Police Force Analysis System℠
Seventh Summary Report

San Jose Police Department

Use of Force Data from January 1, 2015 to December 31, 2022

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Background

In January 2018 we produced the first Summary Report using data from the San Jose Police Department's Police Force Analysis System℠. That report included data from January 1, 2015 to June 30, 2017. This is our eighth Summary Report which includes use of force data through the end of 2022. Police Strategies will continue to update the system on a quarterly 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.

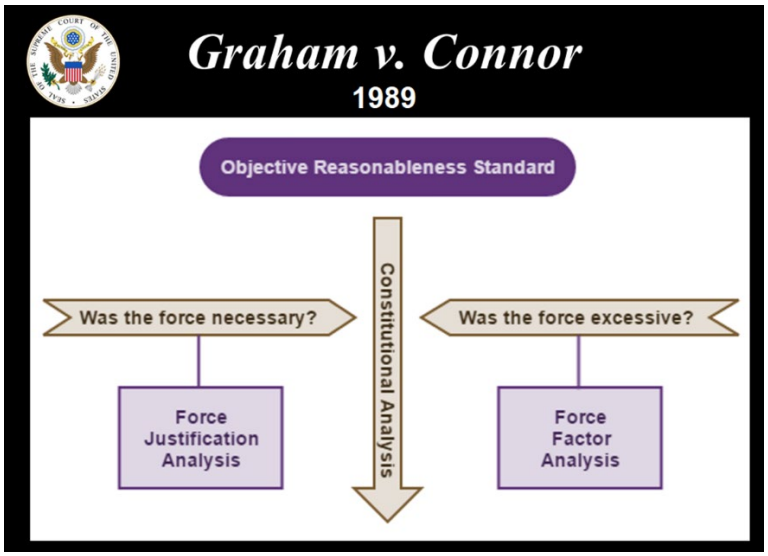
Police Force Analysis System℠

In the summer of 2015, Police Strategies LLC launched the Police Force Analysis System℠ (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.

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.

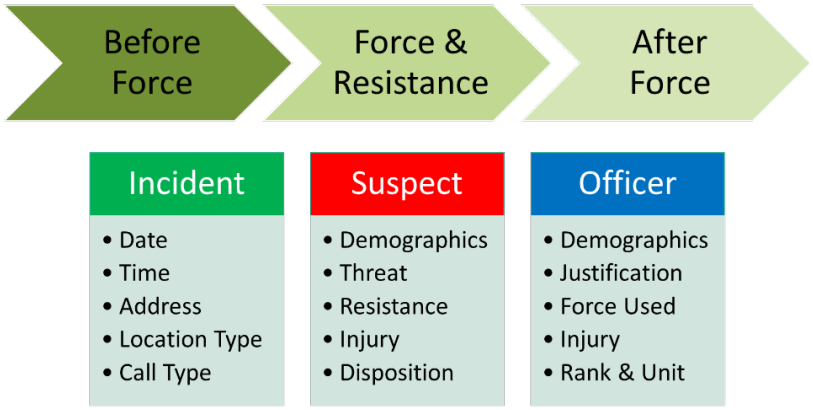


SJPD puts use-of-force data online in pioneering move, San Jose Mercury, January 2018

[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 use 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 Network℠ allows agencies to compare their use of force practices with other agencies in the system.

The Police Force Analysis System℠ 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 San Jose Police Department

SJPD provided two types of reports for coding: (1) General Offense (GO) reports and (2) electronic Force Response Reports. These reports were received as Adobe Acrobat files and Excel spreadsheets. In addition, SJPD provided electronic data on some of the incident details (date, time, address, etc.) and subject details (age, race, gender).

In February 2023 Police Strategies LLC received SJPD use of force reports from the last three months of 2022. Data entry was completed in March 2023 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 geocoded and SJPD was able to provide shape files for the department's divisions, districts, beats, and grids. This enabled us to prepare several customized dashboards that present the use of force data geographically.

The Department has contracted for ongoing updates of PFAS. The next Summary Report will be produced in early 2024.

Summary of San Jose PD's Police Force Analysis System℠

The San Jose Police Department's Police Force Analysis System℠ contains eight years of use of force data from 2015 to 2022. The database includes detailed information on 5,038 subjects who had force used against them and the 1,311 officers who used force during the eight-year period. In 2022 there were 544 use of force incidents involving 478 officers who used force a total of 1,165 times. This report will examine the eight-year trends in uses of force and will summarize the use of force data from 2022. In our Sixth Summary Report we noted that there were 179 use of force incidents in May and June of 2020 that were related to the protests over the murder of George Floyd in Minneapolis. Those incidents were analyzed in that prior report and will not be examined again in this report. When measuring long-term patterns and trends in use of force practices by San Jose PD officers, the 179 protest related incidents from 2020 were excluded since these were driven by factors outside the Department and are not necessarily reflective of Department's policies, practices, and training.

The annual number of use of force incidents (excluding 2020 protest related incidents), fell by 27% from 2019 to 2021. Between 2021 and 2022 the annual number of use of force incidents rose by 16% from 467 to 544.

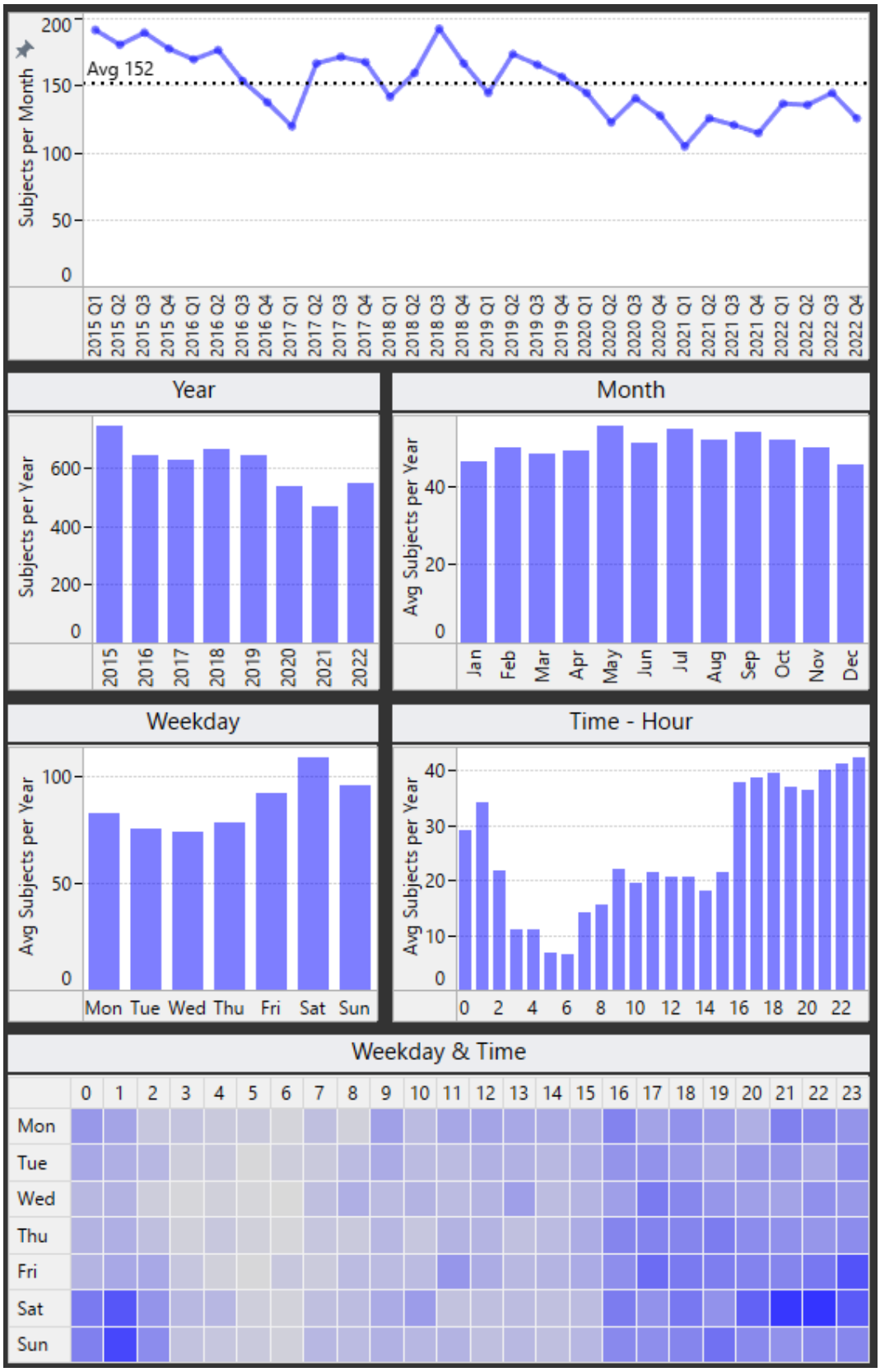
1) Date, Time, and Location of Use of Force Incidents

In 2022, February, June and September had the most force incidents (53 each) and April had the fewest incidents (34). During the week, Sundays had the most incidents (95) and Wednesdays had the fewest incidents (64). The peak hours for force incidents were between 6pm and 9pm.

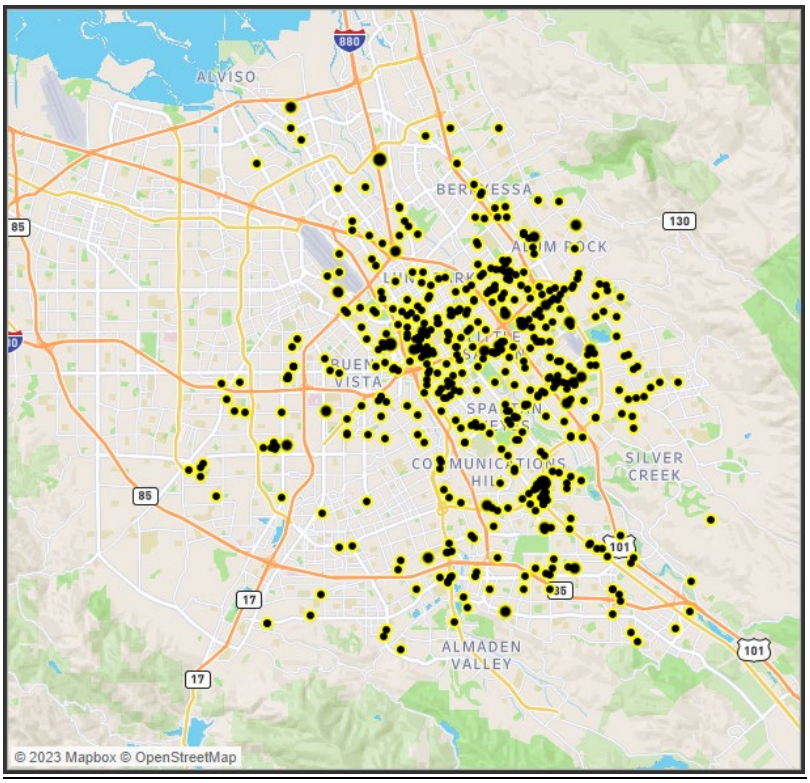
Between 2021 and 2022 Foothill Division's share of the City's use of force incidents increased from 24% to 30% while the other three Divisions declined. In 2022 Foothill Division had the most force incidents (163) while Southern Division had the fewest (105). In 2022 Lincoln District had the most force incidents with 78 which is a 39% increase from 2021. Between 2021 and 2022 use of force incidents increased in Charles, X-Ray, Paul, and Mary Districts and fell in Sam, King, Yellow, Frank, and Robert Districts.

