Police Force Analysis System℠
Sixth Summary Report

San Jose Police Department

Use of Force Data from January 1, 2015 to December 31, 2021

Bob Scales, J.D.
Police Strategies LLC
bob@policestrategies.com
www.policestrategies.com

May 2022

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 seventh Summary Report which includes use of force data through the end of 2021. 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.

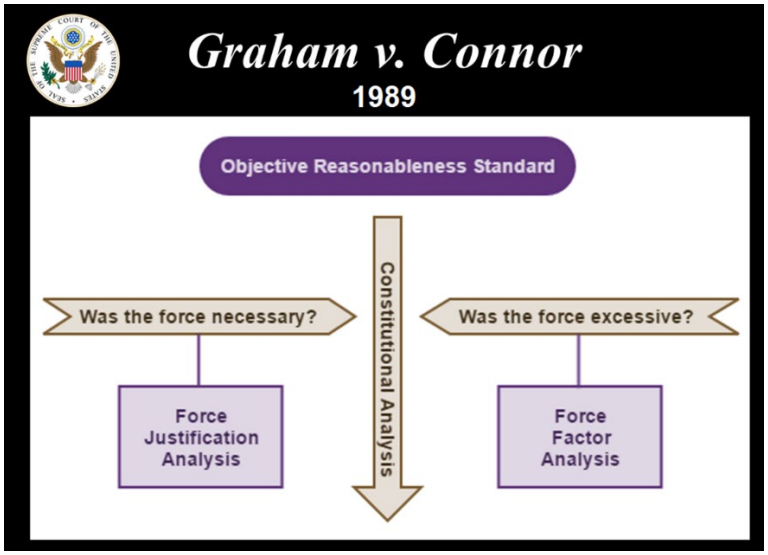
Police Force Analysis System℠

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.

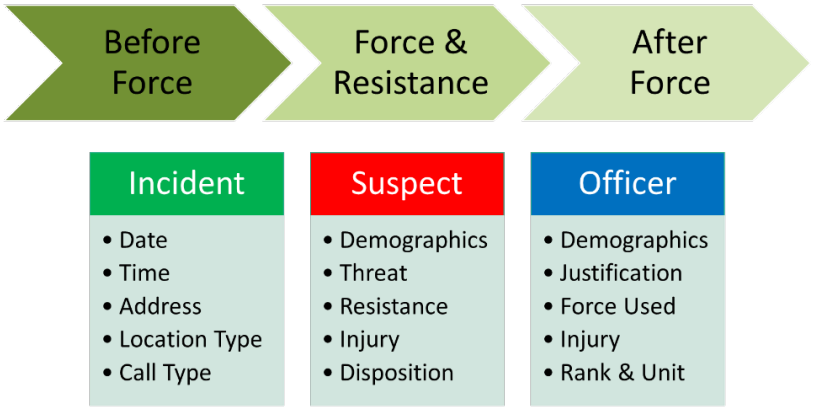


SJPD puts use-of-force data online in pioneering move, San Jose Mercury, January 2018

[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 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 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 January 2022 Police Strategies LLC received SJPD use of force reports from the last three months of 2021. Data entry was completed in February 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 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 2023.

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

The San Jose Police Department's Police Force Analysis System℠ contains seven years of use of force data from 2015 to 2021. The database includes detailed information on 4,493 subjects who had force used against them and the 1,222 officers who used force during the seven-year period. In 2021 there were 467 use of force incidents involving 460 officers who used force a total of 939 times. This report will examine the seven-year trends in uses of force and will summarize the use of force data from 2021. 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. By contrast, the annual number of use of force incidents varied by less than 36 cases in the years between 2016 and 2019. In 2019 there were 642 force incidents dropping to 536 incidents in 2020 (excluding protests) and 467 in 2021.

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

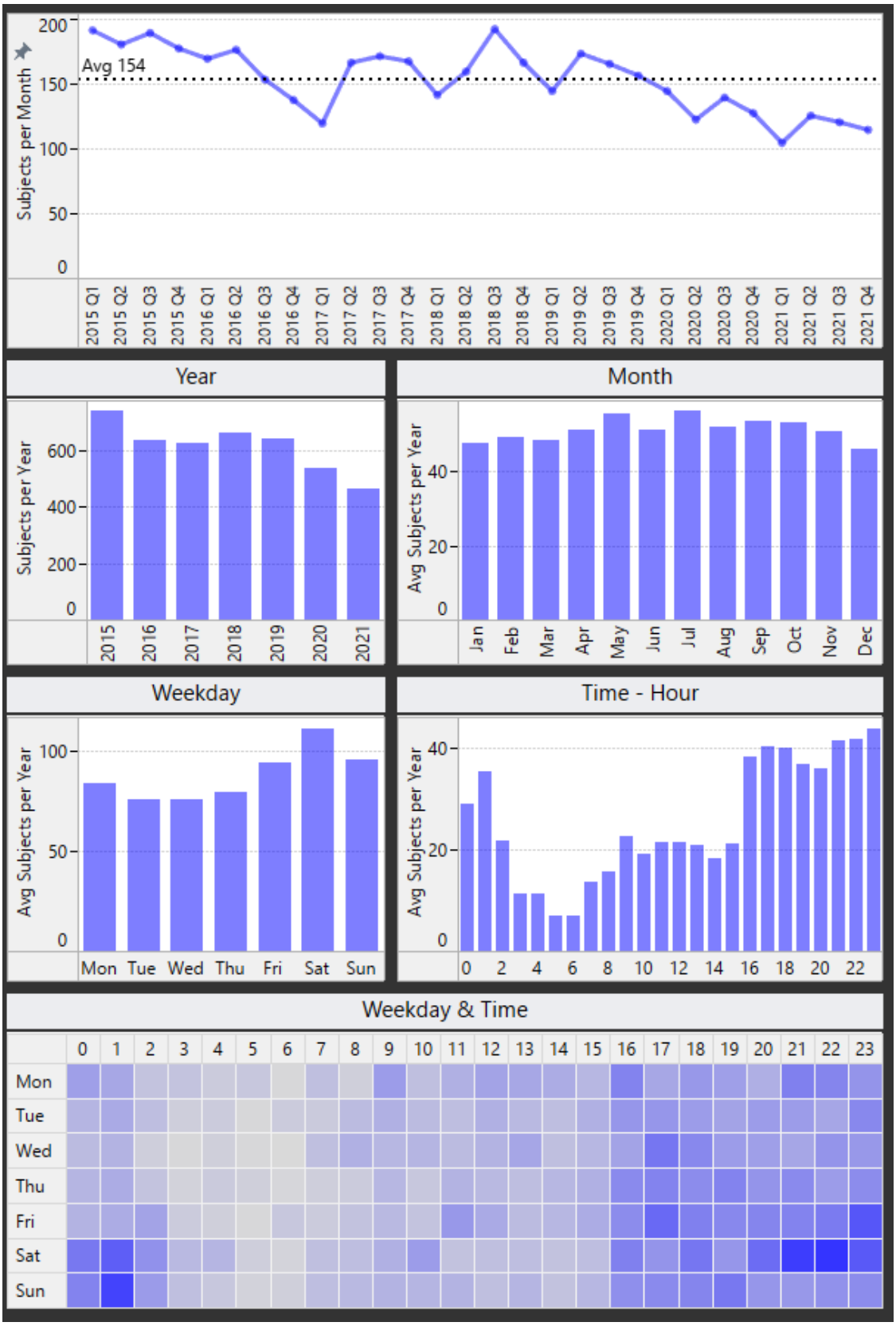
In 2021, June had the most force incidents (46) and March had the fewest incidents (33). During the week, Sundays had the most incidents (93) and Wednesdays had the fewest incidents (43). The peak hours for force incidents were between 6pm and 8pm.

In 2021 30% of all force incidents occurred in the Western Division compared to 21% in the Southern Division. Lincoln District within the Western Division had 12%% of the City's force incidents. In 2021 E2 and L1 where the beats with the most use of force incidents with 11 incidents each.

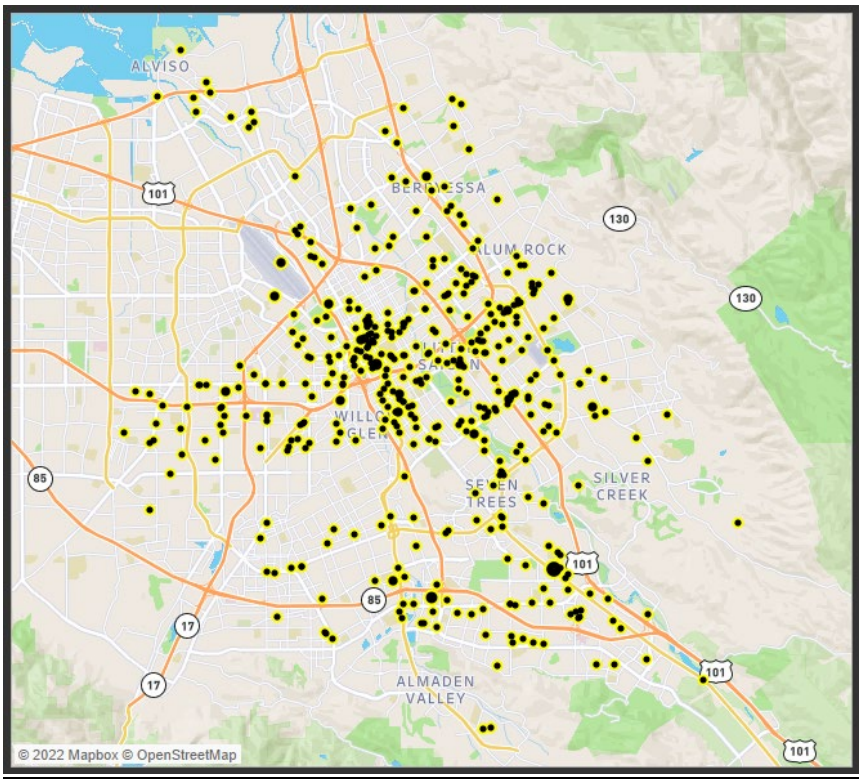
There was little change in the distribution of force incidents by Division between 2020 and 2021. Between 2020 and 2021 the percentage of use of force incidents increased in the following Districts: Edward, Charles, Sam, Paul, Yellow, and Adam and fell in the following Districts: Lincoln, X-Ray, King, and William.

