



Police Force Analysis SystemSM

Third Summary Report

Spokane Police Department

Use of Force Data from January 1, 2013 to December 31, 2021

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Background

In April 2019 we produced the First Summary Report using data from 2013 to 2018 obtained from the Spokane Police Department's Police Force Analysis SystemSM. This is our third Summary Report which includes use of force data through the end of 2021. Police Strategies will continue to update the system on an annual basis and produce annual Summary Reports.

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 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.

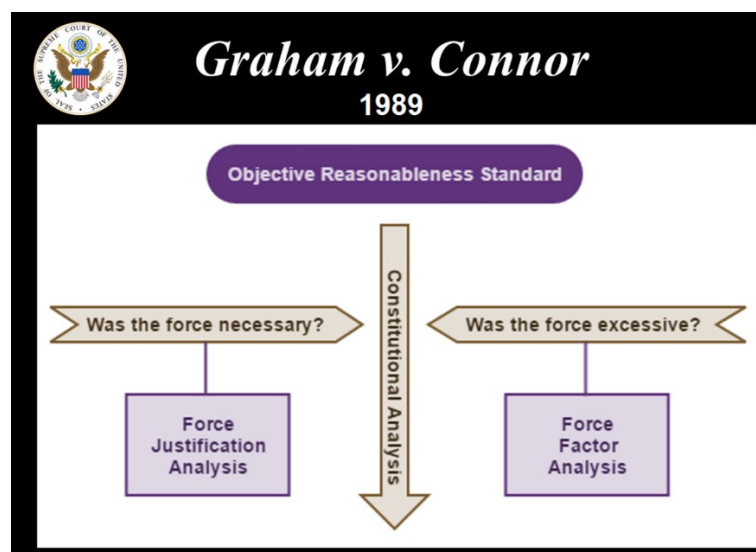
Police Force Analysis SystemSM

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.¹ The core of PFAS builds upon the research work of Professor Geoff

¹ [Capitola Police creates online database to track use of force stats, Santa Cruz Sentinel, August 2016.](#)
[SPD puts use-of-force data online in pioneering move, Spokane Mercury, January 2013](#)

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"² and has been the subject of several scholarly articles.³

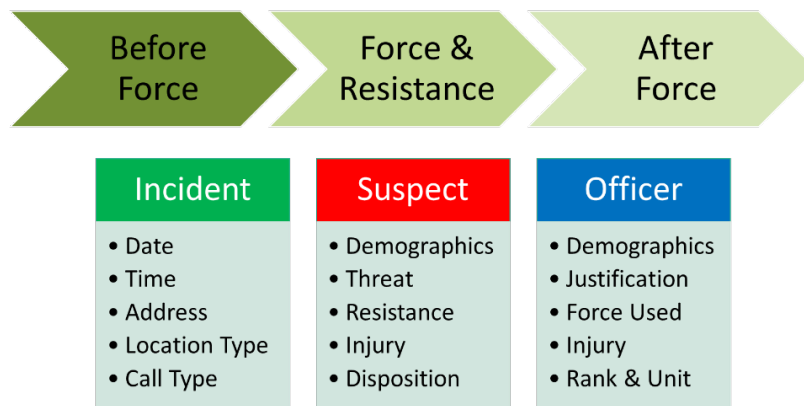
PFAS is a relational database that contains 150 fields of information extracted from law enforcement agencies' existing incident reports and officer narratives. The data is analyzed using legal algorithms that were developed from the evaluation criteria outlined in the United States Supreme Court case 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.



² [Understanding Police Use of Force – Officers, Subjects, and Reciprocity, Cambridge Studies in Criminology, 2004.](#)

³ 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 ninety law enforcement agencies in eight states involving about 15,000 incidents and 5,000 officers who used force more than 25,000 times. PFAS is the largest database of its kind 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 Spokane Police Department

SPD provided data from their IPro/BlueTeam system as well as incident reports with officer narratives for all cases involving a use of force. These reports were received as Word and Adobe Acrobat files.

In early 2022 Police Strategies LLC received SPD use of force reports from 2021. Data entry was completed in May 2022 and then the information was processed through the system's legal algorithms. Finally, the interactive dashboards were updated. All the data entered into the system was also geocoded. The next Summary Report will be produced in early 2023.

The Police Force Analysis SystemSM (PFAS) contains data on all use of force incidents where an officer used a weapon or any physical force. The system does not contain data on incidents where force was threatened but not used (e.g. the pointing of a firearm or ECW). The database also does not include reports where the subject alleges that force was used but the officer denies using force. The database may not include cases where the use of force investigations are still open. Those cases will be added once the investigation has been completed.

Summary of Spokane PD's Police Force Analysis SystemSM

The Spokane Police Department's Police Force Analysis SystemSM contains nine years of use of force data from 2013 to 2021. The database includes detailed information on 866 subjects who had force used against them and the 308 officers who used force during the nine-year period. In 2021 there were 65 use of force incidents involving 88 officers who used force a total of 150 times. This report will examine the nine-year trends in uses of force and will summarize the use of force data from 2021.

1) Date, Time, and Location of Use of Force Incidents

In 2021 the month with the most force incidents was June (10) and the month with the fewest incidents was September (3). During the week, Mondays and Saturdays had the most incidents (14 each) and Wednesdays and Thursdays had the fewest (3 each). The peak hour for uses of force was between 6pm and 7pm with seven incidents.

