



# **Police Force Analysis System<sup>SM</sup> Second Summary Report**

**Daly City Police Department**

**Use of Force Data from January 1, 2018 to December 31, 2019**

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## **Background**

In July 2019 we produced the first Summary Report using data from the Daly City Police Department's Police Force Analysis System<sup>SM</sup>. That report included data from 2018. This is our Second Summary Report which includes use of force data through the end of 2019. Police Strategies will continue to update the system on an annual basis and produce annual Summary Reports.

## **Police Strategies LLC**

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

## **Police Force Analysis System<sup>SM</sup>**

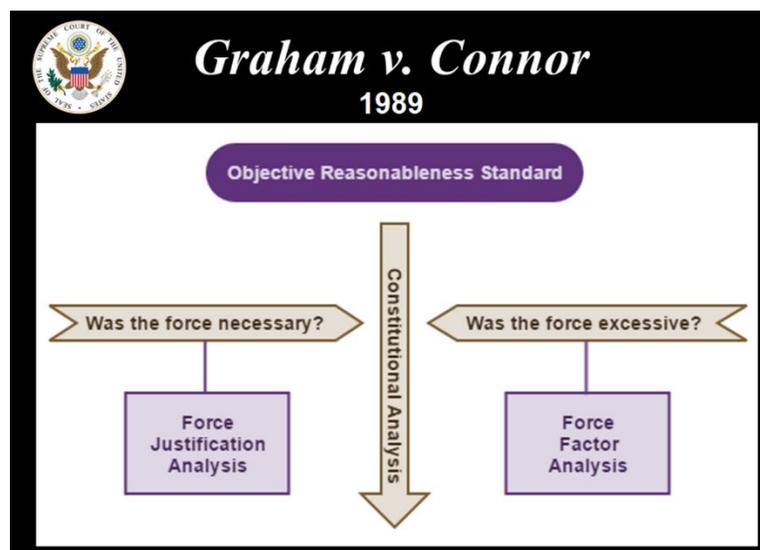
In the summer of 2015, Police Strategies LLC launched the Police Force Analysis System<sup>SM</sup> (PFAS). PFAS combines peer-reviewed research with state-of-the-art analytical tools to produce a powerful data visualization system that can be used by law enforcement, policy makers, academics, and the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

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<sup>1</sup> [Capitola Police creates online database to track use of force stats, Santa Cruz Sentinel, August 2016.](#)  
[DCPD puts use-of-force data online in pioneering move, Daly City Mercury, January 2018](#)

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"<sup>2</sup> and has been the subject of several scholarly articles.<sup>3</sup>

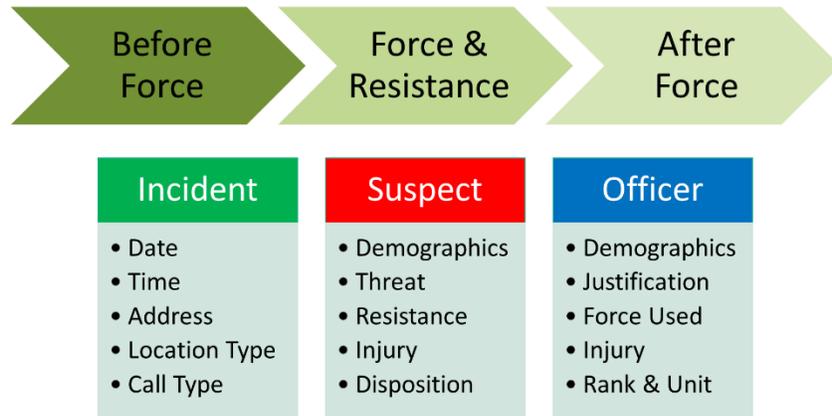
PFAS is a relational database that contains 150 fields of information extracted from law enforcement agencies' existing incident reports and officer narratives. The data is analyzed using legal algorithms that were developed from the evaluation criteria outlined in the United States Supreme Court case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



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

<sup>3</sup> 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 87 law enforcement agencies in seven states involving more than 10,000 incidents and 4,000 officers who used force a total of 19,000 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<sup>SM</sup> allows agencies to compare their use of force practices with other agencies in the system.

The Police Force Analysis System<sup>SM</sup> 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 Daly City Police Department**

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

In February 2020 Police Strategies LLC received DCPD use of force reports from 2019. Data entry was completed in March 2020 and then the information was processed through the system's legal algorithms. Finally, the interactive dashboards were updated. All the data entered into the system was also geocoded.

The Department has contracted for ongoing updates of PFAS. The next Summary Report will be produced in early 2021.

# **Summary of Daly City PD's Police Force Analysis System<sup>SM</sup>**

The Daly City Police Department's Police Force Analysis System<sup>SM</sup> contains 2 years of use of force data from 2018 to 2019. The database includes detailed information on 197 subjects who had force used against them and the 92 officers who used force during the 2-year period. In 2019 there were 86 use of force incidents involving 69 officers who used force a total of 211 times. This report will examine the 2-year trends in uses of force and will summarize the use of force data from 2019.