The most use of force incidents (7) occurred on Sunday, July 18, 2021. The longest period with no force incidents was between November 6, 2021 and November 10, 2021.

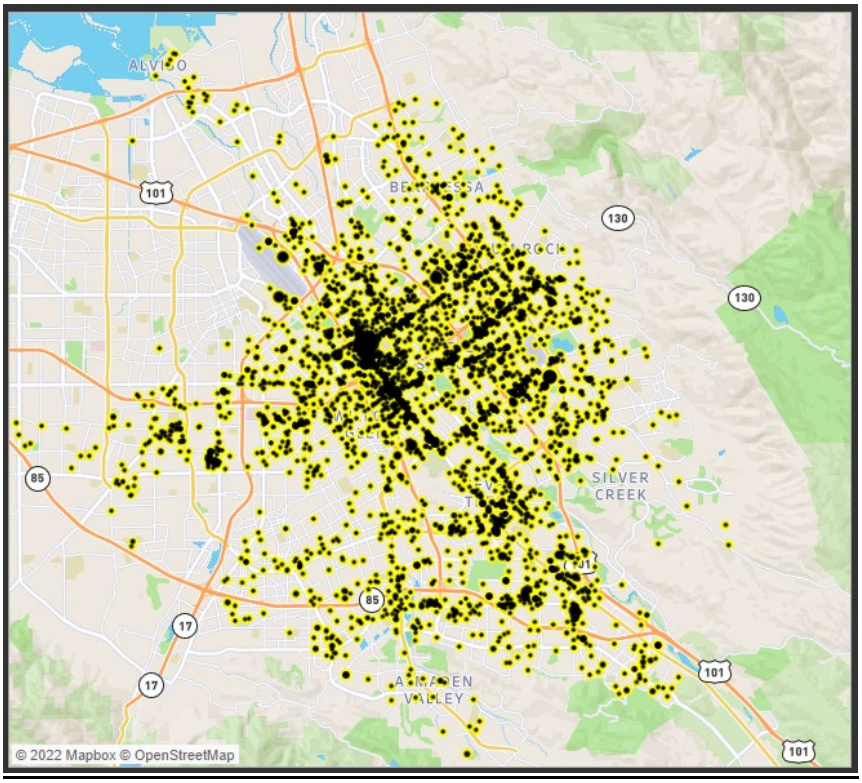
Use of Force Incidents – 2015 to 2021



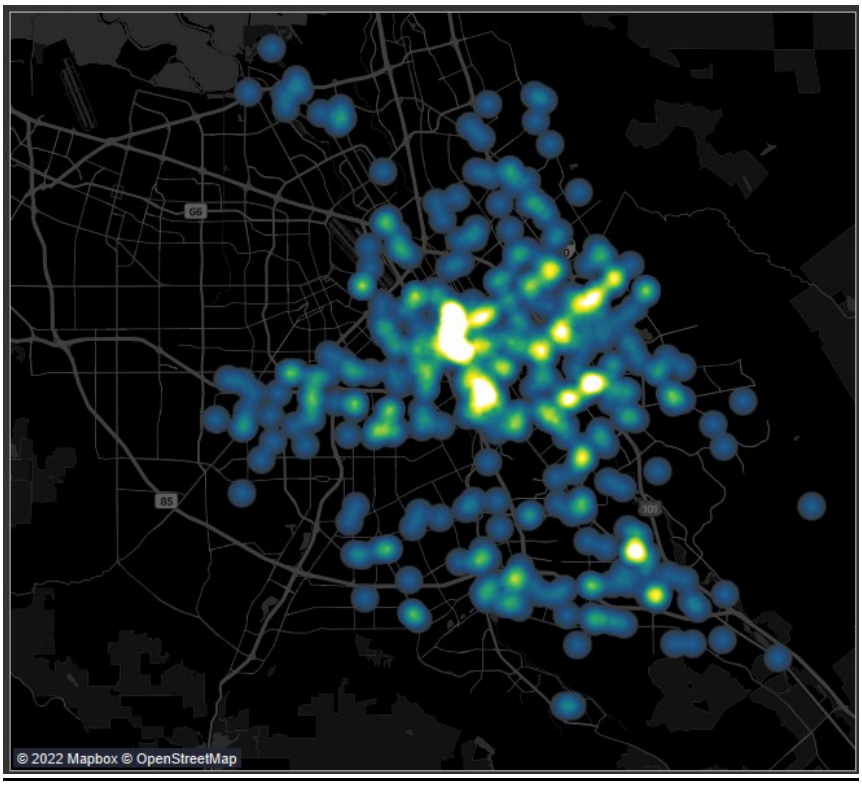
Use of Force Incident Locations – 2021



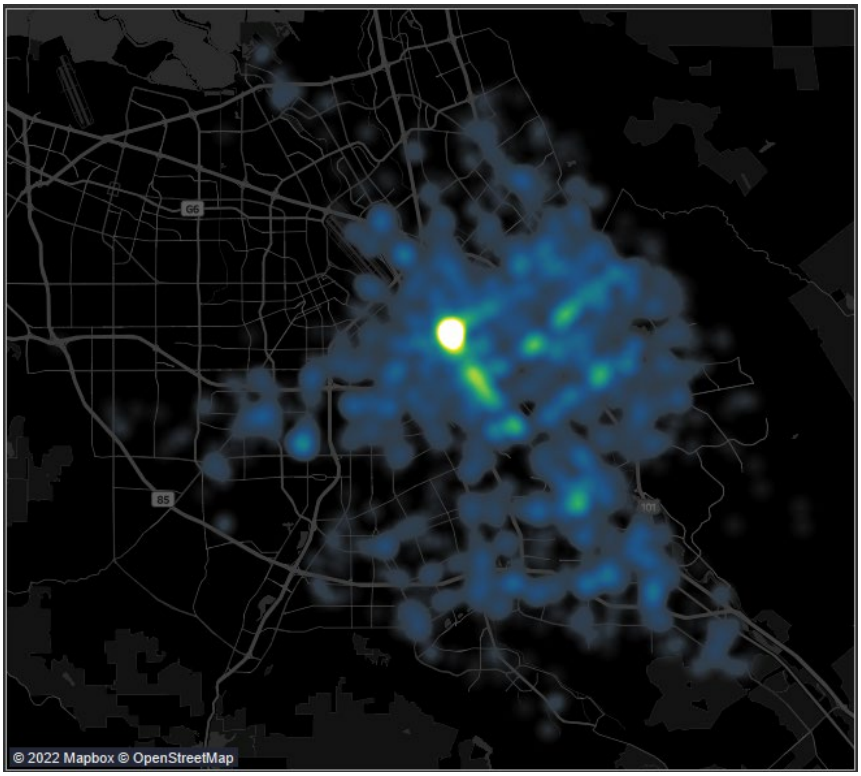
Use of Force Incident Locations – 2015 to 2020



Use of Force Heat Map - 2021



Use of Force Heat Map – 2015 to 2020



2) Reason for Contact

In 2021 the reason for the initial contact was the same as prior years (65% dispatch calls, 26% officer-initiated, and 9% assist the officer). In 2020 and 2021 there was a lower percentage of incidents where only one officer was on scene (5% in 2021 compared to 11% in 2019). In 2021 40% of force incidents occurred when four or more officers were present compared to less than 26% of incidents between 2015 and 2018. Between 2019 and 2021 about one-third of force incidents involved three or more officers using force while in prior years less than 20% of incidents involved three or more officers.

The percentage of use of force incidents involving weapons, property crimes, trespass and disorderly conduct increased during the pandemic while force incidents related to traffic or liquor laws and no criminal activity decreased. In 2017 20% of force incidents involved a traffic or liquor offense and 13% of force incidents did not involve any criminal behavior. By 2021 only 10% of force incidents involved a traffic or liquor offense and 5% did not involve any criminal behavior.