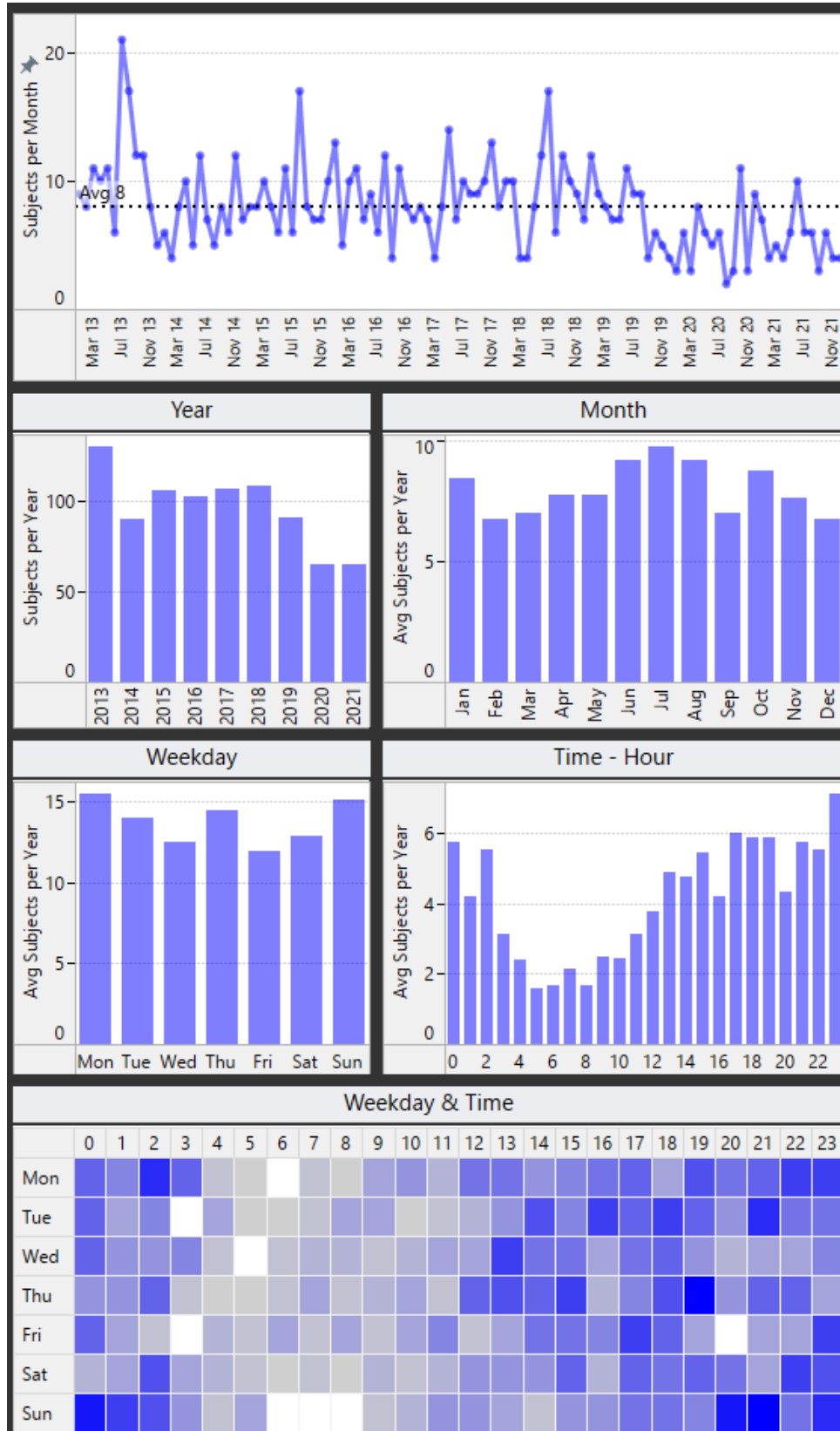
In 2021 43% of force incidents occurred on the street, 11% occurred at a business and 45% occurred inside or outside a home. These types of locations are similar to prior years.

Between 2018 and 2020 the annual number of force incidents dropped from 109 incidents to 65 incidents, a 40% decline. In 2021 there were also 65 use of force incidents.

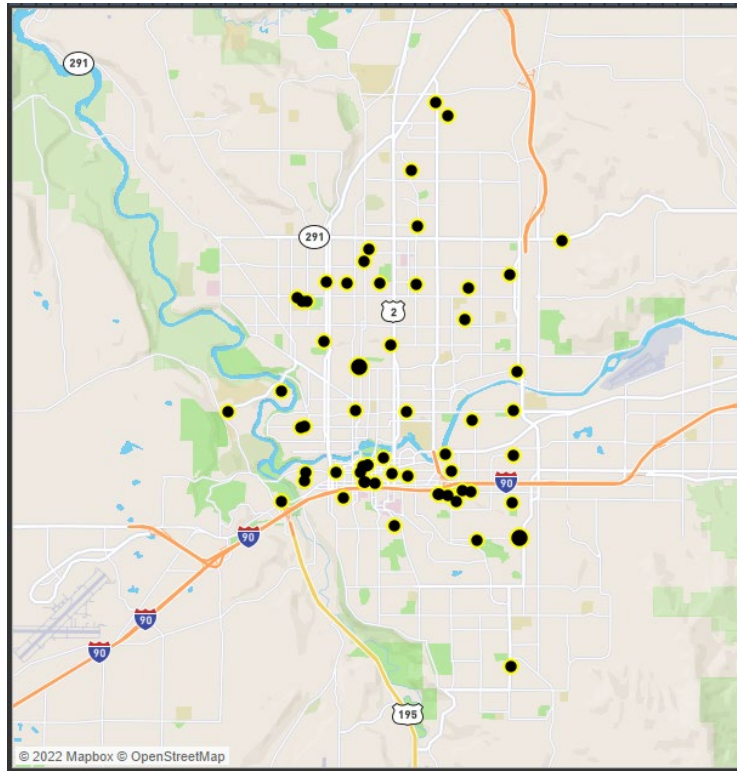
In 2021 there were nine days that two use of force incidents each. No day had more than two incidents. The longest period of time with no use of force incidents was between August 8, 2021 and August 29, 2021.

In 2021 the largest percentage increases in use of force incidents occurred in South Central (P5) and Northwest (P1) while the largest declines were found in Central (P2) and Neva-Wood (P3).