In 2022 the most use of force incidents (6) occurred on Monday February 7, 2022 and on Monday August 29, 2022. The longest period with no force incidents was between April 26, 2022 and May 1, 2022.

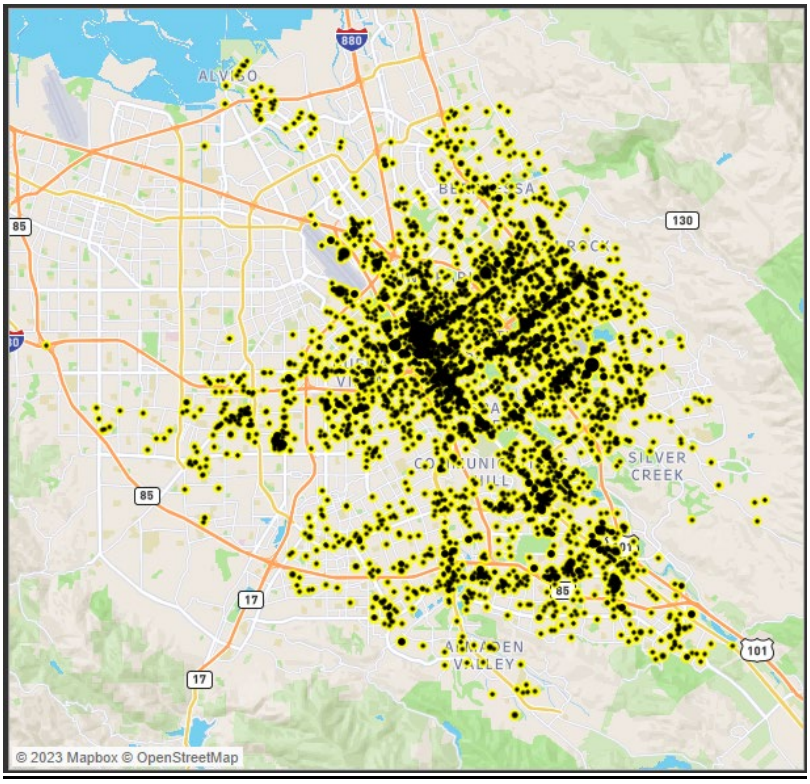
Use of Force Incidents – 2015 to 2022



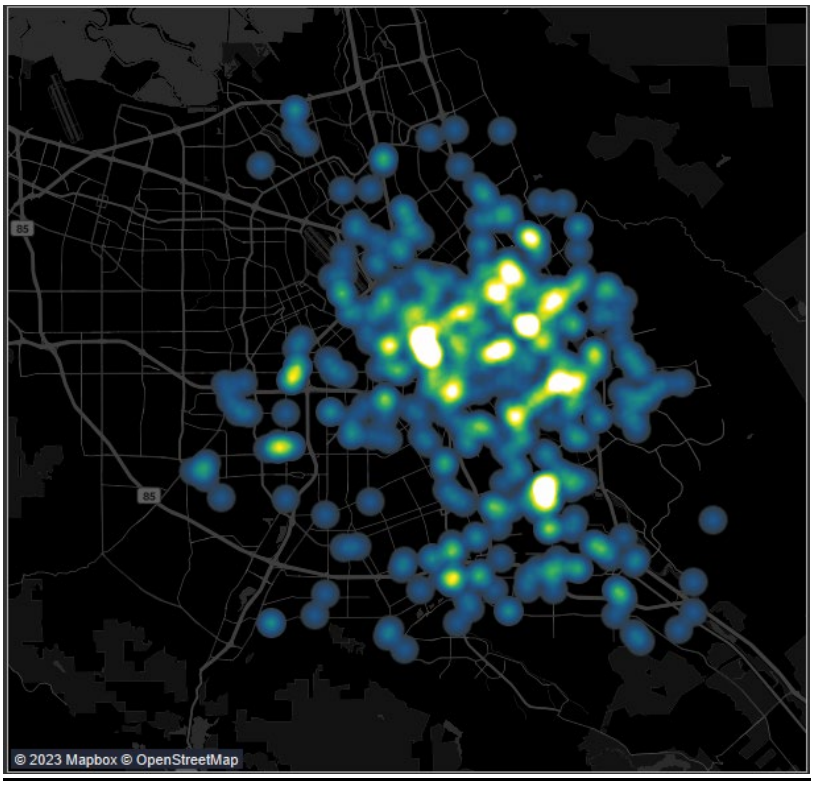
Use of Force Incident Locations – 2022



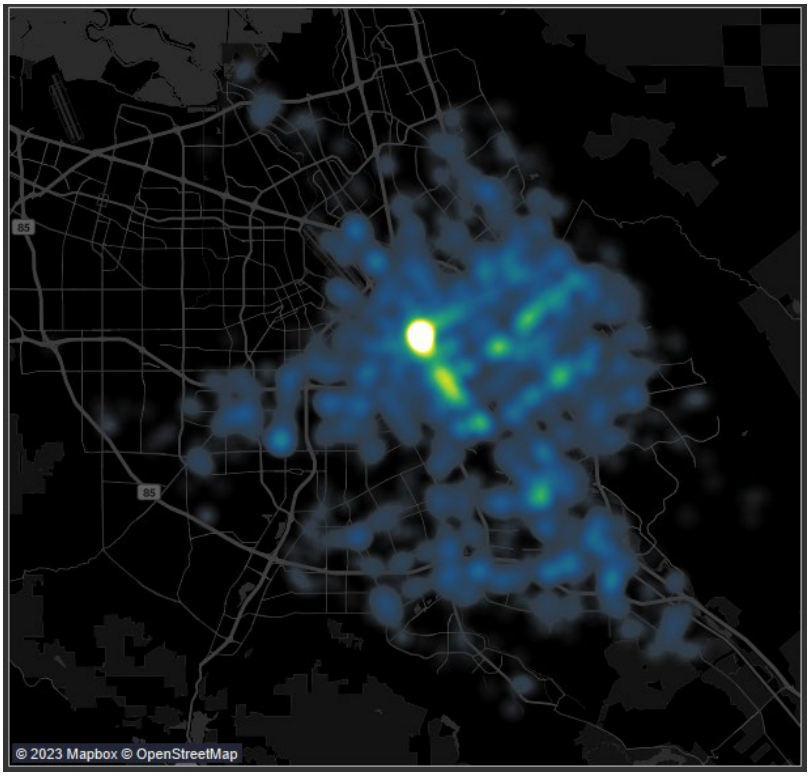
Use of Force Incident Locations – 2015 to 2021



Use of Force Heat Map - 2022



Use of Force Heat Map – 2015 to 2021



2) Reason for Contact

Compared to prior years, in 2022 the reason for the initial contact was more likely to be a dispatched call for service (68%) and less likely to be an officer-initiated stop (24%) or an assist the officer or agency (8%).

Compared to prior years, the reason for the initial contact was more likely to be for a violent or weapon offense (39%) in 2022 and less likely to be a welfare check (6%).

3) Force Frequency

In 2022 there were 544 use of force incidents involving 478 officers who used force a total of 1,165 times. Two officers used force 12 times each. There were eight officers who used force between 9 and 11 times each, 48 officers who used force between 5 and 8 times each, 95 officers who used force 3 or 4 times, 135 officers who used force twice, and 190 officers who only used force once. The top 10% of officers made up 30% of all force used by the Department.

Uses of force are linked to arrests. About 4% of all arrests result in a use of force because the subject resists arrest by failing to comply, fleeing, or threatening or assaulting the officers or others.

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 2022, 7% of San Jose's use of force incidents had low Force Justification scores (<6). The average justification score was 11.6 on a scale of 0 to 20. For each of the four Graham factors, the average threat score was higher in 2022 than prior years (1.9 vs. 1.5) and the average crime score was also higher (3.4 vs. 3.0). This indicates that subjects were more

threatening to officers and were committing more serious crimes in 2022 than in prior years.

Thirteen percent of force incidents received the highest justification score of 20 which is higher than the 10% average for the prior seven years. Most of these cases involved assaults on the officers before the officer made the decision to use force.

In 2022 there were 70 officers who were involved in at least one incident with a low Force Justification score. Most officers were only involved in one low Force Justification incident each. Six officers were involved in two low Force Justification incidents each.

In 2022 Female subjects had higher Force Justification scores (12.6) than Males (11.4). Asian subjects had the highest average Force Justification score (14.2) while White subjects had the lowest average score (10.5). By subject age, average Force Justification scores were lowest for ages 40-49 (10.4) and were highest for juvenile subjects (16.6). By body mass index, average Force Justification scores were lowest for subjects who were underweight (10.2) and were highest for obese subjects (12.5).

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 2022 8% of force incidents had a high Force Factor score (+3 or above). There were twelve incidents that had a +4 Force Factor, and thirty-three incidents had a +3 Force Factor. No incidents had a Force Factor score of +5 or +6 in 2022. There were 58 officers involved in the 45 high Force Factor incidents in 2022. Two officers were involved in five

high Force Factor incidents each and three officers were involved in two or three high Force Factor incidents each.