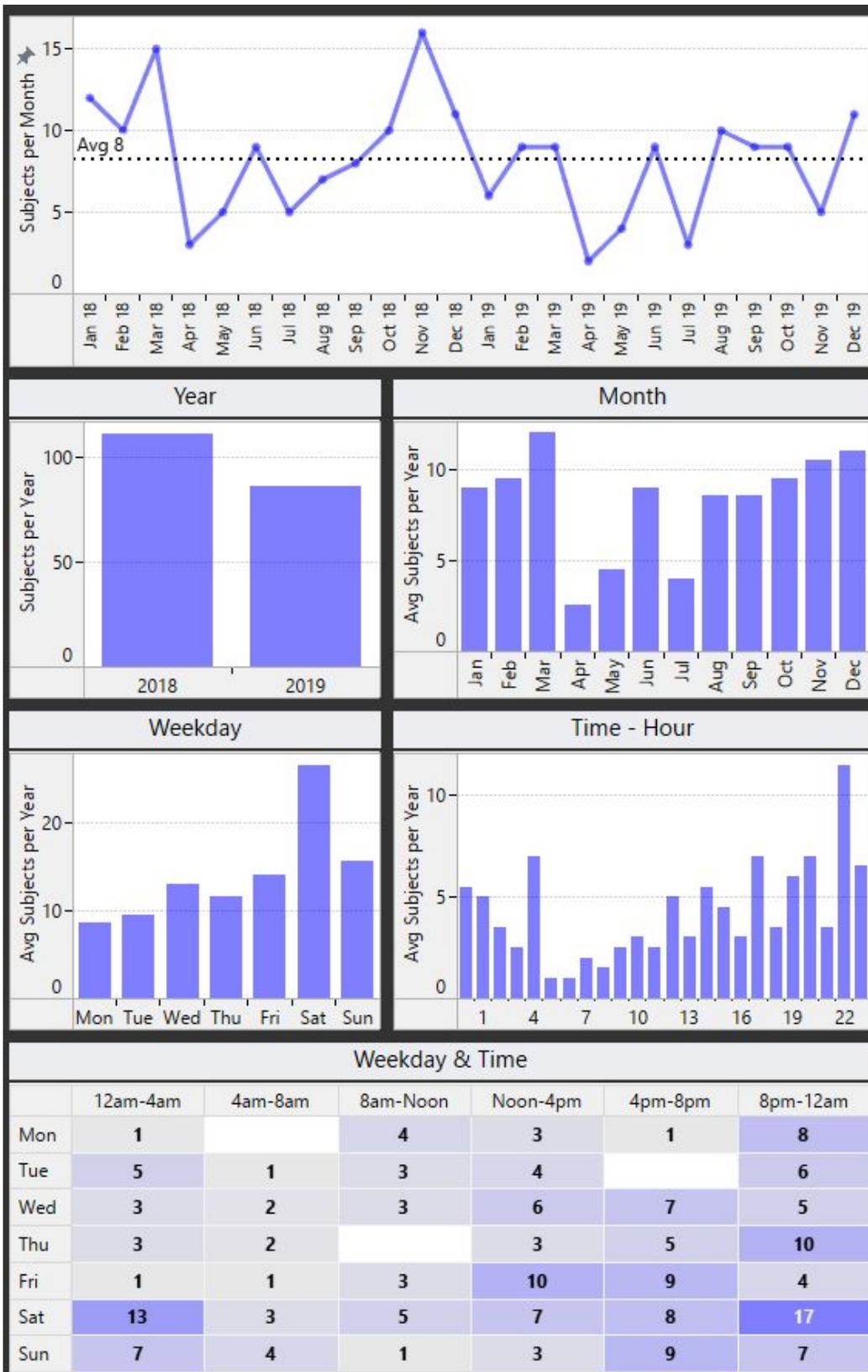
## **1) Date, Time and Location of Use of Force Incidents**

In 2019 the months with the most force incidents were December (11) and August (10). , April (2) and July (3) had the fewest incidents. During the week, Saturdays had the most incidents (26) and Thursdays had the fewest (6). The peak hour for force incidents was 8pm.

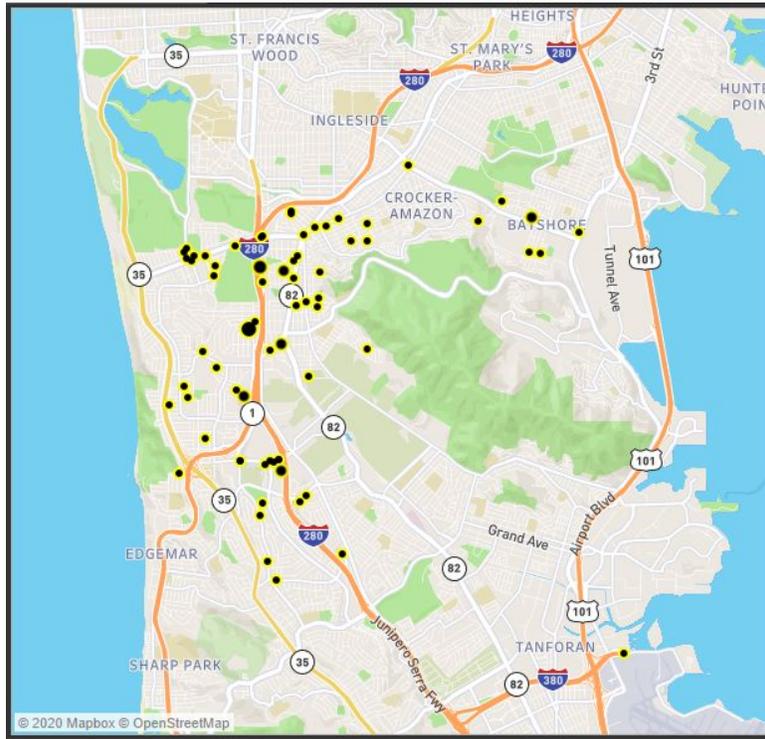
Over the last two years 45% of force incidents occur on the street, 20% occur at a business and 29% occur inside or outside a home. Over the last six years the percentage of residence related uses of force have remained the same, but more incidents are now occurring outside rather than inside the home.

