



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

## **Second Summary Report**

**Vallejo Police Department**

**Use of Force Data from January 1, 2017 to December 31, 2020**

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**June 2021**

## **Background**

In June 2020 we produced the First Summary Report using data from 2017 to 2019 obtained from the Vallejo Police Department's Police Force Analysis System<sup>SM</sup>. This is our Second Summary Report which includes use of force data through the end of 2020. 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 their 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>**

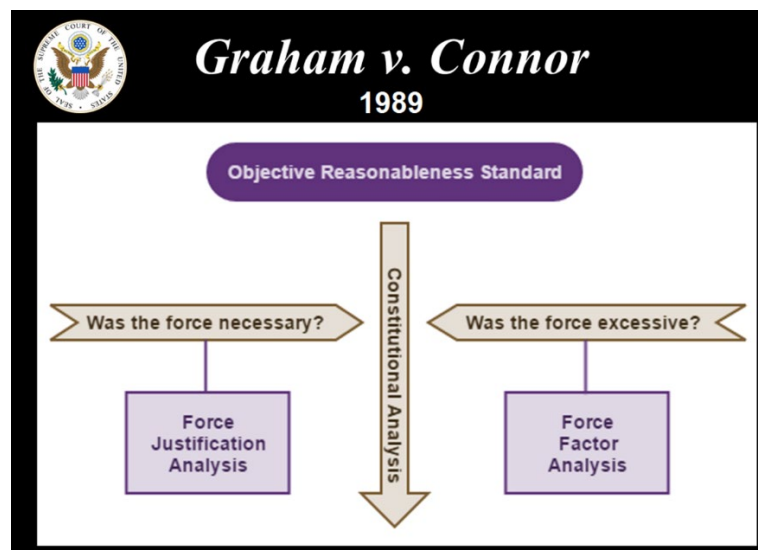
In the summer of 2015, Police Strategies LLC launched the Police Force Analysis System<sup>SM</sup> (PFAS). PFAS combines peer-reviewed research with state-of-the-art analytical tools to produce a powerful data visualization system that can be used by law enforcement, policy makers, academics, and the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

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

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>

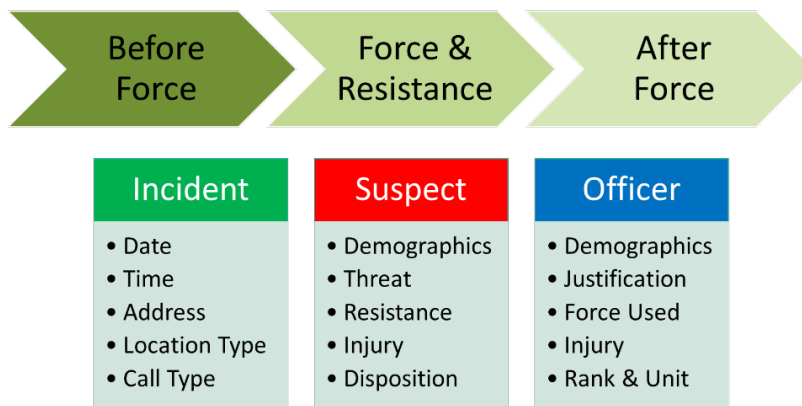
PFAS is a relational database that contains 150 fields of information extracted from law enforcement agencies’ existing incident reports and officer narratives. The data is analyzed using legal algorithms that were developed from the evaluation criteria outlined in the United States Supreme Court case 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 91 law enforcement agencies in eight states involving about 12,000 incidents and 5,000 officers who used force more than 20,000 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 Vallejo Police Department**

Police Strategies LLC received 2020 use of force incident reports from the Vallejo Police Department in February 2021. Vallejo PD provided incident reports and officer narrative statements for each incident where force was used. These reports were received as Adobe Acrobat files. Additional data was provided from the Department's IAPro records management system. Data was extracted from the incident reports and officer narrative statements and entered into a relational database. Interactive dashboards were then built for use by Vallejo PD.

The Police Force Analysis System<sup>SM</sup> (PFAS) contains data on all use of force incidents where an officer used a weapon or any physical force. The system does not contain data on incidents where force was threatened but not used (e.g. the pointing of a firearm or ECW). The database also does not include reports where the subject alleges that force was used but the officer denies using force.

Incident data will only be entered into PFAS after the use of force investigation is completed, and the case is closed. There may be a delay in entering data from incidents that involve an officer involved shooting or are under pending investigation.

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

The Vallejo Police Department's Police Force Analysis System<sup>SM</sup> (PFAS) contains 4 years of use of force data from 2017 to 2020. The database includes detailed information on 603 subjects who had force used against them and the 115 officers who used force during the 4-year period. In 2020 there were 141 use of force incidents involving 69 officers who used force a total of 232 times. This report will examine the 4-year trends in uses of force and will summarize the use of force data from the entire period.

