



Police Force Analysis SystemSM Second Summary Report

Richmond Police Department

Use of Force Data from January 1, 2018 to December 31, 2022

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Background – The Lack of Data on Police Uses of Force

In response to a recent series of highly publicized police shootings, the public and policy makers are demanding that law enforcement be more accountable and transparent about its use of force, particularly with regards to the impact on communities of color. But, as made clear in a 2013 survey by the U.S. Department of Justice,¹ there is wide variance in agency approaches to tracking force, a lack of in-depth review of force within many individual police departments, and simply no data allowing for a meaningful evaluation and comparison of use of force practices across the United States. Understanding police use of force in all its complexity requires a systematic examination of when, where, how, and why force is used in the approximately 400,000 force incidents occurring each year throughout the country.

While the FBI has attempted to collect information on justifiable homicides by police officers, this amounts to an extremely small percentage of all police uses of force that occur each year and the data is limited and incomplete.² The FBI recently launched a new attempt to collect national use of force data with limited success.³ There are no reliable and comprehensive data sources available that could be used to develop evidence-based best practices for use of force. As a result, there currently exists a plethora of policies, training programs and procedures designed to guide officers on how to appropriately use force. Since none of these policies or programs have been evaluated for their effectiveness, agencies have no way of knowing whether their existing practices should be maintained, modified, or overhauled. Some organizations such as the Police Executive Research Forum (PERF) have attempted to develop guidelines on how officers should appropriately use force.⁴ Unfortunately, with no data or evidence to back up the

¹ [“Data on Use of Force by Police Across U.S. Proves Almost Useless,” New York Times, August 11, 2015.](#)

² [“FBI director calls lack of data on police shootings ‘ridiculous,’ ‘embarrassing,’” Washington Post, October 7, 2015.](#)

³ [Police Use Of Force Data Remains A Mess And The FBI's Involvement Isn't Making Anything Any Better, TechDirt, September 24, 2022.](#)

⁴ [Guiding Principles on Use of Force, Critical Issues in Policing Series, Police Executive Research Forum, March 2014.](#)

effectiveness of these new proposals, they are often met with skepticism and resistance by the law enforcement community.⁵ By issuing recommendations for sweeping reforms without providing any data to support those recommendations, the chasm between the public and police may actually widen as we debate how the police should reform themselves.⁶

The Department of Justice (DOJ) has attempted to reform dozens of law enforcement agencies over the last 27 years through a series of consent decrees and collaborative reform projects. Consent decrees can cost local governments millions of dollars and it can take up to a decade to reach compliance with court ordered mandates. Unfortunately, one thing that all consent decrees have lacked is a systematic and comprehensive data collection program that would be capable of assessing the effectiveness of the reforms and the long-term impacts of the decrees. A few studies by academic researchers have determined that the benefits of consent decrees are mixed at best.⁷

In May 2015, the Obama Administration launched the Police Data Initiative.⁸ This initiative was the result of recommendations from the Task Force on 21st Century Policing and it has two primary goals: (1) Use open data to build transparency and increase community trust, and (2) Provide internal accountability and effective data analysis. One of the data elements collected by the initiative is police use of force. This data is currently available on an open data portal managed by the Police Foundation.⁹ Only 24 law enforcement agencies have provided their data on use of force incidents and each of those agencies has a different method for reporting their stats. Some agencies only include three fields of information while others have more than thirty fields. Some agencies only report on officer involved shootings while others report on all uses of

⁵ [Statement of the International Association of Chiefs of Police and the Fraternal Order of Police on PERF's Proposed Use of Force Standards, February 2014.](#)

⁶ [Protocol for reducing police shootings draws backlash from unions, chiefs group, Washington Post, March 31, 2014.](#)

⁷ ["Do federal consent decrees improve local police departments? This study says they might," Washington Post, May 24, 2014.](#)

⁸ ["Launching the Police Data Initiative," The White House President Barack Obama, May 18, 2015.](#)

⁹ [Police Data Initiative Open Data Portal](#)

force including the pointing of a firearm. Unfortunately, the use of force data provided to the Police Data Initiative provides little insight into how officers are using force and where efforts on reform need to be focused.

The State of California recently adopted one of the most comprehensive use of force data collection programs in the country.¹⁰ The URSUS system uses an online reporting tool¹¹ to collect data from all law enforcement agencies in the state. The California DOJ provides access to some of the data on its Open Justice Portal¹² and releases annual reports.¹³ The main limitation of URSUS is that it only collects data on use of force incidents that result in serious bodily injury or death of a civilian or officer or the discharge of a firearm. Each year about seven hundred use of force incidents that meet the URSUS reporting criteria which is less than 2% of the estimated 45,000¹⁴ uses of force that occur in the state each year. Only twenty-five of the state's 509 law enforcement agencies had more than five incidents to report to URSUS in 2016 and more than half the agencies in the state did not have any incidents to report. While the URSUS system is a good first step, the limited amount of data it contains will provide little guidance to any department that wants to implement data-driven reforms.

While URSUS captures data on all firearms discharges, most officers will go their entire careers without ever discharging their firearms in the line of duty. By contrast, half of the nation's 800,000 law enforcement officers will use some type of force at least once each year. We need to begin collecting and analyzing data on all use of force incidents so that agencies can craft evidence-based best practices and closely monitor officer behavior in the field.

¹⁰ ["California Launches Digital Platform to Collect Police Use-of-Force Data," Techwire.net, September 22, 2014.](#)

¹¹ [California Department of Justice URSUS Use of Force Incident Reporting](#)

¹² [California DOJ Open Justice Portal](#)

¹³ [California DOJ URSUS 2016 Report](#)

¹⁴ This estimate of the total number of use of force incidents in the state was derived from the total number of arrests in 2016 (1,120,759) multiplied by 4% which is the average use of force rate per arrest of the thirty-two law enforcement agencies in the Police Force Analysis SystemSM. A use of force incident includes the use of any physical force to overcome resistance and/or the use of any weapon.

Building the Data Infrastructure to Support Democratic Policing

The core function of the police in a democratic society is to protect life, liberty, and property, and coercion is the fundamental means by which they achieve those democratic goals. While the police perform many complex and important roles within the communities they serve, the single defining characteristic of the police is their capacity to both verbally and physically coerce individuals to do things that they are not otherwise inclined to do, particularly those individuals who are not obeying the rules. To be able to do this efficiently and effectively, the police must be viewed as a legitimate authority by the citizens they serve. This perceived legitimacy is driven by transparency in police decision-making, the presence of sufficient accountability structures, and perhaps most important, fundamental fairness in the distribution of coercive authority.

Democratic policing is thus a process rather than an achievable end in itself, and it can only be demonstrated through constant evaluation in order to ensure that these democratic ideals are being satisfied. This process of evaluation requires adequate information about coercion. Recent tragic high-profile events have renewed our focus on an old problem: the fact that we simply do not have enough data about police coercion. The most important task to improve the quality of policing in the United States is to systematically collect and report data on police coercion, and to understand the distribution of coercion across people, places, and time.

Police Strategies LLC has partnered with the Center for the Study of Crime and Justice at Seattle University to develop comprehensive information about the intersection of individual and contextual factors that explain situational, temporal, and spatial variation in the distribution of police coercive authority with attention to the ways in which demographic factors such as race/ethnicity, gender, and age, situational/historical/individual characteristics such as mental illness, homelessness, and location impact police-citizen interactions and police coercive control. Data from this system will produce research and support community engagement about the relationship between the intersection of race, age, gender, status, and behavior on police coercion.

