METRO NASHVILLE
COMMUNITY OVERSIGHT

Finalized MNCO Draft Report

Policy Advisory Report: Metro Nashville Police Department Use of Force

Draft Report Presented to the Community Oversight Board on July 24th, 2023

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Executive Summary

National and local high-profile police killings have brought greater scrutiny to police use of force and have spurred conversations about police accountability across the country and in Nashville. As Metro Nashville Community Oversight (MNCO) itself was born from community outcry in response to multiple fatal police shootings, MNCO believes it is imperative to track and analyze trends in the Metro Nashville Police Department's (MNPD's) use of force and to propose policy that will reduce excessive force interactions. This report is thus the first annual use of force report that will assess the types of force used by MNPD and how frequently they are used. We will track policy implementation and make further recommendations each year.

Using existing datasets provided to MNCO by MNPD weekly, MNCO researchers began investigating MNPD's current use of force incidents and identifying patterns within these force interactions. Key findings include that Black and Hispanic subjects, both adults and youth, are more likely to be recipients of use of force (especially firearm displays and soft empty hand control techniques); white and male officers are more likely to use force; subject resistance level is a significant predictor of force used; Black people are more likely to have force used against them when they are not coded as resisting officer commands; force usage concentrates in non-white and high-poverty areas of Nashville; and youth who had force used against them by school resource officers were 96% Black and 58% female in 2023. These findings prompted the COB to make the following recommendations:

1. MNPD should include all soft empty hand control usages (regardless of injury status), firearm displays, Taser displays, and accidental discharges in departmental use of force analyses when there is a subject present, including on MNPD's Use of Force Dashboard.

2a. MNPD should revisit and modify its use of force training and reporting mechanisms to include more consistent tracking of resistance levels across all Form 108 types (108, 108F, 108T, and 108NC). To accomplish this, MNPD should update the MNPD Manual to define all terms in the "Subject's Non-Compliance" section in Form 108s. Further, the data provided to MNCO should be updated to reflect this change.

2b. MNPD should randomly audit instances from 2022 onward in which officers use force and resistance was not tracked, or was coded as no resistance. This is to include all Form 108, 108F, 108T, and 108NCs. If officers are determined to have used a disproportionate level of force, MNPD should take appropriate disciplinary action.

3. MNPD should create a Peer Review Panel where supervisors or peers can anonymously report officers who they believe are involved in an above-average number of violent encounters. This panel should be supported by part-time staff who, in addition to serving on the panel, study police-community violence and create interventions that would combat such violence.

4a. MNPD should use a comparative method based on their force and resistance continuums to evaluate when officers are using force that is disproportionate to resistance, even when force levels are low. The establishment of such a method should be done in consultation with MNCO and with community input such that community perception of force is prioritized in MNPD's assessment of force and resistance.

4b. This comparative method should be incorporated into MNPD's Early Intervention System and should flag officers who repeatedly use a level of force disproportionate to resistance. Additionally, a

review of each officer's use of force from the prior year should be included in their annual performance evaluation to identify officers who are involved in a disproportionate number of force incidents or who are frequently using excessive force.

5. MNPD should develop use of force policies and training specific to interactions with youth, modeled after best practice policies from organizations like Strategies for Youth. These policies and training should discuss de-escalation, officer presence, communication style, allowed/disallowed uses of force, disparate force across race and gender, and other topics as deemed necessary. Such policies must address that force of any kind must be consistent with the age, body size, disability status, relative strength, and risk posed by the youth.
6. MNPD should electronically notify MNCO staff every time MNPD staff use force in Metro Nashville Public Schools. Such notification should be delivered in a monthly report that includes information including but not limited to officer name, incident number, school location, subject demographics, type of force used, and incident report narrative.
7. MNPD should modify its implicit bias training to address the bias officers may have against entire neighborhoods based on the racial and socioeconomic makeup of those neighborhoods. These trainings should include paid representatives and trainers from the Nashville community who can serve as consultants and speak to the histories of their community and the issues they face, and should be precinct- and neighborhood-specific.
8. MNPD should train recruits and officers in procedural justice principles, focusing on both internal and external standards. Such training should be standalone, repeated annually, and follow evidence-based standards demonstrated to be efficacious.
9. MNPD should modify its use of force forms to include checkboxes for all de-escalation techniques (as outlined in section 11.10.030(M)) used by officers. These techniques should be tracked and analyzed as to how they relate to officer use of force.
10. MNPD should modify its de-escalation policy and training to include specific stipulations on procedural justice. These should address active/empathetic listening, nonverbal communication, word choice, and de-escalation techniques that are grounded in procedural justice principles such as rapport-building.
11. MNPD should continue to focus recruitment on non-white and female candidates until all ranks of the department are staffed with representation at levels significantly closer to Nashville's demographic makeup.

While this report provides a comprehensive overview of current use of force patterns within MNPD, MNCO researchers hope to continue investigations into topics such as use of force by school resource officers, the impact of precision policing tactics on use of force patterns, and community perceptions around police use of force.

Policy Advisory Report on Use of Force by MNPD

This is the first annual Policy Advisory Report on the use of force by MNPD officers. The report will analyze the type of force used, the subjects upon whom force is used, the locations where force was used, the officers who used force, and more. The report will make applicable policy recommendations to improve MNPD's use of force policy and other related policies.

Background and Broader Impact

Nashville Context

The Community Oversight Board (COB) was created, in part, due to two fatal shootings by Metro Nashville Police Department (MNPD) officers: On February 10, 2017, Jocques Clemmons was fatally shot by MNPD Officer Joshua Lippert during a foot pursuit, and on July 26, 2018, Daniel Hambrick was fatally shot three times from behind by MNPD Officer Andrew Delke during a foot pursuit. Officer Lippert retired from the department in 2019, and Officer Delke was sentenced to 3 years in prison in 2021 after entering a guilty plea for voluntary manslaughter. These shootings in themselves highlight the complexity of use of force analysis: Officer Lippert's actions were deemed justified by MNPD as well as the Tennessee Bureau of Investigation (TBI), and the District Attorney (DA) declined to prosecute. Officer Delke's actions, meanwhile, led to the filing of criminal homicide charges by the DA and ultimately Officer Delke accepting a guilty plea for voluntary manslaughter. Cases such as these have led to calls for reform or overhaul of the modern police state, and have grown louder over recent years following high profile police shootings across the country and locally. Accountability for uses of force like these provided the impetus for the creation of the COB.

To contextualize our work in Nashville, we will first take a broader look at national trends. It is indisputable that policing in the United States has been under intense scrutiny in recent years, in no small part due to excessive use of force, which, while rare, potentially has deadly or extremely harmful consequences. Previous research shows that approximately 1.8% of police-civilian contacts involve the threat or use of force, and that roughly 4% of arrests involve more force than necessary to handcuff a compliant subject[1]. While these numbers might seem small, they mask large raw numbers; even if we conservatively assume force is used in only 1% of police-civilian encounters, given that there are sixty million police-civilian encounters annually, that is 600,000 uses of force per year across the US[1]. It is important to note that certain uses of force are permitted, outlined within police policy, and are accordingly seen as necessary for officers to perform their jobs. This makes for a complicated relationship between police, use of force, and the public.

As such, while rare, the use of force is an important topic of analysis. This sort of work remains very relevant in Nashville, where the ten shootings by MNPD officers in 2021 reflect the most on record since the department began to track such events in 2005[2]. While police shootings dropped to five in 2022, when cases of potential excessive force gain public attention, as did many of these shootings, there are serious implications in terms of perceived legitimacy of the police.

Research on people exposed to an instance of excessive force by police indicates that they show:

> [R]aised anger, anxiety and feelings of being upset... far lower levels of approval of and reduced trust in police, greater skepticism about the degree to which the police protect people's rights, increased levels of concern about whether the police make decisions that are right for people in their communities. [They] also led respondents to view use of force as more frequent, raised questions about the adequacy of police training, reduced confidence that

[1] Stoughton, Seth W., Jeffrey J. Noble, and Geoffrey P. Alpert. *Evaluating police uses of force*. New York University Press, 2020.
[2] https://wpln.org/post/heres-what-we-know-about-the-10-shootings-by-nashville-police-in-2021/

officers face appropriate consequences, and raised concerns that they or someone they know might be more likely to be the victim of police use of excessive force. [3]

In addition to casting doubts on the legitimacy of policing, high profile police misconduct lawsuits also cost taxpayers large sums of money each year. In most cities, settlements for victims of excessive force come out of the city's general operating budget. In Nashville, the funding for police misconduct lawsuits appears to come from the city's Judgements and Losses Fund. In Fiscal Year 22, the city used just over $8.5 million out of its Judgments and Losses Fund, though this almost certainly applies to departments beyond MNPD[4]. Ralph Ward, who filed a lawsuit alleging false arrest, malicious prosecution, and excessive force by MNPD officers, received nearly a quarter of a million dollar settlement from the Judgements and Losses Fund[5]. The family of Daniel Hambrick, mentioned earlier in this section, received a $2.25 million settlement from the Judgements and Losses Fund[6]. Data on settlements in Nashville is currently tracked but not aggregated, but reporting shows that in Memphis, a total of $8,772,884 was paid out to victims and families over a seven-year period[7]. To aggregate these settlements is beyond the scope of this report, but MNCO hopes to investigate the cost of MNPD's misconduct in a future report.

Literature Review

Given the importance of the topic, it is no surprise that there has been plenty of academic research conducted on use of force, much of which focuses on disparate force usage. To take one example, previous research demonstrates that police do not use force equally across populations at large. Black, Indigenous, and people of color (BIPOC) are far more likely than white people to be on the receiving end of force from police, are more likely to be killed during police encounters than white people, and are more likely to be killed when unarmed during fatal police shootings[8]. Further, white officers in predominantly Black neighborhoods fire their guns about five times as frequently as Black officers dispatched to the same neighborhoods for similar calls[9]; Black people fatally shot by the police are twice as likely to be unarmed compared to white people[10]; and the Office of the Inspector General in Chicago found that Chicago Police Officers were more likely to stop, use force, and use severe force against Black people, even after taking crime levels and subject actions into account[11].

LGBTQ+ people are also more likely to experience profiling, discrimination, and harassment from law enforcement; a 2013 report, for example, found that, among LGBT survivors of violence who interacted with police, 48% reported experiencing police misconduct such as unjustified arrest, use of excessive force, or entrapment[12]. These inequalities can compound with inequities across gender, class, age, body type, mental illness, and disability to worsen outcomes regarding excessive use of force from police[13].

Youth of color are also often subjected to force more frequently than white youth. Prior research has consistently demonstrated that people perceive Black boys as older, less innocent, more responsible for

[3] Mullinix, Kevin J., Toby Bolsen, & Robert J. Norris. "The feedback effects of controversial police use of force." *Political Behavior* 43.2 (2021): 881-898.
[4] See pg. 479: https://www.nashville.gov/sites/default/files/2023-05/FY24_Recommended_Budget_Book.pdf?ct=1684513548
[5] https://nashville.legistar.com/LegislationDetail.aspx?ID=5991784&GUID=52A513A5-782C-4DA3-9F20-B52AB55B2233&FullText=1
[6] https://nashville.legistar.com/LegislationDetail.aspx?ID=4835119&GUID=DDE37689-314A-438A-ABD8-9B9771668778
[7] Thomson-Devaux, A., Bronner, L., & Sharma, D. (2021). Police Misconduct Costs Cities Millions Every Year. But That's Where The Accountability Ends. The Marshall Project.
[8] Machado, Mychal A., & Ashley M. Lugo. "A Behavioral Analysis of Two Strategies to Eliminate Racial Bias in Police Use of Force." *Behavior Analysis in Practice* (2021): 1-11.
[9] Hoekstra, M. & Sloan, C. W. "Does Race Matter for Police Use of Force? Evidence from 911 Calls." National Bureau of Economic Research Working Paper 26774 (2020).
[10] Nix, Justin, et al. "A bird's eye view of civilians killed by police in 2015: Further evidence of implicit bias." Criminology & Public Policy 16.1 (2017): 309-340.
[11] Office of Inspector General. "Report on Race and Ethnicity-Based Disparities in the Chicago Police Department's Use of Force." (March 2022).
[12] Mallory, Christy, Amira Hasenbush, & Brad Sears. "Discrimination & harassment by law enforcement officers in the LGBT community." (2015).
[13] Hitchens, Brooklynn K. "Contextualizing Police Use of Force and Black Vulnerability: A Response to Whitesel." *Sociological Forum* (2017), 32.2.

their actions, and even as more appropriate targets for police violence[14]. Related scholarship extending this research has shown that people believe that Black girls need less nurturing, protection, support, and comfort, while being more independent and knowing more about adult topics such as sex[15]. These effects have clear implications in the policing sphere, as Black teenagers receive more force during police stops than do white teenagers, an effect that is particularly pronounced for firearm usage. During similar stops that resulted in either arrest or seizure of contraband/weapons, Black youth have been shown to be significantly likelier to have a firearm used or displayed by an officer[16]. These disparities have improved slightly over time, but this nonetheless reflects a wider historical trend that adultifies children of color[17].

Subject behavior has also historically been an important topic in understanding police use of force. To take one example, decades of research has demonstrated that subject resistance is one of the strongest predictors of police use of force. Early conceptualizations[18] of 'excessive force' compared subject resistance to officer force, taking both on a continuum. If officer force was higher on the continuum than subject resistance (i.e., had higher 'relative force'), such force would be considered excessive[19]. More recent research has taken this base concept and expanded on it, including by using relative force not only as a measurement tool, but as a tool to identify officers at risk. Research by Bazley and colleagues argues that traditional Early Intervention Programs that rely on the *number* of use of force reports rather than an officer's relative force scores can fail to identify problematic officers while also falsely identifying non-problematic officers[20]. This is because problem officers may not have an incredibly high raw number of uses of force, but, when they do use force, it is disproportionate to resistance. These officers would not be flagged in traditional early intervention systems.

Altogether, there are many questions about what policy changes could be effective in curbing excessive force. Some research demonstrates that the number of use of force policy restrictions, such as force reporting, prohibition of chokeholds/strangleholds, and requiring officers to exhaust all other means before using deadly force, are significant predictors in the number of people killed by police departments[21]. However, most reforms aimed at reducing the disparate use of force seek to do so in a manner that creates or modifies policy to protect people of all backgrounds. As established above, certain people are likelier than others to be victims of police violence, usually those of a marginalized identity across race, gender, sexual orientation, and/or disability. There should thus be policy directly aimed at reducing those disparities in addition to more catch-all policies to reduce use of force in general.

It is with these topics in mind that MNCO has prepared this report. Increased transparency in the form of an annual report that tracks officer use of force and makes policy suggestions can enhance community and officer safety, and potentially mitigate some of the negative effects of force usage.

[14] Goff, Phillip Atiba, et al. "The essence of innocence: consequences of dehumanizing Black children." Journal of personality and social psychology 106.4 (2014): 526.
[15] Epstein, Rebecca, Jamilia Blake, & Thalia González. "Girlhood interrupted: the erasure of black girls' childhood." (2017)
[16] Kramer, Rory, & Brianna Remster. "Stop, frisk, and assault? Racial disparities in police use of force during investigatory stops." Law & Society Review 52.4 (2018): 960-993.
[17] Monazzam, Niki, & Kristen M. Budd. "Incarcerated Women and Girls". *The Sentencing Project*. (2023).
[18] Alpert, G.P. & Dunham, R.G. "The force factor: measuring police use of force relative to suspect resistance" (1997). Washington, DC: PERF.
[19] Hine, Kelly A., et al. "Too much or too little? Individual and situational predictors of police force relative to suspect resistance." Policing and Society 28.5 (2018): 587-604.
[20] Bazley, Thomas D., Thomas Mieczkowski, and Kim Michelle Lersch. "Early intervention program criteria: evaluating officer use of force." Justice Quarterly 26.1 (2009): 107-124.
[21] Sinyangwe, Samuel. "Examining the Role of Use of Force Policies in Ending Police Violence." Social Science Research Network (2016): 1-12.