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

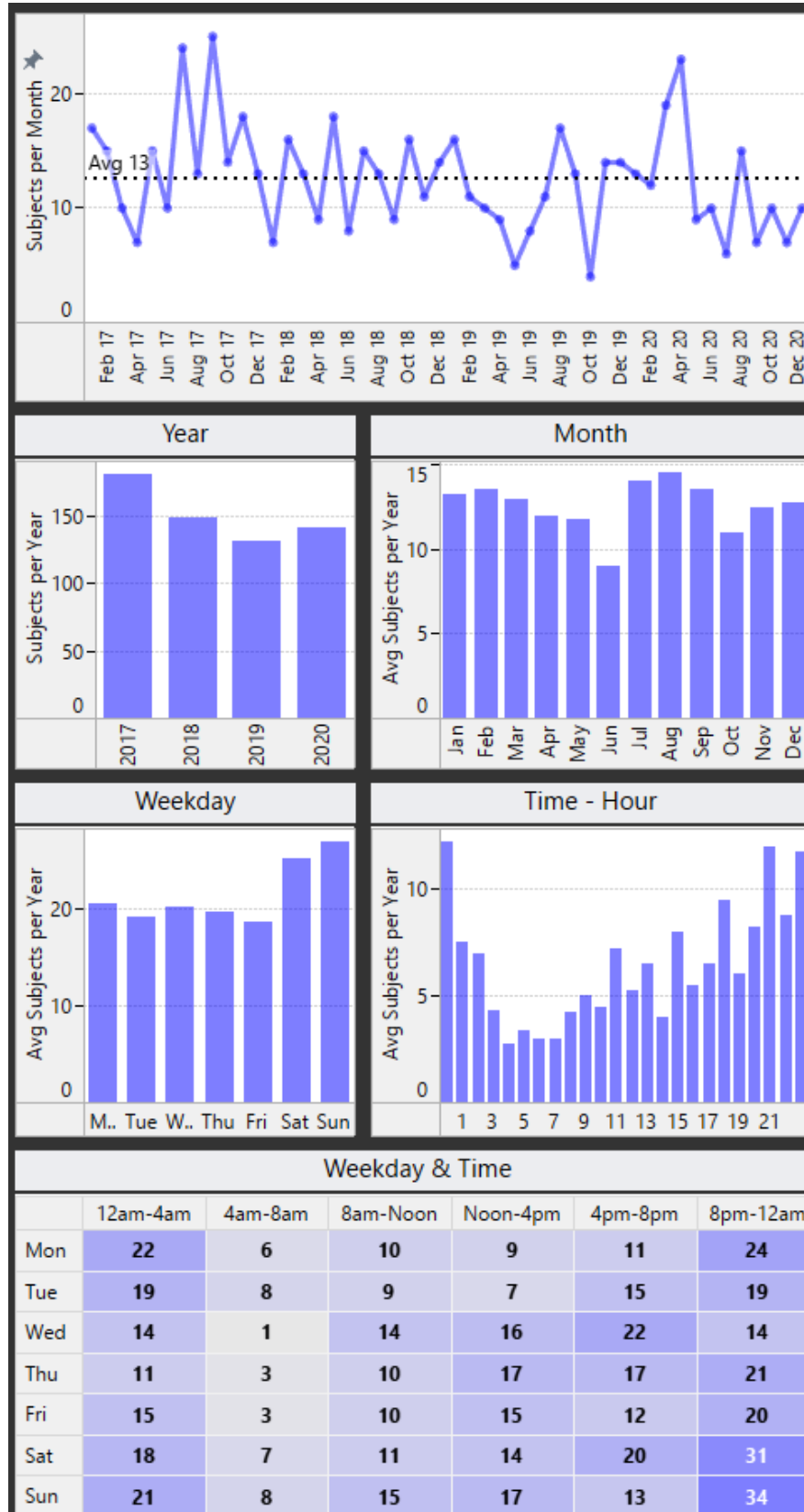
Over the last four years the month with the most force incidents was August with 15 incidents per year and the month with the fewest incidents was June with 9 incidents per year. During the week, Sundays had the most incidents (27 per year) and Fridays had the fewest (19 per year). The peak time period for force incidents was between 11pm and 1am (24 per year).

Compared to prior years, use of force incidents were more likely to occur on the street in 2020 (61%) and were less likely to occur at a home (19%) or at a business (11%).

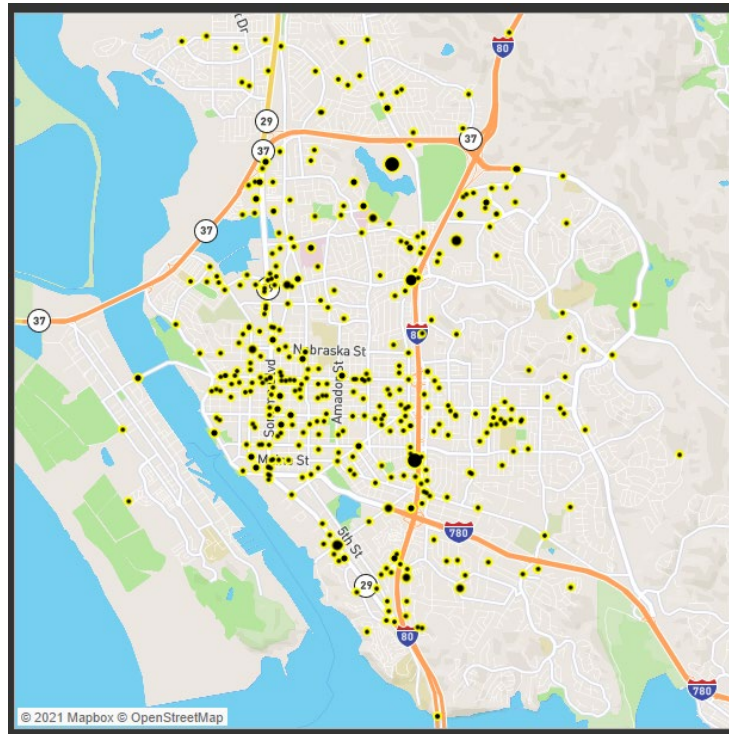
From 2017 to 2019 the annual number of force incidents fell from 181 to 131 a 28% decline before rising in 2020 to 141 incidents (8% increase over 2019).

In 2020 there were 10 incidents that occurred at Sutter Hospital and Kaiser Hospital compared to only 6 incidents during the prior three years. By contrast only one use of force incident occurred at Six Flags in 2020 compared to 11 incidents in the prior two years.

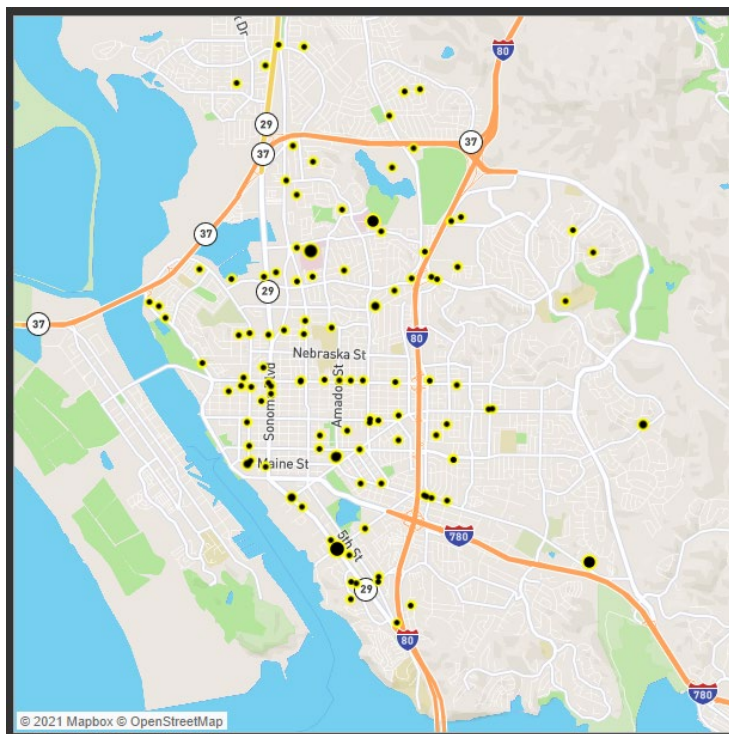
## Use of Force Incidents – 2017 to 2020



