looks forward to working with the NYPD to implement a plan to monitor the NYPD's compliance with the Fourteenth Amendment.

II. Background

In August 2013, following a nine-week trial, the United States District Court for the Southern District of New York ruled that the New York City Police Department (NYPD), violated City residents' Fourth and Fourteenth Amendment rights and issued its Remedial Order.³ The New York City Police Department ("NYPD") has been implementing a series of reforms to its stop, question, and frisk ("SQF") practices as mandated in the federal court orders in the *Floyd v. City of New York*, 08 Civ. 1034, *Ligon v. City of New York*, 12 Civ. 2274, and *Davis v. City of New York*, 10 Civ. 699, lawsuits.⁴

The number of stop reports completed by NYPD officers dropped precipitously from 191,851 in 2013 to 11,008 in 2018 and then rose slightly to 15,102 in 2022. This Report assesses racial disparities in NYPD-reported stops made between 2013 and 2022 to determine whether the implemented reforms reduced discriminatory and disproportionate stops of Black and Hispanic persons.⁵

This report uses statistical analyses to estimate racial disparities in the rates of stops and in the following post-stop outcomes: frisks, searches, summonses, arrests, uses of force, and searches that yield contraband or weapons. If a significantly lower percentage of searched Black and Hispanic individuals are found with contraband or weapons compared to white/other racial groups, this provides evidence that the NYPD may not be applying the proper legal standard of suspicion

³ *Floyd v. City of New York*, 959 F. Supp. 2d 540 (S.D.N.Y. 2013) ("*Floyd* Liability Opinion"); *Floyd v. City of New York*, 959 F. Supp. 2d 668 (S.D.N.Y. 2013) ("*Floyd* Remedial Order").

⁴ These cases challenged the NYPD's practices and policies concerning stop, question, and frisk (*Floyd v. City of New York*), stops and arrests for criminal trespass in New York City Housing Authority (NYCHA) buildings (*Davis v. City of New York*), and criminal trespass stops in and around certain private multiple dwelling buildings enrolled in the Trespass Affidavit Program (TAP) (*Ligon v. City of New York*).

⁵ The analyses presented here extends ongoing analytic work to determine whether the NYPD is following reforms required by the court. Estimates of racial disparities in stop reports shown for 2013 to 2019 were previously reported in the Monitor's Thirteenth Report, <https://www.nypdmonitor.org/wp-content/uploads/2023/09/13th-Report-and-Submission-Letter.pdf>.

in deciding whether to conduct a search.⁶ As noted in the prior racial disparities reports,⁷ unexplained racial disparities in stop rates and post-stop outcomes are suggestive evidence of failures to comply with Fourteenth Amendment standards. However, these unexplained disparities are not conclusive proof of bias.

The documentation of stops is essential for the NYPD to demonstrate substantial compliance with the court's remedial orders. Any analysis of racial disparities and compliance using reported stops must acknowledge that the actual results might be different if all stops were documented.⁸

III. Data and Measures

This report reviews NYPD stop report data for each year from 2013 to 2022.⁹ However, given the diminished police activity as result of COVID-19 in New York City, data from 2020 was excluded from this analysis.¹⁰ The NYPD stop data contains the following information: (a) the reason the individual was stopped; (b) whether the individual was frisked or searched; and (c) whether the individual was arrested. Stop report data also contains demographic information about

⁶ Neil, R., and Winship, C. "Methodological Challenges and Opportunities in Testing for Racial Discrimination in Policing." *Annual Review of Criminology* 2 (2019): 73-98.

⁷ See *Fifth Report of the Independent Monitor*, New York Police Monitor (May 30, 2017), <https://www.nypdmonitor.org/wp-content/uploads/2023/09/13th-Report-and-Submission-Letter.pdf>; *Thirteenth Report of the Independent Monitor*, New York Police Monitor (Sept. 1, 2021), <https://www.nypdmonitor.org/wp-content/uploads/2023/09/13th-Report-and-Submission-Letter.pdf>.

⁸ The Monitor team's audits of body-worn camera (BWC) videos for 2022 indicated that as much as 31.4% of NYPD stops were not being documented. A separate analysis included in Section V.D below examined how sensitive the estimates of racial disparities in stop outcomes are to a 31.4% undocumented stop rate, under the assumption that missing stop reports are comparable in context to those that are documented in stop reports.

⁹ Available at: http://www.nyc.gov/html/nypd/html/analysis_and_planning/stop_question_and_frisk_report.shtml (accessed June 2023).

¹⁰ The year 2020 is excluded from the analyses because of the impact of the COVID-19 pandemic on New York City. The Monitor's Fourteenth Report examined the NYPD's activities in enforcing social distancing rules between March 2020 and July 2020, <https://www.nypdmonitor.org/wp-content/uploads/2022/09/14-Fourteenth-Report.as-filed.pdf>. The Monitor found that the vast majority of NYPD's social distancing enforcement did not involve suspicionless and racially motivated stops and frisks, and thus fell beyond the ambit of the *Floyd* and *Davis* cases.

the individual stopped, including age, race, and gender.¹¹ For the primary analysis, Black and Hispanic individuals were compared to white, Asian, and all other racial groups.

Stop report data also includes the location and other relevant information about the stop. For every stop report, indicators were also created for the gender (male/female), age range (less than 10 years, 10–15 years, 16–19 years, 20–24 years, 25–34 years, 35–64 years, and 65+ years) of the stopped individual, the precinct location (77 precincts, numbered non-exhaustively between 1 and 123), whether the stop was based on a radio call, the day of the week (Sunday through Saturday), the time of day (patrol shift 1, 2, or 3), the general location (housing, transit, or other) where the stop occurred, and the major stop reasons noted by the officer (categorized as violence, weapons, property, drugs, trespass, and quality of life).¹²

Five outcome variables were created to measure whether the stop resulted in a frisk, search, summons, arrest, or use of force. These binary measures were not mutually exclusive and indicated whether (=1) or not (=0) these outcomes occurred during a stop encounter. In this analysis, the stop form captures whether an NYPD officer frisked an individual and whether an officer searched an individual based on reasonable suspicion and probable cause standards.¹³ Use of force measures captures incidents where an officer reported on the stop report use of any force, including an impact weapon, drawing/pointing a firearm, physical force, O.C. spray,¹⁴ or a taser.¹⁵ Search hit rate

¹¹ The race of stopped individuals was categorized using the racial categories of Black, Hispanic, white, Asian, and other racial/demographic groups. American Indian/Alaska Native and Middle Eastern/Southwest Asian are the two other categories listed on the NYPD stop report.

¹² These are the same categories and variables used in prior reports as well as those of the plaintiffs' expert. See Fagan, J. (2010), Expert Report in *Floyd v. City of New York et al.*, U.S. District Court for the Southern District of New York, 08 Civ. 1034 (SAS); Fagan, J. (2012), Second Supplemental Report, *Floyd v. City of New York*, 08 Civ 1034 (SAS); and Fagan, J. (2012), Expert Report in *Davis v. City of New York*, 10 Civ. 699 (SAS).

¹³ The stop report form asks NYPD officers to indicate at least one of the following criteria for conducting a search: "hard object resembling a weapon," "consent to search," "admission of weapons possession," "outline of a weapon," "search incident to arrest," and "other (describe below)."

¹⁴ Also known as chemical spray or pepper spray. O.C. stands for oleoresin capsicum, the active ingredient in pepper spray.

¹⁵ The conducted energy weapons used by NYPD officers are Tasers, manufactured by the Axon company.

measures were generated according to two indicators that measured whether the search resulted in finding any contraband, or whether the search resulted in the seizure of weapons (guns, knives, or other weapons).¹⁶

Table 1 shows the number of reported stops and the percentage of stops by race for each year 2013 through 2022. The number of recorded stops decreased by 93% between 2013 and 2022, for an average yearly decline of 50%. The overall number of stops decreased the most for Black and Hispanic persons; however, Black and Hispanic individuals accounted for more than 80% of all individuals stopped each year. The number of individuals subjected to reported stop encounters dropped significantly from 2013 to 2022; because the number of stops dropped nearly uniformly across all groups, the percentages of racial groups being stopped remained the same.

¹⁶ The data regarding each of the post-stop outcomes are based on what the officer completing the stop report stated on the form. In reviewing BWC videos, the Monitor team has identified some instances in which an officer conducted a frisk or search but did not report that on a stop report. Such instances would not be captured in the post-stop outcomes.

Table 1: Racial Distribution of Persons in NYPD Stop Reports, 2013-2022¹⁷

Race	2013	2014	2015	2016	2017	2018	2019	2021	2022
Black	104,449	24,319	11,950	6,498	6,595	6,241	7,981	5,404	8,863
	(54.4)	(53.1)	(53.0)	(52.4)	(56.7)	(56.7)	(59.3)	(60.4)	(58.7)
Hispanic	54,930	12,489	6,499	3,626	3,567	3,389	3,869	2,457	4,477
	(28.6)	(27.3)	(28.8)	(29.2)	(30.7)	(30.8)	(28.7)	(27.5)	(29.6)
White	20,820	5,467	2,514	1,270	977	1,074	1,215	732	1,077
	(10.9)	(11.9)	(11.1)	(10.2)	(8.4)	(9.8)	(9.0)	(8.2)	(7.1)
Asian	7,663	2,473	1,180	775	215	237	309	271	493
	(4.0)	(5.4)	(5.2)	(6.2)	(1.8)	(2.2)	(2.3)	(3.0)	(3.3)
Other	2,844	739	298	140	0	0	0	0	0
	(1.5)	(1.6)	(1.3)	(1.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
Unknown	1,145	300	122	95	275	67	85	83	192
	(0.6)	(0.7)	(0.5)	(0.8)	(2.4)	(0.6)	(0.6)	(0.9)	(1.3)
Total	191,851	45,787	22,563	12,404	11,629	11,008	13,459	8,947	15,102
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Table 2 shows the number of stop reports relative to the City's residential population of the same race or ethnic group or the categories of Black, Hispanic, and other residents. Stops are expressed as a rate per 1,000 residents of the same racial/ethnic group. There were 55.5 stops per 1,000 Black individuals relative their share of the population in 2015, a rate that was 7.2 times higher than that for other groups (white/Asian/Pacific Islander/unknown). The rate of Black individuals stopped per population dropped by 50.3 stops per 1,000 residents between 2013 and 2022 to 5.2 stops per 1,000 Black individuals. The rate of stops for white/other groups dropped by 1.8 stops per 1,000 residents between 2013 and 2022. These comparisons show that Black individuals experienced the largest absolute reduction in stop rates between 2013 and 2022. However, comparing the stop rates of racial groups to each other, the relative stop rate of Black

¹⁷ Raw numbers are in rows and percentages are in parentheses.

individuals compared to white/other group stop rates increased from 2013 to 2022.¹⁸ The stop rate of Black individuals was 7.2 times higher than the stop rate of white/other individuals (55.5/7.7) in 2013 and increased to 13 times higher in 2022 (5.2/0.4). Because there were so few stops of whites, Asians and other demographic groups, a small change in the absolute rate of stops generates a large change in the relative rate.

For Hispanic individuals stopped, the stop rates between 2013 and 2022 dropped by 20.8 stops per 1,000 residents, from 22.6 stops per 1,000 residents in 2013 to 1.8 stops per 1,000 in 2022. The relative rate of Hispanic to white/other groups also increased in those years, from 2.9 times higher than the stop rate for white/other groups in 2013 to 4.5 times higher in 2022, because of the low base rate of stops for white/other individuals.

¹⁸ The absolute rate applies to stops for a particular race, showing for example the significant decrease in stop rates for Black individuals from 2013 to 2022. The relative stop rate compares the stop rate of Black individuals to the stop rate of white/other individuals, which shows that the ratio of the Black stop rate to the white/other stop rate increased over time. The stop rate for Black individuals went from seven times the stop rate for white/other individuals to 13 times the stop rate for white/other individuals from 2013 to 2022.

Table 2: Rate of Stops per 1,000 Persons by Race 2013-2022

Race	2013	2014	2015	2016	2017	2018	2019	2021	2022
Black Stops	104449	24319	11950	6498	6595	6241	7981	5404	8863
Black Population	1882528	1891387	1880360	1877084	1879876	1823673	1808814	1714326	1714326
Black Stop Rate	55.5	12.9	6.4	3.5	3.5	3.4	4.4	3.2	5.2
Hispanic Stops	54930	12489	6499	3626	3567	3389	3869	2457	4477
Hispanic Population	2428756	2460898	2485125	2489090	2517429	2449451	2423588	2464120	2464120
Hispanic Stop Rate	22.6	5.1	2.6	1.5	1.4	1.4	1.6	1.0	1.8
White/Other Stops	31327	8979	4104	2280	1467	1378	1609	1086	1762
White/Other Pop.	4094553	4138794	4184920	4171499	4224393	4125624	4104415	4289067	4289067
White/Other Stop Rate	7.7	2.2	1.0	0.5	0.3	0.3	0.4	0.3	0.4
Total Stops	191851	45787	22563	12404	11629	11008	13459	8947	15102
Total Population	8405837	8491079	8550405	8537673	8622698	8398748	8336817	8467513	8467513
Rate per 1,000	22.8	5.4	2.6	1.5	1.3	1.3	1.6	1.1	1.8

Note: Rate per 1,000 population. Population Source: <https://data.census.gov/table?q=new+york,+city&t=Race+and+Ethnicity&y='year'>.

Table 3 shows the distribution for Black, Hispanic, and other individuals per census block group who were arrested by the NYPD, reported a crime to the NYPD as a victim, or were stopped by the NYPD in 2021 and/or in 2022¹⁹ in term of rates per 1,000 residents living in census block groups in NYC.

Table 3: Average Per Census Block Group Racial Distribution of Arrests, Victimitizations and Stop Reports, 2021-2022

	Rate per 1,000	Mean	SD	No. Blocks
Black Arrests	85.55	28.18	98.24	6292
Hispanic Arrests	48.11	19.00	63.89	6292
White/Other Arrests	14.58	9.23	35.37	6292
Black Victims	124.59	41.04	61.69	6292
Hispanic Victims	88.70	35.03	48.54	6292
White/Other Victims	131.10	82.96	138.93	6292
Black Stops	7.25	2.39	4.52	6292
Hispanic Stops	2.91	1.15	2.28	6292
White/Other Stops	1.15	0.73	1.05	6292
Black Population		329.38	461.22	6222
Hispanic Population		394.91	435.98	6222
White/Other Population		632.78	617.41	6222

The arrest rate in 2021 and 2022 of Black individuals is 85.5 arrests per 1,000 Black residents, compared to a crime victimization rate of 124.5, and a stop rate of 7.2 per 1,000 Black residents. The arrest rate of Hispanic individuals is 48.1 per 1,000 Hispanic residents, compared to a crime victimization rate of 88.7, and a stop rate of 2.9 per 1,000 Hispanic residents. The arrest rate of white/other individuals is 14.58 per 1,000 other residents, compared to a crime victimization rate of 131.1, and a stop rate of 1.15 per 1,000 white/other residents. These comparisons show that the

¹⁹ Locations of arrests, crime victimizations, and stops were attached to their corresponding census block group based on their latitude and longitude coordinates and then aggregated. Census block groups are the lowest level of geography that provide reliable estimates of the residential demographics (age, race, gender, income).

racial disparities in relative rates of arrests is comparable to the disparities in the relative rates of stops. The arrest rate of Black individuals relative to the arrest rate of other individuals is 5.87 (95% Confidence Interval, 3.26–10.22). The rate of Black individuals stopped is 6.3 times the stop rate of white/other individuals (95% Confidence Interval, 0.88–45.08).²⁰ The 95 percent confidence intervals show that the two rates overlap, suggesting that stop disparities in the population for Black individuals are comparable to arrest disparities in 2021 and 2022. The stops relative to arrests for Black individuals is 0.084 (7.25/85.5) compared to 0.078 (1.15/14.58) for other groups. These figures suggest that stop disparities are similar to arrest disparities.

