



Police Force Analysis SystemSM Second Summary Report

San Jose Police Department

Use of Force Data from January 1, 2015 to June 30, 2018

By:

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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 SystemSM. That report included data from January 1, 2015 to June 30, 2017. This report adds data from July 1, 2017 to June 30, 2018. Future reports will be provided on a quarterly basis.

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

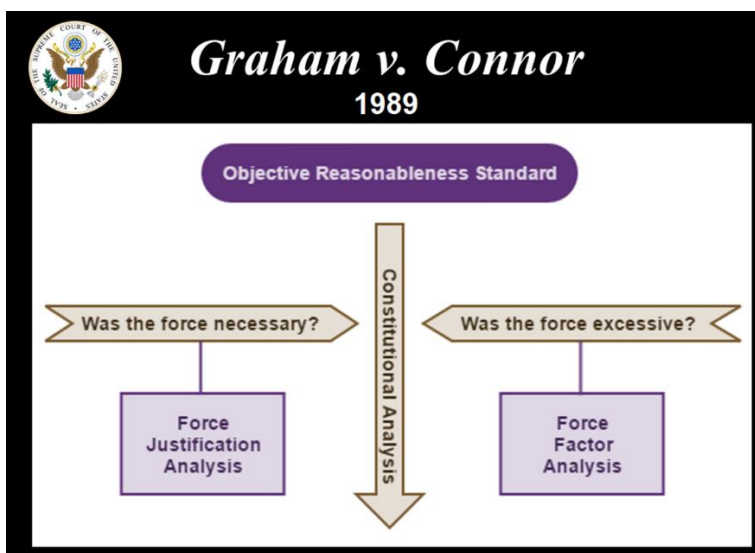
In the summer of 2015, Police Strategies LLC launched the Police Force Analysis SystemSM (PFAS). PFAS combines peer-reviewed research with state-of-the-art analytical tools to produce a powerful data visualization system that can be used by law enforcement, policy makers, academics, and the public.¹ The core of PFAS builds upon the research work of Professor Geoff 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

¹ [Capitola Police creates online database to track use of force stats, Santa Cruz Sentinel, August 2016.](#)

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

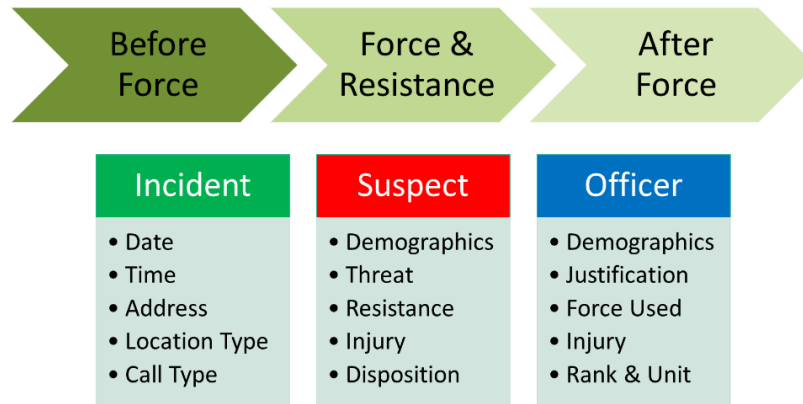
been the subject of several scholarly articles.³

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.



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 45 law enforcement agencies in six states involving more than 6,000 incidents and 3,000 officers who used force a total of 15,000 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 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 July 2018 Police Strategies LLC received SJPD use of force reports from the first six months of 2018. Data entry was completed in early September 2018 and then the information was then 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 quarterly updates of PFAS. The next Summary Report will be produced in January 2019.

Recent Use of Force Trends and Statistics

- Between July 1, 2017 and June 30, 2018, 489 San Jose Police officers used force a total of 1,181 times against 642 individuals.
- Western Division had the most incidents with 188 while Central Division had the fewest (132).
- One officer used force 19 times and 6 officers used force 9 times.

- The percentage of cases with low justification scores (19%) or high force factor scores (8%) was similar to prior years.
- Only 13 officers were involved in incidents with both a high force factor and low justification score and two of these officers were involved in two incidents of this type. Both of these officers are canine handlers and these incidents involve canine bites.
- A greater percentage of newer officers (less than 5 years of experience) were involved in use of force incidents (50%) than in prior years (42%).
- Use of force incidents tended to last longer in 2018 with 17% lasting the maximum six sequences versus only 12% in prior years.
- From 2017 to 2018 the average number of force incidents per officer fell from 2.5 to 1.6, so fewer officers are involved in multiple use of force incidents. During the same period, the average justification for the department went up and the average force factor score went down reducing the overall risk level.

Use of Force Trends by Incidents - 2015 to 2018

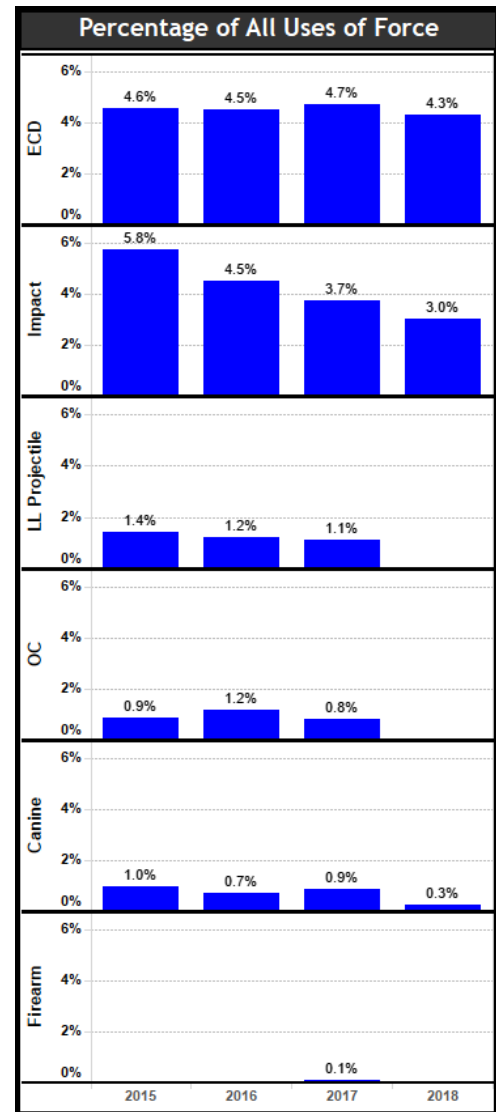
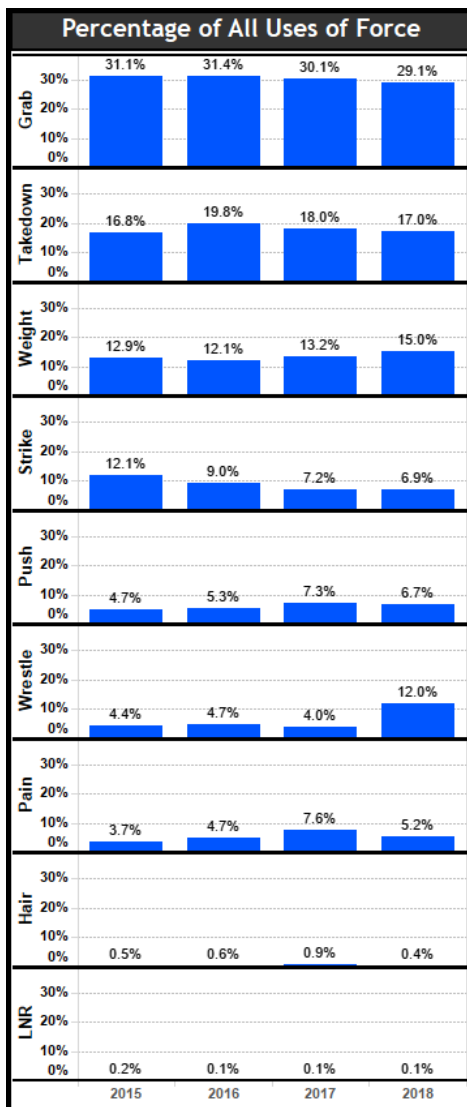
In general, officers are moving away from less lethal weapons and higher levels of force and are resolving more incidents with lower levels of physical force. In 2015 57% of all tactics used involved low levels of physical force and by 2018 low level force had increased to 68%.

- The use of less lethal weapons fell from 40% of all incidents to 32%
- The use of strikes and takedowns rose from 44% to 56% of all incidents
- More incidents occurred on the street in 2018 (61%) than prior years (53%)
- The subject's use of deadly force fell from 3.4% to 0.7%
- Incidents where the subject attempted to flee increase from 10% to 21%
- In 2018, subjects that were under the influence of drugs or alcohol (64%), had mental health issues (27%) or were suicidal (6%) were at the highest rate during the last 3 ½ years.