Research Questions

Using current research trends as a guide, MNCO developed the following research questions to explore patterns in MNPD officers' use of force:

1. How much force is used annually by MNPD officers?
    a. What types of force are used most frequently?
2. Against whom is force used?
    a. Is there disparate force against any class of citizens?
3. Which officers are using force?
    a. Is there any effect of officer representation on use of force and/or arrest rates?
    b. Which officers are using the highest force by volume and by relative force scores?
4. Where is use of force concentrated?
5. What is the relationship between resistance levels and use of force?
6. Were there any unique trends to MNPD's use of force in 2022?

Methodology

This report is the first annual use of force report that will assess the types of force used by MNPD and how frequently they are used. We will track policy implementation and make further recommendations each year.

Data

This report will use four databases which are provided by MNPD to a shared drive with MNCO for our analyses: the current roster of sworn employees, Use of Force (Form 108s), Incident Reports (Form 100), and Arrests (Form 106). The Use of Force database lists the incident number; subject race, ethnicity, sex, and age; officer race, ethnicity, sex, and age; whether the subject or officer was injured; type of resistance; type of force used (foot, hand, take down, grapple, chemical spray, tear gas, Taser, baton, K9, firearm). Taser and firearm use have an additional column of data indicating whether the weapon was displayed only or discharged. Firearm displays have only been tracked since 2019, while Taser displays have been tracked since 2012.

It is important to note that all data is recorded by MNPD and provided to MNCO per a Memorandum of Understanding (MOU) between the departments. MNCO has not independently verified each line of data, which does present a weakness of this report; however, MNCO believes it to be the prerogative of MNPD to verify the accuracy of their data prior to sending it to MNCO.

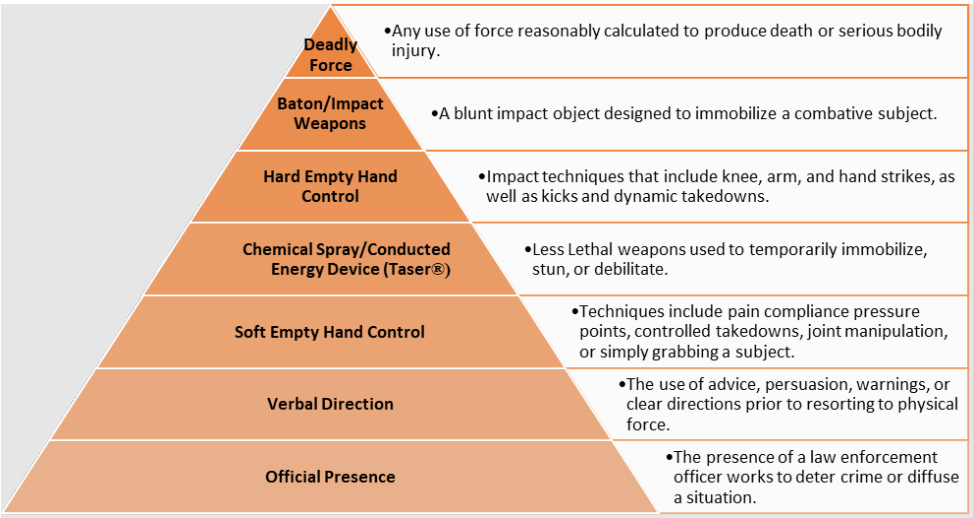
Descriptive Data Analysis

Overall Force Used

To understand the overall trends in MNPD's use of force data and to determine potential avenues for exploration, MNCO staff first conducted a descriptive data analysis of the use of force data currently provided by MNPD. These analyses are not intended to imply causality, but highlight important avenues for analysis.

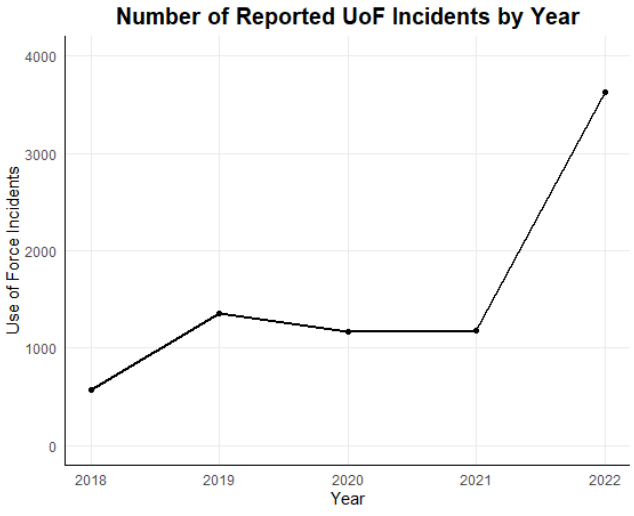
MNCO analysis began with MNPD's force and resistance continuums. MNPD, like most other police departments nationally, uses a force continuum to describe the escalatory patterns of force that are used by police to compel subjects to comply with commands. MNPD describes their force continuum as "Broad categories of force, in identifiable escalating/de-escalating stages of intensity, in response to a subject's action." Figure 1 provides an overview of MNPD's force continuum broken down by force type, with officer presence at the bottom and the highest level of force, deadly force, at the top:

Figure 1. Pictorial Representation of MNPD's Use of Force Continuum[22]



Initial analyses were conducted to determine rates at which these types of force were being used across MNPD. Figure 2 displays the total number of force incidents that were tracked during the five-year period between 2018 and 2022, while Figure 3 shows use of force incidents broken out by the highest type of force used. It is important to note that 2020 and 2021 represent the peak of the COVID-19 pandemic, which may have had significant impacts on policing. While there is academic literature on the topic, further analysis is beyond the scope of this report.

Figure 2. Number Reported Use of Force Incidents by Year



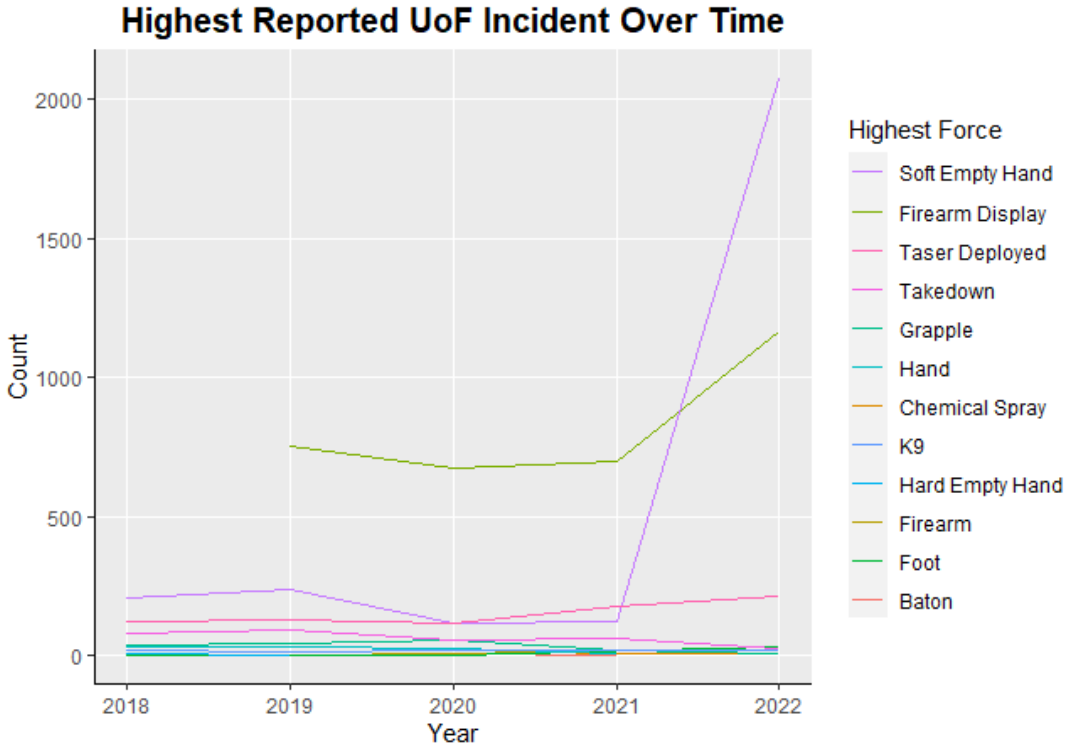
As seen in these figures, there were two notable time points where there were significant increases in the tracking of total use of force incidents, in 2019 and 2022. In 2019, MNPD began requiring that officers document firearm displays as a type of force used. This addition to the dataset can be seen clearly in both Figures 2 and 3. A larger increase in use of force tracking occurred in 2022, as this was the first year in which officers comprehensively documented their use of soft empty hand tactics.

Prior to 2022, MNPD only reported use of force at or above Chemical Spray/Taser, unless the subject suffered injuries due to use of soft empty hand control. Following a COB recommendation[23], MNPD began tracking all uses of soft empty hand control techniques beginning on 1/1/22. While soft empty hand control can be as simple as grabbing a subject, it can also include the use of pain compliance pressure points, takedowns, or joint manipulation techniques. One important future area of research is to dig into the types of force being categorized into the large "Soft Empty Hand" category in Figure 3. It wasn't possible for MNCO to fully disaggregate which types of soft empty hand control were used in every force instance, which warrants further inquiry. There is also a notable uptick

[22] Note that officer presence is not considered a use of force per MNPD Manual 11.10.020(V), though it is in the force continuum.
[23] Metro Nashville Community Oversight. "COB Recommendation to Require Reporting of Soft Empty-Hand Control" (2021).

in firearm displays in 2022. After discussing the issue with MNPD, MNCO was informed that there were no major policy changes nor any issues with the reporting of firearm displays that would explain this increase. This, too, is a potential point of future inquiry.

Figure 3. Highest Reported Use of Force by Type



	2018	2019	2020	2021	2022
Soft Empty Hand	6	189	113	116	2059
Firearm Display	0	752	672	697	1165
Taser Deployed	124	125	115	174	207
Takedown	131	113	53	60	27
Grapple	46	51	54	21	5
Hand	32	33	25	9	0
Chemical Spray	19	12	20	8	4
K9	16	15	18	17	19
Firearm	6	2	12	18	19
Foot	3	1	1	0	29
Baton	1	1	5	3	0

Figure 4. Number of Force Incidents by Year (Excluding Soft Empty Hand Control and Firearm Displays)

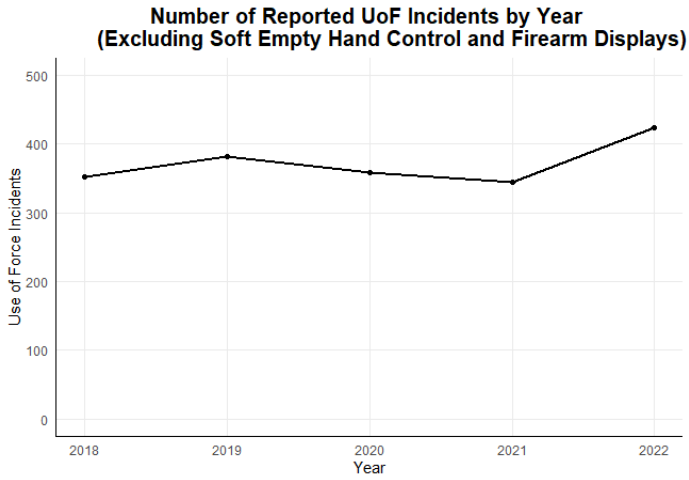
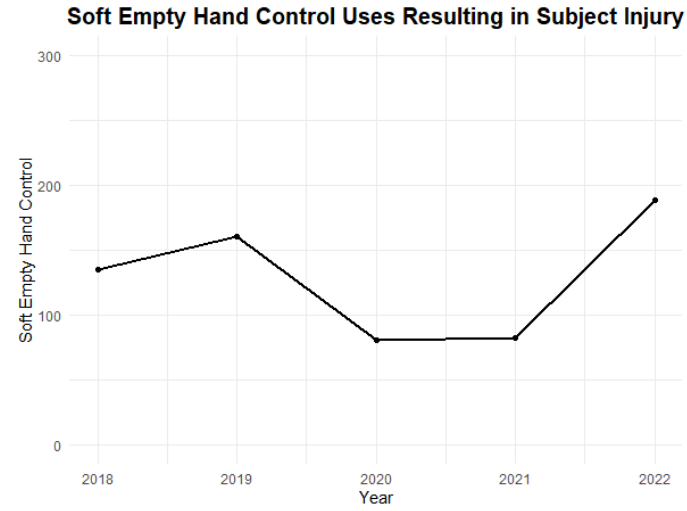


Figure 4 replicates Figure 2 but removes soft empty hand control and firearm usage and therefore provides trend information for force usages that did not have changes in reporting over the sample period. While a slight uptick can be observed in 2022, MNPD's force usage is fairly stable when excluding soft empty hand control and firearm displays.

Solely focusing on soft empty hand control, Figure 5 demonstrates that there was an increase in cases of soft empty hand control with injury in 2022. It is unclear whether this indicates more force or better tracking.

Figure 5. Soft Empty Hand Control Uses that Resulted in Subject Injury



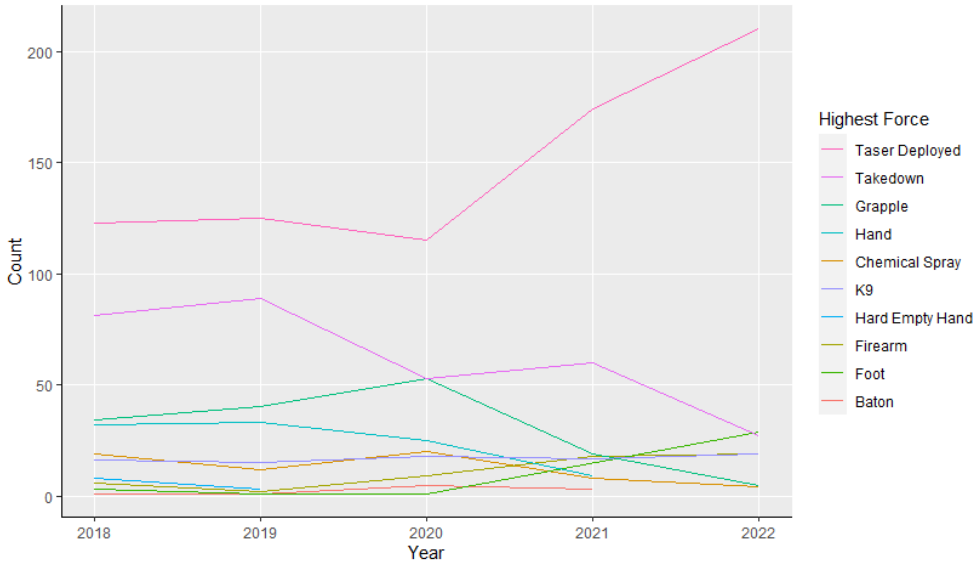
The addition of soft empty hand control tactics to the use of force data compiled by MNPD is incredibly important as it allows the public to understand more fully when and how this type of force is being used. For instance, 66.9% of subjects on whom soft empty hand control was used were not coded[24] as resisting officers' commands. Further, of all tracked uses of soft empty hand control over the 5-year period, 22.2% were injured as a result of the interaction. It is important to note that the 22.2% figure is inflated by data from 2018-21, years in which soft empty hand control was **only** reported if there was subject injury. This implies that there were many more instances in which soft empty hand control was used but not tracked as the interactions did not result in injury. Evidencing this point, in 2022, just under 10% of soft empty hand control usages led to the allegation of injury.

Due to this change in required reporting, additional measures were taken to account for the increase in data in 2022. By excluding soft empty hand control and firearm display data, clearer trend lines can be observed in Figure 6 below by separating out all force types aside from firearm display and soft hand.

While most types of force remained relatively constant across the 5-year period, Taser Deployment increased by 66.9% while takedowns decreased by 79.3% (likely due to being subsumed by soft empty hand control). Recent reform measures[25] in other cities have increasingly encouraged departments to use Tasers instead of physical contact to minimize both subject and officer injuries, and MNPD may have made an internal decision to adopt these guidelines.

[24] MNPD informed MNCO that they do not track resistance on 108NCs. This issue is discussed later in the report.
[25] Schatmeier, E. H. (2012). "Reforming police use-of-force practices". *Colum. JL & Soc. Probs.*, *46*, 539.