### Use of Force Incident Locations – 2017 to 2019

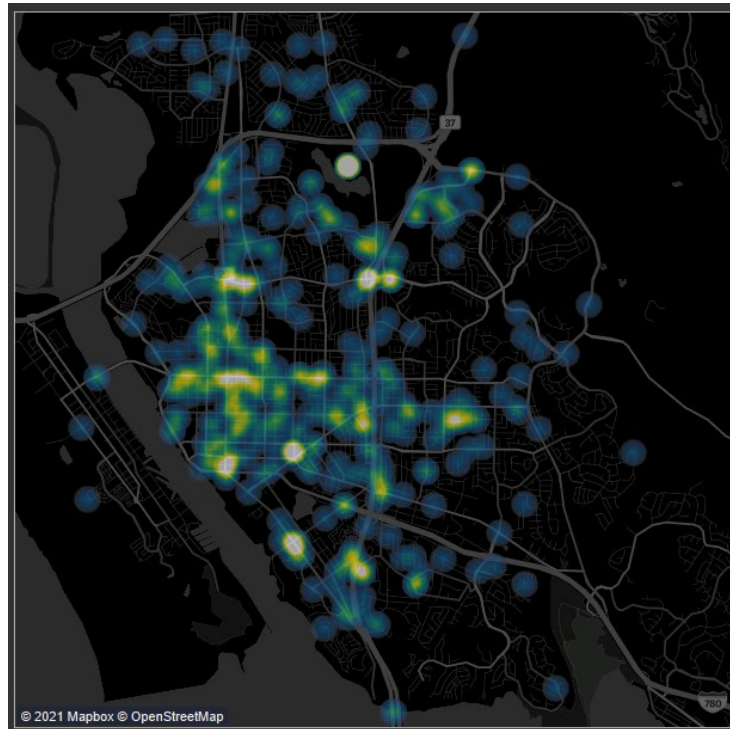


### Use of Force Incident Locations – 2020

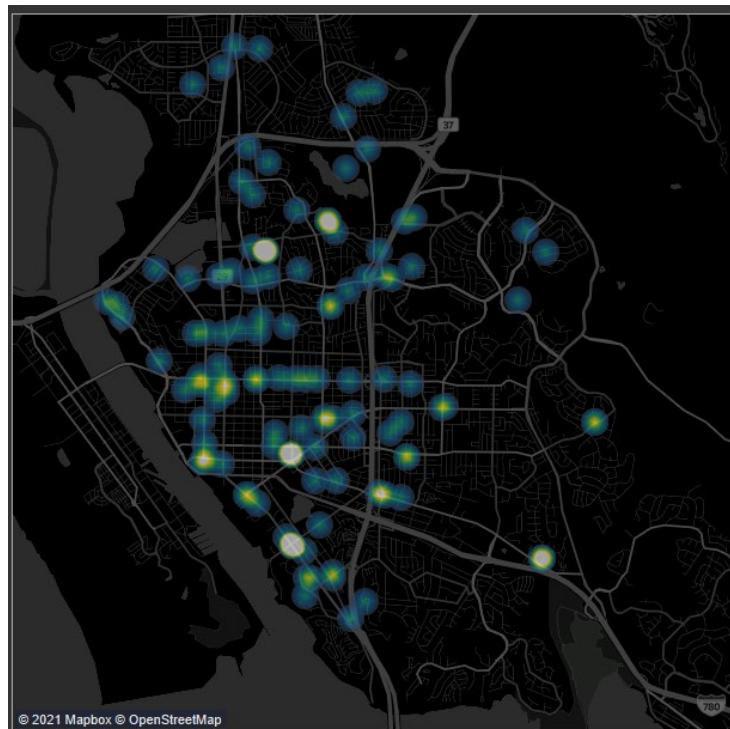




### Use of Force Heat Map – 2017 to 2019



### Use of Force Heat Map – 2020



## 2) Reason for Contact

Over the last 4 years 59% of officers who used force were responding to a dispatched call for service. Twenty-eight percent of officers were making an officer-initiated contact and 13% of officers were responding to assist other officers.

Over the last 4 years there has been a trend towards more officers being present on scene when force was used. In 2017 an average of 2.7 officers were on scene and by 2020 that had risen to 3.0 officers. Despite more officers being present, the percentage of incidents involving four or more officers using force fell from 7% in 2017 to 3% by 2020.

In 2020 a higher percentage of force incidents were due to an original call about a violent crime or property crime and in prior years and calls related to disturbances/suspicious circumstances and welfare checks were less common. In 2020 there were 30 force incidents related to a traffic offense, 24 burglaries and 17 disturbance.

## 3) Force Frequency

In 2020 there were 141 use of force incidents involving 69 officers who used force a total of 232 times. There were two officers who used force between 14 and 16 times each, four officers who used force between 7 and 9 times each, twenty-nine officers who used force between 3 and 6 times, and thirty-four officers who used force once or twice. The top 10% of officers made up 28% of all force used by the Department.

Over the last four years two officers used force more than 30 times and fifteen officers used force between 20 and 30 times each. These are likely the officers who had patrol assignments during the entire 4-year period and were making the most arrests in 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.

From 2017 to 2020, 13% of the Department's use of force incidents had low Force Justification scores (<6). The average Force Justification score was 10.3 on a scale of 0 to 20. The annual average Force Justification score increased from 9.7 in 2017 to 10.9 in 2020.

For each of the four Graham factors, Vallejo PD scored highest in the resistance level and crime level and lowest in the threat level and flight level categories. This indicates that when Vallejo PD officers use force, they are facing higher levels of resistance and more serious crimes, but subjects present a lower level of threat to officers and are less likely to flee from officers. The threat level scores were higher in 2020 than prior years and the flight level scores were lower. This indicates that subjects were presenting a higher level of threat in 2020 and were less likely to flee from officers.

In 2020 there were 16 incidents that received the highest justification score of 20. These incidents involved an assault on the officer before the officer made the decision to use force.

A smaller percentage of incidents had a low Force Justification score in 2020 (8%) than in prior years (15%). There were 11 low Force Justification incidents involving 14 officers. Two officers were involved in 3 low Force Justification incidents each.