The total number of force incidents fell by 23% in 2019 from 111 to 86 incidents.

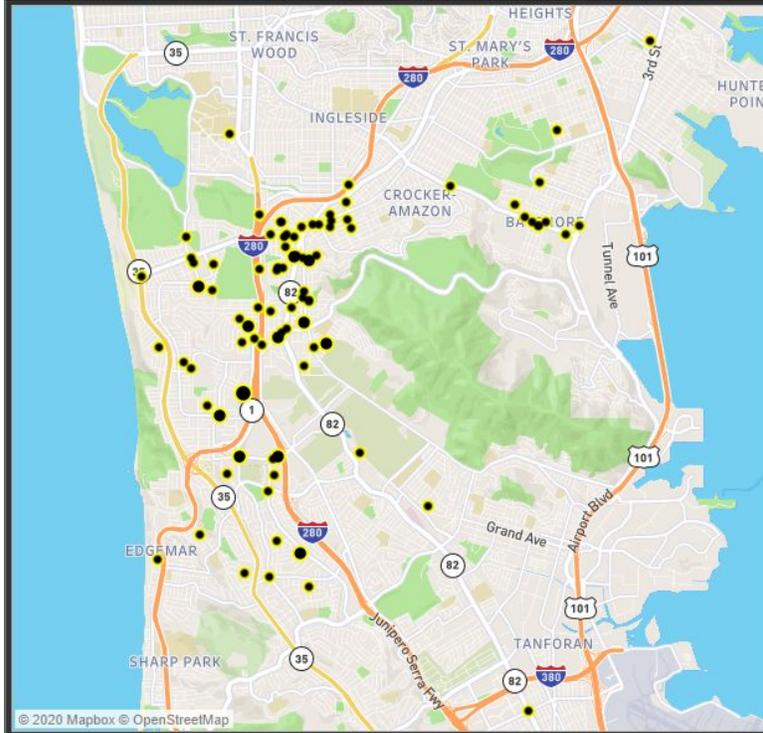
## Use of Force Incidents – 2018 to 2019



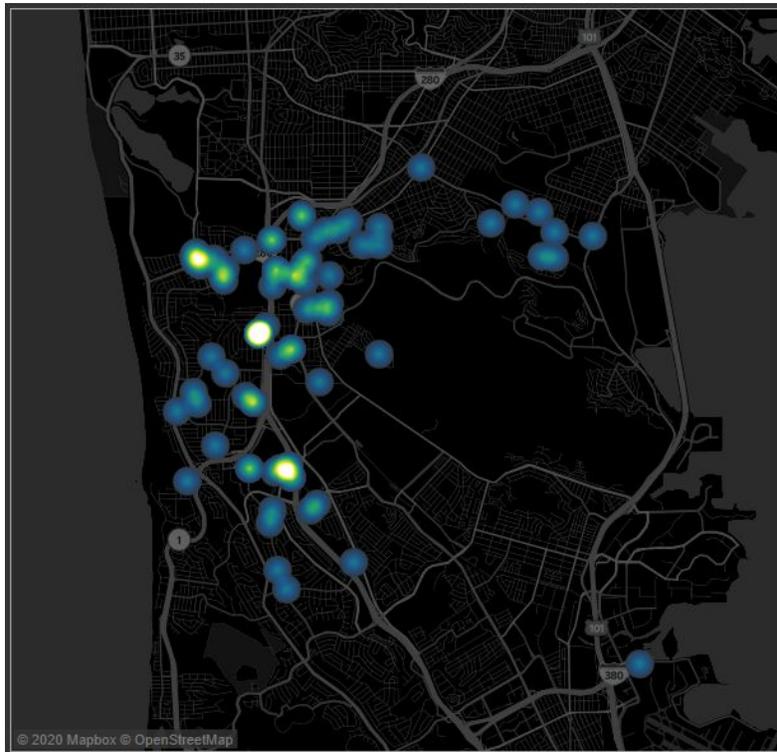
## Use of Force Incident Locations – 2019



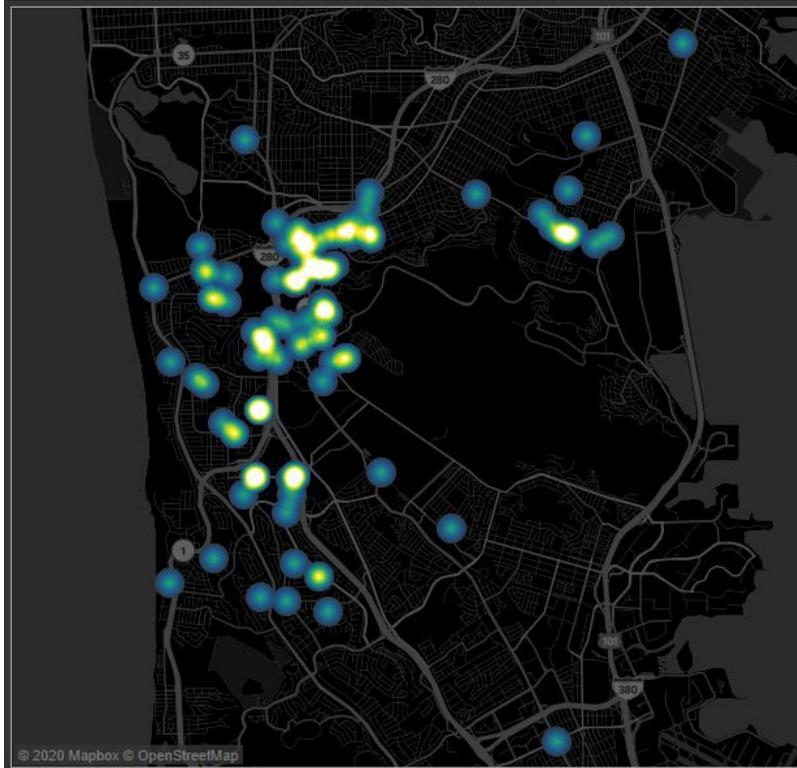
## Use of Force Incident Locations – 2018