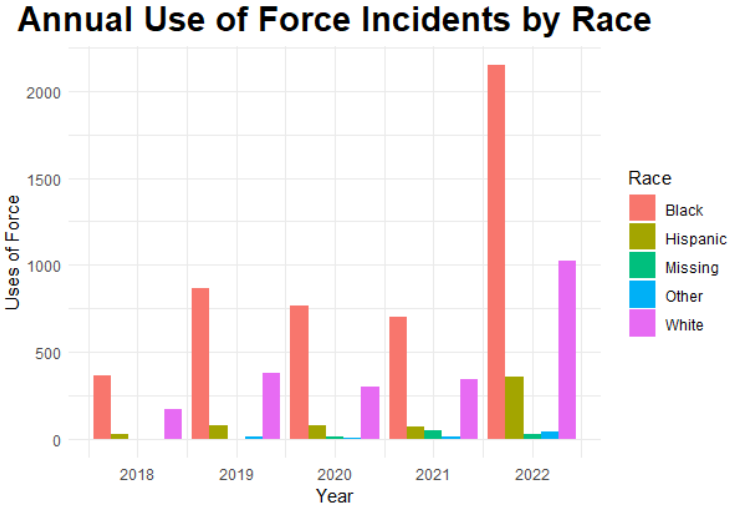
Figure 6. Highest Use of Force by Type Excluding Soft Empty Hand Control



Race and Force

As race has been an important predictor of differential use of force nationally, we tracked use of force by subject race to assess whether MNPD's use of force follows a similar pattern. Because of MNPD's data reporting structure, it is important to note that some racial data is assumed by the officer making the report: MNPD informed MNCO that race is documented via a mix of officers using subject IDs, subject self-identification, or officer perception if they don't have one of the former. In some cases, race is reported as "Missing"[26]. Initial analysis demonstrates that force is used against Black subjects more frequently than subjects of other races:

Figure 7. Annual Use of Force by Race



	2018	2019	2020	2021	2022
Black	365	871	770	703	2145
Hispanic	31	81	84	72	355
Missing	2	1	14	49	33
Other	1	16	6	15	46
White	176	384	300	347	1020

Not only is force used most frequently on Black people in Nashville, but these numbers are clearly at odds with the population in Nashville, where white people outnumber Black people two-to-one:

[26] This could be a difference in how data entry is completed (one person might explicitly code a lack of race as "missing", while another might leave the form blank), there are also "high-risk" scenarios in which MNPD might use force but not identify the subject. For example, officers may conduct a "high-risk" traffic stop with firearms drawn, but the vehicle drives off and officers elect not to pursue.

Table 1. Nashville Population Estimate

Year	Black	Hispanic	Other	2+ Races	White
2022[27]	27.2%	10.6%	3.8%	4.9%	55.0%

However, it is important to note that comparing use of force rates to population rates at large is a somewhat narrow way to consider these statistics. Comparing numbers in this way does not acknowledge that there are differential rates of police interaction across race. People of color are more likely to have a police interaction in the first place[28], which likely means that they are also more likely to receive a disproportionate amount of force relative to their population percentage. While we recognize that comparing rates of use of force to police interaction provides a more accurate picture of whether people of color are overrepresented in force interactions, it is also important to acknowledge that the inequitable treatment of people of color is not something that should be ignored. Regardless of how force is used *relative* to other enforcement tactics, historical and current over-policing has a material impact on the lives of marginalized communities that must be acknowledged in any research work related to policing practice.

Nonetheless, we used MNPD data on arrest rates and suspect rates as benchmarks for comparison, as these are two common methods in which people interact with the police. It is important to note that, due to MNPD's data aggregation method, some individuals are double coded, for example as both "White" and "Hispanic", which leads the percentages to total over 100%[24]. MNCO standardized these percentage values to adjust for this, and since these values are being compared to other percent values, believe that this difference will not cause significant skewing of the data. MNPD reports that in 2022, approximately 57% of their arrestees for all crime were Black, despite only making up only 27.2% of the population (see Table 2 below). This is likely to lead to more contact with police which will, in all likelihood, lead to more police outcomes such as use of force, arrests, etc.

It must be noted that benchmarking against crime data is not a perfect solution either. Research has demonstrated a widening disconnect between crime rates and law enforcement action across racial lines; despite the fact that crime rates have been decreasing for all racial groups over the last few decades, the racial disparity in arrest rates has increased such that Black people were arrested at 5.48 times that of white people in 1999 and 9.25 times that of white people in 2015. This effect was especially driven by the arrests of Black youth in urban areas[29], and highlights that arrest rates are an imperfect proxy for crime rates. As such, all these benchmarks should be read in conversation with one another; none likely provides a full answer on its own, but collectively they provide important context.

Various benchmarks are outlined in the below table. The first row in Table 2, Percent of Use of Force, shows what percentage of all use of force incidents in 2022 were against people who are white, Black, Hispanic, and those of other races. Each subsequent row then reflects a different measure against which use of force is compared. The next row, Percent of 2022 population, is thus compared against force to get a so-called 'Disproportionality Index'. While this is an important consideration, this approach is also flawed in that other police behavior (arrests, suspects, etc.) may also result from biased policing. The population percentage as well as other enforcement behaviors must thus be considered in concert.

[27] Per US Census estimates, which can be found here

[28] The scope of this issue is beyond this report, but the historical roots of policing practices play a large part in explaining this phenomenon. See the following for more detail: Bailey, Zinzi D., Justin M. Feldman, and Mary T. Bassett. "How structural racism works—racist policies as a root cause of US racial health inequities." New England Journal of Medicine 384.8 (2021): 768-773.

[29] Redbird, Beth, and Kat Albrecht. "Racial Disparity in Arrests Increased as Crime Rates Declined." *Northwestern Policy Research Working Paper Series* (2020).

For example, white people make up 28.6% of all use of force subjects, but 55.0% of the Davidson County population. Dividing the use of force percentage by the population percentage then gives us a Disproportionality Index of 0.52, meaning that white people are only about half as likely to have force used against them based on their population percentage in Davidson County. A Disproportionality Index of 1 would indicate that force is used at the same rate as would be expected based on population. This process is repeated for each row of the table, dividing use of force percentages by percentages in each subsequent measure, and therefore provides a more robust standard to assess disproportionate impacts of use of force. Additional comparison measures include arrestee and suspect demographics, both for violent crime and all crime.

Finally, using white Disproportionality Indices as a consistent comparator, we calculate Disparity Ratios using the Indices. This directly compares each benchmark for all other races to the same benchmark for white people. For example, white people have a Disproportionality Index of 0.52 for population proportion, while Black people have a Disproportionality Index of 2.21. Dividing the Index for Black people by that of white people gives a disparity ratio of 4.25, indicating Black people are more than four times likelier than white people to have force used on them given their population proportion:

Table 2. Benchmark analysis of force relative to population, arrest, suspect numbers.

	% Race / Ethnicity				**Disproportionality Indices**				**Disparity Ratios**		
	White	*Black*	*Hispanic*	*Other*	*White*	*Black*	*Hispanic*	*Other*	*Black*	*Hispanic*	*Other*
Percent of Use of Force in 2022	28.6%	60.1%	10.1%	1.3%							
Percent of 2022 Population	55.0%	27.2%	10.6%	7.2%	0.52	2.21	0.95	0.18	4.25	1.82	0.34
Percent of Arrestees for All Crime in 2021[30]	36.3%	57.0%	5.8%	0.9%	0.79	1.05	1.74	1.44	1.32	2.20	1.82
Percent of Arrestees for Violent Crime in 2021	31.6%	59.8%	7.8%	0.7%	0.91	1.01	1.29	1.86	1.11	1.42	2.04
Percent of Suspects for All Crime in 2021	22.8%	50.8%	5.2%	21.2%	1.25	1.18	1.94	0.06	0.94	1.55	0.05
Percent of Suspects for Violent Crime in 2021	22.0%	55.7%	7.7%	14.6%	1.30	1.07	1.31	0.09	0.82	1.01	0.07

[30] All arrest and suspect data per MNPD's 'Interactions' dashboard. Numbers have been standardized to have a denominator of 100, rather than the aggregated totals that MNPD provides.

Both Disproportionality Indices and Disparity Ratios demonstrate the differential impacts of use of force on people of color in unique ways, although it is important to note that they do not necessarily show discrimination. Rather, they highlight disparate impact and provide areas for future inquiry. Disproportionality Indices show both that Black subjects are more likely to have force used against them compared to their overall representation in the population, and that, even when controlling for rates at which they interact with the police, Black people are more likely to have force used against them as compared to the rate at which they are arrestees and suspects of crime (though this disproportionality is negligibly small at points). Disparity Ratios show that compared to white subjects, Black subjects are likelier to have force used against them, relative to population, arrest, and crime suspect rates.

Hispanic subjects also receive more force than would be expected with greater Disproportionality Indices in both arrest and suspect data. This finding may have been missed without the use of these measures as use of force against Hispanic people seems in line with population estimates. These values show, however, that when compared to the rates at which Hispanic people interact with police, they are overrepresented in use of force incidents. This idea is further supported as the Disparity Ratios indicate that, compared to white people, Hispanic people are more likely to have force used against them when controlling for population percentages, arrest rates, and suspect data (though the disparity ratio is negligible for suspects of violent crime).

Disproportionality Indices show that force is used more frequently against people of 'Other' races than would be expected by arrest data but substantially less than by suspect data[31]. Disparity Ratios further show that there is an additional disparity in force used against people of 'Other' race relative to white people for arrest data but substantially less than by suspect data. These patterns show that even when controlling for differential rates of police interaction, people of color are on the receiving end of MNPD's use of force more frequently than white people.

Lastly, in addition to the differential impacts of use of force against people of color, Disproportionality Indices indicate that white people are more likely to be recipients of force as compared to their representation as suspects of crime. This could potentially be due to the underrepresentation of white people in the overall suspect pool in this sample, as white people are less than a quarter of suspects for all crime and violent crime, but closer to a third of those arrested for all and violent crime.

Race and Force Type

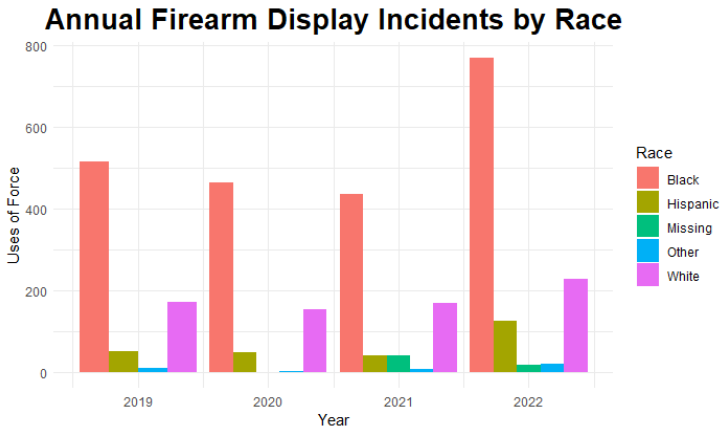
Additionally, we disaggregated the data and analyzed subject demographics within individual force types. These analyses help highlight *what* is happening more than *why.* This initial report aims to provide a broad look at who is using force, what type of force is being used, against whom force is being used, and where that force is being used. These findings will serve as springboards into future, more in-depth analyses that will tackle why these disparities occur. MNCO is working with MNPD to gather more accurate arrest data to benchmark force usage, but in the interim, analyses presented are force types that are used disparately beyond overall benchmarked rates.

Our analyses show that MNPD officers use force disparately when displaying firearms and when using soft empty hand control. Within a force interaction, Black subjects are significantly more likely to have a firearm pulled on them (X-squared = 148.03, $p < 0.001$). In the five-year period under review, MNPD

[31] 'Other' as a category is frequently too small to draw statistical conclusions but will be presented for the sake of context. Results for 'Other' race individuals should thus be read with caution.

displayed a firearm against a Black subject 3.01 times as frequently compared to white subjects. This ratio of force usage exceeds the disparity and disproportionality ratios outlined earlier (aside from those based on population), suggesting firearm displays are used in a particularly disparate way[32]:

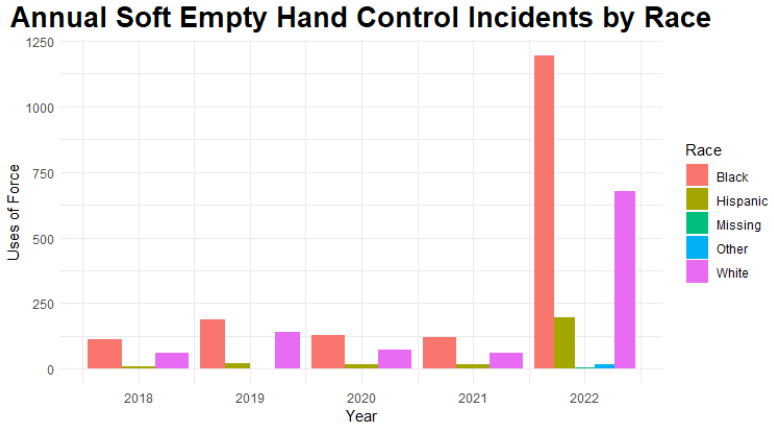
Figure 8. Annual Firearm Displays by Race.



	2019	2020	2021	2022
Black	515	464	436	768
Hispanic	52	49	42	127
Missing	0	1	42	18
Other	12	4	8	22
White	173	154	169	229

Over this same period, Black subjects had soft empty hand control tactics used against them 1.72 times more frequently than white subjects (X-squared = 120.41, p< 0.001). This ratio of force usage also exceeds disparity/disproportionality ratios aside from those based on population, suggesting soft empty hand force is used in a particularly disparate way. Figure 9 also highlights the importance of tracking all uses of force, including soft empty hand control tactics, even when there is no allegation of injury. Before 2022, the disparities between Black, Hispanic, and white subjects receiving force were not as stark in MNPD's force data. When tracking beyond those who are injured, as in 2022, a trend of greater force against Black and Hispanic people arises in the data. This trend will be monitored in future years:

Figure 9. Annual Soft Empty Hand Control Incidents by Race



	2018	2019	2020	2021	2022
Black	114	188	130	119	1192
Hispanic	8	23	18	17	194
Missing	0	0	0	0	6
Other	0	3	0	0	18
White	61	139	72	61	675

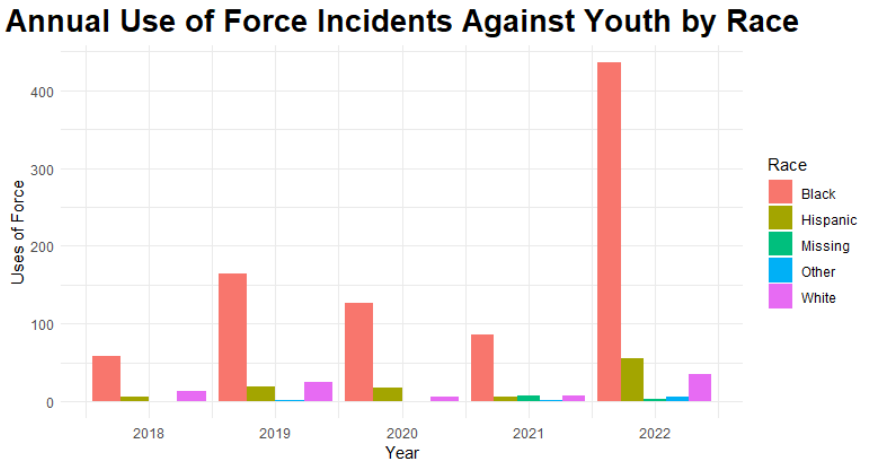
Force Used on Youth

Another set of analyses sought to understand the rates at which MNPD officers were using force against youth and whether youth of color were experiencing higher rates of force as compared to white youth. MNCO is working with MNPD to gather more accurate arrest data to benchmark force usage for youth.

[32] Full analytic data will be made available via a supplemental report, but for the sake of brevity, only significance tests are presented in this report.