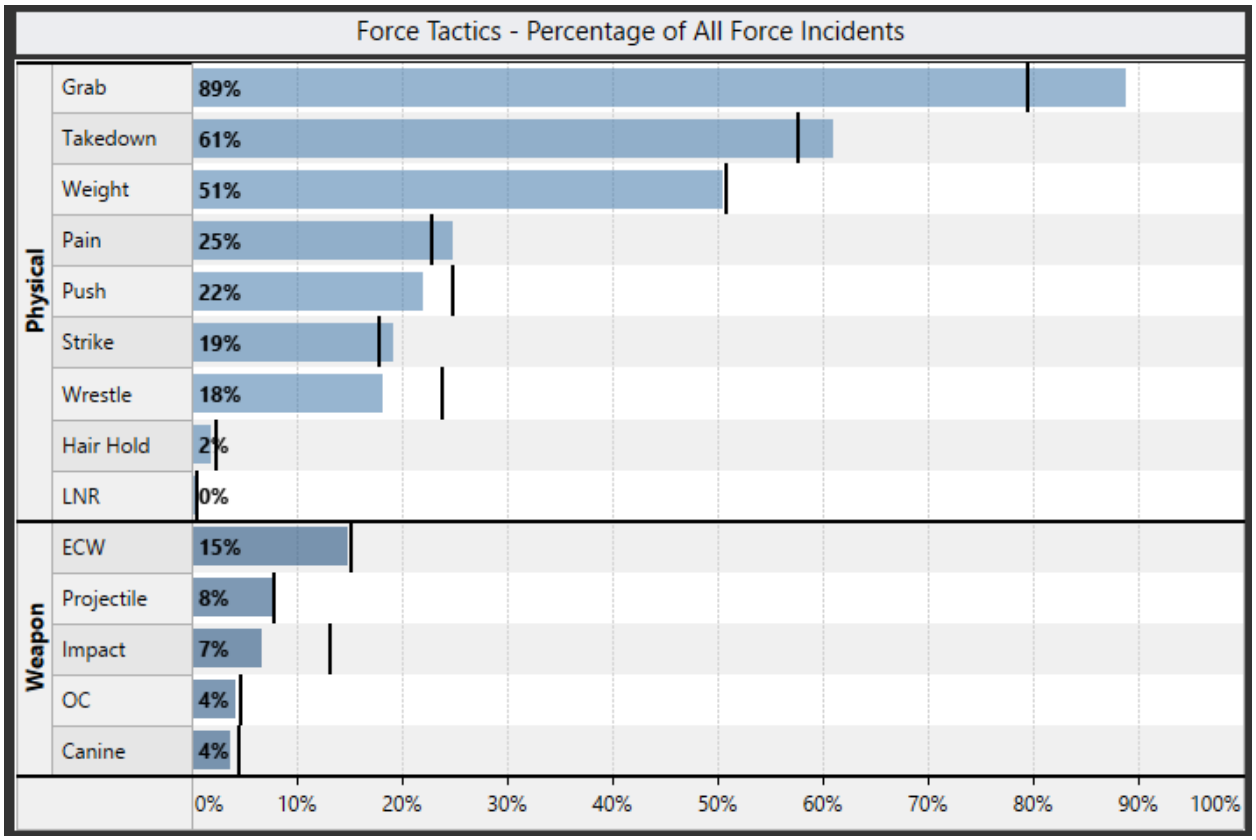
Electronic control weapons were involved in a 33% of the high Force Factor incidents while projectile weapons were involved in 24% of cases and OC was used in 22% of incidents. Canines and impact weapons each made up less than 10% of high Force Factor incidents.

In 2022 the most common Force Factor Score was +1 (40%) followed by 0 (31%) and +2 (12%). These numbers indicate 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. In 2022 the percentage of low Force Factor incidents was 9% compared to 8% in prior years. This indicates that in 2022 a higher percentage of officers who were being assaulted were able to control the subject without using weapons or aggressive physical tactics.

6) Force Tactics

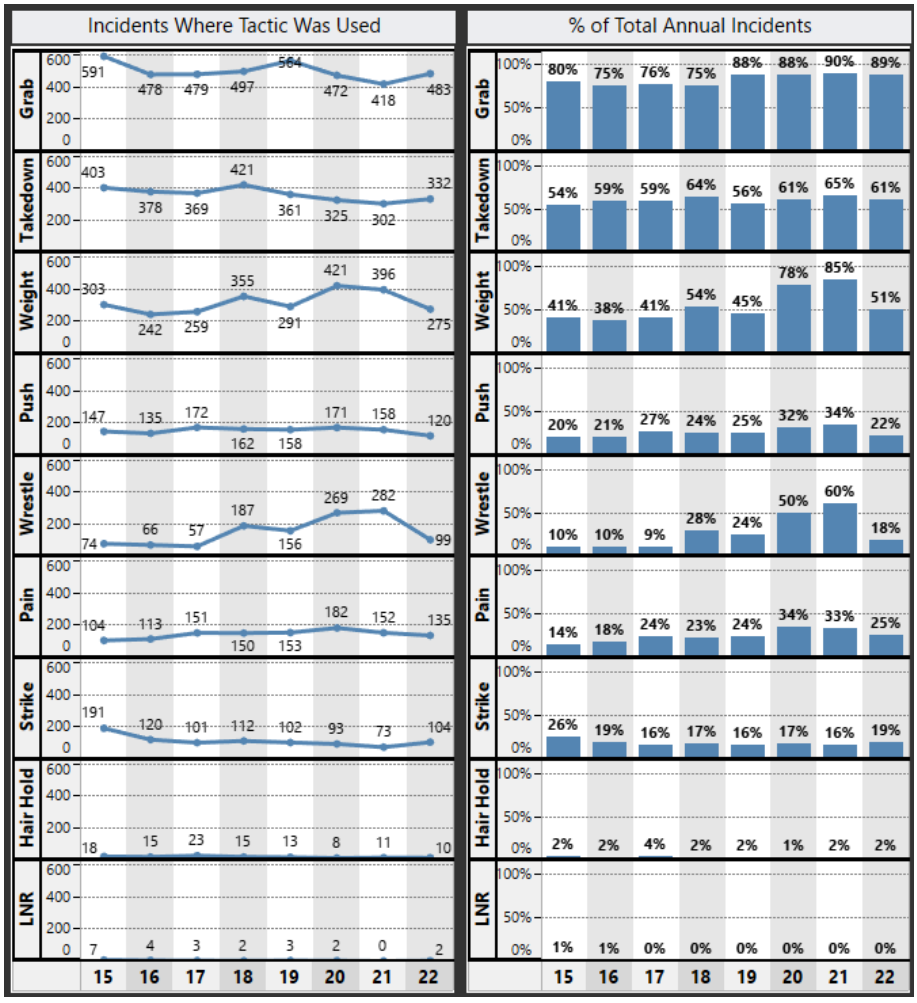
Of the 544 use of force incidents that occurred in 2022, 70% involved physical force only, 10% involved only the use of weapons by officers and 20% involved both physical force and the use of a weapon. Officers were more likely to use physical force only in 2022 than in prior years (70% vs 63%) and were less likely to use weapons (30% vs. 37%).

Compared to prior years, officers were less likely to use pushing, wrestling and impact weapons in 2022. In 2022 officers were slightly more likely to use takedowns, pain compliance and strikes than in prior years.



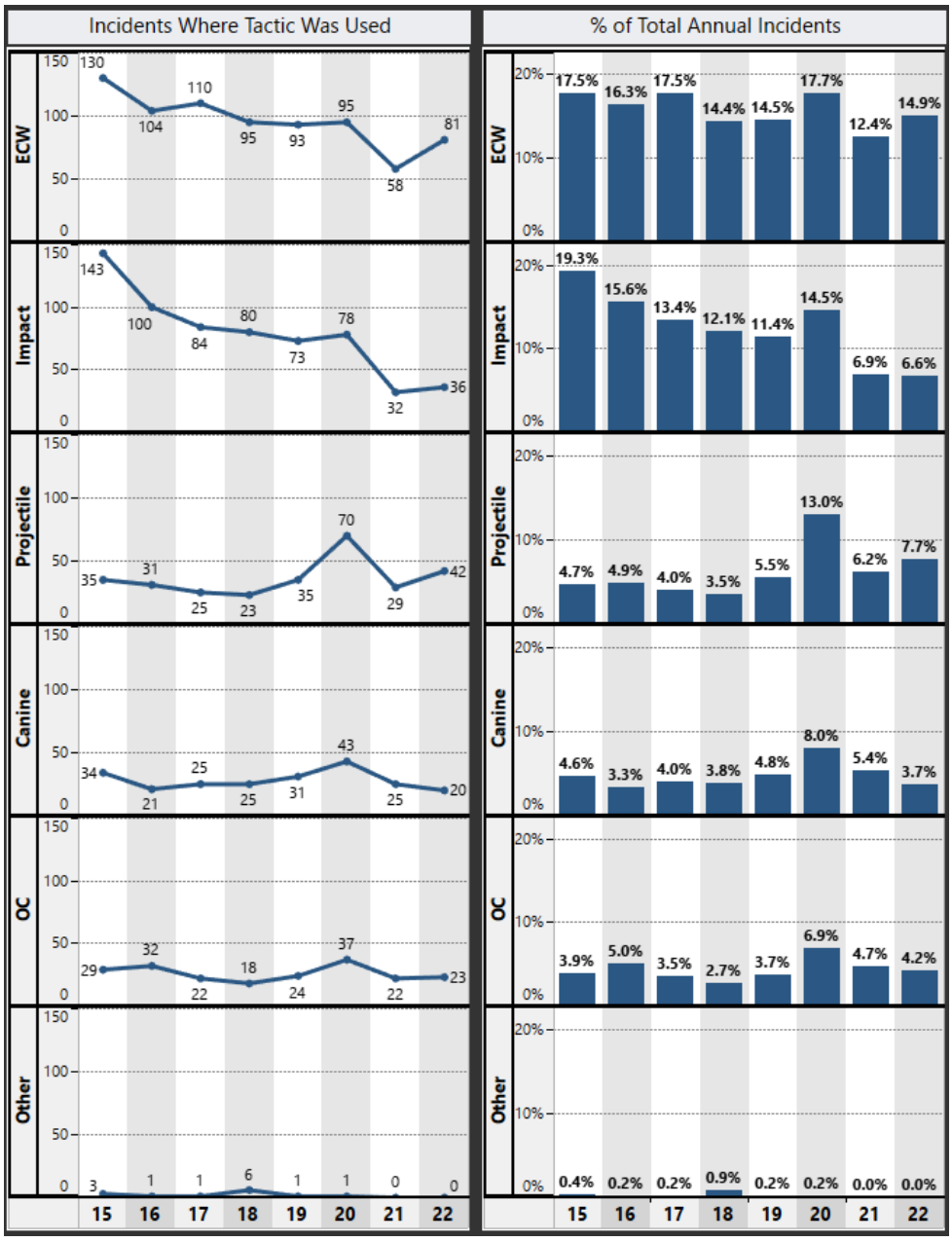
Over the last eight years (excluding the 2020 protest related incidents) officers have used 25,405 individual physical force tactics and weapons during 4,859 incidents. Between 2021 and 2022 there was a significant decline in the use of weight to hold a subject down, pushing, pain compliance and wrestling. Strikes were the only physical force tactic that was used more frequently in 2022 than in 2021.

	Percentage of All Force Incidents		
Physical Force Tactic	**2021**	**2022**	**Change**
Wrestle	60.4%	18.2%	-70%
Weight	84.8%	50.6%	-40%
Push	33.8%	22.1%	-35%
Pain Compliance	32.5%	24.8%	-24%
Hair Hold	2.4%	1.8%	-22%
Takedown	64.7%	61.0%	-6%
Grab	89.5%	88.8%	-1%
Strike	15.6%	19.1%	22%



The use of canines dropped in 2022 to the lowest level since 2016. Between 2021 and 2022 the use of projectile weapons and electronic control weapons increased by more than 20%.