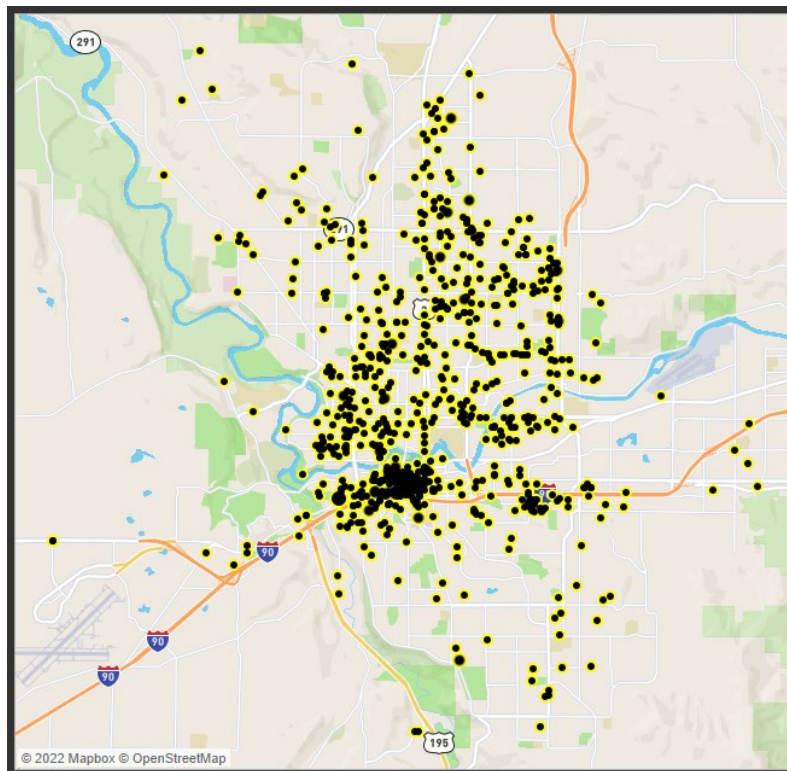
Use of Force Incidents – 2013 to 2021



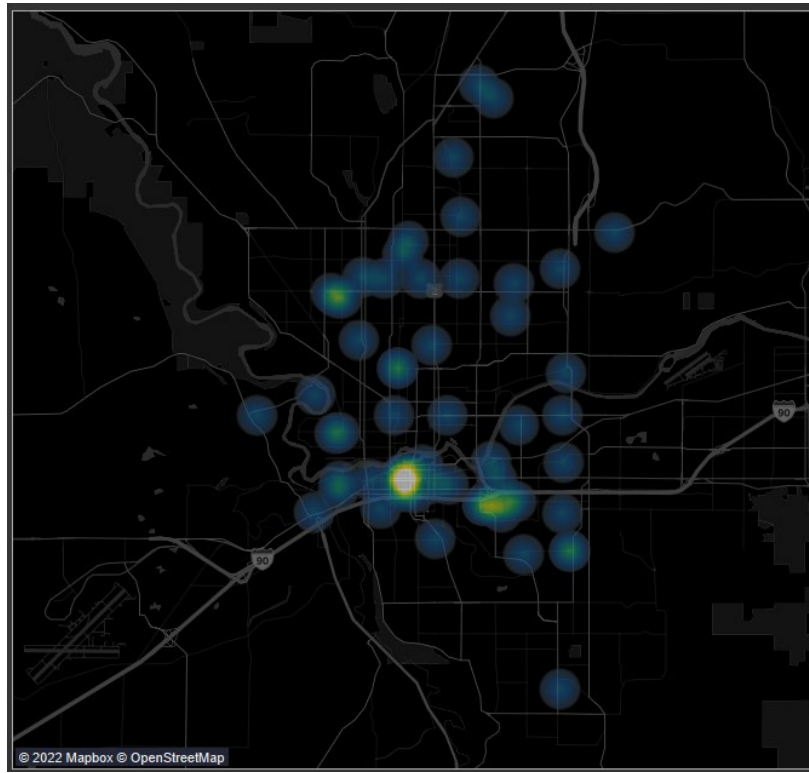
Use of Force Incident Locations – 2021



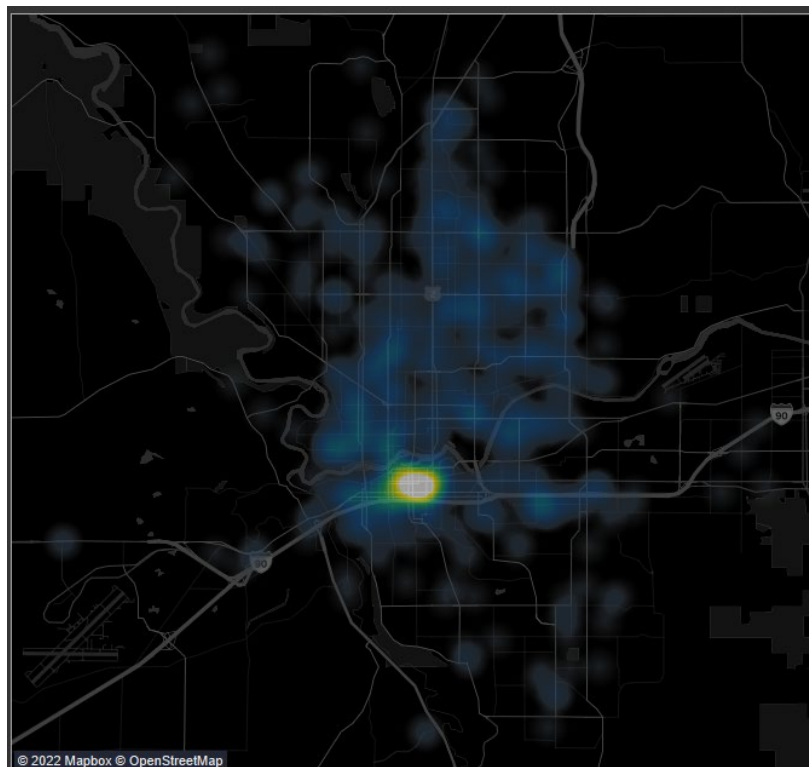
Use of Force Incident Locations – 2013-2020



Use of Force Heat Map - 2021



Use of Force Heat Map – 2013-2020



2) Reason for Contact

In 2021 75% of officers who used force were responding to a dispatched call for service compared to 67% in prior years. In 2021 11% of officers who used force were making an officer-initiated contact and 14% of officers were responding to assist other officers.

In 2021 use of force incidents were more likely to be associated with a call for a violent crime (46%) or a property crime (23%) than in prior years. Uses of force related to a warrant arrest (6%), or a mental health issue (6%) were lower than in prior years.

3) Force Frequency

In 2021 there were 65 use of force incidents involving 88 officers who used force a total of 150 times. One officer used force six times and seven officers used force 4 or 5 times each. Twenty-five officers used force 2 or 3 times each, and 55 officers used force only once. The top 10% of officers using force made up 27% of all force used by the Department. These are likely to be officers who are assigned to patrol and are making the most arrests.

4) 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 2021, 9% of the Department's use of force incidents had low Force Justification scores (<6) which was similar to the percentage from prior years. The average Force Justification score was 12.8 on a scale of 0 to 20 which was higher than the 11.4 average for prior years. In 2021 all of the four Graham factors were higher than in prior years. The means that use of force subjects in 2021 were committing more serious crimes, were more threatening towards officers, were more likely to flee from officers and had higher levels of resistance than in prior years.

In 2021 there were 13 incidents that received the highest justification score of 20 which is 20% of all incidents. This is up from 15% of incidents in prior years. Most incidents with a Force Justification score of 20 involve assaults on the officers before the officer made the decision to use force. Therefore, officers were more likely to be assaulted in 2021 than in prior years.

In 2021 there were nine officers who were involved in one incident with a low Force Justification score. No officers were involved in more than one incident with a low Force Justification score. Of the low Force Justification incidents three had a score of 5 and three had a score of four. There were no incidents with a Force Justification score below four.