In 2020 low Force Justification incidents were more likely to have the following characteristics than cases with higher Force Justification scores:

- Subject was under the influence of alcohol or drugs (64%)
- Subject was Black (64%)
- The original call type was a traffic offense (36%) or a welfare check (18%)
- The most serious charge referred for prosecution was obstructing (27%) or disorderly conduct (27%).

Over the last 4 years average Force Justification Scores were lower for women (8.7) than men (10.5). Hispanic subjects had the highest average Force Justification score (11.1) and

Asian subjects had the lowest scores (9.6). Average Force Justification scores were lowest for juveniles (7.2) and were highest for subjects over 50 (11.1).

Officers were less likely to use ECWs (12%) or impact weapons (1%) during a low Force Justification incident but were more likely to use canines (10%). Officers were more likely to resolve a low Force Justification incident by using only physical force (76%), but they were less likely to use strikes, pain compliance techniques, LNR, wrestling and using weight to hold down subjects. Low Force Justification incidents were most likely to be resolved using a takedown (76%).

## 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.

Over the last four years 11% of force incidents had a high Force Factor score (+3 or above). The average annual Force Factor score has remained stable at 1.0. In 2020 seventeen incidents had a +3 or +4 Force Factor score and there were no incidents with a higher score. Fifteen officers were involved in those high Force Factor incidents. Two officers were involved in two high Force Factor incidents each and one officer was involved in 4 incidents.

In 2020 high Force Factor incidents were more likely to have the following characteristics than cases with lower Force Factor scores:

- Subject was Obese (41%)
- Subject was angry (76%)
- Subject had mental health problems (35%) or was suicidal (12%)

- Maximum resistance level was threats (94%)
- Subject escaped (24%)
- Subject was charged with harassment (18%)
- The original call type was for a violent crime (47%)

Over the last four years, the average Force Factor scores were lower for female subjects (0.8) than male subjects (1.0). By race Native American subjects (0.0) had the lowest average Force Factor score Asian subjects (1.2) had the highest scores. Juveniles had the higher average Force Factor score (1.3) and those over 50 had the lowest scores (0.9). By Body Mass Index subjects who were obese have the highest average Force Factor score (1.2).

Over the last four years 90% of high Force Factor incidents involved the use of weapons: ECWs (52%), canines (13%) and projectile weapons (13%). Ten percent of high Force Factor incidents involved physical force only. Eighty-five percent of high Force Factor incidents involved only one officer using force.

The most common Force Factor Score was +1 (50%) followed by +2 (23%) and 0 (14%). 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.

When high levels of force are used against lower levels of resistance the subjects are controlled much faster with lower injury rates for officers but higher injury rates for subjects.

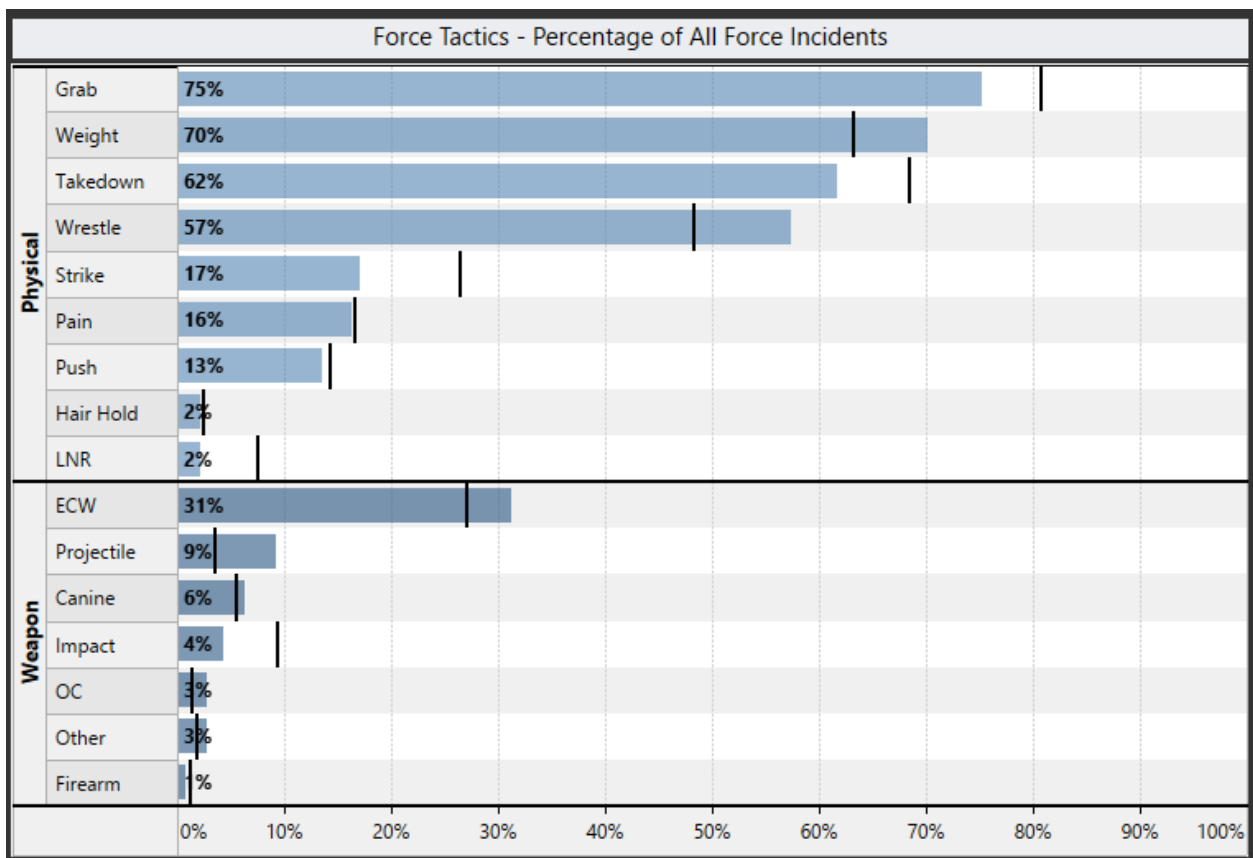
	Force Factor – 2017 to 2020		
	Low (-1 to -3)	Medium (0 to +2)	High (+3 to +5)
Subject brought under control within 1 or 2 Force Sequences	0%	10%	74%
Subject Injury Rate	23%	39%	5%
Officer Injury Rate	15%	8%	0%
Weapon Used by Officer	61%	36%	76%

## 6) Force Tactics

Of the 141 use of force incidents that occurred in 2020, 53% involved physical force only, 23% involved only the use of weapons by officers and 24% involved both physical force and the use of a weapon.