3) Force Frequency

In 2021 there were 467 use of force incidents involving 460 officers who used force a total of 939 times. One officer used force 11 times. There were four officers who used force 8 or 9 times each, fourteen officers who used force 6 or 7 times each, thirty-nine officers who used force 4 to 5 times, 173 officers who used force 2 or 3 times, and 229 officers who only used force once. The top 10% of officers made up 27% 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 2021, 7% of San Jose's use of force incidents had low Force Justification scores (<6). The average justification score was 10.2 on a scale of 0 to 20. For each of the four Graham factors, the average threat score was higher in 2021 than prior years (1.7 vs. 1.5) and the average flight score was lower (1.0 vs. 1.2). This indicates that subjects were more threatening to officers and less likely to flee in 2021 than in prior years.

Nine percent of force incidents received the highest justification score of 20 which is higher than the 7% average for the prior six years. Most of these cases involved assaults on the officers before the officer made the decision to use force.

In 2021 there were 58 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. Three officers were involved in 2 incidents each.

There was no significant difference in Average Force Justification Scores by the gender of the subject. Black subjects had the highest average Force Justification score (11.1) while Native Americans had the lowest average score (8.4). By subject age, average Force Justification scores were lowest for juveniles (8.6). By body mass index, average Force Justification scores were lowest for subjects who were underweight (8.4).

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.

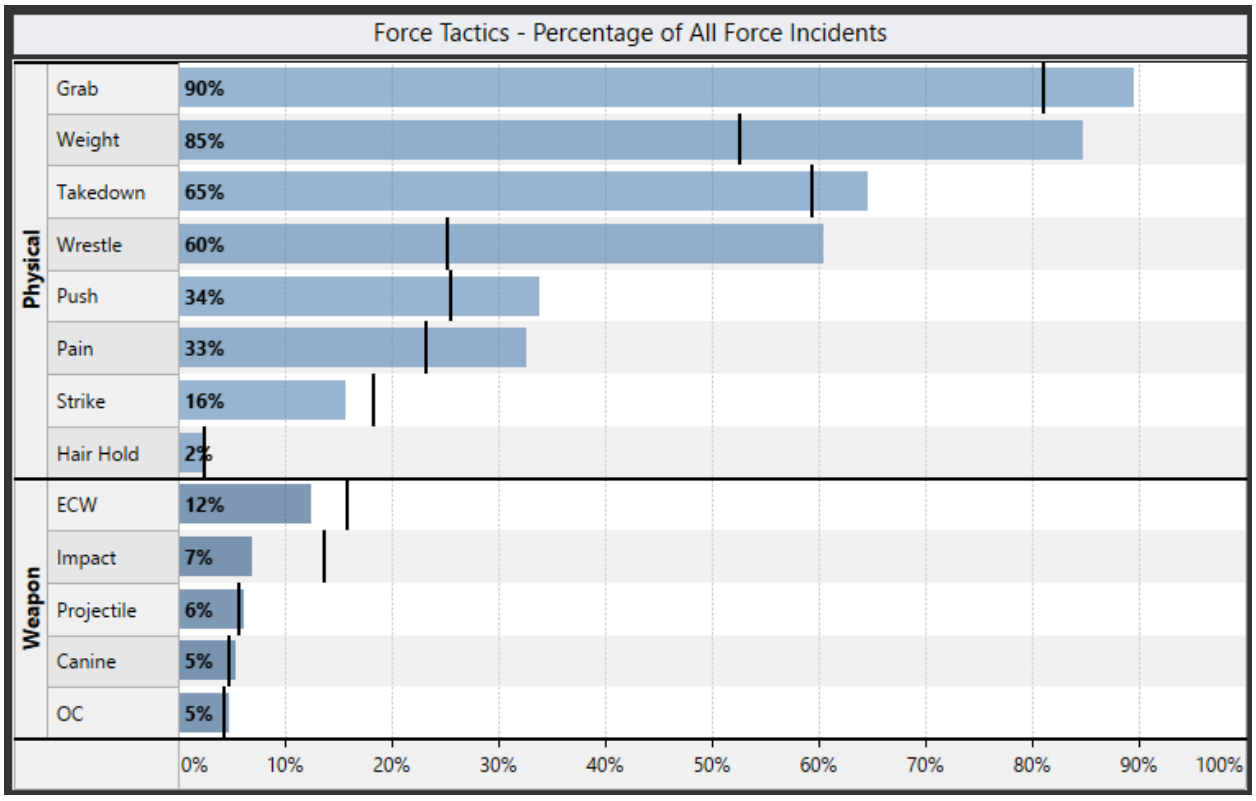
In 2021 7% of force incidents had a high Force Factor score (+3 or above). There were eleven incidents that had a +4 Force Factor, and twenty-four incidents had a +3 Force Factor. No incidents had a Force Factor score of +5 or +6 in 2021. There were 31 officers involved in the 35 high Force Factor incidents in 2021. One officer was involved in three high Force Factor incidents each and three officers were involved in two high Force Factor incidents each. Projectile weapons were involved in a 31% of the high Force Factor incidents while canines were involved in 29% of cases. OC, ECW and impact weapons each made up less than 15% of high Force Factor incidents.

In 2021 the most common Force Factor Score was +1 (44%) followed by 0 (25%) and +2 (15%). 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 2021 the percentage of low Force Factor incidents was 9% compared to 7% in prior years. This indicates that in 2021 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

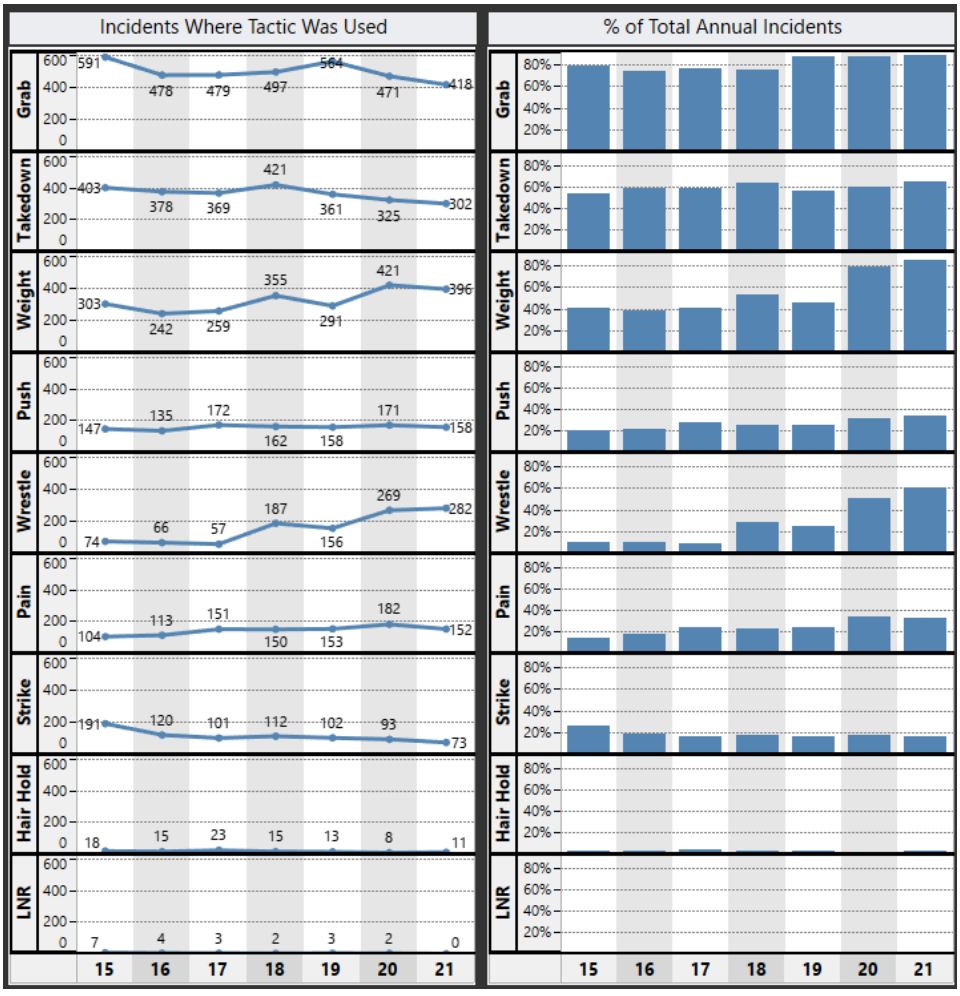
Of the 467 use of force incidents that occurred in 2021, 70% involved physical force only, 9% involved only the use of weapons by officers and 21% involved both physical force and the use of a weapon.

Compared to prior years, officers were less likely to use strikes, ECW and impact weapons in 2021. In 2021 officers were more likely to get into protracted physical struggles with subjects (coded as "Wrestle") and were more likely to use weight to hold the subject down and use pushing and pain compliance techniques.