Police Strategies LLC

Police Strategies LLC is a Washington State based company that was formed in February 2015. The company was built by law enforcement professionals, attorneys, and academics with the primary goal of helping police departments use their own incident reports to make data-driven decisions and develop evidence-based best practices. The company's three partners are all former employees of the Seattle Police Department and were directly involved with the Department of Justice's pattern or practice investigation of the department in 2011 as well as the federal consent decree that followed. They wanted to take the lessons learned from that experience and provide other police departments with the tools they need to monitor their use of force incidents, identify high risk behavior, and evaluate the outcomes of any reforms that are implemented. The company has a partnership with the Center for the Study of Crime and Justice at Seattle University to assist in the analysis of the data.

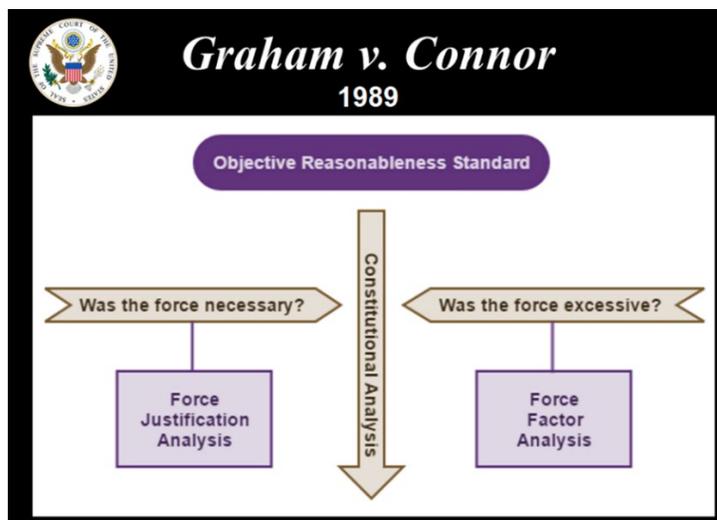
Bob Scales is a former King County deputy prosecutor and Special Assistant United States Attorney for the Western District of Washington. He worked for 14 years for the City of Seattle as a public safety policy advisor for three Mayors. Kathryn Olson served as an EEOC attorney and the Director of the Office of Professional Accountability for the Seattle Police Department. She is a past president of the National Association for Civilian Oversight of Law Enforcement (NACOLE). Chief Mike Sanford has over 30 years of law enforcement experience serving as Assistant Chief for the Seattle Police Department and Chief of Police for the cities of Wapato and Algona Washington. Mike was a patrol tactics trainer for the Washington State Criminal Justice Training Commission.

Police Force Analysis SystemSM

In the summer of 2015, Police Strategies LLC launched the Police Force Analysis SystemSM (PFAS). PFAS combines peer-reviewed research with state-of-the-art analytical tools to produce a powerful data visualization system that can be used by law enforcement, policy makers,

academics, and the public.¹⁵ The core of PFAS builds upon the research work of Professor Geoff Alpert and his Force Factor method. Force Factor analysis formed the basis of Professor Alpert's 2004 book "Understanding Police Use of Force – Officers, Subjects and Reciprocity"¹⁶ and has been the subject of several scholarly articles.¹⁷

PFAS is a relational database that contains 150 fields of information extracted from law enforcement agencies' existing incident reports and officer narratives. The data is analyzed using legal algorithms that were developed from the evaluation criteria outlined in the United States Supreme Court case of *Graham v. Connor*, 490 U.S. 386 (1989). The Court adopted an objective reasonableness standard which evaluates each case based upon the information that the officer was aware of at the time the force was used and then comparing the officer's actions to what a reasonable officer would have done when faced with the same situation. PFAS uses Force Justification Analysis to determine the risk that a use of force incident would be found to be unnecessary and Force Factor Analysis to evaluate the risk that the force would be found to be excessive.

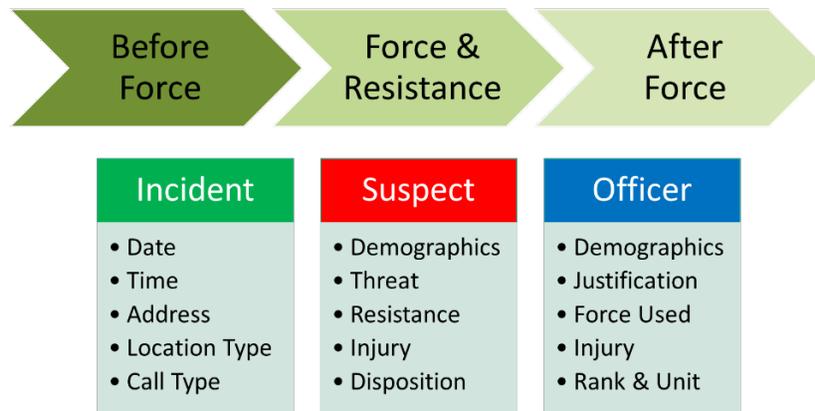


¹⁵ [Capitola Police creates online database to track use of force stats, Santa Cruz Sentinel, August 2014.](#)

¹⁶ [Understanding Police Use of Force – Officers, Subjects, and Reciprocity, Cambridge Studies in Criminology, 2004.](#)

¹⁷ See, e.g., [Reliability of the Force Factor Method in Police Use-of-Force Research, Police Quarterly, December 2015.](#)

PFAS examines relevant temporal data from immediately before, during and after an application of force.



PFAS uses powerful data visualization software to display the information on dynamic dashboards. These dashboards can be used by police management to identify trends and patterns in use of force practices and detect high risk behavior of individual officers. The system can also be used to spot officers who consistently use force appropriately and effectively. Since the system can find both high risk and low risk incidents, PFAS can be used both as an Early Intervention System to correct problematic behavior as well as a training tool that highlights existing best practices.

PFAS contains several years of historical data for each agency and is designed to be updated on a regular basis. This allows the department to immediately identify trends and patterns as well as measure the impacts and outcomes of any changes that are made to policies, training, equipment, or practices. For example, if a department provides crisis intervention and de-escalation training to its officers, the system will be able to evaluate whether that training has had any impact on officer behavior.

PFAS currently has use of force data from more than 90 law enforcement agencies in eight states involving about 16,000 incidents and 8,000 officers who used force 30,000 times. This is the largest and most comprehensive use of force database in the nation. Although the incident reports from each of these agencies uses a different format, all the data extracted and entered into the system has been standardized which allows us to make interagency comparisons. The

Police Force Analysis NetworkSM allows agencies to compare their use of force practices with other agencies in the system.

The Police Force Analysis SystemSM provides comprehensive information about police use of coercive authority and permits the study of the intersection of individual and contextual factors that explain situational, temporal, and spatial variation in the distribution of police coercive authority. PFAS supports meaningful community engagement about police coercion by providing comprehensive and relevant data to address and inform community concern regarding police-citizen interactions.

Data Collection from the Richmond Police Department

Police Strategies LLC began working with the Richmond Police Department in January 2022. Our first task was to code the Department's use of force reports and enter the data into the Police Force Analysis SystemSM. Richmond PD personnel provided copies of the reports through a secure online file sharing system. These reports and electronic data came from the Department's IPro/BlueTeamTM records management system. Use of force incident reports from 2018 to 2022 were analyzed. This report updates the database and dashboards with use of force data from 2021 and 2022.