Figure 10 shows that, consistent with prior research[16], there is a strong disparity regarding the use of force used by MNPD on Black youth as compared to white youth. Black and Hispanic youth are significantly more likely to be the recipients of police use of force (X-squared = 227.38, p< 0.001). Compared to white youth, Black youth are the victims of police use of force 9.79 times more frequently (which goes well beyond disparity and disproportionality ratios), and Hispanic youth 1.19 times more frequently. Finally, 19.1% of Black people in the dataset are youth, compared to 6.9% of white people in the data who are youth, indicating a disproportionate amount of Black youth in the data. It must be noted that the large increase seen in 2022 is, consistent with previous figures in this report, actually an increase in the *tracking* of soft empty hand control rather than an increase in force usage itself.

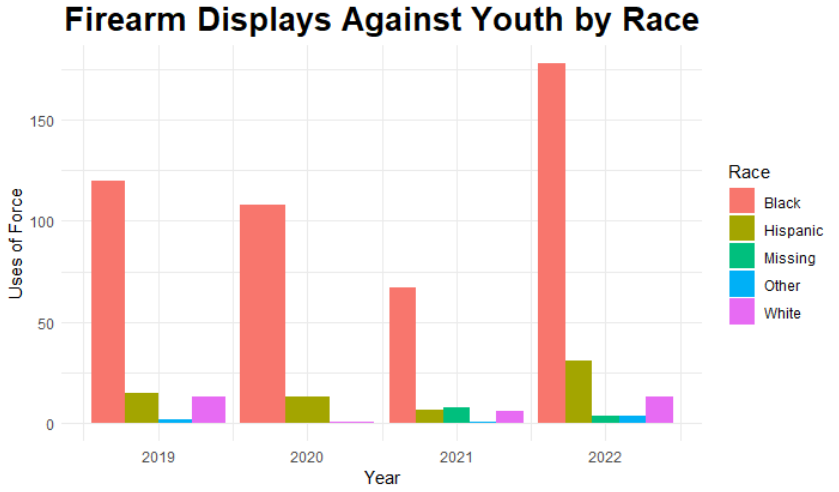
Figure 10. Annual Use of Force by Race Against Youth



	2018	2019	2020	2021	2022
Black	58	164	127	86	436
Hispanic	7	19	18	7	54
Missing	0	0	0	8	4
Other	1	2	1	2	7
White	14	25	6	8	36

The same pattern emerges when the sample is limited to firearm displays, as shown in Figure 11. Between 2018 and 2022, Black youth had a firearm pulled on them 14.36 times more frequently than white youth, and Hispanic youth 2.03 times more than white youth (both of which represent figures well beyond the disparity and disproportionality ratios, aside from the Hispanic Disparity Ratio for % of all crime arrestees), a difference that is statistically significant (X-squared = 24.573, p< 0.001). 23% of Black subjects and 25.8% of Hispanic subjects who had firearms pointed at them were youth, compared to just 4.7% of white subjects, indicating a disproportionate amount of Black and Hispanic youth in the data.

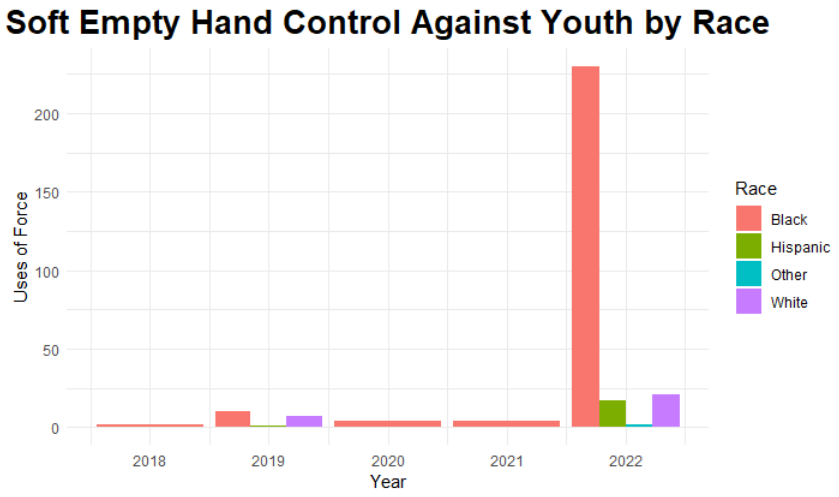
Figure 11. Annual Firearm Displays Against Youth by Race



	2019	2020	2021	2022
Black	120	108	67	178
Hispanic	15	13	7	31
Missing	0	0	8	4
Other	2	0	1	4
White	13	1	6	13

Disparate patterns are again starkly apparent when looking at soft empty hand control used on youth by race as seen Figure 12. Black youth have soft empty hand control used against them 8.93 times more frequently compared to white youth, a difference that is statistically significant (X-squared = 88.696, p< 0.001). While we do not have unique disparity ratios or disproportionality indices for youth, this rate far outstrips all these metrics for the Black population at large.

Figure 12. Annual Soft Empty Hand Control Tactics Used Against Youth by Race



	2018	2019	2020	2021	2022
Black	2	10	4	4	230
Hispanic	0	1	0	0	17
Other	0	0	0	0	2
White	0	7	0	0	21

Force Used by School Resource Officers

Schools and use of force have been at the top of many people's minds in Nashville, and with increased board member interest in force used in schools, MNCO researchers set out to investigate to what extent School Resource Officers (SROs) were using force against students that they are hired to protect. This interest is particularly germane given the "School Safety Bill" signed by Governor Bill Lee in May that committed funding for full-time, armed SROs in each of Tennessee's 1,863 public schools[33]. This bill comes on the heels of a school year with an already increased MNPD presence[34] and is accompanied by a proposed Metro budget increase for additional SROs. Regrettably, the way in which MNPD aggregates and provides data to MNCO prevents a thorough examination of how much force is used in schools, as will be explained below, though a proxy solution is explored.

To investigate this question, MNCO staff created a database containing the addresses of all MNPS schools and attempted to link that to force data provided by MNPD. This was unsuccessful for several reasons:

- First, the use of force data provided to MNCO does not contain any location data. However, it does contain incident numbers for almost every use of force in the database. The incident data provided to MNCO *does* contain location data, including zone, reporting area, and address, though it contains multiple limitations discussed below.
- Second, the location data present in Incident Reports in the address column is often imprecise due to notating addresses at the block level (i.e., 100 Main St. rather than 123 Main St.), at the intersection level (i.e., Main & 2nd rather than 202 Main St.), or simply with street names (i.e., Main St rather than 123 Main St.).

[33] https://www.tennessean.com/story/news/education/2023/05/18/new-tn-law-aims-to-put-sros-in-every-school-despite-officer-shortage/70208289007/
[34] https://www.tennessean.com/story/news/local/2022/08/02/nashville-police-announce-increased-presence-metro-schools/10208249002/

- Third, when the use of force database was linked to the incident database, some data was lost, in part because not every use of force requires an incident report[35].

Altogether, these limitations severely curtail the size of the use of force dataset to a point where it is not reliable. When school locations were linked to this smaller dataset, the results painted an inaccurate picture of force used in schools.

To resolve this set of issues, MNCO staff took a different approach. First, the current MNPD roster was filtered for officers who are in the School Resource Officers Section and was then linked to the force data set. Next, data was limited to subjects of force who were 18 years old or younger. Finally, since the roster we have access to is limited to *current* duty assignment, we restricted data to 2022 and 2023 to minimize the possibility that an officer was recently transferred to the SRO Section. Doing so revealed that 25 different school resource officers used force on youth 90 times during that time period.

It must be noted that this is an imprecise attempt to evaluate when SROs are using force in schools against students. In reality, this data informs us of instances in which SROs used force against youth. It is possible that these SROs are using force against youth outside of the school setting, which highlights one potential limitation of this approach. Altogether, this highlights the need to do further research on SROs, and the below data should thus be considered a preliminary look into a potential problem.

With all that in mind, below is a look at force used by SROs against youth from 2022-23:

Table 3. School Resource Officers Who Used Force on Youth (2022-23)

Group	**Number (%)**	
Officers		
White Male	17 (68%)	
White Female	1 (4%)	
Black Male	6 (24%)	
Black Female	1 (4%)	
Youth		*MNPS Demographics*[36]
Black	86 (95.6%)	39.2%
White	1 (1.1%)	24.1%
Hispanic	3 (3.3%)	32.4%
Male	38 (42.3%)	51.4%
Female	52 (57.7%)	48.7%

This data differs in several important ways from overall use of force data. Firstly, the overrepresentation of Black people is exacerbated; despite only making up 39.2% of MNPS students and 60% of overall force victims, almost 96% of the youth who had force used against them were Black. Secondly, reversing a trend seen in the overall data, girls receive a disproportionate amount of force; just under 58% of youth who had force used against them were girls as compared to representing just under 49% of all MNPS students. While this ~9% discrepancy is notable in and of itself, it is especially notable since force is generally used more frequently against men: in the full use of force dataset, women represent just 22.8% of the recipients of force, indicating a cause for concern. Again, this data should be considered a

[35] This distinction was made by Captain Brian Williams, who is over MNPD'S Central Records Division. He explained that for certain uses of force, for example firearm displays, an incident report may not be generated under particular conditions such as officers drawing firearms to clear an abandoned building.

[36] Per MNPS open data portal on 6/12/23: https://www.mnps.org/about/communications/opendata

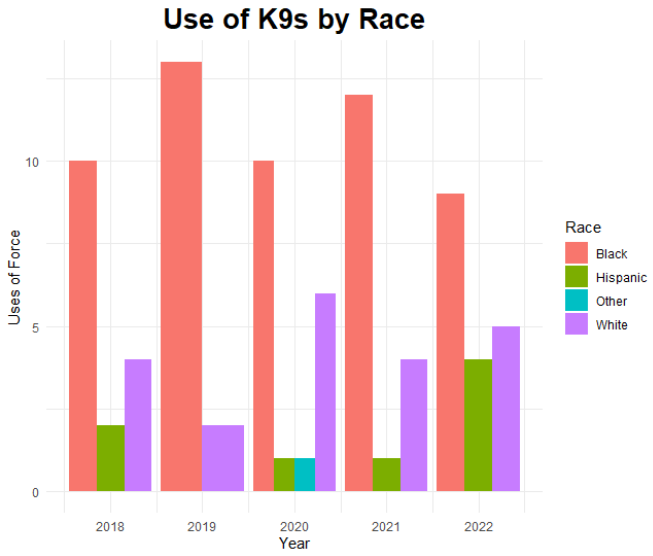
preliminary look into a potential problem and should be considered in light of the relatively small sample size. In future reports, MNCO will seek to first obtain more precise data which will yield more precise analyses.

Canine Usage

While not a frequently documented use of force, the historical implications of canine usage by police necessitate an overview of this type of force. The Department of Justice's 2015 report on policing in Ferguson, Missouri found that the Ferguson Police Department deployed canines exclusively against Black subjects and, in many of these cases, excessively[37]. In Nashville, this use is compounded when considering the city's rich history of civil rights activism and the use of dogs to disrupt civil rights efforts across the south[38] [39]. With this context in mind, we took a careful look at MNPD's canine policy and the use of force incidents in which canines were used.

Figure 13 below presents MNPD's canine usage by race over the past five years. We see a slight overrepresentation of Black subjects as recipients of force by canines, relative to overall force usage (64% of the subjects of canine usage relative to 60% of overall force usage). While this reflects a small raw difference and is not statistically significant, it is difficult to fully represent the impact of a force tool with such important history. Also of note, of the 85 canine usages, 79 reported injury to the subject, and of the 85 usages, 15 were against children, 12 of whom were Black.

Figure 13. Use of K9s by Subject Race



	2018	2019	2020	2021	2022
Black	10	13	10	12	9
Hispanic	2	1	1	1	4
Other	0	0	1	0	0
White	4	2	6	4	5

When breaking down resistance levels, the highest form of resistance used by subjects was most frequently fleeing (34 instances), followed by active resistance (20), "other" (13), passive (9), resistance with weapon (6), and physical assault (3). While we do not have further details on each of these incidents, it is worth noting that there is ongoing legal debate regarding the usage of K9s against fleeing suspects.

At least one US Court of Appeals Court held that if a dog is trained to deliver deadly force, its use should be limited to situations in which officers have probable cause to suspect that the subject poses threat of

[37] Department of Justice, Civil Rights Division. "Investigation of the Ferguson Police Department". (March 4th, 2015)
[38] Spruill, L. H. (2016). Slave Patrols, "Packs of Negro Dogs and Policing Black Communities". *Phylon (1960-)*, *53*(1), 42-66.
[39] Wall, T. (2016). "For the Very Existence of Civilization: The Police Dog and Racial Terror". *American Quarterly*, 68(4), 861-882.

death or serious bodily harm under the 4th amendment. This ruling has yet to be extended to fleeing subjects[40] and the legal future is somewhat unclear, but this represents an avenue for further inquiry.

MNPD's current policy around canine use and deployment has some potentially conflicting information about the tracking of canine usage. Firstly, the policy states:

> "Note: The following law enforcement actions are not considered reportable for the purposes of completing MNPD Form 108NC: a. Presence of police officers or canines".

This information implies that the presence of a canine itself does not count as a reportable instance of force used. Another segment of the policy states that:

> "all members of the Department must bear in mind that the use of the police canine in making or maintaining an arrest constitutes the use of force or an implied threat of the use of force".

While perhaps not counting as a use of force in and of itself, MNPD recognizes that simply displaying canines in some contexts implies an element of force, a force type that could be retraumatizing to marginalized communities and that is currently not being tracked. While canine display tracking is not a common practice, some departments across the country such as Springfield, Oregon[41], and Columbia, Missouri[42], require the tracking of canine displays as distinct uses of force. We encourage MNPD to consider tracking canine displays and analyzing the situations in which they may be an intimidating and retraumatizing tactic.

Officer Demographics

The next line of inquiry was to examine various characteristics of officers who used force (such as gender, race, and duty assignment) to explore the relevance of those factors in use of force calculations. To ascertain this information, we linked the use of force dataset to the most current duty assignments of MNPD officers. It is important to highlight that this presents a real limitation: since our force data extends back to 2016, officers may have been of a different rank or on a different assignment when they used force. As such, rank should be taken to mean the rank that an officer *currently* has, not necessarily the rank they had when they used force. Our demographic analysis revealed that:

- On average, of officers who had used force, female officers had used force 4.58 times, while male officers had used force 7.24 times.
- On average, of officers who had used force, Asian officers had used force 4.40 times, American Indian or Alaska Native officers had used force 5.00 times, Black officers had used force 5.40 times, Hispanic or Latino officers had used force 6.47 times, officers of two or more races had used force 6.47 times, and white officers had used force 7.22 times.

We next identified, by volume of force used, the officers who used the most force (i.e., top 10% of force users in the dataset by number of force reports). Another limitation of our data must be noted at this point: officer hire date is missing for approximately 2/3 officers, meaning we cannot adjust for how long an officer has been in service. It makes logical sense that an officer with 10 years of experience would have used force more frequently than an officer with six months experience. We have reached out to MNPD staff to try and gather a more comprehensive roster for officers and will update this report if additional information is made available. Duty assignment must also be considered; officers responding to violent crime are likely to use force more frequently than are other officers.

[40] Schiavone, Ann L. "K-9 Catch-22: The impossible dilemma of using police dogs on apprehension of suspects." U. Pitt. l. Rev. 80 (2018): 613.
[41] https://springfield-or.gov/wp-content/uploads/2023/04/2022-Use-of-Force-Report.pdf
[42] https://www.como.gov/wp-content/uploads/2021/05/0035_001.pdf

With these caveats in mind, the officers who use force most frequently have the following attributes:

Table 4. Current Assignment of Officers Who Used Force Most Frequently (2016-2022)

Group	Number of Officers (%)
Male	128 (97%)
Female	4 (3%)
White	112 (84.9%)
Black	10 (7.6%)
Two or More Races	6 (4.6%)
Hispanic or Latino	4 (3.0%)
Officers	116 (87.9%)
Sergeants	13 (9.8%)
Lieutenants	2 (2.3%)
Community Services Bureau[43]	79 (59.8%)
Investigative Services Bureau	38 (28.8%)
Support Services Bureau	12 (9.1%)
Administrative Services Bureau	3 (2.3%)
Precinct Staff	76 (57.6%)
Specialized Investigations Division	21 (15.9%)
Violent Crimes Division	14 (10.6%)
Special Operations Division	12 (9.1%)
Interpersonal Crimes Branch	4 (3%)
Training Division	2 (1.5%)
School Safety Division	2 (1.5%)
Forensic Services Division	1 (0.8%)

Overall, those who use force at the most extreme levels are usually white male officers who work in community services or investigative services. Future analyses will attempt to unpack the extent to which these and other factors differ from MNPD's demographics at large.