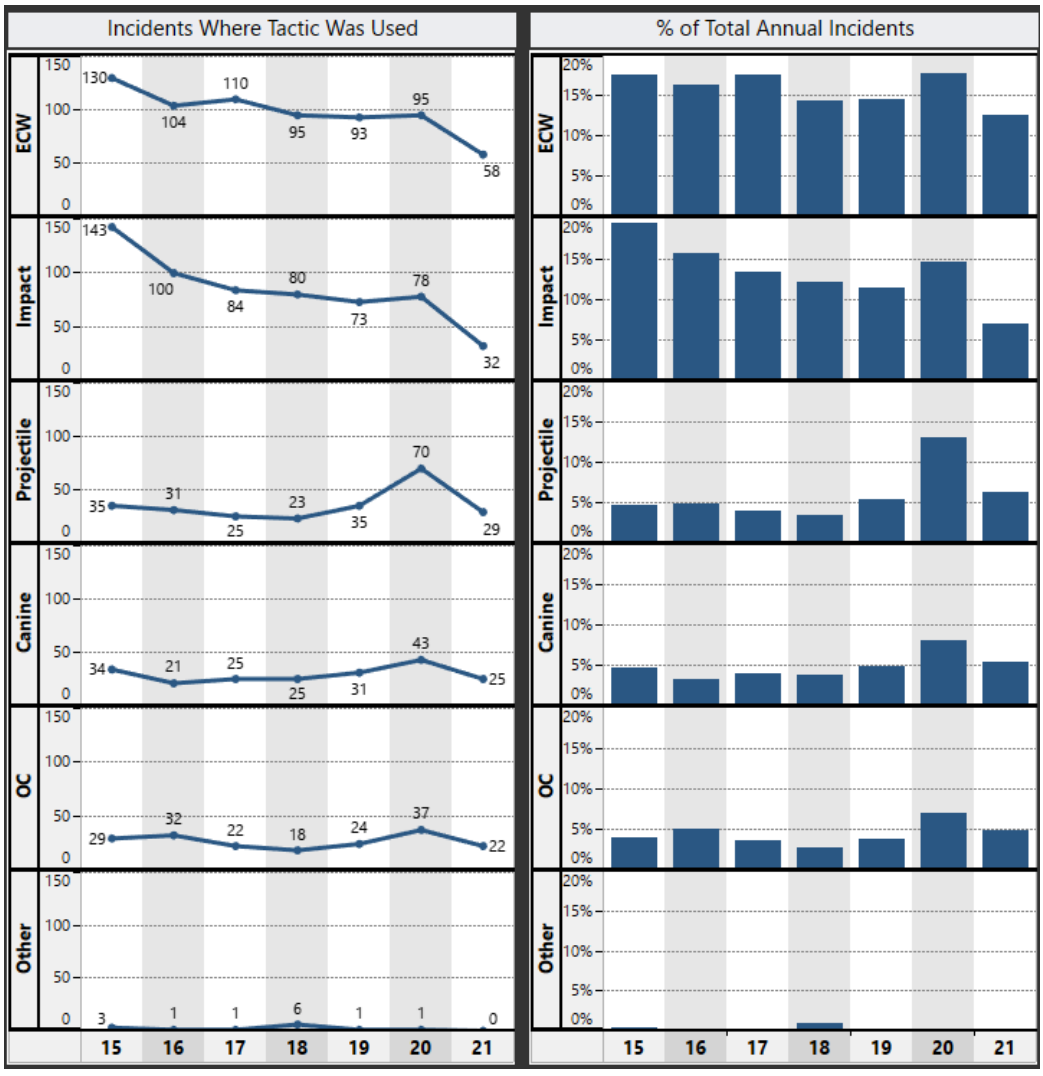
Over the last seven years (excluding the 2020 protest related incidents) officers have used 22,592 individual physical force tactics and weapons during 4,314 incidents. The long-term trends for physical force show that the use of strikes has declined from 26% of incidents in 2015 to 16% by 2021. All other physical force tactics have increased over the last 7 years

	Percentage of All Force Incidents		
Physical Force Tactic	**2015**	**2021**	**Change**
Grab	80%	90%	**13%**
Weight	41%	85%	**107%**
Takedown	54%	65%	**20%**
Wrestle	10%	60%	**500%**
Push	20%	34%	**71%**
Pain Compliance	14%	33%	**136%**
Strike	26%	16%	**-38%**



The use of electronic control weapons (ECW) and impact weapons dropped in 2021 to the lowest levels during the 7-year period. The use of projectile weapons, canines and OC was higher during the pandemic than in prior years, but each of these weapons was used in less than 7% of all force incidents.

	Percentage of All Force Incidents		
Weapon Force Tactic	**2015**	**2021**	**Change**
ECW	18%	13%	**-28%**
Impact	19%	7%	**-64%**
Projectile	4.7%	6.3%	**34%**
Canine	4.6%	5.4%	**19%**
OC	3.9%	4.8%	**22%**



7) Subjects

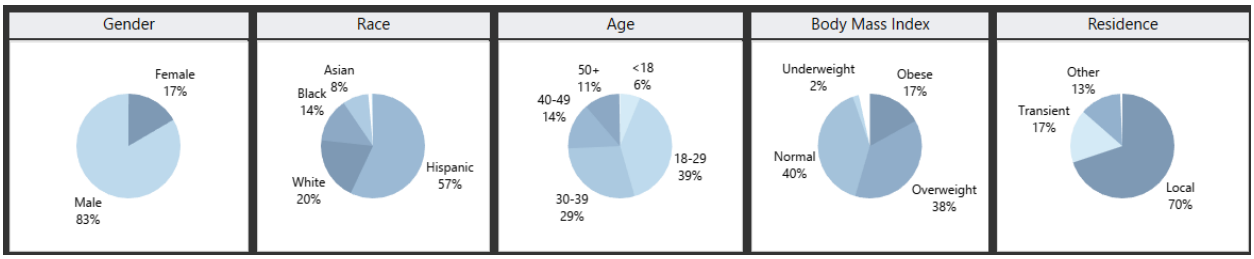
Between 2015 and 2020 there were four demographic groups (gender, race, and age) that made up 59% of all use of force subjects. In 2021 the percentages of these four demographic groups increased to 66% of all force incidents and the percentages were higher for each demographic group.

Most Common Characteristics of Use of Force Subjects 2015 - 2020				
Gender	**Race**	**Age**	**Number of Subjects**	**Percentage of Force Incidents**
Male	Hispanic	18-39	1,379	36%
Male	White	18-39	384	10%
Male	Black	18-39	281	7%
Male	Hispanic	40-49	229	6%
All Other Demographic Groups			3,847	41%

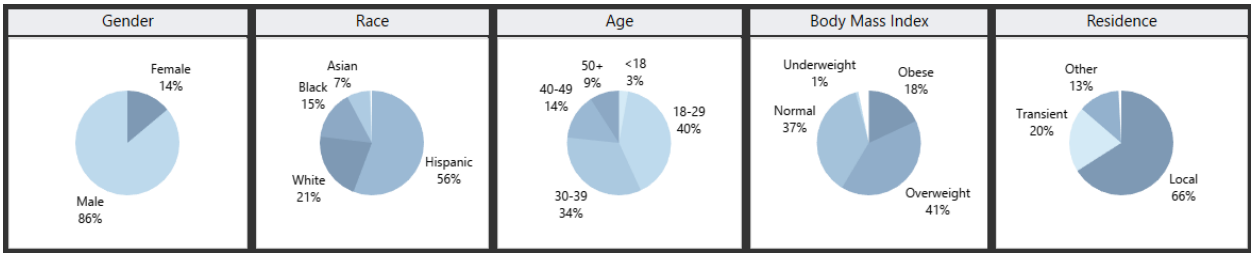
Most Common Characteristics of Use of Force Subjects 2021				
Gender	**Race**	**Age**	**Number of Subjects**	**Percentage of Force Incidents**
Male	Hispanic	18-39	176	38%
Male	White	18-39	52	11%
Male	Black	18-39	45	10%
Male	Hispanic	40-49	36	8%
All Other Demographic Groups			158	34%

Compared to the prior six years, use of force subjects in 2021 were less likely to be female (14%) or under 18 (3%) and were more likely to be overweight (41%) or transient (20%).

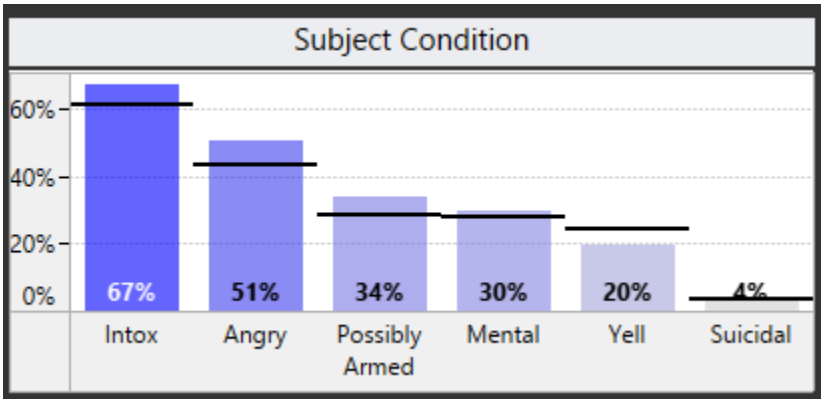
Use of Force Subject Characteristics - 2015 to 2020



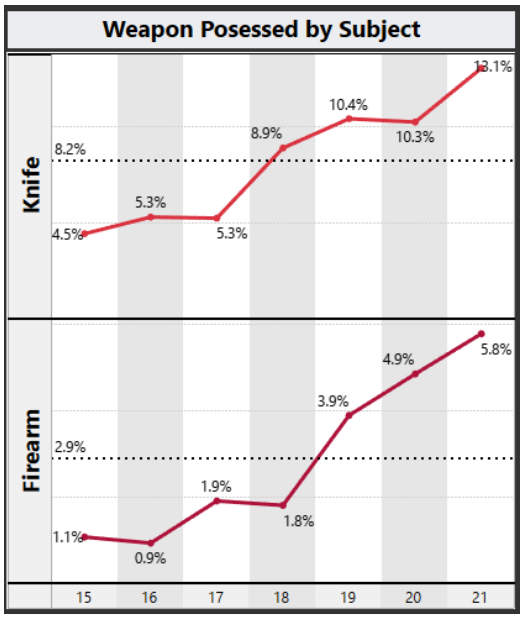
Use of Force Subject Characteristics - 2021



Compared to prior years, use of force subjects in 2021 were more likely to be under the influence of alcohol or drugs (67%), angry (51%), or possibly armed (34%).