Compared to prior years, officers were less likely to use takedowns, strikes and neck restraints in 2020 and were more likely to use weight and wrestling. Electronic control weapons and projectile weapons were use more often in 2020 than in prior years while impact weapons were less likely to be used.

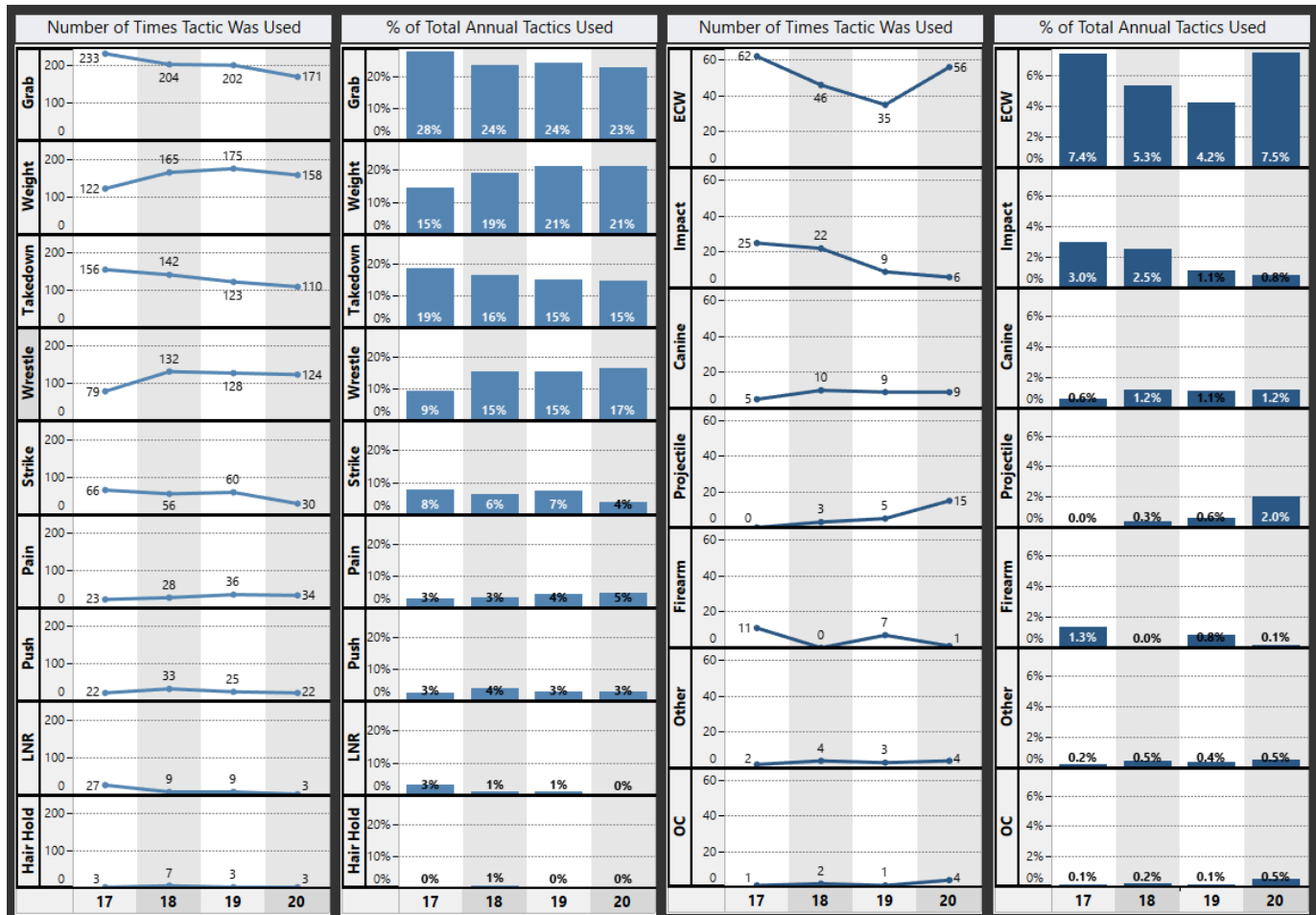
### Force Tactics Used - 2020



Over the last four years officers have used 3,280 individual physical force tactics and weapons during 603 incidents. The use of takedowns has fallen steadily during the four year period while the use of physical strikes dropped from 7% of all force tactics in 2019 to 4% in 2020. The use of neck restraints fell from 27 in 2017 to 3 in 2020.

ECW use fell steadily from 2017 to 2019 before climbing back to 2017 levels in 2020.

Impact weapon use fell from 25 in 2017 to 6 in 2020 and now makes up less than 1% of all force tactics used. Canine use has remained stable over the last three years while the use of projectile weapons jumped from 5 to 15 between 2019 and 2020. The use of firearms has fluctuated from year to year, but it should be noted that the database does not include firearm incidents that are still under investigation.



## 7) Subjects

From 2017 to 2019 there were three demographic groups (gender, race and age) that made up more than half of all use of force subjects – males between 18 and 39 who were Black, Hispanic or White. In 2020 these three demographic groups were also involved in about half of all force incidents.

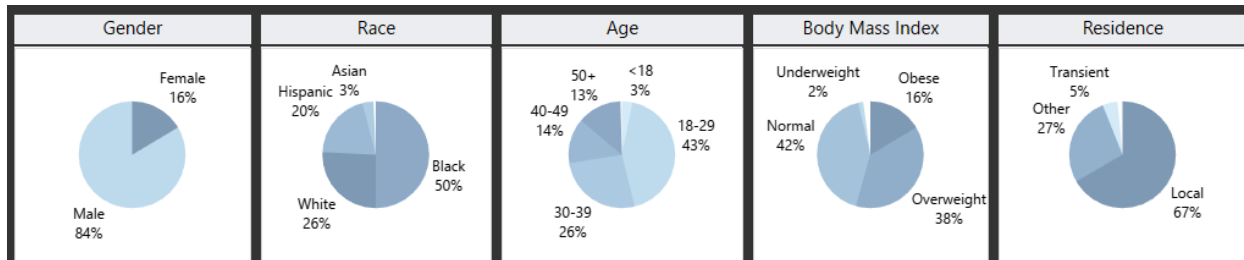
Most Common Characteristics of Use of Force Subjects 2017 - 2019				
Gender	Race	Age	Number of Subjects	Percentage of Force Incidents
Male	Black	18-39	134	29%
Male	Hispanic	18-39	60	13%
Male	White	18-39	52	11%
All Other Demographic Groups or Unknown			216	47%