Rank order correlations²¹ indicate that stop rates for Black individuals are associated with the number of arrests of Black individuals ($\rho=0.697$; $p<.001$), the number of Black victims of reported crime ($\rho=0.66$, $p<.001$), the total number of reported criminal offenses ($\rho=0.601$; $p<.001$), the percentage of the Black population ($\rho=0.478$; $p<.001$), and the level of concentrated disadvantage²² ($\rho=0.275$; $p<.001$). Rank order correlations indicate that stop rates for Hispanic individuals are associated with the number of arrests of Hispanic individuals ($\rho=0.551$; $p<.001$), the number of Hispanic victims of reported crime ($\rho=0.53$, $p<.001$), the total number of reported criminal offenses ($\rho=0.461$; $p<.001$), the percentage of the Hispanic population ($\rho=0.393$; $p<.001$), and the level of concentrated disadvantage ($\rho=0.257$; $p<.001$). The stop rate for

²⁰ 95% confidence intervals calculated using formula provided by Rothman, K. J., Greenland, S., & Lash, T. L. (2008). *Modern epidemiology* (Vol. 3). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins.

²¹ Rank order correlations show the extent to which stops, arrests, victimization, criminal offenses, and concentrated disadvantage in census block groups are related. Spearman's rank order correlations (Spearman's rho coefficient) are used to determine the relationship between two sets of ordinal data. For instance, census block groups were separately ranked on stop rates for Black individuals and on the number of arrests of Black individuals. Rho ranges from -1 to +1 indicating the direction of the relationship (positive, negative) and the strength of the relationship (0 = null, 1 = perfect).

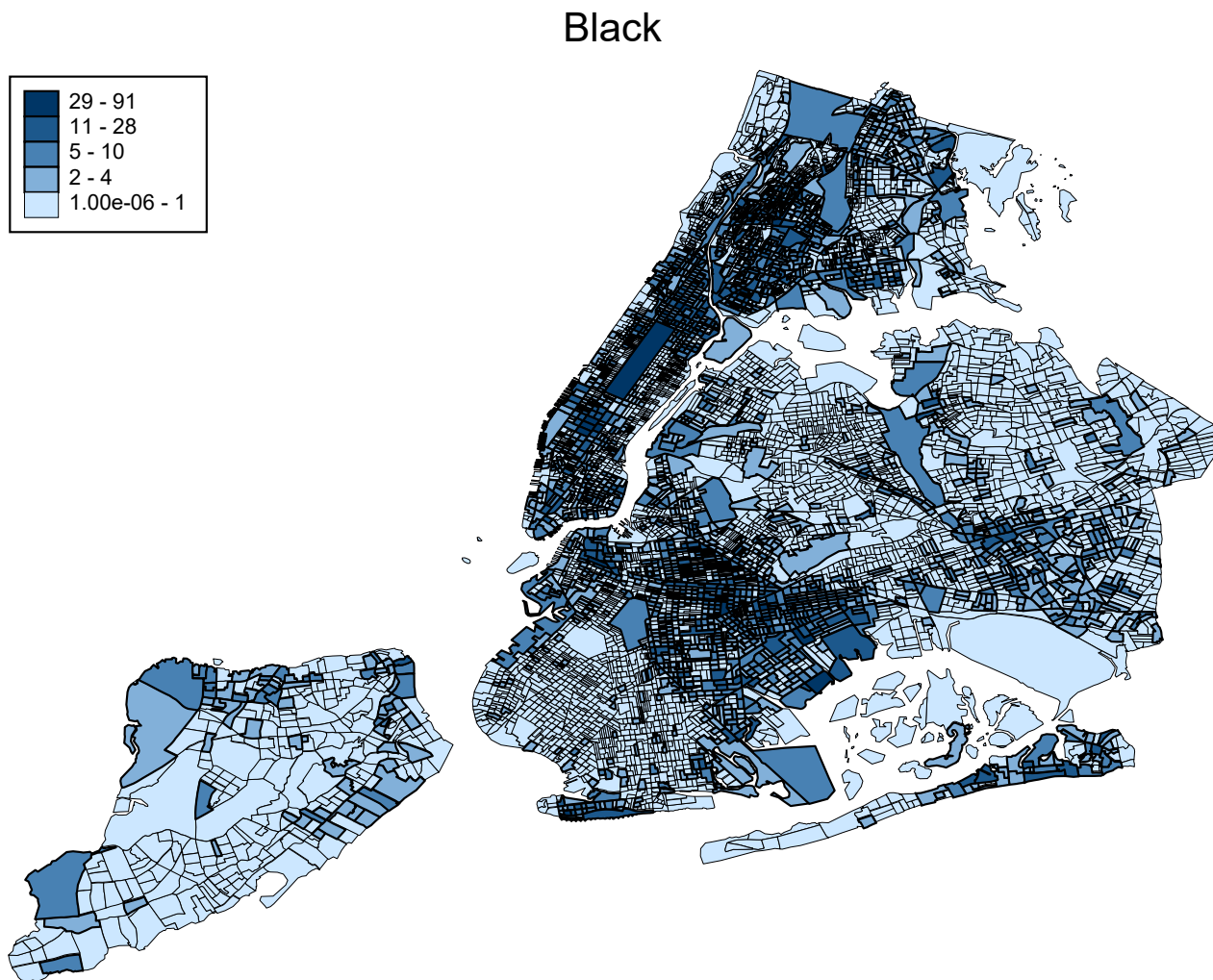
²² To measure socioeconomic characteristics of census block groups, the percentage of families living below poverty line, the percentage of female headed households, the percentage of the population under age 18, the percentage of population 25 years of age or older with no college education, the median household income, and the percentage of houses that are vacant were calculated. A single standardized (mean centered at zero) index from these economic measures was created using principal components analysis. The single index was labeled concentrated disadvantage.

white/other individuals shows smaller rank order correlations with the arrests of white/other individuals ($\rho=0.234$; $p<.001$), the number of victims of the white/other groups ($\rho=0.091$; $p<.001$), the total number of reported criminal offenses ($\rho=0.143$; $p<.001$), the percentage of the population that is white/other group ($\rho=0.346$; $p<.001$), and less economically disadvantaged areas ($\rho=-0.215$; $p<.001$). The smaller rank order association for white/other groups (white, Asian, unknown) reflects the overall lower level of stops and the fact that they are clustered by geography.²³

Figure 1 shows the basic spatial pattern of stops per census block group for Black, Hispanic, and white/other groups for 2021 and 2022 in New York City. The map shows that there is some spatial concentration in stop patterns for Black and Hispanic persons, but not the white/other demographic group.

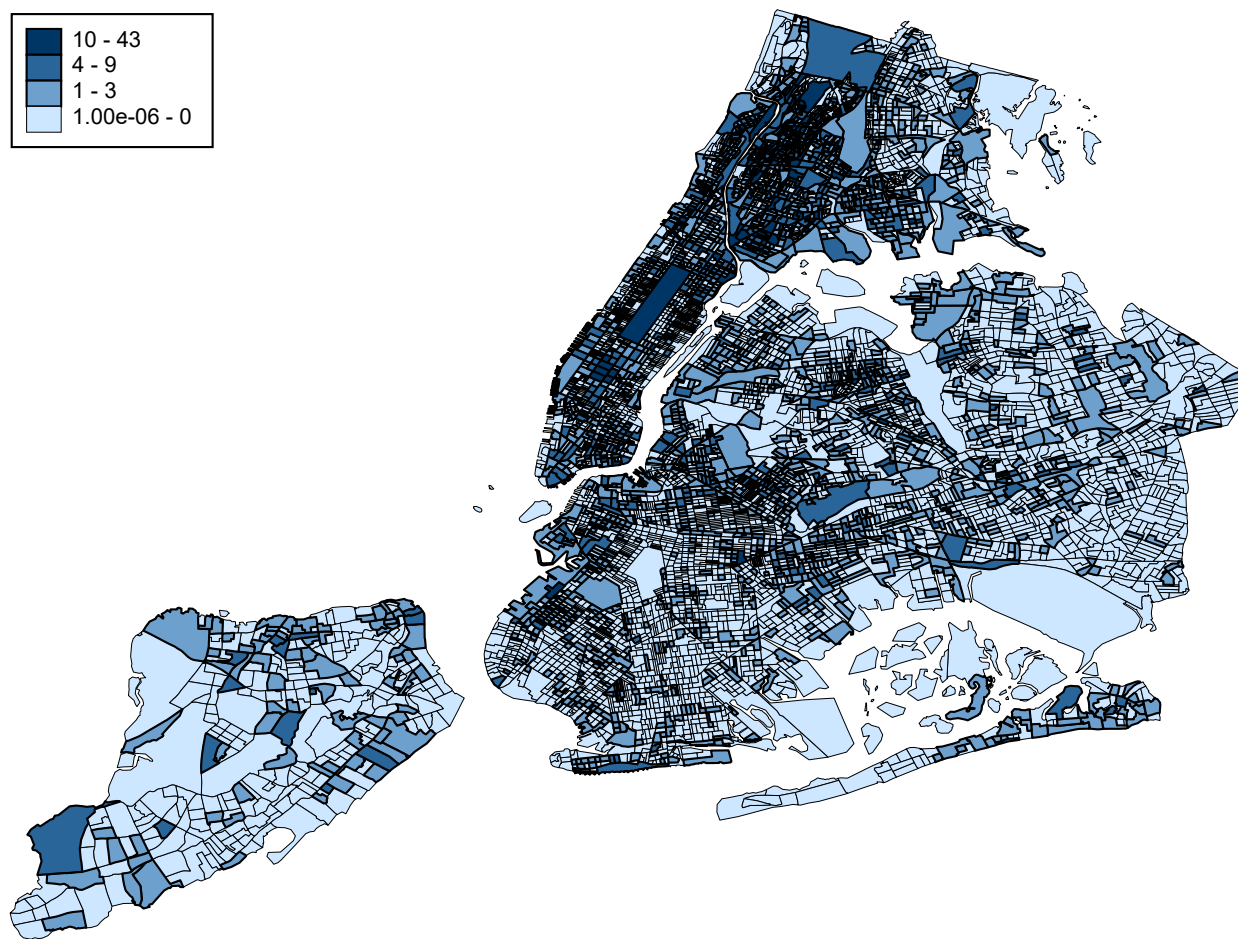
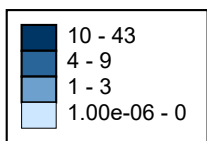
²³ A lower base rate and more clustering will make the overall correlation lower.

Figure 1: Spatial Concentration of Stops by Group 2021–2022



Source: NYC Open Data

Hispanic



Source: NYC Open Data

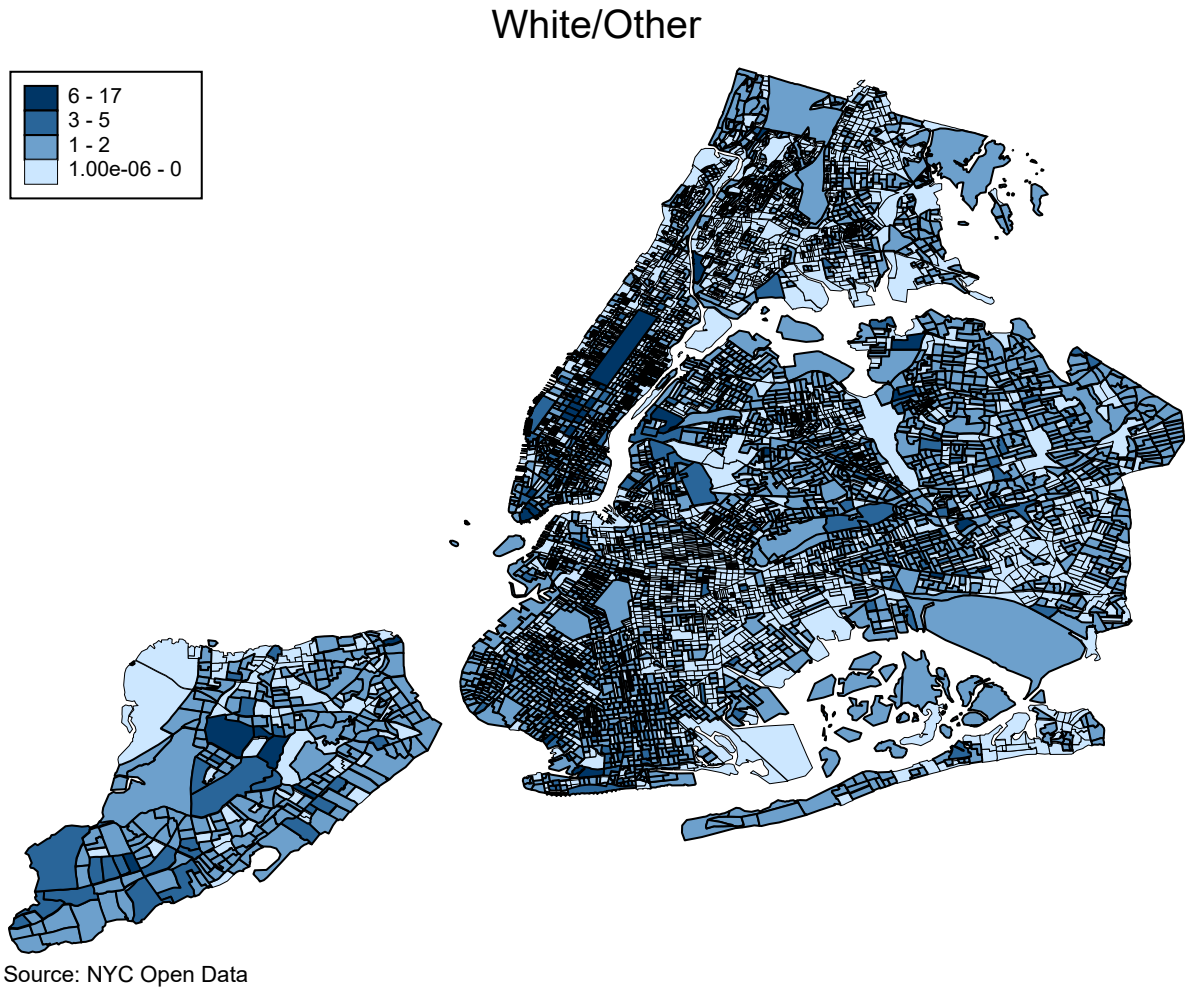


Table 4 examines the spatial concentration of stops, arrests, and crime victimizations by race/ethnicity using the Moran's I statistic.²⁴ The level of spatial concentration of stops is higher for Black and Hispanic individuals than white/other individuals, consistent with what is visually clear in Map 1. Stops of Black and Hispanic individuals are concentrated in certain geographic areas/neighborhoods. The spatial concentration of stops by race and ethnic group is also consistent with the spatial concentration of crime victimization by race and ethnic group.

²⁴Moran's I measures spatial autocorrelation, or how one census block is similar to the census blocks around it on a specific measure. Moran's I was calculated based on a power function of $-\text{distance}^2$ (kilometers) between focal census block group (i) and other block groups (j).

Table 4: Spatial Concentration of Stops, Arrests, and Crime

Measure	New York (n=6,291)
Black stops	.206**
Black arrests	.051**
Black crime victims	.136**
Hispanic stops	.221**
Hispanic arrests	.050**
Hispanic victims	.295**
Other stops	.102**
Other arrest	.035**
Other victims	.114**

Note: Larger numbers represent larger correlations.

These descriptive data clearly show that Black and Hispanic individuals are overrepresented in stops and arrests relative to their share of the population in census block groups. The spatial patterns also reflect that racial disparities in stops are not uniform across New York City and are concentrated. As shown in Sections V.A and V.B below, stops in certain neighborhoods and commands have a disproportionate impact on racial disparities.