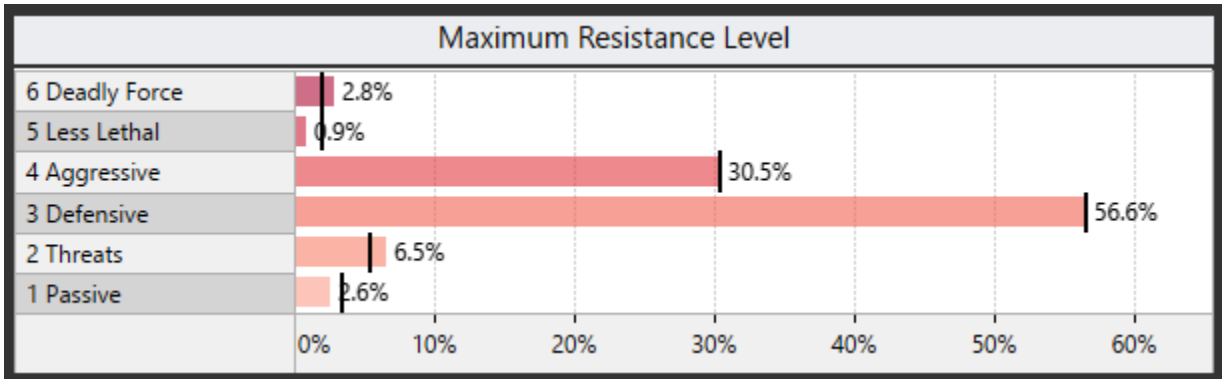


A higher percentage of subjects possessed a knife (13%) or a firearm (6%) in 2021 than in any prior year.



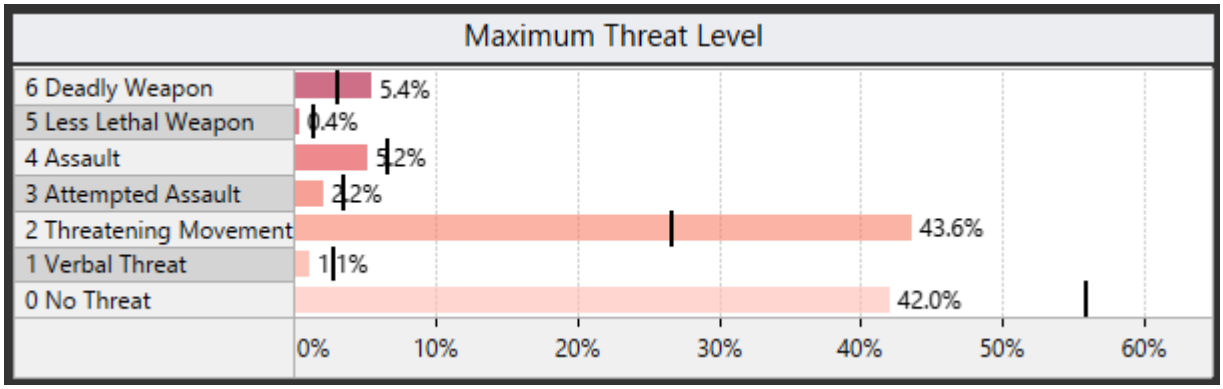
Compared to the previous six years, officers in 2021 were slightly more likely to encounter deadly force resistance (2.8%) and threatening behavior resistance (6.5%) and less likely to encounter less lethal weapon resistance (0.9%) and passive resistance (2.6%).

Subject Maximum Resistance Level - 2021



In 2021 officers perceived threatening behavior from 44% of subjects which is higher than the 27% from prior years. Officers were threatened by a deadly weapon in 5.4% of incidents which is nearly double the average rate of prior years. 15% of subjects threatened or used a weapon against officers before force was used and 36% of subjects made threatening movements towards the officers. Officers did not experience any threatening behavior in 42% of incidents which is lower than the 56% average from prior years.

Subject Maximum Threat Level - 2021



8) Injuries

In 2021 there were 137 officers who were injured a total of 172 times. One officer was injured six times, five officers were injured 3 or 4 times each, and seventeen officers were injured twice. Most of the injuries involved a bruise or scrape (61%), a minor cut (16%) or a complaint of pain only (18%). Four officers received chemical or bodily fluid contamination and four officers had a fracture or broken tooth. One officer received a serious wound from a weapon.

Seventy-eight percent of injured officers received injuries to their arms or legs and 24 officers received an injury to the head.

Eighteen percent of force applications by officers resulted in an injury to the officer who used force. Of the 172 officers who were injured in 2021, 23% were treated by EMTs and 11% were treated at a hospital.

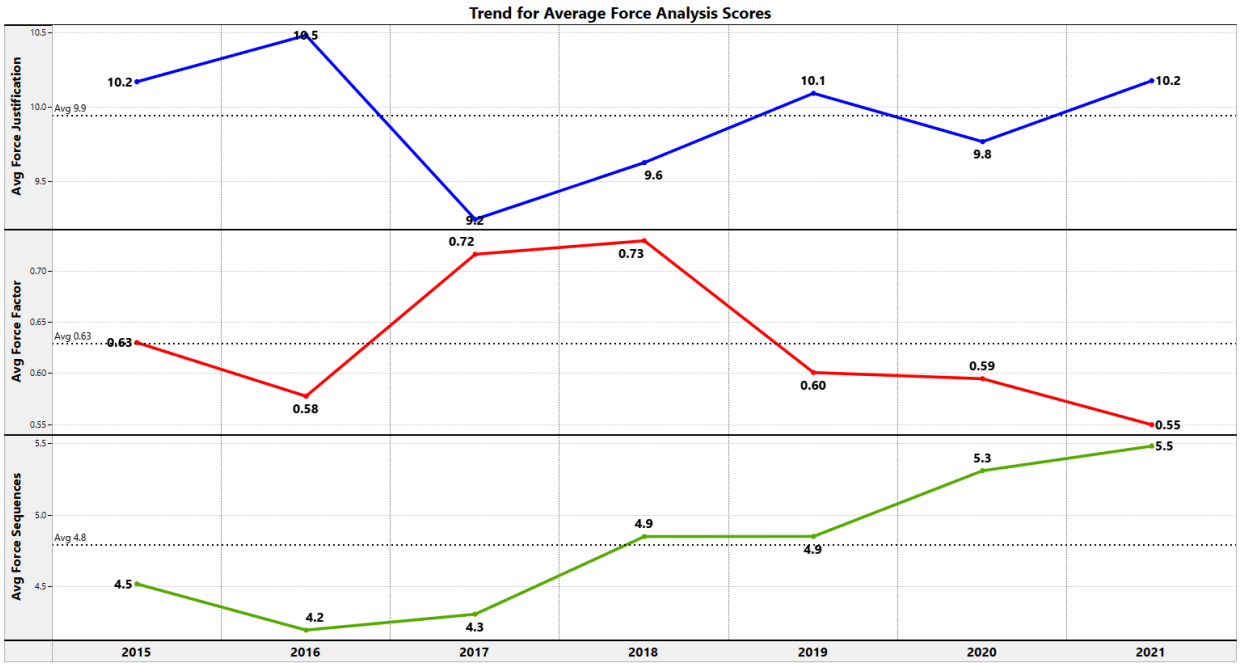
In 2021 279 subjects who had force used against them were injured (60% of all incidents). Of the subjects who were injured, most of the injuries were minor: complain of pain only (27%), ECW probe (5%), bruise/scrape (42%) or minor cut (11%). Twenty-four subjects were bitten by a canine, thirteen subjects had chemical irritation, and six subjects suffered a fracture or broken tooth.

Sixty percent of injured subjects received injuries to their arms or legs and 102 subjects received an injury to the head.

Of the all the subjects who were injured, 17% were treated by EMTs only and 64% were treated at a hospital.