	Percentage of All Force Incidents		
Weapons Used	**2021**	**2022**	**Change**
Canine	5.4%	3.7%	-31%
OC	4.7%	4.2%	-10%
Impact	6.9%	6.6%	-3%
Electronic Control Weapon	12.4%	14.9%	20%
Projectile	6.2%	7.7%	24%



7) Subjects

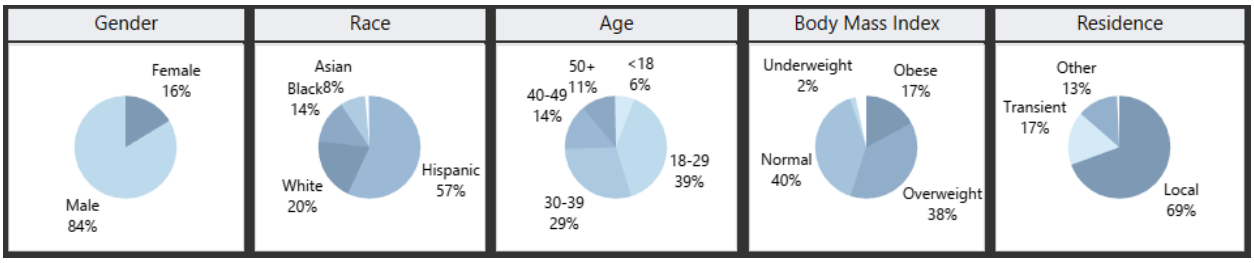
Between 2015 and 2021 there were four demographic groups (gender, race, and age) that made up 64% of all use of force subjects. In 2022 the total percentage of these four demographic groups were similar to prior years, but there was a higher percentage of Hispanic subjects over 40.

Most Common Characteristics of Use of Force Subjects 2015 - 2021				
Gender	**Race**	**Age**	**Number of Subjects**	**Percentage of Force Incidents**
Male	Hispanic	36%	1,555	36%
Male	White	10%	436	10%
Male	Hispanic	10%	423	10%
Male	Black	8%	326	8%
All Other Demographic Groups			1,575	36%

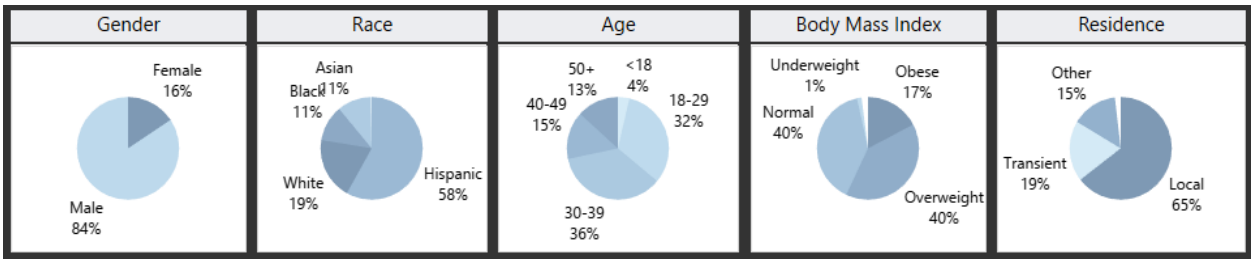
Most Common Characteristics of Use of Force Subjects 2022				
Gender	**Race**	**Age**	**Number of Subjects**	**Percentage of Force Incidents**
Male	Hispanic	18-39	196	36%
Male	White	18-39	50	9%
Male	Hispanic	40+	72	13%
Male	Black	18-39	39	7%
All Other Demographic Groups			187	35%

Compared to the prior seven years, use of force subjects in 2022 were less likely to be Black (11%) or 18 to 29 (32%) and were more likely to be Asian (11%) or 30 to 39 (36%).

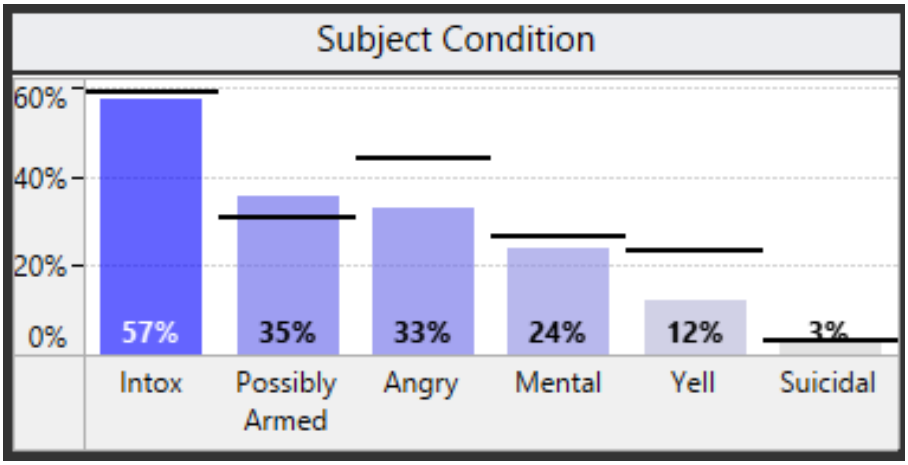
Use of Force Subject Characteristics - 2015 to 2021



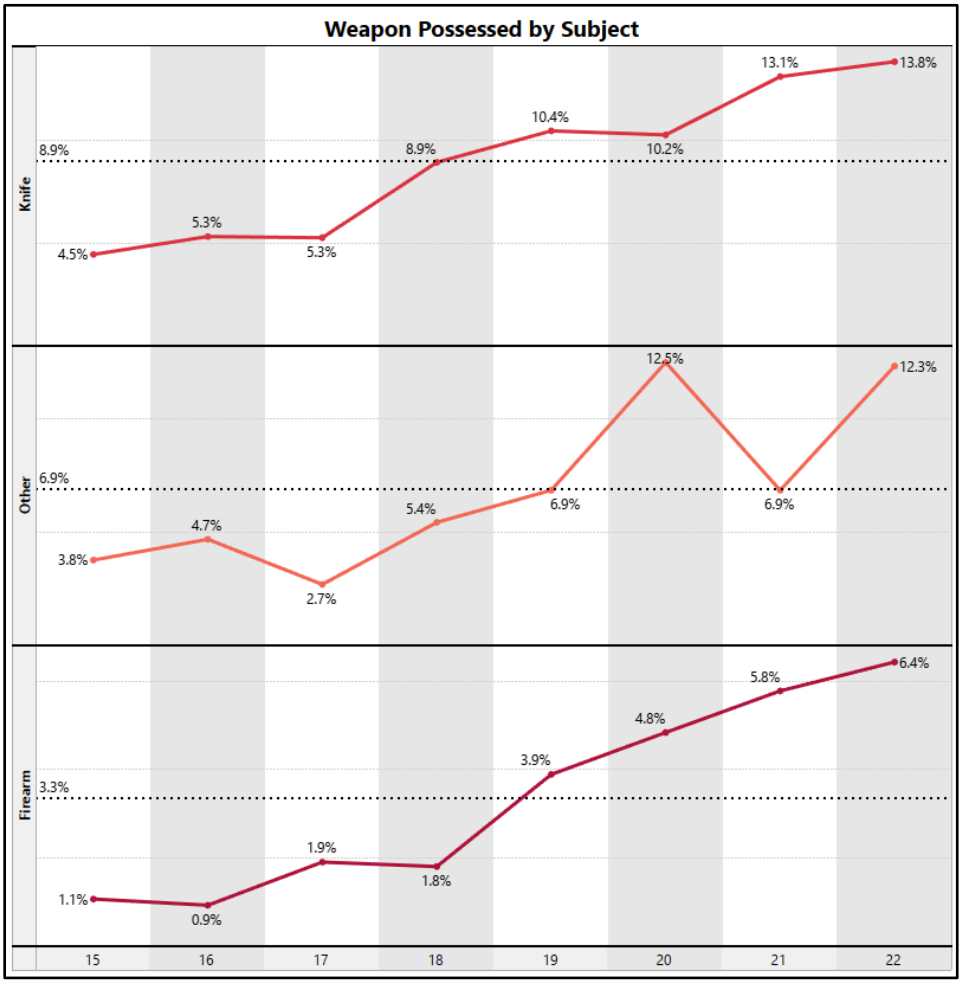
Use of Force Subject Characteristics - 2022



Compared to prior years, use of force subjects in 2022 were less likely to be angry (33% vs. 45%) or yelling (12% vs. 24%) and were slightly more likely to possibly be armed (35% vs. 30%).

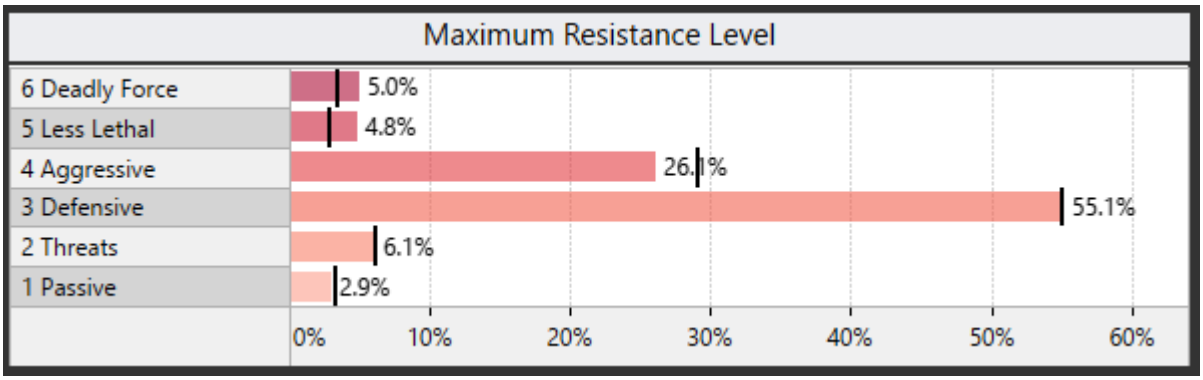


A higher percentage of subjects possessed a knife (13.8%) or a firearm (6.4%) in 2022 than in any prior year.



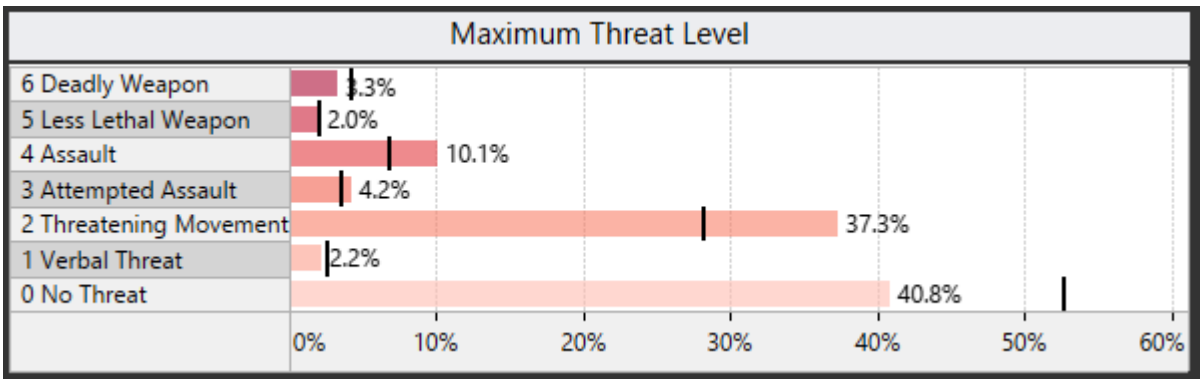
Compared to the previous seven years, officers in 2022 were more likely to encounter deadly force resistance (5.0%) and less lethal weapon resistance (4.8%) and less likely to encounter aggressive physical resistance (26%).