IV. Estimating Racial Disparities by Area And in Post-Stop Outcomes

The analyses for this Report attempt to determine first, whether the differences in the rates of stops by race can be explained by the context of the stop—e.g., by crime in the area, poverty, location of the stop, and other variables; and second, whether there are disparities in post-stop actions (e.g., frisks, searches, arrests, and other outcomes) after comparing stops of different racial and ethnic groups stopped for the same reasons, in similar places, and at the same times of day. To conduct this analysis, stop, arrest, and crime incident data reported by NYPD for 2021 and 2022 were assigned to the census block group of their occurrence to assess racial disparities in stops by location. All data used come from open sources posted online. The U.S. Census Bureau’s American Community Survey’s (“ACS”) three-year estimates were taken from Social Explorer (www.socialexplorer.com). Census blocks groups were used because they provided the smallest

population breakdown and because ACS three-year estimates cover the majority of the New York City population. The percent of the residential population that was Black, Hispanic, or white/other races were categorized to measure the impact of race/ethnic demographics. To measure socioeconomic characteristics of census block groups, the percentage of families living below poverty line, the percentage of female headed households, the percentage of the population under age 18, the percentage of population 25 years of age or older with no college education, the median household income, and the percentage of buildings that are vacant, were used. A single standardized index (mean centered at zero) from these economic measures was created using principal components analysis. The single index was labeled concentrated disadvantage: higher scores reflect more poverty and lower socioeconomic status of census block group residents. Indicators for the borough (Bronx, Brooklyn, Manhattan, Queens, Staten Island) in which each census block group was located were also created. Monthly counts of reported stops, arrests, and crimes during the study period were then created for each census block group.²⁵ The final analytic database consisted of monthly counts of stops, crimes, reported victimizations by race, arrests by race, and demographic and characteristics for every census block group in NYC for years 2021 and 2022.

To assess the disparate impact of stop activity in specific places, the analysis focused on whether the stop rate (per census block group) is significantly higher for Black and Hispanic individuals, after statistically controlling for crime in the month before, the differences in concentrated disadvantage, the year, and whether the census block is located in the Bronx,

²⁵ Concentrated disadvantage is a factor that was included in the regression analyses considered by the court (see Fagan, 2010, 2012a, b) as well as the analyses in the Monitor's Fifth and Thirteenth Reports. These models include concentrated disadvantage as a method to include non-race influences that are correlated with race and crime, with the goal of identifying racial disparities in stop rates while simultaneously controlling for factors that may be related to racial demographics of neighborhoods. Studies show that crime and police arrest rates are strongly associated with concentrated disadvantage, and this is a common index included in racial disparities studies of police behavior (see Fagan et al., 2016; Fagan, 2021; Neil & MacDonald, 2023).

Brooklyn, Manhattan, Queens, or Staten Island. The distribution of monthly stops by census blocks were skewed to the right,²⁶ so stop rate disparities were estimated using Poisson regression with robust standard errors clustered by block group.²⁷ For each model, estimated crimes the month before and concentrated disadvantage are measured by 20 quantiles (5th to 95th percentiles).²⁸

To examine racial and ethnic disparities in stop outcomes (frisks, searches, summonses, arrests, and uses of force) and hit rates (recovery of contraband and weapons) and how they change over time, the analysis estimated multivariate logistic regression models, which adjusted for average differences in the stop contexts involving Black, Hispanic, and white/other civilians. Specifically, the analysis compared racial differences in rates of frisks, searches, summonses, arrests, uses of force, and the finding of contraband and weapons, after statistically controlling for stop context (e.g., major crime suspected; day of the week, patrol shift, housing, transit, or other location; gender of person stopped; age of person stopped; whether the stop was based on a radio run or self-initiated; and precinct location) and weighting stops of white/other persons to be similar on stop context to Black or Hispanic persons. This comparison is reported as a “doubly robust” estimator (“DR”) and helps address the potential concerns that factors that are correlated with race, such as the suspected crime and precinct location, are not adequately adjusted for in a regression

²⁶ “Skewed to the right” means the data are not evenly distributed around the mean. In other words, the graph shows a long right tail.

²⁷ Berk, R., & MacDonald, J. M. (2008). Overdispersion and Poisson regression. *Journal of Quantitative Criminology*, 24, 269–284. By utilizing robust standard errors by block group, the Poisson model becomes a quasi-Poisson specification that does not require the conditional variance to equal the conditional mean. Wooldridge, J. M. (1999). Quasi-likelihood methods for count data. *Handbook of applied econometrics volume 2: Microeconomics*, 321-368.

²⁸ The lowest quantile (0-5th percentile) is omitted to be the reference group. We use 20 quantiles to allow a flexible functional form of the crime and disadvantage – stop relationship. The Poisson are estimated as piecewise (segmented) regressions with these variables.

model alone.²⁹ Conclusions about the existence of racial disparities in stop outcome measures were determined by statistically-significant DR comparisons ($p < .01$).

The analysis also used body-worn camera (“BWC”) audits by the Monitor team to assess and estimate the impact that undocumented stops may have on 2021 and 2022 estimates of stop outcomes. The Monitor team’s BWC audits estimated undocumented stops at 31.4% from an audit of 2022. For this report, the rate of 31.4% of undocumented stops is applied to years 2021 and 2022 to assess how missing stop reports may impact estimates for post-stop disparities.

V. Analytic Results

A. *Racial Disparities by Neighborhood Census Block Group*

Table 5 shows results from the model predicting the stop rate for Black, Hispanic, and white/other persons per census block group. The table shows both the estimates and the average rate of stops per census block group before and after including measures of crime and concentrated disadvantage. The first column shows the average rate of stops per group, controlling for the year (whether 2021 or 2022). The second column shows the average rate of stops per group, controlling for the borough in which the stop occurred and the year (whether 2021 or 2022). The third column shows the rates of stops after controlling for the borough and year, as well as concentrated disadvantage and number of criminal offenses in the month before the stops. The fourth column controls for the borough, year, concentrated disadvantage, and the number of victims of the same race or ethnic group in the month before the stops. The results show that rate of stops of Black and Hispanic individuals is 26 and 24 percent lower after considering the level of concentrated disadvantage and crime (column 3), or 29 and 22 percent lower after controlling for the same race/ethnicity of victims reported in each census block group (column 4). The stop rate of

²⁹ Morgan, S. L., & Winship, C. (2015). *Counterfactuals and causal inference*. Cambridge University Press. The doubly robust methodology was also used in the Monitor’s Fifth and Thirteenth Reports.

white/other individuals is approximately 2.5 percent lower considering the level of concentrated disadvantage and crime or 14 percent lower after controlling for the same race victims of crime. For all groups, the rate of stops is substantially higher in areas with a higher number of criminal offenses or victims of the same race or ethnicity.

Table 5: Rate of Stops for Black, Hispanic, and White/Other Groups, 2021-2022

	(1) Black	(2) Black	(3) Black	(4) Black
Average rate	0.106	0.0966	0.0783	0.0756
Observations	138,361	138,361	114,778	114,778
	Hispanic	Hispanic	Hispanic	Hispanic
Average rate	0.0501	0.0431	0.0381	0.0384
Observations	138,361	138,361	114,778	114,778
	White/Other	White/Other	White/Other	White/Other
Average rate	0.0203	0.0194	0.0198	0.0175
Observations	138,361	138,361	114,778	114,778
Year effects	Yes	Yes	Yes	Yes
Borough effects	No	Yes	Yes	Yes
Disadvantage*	No	No	Yes	Yes
Crime offenses*	No	No	Yes	No
Race of victims*	No	No	No	Yes

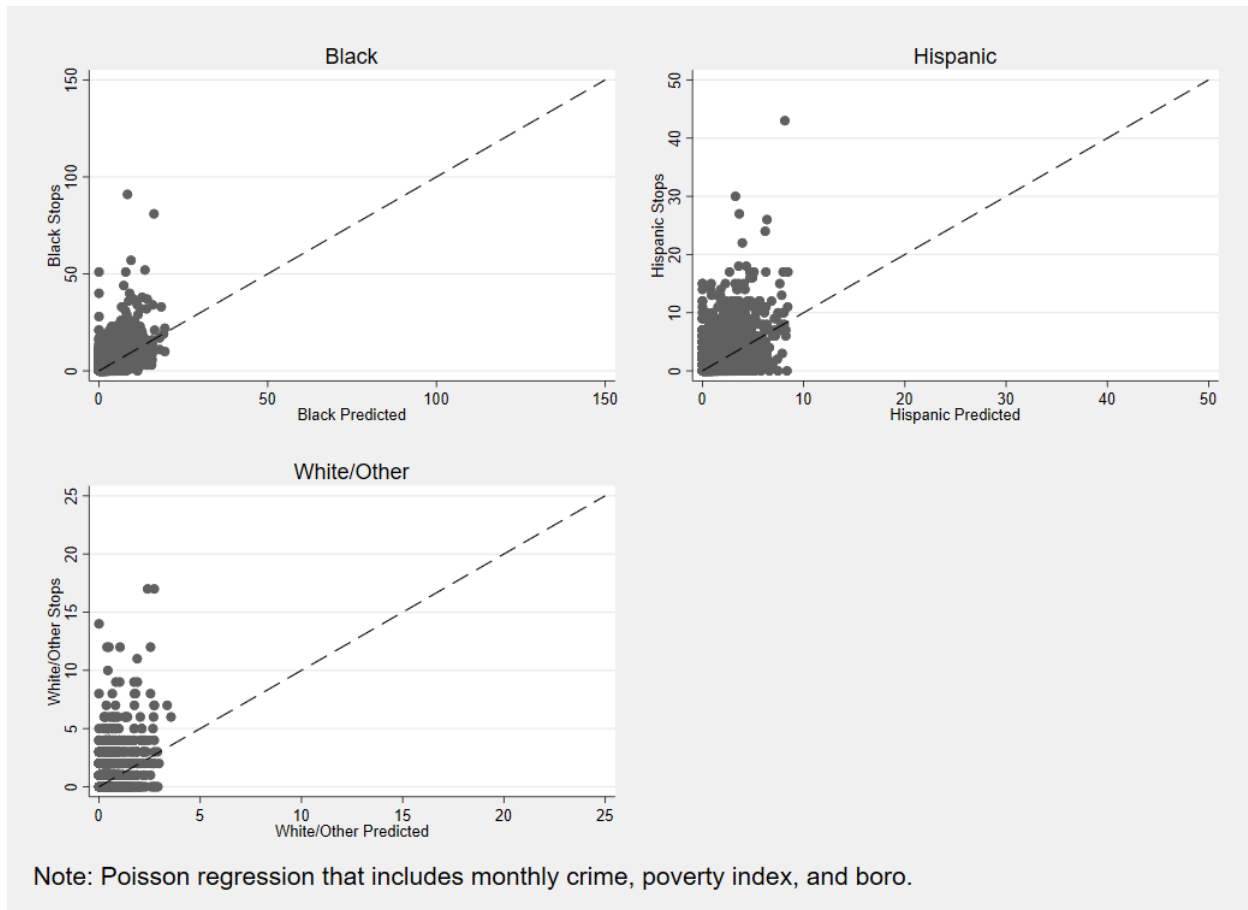
*Measured with 20 quantiles (5th to 95th). Observations are equal to number of block groups x 24 months.

These results suggest that only 14–29% of variation in stops rates by racial group can be accounted for by level of crime, victimization of same race or ethnic group, and concentrated disadvantage in census block groups where stops occur. The majority of the difference between groups is not a result of the average difference between places as measured by crime, victimization, and poverty. This suggests that the model for explaining the variation in stop rates is not particularly good at predicting stop rates, likely the result of the relatively low stop numbers per month in any given area.

Figure 2 shows the differences between the predicted stops from the regression model (number of stops expected, given the level of crime and other factors) compared to the actual stop rate for each group over years 2021 and 2022. If the model perfectly predicted the actual stop rate,

points on the scatter plot would tightly cluster along the 45-degree angle. Instead, the scatter plot shows many points above the line, suggesting that most areas have more stops than would be predicted.³⁰

Figure 2: Predicted vs. Actual Stop Rate



In Figure 2, the greater stops than predicted can be seen along the y-axis. There are four census block groups that have 50 or more stops of Black persons, where the block groups would be predicted to have less than 10 stops. There are six places where there are more than 20 stops of Hispanic persons, where the block groups would be predicted to have less than 10 stops. The same

³⁰ All models estimated distribution of predicted stops rates that closely resembles the actual stop rate distribution, suggesting that the source of difference is driven by some areas having far fewer stops or more stops than predicted.

pattern is also true for stops of white/other persons, though an outlier would be any block group having more than 10 stops, since most block groups are predicted to have between zero and three stops of white/other persons because there are so few stops of white/other individuals.

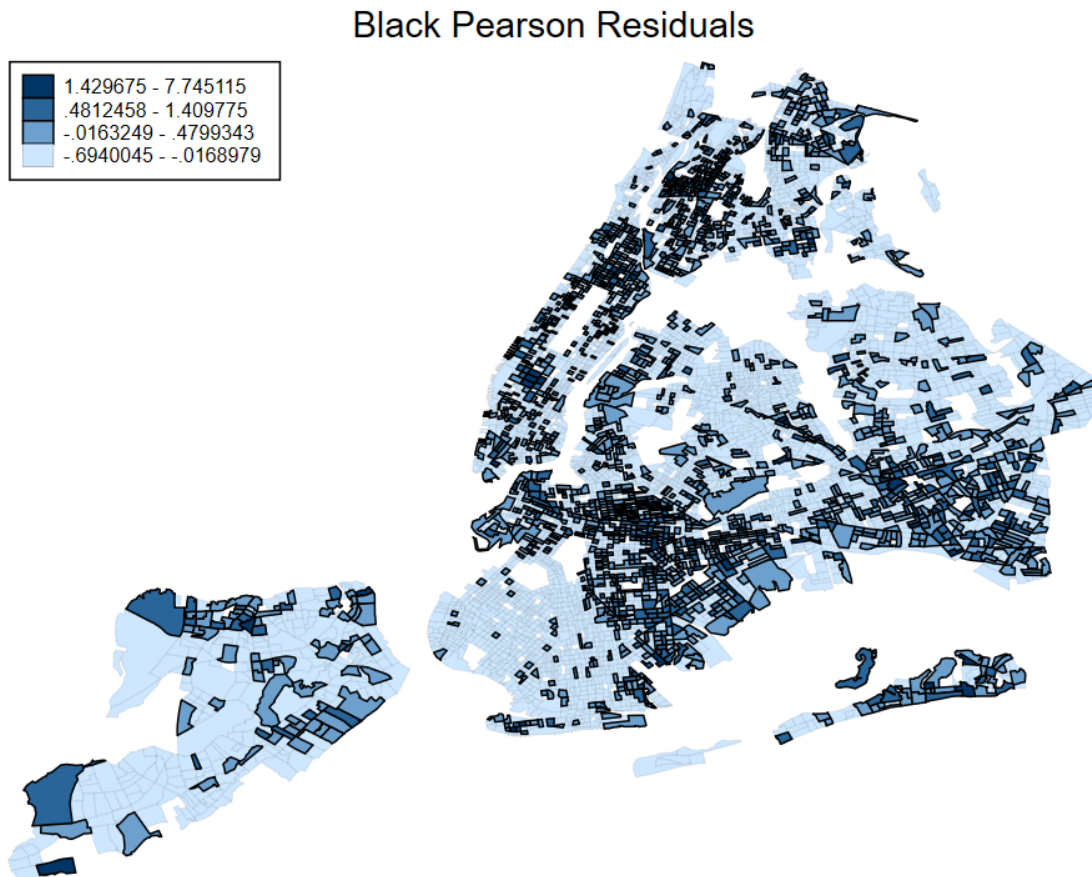
The greater number of actual stops than predicted stops does not mean that the stops rates are unjustified. It means that the stop rates in these areas cannot be predicted based on crime reported, victimization, or concentrated disadvantage. The primary utility of this type of descriptive analysis is to examine the factors that might account for stops that exceed what is to be predicted from a model.

Pearson residuals were used to examine the size of the difference between actual stops compared to predicted stops.³¹ Figure 3 provides a visualization of where the average number of stops per month for Black, Hispanic, and other groups exceeds what is predicted. Higher numbers and darker colors on the map indicate a greater monthly stop rate than can be accounted for by the prior months crime rate, the borough, the year, and the level of concentrated disadvantage in census block groups. The maps demonstrate some clustering in where actual stops exceed predicted stops, but the small block group scale makes it hard to visually highlight specific outliers.³²

³¹ Pearson residuals account for the fact that the variation in predicted stops is greater than the average of the predicted stops in the Poisson model.