**Use of Force Heat Map - 2019**



**Use of Force Heat Map – 2018**



## 2) Reason for Contact

In 2019 74% of officers who used force were responding to a dispatched call for service. Twenty-three percent of officers were making an officer-initiated contact and 3% of officers were responding to assist other officers.

In 2019 about half of the original call types for force incidents were violent crimes or property crimes. Nineteen percent of incidents related to general disturbances or suspicious circumstances and 27% involved a traffic offense, minor infraction or welfare check.

## 3) Force Frequency

In 2019 there were 86 use of force incidents involving 69 officers who used force a total of 211 times. There were six officers who used force between 7 and 10 times each, twenty officers who used force between 4 and 6 times each, twenty-one officers who used force 2 or 3 times, and twenty-two officers who only used force once. The top 10% of officers made up 27% of all force used by the Department.

## 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 2019, 22% of the Department's use of force incidents had low Force Justification scores (<6) which was a higher percentage than in 2018 (6%). The average Force Justification score was 10.1 on a scale of 0 to 20 which was slightly higher than 2018 (9.7). For each of the four Graham factors, Daly City scored highest in the resistance level and the crime level categories and lowest in the threat level and flight level categories. This indicates that when Daly City officers use force, they are facing more serious crimes and higher levels of resistance, but subjects are less likely to make threats or flee from the officers.

In 2019 there were 3 incidents that received the highest justification score of 20. This is down from 9 incidents in 2018. Most of these cases involved assaults on the officers before the officer made the decision to use force.

In 2019 there were 21 officers who were involved in at least one incident with a low Force Justification score. One officer was involved in 5 low Force Justification incidents, three officers were involved in 3 or 4 incidents each and four officers were involved in 2 incidents each. The number of low Force Justification incidents increase from 7 in 2018 to 19 in 2019.

Low Force Justification incidents were more likely to have the following characteristics than cases with higher Force Justification scores:

- Subject was Female (35%)
- Subject was age 40-49 (35%)
- Subject was a local resident (54%)
- Subject had mental health issues (35%)

- Subject was held for a mental health evaluation (31%)

Average Force Justification Scores were lower for women than men. Asian subjects had the highest average Force Justification of any racial group and White subjects had the lowest. Average Force Justification scores were lowest for subjects under 18 and highest for subjects age 18 to 29.

Officers did not use any weapons or strikes during low Force Justification incidents and were more likely to engage the subject in a long conversation before using force (65%). Most low Force Justification incidents involved only one or two officers (85%) and the injury rates were lower for both subjects (15%) and officers (8%). Low Force Justification incidents were more likely to be resolved quickly (23% within 2 Force Sequences) and only 4% of low Force Justification incidents went to 6 sequences compared to 35% of all force incidents. For low Force Justification incidents officers are taking more time to attempt de-escalation and when they decide to use force, they are able to control the subjects quickly without the use of weapons and with low risk of injury.

## **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 2019 only 3.5% of force incidents had a high Force Factor score (+3 or above). There were no high Force Factor incidents in 2018. In 2019 there were only three incidents that had a +3 Force Factor and no incidents had a score of +4, +5 or +6. Four officers were involved in the high Force Factor incident and one officer was involved in two of those incidents.

No weapons were involved in any of the high Force Factor incidents. Each of the 3 incidents involved officers taking the subject to the ground when the subject was only passively resisting (Level 5 Force – Level 2 Resistance = +3 Force Factor). The three subjects were each involved in violent offenses (robbery, assault, and felony warrant). One subject received a minor cut to the head during the takedown and was treated by EMTs.