Subject Maximum Resistance Level - 2022



In 2022 officers perceived some type of threatening subject behavior in 59% of use of force incidents which is higher than the 46% from prior years. Officers were 68% more likely to be assaulted by the subject prior to using force than in the prior seven years and were more likely to perceive threatening movements by the subject (37% vs. 27% in prior years).

Subject Maximum Threat Level - 2022



8) Injuries

In 2022 there were 180 officers who were injured a total of 251 times. Two officers were injured four times, fifteen officers were injured 3 times each, and thirty-six officers were injured twice. Most of the injuries involved a bruise or scrape (59%), a minor cut (16%) or a complaint of pain only (20%). Three officers received chemical or bodily fluid contamination and eight officers had a fracture or broken tooth.

Seventy-three percent of injured officers received injuries to their arms or legs and 30 officers received an injury to the head.

Twenty-two percent of force applications by officers resulted in an injury to the officer who used force which is higher than the 15% injury rate from prior years. Of the 251 officer injuries in 2022, 15% were treated by EMTs and 17% were treated at a hospital.

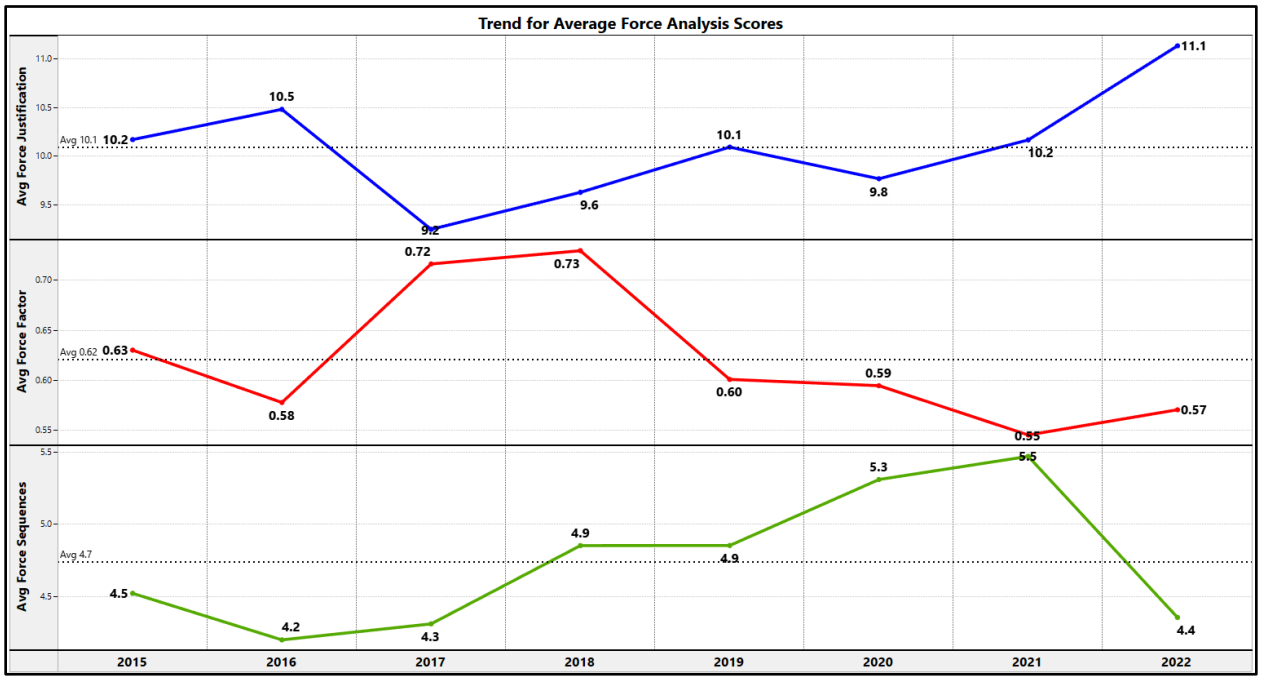
In 2022 355 subjects who had force used against them were injured (65% of all incidents). Of the subjects who were injured, most of the injuries were minor: complain of pain only (32%), ECW probe (5%), bruise/scrape (36%) or minor cut (16%). Eighteen subjects were bitten by a canine, thirteen subjects had chemical irritation, and seven subjects suffered a fracture or broken tooth.

Thirty-three percent of injured subjects received injuries to their arms or legs and 73 subjects received an injury to the head.

Of the all the subjects who were injured, 19% were treated by EMTs only and 63% were treated at a hospital.

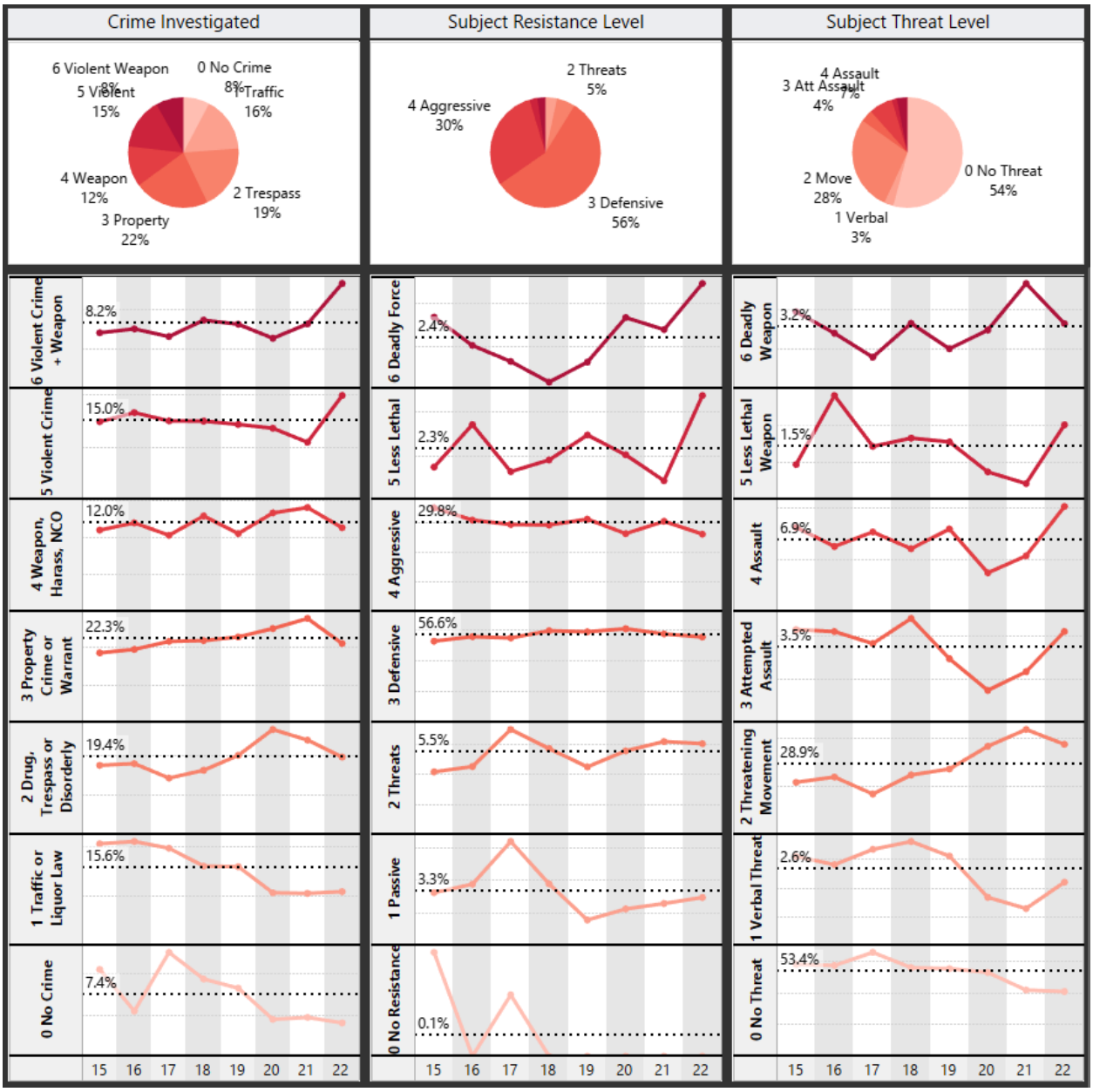
9) Force Analysis Trends

From 2017 to 2022 there have been several observable trends in the Force Analysis scores. The average Force Justification score rose from 9.2 to 11.1 while the average Force Factor fell from 0.72 to 0.57 while the average number of Force Sequences has remained nearly the same at 4.4.



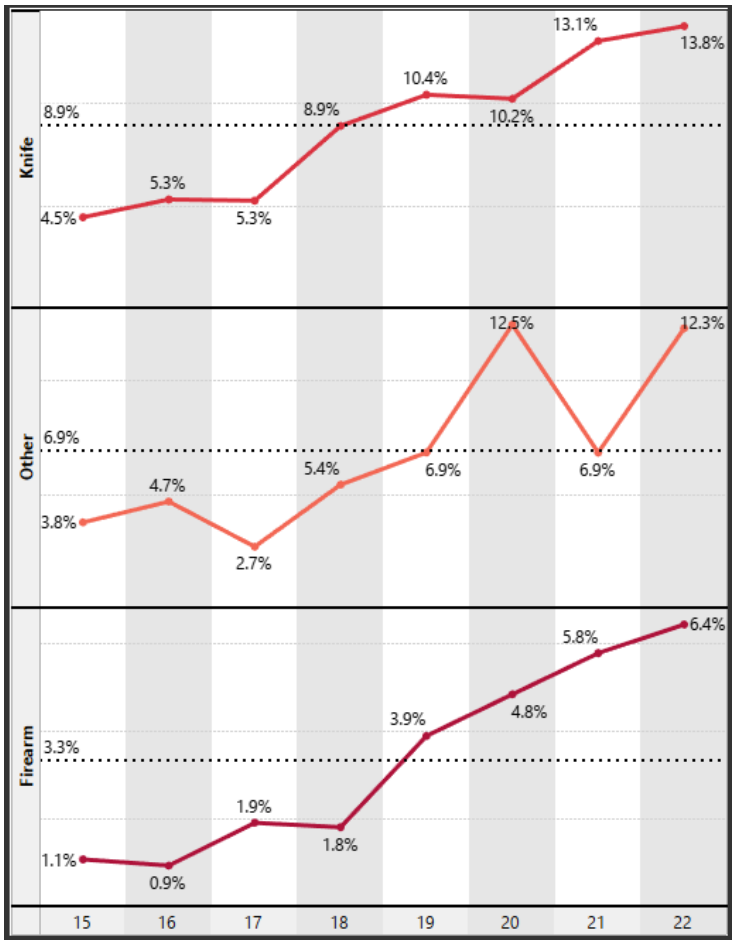
Between 2021 and 2022 there was a large increase in average Force Justification from 10.2 to 11.1, while the average number of Force Sequences fell from 5.5 to 4.4. The average Force Factor score only increased slightly from 0.55 to 0.57.