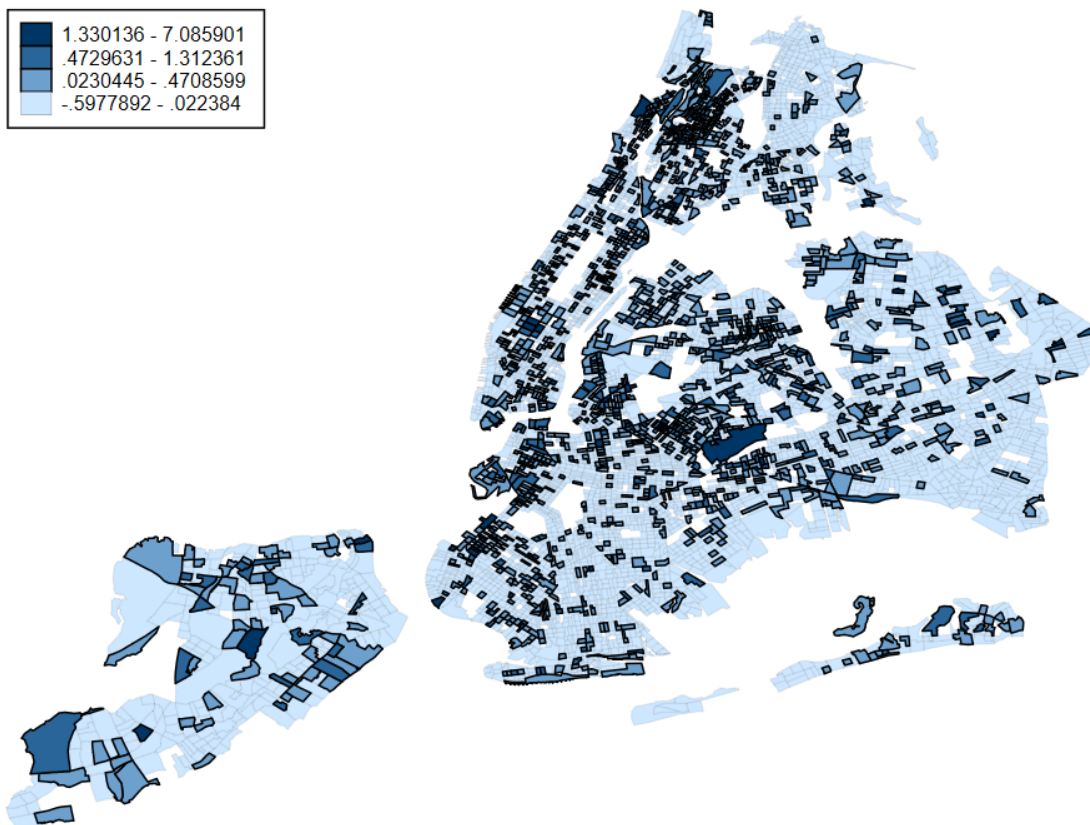
³² Moran's I statistic show that that there is a modest amount of spatial concentration in excess stops than predicted for Black (0.124; $p < .001$), Hispanic (0.080; $p < .001$), and Other (0.061; $p < .001$) groups.

Figure 3: Spatial Concentration of Residual Stops (Stops-Predicted) by Group 2021-2022



Source: NYC Open Data

Hispanic Pearson Residuals



Source: NYC Open Data

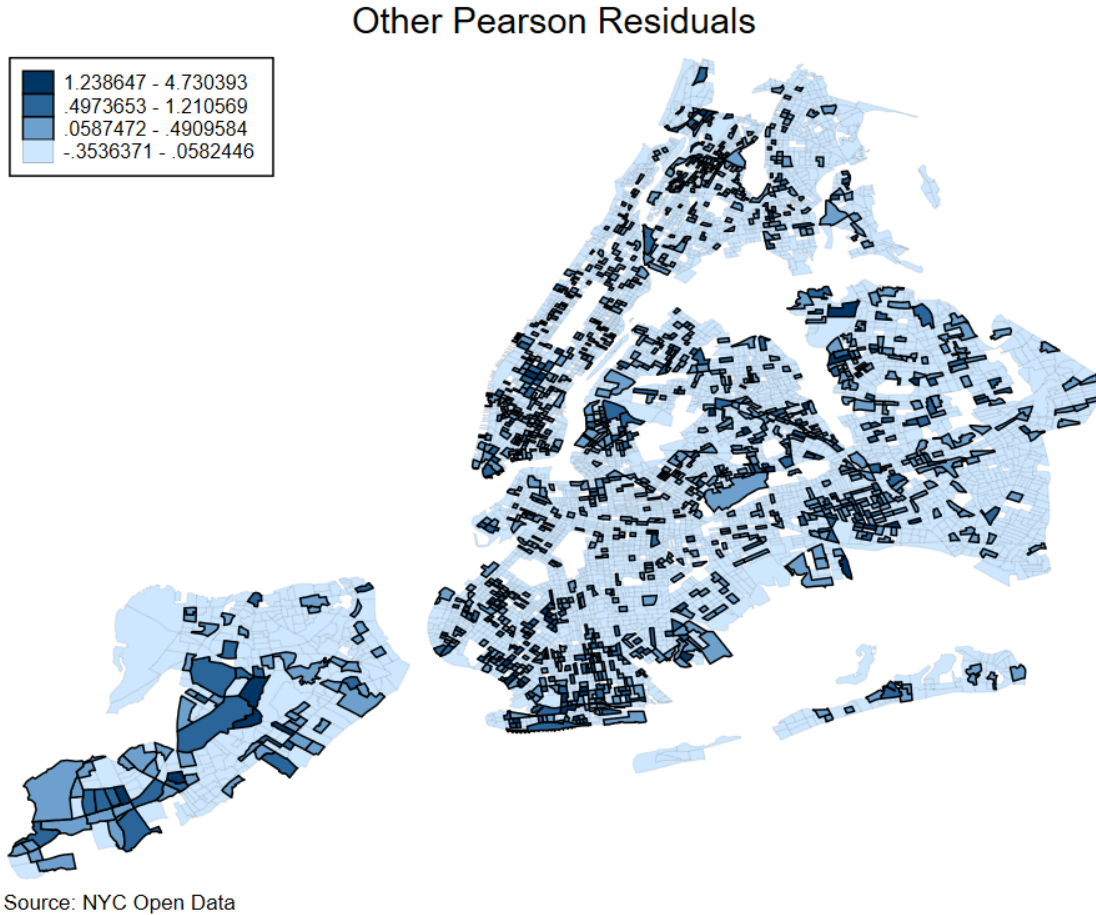
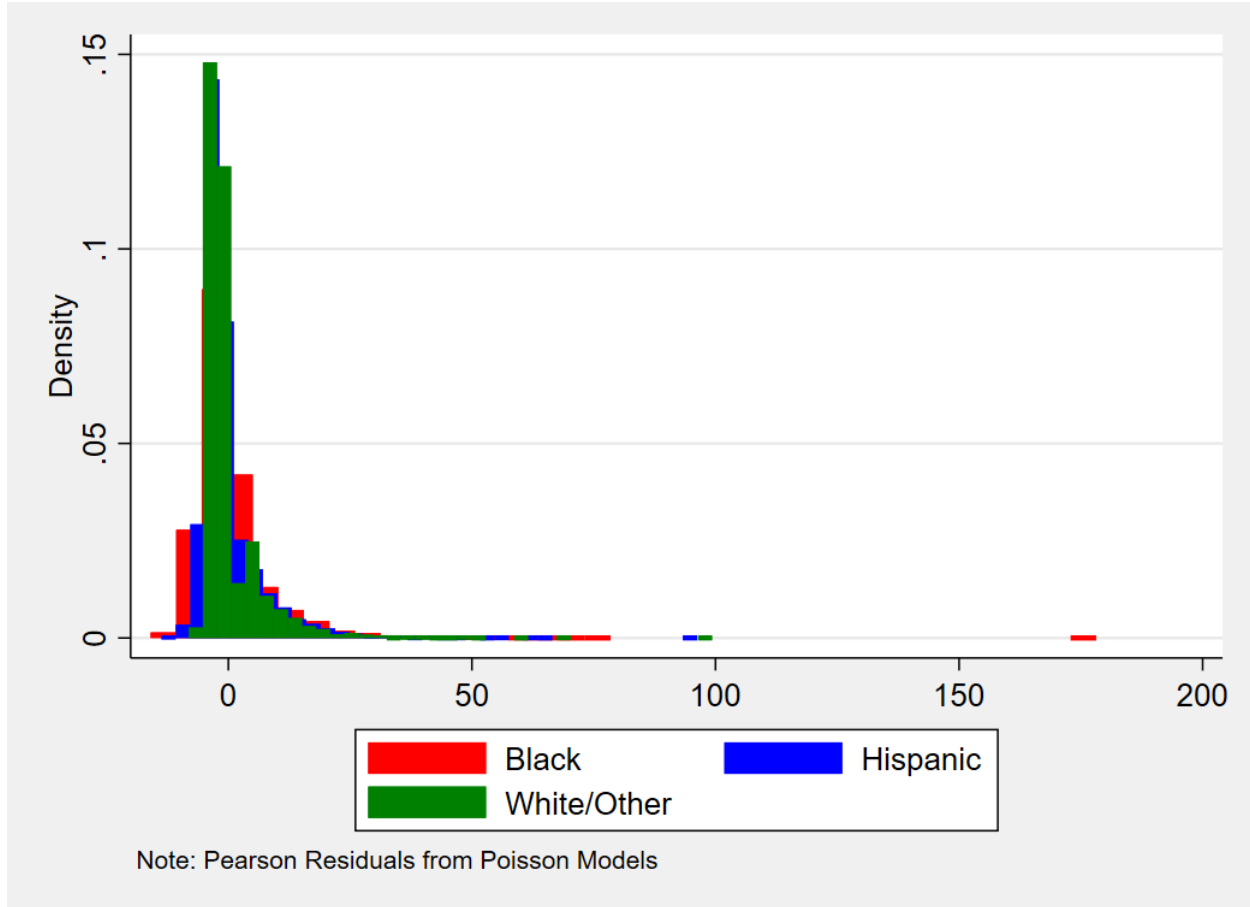


Figure 4 shows the Pearson residuals and indicates the places with fewer (less than zero) or greater (more than zero) number of stops than predicted. The largest values, showing more stops than predicted, are clearly for Black and Hispanic stop rates.³³

³³ Values greater than zero mean that there are more stops than were predicted from the model. Values less than zero mean that there were fewer stops than predicted from the model.

Figure 4: Fit of Models



Outliers were identified based on the top ten census block groups with the greatest number of stops relative to predicted stops for each racial group. For stops of Black individuals, there are ten places located in Brooklyn (n=2), Manhattan (n=4), and Queens (n=4).³⁴ The two locations in Brooklyn correspond to block groups 0342003 and 0906002. These two block groups have relatively high poverty and more than 58% of the residential population is Black; the model predicted that 9 to 16 stops of Black residents would occur, whereas they actually had 40 to 80 stops. In Manhattan, the four outliers all have relatively low levels of poverty (block groups 101001, 113001, 0021002, and 0084002) and had more than 40 stops but were predicted to have

³⁴ See *infra* Appendix A.

fewer than 10 stops. Two locations in Manhattan have a relatively low percentage of Black residents (less than 10%), whereas one location has a Black population that is 45.5% of residents. In Queens, four outliers all have average levels of poverty (block groups 717012, 008011, 190001, and 184022) and had 9 to 17 stops but were predicted to have fewer than 2 stops. One location has a Black population that is lower (11.6%) than the average for Queens (18.3%); whereas the other three locations have a Black population that is substantially higher (45%) than the borough average.

For stops of Hispanic individuals, the top ten outliers are in Bronx (n=2), Brooklyn (n=2), Manhattan (n=2), and Queens (n=4). The outliers in the Bronx (227013, 04002) had 17 stops and 43 stops of Hispanic persons, respectively, but the model predicted fewer than 3 stops in the first block group and 8 stops in the second block group. In Brooklyn, the outliers (264004, 445002) had 7 to 10 stops of Hispanic persons but were predicted to have less than two stops. In Manhattan, the outliers (0109001, 0084002) had more than 25 stops of Hispanic persons but were predicted to have fewer than 5. In Queens, the outliers (0273005, 0399001, 0693001, 0469001) all had more than 10 stops but were predicted to have fewer than 2. Five of the ten outliers have Hispanic populations that are higher than 65%, whereas four have Hispanic populations that are lower than 20%.

For stops of white/other individuals, the top ten outliers are in Brooklyn (n=2), Bronx (n=2), Manhattan (n=1), and Queens (n=5). There is no clear pattern between poverty and demographics of these locations, though six of the locations have residents where more than 40% of the population is a race or ethnic group other than Black and Hispanic.

Another way to assess what drives stop outliers by race and ethnic group is to examine how monthly stop and arrest rates correspond to the level of reported crime in each census block group.

Figure 5 shows how the monthly stop rates and arrest rates predicted for each block group vary by the level of reported crime. The figure shows that stop and arrest rate disparities between groups grow as the level of reported crime increases. Total crime reported is ranked based on 20 quantiles representing the lowest 5th (1) to the top 95th percentile (20).

Figure 5: Stop and Arrest Rates by Level of Crime 2021–22

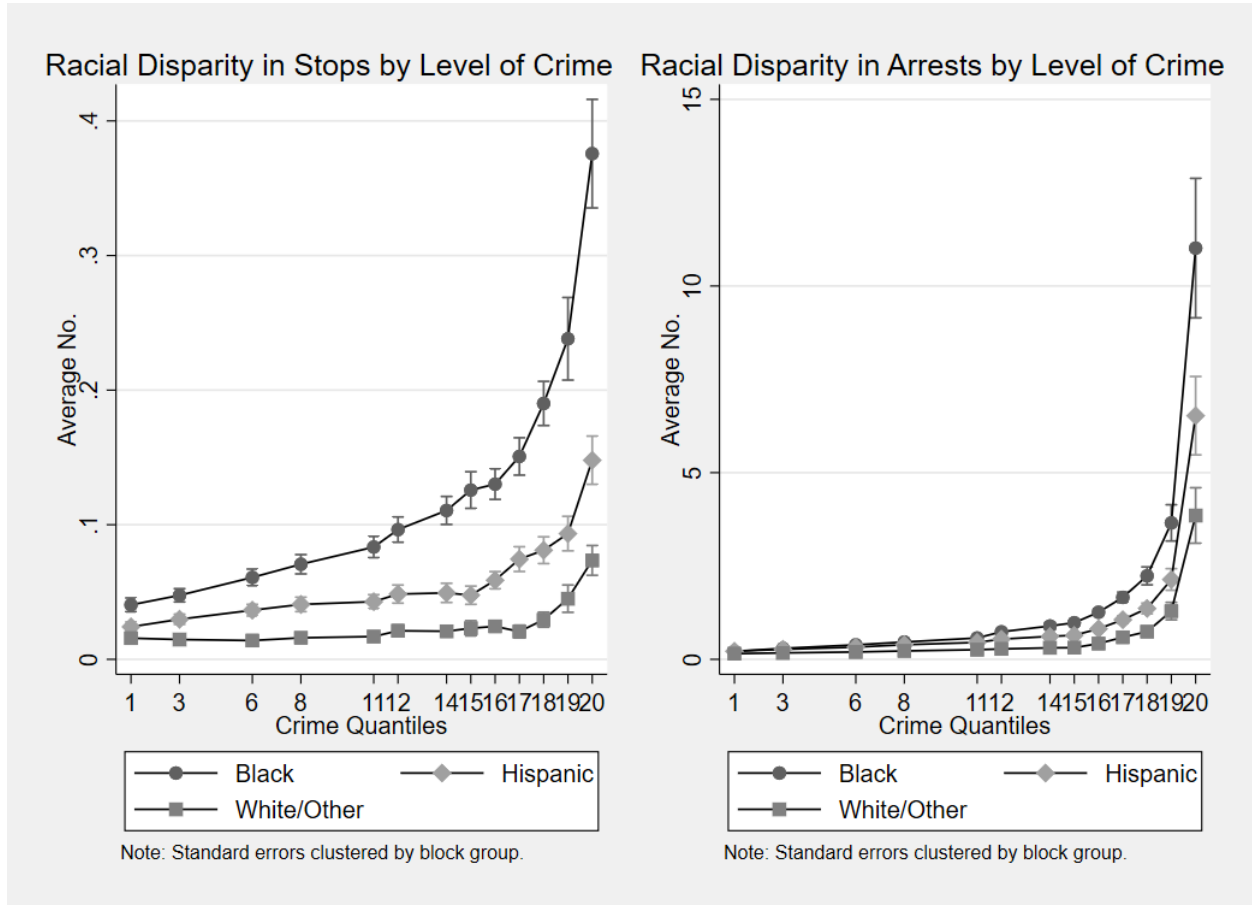


Table 6 shows the predicted stop rate for each group by level of reported monthly crime in census block groups, holding other variables constant.