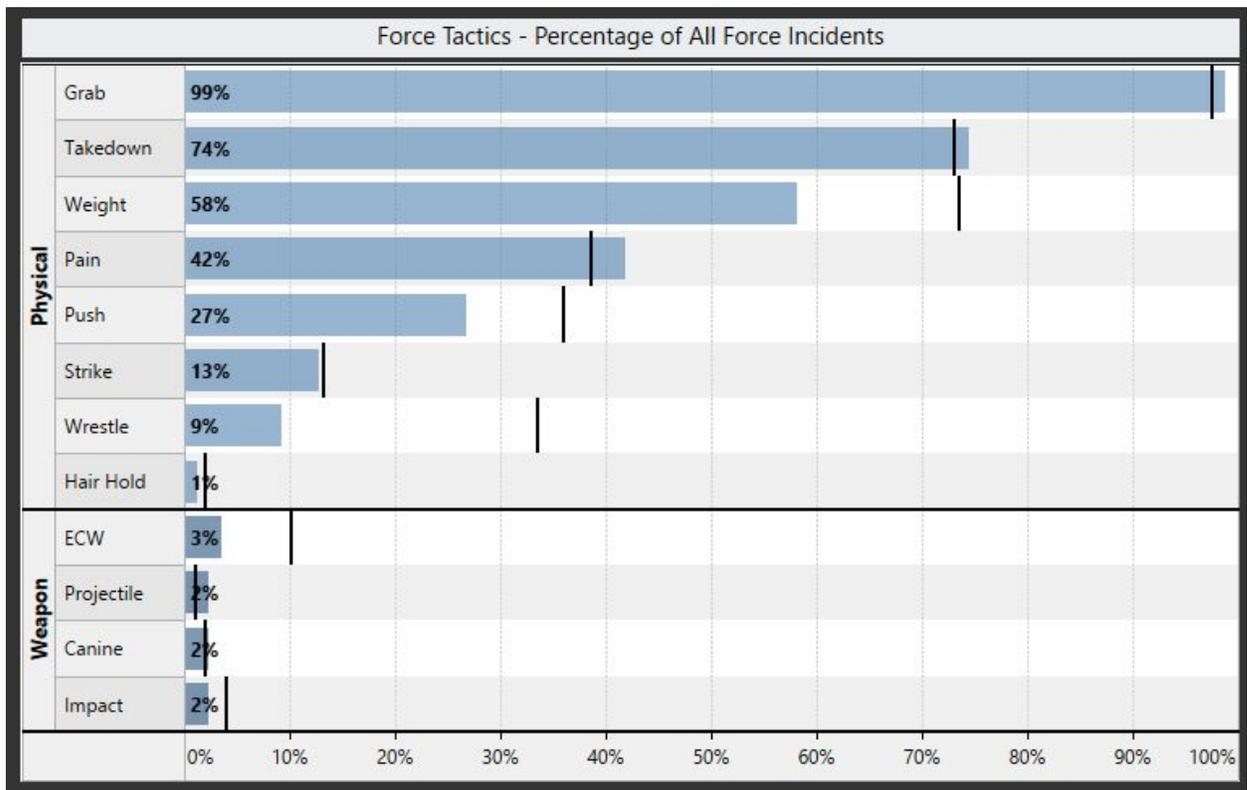
In 2019 the most common Force Factor Score was +1 (53%) followed by 0 (31%). These numbers indicate that most officers in the department behave very consistently when faced with a given level of resistance and they tend to use the minimal amount of force necessary to gain compliance.

## 6) Force Tactics

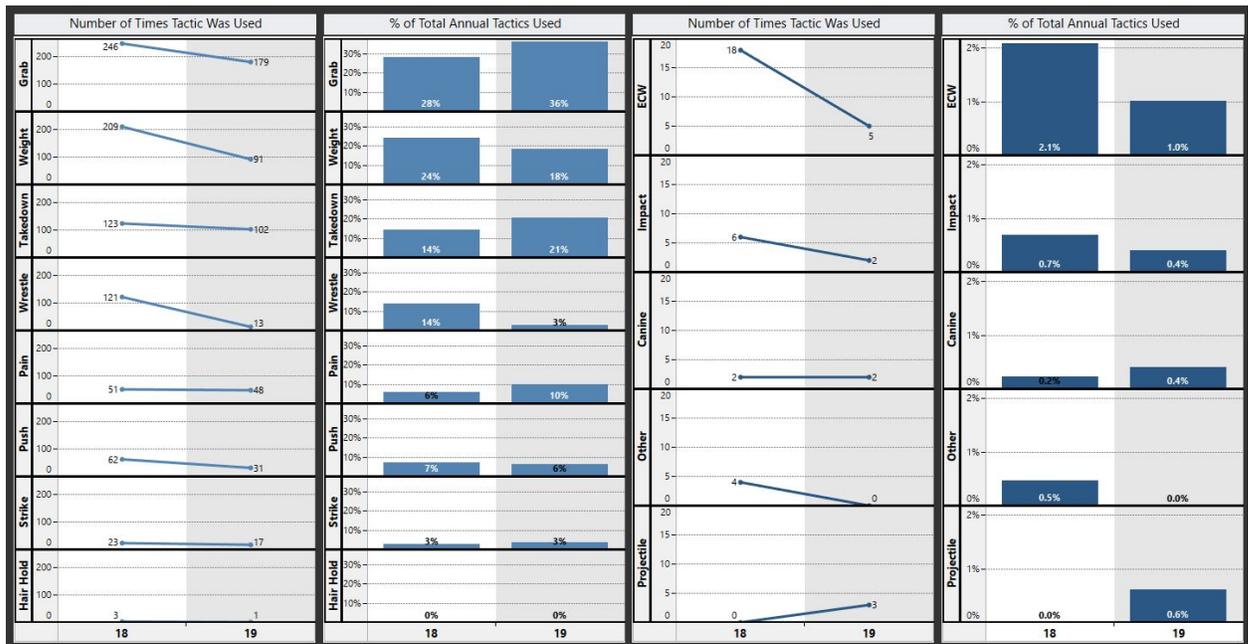
Of the 86 use of force incidents that occurred in 2019, 95% involved physical force only and 5% involved both physical force and the use of a weapon.

Compared to 2018, officers were less likely to wrestle with subjects, push subjects or use their weight to hold subjects down. All weapon use was low in 2019 and officers were less likely to use ECWs than the prior year.

### Force Tactics Used in 2019



Over the last two years officers have used 1,362 individual physical force tactics and weapons during 197 incidents. Between 2018 and 2019 the use of most force tactics declined as the overall number of incidents fell. As a percentage of all force tactics used, grabbing, takedowns, pain compliance and projectile weapons increased. ECWs were used 18 times in 2018 but only 5 times in 2019. In 2019 only 13 officers wrestled with subjects compared to 121 in 2018. The dramatic decrease in the use of wrestling indicates that officers are becoming better at controlling subjects quickly.