9) Force Analysis Trends

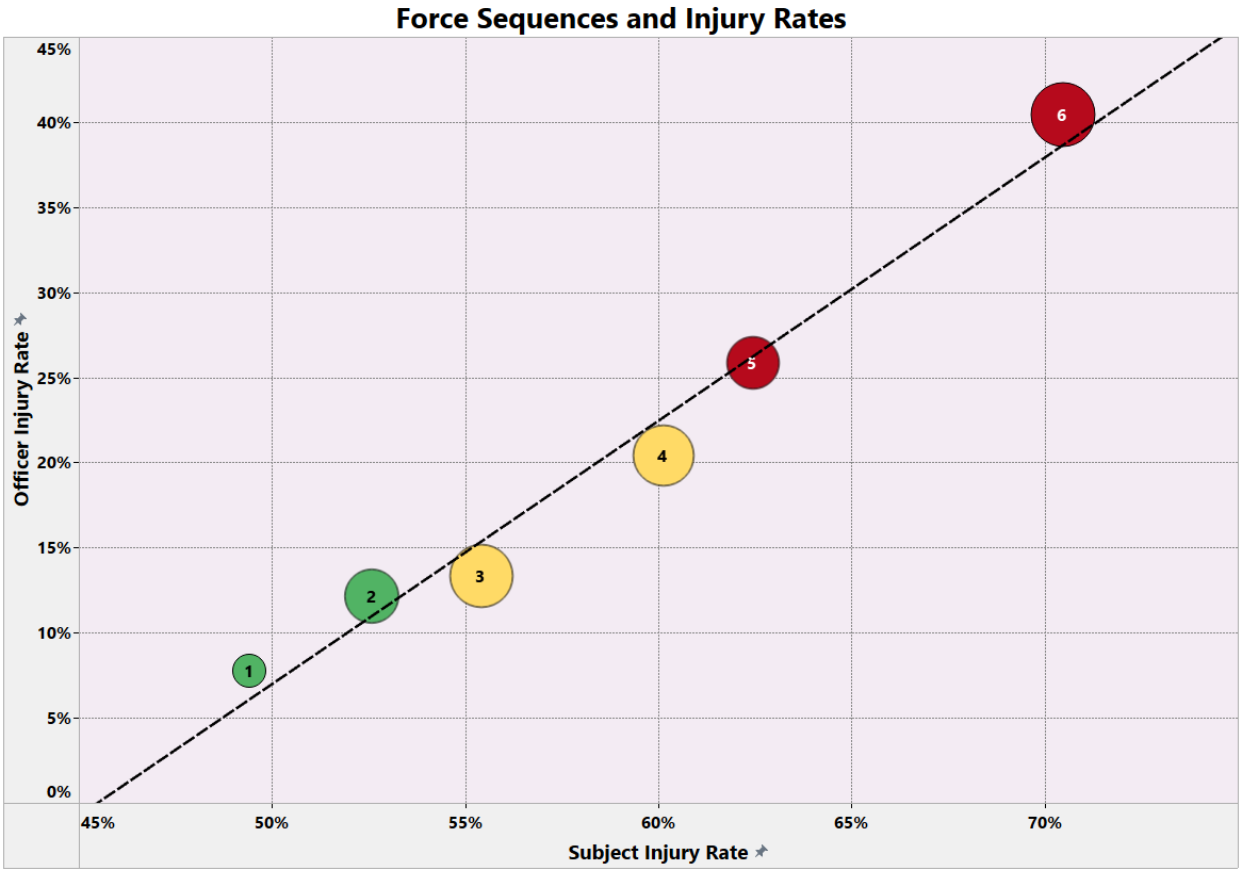
From 2017 to 2021 there have been several observable trends in the Force Analysis scores. Average Force Justification has risen from 9.2 to 10.2. Average Force Factor has fallen from 0.72 to 0.55 and the average number of Force Sequences has climbed from 4.3 to 5.5.



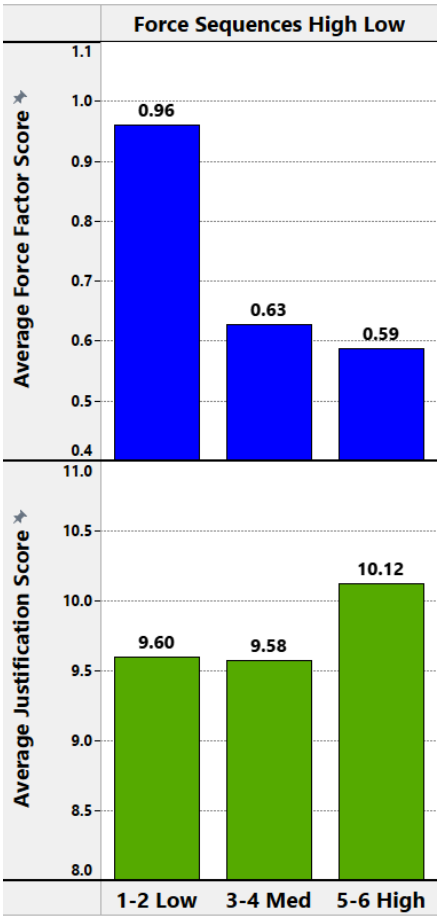
Use of force incidents are dynamic events. Officers will respond to the resistance presented by the subjects and both the resistance levels, and the force levels can both change during the incident. Each time the Force-Resistance dynamic changes a new Force Sequence is coded up to six Force Sequences. 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.

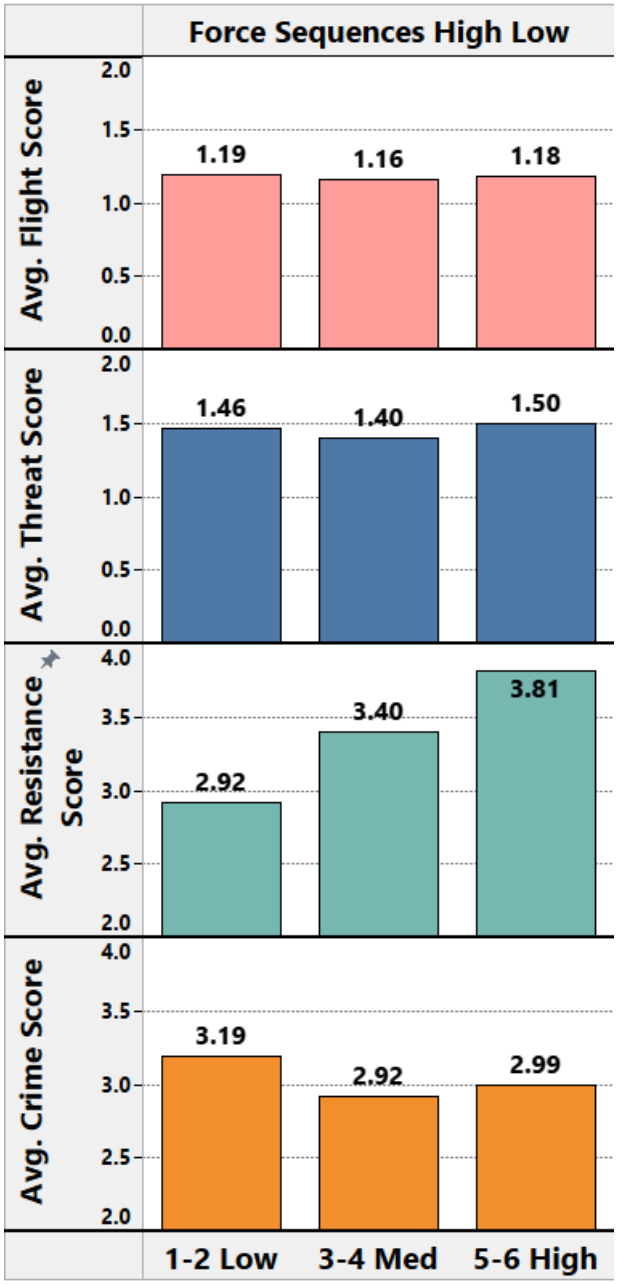
There is also a strong correlation between the number of Force Sequences and injury rates for both officers and subjects. The more Force Sequences there are the more likely it is that both the officer and the subject will be injured. Incidents that are resolved within one Force Sequence have an officer 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 are using much higher 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.