In 2021 there were only seven females who had force used against them, but their average Force Justification score was very high at 18.6. This is because four of the females assaulted the officers before the officers used force. The average Force Justification score for males was 12.2. Black subjects had the highest average Force Justification score (15.4) of any racial group and White subjects had the lowest average score (12.0). Average Force Justification scores were lowest for subjects under between 40 and 49 (11.7) and highest for subjects over 50 (16.4).

5) 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 2021 25% of force incidents had a high Force Factor score (+3 or above) compared to 15% in prior years. Ten incidents had a +3 Force Factor, and six incidents had a +4 Force Factor. No incidents had a +5 or +6 Force Factor. Twenty-one officers were involved in 16 high Force Factor incidents in 2021 and five of those officers were involved in two or three high Force Factor incidents each.

All of the high Force Factor incidents in 2021 involved the use of a weapon. Eight high Force Factor incidents involved pepper spray or chemical munitions and five involved the use of an electronic control weapon. Four incidents involved a canine, and one involved the use of a projectile weapon. No high Force Factor incidents involved any physical force other than two incidents where grabbing was used in addition to weapons.

In 2021 the most common Force Factor Score was +1 (25%) followed by +2 (20%) and 0 (17%). These numbers indicate that the majority of 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.

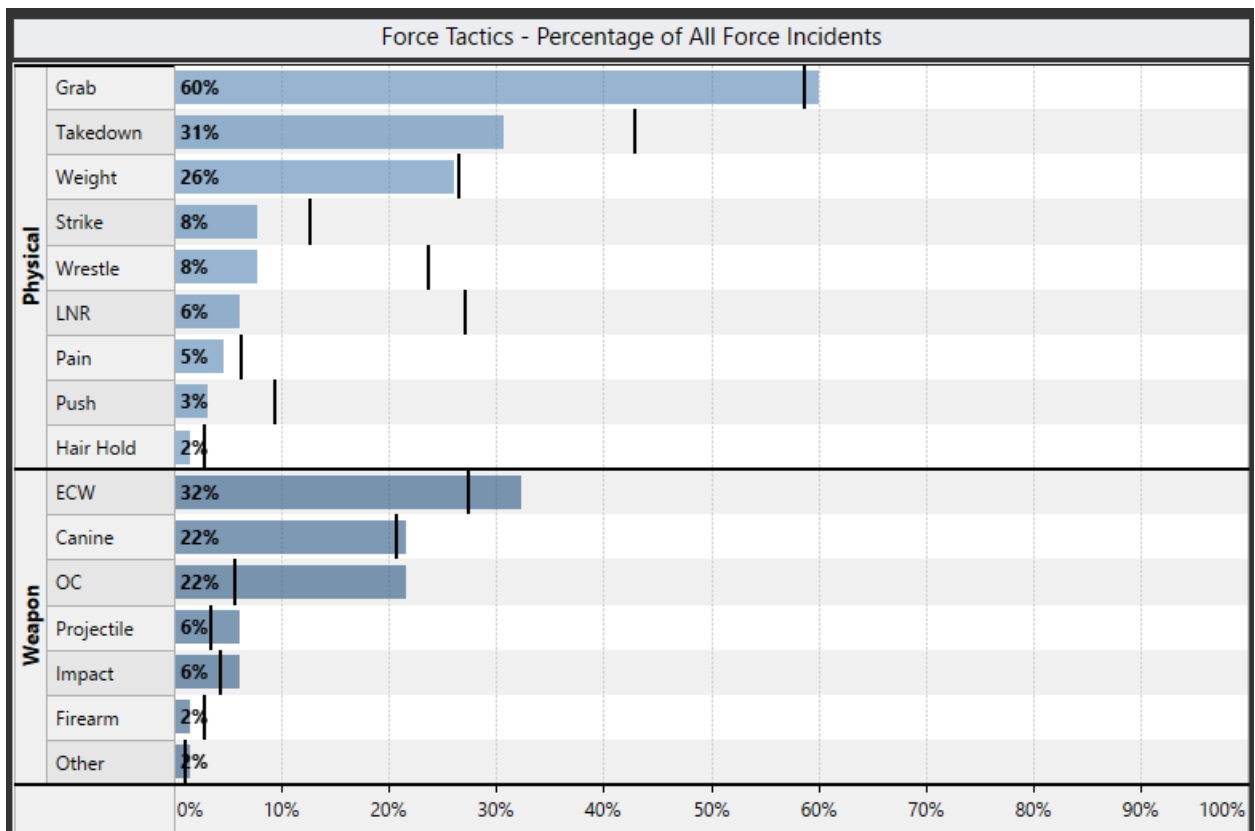
Average Force Factor scores were lower for females (-0.5) than for males (0.9). The negative average Force Factor score for females indicates that when female subjects assault officers, officers are only responding with lower levels of physical force and no weapons. By subject race average Force Factor scores were highest for Asian subjects (1.1) and were lowest for Native American subjects (-0.1). By subject age average Force Factor scores were highest for subjects between 30 and 39 (1.2) and were lowest for subjects over 50 (-1.3).

6) Force Tactics

Of the 65 use of force incidents that occurred in 2021, 28% involved physical force only, 37% involved only a weapon, and 35% involved both physical force and the use of a weapon. Compared to prior years officers in 2021 were 25% more likely to use a weapon during a force incident.