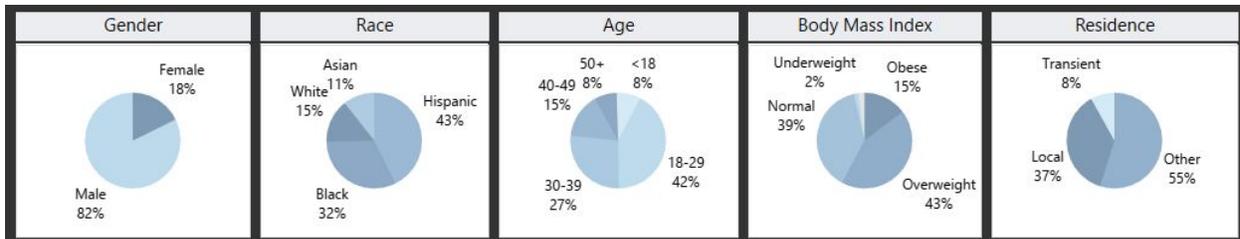
## 7) Subjects

There are three demographic groups (gender, race and age) that make up 40% of all use of force subjects. Hispanic males between the ages of 18 and 39 make up the largest demographic group of subjects.

Most Common Characteristics of Use of Force Subjects 2018 - 2019				
Gender	Race	Age	Number of Subjects	Percentage of Force Incidents
Male	Hispanic	18-29	32	16%
Male	Black	18-29	24	12%
Male	Hispanic	30-39	23	12%
All Other Demographic Groups or Unknown			118	60%

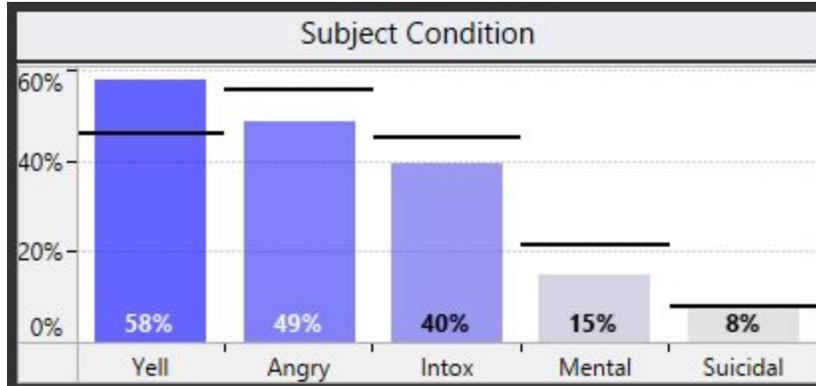
Over the last two years, females made up 18% of all use of force subjects. Three-quarters of subjects were Hispanic or Black and a majority were between the ages of 18 and 39. More than half were overweight or obese and 55% were not residents of Daly City.

### Use of Force Subject Characteristics - 2018 to 2019



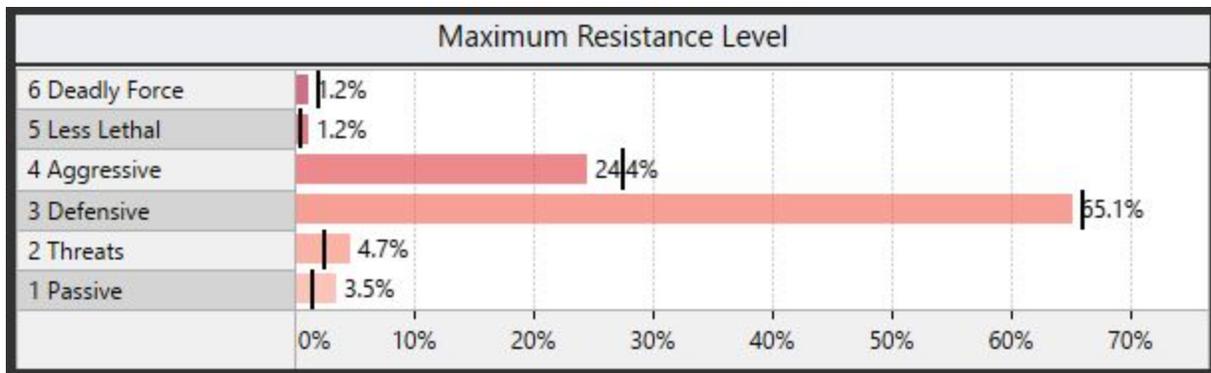
In 2019 subjects were more likely to be yelling (58%) and less likely to be angry (49%), under the influence of alcohol or drugs (40%) or have mental health issues (15%).

### Subject Condition in 2019



In 2019 officers were a little more likely to use force when the subjects were only passively resisting (3.5%) or threatening the officer (4.7%).