Table 6: Stop Rate by Race at Different Levels of Reported Crime

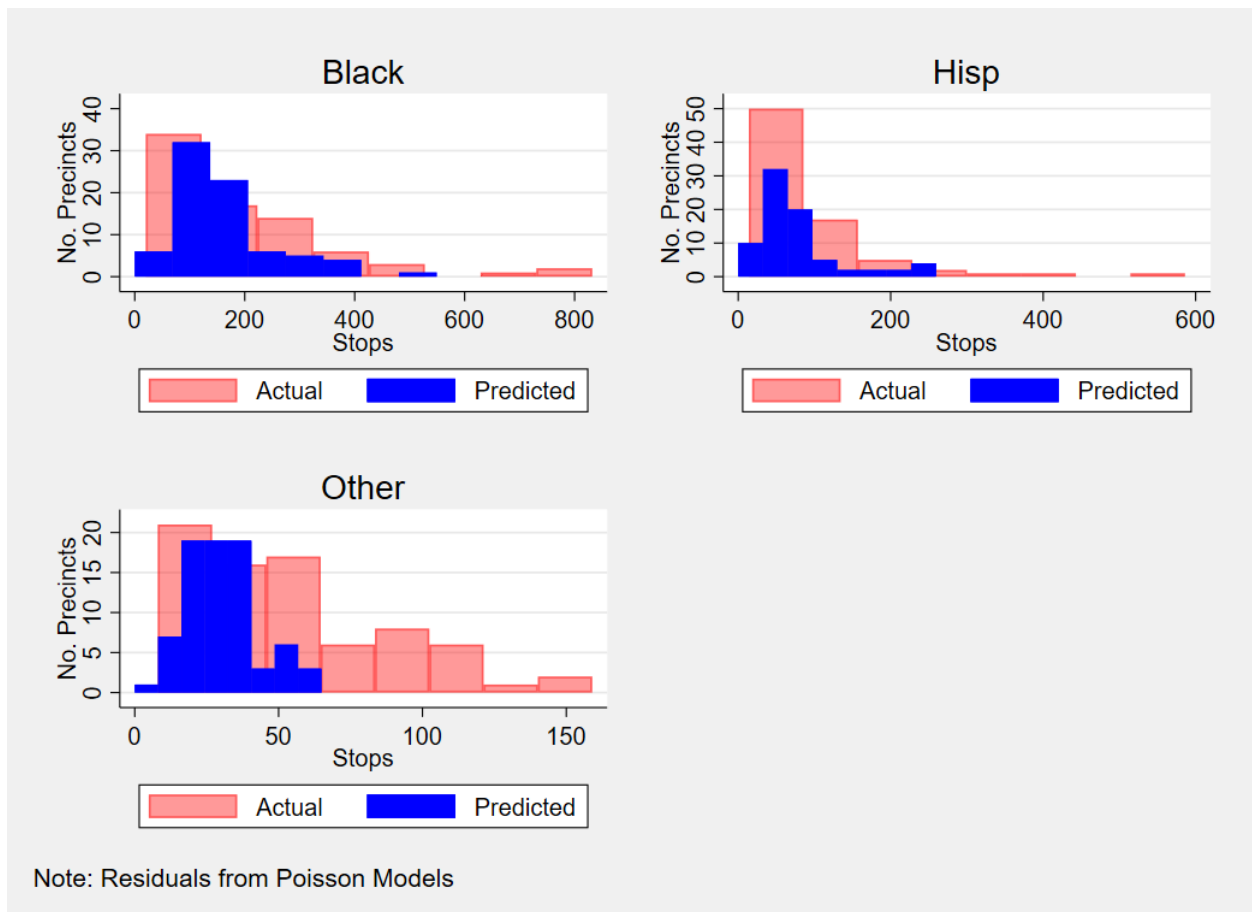
Crime Quantile	Black Rate	Hispanic Rate	White/Other Rate
1	0.040	0.024	0.016
3	0.048	0.030	0.015
6	0.061	0.037	0.014
8	0.071	0.041	0.016
11	0.083	0.043	0.017
12	0.096	0.048	0.021
14	0.111	0.049	0.021
15	0.126	0.048	0.023
16	0.130	0.059	0.025
17	0.151	0.074	0.021
18	0.190	0.081	0.029
19	0.238	0.093	0.045
20	0.376	0.148	0.073
Overall	0.106	0.050	0.024
Bottom 80	0.085	0.042	0.018

The bottom of Table 6 calculates the rate in the 0–80th percentile of reported crime in census blocks and provides a sense of how much the top 20% of census blocks with reported crime contribute to disparities in stops rates. If stop rates were on average the level of the bottom 80 percent of neighborhoods with reported crime in NYC, the stop rates for Black people, Hispanic people, and white/other individuals would be 0.085, 0.042, and 0.018, respectively. This compares to the much higher overall citywide stop rates of Black individuals, Hispanic individuals, and white/other individuals of 0.106, 0.05, and 0.024. This suggests that the difference in stop rate disparities between Black individuals and white/other individuals would shrink by nearly 19.8% if the stop rates in the top 20% of neighborhoods with reported crime in the City looked like the stop rates for the other 80% of the City. For the Hispanic to white/other stop rates, the disparity would shrink by 16% if the stop rates in the top 20% looked like the stop rates in the bottom 80% of the City.

B. Stop Disparities by Command

Differences between predicted and actual number of stops per command offer a final assessment of the disparities by area. Figure 6 shows the actual stops compared to predicted stops for each command. The y-axis shows the number of precincts (out of 77 total), and the x-axis shows the predicted stops compared to the actual number of stops. The outlier precincts in terms of having higher stops than would be predicted based on crime, concentrated disadvantage, borough, and year are primarily driving the disparity in Black and Hispanic stop rates.³⁵

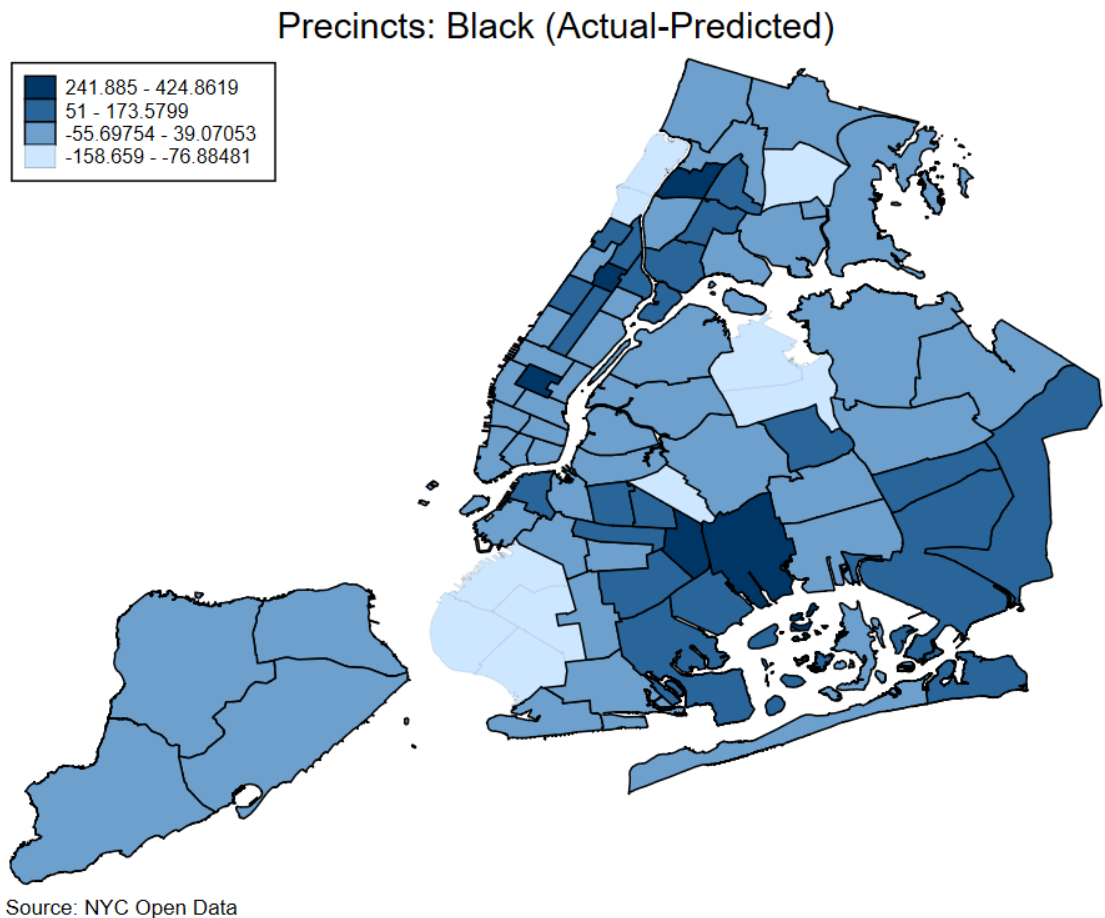
Figure 6: Actual vs. Predicted by Command



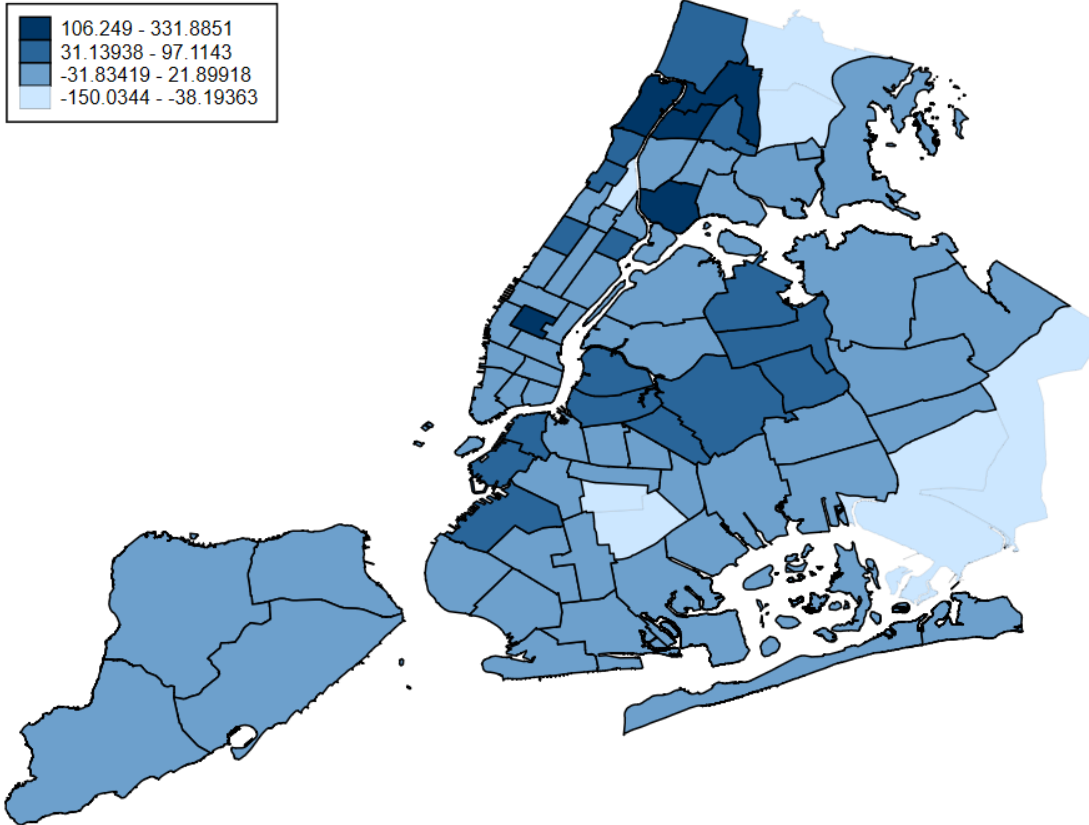
³⁵ There are no outlier precincts that are principally responsible for the difference in stop rates for other racial groups (white and Asian), as all precincts have more stops than would be predicted.

Figure 7 shows the locations of the precincts based on the difference between actual and predicted stops. Higher numbers indicate more stops occurred than would be predicted. The top five commands for stopping Black individuals that exceed predicted numbers of stops are Precincts 46, 73, 75, 14, and 28. The top five commands for Hispanic individuals stopped that exceed predicted number of stops are Precincts 46, 40, 83, 52 and 14. The top five commands for white/other individuals stopped that exceed the number of stops predicted are Precincts 109, 62, 61, 106, and 112. Appendix B lists the boroughs for the outlier precincts by race.

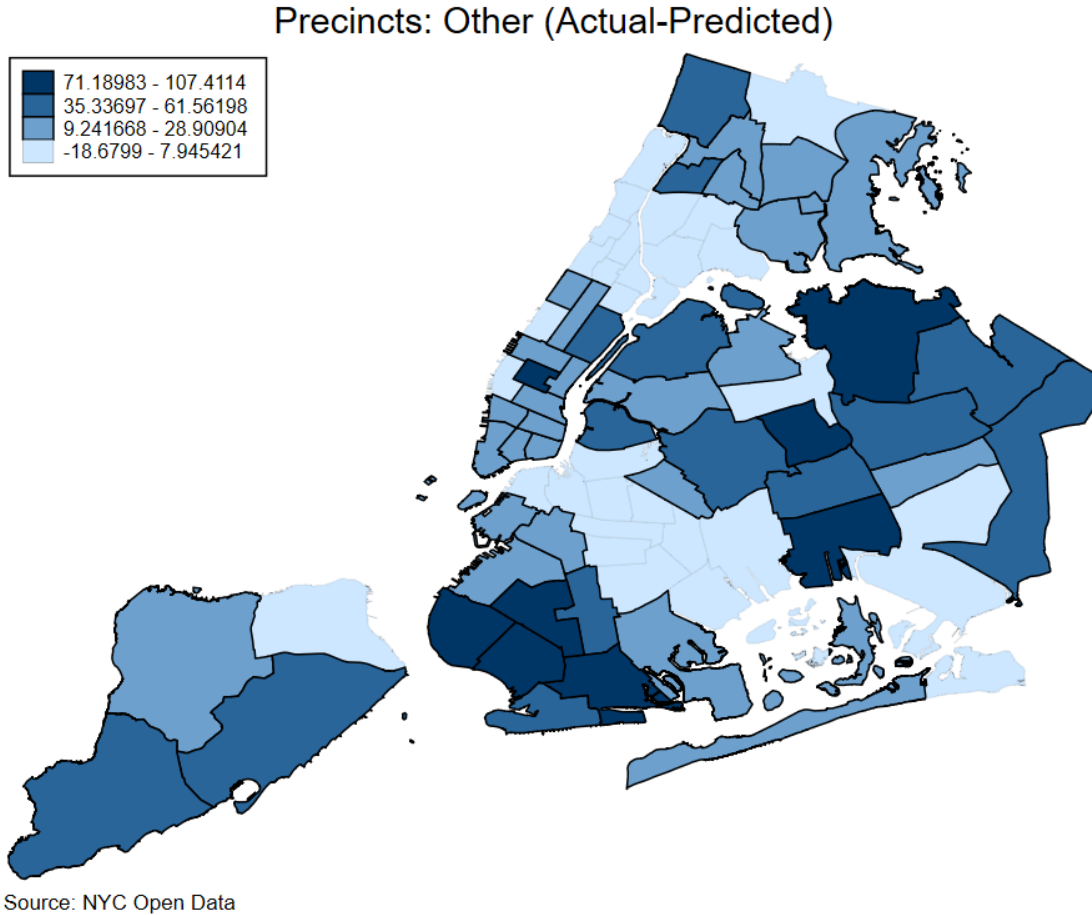
Figure 7. Difference in Actual vs. Predicted Stops by Command, 2021-2022



Precincts: Hispanic (Actual-Predicted)



Source: NYC Open Data



C. Post-Stop Outcome Tests

This section analyzes the outcomes from stops as a method for assessing whether individuals stopped under similar context receive similar outcomes. These analyses are based on individual stops that occurred between 2013 and 2022, excluding 2020. All the analyses below use the “doubly robust” analysis described in Section IV, comparing stops of Black and Hispanic individuals, respectively, with similarly situated stops of whites/others.