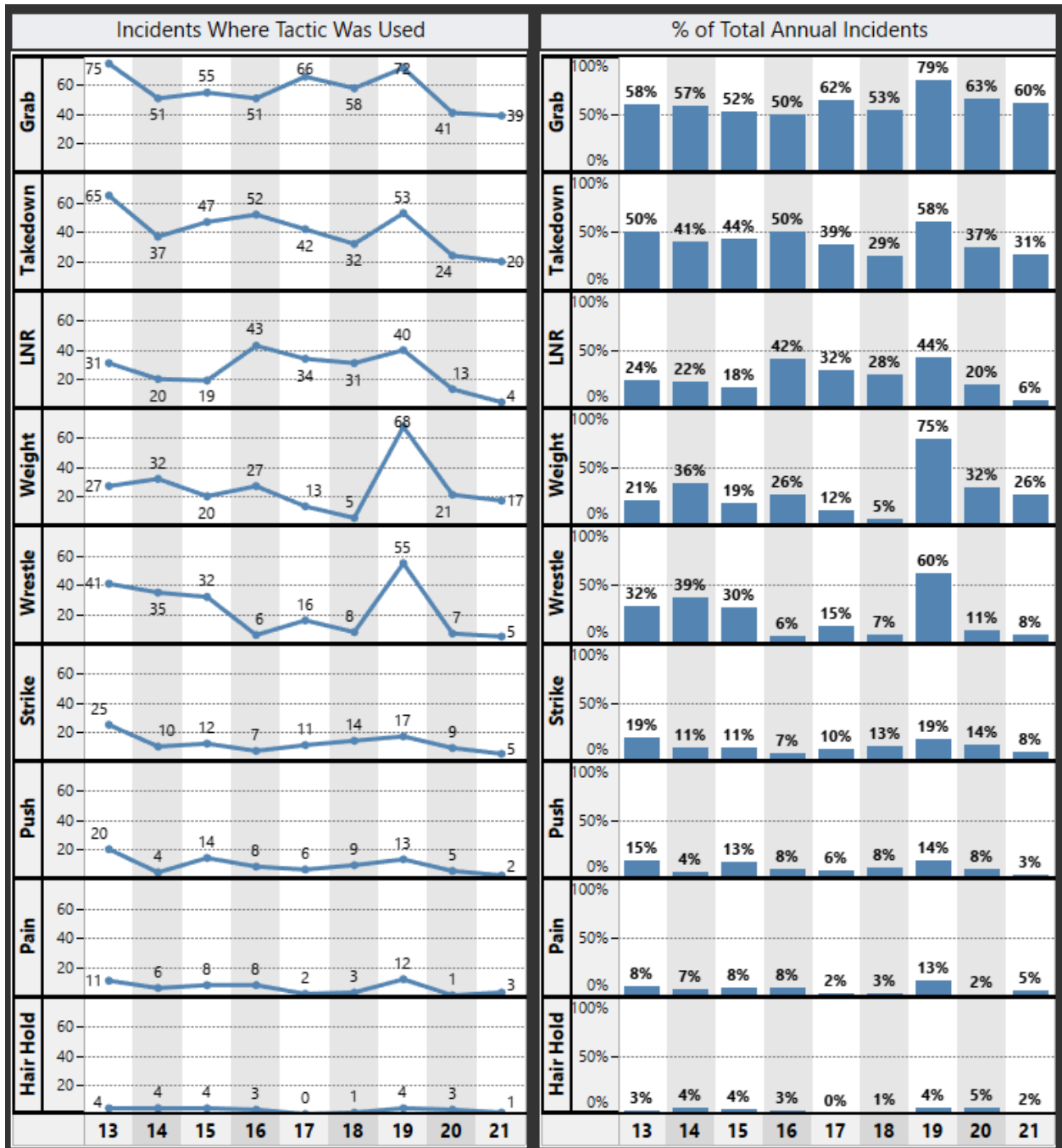
In 2021 the use of takedowns (31%), LNR (6%), wrestling (8%), strikes (8%) and pushing (3%) were down significantly from prior years. The use of LNR dropped by 78% from prior years.⁴ The use of ECWs, projectile weapons and impact weapons was up in 2021 and the use of OC rose from 5% to 22% of all force incidents.

Force Tactics Used in 2021

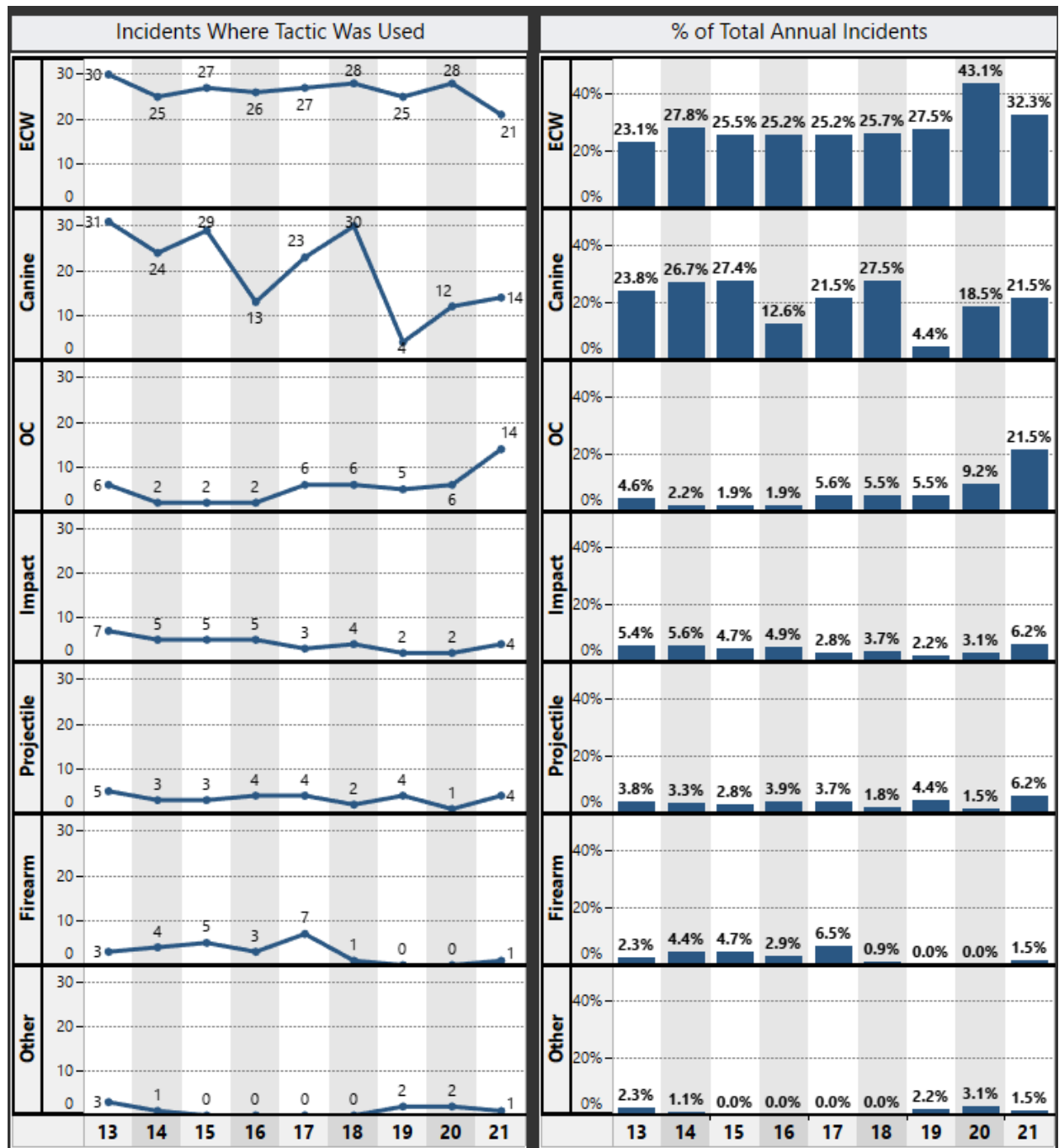


⁴ The use of LNR was prohibited by a new state statute that took effect on July 25, 2011. No LNR was used by SPD after that date.