Richmond PD provided incident reports and officer narrative statements for each incident where force was used. Data was extracted from the incident reports and officer narrative statements and entered into a relational database. Interactive dashboards were then built for use by Richmond PD. The Police Force Analysis SystemSM contains data on all use of force incidents where an officer used a weapon or any physical force.

Summary of Richmond PD's Police Force Analysis SystemSM

The Richmond Police Department's Police Force Analysis SystemSM (PFAS) contains five years of use of force data from 2018 to 2022. The database includes detailed information on 610 subjects who had force used against them and the 144 officers who used force during the 5-year period. In 2022 there were 102 use of force incidents involving 67 officers who used force a total of 197 times. This report will examine the 5-year trends in uses of force and will summarize the use of force data from 2022.

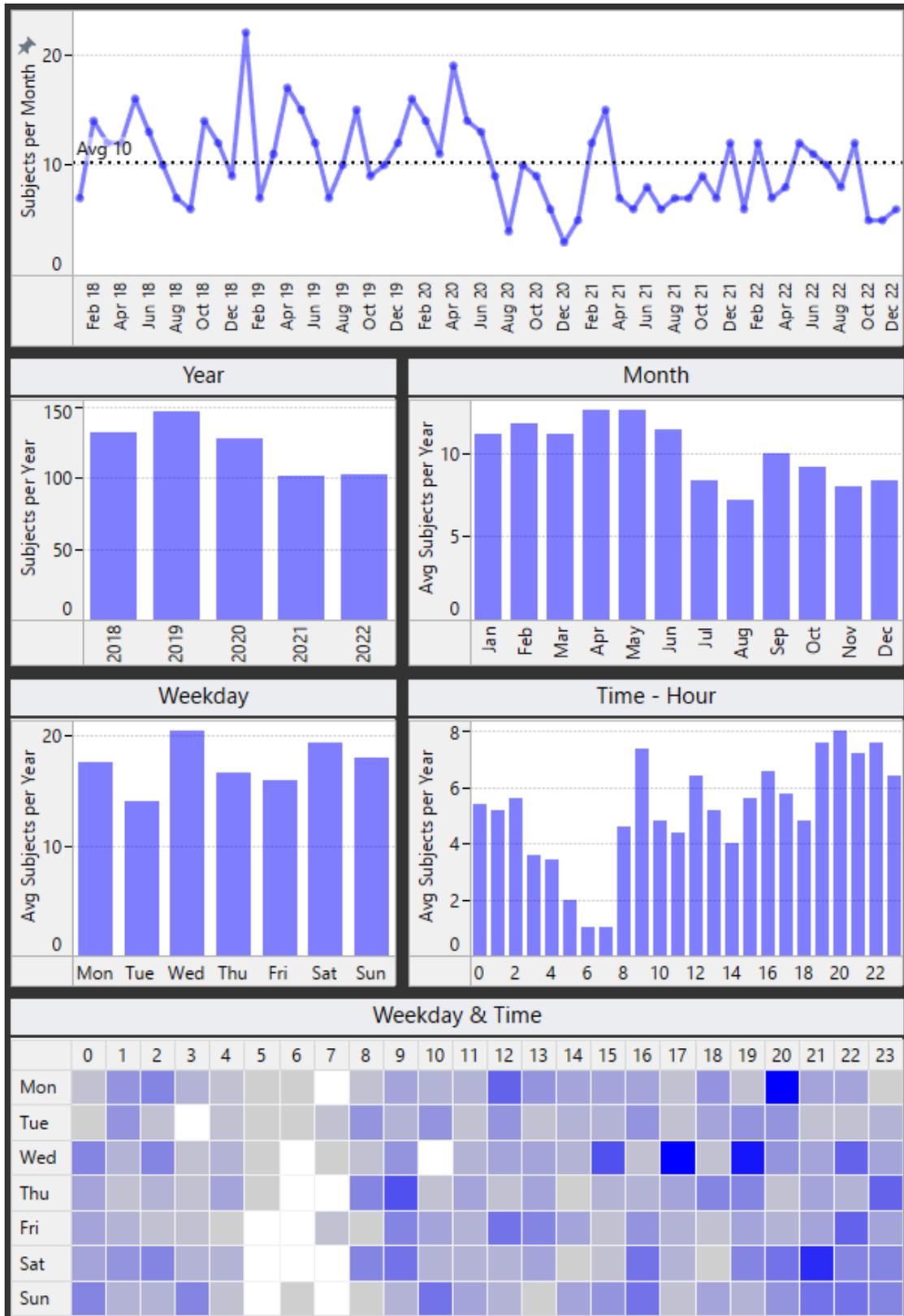
Date, Time, and Location of Use of Force Incidents

In 2018 there were 132 use of force incidents. Use of force incidents rose by 11% in 2019 to 147 incidents before falling to 128 incidents in 2020. In 2021 and 2022 the average number of force incidents was 102 which is a 31% decline from 2019. It appears that the pandemic has had a significant impact on the number of use of force incidents.

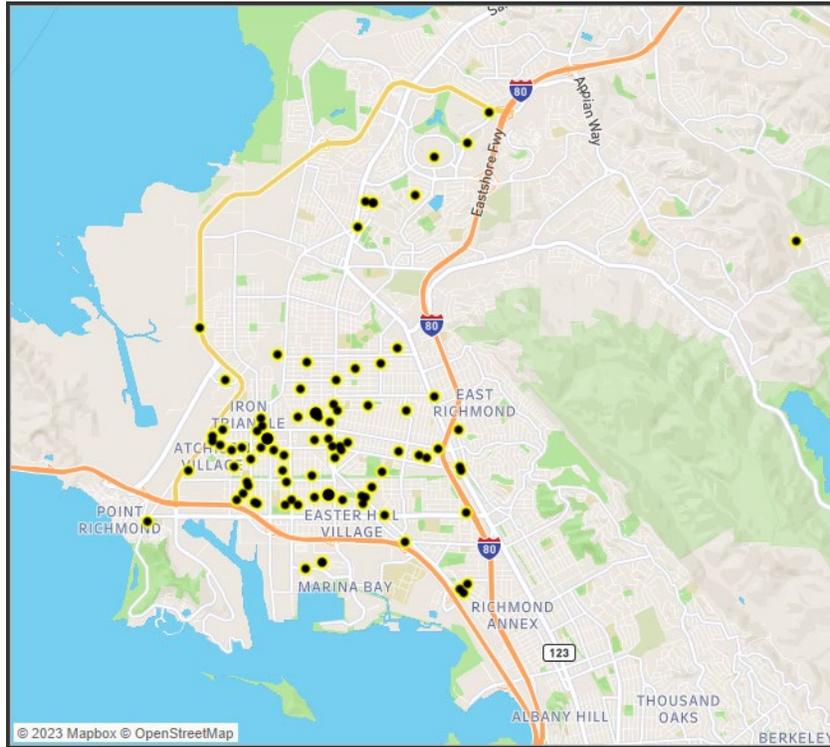
Over the last five years the months with the most force incidents were April and May each with 13 incidents per year and the month with the fewest incidents was August with 7 incidents per year. During the week, Wednesdays had the most incidents (20 per year), and Tuesdays had the fewest (14 per year). The peak hours for force incidents were between 7pm and 11pm.