1. Frisk Disparities

The pattern of frisk disparities after adjusting for similarly-situated stops context is shown graphically in Figures 8a and 8b for Black individuals and Hispanic individuals, respectively. The frisk rates for Black individuals compared to the frisk rates of white/other individuals (Figure 8a)

are no longer substantively different, as the 95% confidence intervals overlap, and the frisk rates reflect an average absolute difference of less than 1% to 3.7% between groups. The two exceptions are 2013 and 2021. In 2021, the frisk rate difference is 6.5% (62.5% Black vs 56% white/other).

Figure 8a: Frisk Rates Over Time

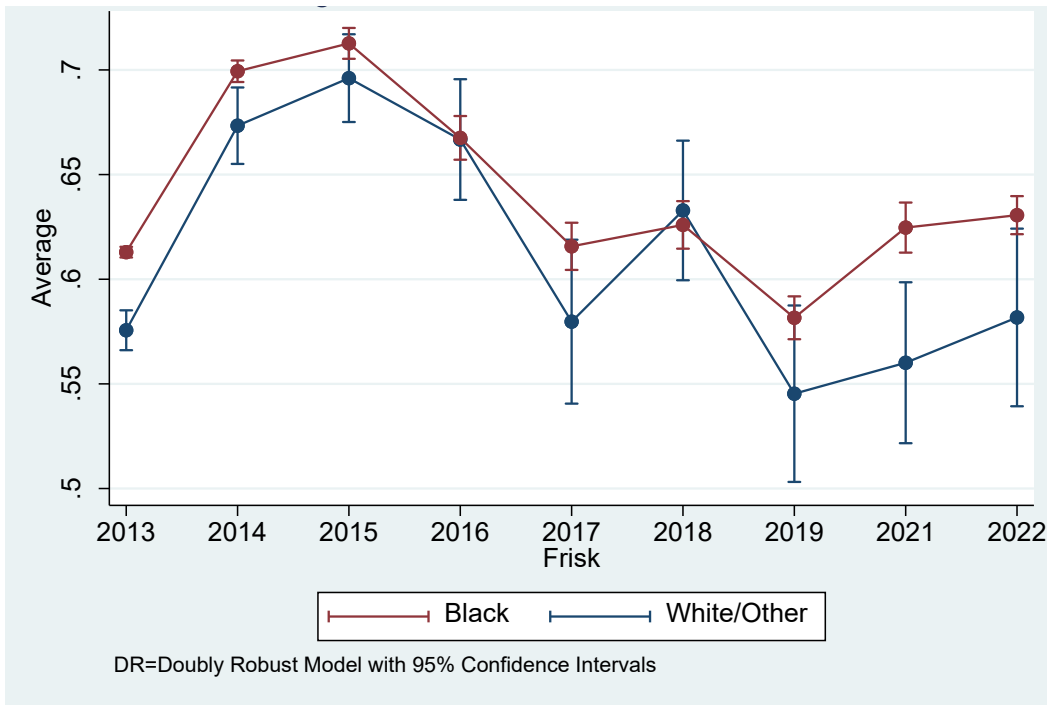
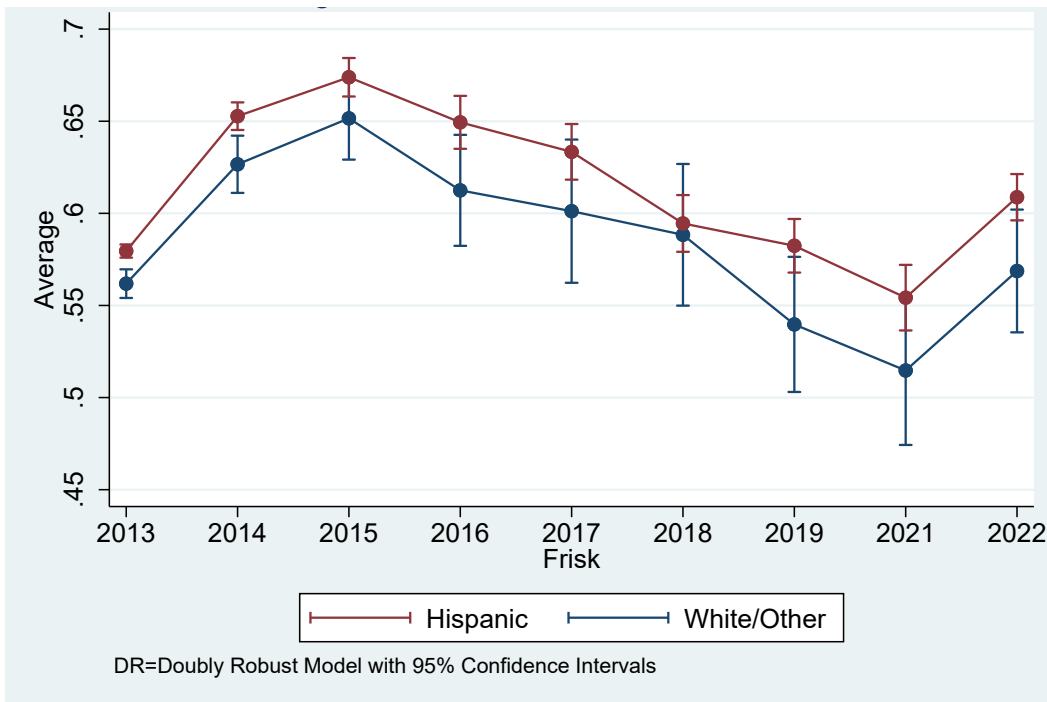


Figure 8b shows the frisk rates from the DR estimates with their 95% confidence intervals between Hispanic individuals and white/other individuals. The disparities that existed from 2013 to 2014 shrink over time, even as the overall frisk rates increase in 2015 and subsequently decline through 2021 before rising again in 2022. The overlapping confidence intervals indicate that when differences exist, the differences could be due to chance 5 times out of 100.

Figure 8b: Frisk Rates Over Time



2. Search Disparities

Figures 9a and 9b show the estimates from the DR model for search rates of Black and Hispanic individuals compared to the search rates of white/other individuals over time. Figure 9a shows that the search rates for Black persons and whites/other persons are for the most part comparable and rising between 2013 and 2022, with searches occurring in roughly 10% of stops in 2013 to over 40% in 2021 and 2022. The overlapping confidence intervals means the differences could be due to chance 5 times out of 100.

Figure 9a: Search Rates Over Time

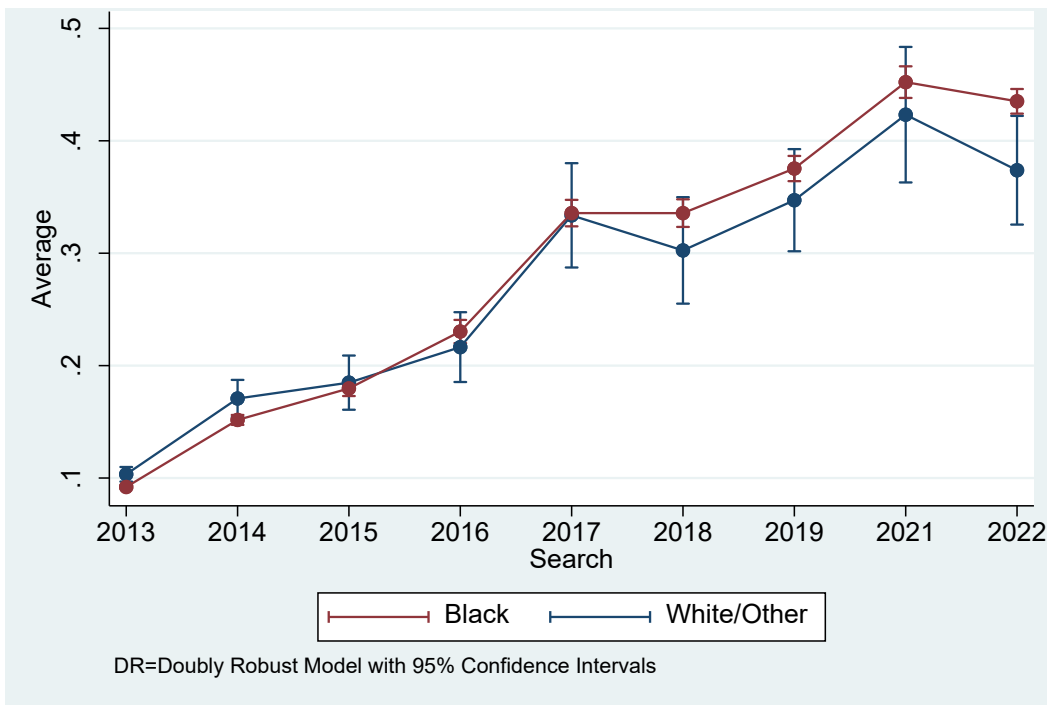
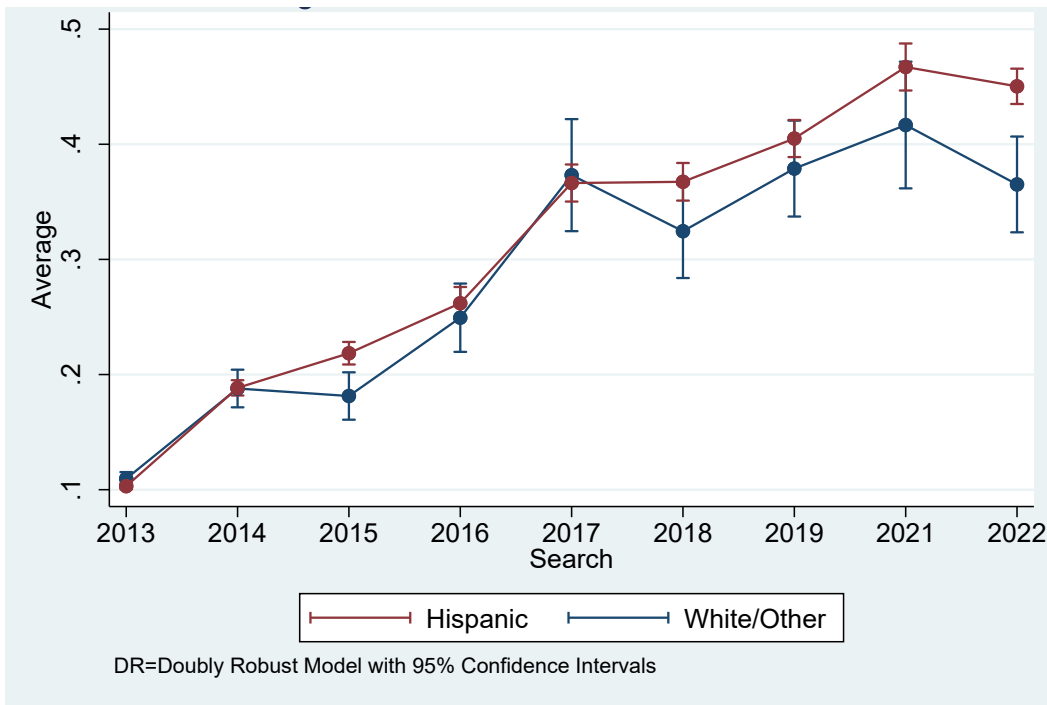


Figure 9b shows the search rates for Hispanic individuals stopped compared to searches for white/other individuals stopped over time taken from the DR estimates. The search rates are, for the most part, comparable between Hispanic individuals and white/other individuals and rising between 2013 and 2019, from 10% of stops in 2013 to 39% in 2019. A significant difference emerges in 2022 for Hispanic individuals (45%) relative to white/other individuals (36.5%).

Figure 9b: Search Rates Over Time



3. Summons Disparities

Figures 10a and 10b show the visualization of the year-to-year differences in summons rates between Black and Hispanic individuals compared to white/other individuals stopped under similar contexts. The results show that 2019 is the only year in which the summons rate was significantly higher for Black individuals compared to white/other individuals stopped in the same context.

Figure 10a: Summons Rates Over Time

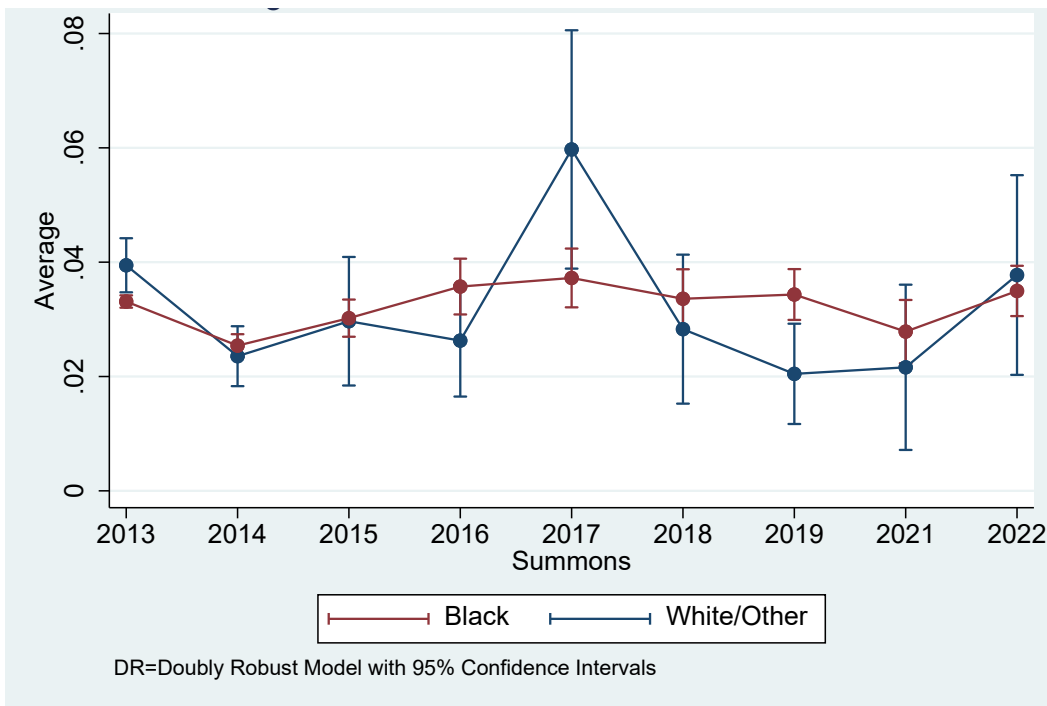
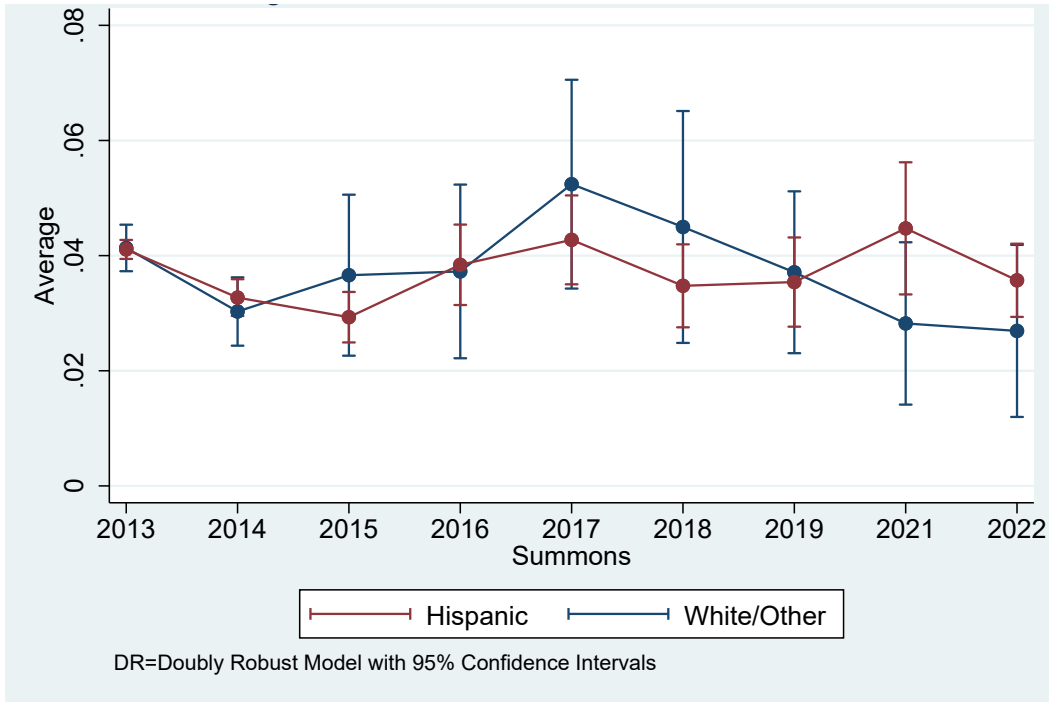


Figure 10b shows that summons rates between Hispanic and white/other individuals stopped in similar contexts are statistically indistinguishable from each other over time.