Subject Resistance

Comparing Force and Resistance

As discussed, there is an established relationship between level of force and level of resistance in academic literature. One somewhat novel approach to resistance is to compare ranked force levels to ranked resistance levels, as the difference in these values can provide insight into whether officers are using excessive force and whether any significant patterns emerge within who receives excessive force.

MNCO staff examined the relationship between the level of force and resistance used by assigning numerical ranks to each type of force and resistance used within the course of a use of force incident. The rankings followed MNPD's force and resistance continuums, as outlined below:

[43] Note that the Community Services Bureau contains all of MNPD's precincts, and as such contains the precinct's patrol officers. Each Patrol Precinct has a Community Affairs Unit, which is independent from the Precinct's Patrol Section.

Total Force

- Firearm (Shots fired) = Assigned a numerical value of 8
- Baton = 7
- K9 = 6
- Foot, Hand, Hard Empty Hand Control = 5
- Taser Deployment = 4
- Takedown, Grapple, Soft Empty Hand Control = 3
- Firearm Display = 2
- Taser Display = 1

Total Resistance

- Assault of an officer with a weapon = Assigned a numerical value of 7
- Inciting bystander engagement = 6[44]
- Assault of an officer without a weapon = 5
- Active resistance = 4
- Fleeing = 3
- Passive resistance = 2
- None = 1

It must be noted that MNPD informed MNCO that they do not track resistance levels on the following forms: 108F (Firearm Display), 108T (Taser Display), and 108NC (Non-Compliant Suspect/Arrestee Report). We have thus excluded these cases for any analysis that included resistance levels as a variable.

One additional note is that we included Taser and firearm displays as uses of force, although MNPD does not include either in their force continuum. Given that each display requires a special use of force form, however, we decided to include each in our analyses. The decision to include it and to assign it as the lowest type of force was made in line with academic research that found that, across a broad sample of agencies covering more than 90% of all full-time sworn officers in the US, "[in] all iterations of analysis, firearm display was at the bottom of an ordinal ranking of force and was less likely than other forms of force to injure subjects."[45]

The "Total Force" variable has a mean of 2.99 and a median of 3, while the "Total Resistance" variable has a mean of 1.75 and a median of 0. From this, we can see that given our coding method, total force is on average higher than total resistance. It is unclear, however, as to whether this reflects a real pattern, or whether it is a function of how the variables were coded. To account for this concern, two approaches were taken: 1) when running regression analyses with this variable, all cases in which there was no resistance coded by MNPD were excluded, and 2) a different "ranked" variable collapsed both force and resistance into smaller standardized categories with an equal number of rankings such that the two variables could be compared more easily.

These "ranked" categories are modified versions of some of the most commonly used categories across many major police departments in the US[45], and are ordered with respect to MNPD's force and resistance continuums:

[44] There were a total of 36 instances of Inciting Bystander Engagement across 8,000 incidents.
[45] Mourtgos, Scott M., Ian T. Adams, and Samuel R. Baty. "Challenging the ordinality of police use-of-force policy." Criminal Justice Policy Review 33.2 (2022): 119-147.

Ranked force:

- Deadly force = 5
    - Firearm deployed
- Impact force = 4
    - Baton
    - K9
    - Foot, Hand, Hard Empty Hand Control
- Pain compliance = 3
    - Taser deployed
    - Chemical spray used
- Soft empty hand control = 2
    - Takedown, Grapple, Soft Empty Hand Control
- Weapon displays = 1
    - Firearm display
    - Taser display

Ranked resistance:

- Assault of officer with weapon= 5
- Assault of officer without weapon = 4
- Active resistance = 3
- Fleeing = 2
- Passive resistance = 1

Using these ranked variables, which have an equal number of categories, we created a comparison variable that subtracts this highest resistance value from the highest force. This comparative value provides insight into whether officer force is commensurate with subject resistance; one would expect the majority of values to have a comparative value of zero if force is commensurate with resistance. Values greater than zero indicate that the level of force was higher than the level of resistance, while values less than zero represent encounters where the level of resistance was greater than the level of force.

In conducting all these analyses, we made an assumption of "ordinality" of both force and resistance. Ordinality, simply put, means the ability to put numbers in a sequenced order, such that 1 comes before 2, which comes before 3, etc. Ordinality has been assumed for most academic research pertaining to use of force continua[45], although not without controversy. Simply put, it is difficult to assign values to interactions as complex as police use of force and subject resistance. This is further complicated when these values are compared as they do not represent numerical differences. By assigning values, we cannot say that canine use (assigned a value of 6) is twice as severe as soft empty hand control tactics (assigned a value of 3). Some scholars accept these inherent limitations of assuming ordinality, while others contend that it is an inappropriate way to conceptualize force data. We have accepted the limitations of this assumption in an attempt to evaluate whether ordinal models performed better than non-ordinal models in evaluating force usage.

Most Frequently Used Force and Resistance Types

Another avenue of analysis included an investigation of each type of force and resistance used and whether some tactics were being used more frequently than others across race. Total force/resistance usages were summed by race and then normalized to get a proportion of force/resistance by race.

Figure 14 provides an overview of the race of the subjects who have received each specific force type. This illustration demonstrates that, when normalized for population proportion, the force used most against Black subjects are firearm displays, Taser deployments, and K9 deployments. The force used by proportion most against white subjects are foot strikes, batons, and firearms[46]:

Figure 14. Highest Force Type by Subject Race

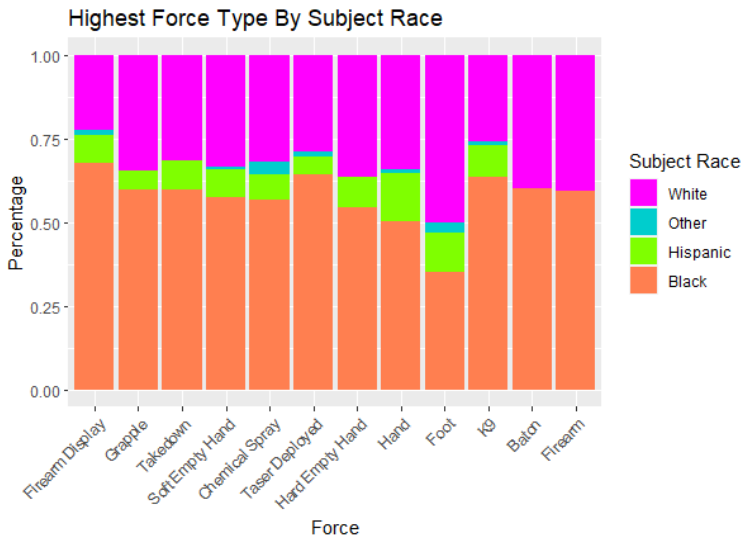
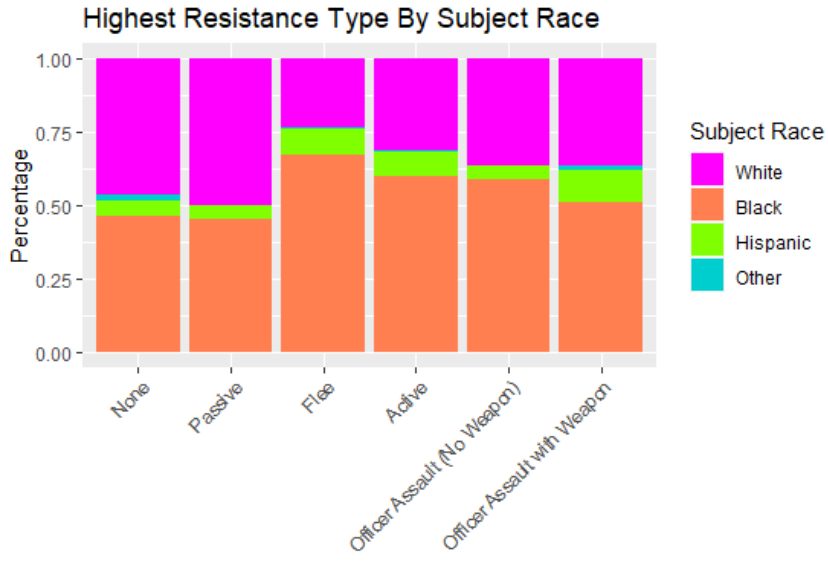


Figure 15 replicates this approach but looks at resistance types by subject race. This graph indicates that, when resistance is tracked by MNPD, Black subjects are most likely to flee and white subjects are most likely to passively resist[46] [47].

Figure 15. Highest Resistance Type by Subject Race



Because so many subjects did not have any coded resistance to officers' commands and still had force used on them, understanding the types of force used against those who did not resist at all provides crucial context. As mentioned previously, however, MNPD informed MNCO that they do not track

[46] Numbers are presented in graphs for Hispanic and 'Other' subjects, but group sizes are too small to infer trends.
[47] Note that the resistance category "Inciting Bystander Engagement" was removed due to limited number of cases.

resistance levels on the following forms: 108F (Firearm Display), 108T (Taser Display), and 108NC (Non-Compliant Suspect/Arrestee Report). The majority of those who had no coded levels of resistance were Black and were significantly more likely to have force used on them as compared to white subjects (X-squared = 25.79, p< 0.001). Of all subjects who had force used against them, 73.6% of Black subjects were not coded as resisting compared to 69.1% of white subjects. Given that resistance was not tracked for firearm displays, Taser displays, or soft empty hand when those were the only types of force used, it is impossible to tell whether there was resistance in these cases or not, which represents an important point for future study.

Regression Models

Our descriptive analyses indicated a need to confirm whether demographic and other factors are significant predictors of the level of force that is used. To answer these questions, MNCO staff ran regression analyses with the following variables attempting to predict force levels: resistance level, subject race, officer race, subject age, officer age, subject sex, and officer sex, as reported by MNPD. Regression models were run in a stepwise fashion (i.e. first seeing whether resistance predicted force, then adding subject race, then officer race, etc.). This was done to maximize the predictive power of the model and to flesh out any of the complex relationships that dictate force. The first set of models sought to predict "Total Force", then "Ranked Force", which are explained in the "Comparing Force and Resistance" section[48]. The same set of models were then used to predict "Top Force" (highest levels of force), force against youth, force that led to injury, and force used when subjects exhibited only passive resistance or fleeing.

All models were checked for linearity, normality, heteroskedasticity, model fit, and any influential cases. Variables were transformed if necessary to meet these assumptions. Models were removed if they failed any of the regression assumptions and could not be transformed appropriately, or if they do not introduce any information that is both statistically significant and novel.

Data were skewed by a large number of subjects who were not coded by MNPD as having resisted[49], so the following analyses were run exclusively on subjects who were coded as having some level of resistance. It is also important to note that this data was limited to officers who have used force at some point; there are many officers who have never reported using any force.

Major takeaways from the models include[50]:

- All models revealed that resistance levels are a statistically significant predictor of force levels, such that as resistance levels increased, force levels increased (t=16.72, p<.001).
- Several models revealed that, of officers who have used force, male officers use significantly higher levels of force relative to non-male officers (t=2.30, p=0.022).
- Several models revealed that, of officers who have used force, white officers use significantly higher levels of force than do non-white officers (t=2.48, p=0.013).
- Several models revealed that, of officers who have used force, white officers are significantly more likely to injure subjects than are non-white officers (t=2.97, p<.01).
- Several models revealed that, of subjects who have force used on them, male subjects have significantly higher levels of force used against them (t=7.40, p<.001).

[48] All models used both 'Total' and 'Ranked' force as outcome measures to better understand the shape that force takes.
[49] This is due to the lack of tracking of resistance levels on the following forms: 108F (Firearm Display), 108T (Taser Display), and 108NC (Non-Compliant Suspect/Arrestee Report). We have thus excluded these cases for any analysis that included resistance levels.
[50] When multiple models showed the same result, test statistics are presented for only one model.

- One model revealed that, of subjects who have force used on them, when there is some level of coded resistance, white subjects have significantly higher levels of force used against them (t=1.43, p=0.049).
- For those whose have force used on them and whose race is coded as missing[26] (i.e., not captured or recorded by MNPD), there are significantly higher levels of force used when they do not resist (F=3.48, p<.01). This holds when comparing Missing to Black (p<.01), Hispanic (p=0.017), and white (p=0.041) people.

These findings provide further context for the descriptive findings outlined earlier in the report, adding depth to our analyses. Across both descriptive and multilevel models on subjects of force, we have evidence for the following findings:

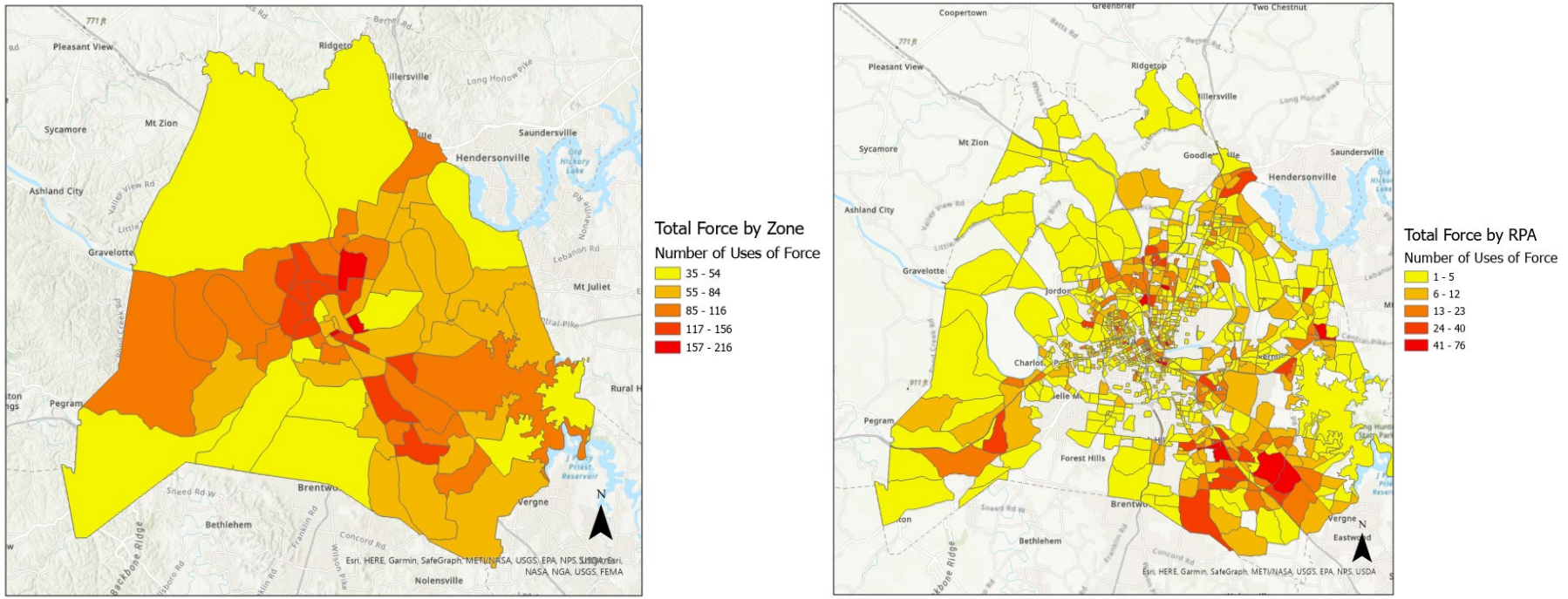
- Of those who have force used on them,
    - Black people have more force used on them as compared to population, suspect, and arrest rates;
    - Hispanic people have more force used on them based on suspect and arrest data;
    - Black people are more likely to have a firearm pointed at them;
    - Black people are more likely to have soft empty hand force used against them;
    - Black and Hispanic youth are more likely to have force of any type used against them compared to white youth, and this effect is even stronger for weapons displays;
    - Black people who have no coded resistance are significantly likelier to have force used on them white people who don't resist;
    - Resisting white subjects have more force used against them compared to subjects of all races; and
    - For those whose race is missing (i.e., not captured or recorded by MNPD), there is a significantly higher amount of force used when they do not have any coded resistance.