Compared to the prior seven years, use of force subjects in 2022 were more likely to be involved in violent crimes (33%), were more likely to assault officers prior to officers using force (10%) and were more likely to use deadly force or less lethal weapons during the force incident (10%).



In 2022, one-third of use of force subjects possessed knives, firearms, or other weapons which was the highest weapon possession rate in the last eight years.

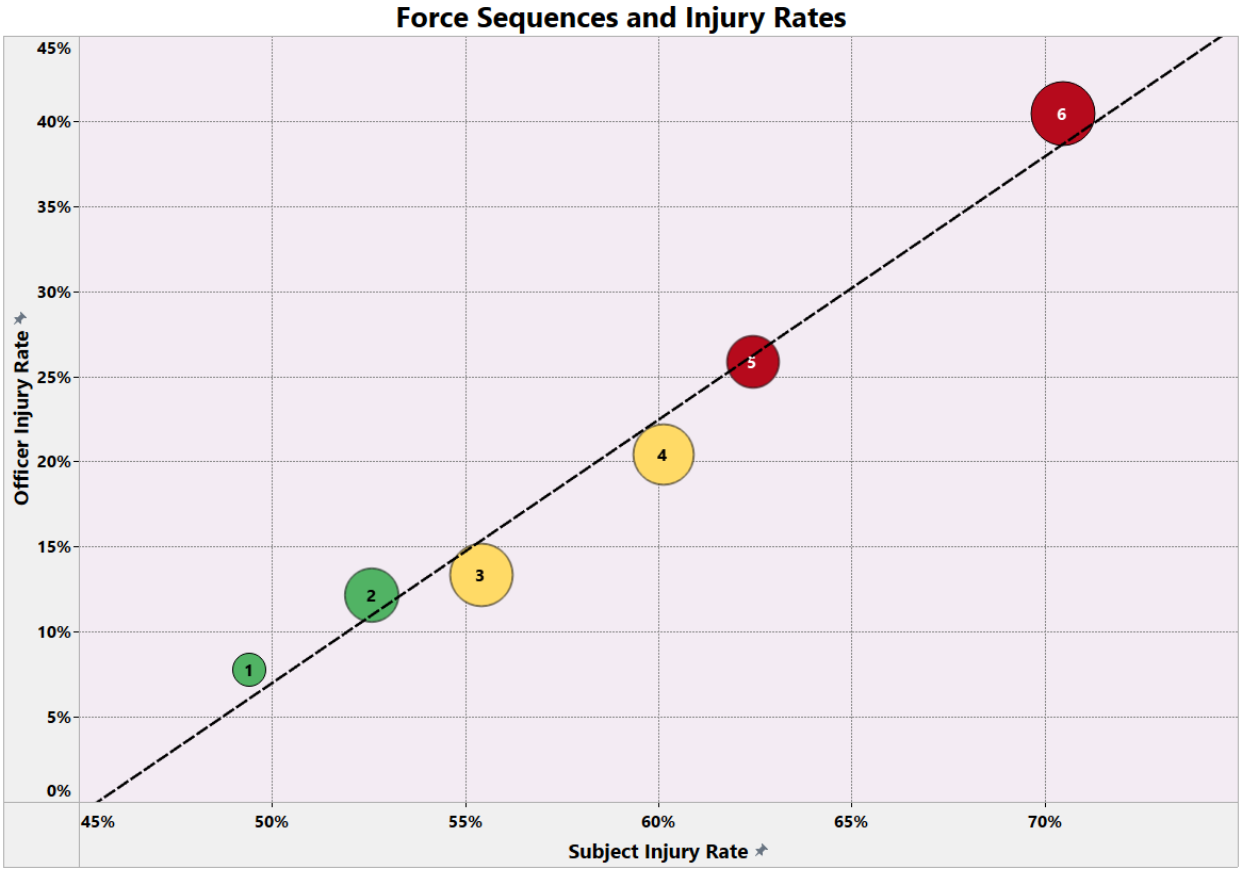
Weapon Possession by Use of Force Subjects



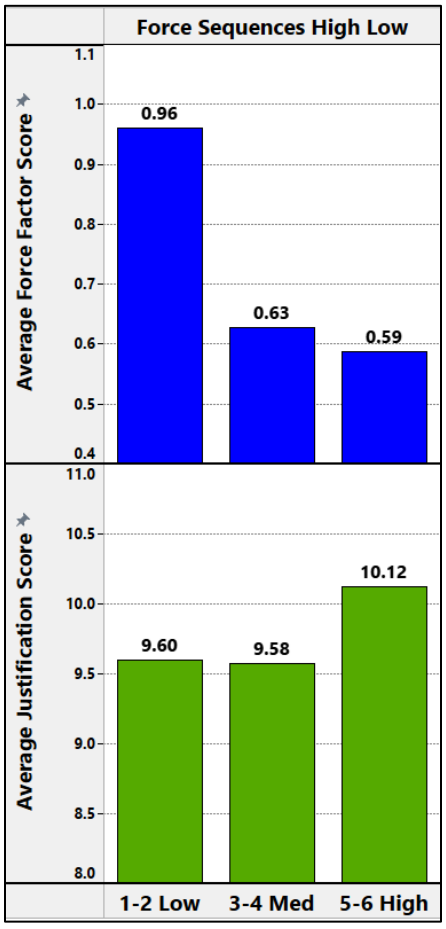
Use of force incidents are dynamic events. Officers will respond to the resistance presented by the subjects and both the resistance levels, and the force levels can both change during the incident. Each time the Force-Resistance dynamic changes a new Force Sequence is coded up to six Force Sequences. If an officer is able to control a resisting subject after only one or two Force Sequences, then the officer is using force tactics effectively. However, if the force incident continues to five or six Force Sequences that is an indication that the officer is having difficulty controlling the subject. Often a high number of Force Sequences are the result of a combination of several factors.

There is a strong correlation between Force Factor and Force Sequences. When officers use overwhelming force compared to resistance (i.e., high Force Factor), the number of Force Sequences will be lower. Conversely when subject resistance levels are higher than officer force levels (i.e., low Force Factor), the number of Force Sequences will be higher.

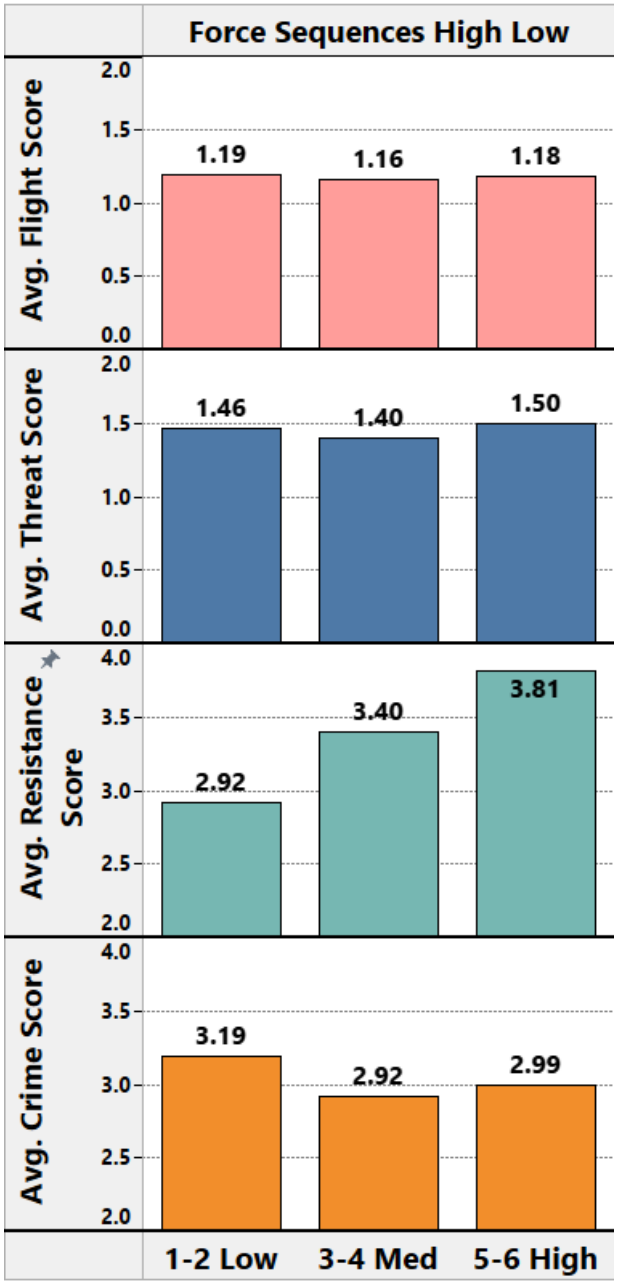
There is also a strong correlation between the number of Force Sequences and injury rates for both officers and subjects. The more Force Sequences there are the more likely it is that both the officer and the subject will be injured. Incidents that are resolved within one Force Sequence have an officer injury rate of 8% and a subject injury rate of 49%, but incidents that go to six sequences have an officer injury rate of 40% and a subject injury rate of 70%.



The following diagram shows the relationship between average Force Factor and average Force Justification scores and the number of Force Sequences. When incidents are resolved within two Force Sequences officers generally use a higher level of force compared to resistance. Incidents that have a higher Force Justification score (subject is fleeing and presenting a high level of threat and resistance and is involved in a more serious crime), are more likely to go to five or six Force Sequences.