Use of Force Trends by Type of Tactics Used - 2015 to 2018

Between January 2015 and June 2018 there were 820 officers who used force a total of 4,312 times.

- As a percentage of all force tactics used, strikes have been declining, while pushing and wrestling have been increasing.
- The use of impact weapons has been cut and half from 5.8% to 3% and the use of canines has fallen from 1% to 0.3%. During the same period the use of Electronic Control Devices remained steady at about 4.5%.
- OC and Less Lethal Projectile weapons were not used at all during the first six months of 2018



Geographic Analysis

In 2015 Foothill, Western and Central Divisions each had about 200 incidents involving a use of force while the Southern Division only had 130 incidents. In 2016 the total number of use of force incidents decreased by 102 but the geographic distribution remained similar with Southern having the fewest incidents (120) and the other three Divisions with about 170 incidents each. In 2017 the total number incidents decreased by only 10 but the geographic distribution changed dramatically. The Western Division had 205 incidents while the other three Divisions had about 140 incidents each. During the first 6 months of 2018 the geographic pattern of force changed again. For the first time in the last 3½ years, Southern Division had the most incidents (85) and Central Division was at the bottom with only 56 incidents.

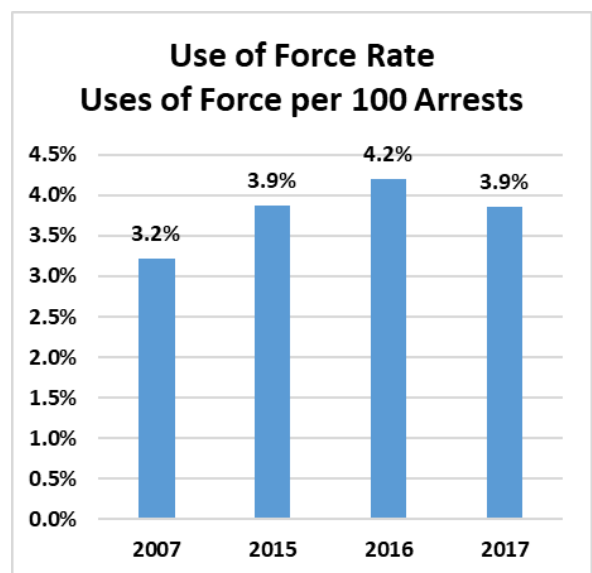
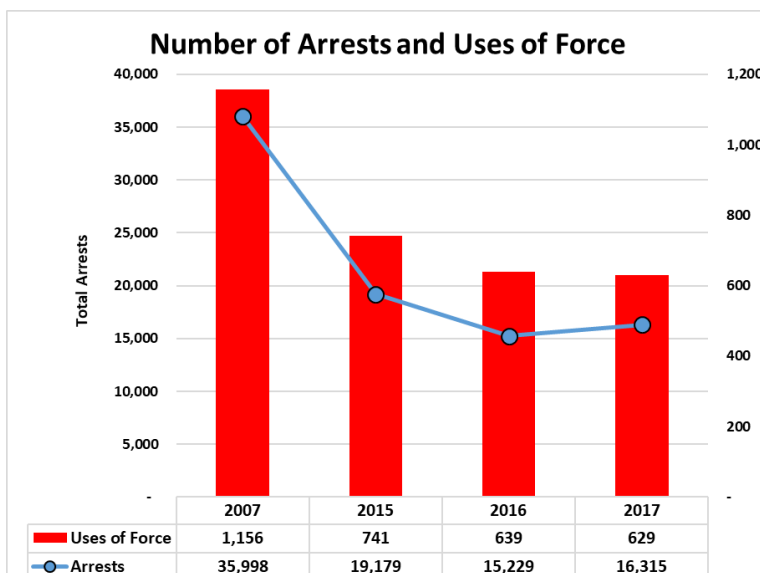
Since 2015 Lincoln District has consistently had the highest number of force incidents comprising about 15% of all uses of force in the City. Between 2015 and 2018, Edward District has fallen from 2nd place among all the Districts to 6th place, while Yellow District has risen from 15th place to 3rd place.

Long-Term Use of Force Trends

The last use of force report created by SJPD used data from 2007 and presented about 20 data fields taken from the Force Response Reports. While not all this data is directly comparable with the data contained in PFAS, we were able to make direct comparisons with the data taken from the Force Response Reports in recent years. The following is a comparison of the data contained in the San Jose Police Department’s 2007 Force Response Report and the Department’s use of force data from 2015, 2016 and 2017 contained in the Police Force Analysis SystemSM.

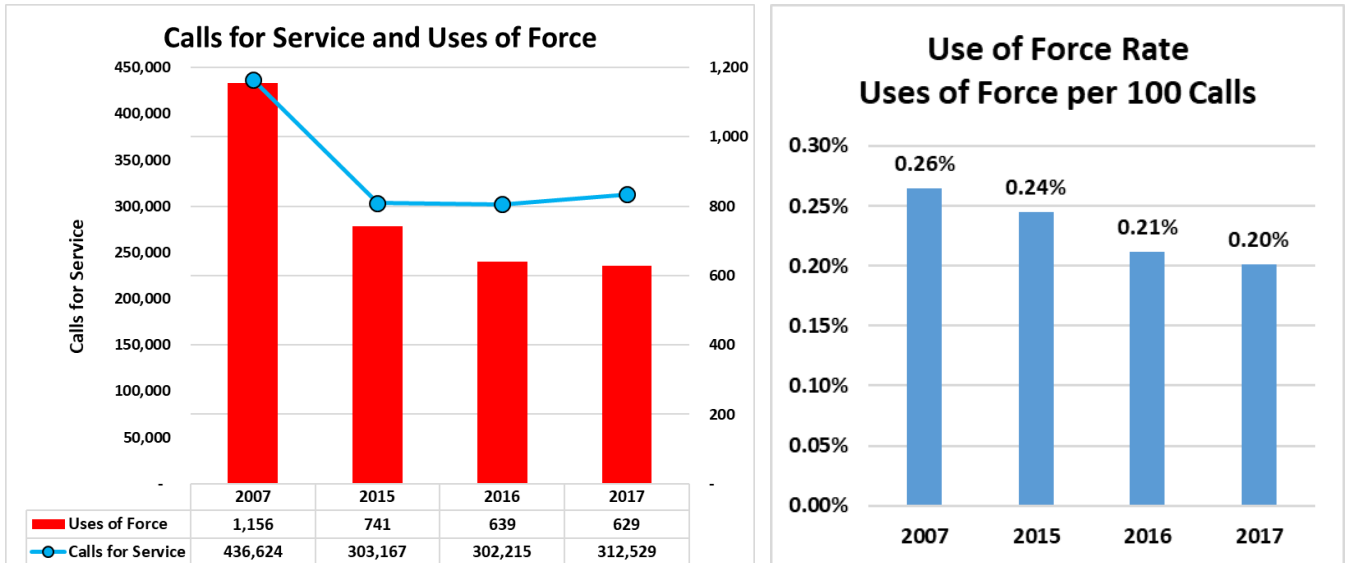
1. Arrests and Uses of Force

From 2007 to 2017 the number of annual arrests made by SJPD fell by 55% from 35,998 arrests to 16,315 arrests. At the same time the number of uses of force fell by 46% from 1,156 in 2007 to 629 in 2017. In 2007 the use of force rate (uses of force per 100 arrests) was 3.2% and by 2017 it had risen to 3.9%. This modest increase in the use of force rate is related to the lower number of arrests. When the department makes fewer arrests, officers will focus on more serious incidents particularly those involving violent crimes and weapons offenses. Subjects involved in these types of crimes tend to be less compliant generating a higher use of force rate. Therefore, some of the increase in the department’s use of force rate since 2007 is a product of an increasing percentage of violent crimes in overall arrests (17.5% in 2015 to 21.5% in 2017).