Forty-eight percent of all force incidents occurred on the street, 35% occurred at a residence and 12% occurred at a business. Seventy-six percent of all incidents were located in zip codes 94804 and 94801.

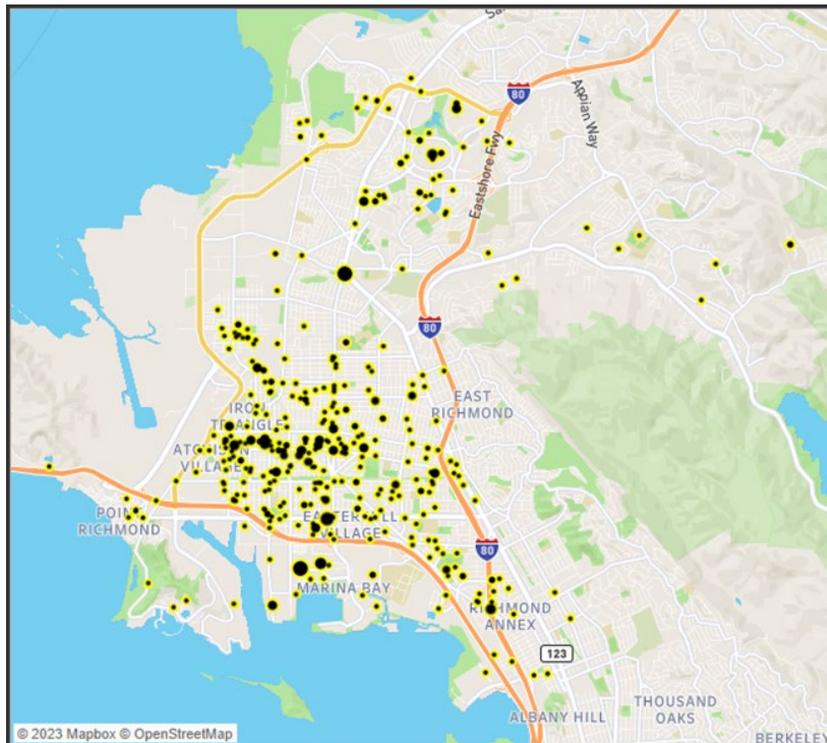
Richmond PD – Use of Force Incidents – 2018 to 2022



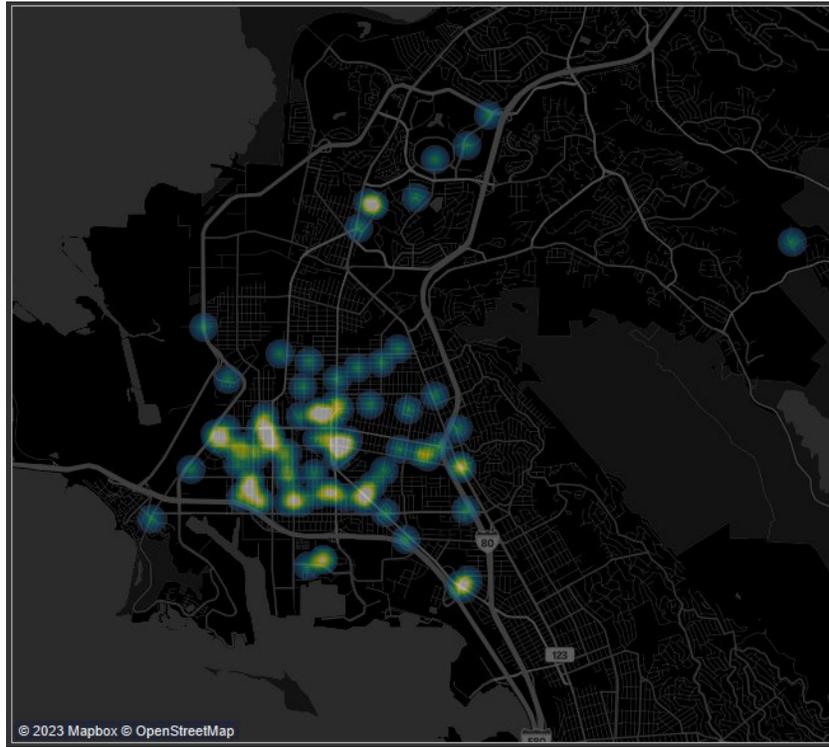
Use of Force Incident Locations – 2022



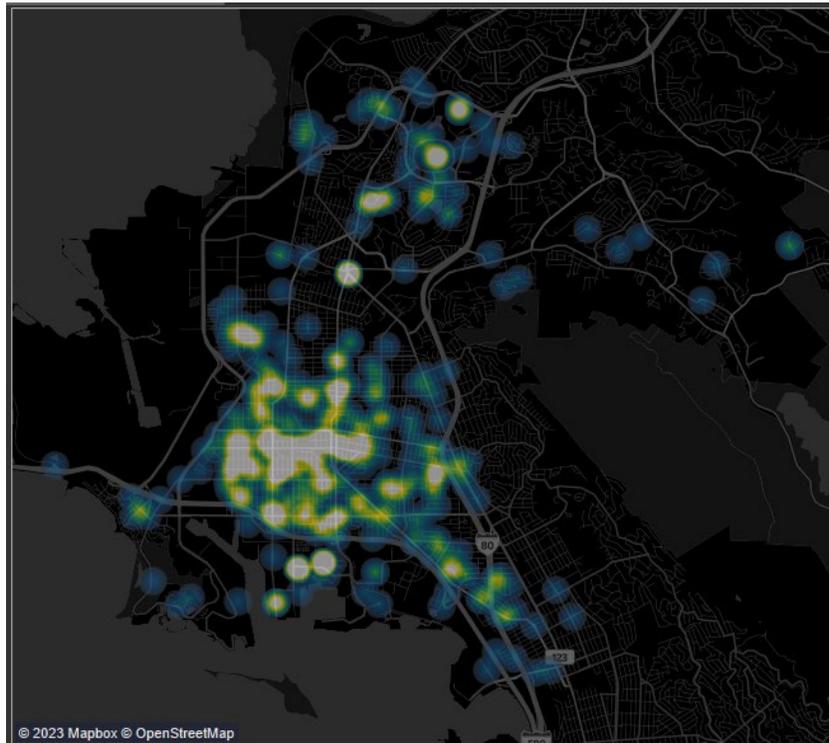
Use of Force Incident Locations – 2018 to 2021



Use of Force Heat Map – 2022



Use of Force Heat Map – 2018 to 2021



Reason for Contact

In 2022 65% of officers who used force were responding to a dispatched call for service. Nineteen percent of officers were making an officer-initiated contact and 16% of officers were responding to assist other officers. In 2022 use of force incidents were more likely associated with a dispatched call and less likely the result of an officer-initiated contact than in prior years.

In 2022 the most common initial call types for force incidents were violent crimes (33%) and property crimes (31%). In 2022 use of force incidents were more likely to involve a property crime and less likely to involve a welfare check than in prior years.