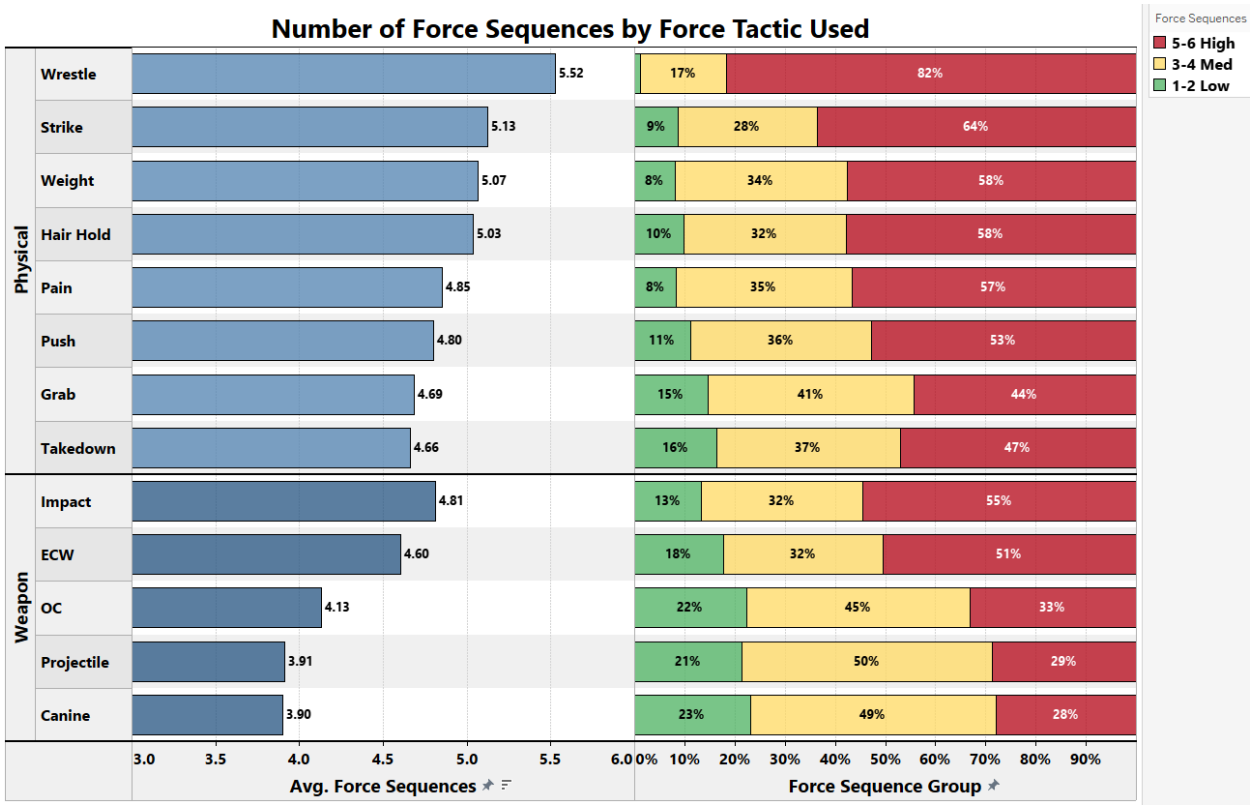


When the Force Justification scores are broken down into the four Graham factors, it appears that subject flight and subject threat factors have no correlation with the number of Force Sequences. Therefore, if a subject is fleeing or threatening the officer, these attributes do not tend to increase the number of Force Sequences. Levels of resistance are strongly correlated with Force Sequences. The higher the level of resistance the more Force Sequences will be involved. The average crime score has a negative relationship with the number of Force Sequences but only for one and two Force Sequence incidents.



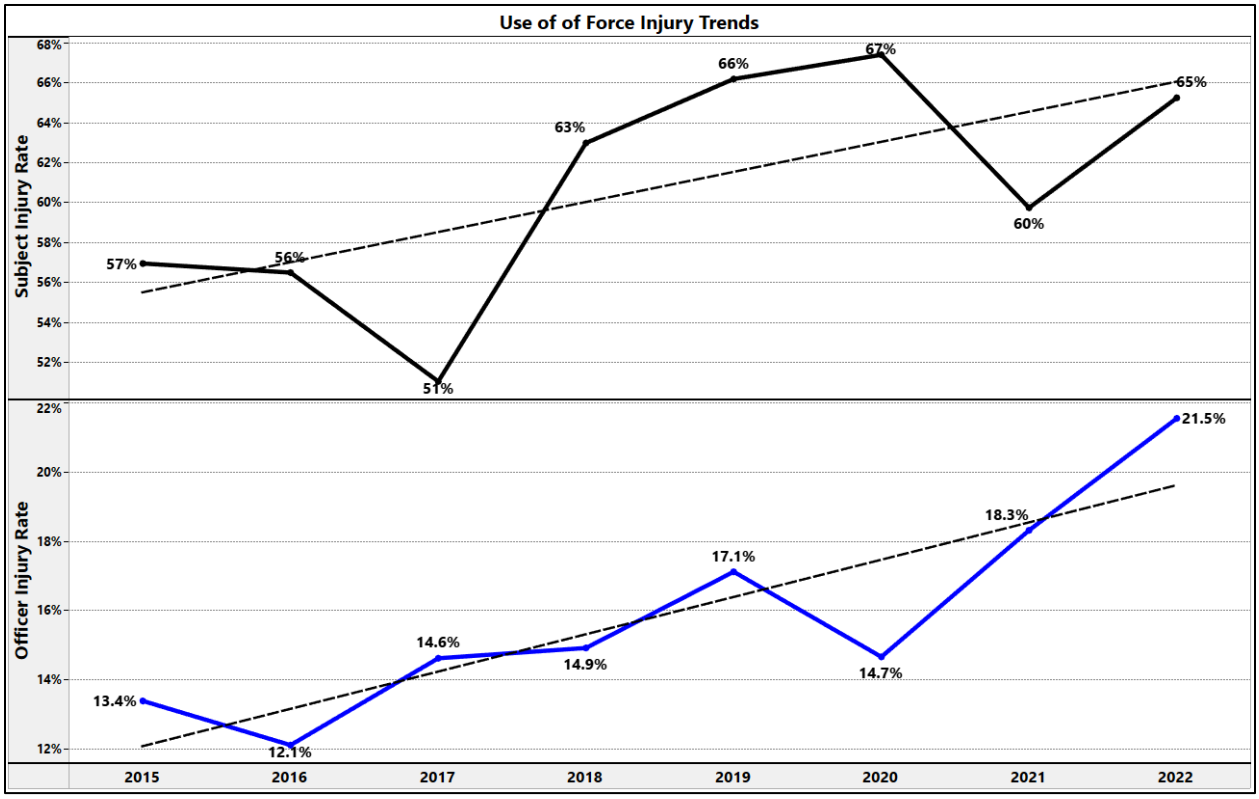
If officers initiate a force incident with overwhelming force, they will generally be able to control the subject faster than if lower levels of force are used. However, if the force level is too high it may be considered to be excessive. Therefore, an officer should choose an appropriate level of force that will control the subject as quickly as possible without using force that would be considered to be excessive. In many use of force incidents there is little time for an officer to conduct a calculation of the appropriate level of force to use and this is made even more difficult by the uncertainty of the subject's possible responses to the initiation of force.

During most use of force incidents, officers will use multiple types of force tactics in an attempt to control the subject. The timing of the use of a force tactic will have a significant impact on the Force Sequences. A projectile weapon used in the first Force Sequence may resolve the incident quickly but, in some cases, a projectile weapon may be used as a last resort in the last Force Sequence. Given these limitations, the following diagram examines the number of Force Sequences associated with different types of force tactics.

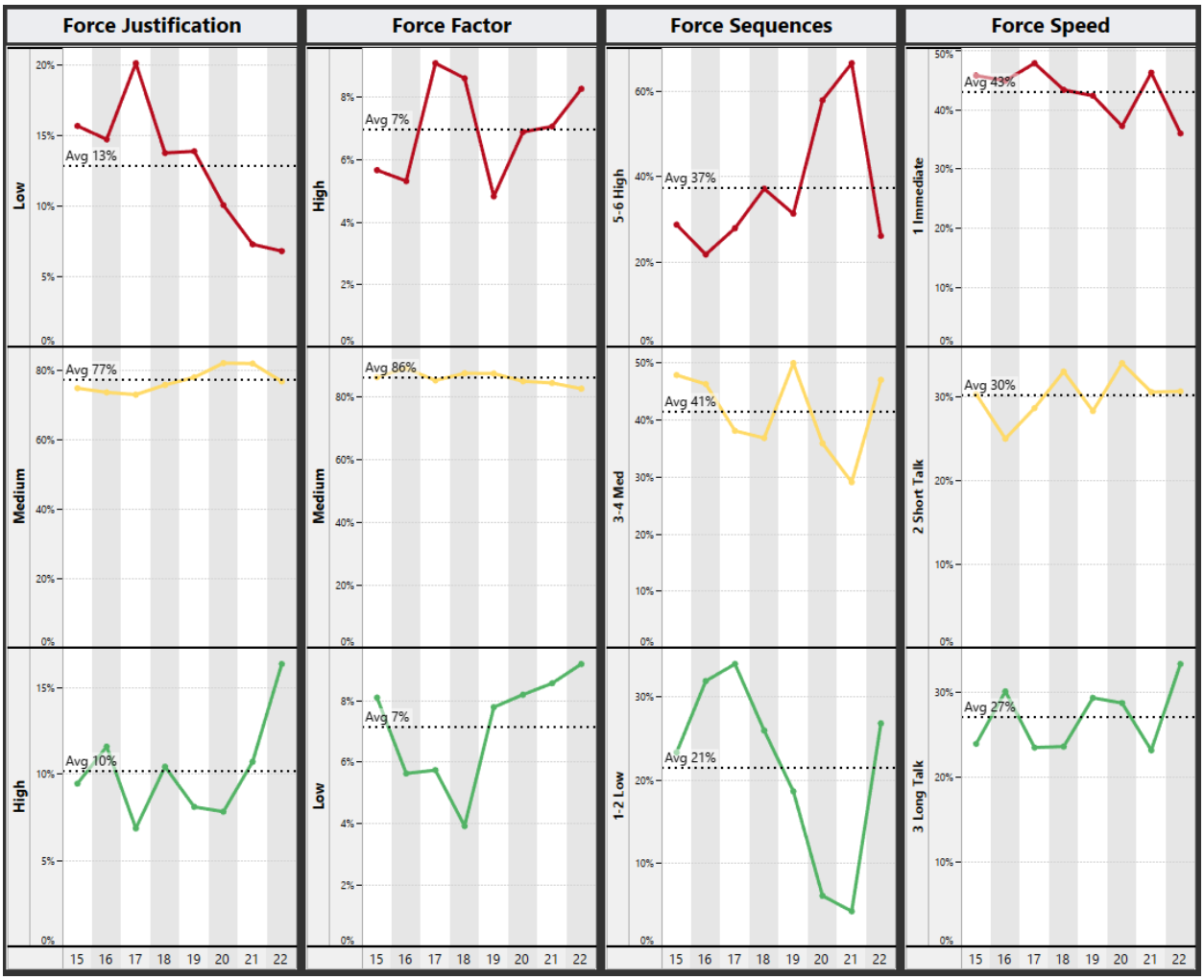


Wrestling is more of an indicator than a force tactic and is used when there is a protracted physical struggle between the officer and the subject. Wrestling is associated with a high number of Force Sequences and 82% of wrestling incidents go to five or six Force Sequences. Canines, projectile weapons, and OC are associated with incidents that have the shortest number of Force Sequences. When these weapons are used, 20% of incidents are resolved within one or two Force Sequences. Even though these types of weapons are more effective than other force tactics, their use may not be appropriate in many situations. More than half of incidents that involve the use of impact weapons or electronic control weapons go to five or six Force Sequences. This is because these weapons are often used as a secondary force tactic after other physical force tactics have been attempted. Takedowns appear to be the most effective physical tactic. Nearly two-thirds of incidents that involve a strike go on for five or six Force Sequences.

Over the last eight years both officer injury rates and subject injury rates have been on an upward trend.