Over the last nine years officers have used 3,227 individual physical force tactics and weapons during 866 incidents. The year 2019 was the peak for the use of many physical force tactics while the use of canines was at a 7-year low. A dramatic shift in force practices began in 2020 with declines in takedowns, LNR, weight, wrestling, strikes, and pushing. These declines continued in 2021.



Since the pandemic began in 2020, the use of electronic control weapons and OC has increased. OC use has increased four times since 2019. Canine use was slightly lower in 2020 and 2021 than most prior years except for 2016 and 2019. Firearm use was lower between 2018 and 2021 than prior years.



7) Subjects

There are three demographic groups (gender, race, and age) that make up three-quarters of all use of force subjects (White, Black and Native American Males between 18 and 49). In 2021 the percentage of Black males between 18 and 49 rose from 11% to 17% compared to prior years while the percentages of Native American Males declined from 6% to 1.5%.

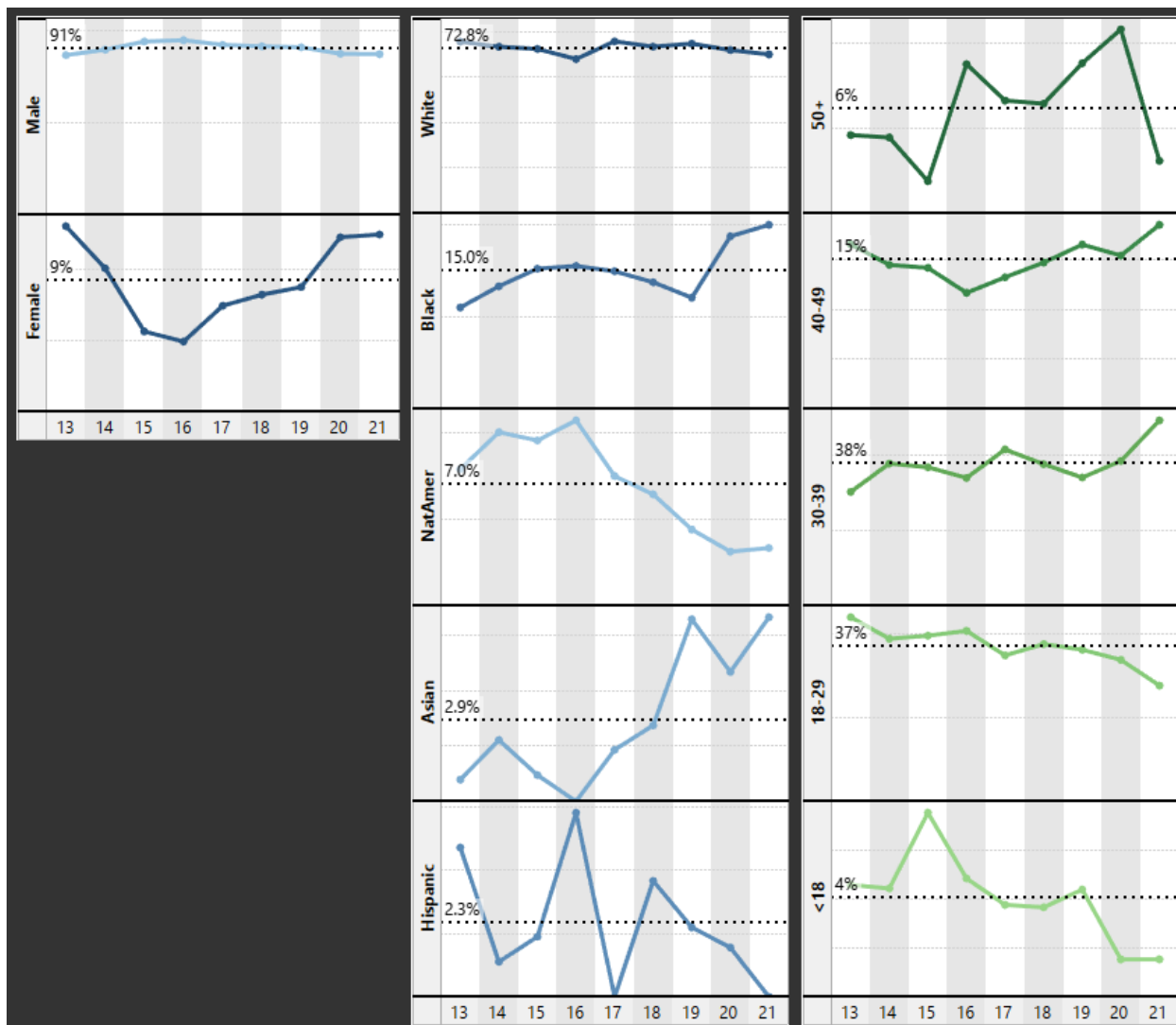
Most Common Characteristics of Use of Force Subjects 2013 - 2020				
Gender	Race	Age	Number of Subjects	Percentage of Force Incidents
Male	White	18-49	465	58%
Male	Black	18-49	90	11%
Male	Native American	18-49	49	6%
All Other Demographic Groups or Unknown			197	25%

Most Common Characteristics of Use of Force Subjects 2021				
Gender	Race	Age	Number of Subjects	Percentage of Force Incidents
Male	White	18-49	35	54%
Male	Black	18-49	11	17%
Male	Native American	18-49	1	1.5%
All Other Demographic Groups or Unknown			18	28%

Over the last nine years the percentage of female subjects has varied between 5% and 13%. The percentage of Black subjects has increased from 11% in 2018 to 20% in 2021 while the percentage of Native Americans has fallen from 11% in 2016 to 3% in 2021. Asian subjects rose from 1% in 2013 to 7% in 2021 while there were no Hispanic use of force subjects in 2021.

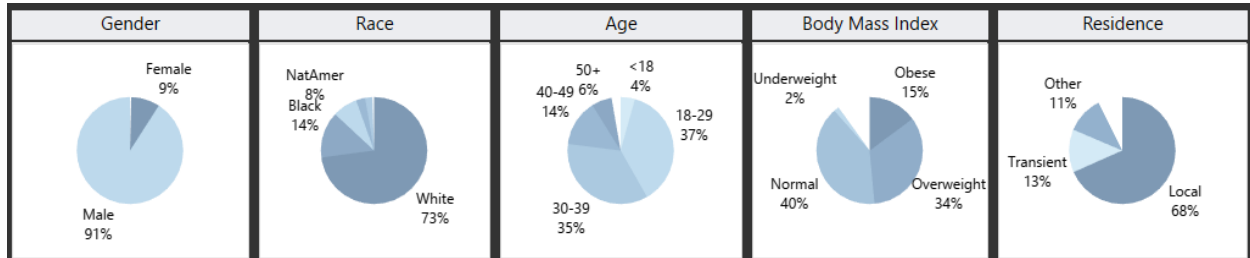
Use of force subjects under 30 have fallen by 39% over the last nine years. In 2020 and 2021 less than 2% of use of force subjects were juveniles.