2. Calls for Service and Uses of Force

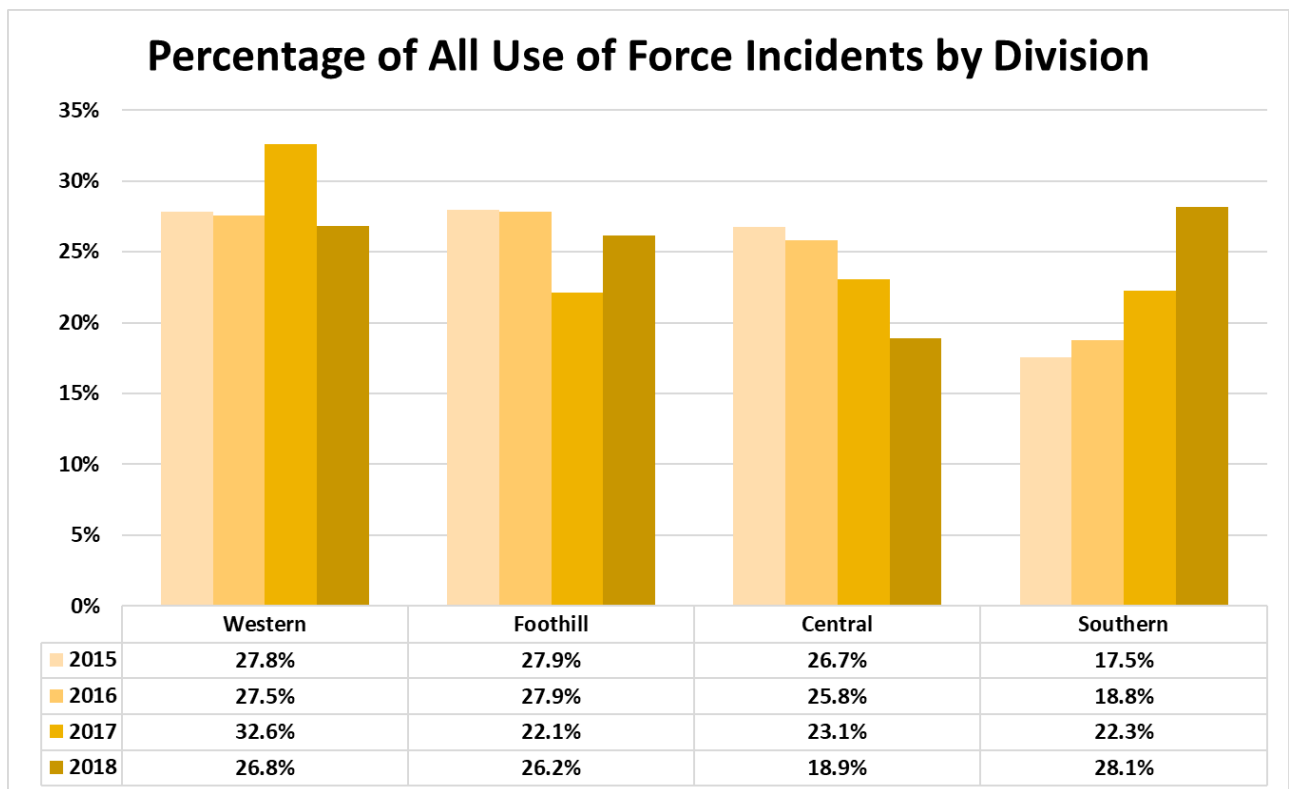
From 2007 to 2017 the number of annual calls for service to SJPD fell by 28% from 436,624 calls to 312,529 calls. At the same time the number of uses of force fell by 46% from 1,156 in 2007 to 629 in 2017. In 2007 the use of force rate (uses of force per 100 calls for service) was 0.26% and by 2017 it had fallen to 0.20%.



3. Location of Force Incidents

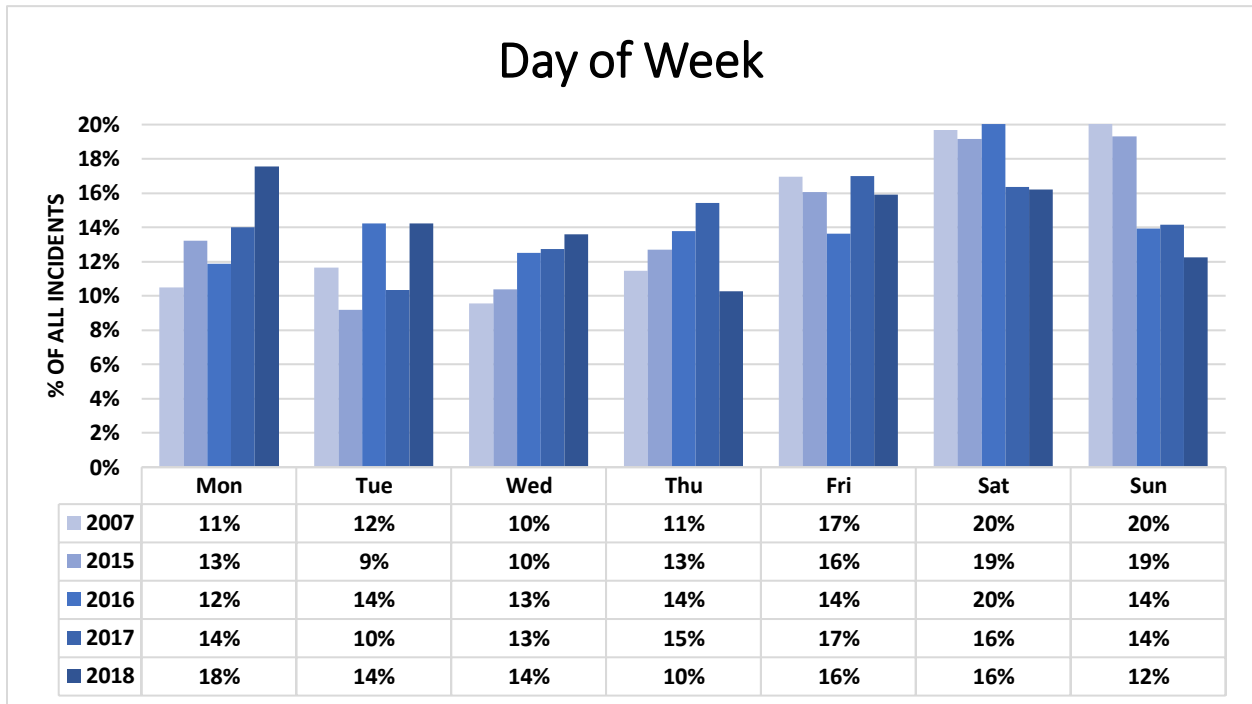
Over the last 3½ years there has been a shift in the location of force incidents within the City of San Jose. The City is divided into 4 police Divisions and the proportion of all uses of force each year were examined for each Division.

Since 2015 the proportion of use of force incidents occurring in the Central Division has steadily declined while the Southern Division has been steadily increasing. During this same period, the proportion of incidents in both the Foothill and Western Divisions have remained relatively stable. For the first six months of 2018 the Southern Division had the most use of force incidents of any Division in the City.



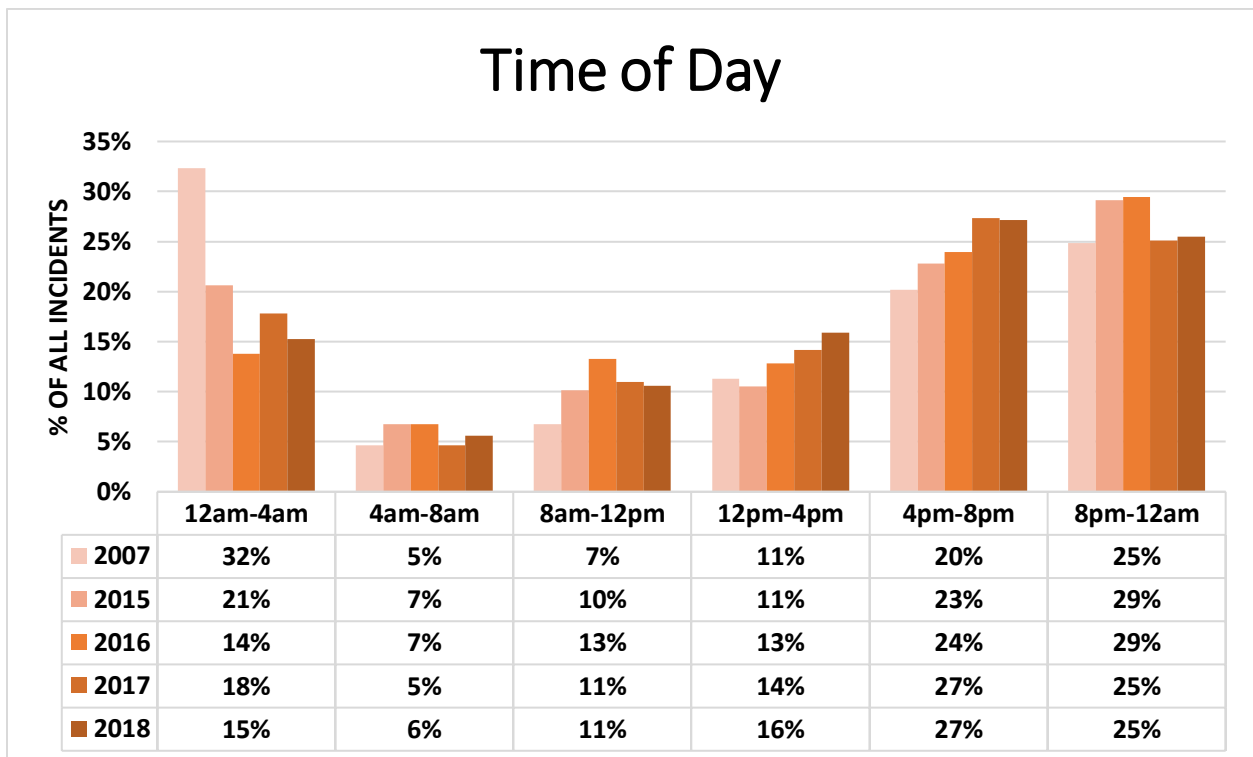
4. Day of the Week

Over the last 11 years the proportion of use of force incidents occurring on the weekends has declined from 40% to 28%. Most of this decline has shifted to Mondays and Wednesdays.