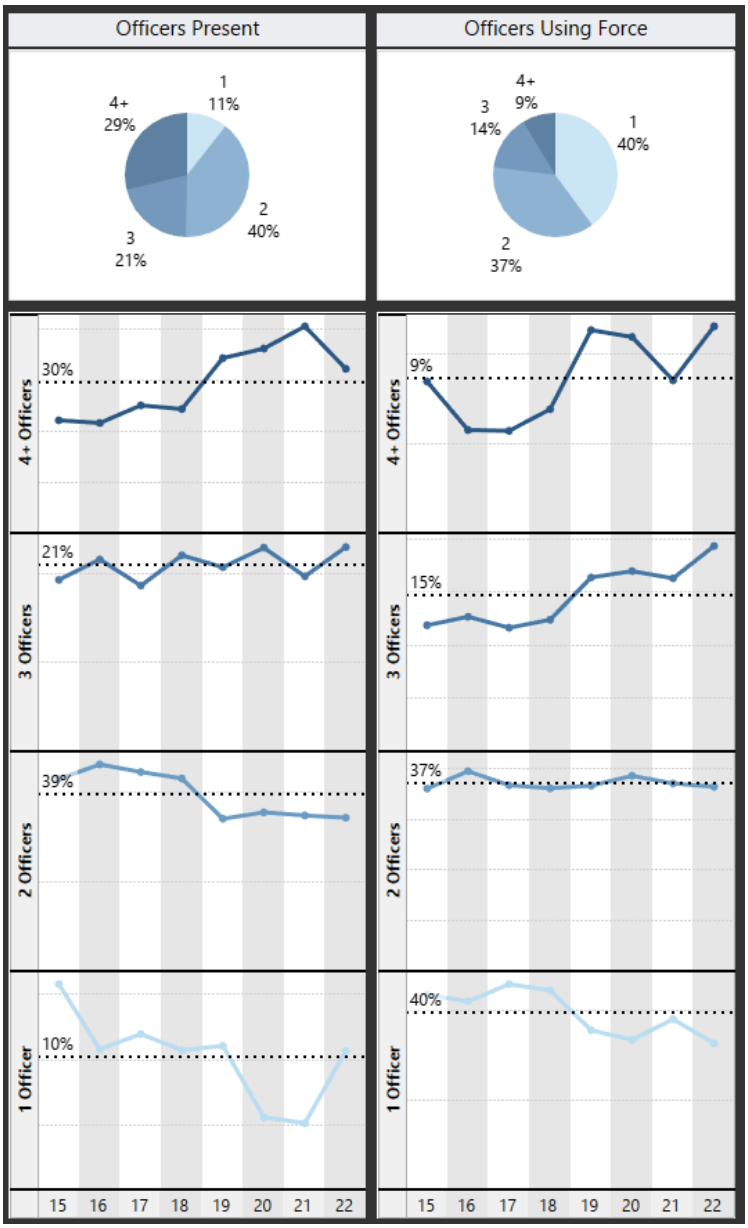


The analysis of use of force incidents can be complex since we must examine the behaviors can characteristics of both officers and subjects and all the environmental and situational factors involved. The following table provides trends for Force Justification, Force Factor, Force Sequences and Force Speed.



Since the pandemic began in 2020 the percentage of incidents involving a high Force Justification score increased from 8% to 16%. These are incidents involving a more serious crime, a higher level of threats, flight, and more significant resistance. At the beginning of the pandemic the percentage of incidents lasting five or six Force Sequences jumped from 31% in 2019 to 67% in 2021 before falling to 26% in 2022. It is unclear why officers were able to resolve incidents with fewer Force Sequences in 2022 since Force Justification scores were increasing and Force Factor scores remained lower than prior years. Since there was not an

increased use of weapons in 2022. In 2022 nearly a third of force incident involved three or more officers using force compared to only 22% in prior years.

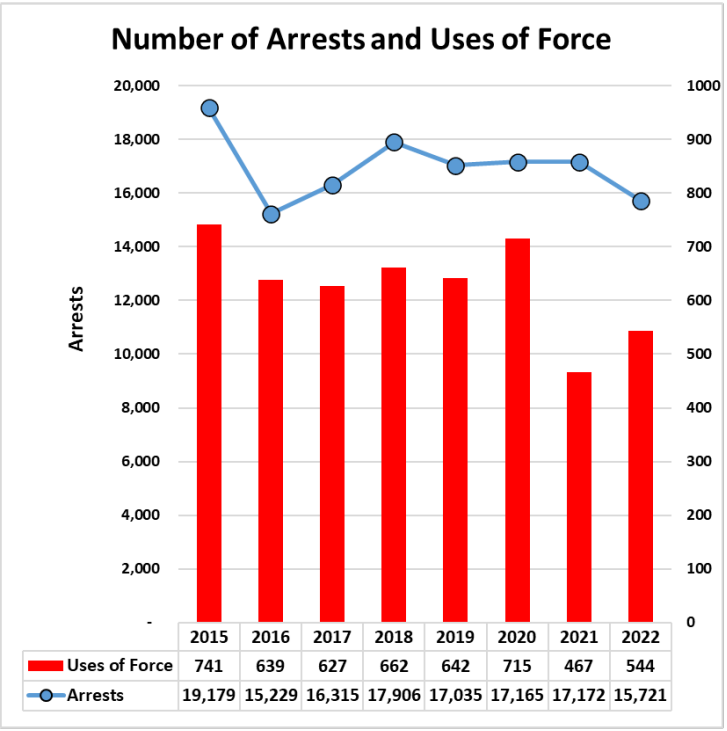


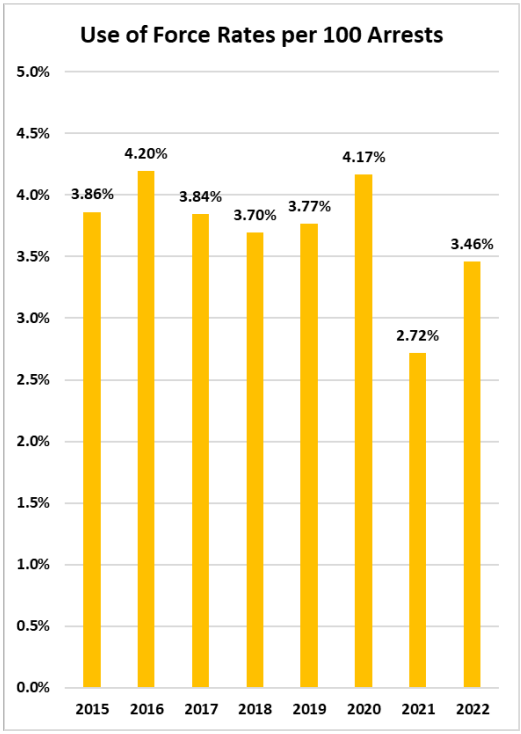
In 2022 33% of incidents involved a Long Talk compared to 26% in prior years.

10) Long-Term Use of Force Trends

a) Arrests and Uses of Force

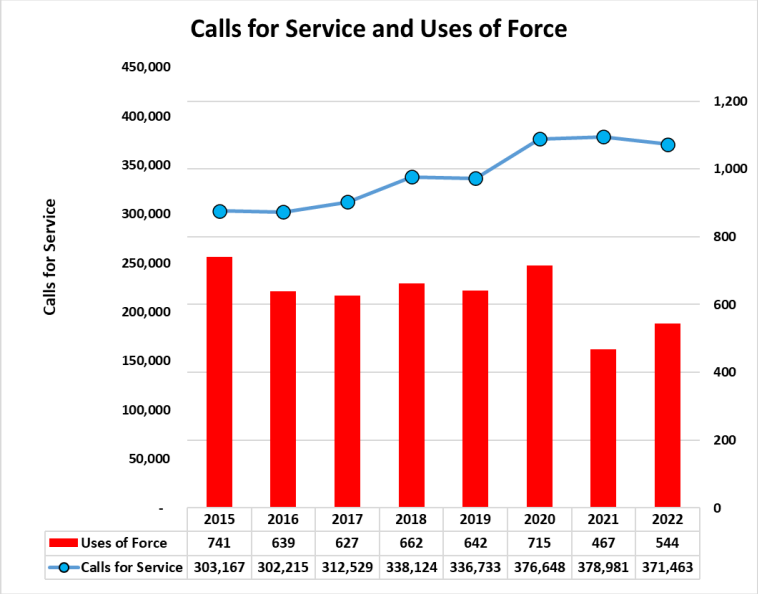
From 2015 to 2022 the number of annual arrests made by SJPD fell by 18% from 19,179 arrests to 15,721 arrests. During this same period, the number of uses of force fell by 27% from 741 in 2015 to 544 in 2022. From 2015 to 2020 the use of force rate per 100 arrests ranged between 2.7% and 4.2%. The average use of force rate per arrest for all 100 agencies using PFAS is 3.7%.

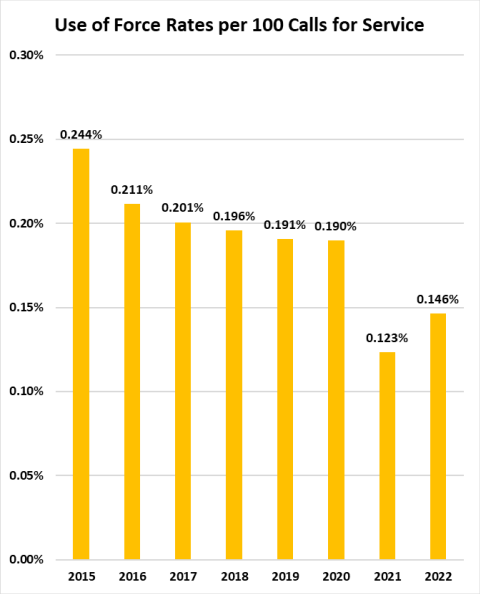




b) Calls for Service and Uses of Force

From 2015 to 2022 the number of annual calls for service to SJPD rose by 23% from 303,167 calls to 371,463 calls. During this same period, the number of uses of force fell by 27% from 741 in 2015 to 544 in 2022. Since 2015 the use of force rate (uses of force per 100 calls for service) has declined by 40% from 0.24% in 2015 to 0.15% in 2022. The average use of force rate per call for service for all 100 agencies using PFAS is 0.10%.





11) Firearm Pointing Incidents (Show of Force)

In 2021 San Jose PD began providing data on incidents where the only force used was the pointing of a firearm at a subject. These incidents are sometimes referred to as "show of force." Police Strategies LLC has analyzed these incidents and the following is a summary of the results.

More than three-quarters of all show of force (SOF) incidents involve only one officer who pointed his/her firearm. Fifteen percent of SOF incidents involve a rifle and 2% involve a shotgun. Almost half of SOF incidents are the result of a 911 call. SOF incidents fell by 28% in 2022. The two most common offense types for SOF incidents were weapon offense and resisting arrest.

The following table examines the demographics of subjects involved in show of force and use of force incidents in 2021 and 2022.

	Show Of Force	Use of Force	Likelihood of UOF vs SOF
Female	8.1%	14.8%	1.8
Male	91.9%	85.2%	0.9
Hispanic	66.4%	57.4%	0.9
White	14.3%	20.2%	1.4
Black	12.3%	13.1%	1.1
Asian	6.8%	8.9%	1.3
Nat Amer	0.3%	0.3%	1.1
13-17	4.9%	3.4%	0.7
18-29	37.4%	35.8%	1.0
30-39	29.6%	34.7%	1.2
40-49	16.7%	14.6%	0.9
50+	11.5%	11.5%	1.0

Female subjects are nearly twice as likely to be involved in a use of force incident than a show of force incident. White and Asian subjects are also more likely to be found in a use of force incidents rather than a show of force incident. Juveniles are more likely to be involved in a show of force incident than a use of force incident.