This data is equal parts rich and complex, and there are several outstanding data questions. While we do not pretend to have 'figured out' how MNPD uses force, we believe these findings provide needed context and direction for MNPD to modify their force usage. Before discussing these recommendations, we will attempt to understand *where* MNPD uses force across the city.

Mapping Use of Force

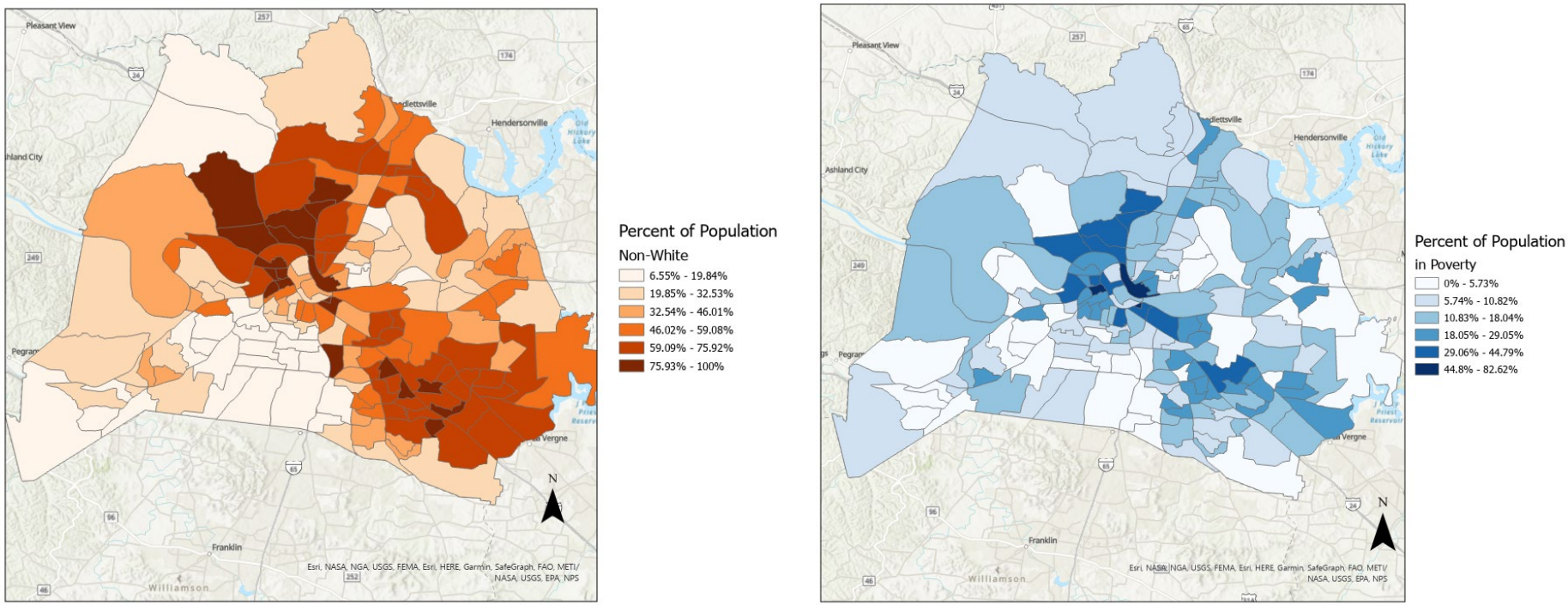
The final analysis in this report seeks to understand the spatial nature of where force is being used. As mentioned in the "Force Used in Schools" section, the way in which MNPD provides data to MNCO prevents event-level geolocating at a precise level. However, MNPD provides location data more broadly by Zone (see left map) and on a smaller level by Reporting Area (or RPA, see right map). Zones are larger, more zip code-sized tracts, while RPAs range in size and can be as small as a few city blocks. While some use of force data was not mappable, the remaining instances were linked to incident data in an effort to aggregate data spatially:

Figures 17 and 18. Total Force by Zone (L) and by RPA (R)



As seen above, force is concentrated in several zones and RPAs. There were many RPAs where no force had been used across our data, and some RPAs with as many as 76 uses of force. On average, just over 6 instances of force were used per RPA. While interesting in and of itself, a closer look at the relationship between force and other factors is warranted. To begin to visualize the relationship between use of force and population demographics, the following graphs display race and percentage of residents who are in poverty across census tracts:

Figures 19 and 20. Percent of Population that is Non-White (L) and in Poverty (R) by Census Tract.

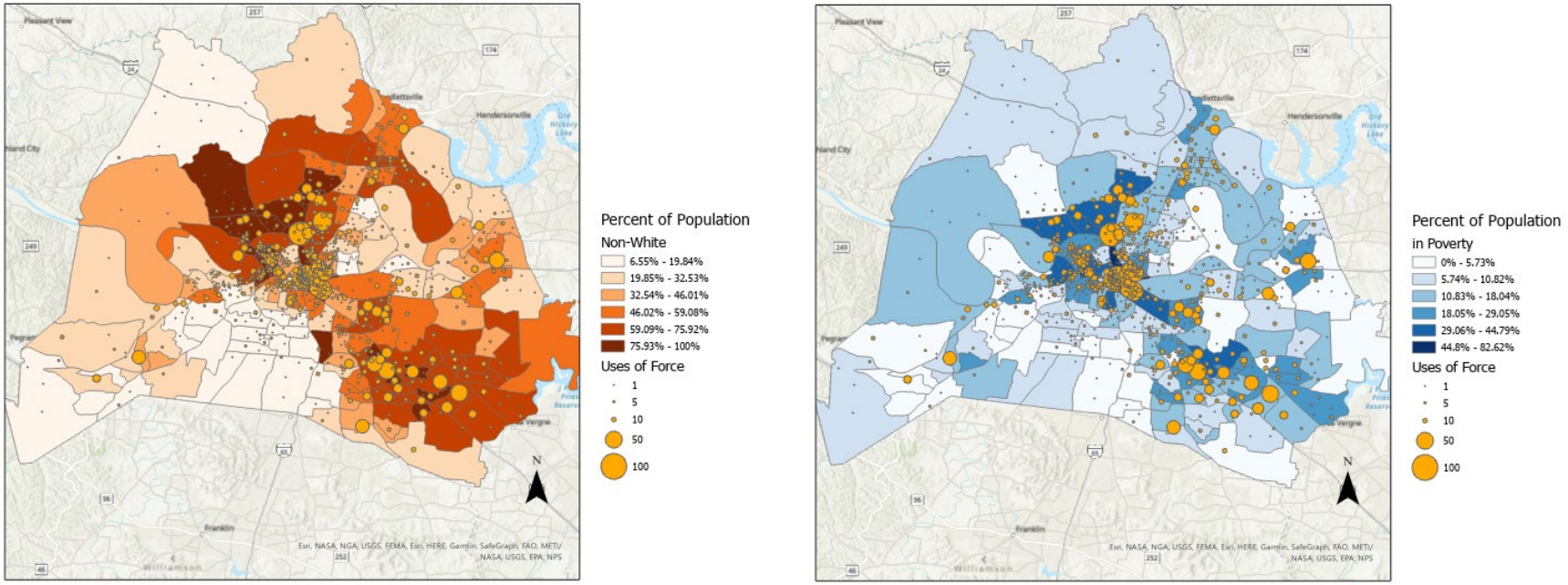


In the left map, the darker shades indicate a higher proportion of people of color and thereby a lower proportion of white people who live in a given Census tract. In the right map, darker shades indicate a higher proportion of residents in poverty who live in a given Census tract. Unsurprisingly, a quick visual analysis reveals a correlation between the percentage of a Census tract that is not white and the percentage of the tract that is in poverty. Voluminous research demonstrates that factors much bigger than policing, such as structural racism, disinvestment, and economic justice underpin this relationship, in addition to policies that serve to favor the wealthy and widen these gaps[51].

These relationships have very real implications for policing. Racial residential segregation has been shown to be a powerful factor in predicting fatal police violence, even when crime rates, income, officer diversity, and other factors are controlled for[52]. When police use of force is mapped on top of these demographic maps, a stark relationship emerges:

[51] Beech, Bettina M., et al. "Poverty, racism, and the public health crisis in America." Frontiers in Public Health, 9 (2021): doi.org/10.3389/fpubh.2021.699049.
[52] Siegel, Michael, et al. "The relationship between racial residential segregation and black-white disparities in fatal police shootings at the city level, 2013–2017." Journal of the National Medical Association 111.6 (2019): 580-587.

Figures 21 and 22. Uses of Force by Percent of Non-White Population (L) and in Poverty (R) by Census tract.



These maps use the same data as those from pg. 27-28, reformatted so that, in RPAs where force is used more frequently, the circles appear proportionately larger. By integrating these maps, it becomes clear that force usage concentrates in non-white and high-poverty areas of Nashville. These disparities result from various policy choices about where to deploy officers. MNPD stated in correspondence to MNCO that patrol allocation is based on officer workload and is balanced by the amount of time spent by patrol officers responding to calls for service. MNPD thus relies in part on historical crime patterns to allocate officers. But existing criminal justice data is not neutral – existing data encodes current and often inequitable policing and can entrench stereotypes. A line of research has accordingly investigated algorithm-driven practices such as "hotspot policing". These studies[53] suggest that hotspot policing, which may lead to some reductions in crime, primes officers to anticipate trouble when patrolling certain areas, which may lead them to make more prejudicial stops and arrests. The determination of how MNPD is using hotspots and the precise mechanisms of Precision Policing, a pillar of Chief Drake's policing strategy, warrant future study and will be discussed later in the report.

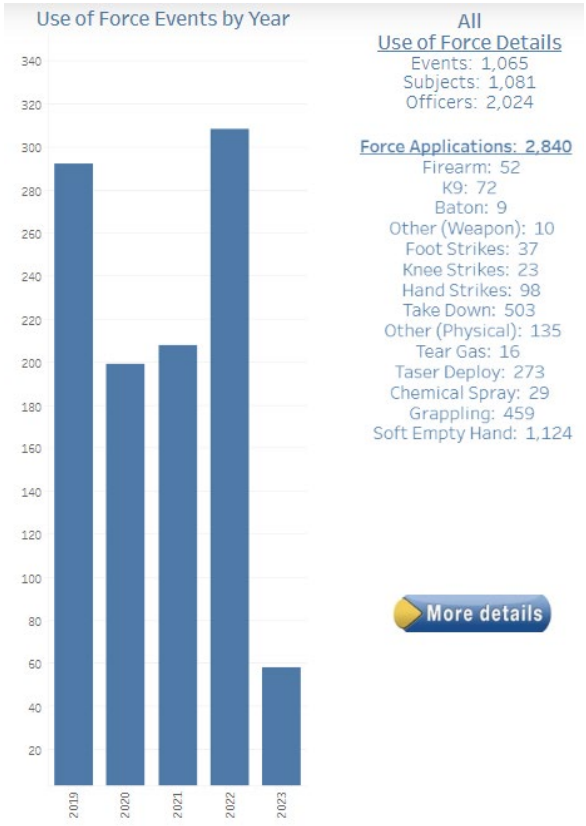
[53] Minhas, Rashid, and Dave Walsh. "The role of prejudicial stereotypes in the formation of suspicion: An examination of operational procedures in stop and search practices." International Journal of Police Science & Management 23.3 (2021): 293-305.

Discussion

The data we worked with is incredibly complex, and it is unlikely that any analysis or recommendation we could make would, in and of itself, holistically address the many challenges inherent to policing. Instead, our recommendations focus on specific, actionable items that MNPD could implement quickly and that could have a significant impact in policing in Nashville.

Recommendations

Figure 23. MNPD's Public Use of Force Dashboard



MNPD already employs one best-practice transparency approach by hosting a publicly available force dashboard, a screenshot of which can be seen to the left of this text. The numbers that MNPD reports on their dashboard are significantly different from those that MNCO has reported. While there are several potential explanations, Matthew Morley, an analyst with MNPD, provided MNCO with the below information:

"The following **non-force events** documented on the 108 Forms are excluded from all MNPD's UOF data analyses [across the department]:

-Animal Euthanizations

-Soft Empty Hand (no injury)

-Firearm Displays/accidental discharges

-Taser Displays/accidental discharges/failed to deploy

-Forms completed to document a self/previous injury" (**emphasis added**)

The implication is thus that soft empty hand control not leading to an injury, firearm displays, Taser displays, and accidental discharges are not displayed on MNPD's dashboards or used in their force analyses. It is in the interest of transparency that we thus make our first recommendation:

Recommendation 1

MNPD should include all soft empty hand control usages (regardless of injury status), firearm displays, Taser displays, and accidental discharges in departmental use of force analyses when there is a subject present, including on MNPD's Use of Force Dashboard.

As mentioned in the report, the vast majority (over 70%) of subjects in the use of force database provided to MNCO either are explicitly coded as having no resistance, or do not have any resistance level indicated across any of the resistance columns ("Passive Resist", "Flee", "Active", "Officer Physical Assault", "Inciting Bystander Engagement", "Assault Officer with Physical Weapon")[24]. While MNPD indicated that Forms 108F, 108T, and 108NC do not have a simple checkbox to mark whether a subject

resisted, these cases do not cover all cases in which resistance is not documented. Two potential explanations for this issue are that either MNPD officers are frequently using force when they are not encountering any resistance, or they are not coding resistance levels appropriately. After reviewing a Form 108NC, the form MNPD uses for uses of soft empty hand control, the resistance levels appear to be at odds with the categories reported to MNCO:

EVENT FACTORS (*Choose the options that best apply or explain in synopsis)*

Reason for Contact	Subject's Non-Compliance	Subject's Posture	Empty Hand Control Used
☐ Call for Service	☐ Resistive Tension	☐ Normal	☐ Restraining Hold
☐ Traffic Stop	☐ Conspicuously Ignoring	☐ Hands Obscured	☐ Pain Compliance Technique
☐ Consensual Encounter	☐ Exaggerated Movements	☐ Shoulder Shift	☐ Pressure Point
☐ DV Related	☐ Verbal Threats	☐ Target Glance	☐ Grabbing to Control
☐ Investigative Stop	☐ Excessive Emotions	☐ Blank Stare	☐ Joint Manipulation
☐ Warrant Service	☐ Ceased Movement	☐ Fighting Stance	☐ Soft/Controlled Take Down
☐ Other - See Synopsis	☐ Flight	☐ Combative/Assaultive	☐ Other - See Synopsis
	☐ Assaultive Behavior	☐ Other - See Synopsis	
	☐ Other - See Synopsis		

Verbalization	Contributing Factors	Subject Factors	Subject Demeanor Post
☐ Asked	☐ None	☐ Armed	☐ Cooperative
☐ Told	☐ Alcohol	☐ Violent History Known or Reported	☐ Complaining
☐ Demanded	☐ Drugs		☐ Belligerent
☐ Warned of Pending Force	☐ Mental Illness	*If yes, to either, describe in synopsis*	☐ Abusive
☐ None			☐ Aggressive
☐ Other - See Synopsis			

MNPD's manual clearly outlines definitions for the resistance types that it reports to MNCO. However, it does not clearly define the behaviors under the "Subject's Non-Compliance" category in the Manual, nor do these terms show up in the data reported to MNCO.

With this in mind, our second, two-part recommendation is:

Recommendation 2a

MNPD should revisit and modify its use of force training and reporting mechanisms to include more consistent tracking of resistance levels across all Form 108 types (108, 108F, 108T, and 108NC). To accomplish this, MNPD should update the MNPD Manual to define all terms in the "Subject's Non-Compliance" section in Form 108s. Further, the data provided to MNCO should be updated to reflect this change.

Recommendation 2b

MNPD should randomly audit instances from 2022 onward in which officers use force and resistance was not tracked, or was coded as no resistance. The purpose of this audit should be to verify that there was indeed no resistance in these instances. This is to include all Form 108, 108F, 108T, and 108NCs. If officers are determined to have used a disproportionate level of force, MNPD should take appropriate disciplinary action.