Force Frequency

In 2022 there were 102 use of force incidents involving 67 officers who used force 197 times. There were three officers who used force between 10 and 15 each, nine officers who used force between five and seven times each, 16 officers who used force three or four times, and 39 officers who used force once or twice. In 2022 the top 10% of officers (7 officers) made up 32% of the 197 officer uses of force. The top three officers were assigned to the canine unit and the majority of their use of force incidents involved canine bites. These top 10% of officers may have been assigned to patrol and were likely making the most arrests in the Department.

Force Justification

The Force Justification Score is based upon the four Graham Factors: (1) seriousness of the crime being investigated; (2) the level of threat to the officer or others; (3) the level of resistance; and (4) whether the subject fled from the officer. Low Justification Scores are indicative of incidents where subjects were not committing serious crimes, did not pose a significant threat to the officer or others, did not present a high level of resistance, and did not flee.

In 2022, 8% of the Department's use of force incidents had low Force Justification scores (<6) which was lower than in prior years (12%). The average Force Justification score was 10.4 on a scale of 0 to 20.

In 2022 there were 7 incidents that received the highest justification score of 20. These incidents involved an assault on the officer before the officer made the decision to use force.

In 2022 there were 12 officers who were involved in at least one incident with a low Force Justification score. One officer was involved in three low Force Justification incidents (canine officer) and one officer was involved in two incidents with low Force Justification scores.

In 2022 the average Force Justification Score for Female subjects (12.6) was higher than the score for Male subjects (9.0). By race Hispanic subjects had the highest average Force Justification Score (11.2) and Asian subjects had the lowest average score (8.0). By age subjects between 40 and 49 had the lowest average Force Justification score (8.9) and subjects over between 18 and 29 had the highest average score (10.0).

Force Factor

The Force Factor Score is based upon the proportionality of force to resistance and scores range from -6 to +6. A negative score means that the subject's resistance level was higher than the officers' force level. A medium Force Factor Score is between 0 and +2. This is the range where most officers can gain control of a subject by using force that is at least proportional to the level of resistance or slightly above. A Force Factor of +3 or above is considered a high score. This

does not mean that the force was excessive, but these incidents do present a higher risk to the department.

In 2022 9% incidents had a high Force Factor score (+3 or above) which is similar to prior years. All of the high Force Factor incidents involved the use of a weapon. Seven high Force Factor cases involved a canine bite, and two involved the use of electronic control weapons. Canine use typically results in a high Force Factor score due to the scenarios where canines are commonly used (i.e. a subject hiding from the police and the canine apprehending the suspect with a bite). This scenario results in a +4 Force Factor (6 Less Lethal Weapon – 2 Passive Resistance = +4 Force Factor).

In 2022 six officers were involved in high Force Factor incidents. One officer was involved in four high Force Factor incidents (canine officer) and the other officers were involved in only one incident each.

In 2022 average Force Factor scores were similar for Female (0.8) and Male (0.7) subjects. By race average Force Factor scores were highest for Asian subjects (2.0) but this involved only one incident. There was no difference in average Force Factor scores for other racial groups. Subjects between 18 and 49 had the highest average Force Factor score (0.8) and Juveniles had the lowest Force Factor Score (0.0).

The most common Force Factor Score was +1 (34%) followed by +2 (33%) and 0 (16%). There were 9 incidents with a +3 or +4 Force Factor score and no incidents with a higher score. Since 83% of all force incidents are between 0 and +2, this indicates that most officers in the Department behave very consistently when faced with a given level of resistance and they tend to use the minimal amount of force necessary to gain compliance.

When higher levels of force are used against lower levels of resistance, the subjects are controlled much faster with lower injury rates for officers but higher injury rates for subjects.

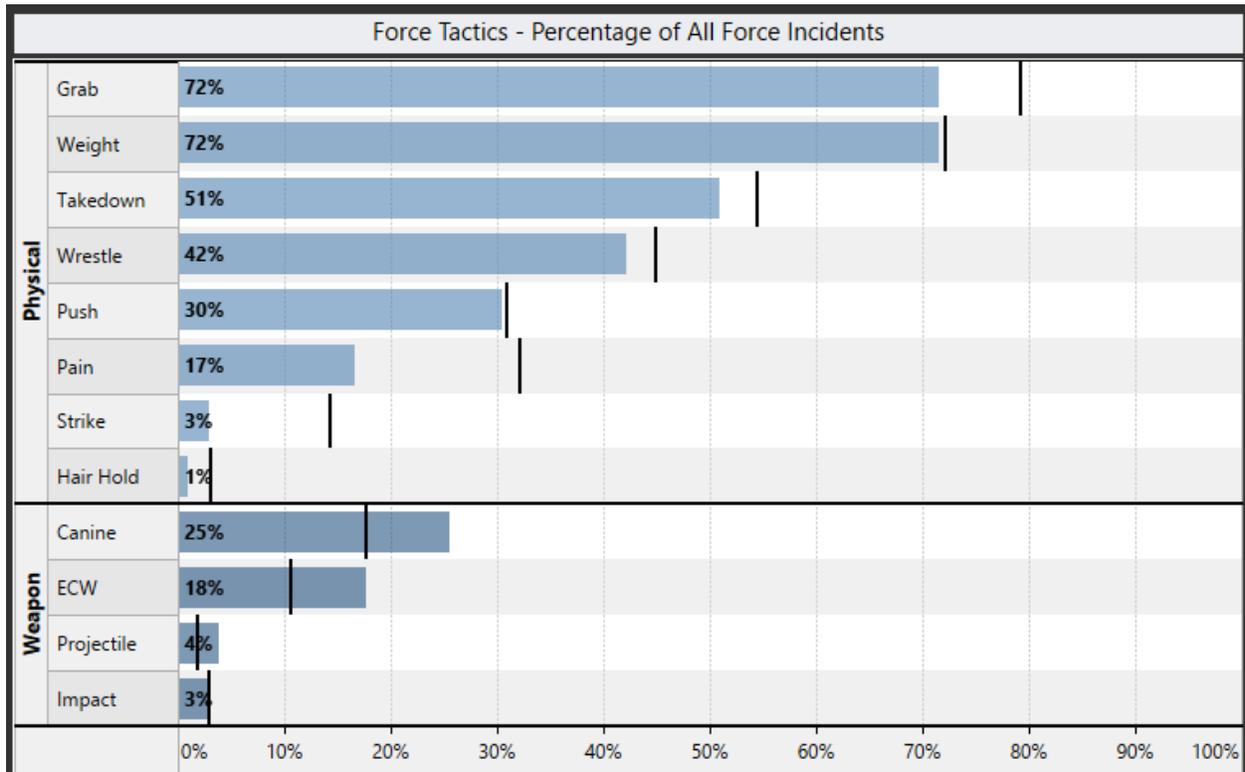
	Force Factor Scores – 2018 to 2022		
	Low (-1 to -3)	Medium (0 to +2)	High (+3 to +4)
Subject brought under control within 1 or 2 Force Sequences	4%	4%	33%
Subject Injury Rate	26%	38%	80%
Officer Injury Rate	30%	10%	0%

Force Tactics

In 2022 54% of all force incidents involved physical force only, 27% involved only the use of weapons by officers and 19% involved both physical force and the use of a weapon. Officers were more likely to use weapons in 2022 (46%) than in prior years (32%).

In 2022 officers were less likely to use grabbing/pulling (72%), pain compliance techniques (17%), strikes (3%) and hair holds (1%) than in prior years while canines (25%), ECWs (18%), and projectile weapons (4) were used more frequently.