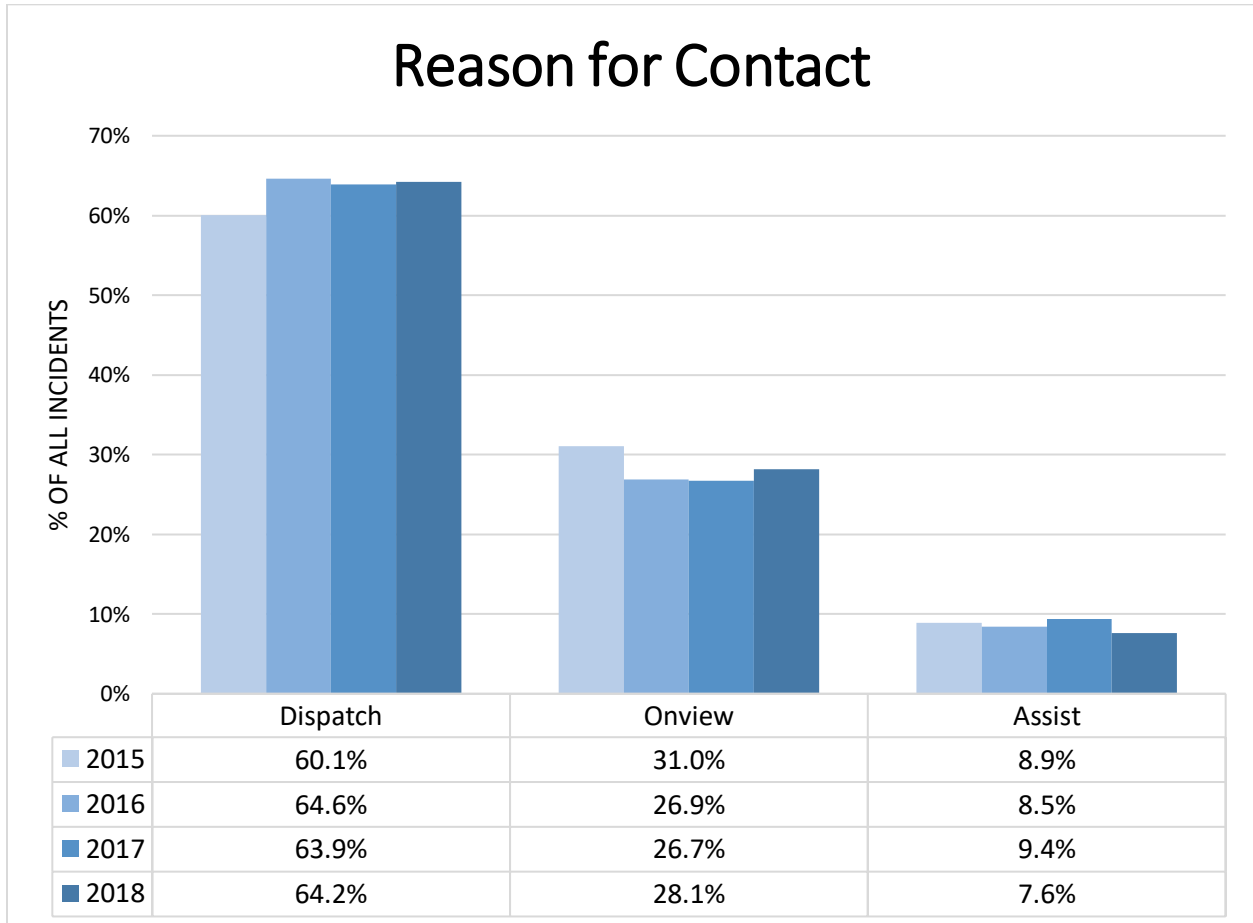
5. Time of Day

Between 2007 and 2018 the most significant change in the time of day that force incidents occur was from 12am to 4am. In 2007 nearly one-third of all force incidents occurred during this time period, but by 2018 this was down to 15% of all incidents. During this same period use of force was becoming more and more common during the day between the hours of 8am and 8pm.



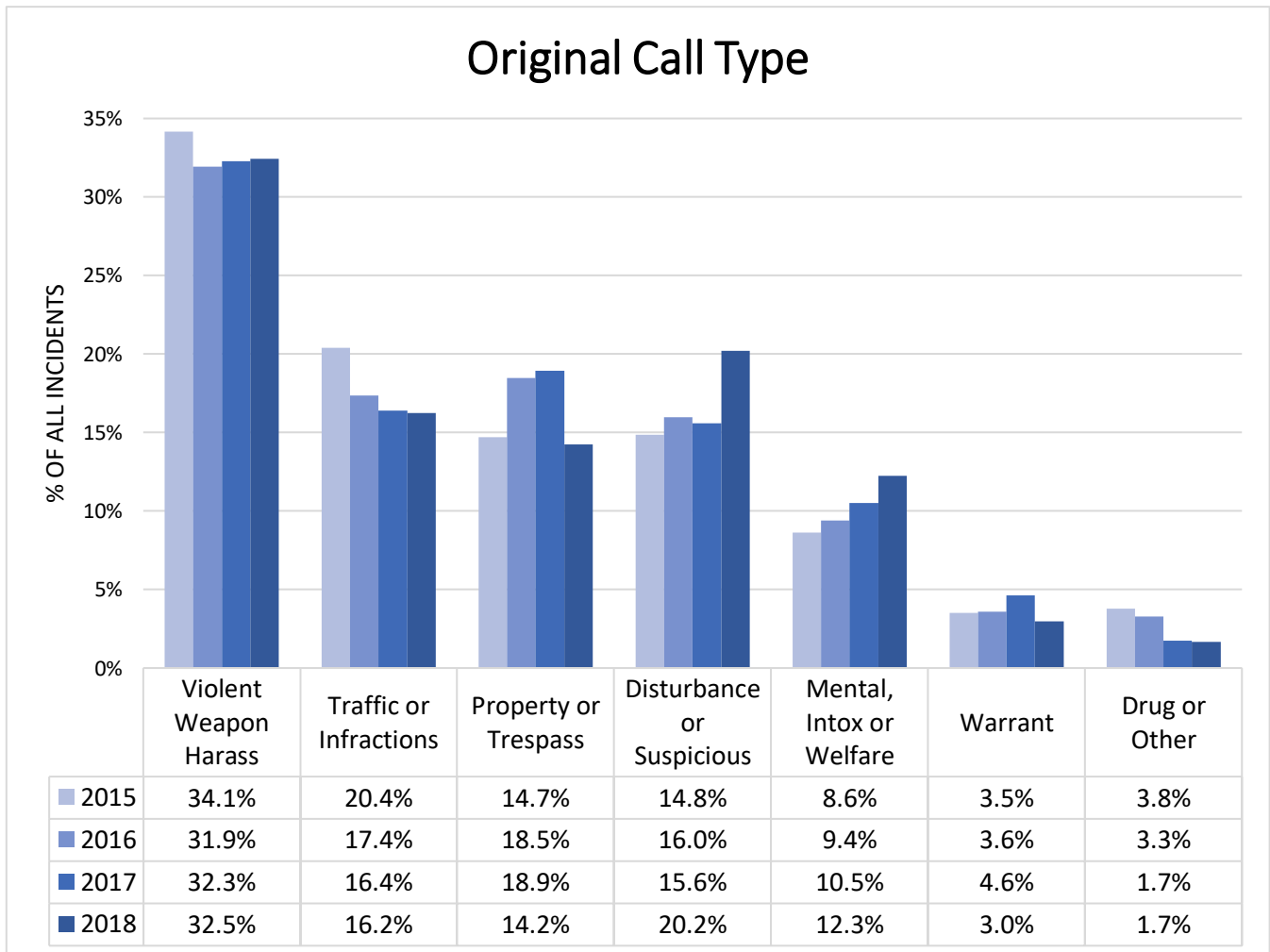
6. Reason For Contact

For the last 11 years the proportion of contacts resulting from dispatch calls, officer onviews and assist the officer calls has remained relatively stable. Nearly two-thirds of contacts resulting in a use of force came from a dispatched call for service.