Figure 10b: Summons Rates Over Time



4. Arrest Disparities

Figures 11a and 11b show the year-to-year arrest rates of Black and Hispanic individuals compared to the arrest rates of white/other individuals stopped under similar contexts. As shown in Figure 11a, for Black individuals, 2018 is the only year with an arrest rate that is significantly higher than the arrest rate of white/other individuals.

Figure 11a: Arrest Rates Over Time

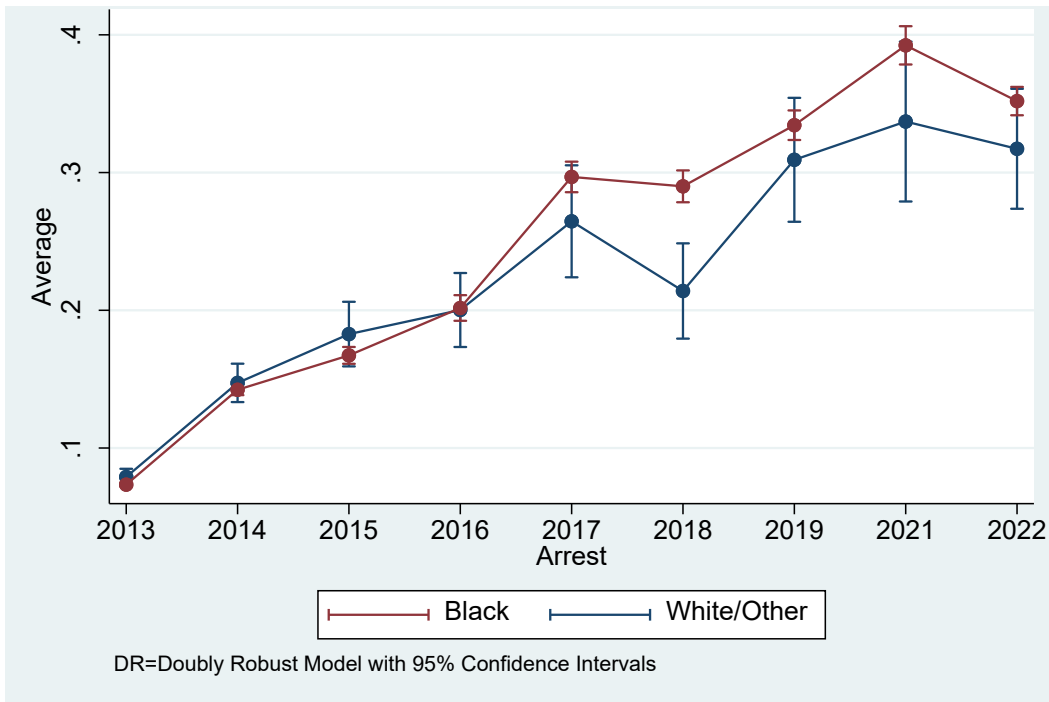
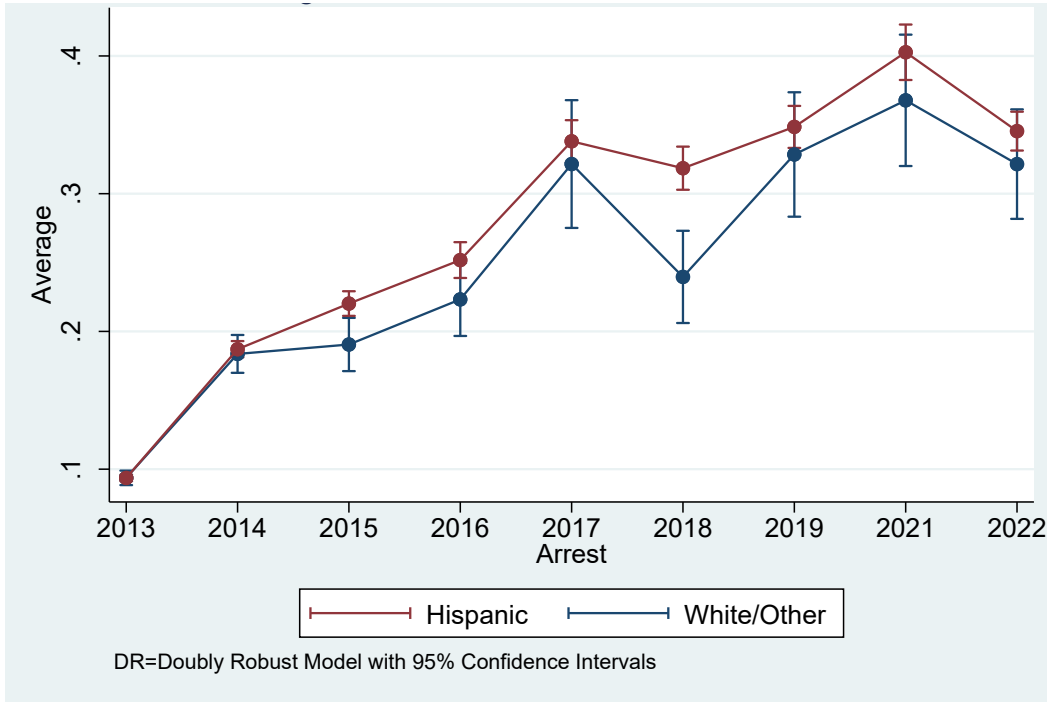


Figure 11b shows the arrest rates between Hispanic individuals and white/other individuals stopped in similar contexts. In general, arrest rates rise over time and the only significant but large disparity occurs in 2018 with a higher rate of arrest for Hispanic individuals than for white/other individuals. By 2021 and 2022, the disparity in arrests is no longer significantly different.

Figure 11b: Arrest Rates Over Time



5. Use of Force Disparities

Figure 12a shows that the estimates for disparities in the rates of use of force during a stop have overlapping confidence intervals for Black individuals compared to similarly situated white/other individuals, with the exception of 2013.

Figure 12a: Force Rates Over Time

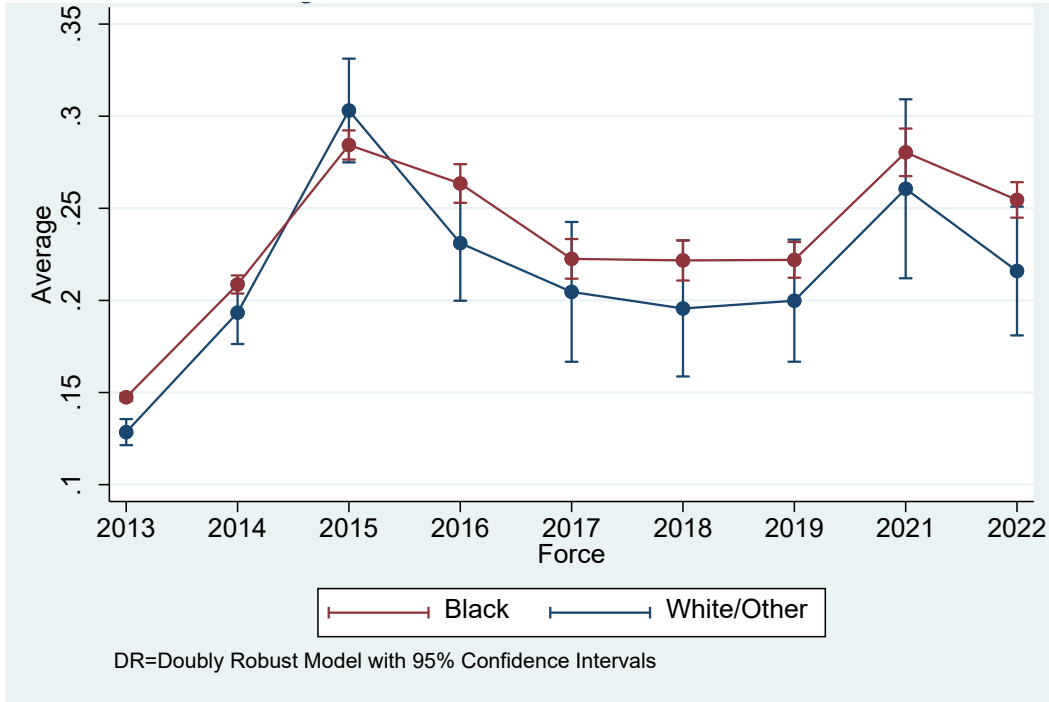
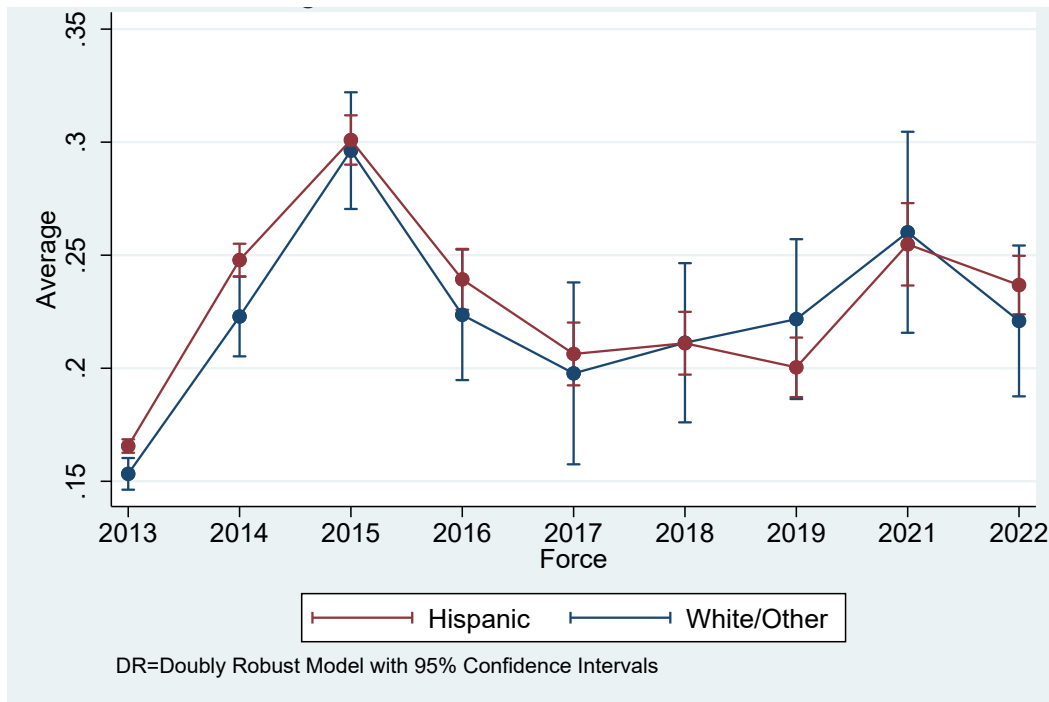


Figure 12b shows estimates from the DR model of use of force rates between Hispanic and white/other individuals stopped in similar contexts. The adjusted disparities in use of force rates have overlapping confidence intervals for every year other than 2013, meaning that when differences exist, the groups are not sufficiently different to be distinguished from each other 5 times out of 100 by chance.

Figure 12b: Force Rates Over Time



6. Disparities in Recoveries of Illegal Contraband or Weapons

Figures 13a to 14b show the estimates for Black and Hispanic individuals compared to white/other individuals stopped in similar context on frisks and searches that lead to the recovery of contraband or weapons (“hit rates”). A finding of a substantially lower hit rate for Black or Hispanic individuals relative to white/other individuals stopped and searched would suggest a concerning racial disparity, as this would indicate that the threshold for searching someone was lower for Black and Hispanic individuals.

Figure 13a shows the visualization of the estimates by year for the hit rates for contraband for Black individuals compared to white/other individuals searched under similar contexts. The hit rates for both groups rise from 2013 to 2022. Hit rates for contraband are on average lower for Black individuals, with the exception of 2018 and 2021, when they are significantly higher. When the hit rates for contraband are lower for Black individuals, the differences have overlapping confidence intervals, meaning that when differences exist, the groups are not sufficiently different to be distinguished from each other 5 times out of 100 by chance.

Figure 13a: Contraband Hit Rates Over Time

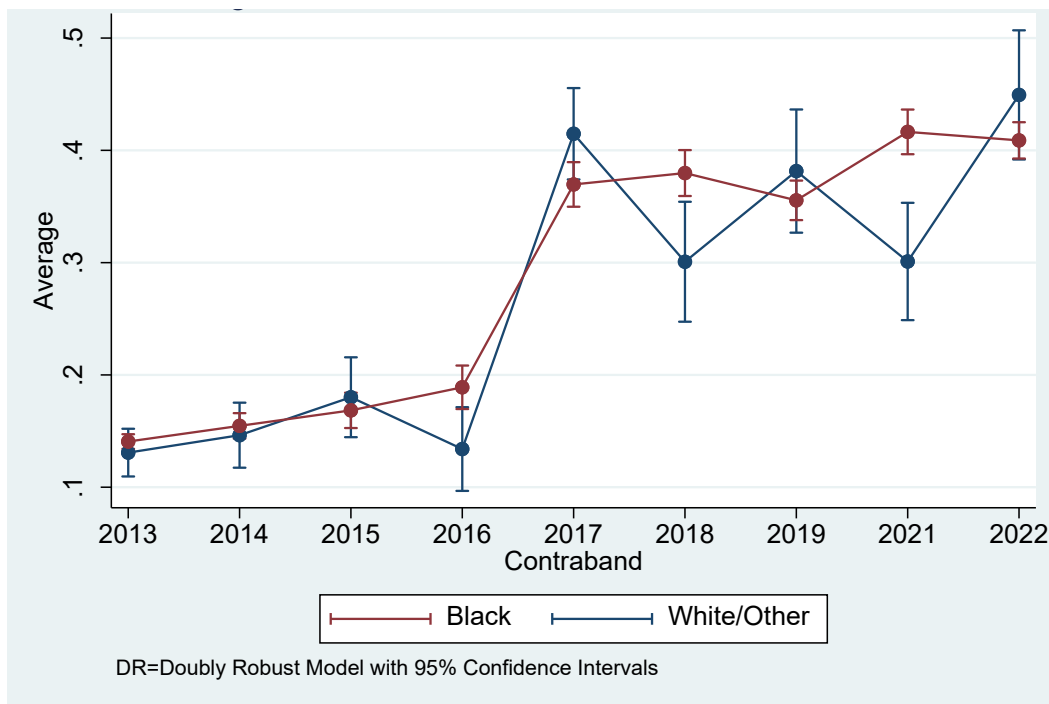


Figure 13b shows the trends in hit rates for contraband for Hispanic individuals compared to white/other individuals are in general similar, though they are lower in 2019 and 2022. In these years, however, the confidence intervals for the hit rates overlap, meaning one cannot rule out these differences occurring from chance 95 times out of 100.