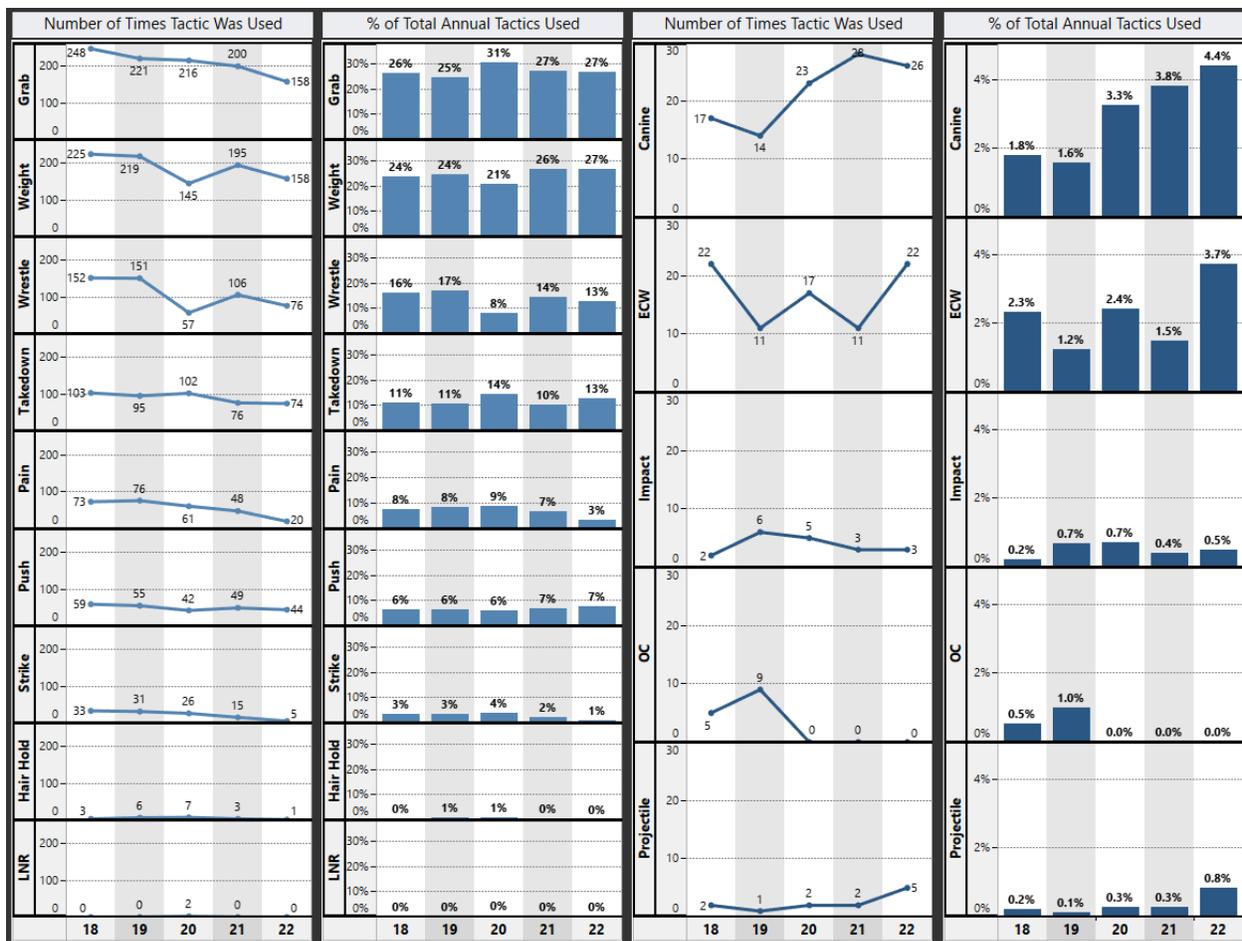
Force Tactics Used - 2022



Over the last five years officers have used 3,827 individual physical force tactics and weapons during 610 incidents.

Between 2020 and 2022 the use of pain compliance techniques has fallen from 9% to 3% of all tactics used and the use of strikes has fallen from 4% to 1%. The use of canines has risen from 1.6% in 2019 to 4.4% in 2022. OC has not been used in the last three years while the use of projectile weapons has increased slightly.

Annual Number of Force Tactics Used – 2018 to 2022



Subjects

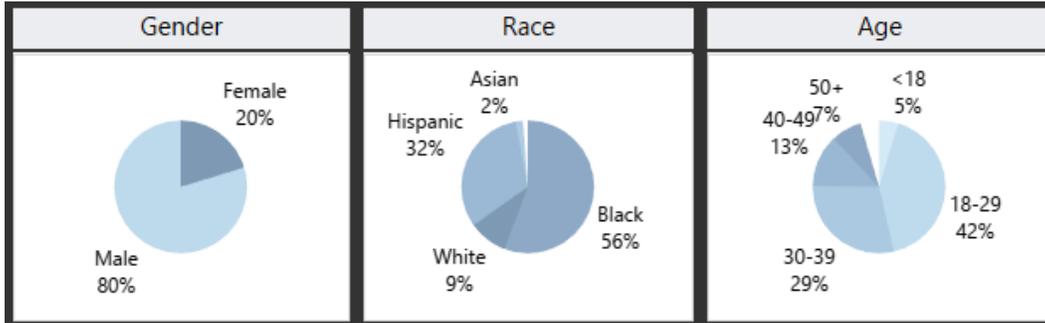
From 2018 to 2021 there were two demographic groups (gender, race, and age) that made up about half of all use of force subjects (Black and Hispanic males between 18 and 39). In 2022 the percentage of Black subjects fell from 28% to 20%.

Most Common Characteristics of Use of Force Subjects 2018 – 2021				
Gender	Race	Age	Number of Subjects	Percentage of Force Incidents
Male	Black	18-39	140	28%
Male	Hispanic	18-39	123	24%
All Other Demographic Groups & Unknown			245	48%

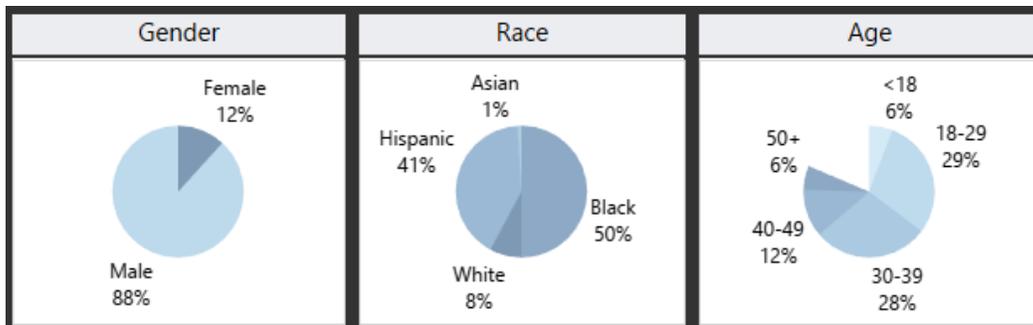
Most Common Characteristics of Use of Force Subjects 2022				
Gender	Race	Age	Number of Subjects	Percentage of Force Incidents
Male	Black	18-39	21	20%
Male	Hispanic	18-39	24	24%
All Other Demographic Groups & Unknown			57	56%

The percentage of Female subjects was lower in 2022 (12%) than prior years (20%). There was a higher percentage of Hispanic subjects in 2022 41% and a lower percentage of Black subjects (50%) than in prior years.