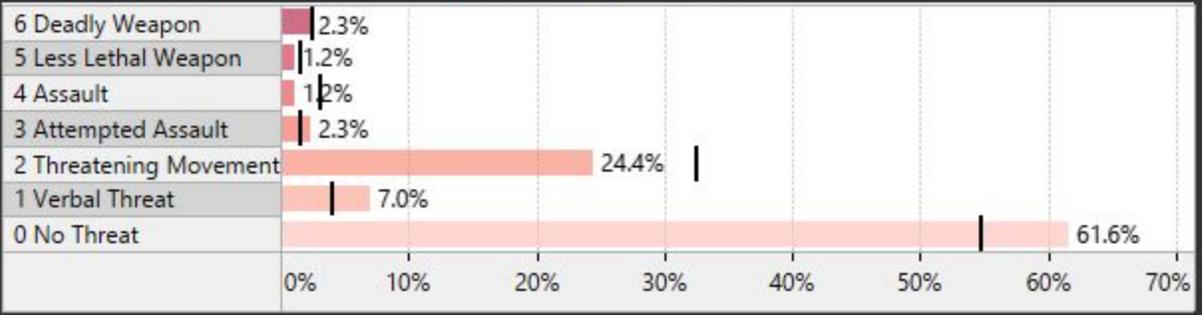
#### Subject Maximum Resistance Level - 2019



In 2019 subjects were less likely to make furtive or threatening movements towards the officers (24.4%) or assault the officers before force was used (1.2%) and more likely to make a verbal threat (7.0%).

#### Subject Maximum Threat Level - 2019

### Maximum Threat Level



## **8) Injuries**

In 2019 there were 11 officer injuries. Five percent of the 211 force applications by officers resulted in an injury to the officer who used force. Ten officers were injured and one of those officers was injured in two incidents. Ninety percent of injuries involved only a minor scrape or bruise or a complaint of pain. One officer received a minor cut. Eighteen percent of injured officers were treated by EMTs and 45% went to the hospital for treatment.

In 2019 27 subjects who had force used against them were injured (31% of all incidents). Of the subjects who were injured, most of the injuries were minor: complain only (11%), ECW probe (7%), scrape (22%) or minor cut (48%). Two subjects were bitten by a canine and one subject suffered a fracture or broken tooth.

Of the all the subjects who were injured, 19% were treated by EMTs only and 37% were treated at a hospital.

## 9) Trends

With only two years of data it is difficult to identify any clear trends in force practices. The following section highlights some of the most dramatic changes between 2018 and 2019:

- The overall average Force Justification and Force Factor scores remained stable, but the percentages of low Force Justification incidents and high Force Factor incidents both increased.
- The percentage of incidents that had 5 or 6 Force Sequences decreased from 71% in 2018 to 16% in 2019. As noted earlier, this indicates that officers are using force effectively and controlling subjects quick with less of a struggle.
- The percentage of incidents where four or more officers were present increased from 28% to 51%. Even though more officers were present in 2019 when force was used, the number of incidents with four or more officers using force only increased from 14% to 16%.
- In 2018 there were 23 incidents that involve the use of a weapon by officers. In 2019 only 4 incidents involved the use of a weapon.
- As a percentage of all subjects, there were fewer Black subjects in 2019 and more White and Asian subjects. The proportion of Hispanic subjects did not change.
- Between 2018 and 2019 the proportion of subjects who had mental health issues declined by 42% and the proportion of subjects who were under the influence of alcohol or drugs fell by 20%.
- A higher percentage of subjects were charged with assault (17%), theft (13%) and DUI (12%) in 2019 than 2018.
- While the injury rates for both officers and subjects remained constant, the average severity of subject injuries increased while the average severity of officer injuries decreased in 2019.

## **Interagency Comparative Analysis Using the Police Force Analysis Network<sup>SM</sup>**

As a contributor of data to the Police Force Analysis System<sup>SM</sup>, Daly City PD also has access to information from other agencies in the system through the Police Force Analysis Network<sup>SM</sup> (PFAN). PFAN currently has use of force data from 87 law enforcement agencies in seven states with more than 10,000 incidents involving 4,000 officers who used force 19,000 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 Network<sup>SM</sup> allows agencies to compare their use of force practices with other agencies in the system.

This report is designed to alert the Department of potentially high-risk areas that may need improvement as well as areas where the Department is performing with low levels of risk. A high-risk score does not necessarily mean that there is a problem that needs to be addressed and for that reason this report does not recommend any specific corrective actions. Instead, the annual use of force reports and comparative dashboards will allow the Department to focus more attention on higher risk areas and determine whether any adjustments to policies, procedures or training are warranted. Similarly, a low risk score does not mean that there are no issues that need to be addressed. Departments are encouraged to continue to conduct individual force reviews and use the dashboard systems to supplement and enhance those reviews to identify issues that might not otherwise be uncovered. The system will also help to highlight those areas where the Department is performing well and will help to maintain those performance levels.

Since use of force characteristics can vary from year to year, the comparative data includes all available data for each agency. For Daly City PD, the comparative data includes all 197 use of force incidents from 2018 to 2019.



## 1) 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. Graham v. Connor - Force Justification and Force Factor Scores – 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. Force Speed and Duration – The speed of the officer’s decision to use force as well as the duration of the force incident are both measured. The faster the force incident occurs the less opportunity there is for de-escalation. The longer a force incident lasts the greater the risk of injury to both officers and subjects.
4. Injury Rates – Higher injury rates pose risks to the health and safety of officers and subjects and are more likely to generate complaints and lawsuits.

The following risk rankings are based upon a comparison with the 87 agencies currently in the Police Force Analysis Network<sup>SM</sup>. “Lower Risk” scores are more than one standard deviation below the mean. “Higher Risk” scores are more than one standard deviation above the mean. “Medium Risk” scores are within one standard deviation of the mean.