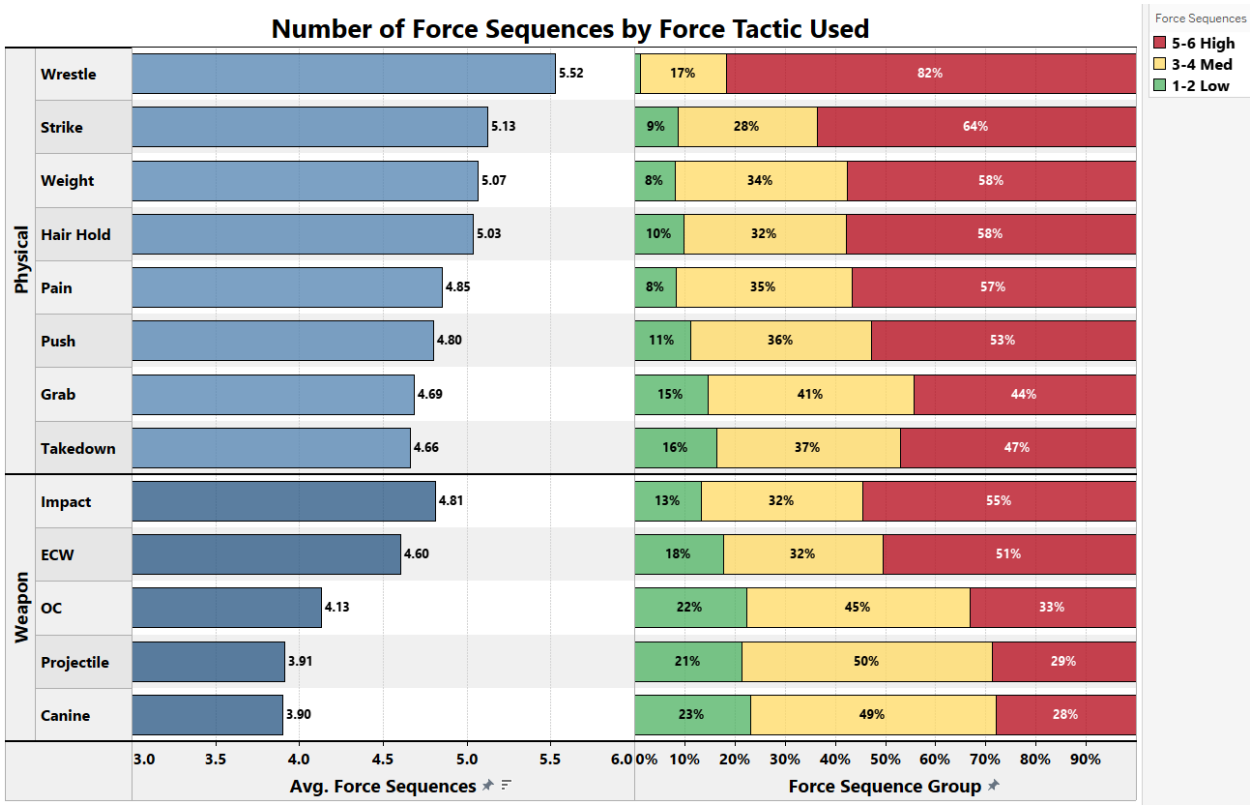


When the Force Justification scores are broken down into the four Graham factors, it appears that subject flight and subject threat factors have no correlation with the number of Force Sequences. Therefore, if a subject is fleeing or threatening the officer, these attributes do not tend to increase the 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.



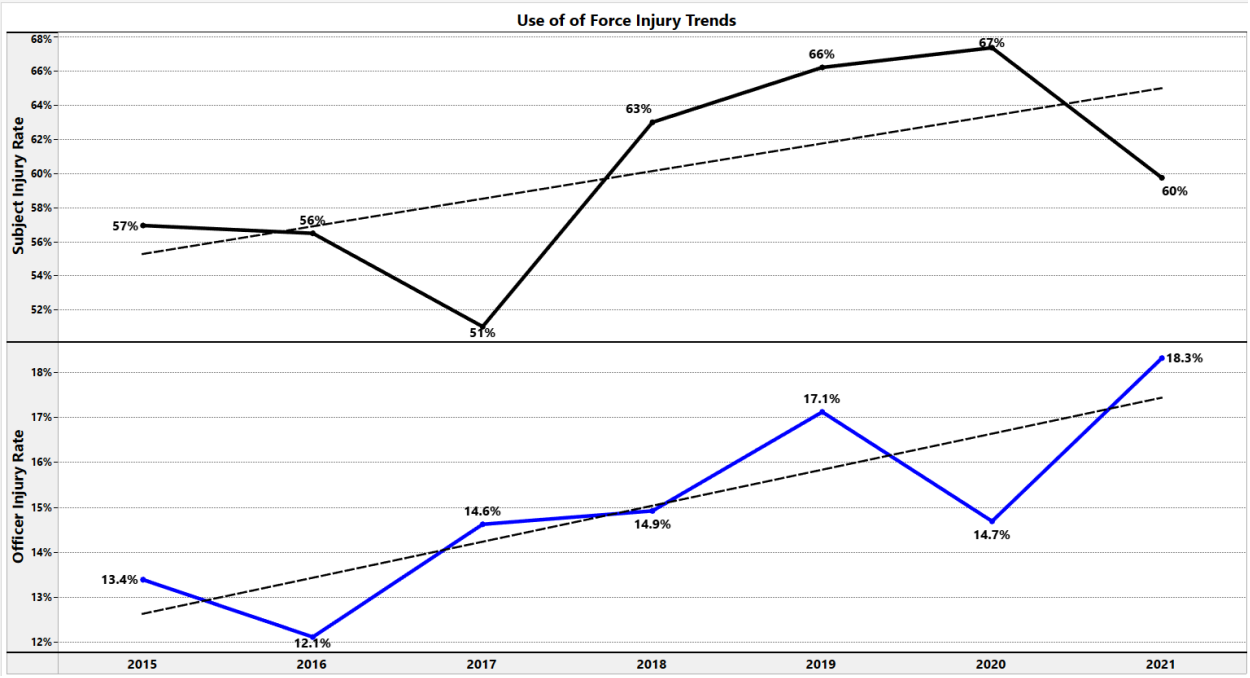
If officers initiate a force incident with overwhelming force, they will generally be able to control the subject faster than if lower levels of force are used. However, if the force level is too high it may be considered to be excessive. Therefore, an officer should choose an appropriate level of force 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 my 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 seven years both officer injury rates and subject injury rates have been on an upward trend. This coincides with an increase in the average number of Force Sequences.

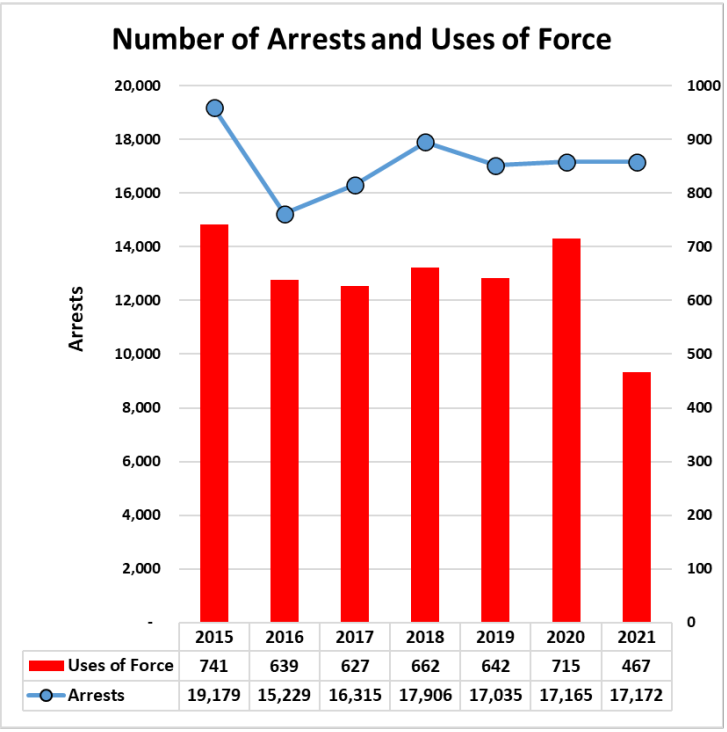


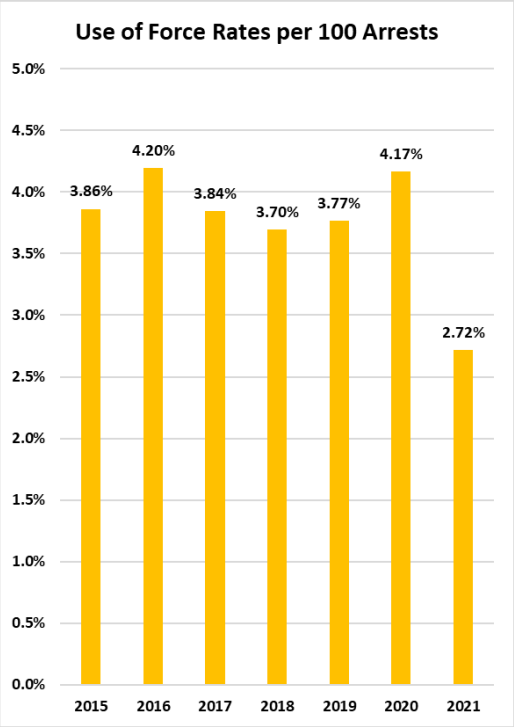
As San Jose PD begins to examine long-term trends in its use of force practices and outcomes, the Department may wish to study its policies and training. This analysis shows that no matter what decisions are made there will always be tradeoffs. Increasing levels of force and the use of less-lethal weapons will reduce the number of Force Sequences and officer injury rates, but it could also result in more serious injuries to subjects.