Use of Force Subject Characteristics - 2018 to 2021

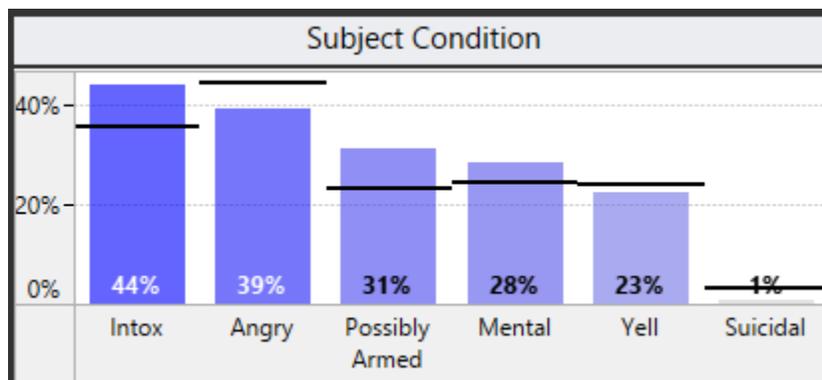


Use of Force Subject Characteristics - 2022



Subjects were less likely to be angry and suicidal in 2022 than in prior years but were more likely to be under the influence of alcohol or drugs or have mental health issues or possibly be armed.

Subject Condition – 2018 to 2022



Injuries

In 2022 there were sixteen officers who were injured during a force incident. No officer was injured more than once. Eight percent of force applications by officers resulted in an injury to the officer who used force. Two officers only complained of pain only, eleven officers had a bruise or a scrape, and three officers received a cut. Three quarters of the injuries were to the officers' arms or legs and one officer received a head injury. Forty-four percent of officers were treated by EMTs, and no officers were taken to the hospital.

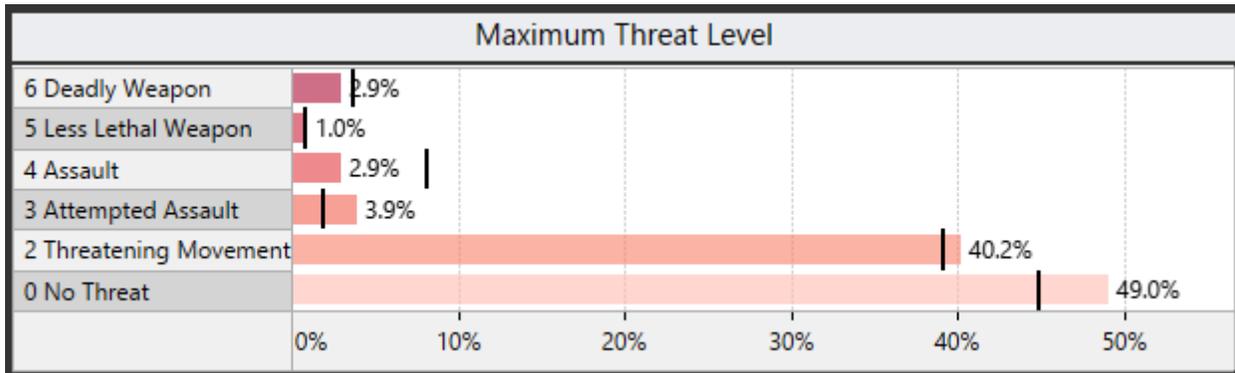
In 2022 55 subjects who had force used against them were injured (54% of all incidents). Of the subjects who were injured, a majority of the injuries were minor: complaint of pain (6%), ECW probe (16%), bruise/scrape (22%) or minor cut (18%). Thirty-eight percent of all injuries were due to canine bites.

Ninety-four percent of subjects who were injured or complained of injury received medical treatment. EMTs treated 36% of injured subjects and 58% were treated at a hospital. Fifteen percent of injuries were to the subjects' head and 56% to the arms or legs.

Subject Behavior

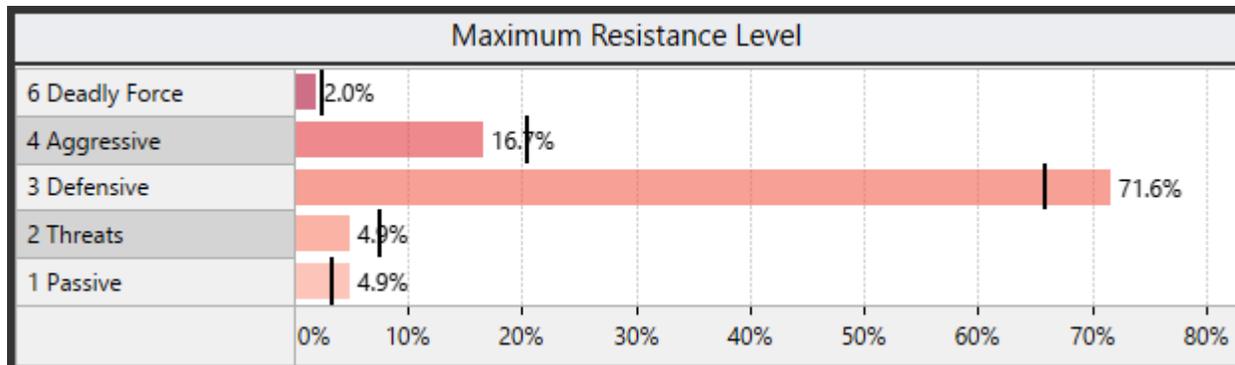
In 2022, 51% of subjects presented some type of threatening behavior compared to 55% of subjects in prior years.

Subject Threat Level - 2022



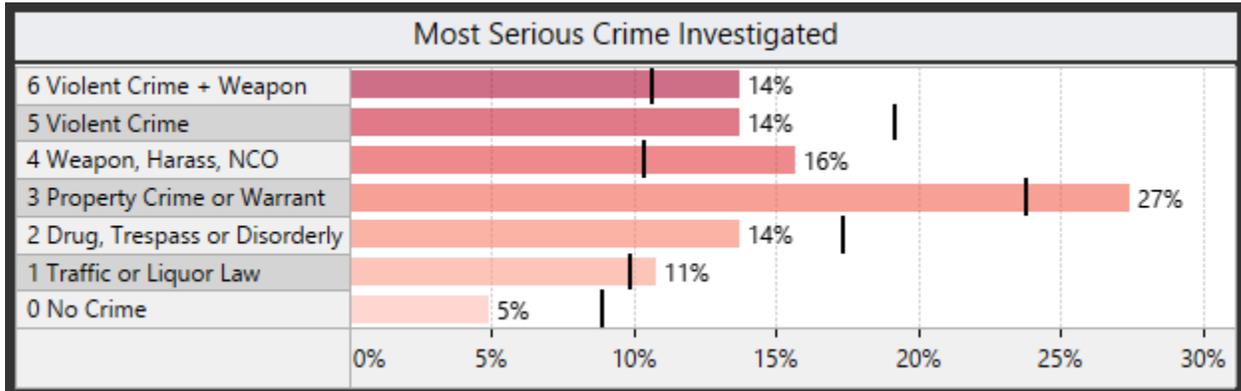
Compared to prior years, subjects in 2022 were more likely to engage in defensive resistance and were less likely to aggressively resist.