Demographic Trends of Use of Force Subjects

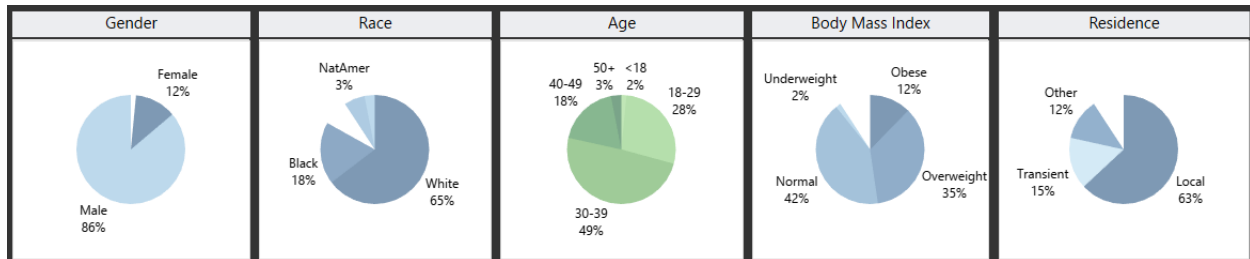


The following graphs show the demographic characteristics of use of force subjects in 2021 compared to the prior eight years.

Use of Force Subject Characteristics - 2013 to 2020

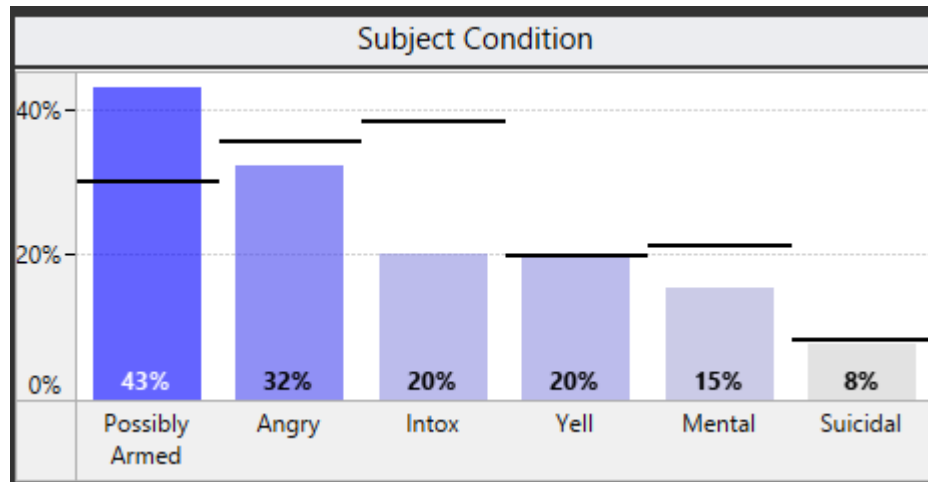


Use of Force Subject Characteristics – 2021



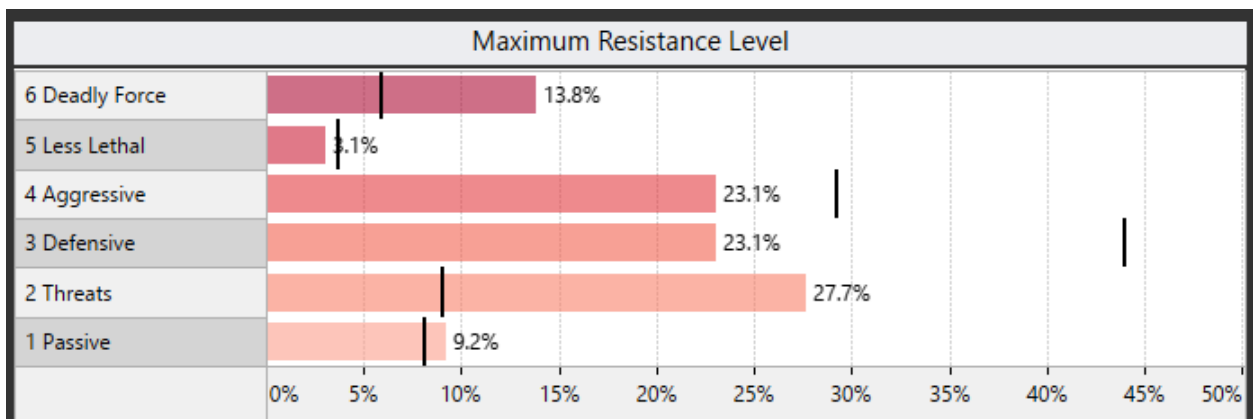
In 2021 officers who used force were dealing with subjects who were less likely to be under the influence of alcohol or drugs (20% vs 38% in prior years) or have mental health issues (15% vs 21% in prior years), but more subjects were suspected of being armed (43% vs 30% in prior years). Four firearms and nine knives were recovered from the 65 use of force subjects in 2021.

Subject Condition in 2021



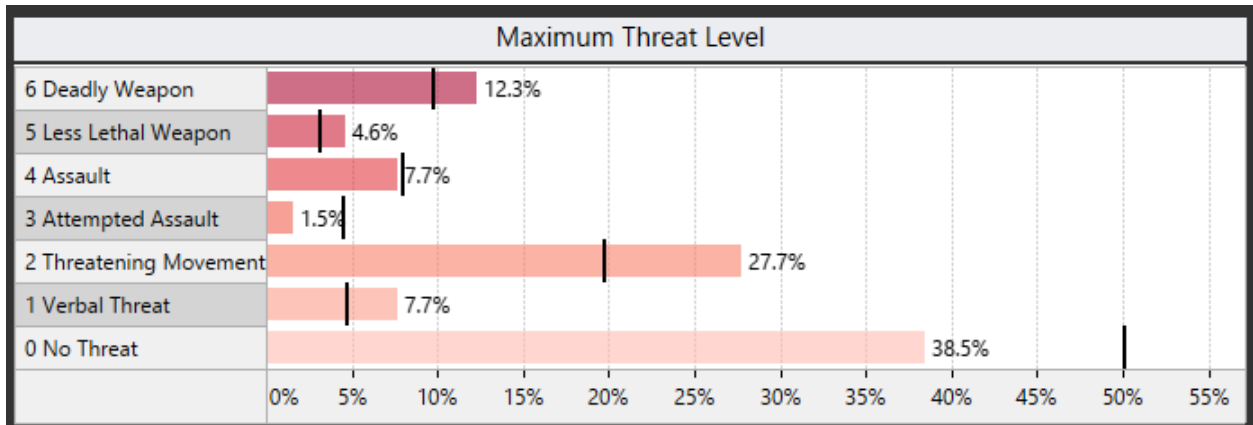
In 2021 officers were more likely to face deadly force resistance and threatening resistance and were less likely to face physical resistance than in prior years.