Most Common Characteristics of Use of Force Subjects 2020				
Gender	Race	Age	Number of Subjects	Percentage of Force Incidents
Male	Black	18-39	42	30%
Male	Hispanic	18-39	18	13%
Male	White	18-39	12	8%
All Other Demographic Groups or Unknown			69	49%

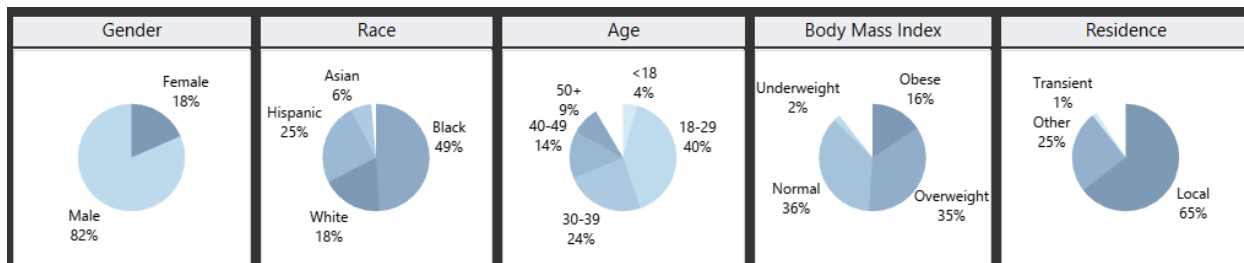


The demographics of use of force subjects in 2020 did not vary significantly from prior years. However, Hispanic and Asian subjects were more likely to be involved in force incidents in 2020 while a lower percentage of White subjects had force used against them compared to prior years.

#### Use of Force Subject Characteristics - 2017 to 2019

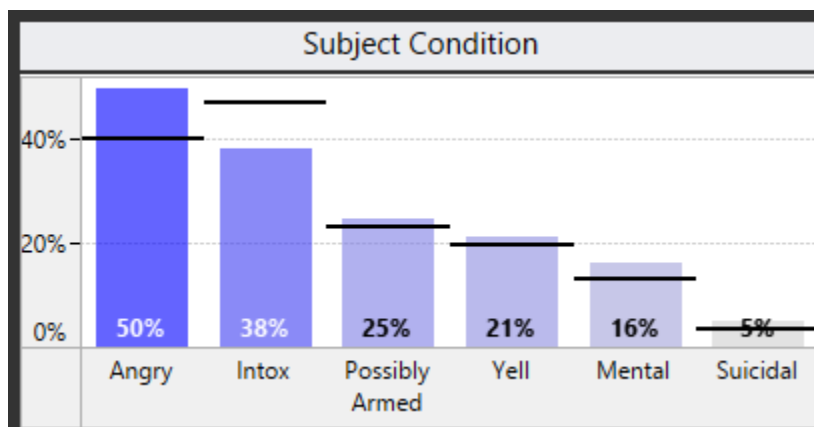


#### Use of Force Subject Characteristics - 2020



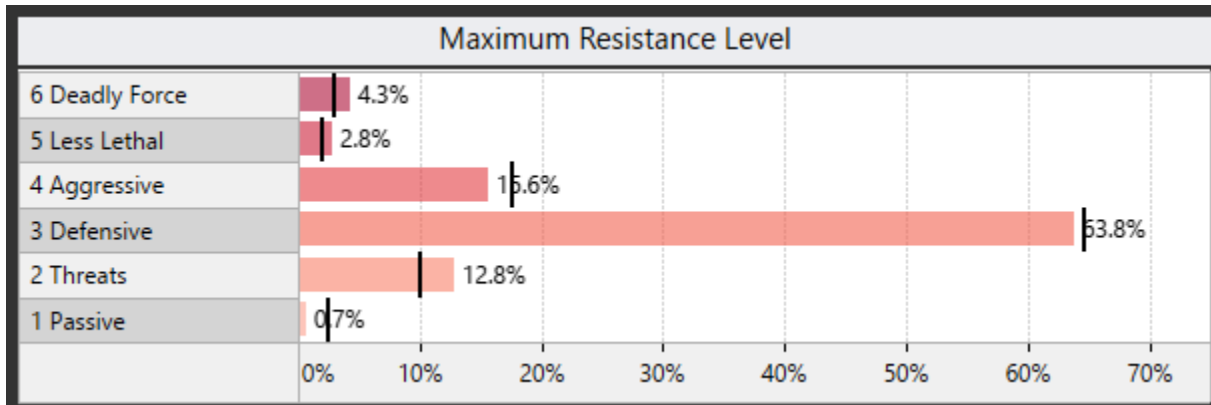
Compared to prior years, use of force subjects in 2020 were less likely to be under the influence of alcohol or drugs (38% vs 47%) but were more likely to be angry (50% vs 40%).

#### Subject Condition in 2020



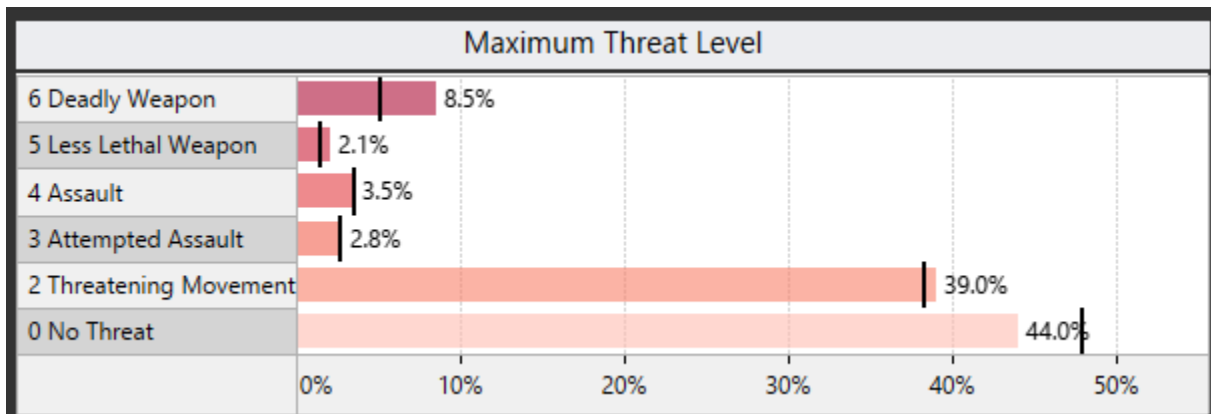
In 2020 officers were more likely to face resistance with deadly force or resistance with a less lethal weapon (7% vs 5%) than in prior years. Officers were also more likely to encounter resistance from a threat of force in 2020 (13% vs 10%). Only one force incident in 2020 involved passive resistance.