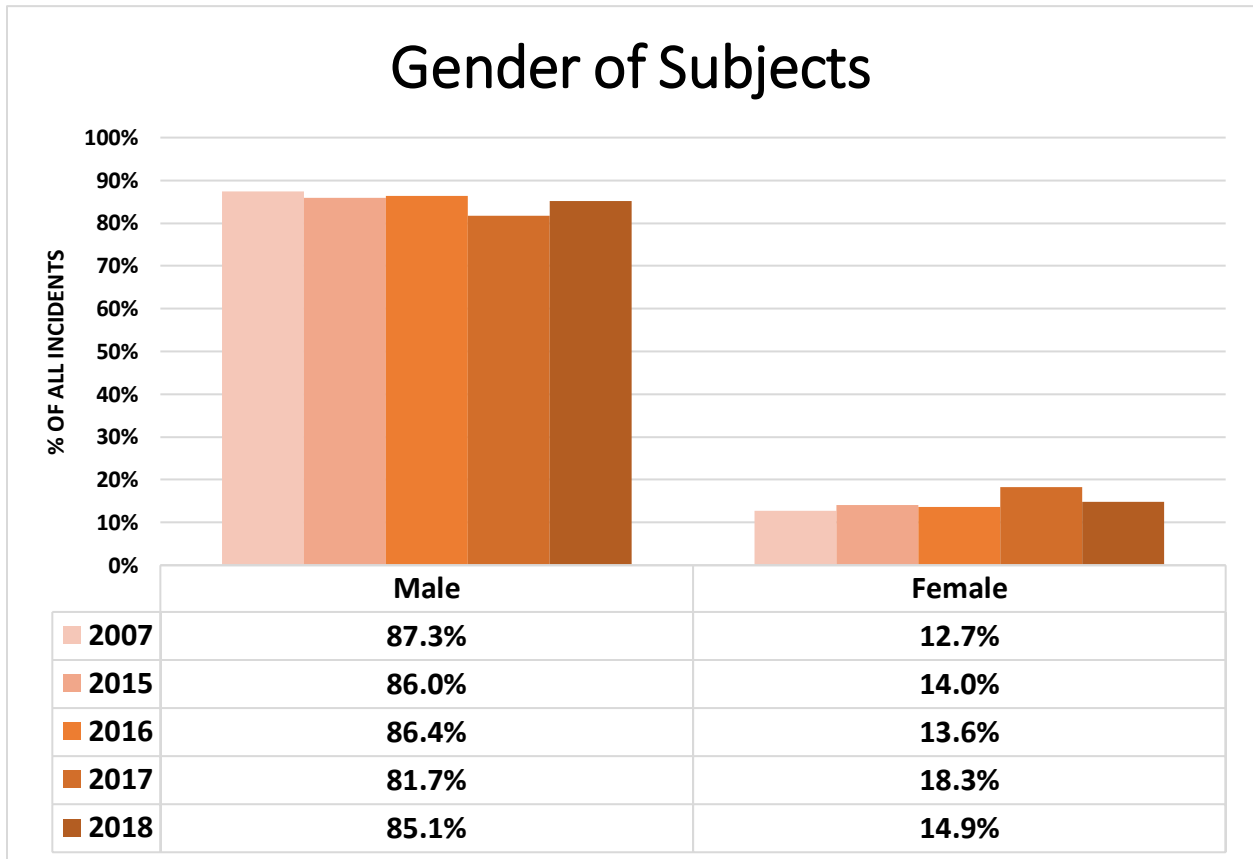
7. Original Call Type

Since 2015 the percentage of use of force incidents where the original call type involved a welfare check, mental health issue or intoxication increased from 8.6% to 12.3% of all force incidents. Uses of force involving a drug or other offense have declined from 3.8% to 1.7% of all force incidents.



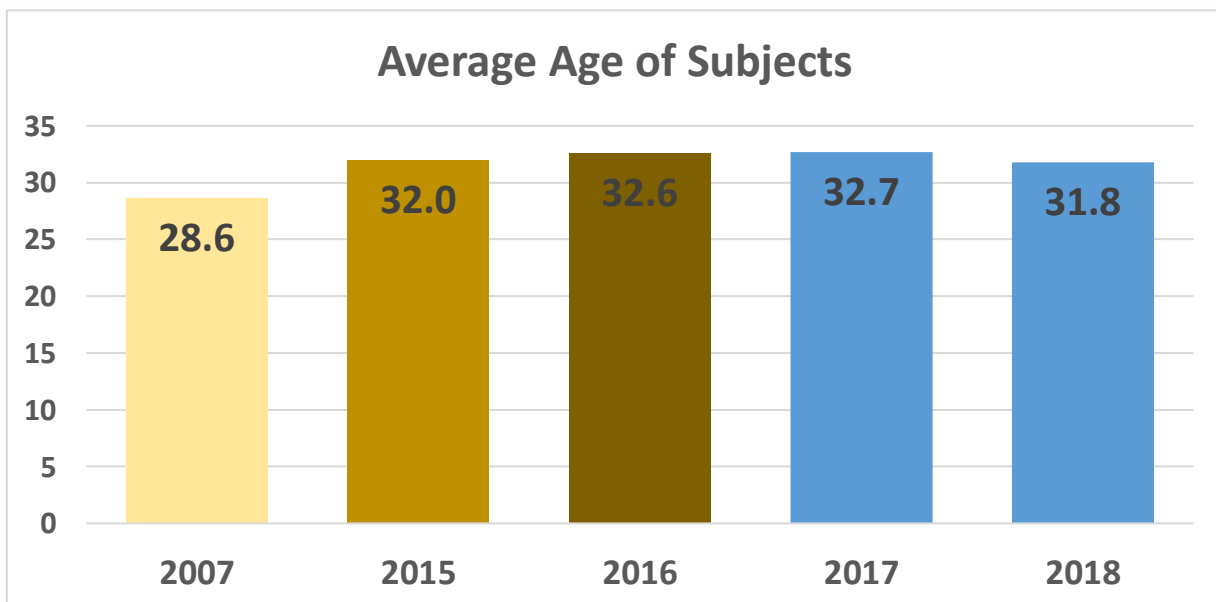
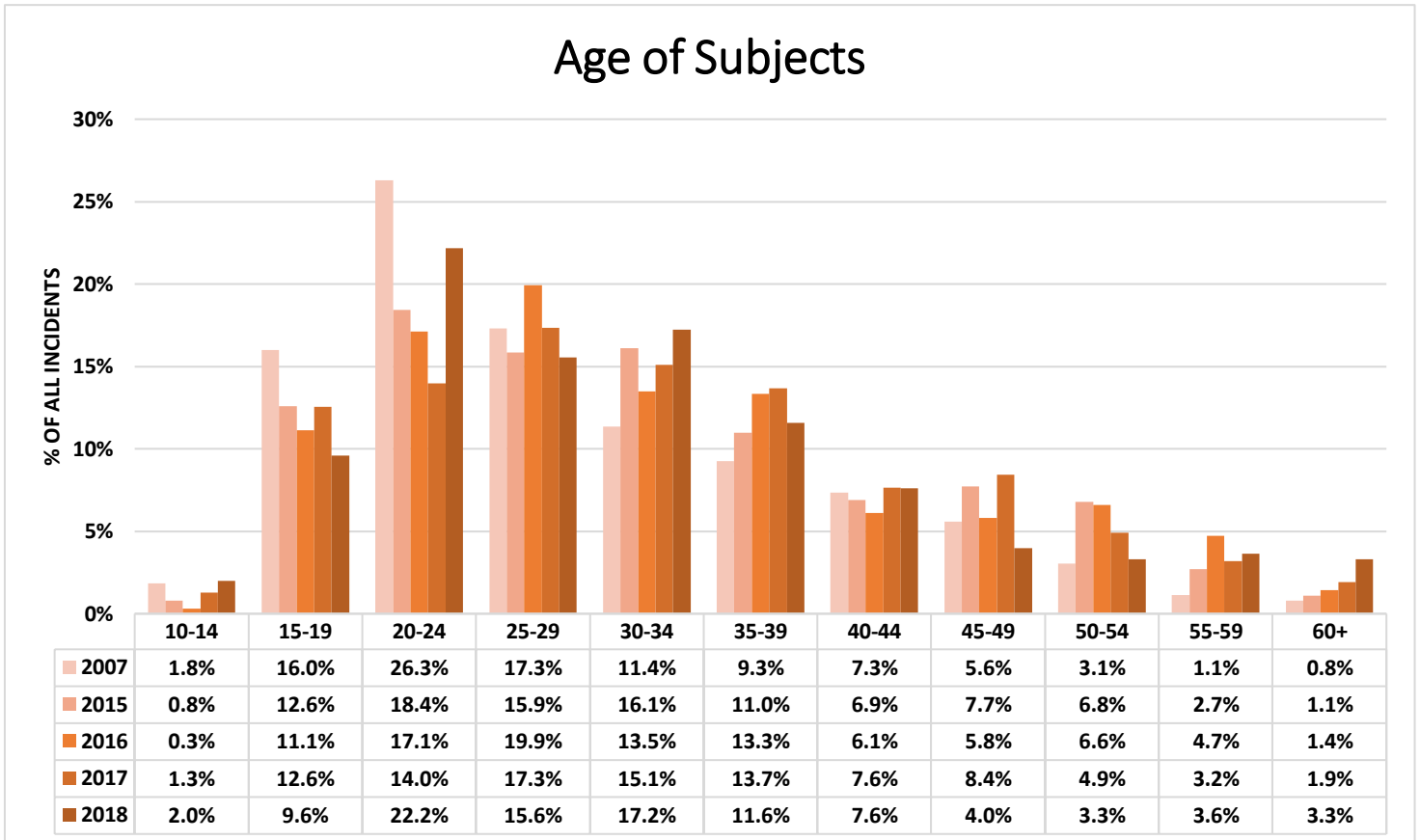
8. Gender of Subjects