Subject Maximum Resistance Level - 2021



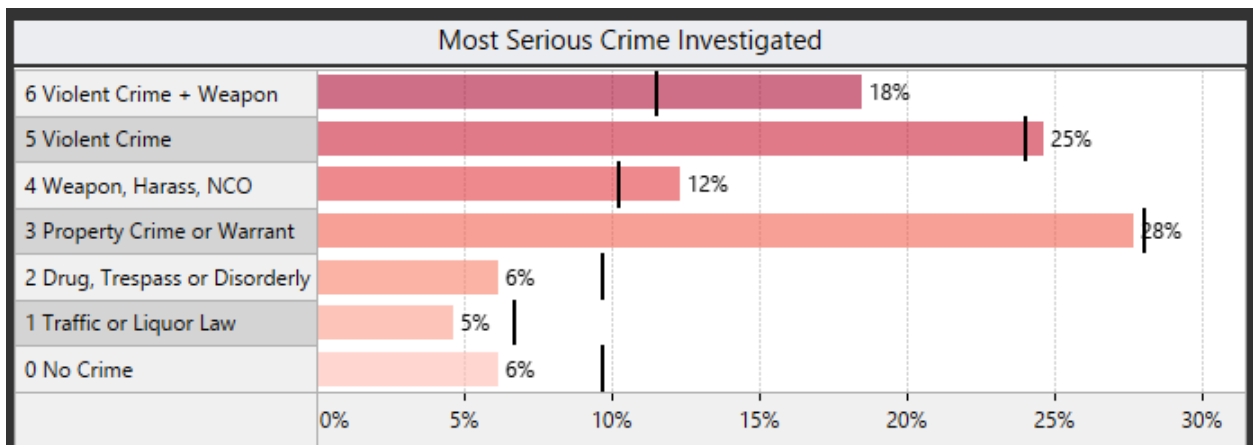
In 2021 62% of use of force subjects were exhibiting threatening behavior towards the officers prior to the use of force compared to 50% of subjects in prior years.

Subject Maximum Threat Level - 2021



In 2021 officers who used force were more likely to be investigating violent crimes involving a weapon (18%) than in prior years (12%) and were less likely to be investigating minor crimes or responding to welfare checks (17% vs 27% in prior years).

Most Serious Crime Investigated - 2021

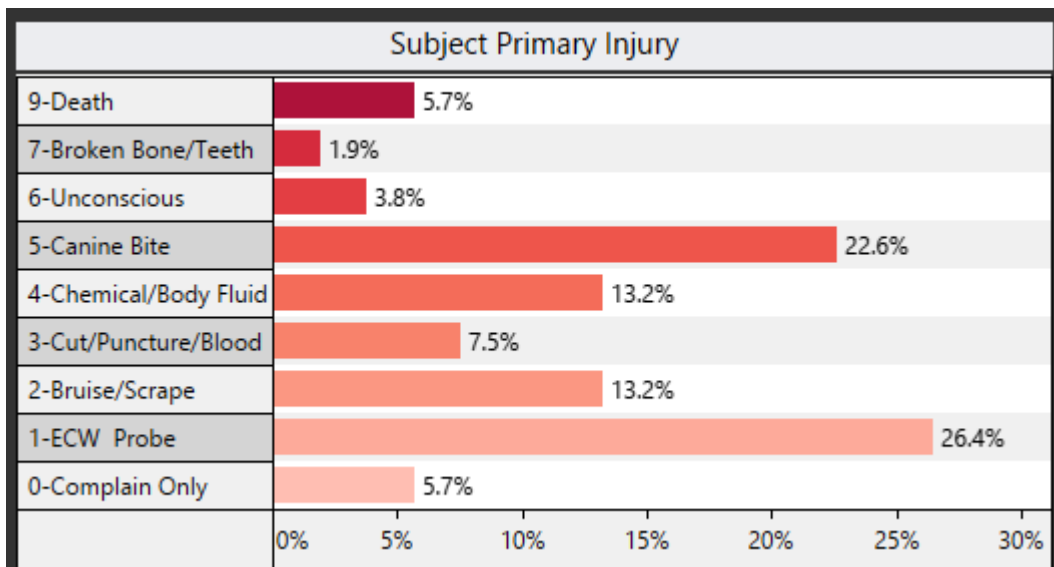


8) Injuries

In 2021 seven officers who used force were injured. Each officer was injured only once. Five percent of the 150 force applications by officers resulted in an injury to the officer who used force. All injuries involved only a scrape, bruise or minor cut. Three injured officers received treatment from EMTs.

In 2021 53 subjects who had force used against them were injured (82% of all incidents). Three subjects died after the force incident. Once subject suffered a broken bone or tooth and two subjects lost consciousness.

Of the all the subjects who were injured, 42% were treated by EMTs and 45% were treated at a hospital.



9) Long Term Trends

The following are some observed trends in use of force practices over the last nine years:

- Average Force Justification scores were higher in 2020 and 2021 than in prior years.
- Average Force Factor scores have remained stable over the last nine years at 0.8.
- In 2021 officers spent more time talking to the subject before force was used than in prior years.
- The average number of Force Sequences was highest in 2019 (5.4 sequences) when the highest percentage of physical force was used. In 2021 the average number of Force Sequences was only 3.4 as officers used more weapons and less physical force. The use of weapons allowed officers to resolve force incidents more quickly.
- In 2021 62% of force incidents had four or more officers on scene when force was used compared to an average of 32% in prior years.
- In 2021 25% of force incidents had four or more officers using force compared to an average of 7% in prior years.
- Since 2019 subjects were more likely to flee in a vehicle (5%) than in prior years (1%).
- Uses of force associated with a violent crime arrest have gone up from 38% in 2016 to 60% in 2021 while uses of force associated with warrant arrests have declined from 21% to 3% during the same time period.
- Injury rates for subjects have remained steady at around 79% for the last nine years while injury rates for officers have declined from 15% in 2019 to 5% in 2021. The average severity of subject injuries has remained stable over the last nine years while the severity of officer injuries has increased over the last three years.