Subject Resistance Level - 2022



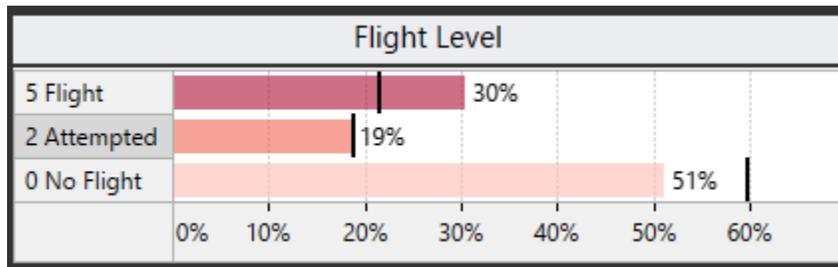
Subject Crime Level – 2022

Subjects in 2022 were more likely to be involved in weapon offenses, property crimes and warrants and were less likely to be involved in drug or trespass incidents or no criminal behavior than in prior years.



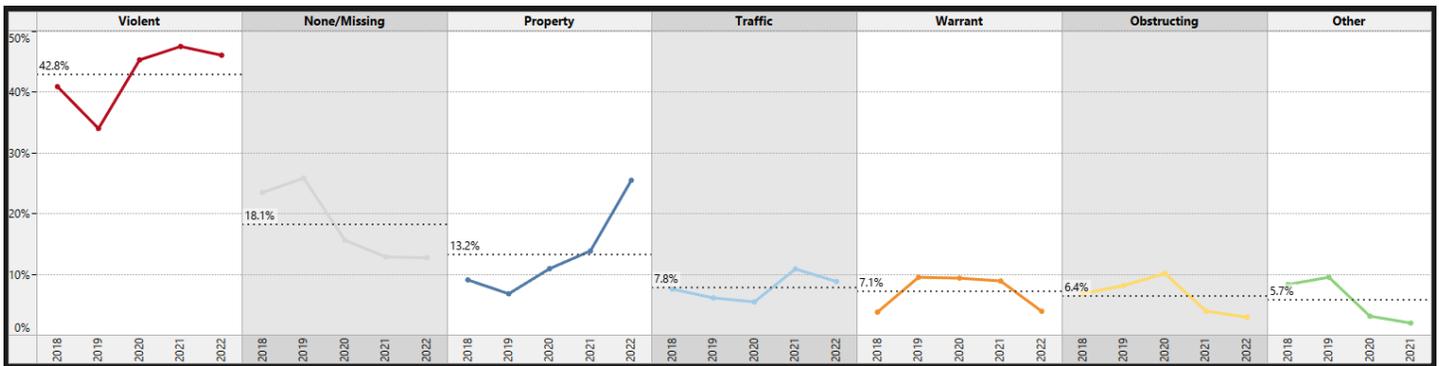
In 2022 subjects were more likely to flee from officers (30%) than in prior years (21%).

Subject Flight Level - 2022



Subject Crime Trends

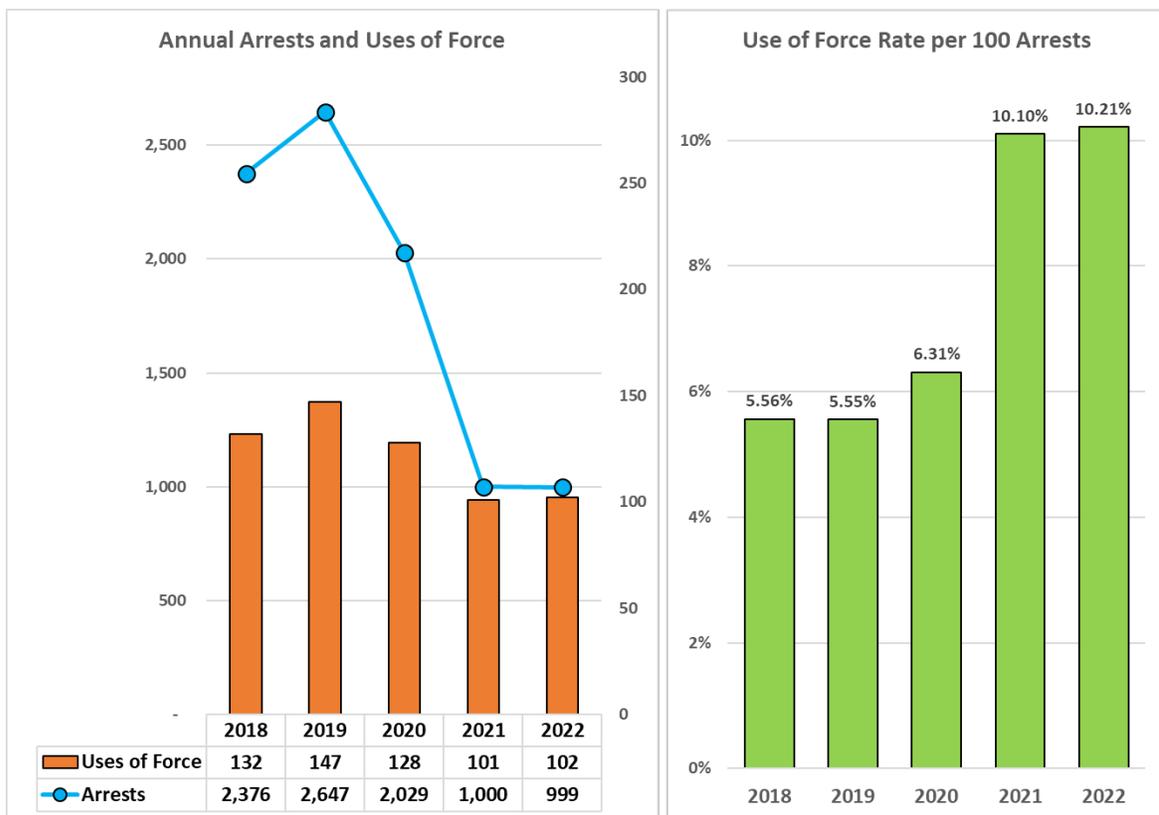
In the last three years nearly half of the subjects involved in use of force incidents were charged with a violent crime. From 2019 to 2022 the percentage of subjects charged with a property offense increased from 7% to 26%. Over the last five years subjects charged for traffic offenses, warrants, obstructing and other crimes have remained below 10% for each crime category. Subjects who were not charged with any crimes fell from 26% in 2019 to 13% in 2022.



Use of Force Frequency Trends

a) Arrests and Uses of Force

From 2018 to 2022 the number of annual arrests made by Richmond PD fell by 58% from 2,376 arrests to 999 arrests. The decline in arrests was likely impacted by the pandemic. During this same time period the number of uses of force fell by 23% from 132 in 2018 to 102 in 2022. From 2018 to 2020 the use of force rate per one hundred arrests averaged about 6% before climbing to 10% in 2021 and 2022.



b) Calls for Service and Uses of Force

From 2018 to 2022 the number of annual calls for service to Richmond PD fell by 12% from 89,178 calls to 78,420 calls. During this same time period the number of uses of force fell by 23% from 132 in 2018 to 102 in 2022. From 2018 to 2022 the use of force rate per one hundred calls for service varied between 0.13% and 0.16%.