 Higher Risk       Medium Risk       Lower Risk

Risk Level	Risk Type	Metric	Value	Interagency Comparison
	Force Frequency	Uses of force per 1,000 population	0.92	Average
	Force Frequency	Use of force rate per 100 calls for service	0.13%	Average
	Force Frequency	Use of force rate per 100 arrests	3.8%	Average
	Force Frequency	Percentage of officers in the department using force annually	75%	High
	Force Concentration	Average annual uses of force per officer using force	3.3	High
	Graham v Connor	Percentage of incidents with low Force Justification Scores	13%	Average
	Graham v Connor	Percentage of incidents with high Force Factor Scores	1.5%	Below Average
	Graham v Connor	Percentage of incidents with both low Justification and high Force Factor scores	0.5%	Below Average
	Force Duration	Percentage of incidents with 5 or 6 Force Sequences	47%	High
	Force Duration	Percentage of incidents where the Speed of Force was immediate	33%	Below Average
	Injury	Subject total injury rate	32%	Average
	Injury	Subject severity of injuries	3.1	High
	Injury	Subject medical treatment rate	70%	Average
	Injury	Officer injury rate	6%	Average
	Injury	Officer severity of injuries	2.6	Average

Daly City PD was within one standard deviation of the mean for 11 of the 15 risk metrics. The Department was one standard deviation above the mean for both the percentage of officers in the Department using force and the average number of uses of force per officer. Daly City PD officers generally take longer than officers from other agencies to control subjects and those subjects tend to have more severe injuries.

## **2) Force Tactics Comparisons**

PFAN contains data on all the physical force tactics and weapons that officers use. The system allows department wide usage rates to be compared across agencies. The following tables list the usage rates for weapons and physical tactics by Daly City officers and then compares that with the averages from other agencies.

Daly City PD officers did not use any OC in the last two years, and they are less likely to use ECW than officers from other agencies. Daly City PD officer are much more likely to use the following physical force tactics: grabbing, takedowns, using weight, wrestling and pushing. Officers did not use any lateral neck restraints in the last two years.

<b>Weapon</b>	<b>Daly City PD Percentage of Incidents Used</b>	<b>Interagency Average</b>	<b>Interagency Comparison</b>
Electronic Control Weapon	10%	25%	Below Average
Canine Bite	2.0%	2.7%	Average
Pepper Spray	0%	2.5%	Low
Impact Weapon	4.0%	2.3%	Average
Projectile Weapon	1.0%	0.6%	Average

<b>Physical Tactic</b>	<b>Daly City PD Percentage of Incidents Used</b>	<b>Interagency Average</b>	<b>Interagency Comparison</b>
Grab/Hold/Pull	97%	80%	High
Takedown	73%	53%	High
Used Weight	74%	28%	High
Pain Compliance	39%	24%	Above Average
Wrestle	34%	18%	High
Push	36%	17%	High
Strike	13%	11%	Average
Hair Hold	2.0%	3.2%	Average
Lateral Neck Restraint	0%	2.1%	Low

<b>All Force Tactics Used</b>	<b>Daly City PD Percentage of Incidents Used</b>	<b>Interagency Average</b>	<b>Interagency Comparison</b>
Only Physical Tactics Used	86%	68%	Above Average
Both Physical Tactics and Weapons Used	12%	23%	Below Average
Only Weapons Used	1.5%	9%	Below Average

### 3) Subject Injury Rate Comparisons

The reason that the Department has a high subject injury severity score is because there is a predominance of injuries in level 3 (minor cut). The Department has fewer lower injuries and has average scores for canine bites and fractures. This produce a higher injury severity score but most of the injuries are clustered around level 3.

Minor Injury	Subjects Injured	Interagency Average	Interagency Comparison
Complaint Only	4%	3%	Average
ECD Probe	2%	9%	Below Average
Bruise or Scrape	7%	12%	Below Average
Cut or Bleeding	15%	10%	Above Average
Chemical	0%	1.1%	Low

Serious Injury	Subjects Injured	Interagency Average	Interagency Comparison
Canine Bite	2.0%	2.2%	Average
Unconscious	0%	0.6%	Low
Fracture (including teeth)	1.0%	0.6%	Average

### 4) Reasons for Using Force

Daly City PD officers are much more likely to initiate force due to a subject threat than officers from other agencies. They are less likely to use force in response to a failure to obey a command or warning.

Reason for Using Force	Subjects Injured	Interagency Average	Interagency Comparison
Failure to Comply with Order or Warning	38%	51%	Below Average
Subject Fled from Officers	20%	21%	Average
Subject Threatened Officers or Others	37%	20%	High
Subject Assaulted Officers or Others	4%	5%	Average
Other Reason	1%	3%	Average

## 5) Other Force Characteristics

For most of the criteria measured by the Force Analysis Network<sup>SM</sup>, Daly City PD is within the average range of the other agencies. The following table lists those force characteristics which are significantly different in Daly City compared with the other agencies. These are simply descriptive measures and are not necessarily associated with increased risk.

<b>Characteristics of Force Incidents that are More Common in Daly City than Other Jurisdictions</b>	<b>Characteristics of Force Incidents that are Less Common in Daly City than Other Jurisdictions</b>
Officers used force after a long talk with the subject	Officers used force immediately upon contact with the subject
The use of force incident lasted 5 or 6 Force Sequences	The use of force incident lasted only 1 or 2 Force Sequences
The subject was not a resident of the agency's jurisdiction	The subject was a resident of the agency's jurisdiction
The subject made furtive or threatening movements towards the officers	The subject attempted to assault the officer before the officer used force
The subject possessed a firearm or a knife	The subject was unarmed
Subject was charged with a violent crime or traffic offense	Subject was not charged with a crime or was only charged with obstructing
The force incident occurred on the street	The force incident occurred at a school
Three or more officers were present when force was used	Only one officer was present when force was used
Three or more officers used force	Only one officer used force