The gender of subjects involved in force incidents has not changed significantly over the last 11 years with roughly one in eight incidents involving a female subject.



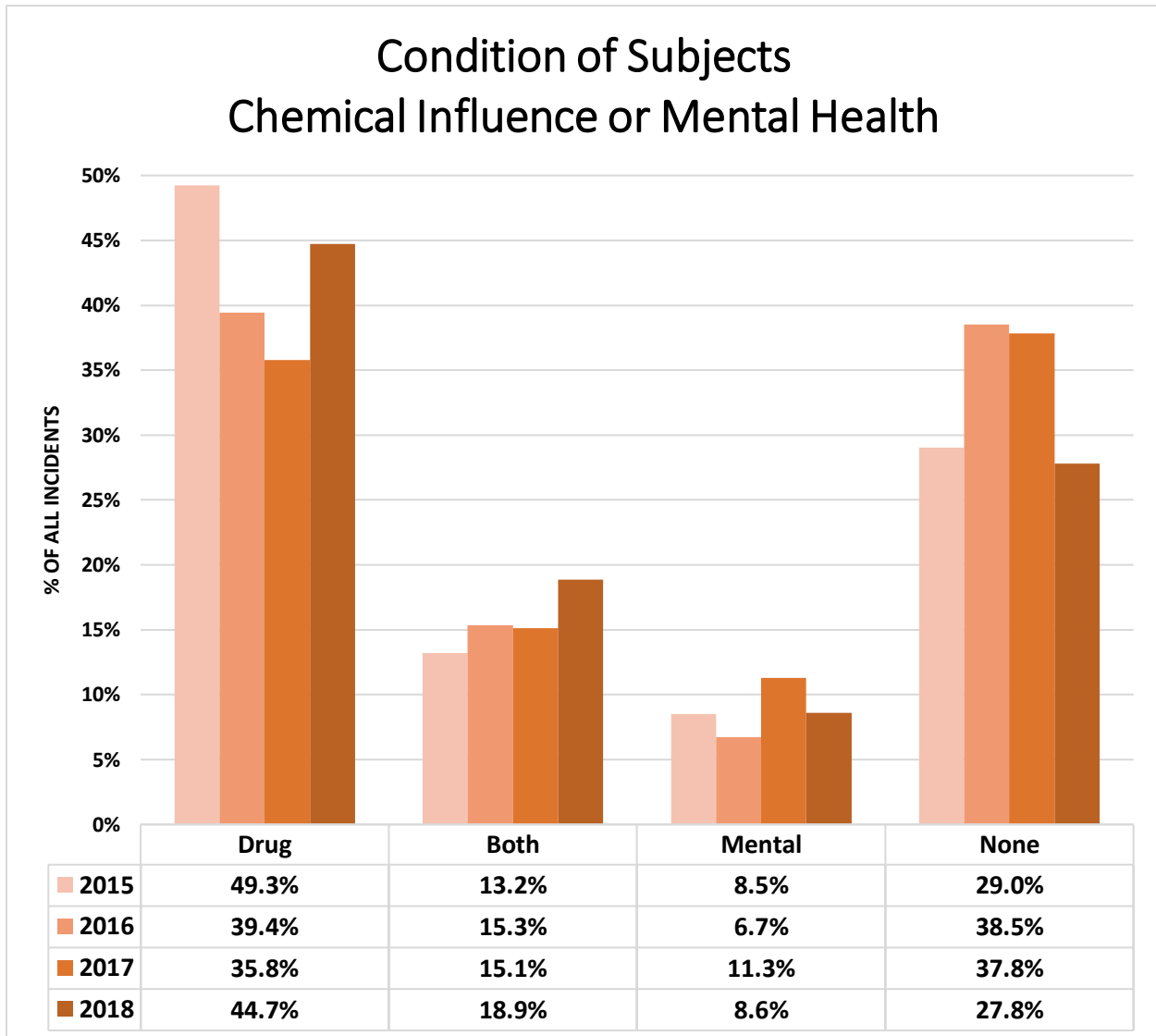
9. Age of Subjects

The proportion of subjects under age 20 that were involved in force incidents has decreased from 17.8% in 2007 to 11.6% in 2018. Subjects over 60 has risen from 0.8% to 3.3%. For the last 3½ years the average age of all subjects has remained steady at around 32 years.



10. Subjects Under the Influence or with a Mental Health Issue

Since 2015 the percentage of subjects who are both under the influence and experiencing mental health issues has risen from 13.2% to 18.9%.



Analysis of Use of Force Rates by Type of Crime

Most uses of force are associated with a custodial arrest. From 2015 to 2017, SJPD made a total of 50,721 arrests and force was used 2,009 times. This produced an average use of force rate per arrest of 4%. When the type of crime involved is taken into consideration, we see a significant variation in use of force rates.

Arrests are concentrated around four main crimes: warrants (22% of all arrests), violent crimes (20% of all arrests), drug crimes (15% of all arrests), and property crimes (13% of all arrests). By contrast, uses of force are primarily focused around violent crimes (39% of all uses of force) while every other type of crime is involved in less than 10% of all force incidents.

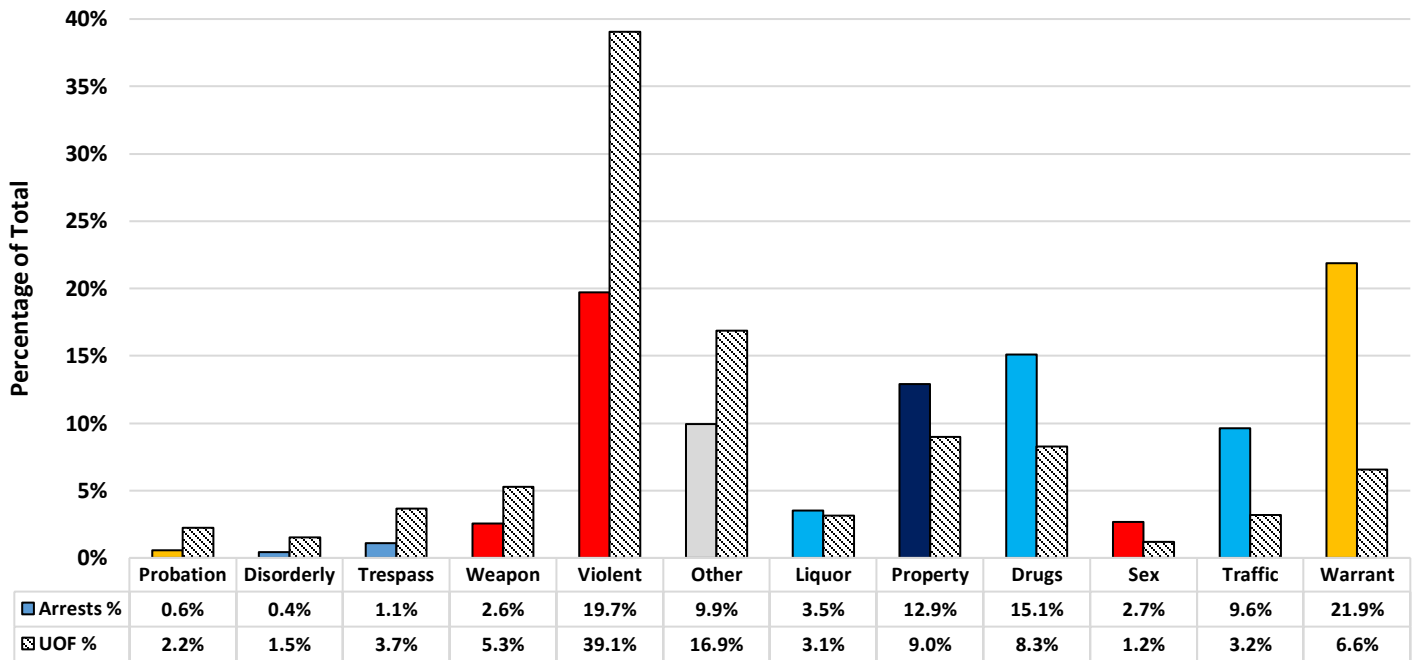
Subjects who are engaged in disorderly conduct or trespassing are more than five times more likely to have force used against them during an arrest than subjects who are involved in property crimes, drug crimes, non-violent sex crimes and traffic offenses. This suggests that subjects who are disorderly or trespassing are more likely to resist arrest than subjects engaged in other types of crimes. Individuals committing disorderly conduct are probably in an agitated state and are less likely to comply with an officer's orders. Individuals who are trespassing will usually be ordered to leave the area and if they refuse then force will need to be used.