#### Subject Maximum Resistance Level - 2020



In 2020 subjects were nearly twice as likely to make a threat with a deadly weapon before force was used than in prior years (9% vs 5%). In 2020 56% of subjects either threatened or assaulted officers before force was used compared to 52% of subjects in prior years.

#### Subject Maximum Threat Level - 2020



## 8) Injuries

Over the last four years there were 33 officers who were injured during a force incident. Three of those officers were injured four times each and three officers were injured two or three times each. Four percent of force applications by officers resulted in an injury to the officer who used force. Six officers only complained of pain, 21 officers had a bruise or a scrape, 14 officers received a cut, and five officers were contaminated with bodily fluid. About a third of the injured officers received treatment from EMTs or at a hospital.

Over the last four years 239 subjects who had force used against them were injured (40% of all incidents). Of the subjects who were injured, most of the injuries were minor: complaint of pain (9%), ECW probe (20%), bruise/scrape (21%) or minor cut (21%). Thirty-three subjects were bitten by canines, 21 subjects lost consciousness, 6 subjects had a broken bone or tooth and 8 subjects were either killed or had a gunshot wound.

Eighty-eight percent of subjects who were injured or complained of injury received treatment. EMTs treated 6% of injured subjects and 82% were treated at a hospital.

## 9) Trends

Over the period from 2017 to 2020 the following force trends were observed:

- Average Force Justification Scores rose from 9.7 in 2017 to 10.9 in 2020. This indicates that in recent years use of force incidents have involved more serious crimes, higher levels of resistance, greater threat levels and more fleeing subjects.
- Average Force Factor Scores remained stable averaging 0.96.
- The average number of Force Sequences has remained high over the last three years with use of force incidents averaging more than 5 sequences. Between 2019 and 2020 there was a drop in high Force Sequences incidents from 61% to 43%. This change is likely due to a higher percentage of weapon only force incidents. In 2019 8% of force incidents involved the officers only using a weapon but this increased to 23% in 2020.
- In 2020 eleven subjects escaped after force was used compared to only two subjects in 2019 and none in the prior two years. Most of these incidents were protest related uses of force where the officers were not necessarily trying to take the subjects into custody.
- In 2020 28% of force subjects were armed with a firearm, knife or other less lethal weapon. In 2017 only 10% of subjects were armed.
- Subject injury rates fell in 2020 to 26% compared to 43% in prior years, while officer injury rates remained stable at around 5%. The severity of injuries for both officers and subjects has increased over the last four years. Subjects and officers are more likely to be treated at hospitals than in prior years.

## 10) Impacts of COVID-19 Pandemic and Protests on Police Uses of Force

Due to the significant societal impacts of the COVID-19 pandemic, it appears that police use of force incidents have also been affected. This section will compare use of force practices prior to the pandemic with the practices from 2020. The year 2020 was also unusual because there were large and sustained protest events that occurred across the country. The characteristics of use of force incidents that occur during protests are different from the typical incidents that occur annually.

The following table is a list of 79 variables from the Police Force Analysis System<sup>SM</sup>. The percentages for each variable are given for two different time periods: 2017 to 2019 and 2020. The differences were calculated between the 2020 incidents and incidents from prior years.

In 2020 the number of use of force incidents was down by 8% compared to the average annual uses of force from prior years.

Variable Type	Variable Description	2017 to 2019	2020	Difference from Prior Years
Number of Incidents	Average Annual Incidents	154	141	-8%
Reason for Stop	Dispatched	59%	62%	5%
Reason for Stop	Onview	28%	26%	-7%
Reason for Stop	Assist	13%	12%	-8%
Original Call Type	Violent or Weapon Crime	25%	30%	20%
Original Call Type	Property or Trespass	23%	29%	26%
Original Call Type	Disturbance or Suspicious	24%	16%	-33%
Original Call Type	Welfare Check	8.0%	3.0%	-63%
Original Call Type	Traffic or Other	17%	21%	24%
Force Justification	High Justification Score	8%	13.0%	63%
Force Justification	Low Justification Score	15%	7.8%	-48%
Force Factor	High Force Factor Score	11%	12.0%	9%
Force Factor	Low Force Factor Score	1.0%	5.0%	400%
Force Sequences	1 or 2 Force Sequences	18%	7.8%	-57%
Force Sequences	5 or 6 Force Sequences	44%	42%	-5%
Injuries	Subject Injury Rate	44%	26%	-41%
Injuries	Officer Injury Rate	7%	6%	-14%
Subject Escaped	Subject Escaped	0.4%	7.8%	1850%
Type of Force Used	Weapon Only	11%	23%	109%
Type of Force Used	Physical Force Only	60%	52%	-13%
Type of Force Used	Weapon and Physical Force	29%	24%	-17%
Speed of Force	Immediate	47%	42%	-11%