We have evidence that MNPD officers use force disparately in a several ways; the fundamental question is how to mitigate this behavior. Over the years, MNPD and many departments across the country have instituted a number of reforms in an effort to reduce excessive and discriminatory uses of force. To their credit, MNPD has instituted many of the reforms that have been proposed, including instituting a Duty to Intervene policy, banning neck restraint techniques, and requiring de-escalation. However, instances of excessive force and overall disparate uses of force persists.

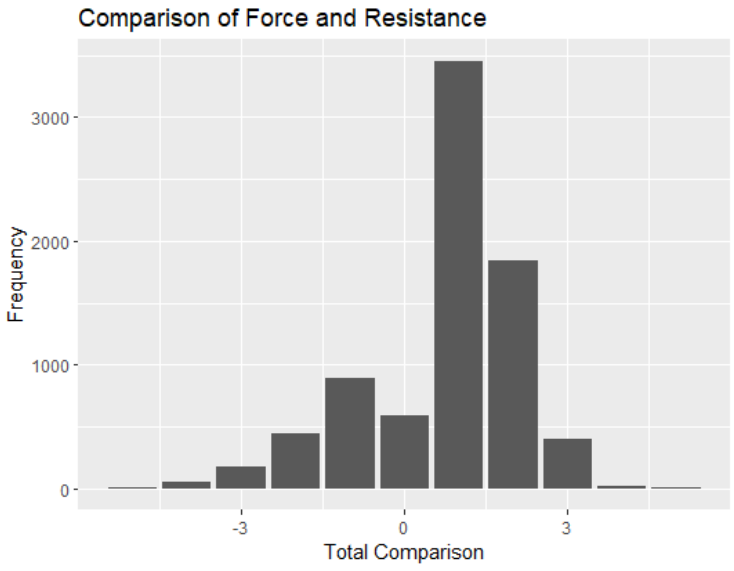
One potential solution comes from the Oakland Police. Facing a high degree of police-citizen violence and alienation of Oakland's Black community, the Oakland Police Department created a Violence Reduction Unit that was staffed by part-time officers. The aim of the Unit was to study police-community violence and create interventions that would combat such violence. If officers were identified by peers or supervisors as being involved in an above-average number of violent encounters, they had to attend a Peer Review Panel where they discussed the incidents, identified elements of their behavior, attitude, and approach that may have contributed to the conflict, and made specific commitments to change their approach to subjects. This approach contributed to a 34% reduction in instances of physical conflict over three years, a 68% reduction in citizen complaints, and reductions in resisting arrest. When the program was phased out due to budget cuts, there were large increases in police violence that were attributed to the removal of the program[54].

Recommendation 3

MNPD should create a Peer Review Panel where supervisors or peers can anonymously report officers who they believe are involved in an above-average number of violent encounters. This panel should be supported by part-time staff who, in addition to serving on the panel, study police-community violence and create interventions that would combat such violence.

As outlined in the "Subject Resistance" section of this report, identifying use of force and resistance continuums is a challenging process that MNPD has likely thought a lot about. Equally important is figuring out situations in which force levels were disproportionate relative to resistance levels. Attempting to easily compare force and resistance levels and to identify officers using disproportionate amounts of force, MNCO constructed a comparison variable calculated by subtracting "Ranked Resistance" from "Ranked Force". Comparison values greater than 0 represent cases in which force used was greater than recorded resistance, while values less than 0 represent the opposite. This initial attempt coded all instances in which no resistance was captured as zero:

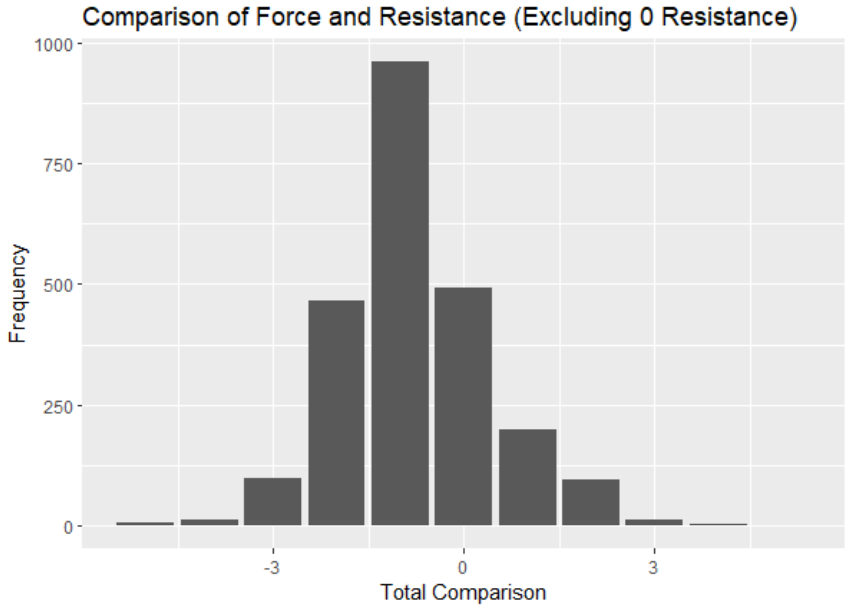
Figure 24. Comparison of Force versus Resistance (Including Non-Coded Resistance)



[54] Prenzler, Tim, Louise Porter, and Geoffrey P. Alpert. "Reducing police use of force: Case studies and prospects." Aggression and Violent Behavior 18.2 (2013): 343-356.

As Figure 24 shows, there are a significant number of cases where a higher level of force is used than would be expected by the resistance levels we created. However, if the high volume of individuals who had no coded resistance are excluded (which may be a more prudent way of approaching this variable given the data we have), a very different pattern emerges:

Figure 25. Comparison of Force versus Resistance Excluding Cases Where Resistance was not Coded



These graphs serve to highlight the uncertainty and importance of developing a comparator variable. These two graphs tell very different stories, and it is important to understand which is closer to the truth. This is more difficult to understand given MNPD's lack of tracking of resistance levels, and makes Recommendation 2a all the more important. Our version of a comparison variable should thus not be construed as a perfect solution, though it can serve as a model for MNPD. Given that empirical research[20] has demonstrated that systems that monitor officer misconduct by the *number* of use of force reports rather than relative risk scores reports filed can both fail to identify problematic officers and falsely identify non-problematic officers, we believe it is imperative that MNPD utilize some form of comparison variable of their own. As it is developed, the appropriateness of use of force through the lens of community expectations should be considered[55]. With this all in mind, we recommend that:

Recommendation 4a

MNPD should use a comparative method based on their force and resistance continuums to evaluate when officers are using force that is disproportionate to resistance, even when force levels are low. The establishment of such a method should be done in consultation with MNCO and with community input such that community perception of force is prioritized in MNPD's assessment of force and resistance.

[55] Stoughton, Seth W., Jeffrey J. Noble, and Geoffrey P. Alpert. Evaluating police uses of force. NYU Press, 2021.

Recommendation 4b

This comparative method should be incorporated into MNPD's Early Intervention System and should flag officers who repeatedly use a level of force disproportionate to resistance. Additionally, a review of each officer's use of force from the prior year should be included in their annual performance evaluation to identify officers who are involved in a disproportionate number of force incidents or who are frequently using excessive force.

In the wake of several fatal interactions that police have had with youth, there have been some changes to how police engage with youth on a national level. Six years after police fatally shot Tamir Rice, Cleveland rolled out policy specific to how police interact with youth[56]. Strategies for Youth, a national policy and training organization aimed at ensuring best outcomes for youth interacting with police, has also released model policy on use of force on youth. Their guidelines[57] are outlined below:

General Guidelines

It is the policy of this Agency to engage in developmentally-appropriate and trauma-informed de-escalation strategies when interacting with youth. Officers must use the least amount of force appropriate to the age, body size, disability status, relative strength, and risk posed by the youth to stabilize the situation and protect the safety of the involved youth, LEOs, and the public.

De-Escalation Tactics With Youth

When necessary, officers interacting with youth shall employ developmentally-appropriate crisis intervention tactics designed to de-escalate the encounter, reduce triggering traumatic responses, and eliminate the need to use force. When determining whether, and to what degree, to use force, officers must be mindful of both the circumstances giving rise to the encounter and to the environment in which the interaction is taking place. This is especially true when it occurs in child-centric locations such as schools, playgrounds, and recreation centers. A developmentally-sensitive de-escalation approach includes the following components, adapted from recommendations of the National Institute for Justice:

1. Officer Presence: The mere physical presence of an officer can be intimidating and threatening to youth. Approach youth in a non-confrontational manner to diffuse tension and anxiety while maintaining safety.

2. Communication Strategies

• Use a calm and measured tone, simple, concrete language and short, direct phrases to gain compliance.

• Use repetition in a clear voice to reinforce instructions.

• Do not use threats and intimidation to gain compliance.

• Allow youth to make choices when appropriate, even if it is only the appearance of choice to gain compliance.

• Allow ample time for youth to comply.

3. Empty Hand Control

• Physical force of any kind must be objectively reasonable, necessary, proportional to the circumstances and consistent with the age, body-size, disability status, relative strength, and risk posed by the youth.

• Physical attributes of the officer relative to the youth must also inform the degree of force necessary and objectively reasonable to stabilize a situation.

• Use of force is never permitted on youth in restraints.

[56] https://www.themarshallproject.org/2021/03/04/six-years-after-tamir-rice-cleveland-makes-new-rules-about-policing-kids
[57] https://strategiesforyouth.org/sitefiles/wp-content/uploads/2019/10/SFY-Wheres-the-State-Report-May2017.pdf

- Conducted Electrical Weapons, pain compliance or pressure point control techniques on youth are prohibited unless the encounter arises to a deadly force situation.

A holistic use of force policy for youth as outlined above is needed, but an additional wrinkle is that school resource officers may be using force disproportionately on Black students and girls, both of which deserve specific focus. These concerns can be integrated into a broader policy on use of force with youth. As such, we recommend that:

Recommendation 5

MNPD should develop use of force policies and training specific to interactions with youth, modeled after best practice policies from organizations like Strategies for Youth. These policies and training should discuss de-escalation, officer presence, communication style, allowed/disallowed uses of force, disparate force across race and gender, and other topics as deemed necessary. Such policies must address that force of any kind must be consistent with the age, body-size, disability status, relative strength, and risk posed by the youth.

Given the difficulties that MNCO staff had determining when force was being used in schools and the ongoing conversations MNPD and Council are having about expanded police presence in schools, MNCO views monitoring the use of force in schools as more important than ever. One such mechanism, which may be particularly suitable for the upcoming changes to MNCO's internal staffing structure, would be to enable auditing of all uses of force in Metro Nashville Public Schools. Accordingly, we recommend:

Recommendation 6

MNPD should electronically notify MNCO staff every time MNPD staff use force in Metro Nashville Public Schools. Such notification should be delivered in a monthly report that includes information including but not limited to officer name, incident number, school location, subject demographics, type of force used, and incident report narrative.

As outlined in the mapping section of this report, the problems related to force usage are not limited to individuals, but also emerge spatially. Implicit bias training that emphasizes the origins of bias, triggers for biased behavior, and bias prevention strategies is necessary[58], but is also not sufficient to address the extent of biased behavior in policing. We see entire neighborhoods, often low-income and mostly occupied by people of color, where force is used at much higher rates than in richer, whiter neighborhoods. These disparities are in part the result of policy choices about where to deploy officers, choices that consider who will commit crime and where they'll commit it.

It is unclear to what extent MNPD is using predictive/algorithmic policing. Chief Drake has, however, made clear that he is committed to "precision policing". A white paper[59] from the Institute of Crime Science at the University of Cincinnati identifies the first tenet of precision policing as "Police agencies [should] develop a robust strategy to deal with the small number of places that drive crime & disorder." This is because they believe that:

> [M]ost crime is concentrated at just a few micro-places – or "hot spots". The idea of micro-places is key. Micro-places are single addresses or street blocks. About 1% of micro-places host 25% of crime and 3%

[58] And indeed is supported by both the IACP and the 21st Century Policing Task Force, among many others.
[59] Haberman, Cory P., et al. "Precision Policing 2.0: A Framework for the Future of Policing."

of micro-places experience about 50% of crime (Weisburd, 2015). Even within a neighborhood labeled "high crime", crime levels will change from block to block or even address to address on the same block.

Comparatively, predictive policing "uses computer systems to analyze large sets of data, including historical crime data, to help decide where to deploy police or to identify individuals who are purportedly more likely to commit or be a victim of a crime."[60] The difference between "predictive" and "precision" policing appears somewhat murky, but previous research on hotspot policing (a type of predictive policing that focuses on small, usually urban geographic areas where crime is concentrated) suggests that it may prime officers to anticipate trouble when patrolling certain areas, which then leads them to potentially stop and arrest more people based on bias instead of reason[61]. This bias must thus be addressed on a level beyond what is usually seen in implicit bias training. "Interventions, such as inherent-bias training, aim to alter the way police officers interact with Black individuals," writes Dr. Michael Siegel[62]. "The empirical evidence… suggests that training and interventions that change the way police interact with Black *neighborhoods* are needed." Dr. Siegel's research goes on to note that while the focus of police training has always been on the person and situation, we must dedicate more training to place. With many officers and trainees moving to Nashville-Davidson County from out of county/state, community-led, place-based training that includes a thorough overview of the city's history would provide necessary context for new officers looking to effectively serve Nashville.

Related research has highlighted the importance of integrating community perspective and community trainers in implicit bias training, particularly if those community trainers are paid. This extends other research that shows that neither informal nor formal community engagement impacted rates of police use of force, but that both informal and formal community **consultation** are associated with reductions in force[63]. This is an important distinction – simple engagement falls short of genuine consultation with community members on solutions to crime problems and the prioritization of neighborhood problems. A potential remedy to this could come by way of the volume of Historically Black Colleges and Universities (HBCUs) Nashville has, as many police departments across the country consider[64] how police and HBCUs can interact[65]. Accordingly, we recommend that:

Recommendation 7

MNPD should modify its implicit bias training to address the bias officers may have against entire neighborhoods based on the racial and socioeconomic makeup of those neighborhoods. These trainings should include paid representatives and trainers from the Nashville community who can serve as consultants and speak to the histories of their community and the issues they face, and should be precinct- and neighborhood-specific.

[60] Lau, Tim. "Predictive Policing Explained". Brennan Center. https://www.brennancenter.org/our-work/research-reports/predictive-policing-explained

[61] Minhas, Rashid, and Dave Walsh. "The role of prejudicial stereotypes in the formation of suspicion: An examination of operational procedures in stop and search practices." International Journal of Police Science & Management 23.3 (2021): 293-305.

[62] Siegel, Michael. "Racial Disparities in Fatal Police Shootings". Boston University Law Review, 100 (2020): 1068-1092.

[63] Jannetta, Jesse, et. Al "Learning to Build Police-Community Trust". https://www.urban.org/sites/default/files/publication/100705/learning_to_build_police-community_trust_3.pdf

[64] Garcia-Navarro, L. "He Started the First Police Academy at an HBCU. It was Complicated". The New York Times (April 13, 2023). https://www.nytimes.com/2023/04/13/opinion/police-academy-hbcu-recruiting.html

[65] Similar to the distinction raised between consultation and engagement, Black college students reported that "The recruitment programs of their local law enforcement agencies use unappealing recruitment methods and messages that do not capture the attention of Black college students. The recruitment flyers and brochures do not include pictures of diverse racial, ethnic, and gender groups or messaging that convinces them that they will be an integral part of the agency. They do not feel a connection to the recruiters and feel that some recruiters are only interested in reaching a quota of Blacks or women. Recruiters make assumptions about certain colleges or places and therefore do not send recruiters there." https://portal.cops.usdoj.gov/resourcecenter/RIC/Publications/cops-w0965-pub.pdf

Our data reveals that MNPD is displaying their firearms and using soft empty hand control techniques on Black people significantly more than other racial groups. While these techniques are generally accepted as being low on the force continuum, their disparate use is nonetheless concerning. There are several potential explanations for this phenomenon; for example, officers may be improperly escalating the situation due to bias, and/or they could be not handling situations in a procedurally just way. The Department of Justice has recognized that de-escalation and procedural justice are intertwined concepts, writing[66]:

> "De-escalation should be viewed holistically by law enforcement agencies. De-escalation includes aspects of communication and physical tactics, but it is also important to recognize the role that community engagement and procedural justice play in ensuring police-community encounters that are safe for everyone. The [DOJ] also encourages an agency-wide comprehensive approach to de-escalation that includes individual-level de-escalation, implicit bias, and duty to intervene techniques training."