While the crimes of disorderly conduct and trespassing have high use of force rates, the offenses make up less than 2% of all arrests made by the department each year. Arrests for violent crimes generate a much higher number of uses of force. Use of force rates for violent crimes and weapons offenses are just over 8% which is more than double the force rates of most other crimes. Individuals committing violent crimes may have more aggression and anger and therefore will be less amenable to officer commands.

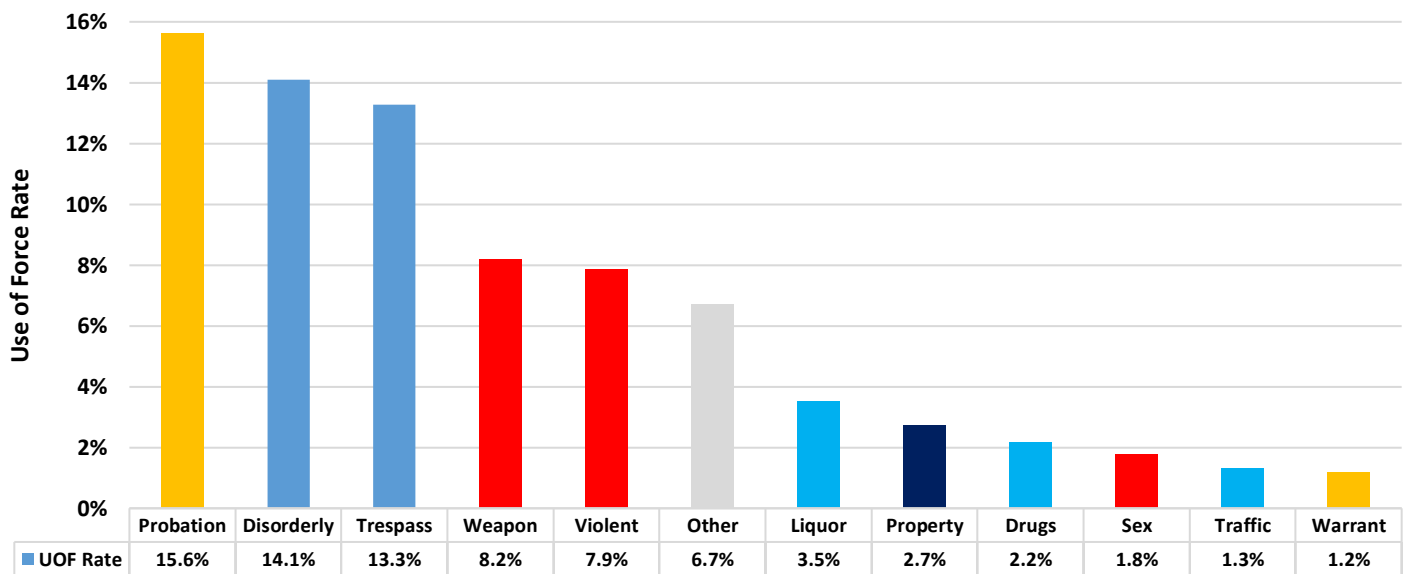
Subjects who were in violation of their probation had the highest use of force rate of all the types of crimes (15.6%). An individual who is in violation of the conditions of his or her probation is probably acutely aware that any contact with the police could have serious consequences. Therefore, these types of individuals are the most likely to resist officers. By contrast individuals with warrants had a very low use of force rate of 1.2%. This may be because many individuals with outstanding warrants may not even know that a warrant had

been issued for their arrest. Therefore, they may be less cautious when encountering the police.

**Arrests by Crime as a Percentage of All 50,721 Arrests
Uses of Force by Crime as a Percentage of All 2,009 Uses of Force
2015, 2016 and 2017**



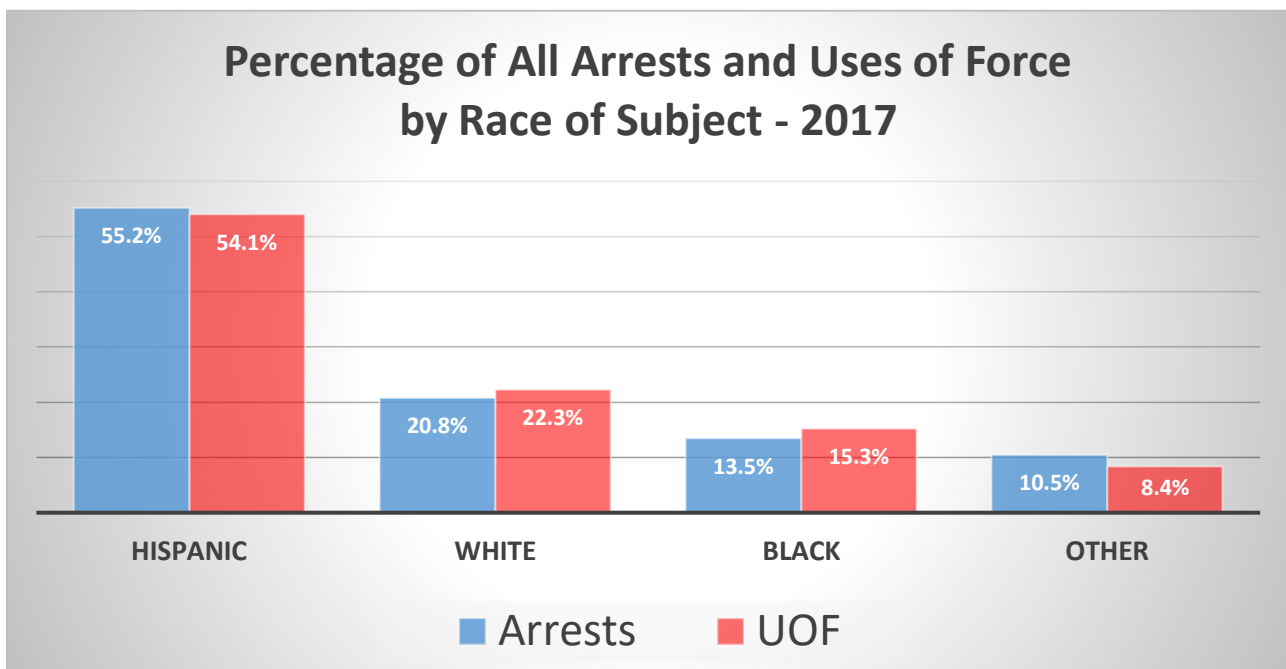
**Use of Force Rate per Arrest by Type of Crime Charged
2015, 2016 and 2017**