Speed of Force	Short Talk	28%	42%	50%
Speed of Force	Long Talk	25%	16%	-36%
Officers Present	Only 1 Officer Present	18%	15%	-17%
Officers Present	4 or More Officers Present	18%	19%	6%
Officers Using Force	Only 1 Officer Using Force	48%	54%	13%
Force Tactic - Physical	Push	15%	13%	-13%
Force Tactic - Physical	Grab	82%	75%	-9%
Force Tactic - Physical	Weight	61%	70%	15%
Force Tactic - Physical	Takedown	71%	62%	-13%
Force Tactic - Physical	Pain Compliance	17%	16%	-6%
Force Tactic - Physical	Wrestle	45%	57%	27%
Force Tactic - Physical	Strike	29%	17%	-41%
Force Tactic - Physical	Hair Hold	2.6%	2.1%	-19%
Force Tactic - Physical	LNR	9.0%	2.1%	-77%
Force Tactic - Weapon	Projectile	1.7%	9.0%	429%
Force Tactic - Weapon	Impact	11.0%	4.0%	-64%
Force Tactic - Weapon	OC	0.9%	2.8%	211%
Force Tactic - Weapon	ECW	26%	31%	19%
Force Tactic - Weapon	Canine	5.2%	6.4%	23%
Subject - Gender	Female	16%	18.0%	13%
Subject - Race	Hispanic	20%	25%	25%
Subject - Race	White	26%	18%	-31%
Subject - Race	Black	50%	49%	-2%
Subject - Race	Asian	3.2%	6.4%	100%
Subject - Race	Native American	0.2%	0.0%	-100%
Subject - Age	<18	3.2%	5.0%	56%
Subject - Age	18-29	43%	44%	2%
Subject - Age	30-39	26%	26%	0%
Subject - Age	40-49	14%	16%	14%
Subject - Age	50+	13%	9%	-31%
Subject - Residence	Local	67%	71%	6%
Subject - Residence	Other City	27%	27%	0%
Subject - Residence	Transient	5.0%	2.0%	-60%
Subject - Condition	Angry	37%	50%	35%
Subject - Condition	Possibly Armed	23%	25%	9%
Subject - Condition	Yell	19%	21%	11%
Subject - Condition	Intoxicated	50%	38%	-24%
Subject - Condition	Mental	12%	16%	33%
Subject - Condition	Suicidal	3.0%	5%	67%
Subject - Weapon	Weapon Recovered	13%	28%	115%
Crime Investigated	Violent & Weapon	26%	32%	23%
Crime Investigated	Property & Warrant	26%	26%	0%
Crime Investigated	Drug, Trespass & Disorderly	28%	23%	-18%
Crime Investigated	Traffic or Liquor	15%	17.0%	13%
Subject Flight	Flight or Attempted Flight	43%	38%	-12%
Subject Threat	Deadly Force	4.1%	8.5%	107%
Subject Threat	Less Lethal Weapon	1.3%	2.1%	62%
Subject Threat	Assault	6%	6.3%	3%

Subject Threat	Threatening Movement	38%	39%	2%
Subject Threat	Verbal Threat	1.3%	0.0%	-100%
Subject Threat	No Threat	49%	44%	-10%
Subject Resistance	Deadly Force	2.6%	4.3%	65%
Subject Resistance	Less Lethal Weapon	1.7%	2.8%	65%
Subject Resistance	Aggressive	18%	16%	-14%
Subject Resistance	Defensive	65%	54%	-17%
Subject Resistance	Threats Only	9.1%	12.8%	41%
Subject Resistance	Passive or None	3.4%	0.7%	-79%

## Impacts of COVID-19 on Use of Force Incidents

Twenty-five of the 79 variables from use of force incidents in 2020 had a greater than 40% variance with use of force incidents from the prior six years. Eighteen of these variables were most likely impacted by the pandemic.

Variable Type	Variable Description	2017 to 2019	2020	Difference from Prior Years
Force Justification	High Justification Score	8%	13.0%	63%
Force Factor	Low Force Factor Score	1.0%	5.0%	400%
Speed of Force	Short Talk	28%	42%	50%
Subject - Race	Asian	3.2%	6.4%	100%
Subject - Condition	Suicidal	3.0%	5%	67%
Subject - Weapon	Weapon Recovered	13%	28%	115%
Subject Threat	Deadly Force	4.1%	8.5%	107%
Subject Resistance	Deadly Force	2.6%	4.3%	65%
Subject Resistance	Threats Only	9.1%	12.8%	41%
Variable Type	Variable Description	2017 to 2019	2020	Difference from Prior Years
Original Call Type	Welfare Check	8.0%	3.0%	-63%
Force Justification	Low Justification Score	15%	7.8%	-48%
Force Sequences	1 or 2 Force Sequences	18%	7.8%	-57%
Injuries	Subject Injury Rate	44%	26%	-41%
Force Tactic - Physical	Strike	29%	17%	-41%
Force Tactic - Physical	LNR	9.0%	2.1%	-77%
Force Tactic - Weapon	Impact	11.0%	4.0%	-64%
Subject - Residence	Transient	5.0%	2.0%	-60%
Subject Resistance	Passive or None	3.4%	0.7%	-79%

The percentage of high Force Justification incidents was 63% higher in 2020 than in prior years. This means that although there were fewer force incidents in 2020, officers who used force were facing higher crime, threat and resistance levels and subjects were more likely to flee. The percentage of incidents with a low Force Factor score increased five times in 2020. These incidents involve subjects using a higher level of resistance than the level of force used by the officer. Asian subjects were twice as likely to be involved in a force incident in 2020 compared to prior years and the percentage of suicidal subjects grew by 67%. Subjects that had force used against them were more than twice as likely to be carrying a weapon in 2020. Subjects threatened and used deadly force against officers more frequently in 2020 than in prior years.

In 2020 a smaller percentage of force incidents involved a welfare check. Low Force Justification Scores were less common and fewer incidents were resolved within 1 or 2 Force Sequences. The subject injury rate fell by 41% in 2020. Officers used fewer strikes, neck restraints and impact weapons in 2020 than in prior years. Fewer use of force subjects were transient in 2020 and less than 1% of subjects was only passively resisting when force was used.

## Impacts of 2020 Protests on Use of Force Incidents

Seven of the 25 variables that had a greater than 40% variance in 2020 compared to prior years were likely associated with protest events.

Variable Type	Variable Description	2017 to 2019	2020	Difference from Prior Years
Subject - Age	<18	3.2%	5.0%	56%
Subject Escaped	Subject Escaped	0.4%	7.8%	1850%
Type of Force Used	Weapon Only	11%	23%	109%
Force Tactic - Weapon	Projectile	1.7%	9.0%	429%
Force Tactic - Weapon	OC	0.9%	2.8%	211%
Subject Threat	Less Lethal Weapon	1.3%	2.1%	62%
Subject Resistance	Less Lethal Weapon	1.7%	2.8%	65%



Juvenile subjects were more likely to be involved in a force incident in 2020 than in the prior three years. Between 2017 and 2019 only 0.4% of subjects who had force used against them escaped from officers. In 2020 the percentage of escapees increased to 7.8%. In many of these incidents the officers may have used force as part of demonstration management and so they may not have been trying to take the use of force subject into custody. Officers were more than twice as likely to use only a weapon during force incidents in 2020. Officers were three times more likely to use OC in 2020 and more than five times more likely to use a projectile weapon. Subjects were more likely to threaten officers and resist officers with less lethal weapons in 2020 than in prior years.