MNPD has very clearly stated its desire to weave de-escalation throughout its curriculum rather than have a course on its own, stating in its training curriculum[67] that "De-escalation *is not a standalone class*. It is a theme that permeates much of the training in the MNPD Training Division". While this is an understandable position and follows best practice guidelines from organizations such as the Police Executive Research Forum (PERF), MNCO believes that de-escalation and procedural justice go hand-in-hand, and as such procedural justice values should be emphasized.

The concept of procedural justice in policing is based on the idea that the public's perception of police legitimacy is more strongly influenced by one's interaction with an officer than the outcome of those interactions[68]. Procedural justice training, the basic principles of which include "giving voice, showing neutrality, treating people with dignity and respect, and evidencing trustworthy motives", has been shown[69] to simultaneously reduce arrests, reduce crime, and reduce complaints of harassment and unnecessary force, underscoring its importance for police departments. This lends legitimacy to the theory of procedural justice, and training in procedural justice thus has extraordinary de-escalating potential in itself and should be integrated to MNPD's training curriculum.

Finally, while MNPD's emphasis on de-escalation is appreciated, it is difficult to track when officers are using various de-escalation techniques without combing through event narratives in Use of Force reports. This conflicts with a recommendation from the IACP that agencies should "collect data on all de-escalation incidents that occur"[70]. MNCO thus makes three recommendations related to de-escalation and procedural justice:

Recommendation 8

MNPD should train recruits and officers in procedural justice principles, focusing on both internal and external standards. Such training should be standalone, repeated annually, and follow evidence-based standards demonstrated to be efficacious[69].

[66] https://cops.usdoj.gov/de-escalation
[67] https://www.nashville.gov/sites/default/files/2022-10/MNPD-Basic-Curriculum.pdf?ct=1667240507
[68] Quattlebaum, Megan, Tracey L. Meares, and Tom Tyler. "Principles of procedurally just policing." Available at https://policingequity.org/procedural-justice (2018).
[69] Weisburd, David, et al. "Reforming the police through procedural justice training:" PNAS 119.14 (2022).
[70] https://www.theiacp.org/sites/default/files/Research%20Center/Combined%20v2.pdf

Recommendation 9

MNPD should modify its use of force forms to include checkboxes for all de-escalation techniques (as outlined in section 11.10.030(M)) used by officers. These techniques should be tracked and analyzed as to how they relate to officer use of force.

Recommendation 10

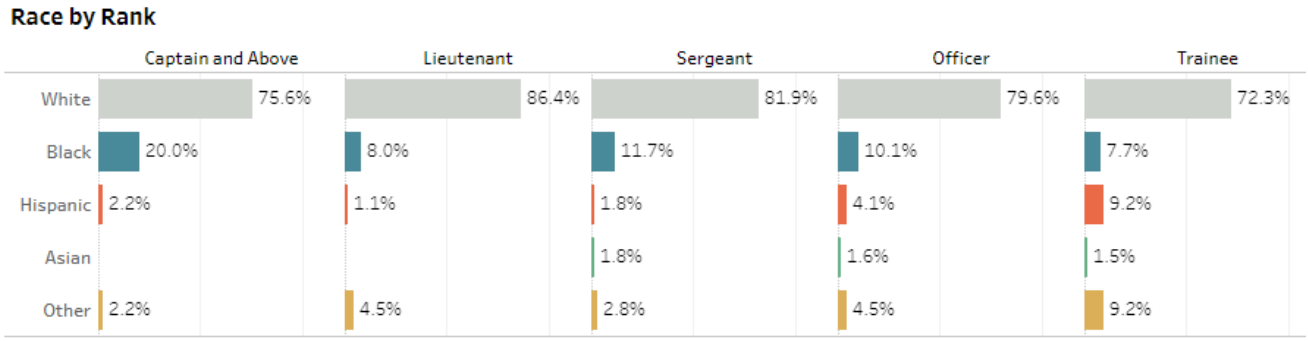
MNPD should modify its de-escalation policy and training to include specific stipulations on procedural justice. These should address active/empathetic listening, nonverbal communication, word choice, and de-escalation techniques that are grounded in procedural justice principles such as rapport-building.

Many police departments, including MNPD, believe racial and gender diversity are a potential solution to issues in policing, including use of force disparities. This approach is often taken due to academic research that corroborates our findings that white, male officers use more force in general[71]. This diversity push relies on the idea that increasing representation will result in less violent policing, less disparate policing, greater police legitimacy, and thereby increased trust. At odds with this belief is research from Headley and Wright[72], who found that while Black officers were less likely to use severe force against Black civilians than were white officers, both white and Black officers were less likely to arrest white civilians during use of force encounters. Given that arrest decisions require less discretion from officers (particularly compared to force, which is highly discretionary), the authors suggest that the benefits of representation may be conditional upon the outcome under consideration. Specifically, they posit that when Black officers don't have discretion in their actions, they may conform to traditional police culture, which has historically favored white civilians.

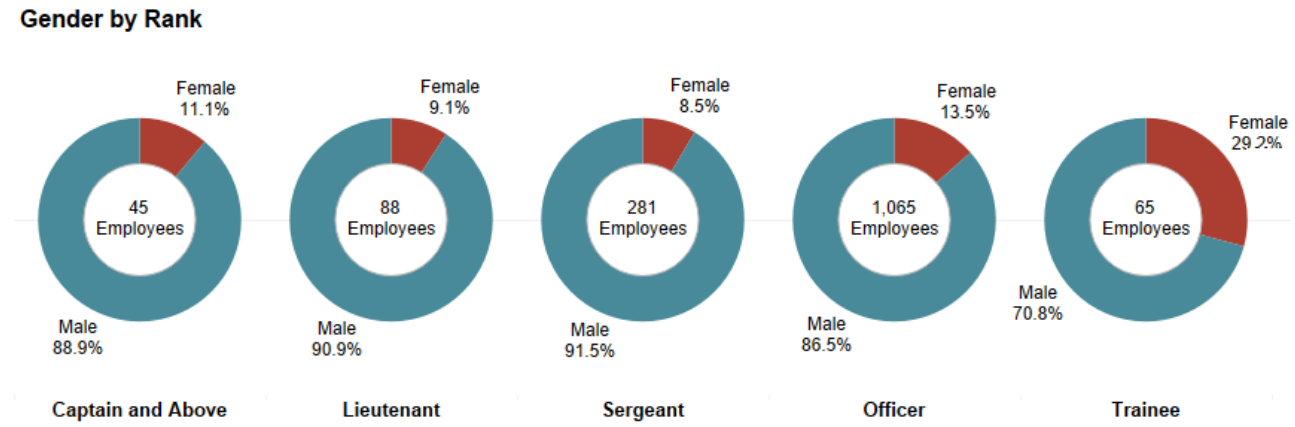
This complements other work[73] which shows that low levels of minority representation in policing may actually *increase* racial profiling, since the pressure to conform to the norms of traditional police culture may be strong enough to reinforce this sort of behavior. "Minorities may be particularly zealous adherents to organizational or majority group norms when they are few in number," some research[74] theorizes. "Representative bureaucracy theory suggests that there may be a relationship between force composition and decreased police violence, but only once there are enough Black officers that they feel safe representing the interests of clients of the same race".

This evidence implies that departments may have to have a significant composition of their force (perhaps more than 30%) of non-white or female officers to reduce the number of fatal outcomes that Black citizens have with police. While the research does not promote setting a specific hiring benchmark, the argument is sound theoretically. For MNPD's sworn officers, the only groups with sizable non-white representation are Trainees and Captain and Above[75]:

[71] Ba, Bocar A., et al. "The role of officer race and gender in police-civilian interactions in Chicago." Science 371.6530 (2021): 696-702.
[72] Headley, Andrea M., and James E. Wright. "Is representation enough? Racial disparities in levels of force and arrests by police." Public Administration Review 80.6 (2020): 1051-1062.
[73] Wilkins, Vicky M., and Brian N. Williams. "Black or blue: Racial profiling and representative bureaucracy." Public Administration Review 68.4 (2008): 654-664.
[74] Nicholson-Crotty, Sean, Jill Nicholson-Crotty, and Sergio Fernandez. "Will more black cops matter? Officer race and police-involved homicides of black citizens." Public Administration Review 77.2 (2017): 206-216.
[75] Data per MNPD's Employee Demographics Dashboard on 6/15/23: https://www.nashville.gov/departments/police/data-dashboard/employee-demographics



A similar pattern can be seen with gender diversity:



Longstanding research demonstrates that female officers are just as competent as male officers, less likely to use excessive force, more likely to implement community policing tactics, better able to respond to violence against women, contribute to a culture with fewer instances of discrimination and harassment, and may bring about beneficial policy changes[76]. Underscoring the practical nature of this point, research has shown that the average male officer costs 2.5-5 times more in lawsuit payouts from excessive force usage than the average female officer[77].

Diversification of a police force is a long-term commitment, one that requires many years of intentional, successful recruitment. To his credit, Chief Drake has been intentional about diversification from his earliest days as Chief[78] as well as more recently[79]. Our final recommendation is thus simple:

Recommendation 11

MNPD should continue to focus recruitment on non-white and female candidates until all ranks of the department are staffed with representation at levels significantly closer to Nashville's demographic makeup.

[76] Lonsway, Kimberly A. "Hiring & Retaining More Women: The Advantages to Law Enforcement Agencies." (2000). National Center for Women and Policing. https://files.eric.ed.gov/fulltext/ED473183.pdf
[77] Lonsway, Kim, et al. "Men, women, and police excessive force: A tale of two genders." The National Center for Women & Policing (2002).
[78] https://www.axios.com/2021/09/27/nashville-pd-tackle-diversity-problem
[79] https://www.nashville.gov/departments/police/news/chief-drake-one-first-sign-30x30-initiative-advancing-women-policing

It is likely that early returns will not be there; as previous research has suggested, it may take hitting a certain saturation point before benefits such as force reductions are actualized. As such, this should be conceptualized as a long-term project with suitably long-term goals.

Future Projects

For as many questions as this report was able to answer, just as many emerged. The COB should consider future research on the following topics as they relate to use of force:

Community and Stakeholder Input

To understand more fully the impact that MNPD's Use of Force policy and approach has on community members, MNCO staff plans to connect with individuals and, if relevant, their contacts who have had an encounter with MNPD in which force was used. Speaking with community members would provide a more robust understanding of use of force and the impacts that these encounters have on those involved, particularly given the importance of the community standard of force usage. We hope to expand on this initial analysis of MNPD's use of force by delving into the following topics and pairing this analysis with narrative experiences of people impacted by MNPD's actions. These stories will provide necessary context and will ground these analyses in the material impacts that the policies and actions of MNPD have on the people of Nashville.

Precision Policing

While we can guess given the hotspot data we have, we do not know what areas MNPD has formally identified as precision policing areas, nor do we know how enforcement tactics differ in these areas. Further inquiry could unpack how Chief Drake's commitment to Precision Policing has impacted force usage. Initial conversations have begun with MNPD analysts to better understand Precision Policing.

School Resource Officers

Given the data limitations discussed earlier, we do not have a true estimate of force used by school resource officers within MNPS. More comprehensive reporting by MNPD and more focused study by MNCO could reveal additional important patterns within school-based policing.

Analysis of Highest Force Users

As discussed, the identification of officers who use high levels of force, particularly those who use force at much higher levels than resistance, should be flagged and reviewed by MNPD. However, MNCO could conduct a comparable analysis including a general pattern of their force usage, as well as whether these officers receive discipline, promotions, or transfers.

"Unfounded" Stops

When MNPD officers conduct stops, some of them are eventually categorized as "Unfounded". This report could unpack the patterns of force usage in these stops, including the demographics of who is stopped in this way and the type of force used.

Categorization of Force and Resistance

MNCO reached out to MNPD's ITS Director John Singleton to seek clarity on how force and resistance levels are electronically documented and exported into MNCO databases. Given the extremely high number of individuals who had no coded resistance, MNCO staff could explore whether or not these individuals are resisting and being improperly coded, or whether they are having force used on them despite their lack of resistance. Either result would prove interesting.

De-Escalation Tactics in Cases of High Force

This report could explore whether in cases where officers use high levels of force there are opportunities for de-escalation tactics. Such review would require viewing body cam footage and related documentation to determine if/how officers could de-escalate situations more effectively.

Officer Demographics

MNCO data on officer hire date is missing for approximately 2/3 of officers. MNCO has initiated conversations with MNPD ITS to procure a data set that accurately identifies hire dates for all officers, and then use that to investigate how officer tenure impacts force usage and whether networks of officer force usage are present within the Department[80]. This project could be expanded further with officer age, military status, whether they are from Davidson County, and other variables of interest.

Investigation into Incident Outcomes

The force data provided to MNCO does not contain much information regarding the contextual factors surrounding the subject of force. Linking to incident data and requesting a large sample of incident reports and use of force reports could help answer questions such as whether force is being used disproportionately against unhoused people, people with mental illness, and other categories.

Body Worn Camera (BWC) Audit

While MNPD supervisors, by policy, are supposed to review every use of force form filed by their officers, it is unclear the extent to which this is happening. Further, it is unclear whether appropriate disciplinary action is being taken in response to policy violations uncovered. To investigate this, MNCO staff could audit BWC video with the respective Use of Force Form, noting any inconsistencies and policy violations.

Biased-Based Policing

A plethora of training resources exist to help police departments effectively train officers about biased-based policing and how to recognize bias in their thoughts and actions. With mixed literature regarding the efficacy of certain types of bias training for officers, MNCO hopes to review more literature on the types of trainings that are most effective at combating police bias and to make concreate recommendations about specific elements that would augment the benefits of these trainings.

Supervisor Training/Review of Force

MNCO could investigate the impact that supervisors have on officer use of force and the processes through which they can intervene when specific officers use excessive force. This could include an examination of networks of force, whether improvements in supervisory structure would have an impact on officer use of force, the impact of racial dynamics (Black officer, white supervisor), and the role of FTOs. Potential methodology could include a thorough review of MNPD's officer evaluation protocol, a review of complaints, incident, arrest, and use of force reports, types of arrests and tickets, language used during force interactions, and the how use of force differs across supervisors.

Use of Force Against Members of the LGBTQ Community

Prior research demonstrates that significant portions of the LGBTQ community have had negative interactions with the police. Since the use of force data provided to MNCO does not include information about sexual orientation or gender identity, we were unable, with the data provided, to determine if

[80] This theory has been explored; see the following for details: Ouellet, Marie, et al. "Network exposure and excessive use of force: Investigating the social transmission of police misconduct." Criminology & Public Policy 18.3 (2019): 675-704.

there is a pattern of disparate force used against LGBTQ people by MNPD. Given the recent anti-trans legislation in Tennessee, MNCO staff believe it is of the utmost importance to investigate MNPD's policing practices against all members of the LGBTQ community, but particularly the trans community.

Analysis of Location Data

While initial observations of the geospatial use of force data provide some thought-provoking trends, there is much left to be explored within this dataset. One interesting avenue of inquiry is to determine if rates and amounts of force used change based on the neighborhood where the incident occurs. For example, do Black subjects receive, on average, higher levels of force when they are in Black neighborhoods or white neighborhoods? Do white officers use more force in Black neighborhoods? By matching subject demographics to community-level population data, we can observe how patterns of force differ across neighborhoods.

Investigation of Soft Empty Hand Control Tactics

A final potential analysis is to disaggregate the soft empty hand control data and determine the precise tactics used by officers in these interactions. This effort would require requesting incident reports and body worn camera footage for some or all of the cases in which soft empty hand control was used and documenting the actions of officers. While this would be a large undertaking, this information would be extremely insightful into the behavior of officers in their force interactions.

Analysis of Settlement Costs

Currently, all settlements for police misconduct are paid out to victims and their families from the city's budget. MNCO researchers hope to uncover the financial cost that these settlements have incurred on the city recently and hope to track this value going forward.