Racial Disparity Analysis

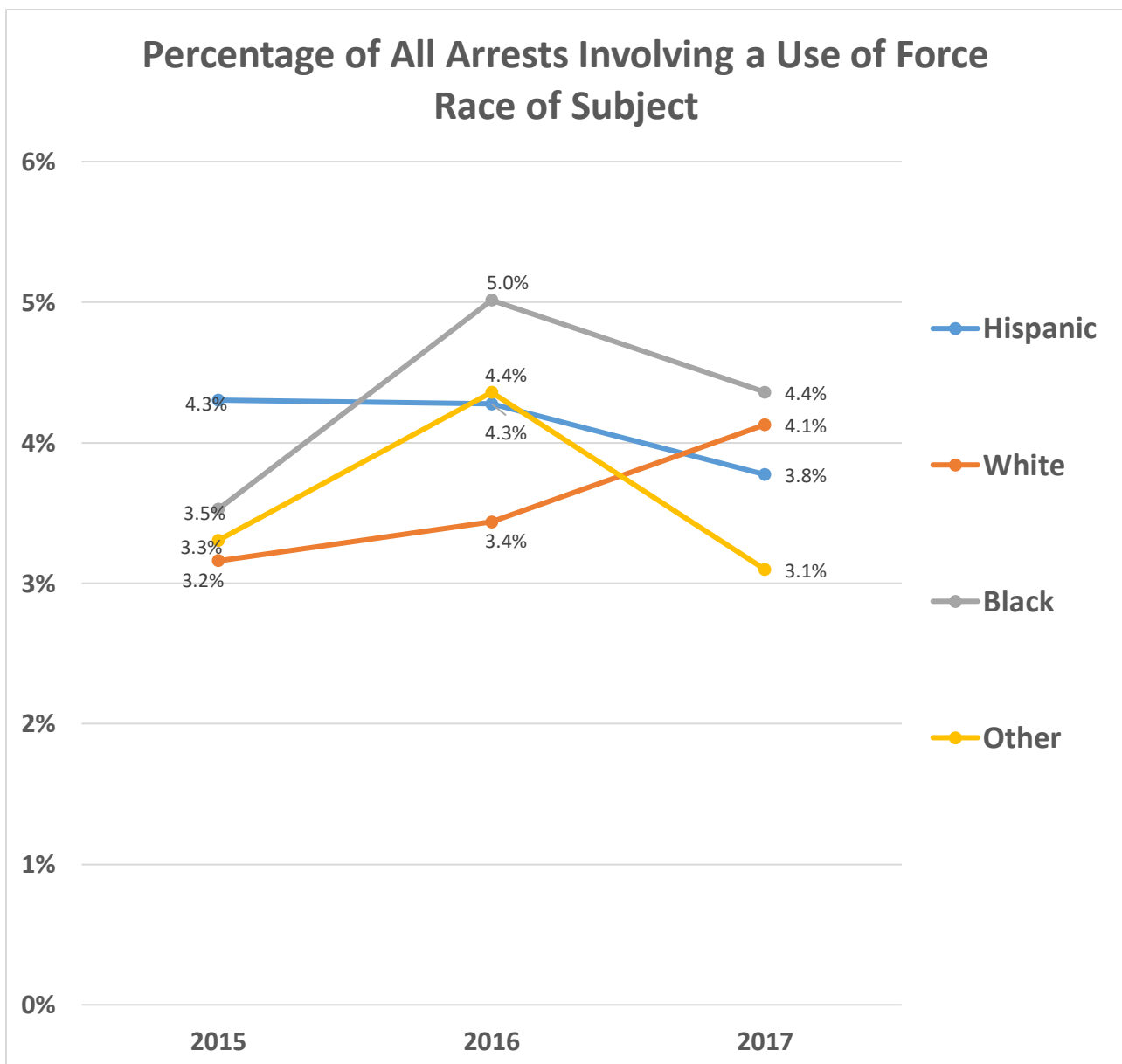
While census data of the residential population is sometimes used as a benchmark for disparity analysis, it does not provide an adequate measure to assess the possible impacts of racial bias by police officers. There are many factors that could affect the racial disparity between uses of force and the 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. 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 racial bias present, we would expect to see racial disparities between uses of force and arrests.



When we compare arrest rates and use of force rates for different racial groups we see that Hispanics and Others have slightly lower use of force rates than one would expect based on arrest rates while Whites and Blacks have slightly higher force rates than expected.

We can also examine trends in the use of force rates by the race of subjects for the last three years. Use of force rates (uses of force per 100 arrests) had minor variations by race. In 2017 4.4% of all arrests of Black subjects resulted in a use of force compared to 4.1% for Whites, 3.8% for Hispanics and 3.1% for Other races. The use of force rates for Hispanics has been trending down over the last 3 years while the rates for Whites have been increasing. Rates for Blacks and Other Races went up in 2016 and back down in 2017. Overall during the three-year period, the use of force rates for all racial groups were found in a narrow range of between 3% and 5%.



Interagency Comparative Analysis Using the Police Force Analysis NetworkSM

As a contributor of data to the Police Force Analysis SystemSM, San Jose PD also has access to data from other agencies in the system through the Police Force Analysis NetworkSM (PFAN).

PFAN currently has use of force data from 45 law enforcement agencies in six states involving more than 6,000 incidents and 3,000 officers who used force a total of 15,000 times. This 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 meaningful interagency comparisons. The Police Force Analysis NetworkSM allows agencies to compare their use of force practices with other agencies in the system.

For San Jose PD, this report will examine data the last 12-months of data available from July 2017 to June 2018. In some cases, annual data from 2017 was used when making comparisons with annual arrests or calls for service.

1. Force Tactics Comparisons

PFAN contains data on all the force tactics and weapons that officers use. The system allows department wide usage rates to be compared across agencies. The following table lists the usage rates for weapons and physical tactics by SJPD officers and then compares that with the averages from other agencies. SJPD officers use impact weapons and projectile weapons more frequently than officers from other agencies in the system. For physical tactics San Jose PD officers use strikes and pushing more frequently than officers from other agencies.

Weapon	Percentage of Incidents Used	Interagency Comparison
Electronic Control Device	17%	Average
Impact Weapon	16%	Above Average
Projectile Weapon	4.4%	Above Average
Pepper Spray	3.8%	Average
Canine Bite	3.6%	Average

Physical Tactic	Percentage of Incidents Used	Interagency Comparison
Takedown	58%	Average
Used Weight	41%	Average
Strike	30%	Above Average
Push	24%	Above Average
Pain Compliance	19%	Average
Wrestle	12%	Average
Hair Hold	2.7%	Average
Lateral Neck Restraint	0.7%	Average

2. Risk Factor Comparisons

PFAN provides a comprehensive comparative risk analysis of relevant factors involved in use of force incidents. The primary risk areas are:

1. Frequency of Force – The more uses of force an agency has the greater the risk of injuries, complaints and lawsuits resulting from these incidents.
2. Force Justification and Force Factor – Force incidents with low Force Justification Scores are at higher risk of being found to be unnecessary while incidents with high Force Factor scores are at higher risk of being found to be excessive.
3. Speed of Force and Force Sequences – The faster an officer decides to use force, the higher the risk that the force may be unnecessary. The more force sequences it takes an officer to control a subject, the higher the risk that both the officer and the subject will be injured.
4. Injury Rates – Higher injury rates pose risks to the health and safety of officers and subjects and are more likely to result in complaints and lawsuits.

For all but one of the risk factors examined, SJPD is within one standard deviation of the mean for all the agencies in the system. This means that the department is generally within the expected norm for all its use of force practices. SJPD had a longer number of force sequences than average which creates a greater risk of injury to both officers and subjects. We see that this is in fact the case since the injury rates for both officers and subjects is above the mean for all the agencies.

Risk Factors Force Frequency	San Jose PD	Interagency Average	Standard Deviation
Annual Number of Uses of Force per 1,000 Population	0.6	0.9	Within 1 SD
Annual Number of Uses of Force per 100 Arrests	3.9	3.8	Within 1 SD
Percentage of All Officers in the Department Using Force Each Year	50%	43%	Within 1 SD
Average Number of Uses of Force per Officer	2.5	2.0	Within 1 SD

Risk Factors Force Justification and Force Factor	San Jose PD	Interagency Average	Standard Deviation
Percentage of All Force Incidents with a Low Justification Score	17%	17%	Within 1 SD
Percentage of All Force Incidents with a High Force Factor Score	6%	6%	Within 1 SD
Percentage of All Force Incidents with Both a Low Justification Score and a High Force Factor Score	1.7%	1.9%	Within 1 SD

Risk Factors Force Sequences and Speed of Force	San Jose PD	Interagency Average	Standard Deviation
Percentage of All Force Incidents with Immediate Force	41%	45%	Within 1 SD
Percentage of All Force Incidents with 5 or 6 Force Sequences	37%	20%	Above 1 SD

Risk Factors Injury Rates	San Jose PD	Interagency Average	Standard Deviation
Subject Injury Rate	56%	48%	Within 1 SD
Subject Medical Treatment Rate	42%	32%	Within 1 SD
Officer Injury Rate	20%	12%	Within 1 SD

3. Subject Injury Rate Comparisons

SJPD is above average for all types of subject injuries except for canine bites and loss of consciousness. SJPD's fracture rate has come down since the last report, but it is still nearly four times higher than the average for the other agencies.

Subject Injury Rates	San Jose PD	Interagency Average	Standard Deviation
Scrapes and Bruises	20.2%	13.7%	Within 1 SD
Cuts	13.9%	11.5%	Within 1 SD
Canine Bites	3.3%	3.6%	Within 1 SD
Pepper Spray	2.4%	1.3%	Within 1 SD
Fracture (includes broken teeth)	2.2%	0.6%	Within 1 SD
Unconsciousness	0.2%	1.0%	Within 1 SD