Figure 13b: Contraband Hit Rates Over Time

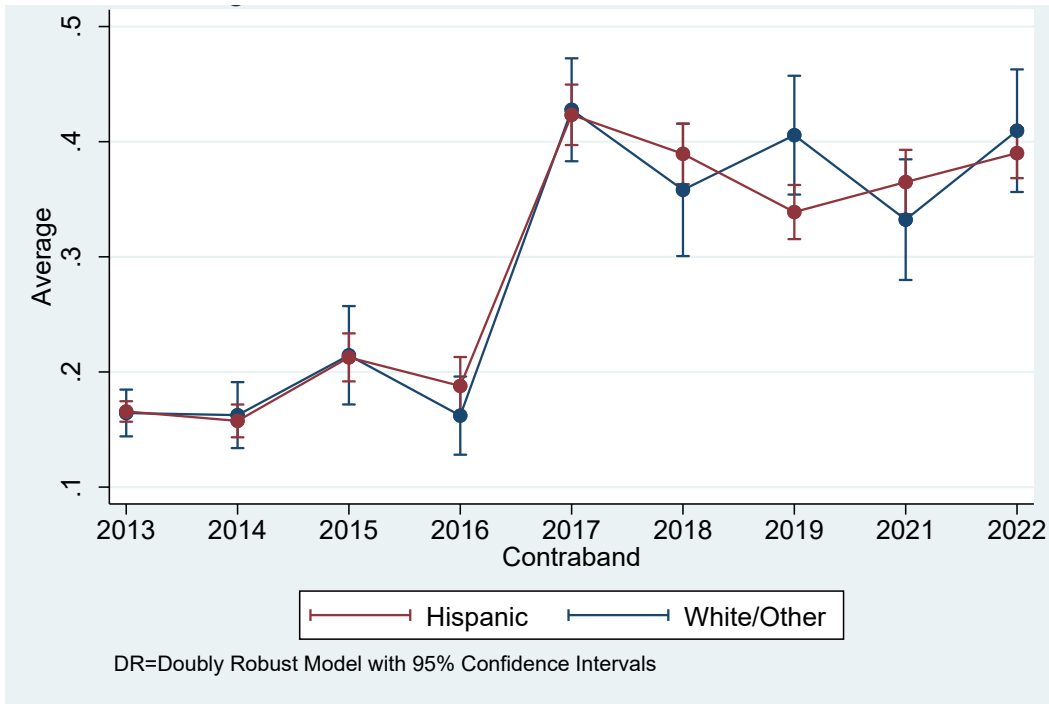


Figure 14a shows the difference in hit rates for weapons for Black individuals relative to white/other individuals stopped and searched in similar contexts. The hit rates for weapons for Black individuals are significantly lower than white/others from 2013 to 2017, but this pattern reverses itself in 2018 to 2022. The hit rates for weapons for Black individuals are significantly higher than the hit rate for white/other individuals in 2018 and 2021.

Figure 14a: Weapons Hit Rates Over Time

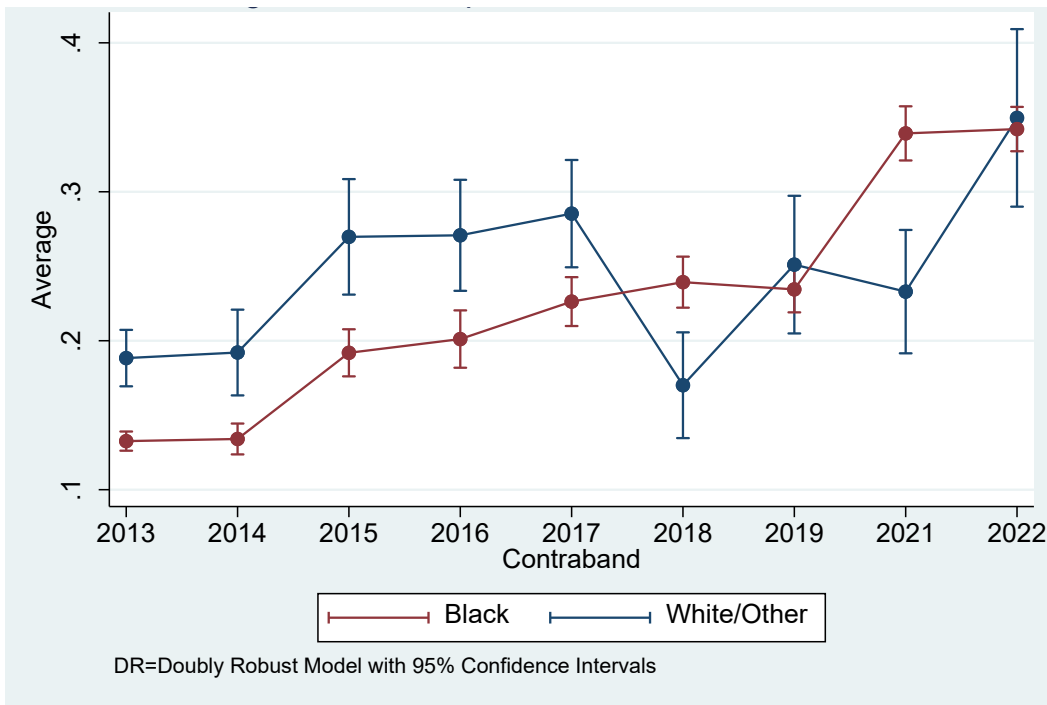
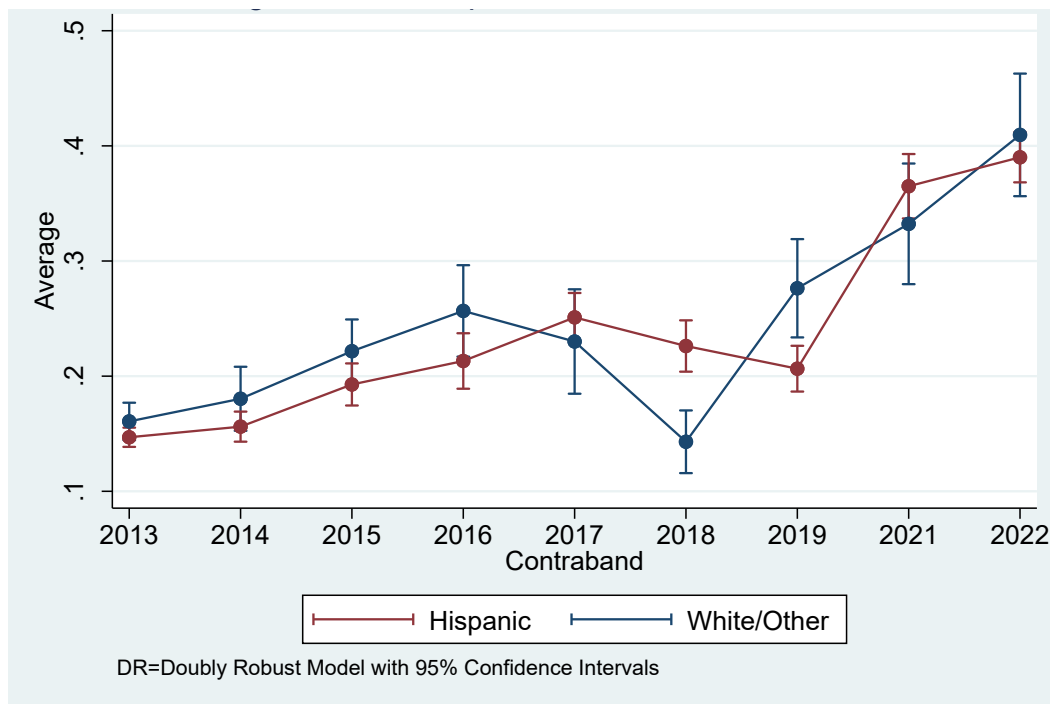


Figure 14b shows the hit rates for weapons between Hispanic and white/other individuals stopped and searched under similar context. The data shows that hit rates are not different statistically in years 2013 to 2017, are significantly higher for searches of Hispanic individuals in 2018 and lower in 2019. By 2021 and 2022, the hit rates for weapons have overlapping confidence intervals, suggesting that the differences between Hispanic and white/other individuals is too small to be detected with statistical significance.

Figure 14b: Weapons Hit Rates Over Time



D. Analysis of Stops Accounting for the Rate of Underreporting

The analyses of outcomes after the stop, like the other analyses in this report, rely on data from stops that are documented by the officers. However, the Monitor's audits of body-worn camera videos revealed a substantial undocumented stop rate of 31.4%. Although it is impossible to know the racial composition of undocumented stops or what post-stop actions were taken during those encounters, the Monitor's audit of undocumented stops indicates that the racial

demographics of undocumented stops was comparable to the racial demographics of reported stops. In auditing body-worn camera videos, the Monitor team reviewed 900 encounters in 2022 categorized as investigative encounters by NYPD officers and determined that 121 of those encounters were *Terry* stops. Of those 121 stops, 83 had an associated stop report on file, indicating an undocumented stop rate of 31.4%. Although the Monitor's BWC audit was not a large sample, the racial breakdown of undocumented stops in that sample compares similarly to the overall racial breakdown of reported stops in 2022.

Assuming the racial composition and post-stop outcomes of undocumented stops are similar to those of documented stops, Dr. MacDonald used the 31.4% undocumented stop rate to examine how undocumented stops may impact the estimates of post-stop outcomes in years 2021 and 2022. Table 7 below shows the results for the 2021 and 2022 estimates of post-stop outcomes between Black and Hispanic individuals compared to white/other individuals stopped in a similar context and searched. The table below provides the 95% confidence intervals for the estimates of stop outcomes for Black and Hispanic individuals relative to stops of white/other individuals in similar contexts, assuming a rate of undocumented stops at 31.4% and assuming undocumented stops had similar racial demographics and post-stop actions as documented stops.

Table 7 shows that statistically significant frisk disparities are apparent for Black individuals in 2021 compared to white/other individuals stopped in similar contexts, although that disparity does not continue in 2022. For Hispanic individuals, Table 7 shows a significant disparity in searches of Hispanic individuals in 2022 compared to white/other individuals, similar to the disparities shown in Figure 9b, where no missing stops are accounted.

Table 7: Influence of Undocumented Stops on Outcomes Tests³⁶

2021	Black Lower 5%	Black Upper 95%	White/Other Lower 5%	White/Other Upper 95%
Frisk	0.534	0.637	0.451	0.528
Search	0.381	0.466	0.310	0.430
Summons	0.019	0.033	0.004	0.033
Arrest	0.329	0.406	0.237	0.353
Force	0.197	0.329	0.179	0.276
Contraband	0.344	0.436	0.211	0.315
Weapons	0.278	0.357	0.162	0.245
2022	Black Lower 5%	Black Upper 95%	White/Other Lower 5%	White/Other Upper 95%
Frisk	0.540	0.559	0.464	0.549
Search	0.368	0.390	0.277	0.374
Summons	0.026	0.035	0.015	0.050
Arrest	0.296	0.317	0.233	0.320
Force	0.231	0.257	0.178	0.276
Contraband	0.340	0.372	0.334	0.449
Weapons	0.283	0.313	0.245	0.364
2021	Hispanic Lower 5%	Hispanic Upper 95%	White/Other Lower 5%	White/Other Upper 95%
Frisk	0.411	0.447	0.358	0.439
Search	0.341	0.382	0.267	0.378
Summons	0.016	0.027	0.002	0.031
Arrest	0.292	0.332	0.237	0.332
Force	0.179	0.215	0.157	0.246
Contraband	0.254	0.310	0.205	0.310
Weapons	0.181	0.231	0.118	0.221
2022	Hispanic Lower 5%	Hispanic Upper 95%	White/Other Lower 5%	White/Other Upper 95%
Frisk	0.462	0.488	0.410	0.477
Search	0.336	0.367	0.243	0.326
Summons	0.023	0.032	0.012	0.047
Arrest	0.255	0.284	0.211	0.291
Force	0.172	0.198	0.139	0.206
Contraband	0.283	0.326	0.266	0.373
Weapons	0.226	0.266	0.177	0.283

³⁶ Undocumented stop rate assumed to be 31.4%. Significant differences in bold.

E. SQF Dashboard

The analysis of disparities by place provides a descriptive assessment of what may be driving differences in stop rates between groups, but it does not address whether individuals are being stopped for legally justified reasons. With assistance from Dr. MacDonald, the NYPD developed a system that provides a visualization of stop-and-frisk data that can be used in monitoring Fourteenth Amendment compliance and identifying areas for further investigation. The “SQF dashboard” can be used to identify racial disparities and potential areas for further investigation.³⁷ The Department can and should use the SQF dashboard to identify the outlier commands that generate citywide disparities and determine what actions should be taken to reduce racial disparities.

VI. Conclusion

The reported number of Black and Hispanic individuals subjected to stop encounters dropped significantly from 2013 to 2022, though the overall percentage of stops by race and ethnicity remained largely unchanged. In addition, although racial disparities in post-stop outcomes diminished over the course of the Monitorship with respect to summonses, arrests, uses of force, and the recovery of a weapon or other contraband, racial disparities remain with respect to frisks and searches. These findings did not change when the analyses accounted for undocumented stops. This shows that the NYPD has made progress in meeting its Fourteenth Amendment compliance requirements since 2013, but there is more left to do.

The analysis of racial disparities in stop rates suggests that a significant share of disparities by area are driven by a small number of higher reported crime areas in specific commands. In those

³⁷ The NYPD demonstrated the SQF dashboard to the Monitor team in March 2022. The dashboard can track and analyze NYPD’s stop, frisk, search, and arrest data, among others, by officer, command, bureau, or borough, and citywide. The dashboard also cross-references Census data.

areas, NYPD officers are making stops of Black and Hispanic individuals at a significantly higher rate than white or other individuals, and much higher than would be predicted just by crime rates and other factors. What the exact drivers of these area disparities are cannot be assessed from the data, but they provide some guidance for assessing where disparities may be mitigated. The NYPD has a tool—the SQF dashboard—for identifying outlier areas and outlier precincts to pinpoint and monitor commands that drive citywide racial disparities in stops. The NYPD should use the SQF dashboard tool to flag outlier commands. The stop and frisk practices used by these commands should then be scrutinized to determine possible unlawful or otherwise problematic activities that should be addressed.

References

- Berk, R., & MacDonald, J. M. (2008). Overdispersion and Poisson regression. *Journal of Quantitative Criminology*, 24, 269-284.
- Fagan, J. (2010). Expert report in *David Floyd et al. v. City of New York et al.*, U.S. District Court for the Southern District of New York, 08 Civ. 01034 (SAS).
- Fagan, J. (2012a). Second supplemental report, *Floyd v City of New York*, 08 Civ 01034 (SAS).
- Fagan, J. (2012b). Expert report in *Davis v City of New York*, 08 Civ 01034 (SAS).
- Fagan, J., Braga, A. A., Brunson, R. K., & Pattavina, A. (2016). Stops and stares: Street stops, surveillance, and race in the new policing. *Fordham Urb. LJ*, 43, 539.
- Fagan, J. (2021). No runs, few hits, and many errors: Street stops, bias, and proactive policing. *UCLA L. Rev.*, 68, 1584.
- Neil, R., & MacDonald, J. M. (2023). Where racial and ethnic disparities in policing come from: The spatial concentration of arrests across six cities. *Criminology & Public Policy*, 22(1), 7-34.
- Morgan, S. L., & Winship, C. (2015). *Counterfactuals and causal inference*. Cambridge University Press.
- National Academies of Sciences, Engineering, and Medicine. 2023. *Reducing Racial Inequality in Crime and Justice: Science, Practice, and Policy*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26705>.
- Rothman, K. J., Greenland, S., & Lash, T. L. (2008). *Modern epidemiology* (Vol. 3). Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins.
- Rubinfeld D. 2011. Reference guide on multiple regression. In *Reference Manual on Scientific Evidence*, ed. Fed. Judic. Cent., Natl. Res. Coun., pp. 303–57. Washington, DC: Natl. Acad. Press. 3rd ed.
- Wooldridge, J. M. (1999). Quasi-likelihood methods for count data. *Handbook of applied econometrics volume 2: Microeconomics*, 321-368.

Appendix A

OUTLIER CENSUS BLOCK GROUPS



Source: NYC Open Data

Appendix B**OUTLIER COMMANDS BY RACE AND BOROUGH**

Precincts where stops of Black individuals exceed the predicted number of stops

Precinct 46	Bronx
Precinct 73	Brooklyn
Precinct 75	Brooklyn
Precinct 14	Manhattan
Precinct 28	Manhattan

Precincts where stops of Hispanic individuals exceed the predicted number of stops

Precinct 46	Bronx
Precinct 40	Bronx
Precinct 52	Bronx
Precinct 34	Manhattan
Precinct 14	Manhattan

Precincts where stops of White/Other individuals exceed the predicted number of stops

Precinct 109	Queens
Precinct 62	Brooklyn
Precinct 61	Brooklyn
Precinct 106	Queens
Precinct 14	Manhattan