10) Long-Term Use of Force Trends

a) Arrests and Uses of Force

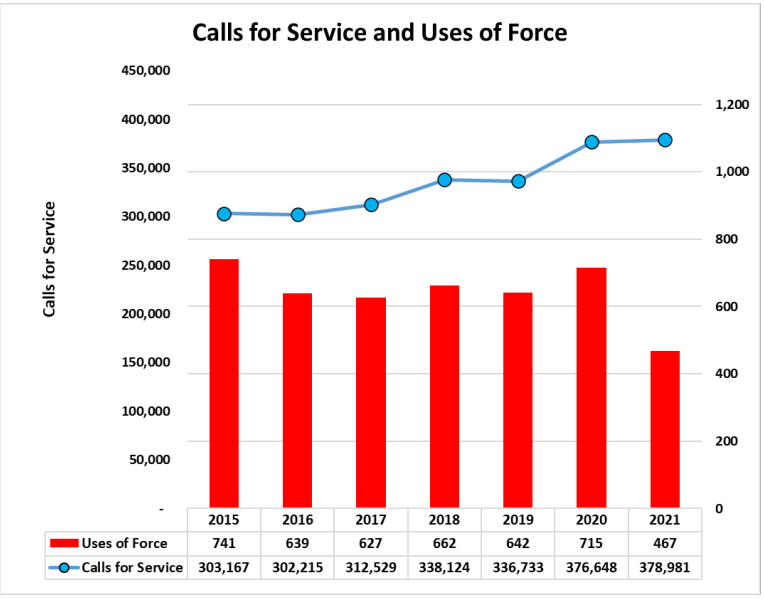
From 2015 to 2021 the number of annual arrests made by SJPD fell by 11% from 19,179 arrests to 17,172 arrests. During this same time period the number of uses of force fell by 37% from 741 in 2015 to 467 in 2021. From 2015 to 2020 the use of force rate per 100 arrests ranged between 3.7% and 4.2% before dropping to 2.7% in 2021.

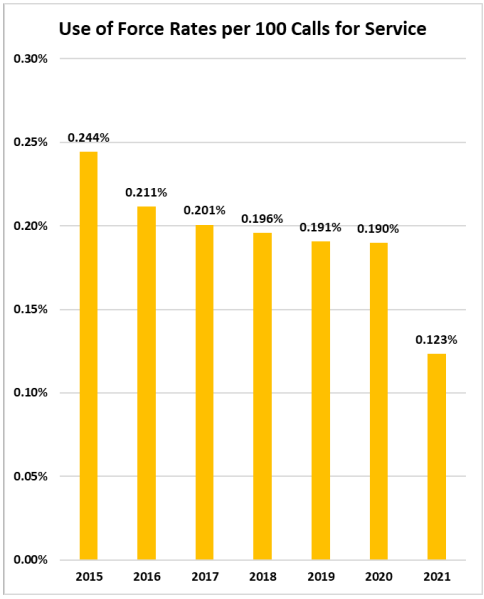




b) Calls for Service and Uses of Force

From 2015 to 2021 the number of annual calls for service to SJPD rose by 25% from 303,167 calls to 378,981 calls. During this same time period the number of uses of force fell by 37% from 741 in 2015 to 467 in 2021. Since 2015 the use of force rate (uses of force per 100 calls for service) has declined by 50% from 0.24% in 2015 to 0.12% in 2021.





11) Disparity Analysis for Subject Demographics[4]

While census data of the residential population is sometimes used as a benchmark for a disparity analysis, it does not provide an adequate measure to assess the possible impacts of bias by police officers. There are many factors that could affect the demographic disparities between uses of force and the population that have nothing to do with officer bias such as crime rates, compliance rates, possession of weapons, poverty rates, deployment strategies, etc.

A better benchmark for measuring demographic disparities in police uses of force is arrest data.[5] Almost every use of force incident is associated with an arrest. All things being equal, we would expect to see the same proportion of subject characteristics for those who are arrested as those who have force used against them. If there is any demographic disparity observed between the use of force data and the arrest data, this disparity could be caused by differential subject behavior (i.e. one subject group is more or less likely to resist arrest than other groups) or differential officer behavior (i.e. officers are more or less prone to use force against one subject group than other groups) or a combination of differential behavior from both subjects and officers.

Arrest data from the San Jose Police Department from 2018 to 2020 was examined and compared to the use of force data collected by the Police Force Analysis System℠. Arrest

[4] This section was included in the Sixth Annual Report and contains data through 2020. The Department does not update its annual arrest statistics until the mid-year. Therefore, the demographic disparity analysis for data from 2021 will be included in the next Summary Report.

[5] A recent report from the University of Texas at San Antonio and the University of Cincinnati used this methodology to examine racial disparities between uses of force and arrests using data from the from the Tulsa Police Department.
https://bloximages.newyork1.vip.townnews.com/tulsaworld.com/content/tncms/assets/v3/editorial/6/48/64860d34-4fe8-5c06-bc0f-92e7a85acab3/5e60500e75e7e.pdf.pdf

data was broken down by gender, race and age and the use of force data was organized into the same demographic categories as the arrest data.[6] We also gathered population demographic data from the US Census Bureau and other sources.

In 2018 the estimated total population of the City of San Jose was 1,045,000. During the four-year period from 2018 to 2020 the Department made 52,106 arrests and used force against 2,019 subjects. The annual arrest rate per thousand population was 16 and the use of force rate per 100 arrests was 3.9%. The following tables provide the gender, race, and age composition of the estimated population of San Jose in 2018 and the demographic composition of all arrestees and subjects who had force used against them between 2018 and 2020:

Population, Arrest and Use of Force Demographic Data from 2018-2020

Gender	Population	Arrests	Uses of Force
Male	50.3%	77.8%	82.7%
Female	49.7%	22.2%	17.3%

Race	Population	Arrests	Uses of Force
Other	42.0%	11.3%	13.2%
Hispanic	31.2%	55.6%	53.0%
White	23.6%	20.1%	20.6%
Black	3.2%	13.1%	13.2%

Age	Population	Arrests	Uses of Force
<18	26.4%	5.4%	6.3%
18-29	18.9%	32.0%	38.5%
30-39	17.7%	28.7%	30.1%
40-49	14.9%	18.5%	14.3%
50+	22.1%	15.4%	10.9%

[6] The arrest data provided by the Department was broken down into only four racial/ethnic groups (Hispanic, Black, White and Other). Based on the more detailed racial breakdown of use of force data, we would predict that the "Other" group is comprised most of Asian arrestees and would also include Native Americans, Pacific Islanders and other racial categories. The "Other" category also includes incidents where the subject's race is unknown.

A Disparity Index was calculated for both arrests and uses of force. The Arrest Disparity Index is the percentage of arrests of a demographic subgroup compared to that group's percentage in the overall population. The Use of Force Disparity Index is the percentage of uses of force of a demographic subgroup compared to that group's proportion of overall arrests. A disparity index of 1 means that there is no disparity between the two variables. A disparity index of less than 1 means that the group appears less frequently than would be expected while a disparity index greater than once means that the group appears more frequently than expected.

When we examine arrests by gender, we find that males are 55% more likely to be arrested than we would expect based on their percentage of the population while females are 55% less likely to be arrested. When arrests by race are examined, we find that Whites and Other races are underrepresented in the arrests while Hispanics and Blacks are overrepresented. We also find disparities by age. Adults between the ages of 18 and 39 are more than 60% more likely to be arrested than their population numbers would suggest while juvenile and adults over 50 less likely to be arrested. The arrest disparities observed for gender and age are supported by criminal behavior research – males are more likely to commit crimes than females and the peak age range for criminal behavior is between 18 and 24.

When we compare uses of force and arrests, we see much less disparity. Males are only 6% more likely to have force used against them than we would expect based on their arrest numbers, and females are 22% less likely. Arrestees under 30 are about 18% more likely to have force used against them than we would expect based upon their proportion of arrests. Arrestees over age 40 are the least likely to have force used against them. While there were large arrest disparities by race, the racial disparities by race are much smaller when uses of force are compared to arrests. The only racial group to be overrepresented were "Other" races which were 17% more likely to have force used against them than would be expected based on their proportion of arrests. This disparity is unusual and was likely a result of the protests that occurred in 2020.

Based on the available data, we cannot reach any definitive conclusions as to the cause of observed demographic disparities. However, the lack of any significant racial disparities between uses of force and arrests suggests that resistive behavior is similar across racial groups and officers do not treat subjects differently based solely on the subject's race.

Disparity Index

Population, Arrest and Use of Force Data from 2018-2020

Gender	Arrests / Population	Uses of Force / Arrests
Male	1.55	1.06
Female	0.45	0.78

Race		
Other	0.27	1.17
Hispanic	1.78	0.95
White	0.85	1.03
Black	4.08	1.01

Age		
<18	0.20	1.16
18-29	1.69	1.20
30-39	1.62	1.05
40-49	1.24	0.77
50+	0.70	0.71

Long range trends in demographic disparities were also examined. Prior to 2020 the largest disparities were seen for Black subjects in 2016 when they were 19% more likely to have force used against them than would be expected based on the number of arrests.

In 2020 there were virtually no disparities between uses of force and arrests for Black, White, and Hispanic subjects. However, other racial groups saw a 50% disparity between uses of force and arrests. This was likely due to the large number of protests that occurred in 2020. During the protests, officers used force to disperse the crowds rather than to make an arrest. The demographics of the protestors may not have matched the usual demographics of individuals who are arrested. Another factor contributing to the disparity is that the "Other" racial category includes subjects that had force used against them, but their race could not be identified. Officers that used force for crowd control were more likely to record the race of the subject as unknown.

Racial Disparity Index - Uses of Force / Arrests

Race	2015	2016	2017	2018	2019	2020
Other	0.86	1.04	0.81	0.96	0.95	1.50
Hispanic	1.11	1.02	0.98	0.98	0.98	0.91
White	0.82	0.82	1.07	1.06	1.11	0.92
Black	0.91	1.19	1.13	1.03	0.98	1.03