
# Checkpoint 1 Report

The Exalted Spartans:

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## Introduction

For our first checkpoint, we intended to link together the data found in the tactical response reports, the complaints and rewards. Specifically, we wanted to find if there was a link among awards, allegations and use of force . We also were interested to discover what areas of Chicago are the most dangerous based on the number of altercations that occurred in each area, as well as the number of these that involved a severe weapon type either on the side of the police or the perpetrators. We analyzed how similar those locations are. Finally, we wished to find a link between the use of excessive force (where the officer used a disproportionate amount of force to the subject) and the awards that they received and found fascinating results .

# Results

**Question 1: Is there a solid relationship between the number of allegations that each officer receives and the amount of awards received?**

| Number of Allegations | Number of Rewards |
|---|---|
| 35 | 26 |
| 36 | 26 |
| 37 | 26 |
| 38 | 26 |
| 39 | 26 |
| 40 | 26 |
| 41 | 27 |
| 42 | 28 |
| 49 | 47 |
| 49 | 144 |
| 50 | 12 |
| 50 | 89 |
| 51 | 49 |
| 52 | 21 |
| 52 | 62 |
| 53 | 70 |
| 53 | 110 |
| 49 | 47 |
| 49 | 144 |

**Question 2: Based on the available tactical response reports, which locations in Chicago received the greatest number of altercations? In other words, what districts or streets may be the most dangerous.**

| Number of Altercations | Street |
|---|---|
| 1279 | State St |
| 1275 | Halsted St |
| 996 | Madison St |
| 806 | 63Rd St |
| 787 | Division St |
| 755 | Ashland Ave |
| 716 | Harrison St |
| 708 | Pulaski Rd |
| 688 | Michigan Ave |
| 675 | Clark St |
| 638 | Chicago Ave |
| 597 | Racine Ave |
| 551 | 79Th St |
| 549 | Cottage Grove Ave |
| 538 | Western Ave |
| 525 | Grand Ave |
| 517 | 111Th St |
| 514 | California Ave |
| 505 | North Ave |

**Question 3: Does the location of the allegations made against a police officer match the one in which they most frequently mention in their tactical reports?**

| Number of Allegations Filed | Location |
|---|---|
| 1803 | S STATE ST |
| 1754 | S MICHIGAN AVE |
| 1749 | S HALSTED ST |
| 1323 | S COTTAGE GROVE AVE |
| 1179 | S WENTWORTH AVE |
| 1140 | W HARRISON ST |
| 1109 | E 111TH ST |
| 1032 | W MADISON ST |
| 899 | N CLARK ST |
| 898 | W GRAND AVE |
| 894 | S RACINE AVE |
| 743 | W 63RD ST |
| 692 | S ASHLAND AVE |
| 654 | South HALSTED ST |
| 646 | W LEXINGTON ST |
| 634 | W CHICAGO AVE |
| 632 | South STATE ST |
| 609 | W BELMONT AVE |
| 601 | South MICHIGAN AVE |

**Question 4: What are the most dangerous areas in Chicago based on the types of weapons used by subjects in the tactical response reports?**

| Street | Weapon Type | Number of Incidents |
|---|---|---|
| Racine Ave | FIREARM - SEMI-AUTOMATIC | 26 |
| Halsted St | FIREARM - SEMI-AUTOMATIC | 22 |
| Western Ave | FIREARM - SEMI-AUTOMATIC | 18 |
| State St | FIREARM - SEMI-AUTOMATIC | 18 |
| Grand Ave | FIREARM - SEMI-AUTOMATIC | 16 |
| State St | FIREARM - REVOLVER | 16 |
| Division St | FIREARM - SEMI-AUTOMATIC | 15 |
| State St | KNIFE/OTHER CUTTING INSTRUMENT | 15 |
| Pulaski Rd | FIREARM - SEMI-AUTOMATIC | 14 |
| California Ave | FIREARM - SEMI-AUTOMATIC | 14 |
| Madison St | FIREARM - SEMI-AUTOMATIC | 14 |
| Jackson Blvd | FIREARM - SEMI-AUTOMATIC | 13 |
| Division St | KNIFE/OTHER CUTTING INSTRUMENT | 13 |
| Kedzie Ave | FIREARM - SEMI-AUTOMATIC | 13 |
| Ashland Ave | KNIFE/OTHER CUTTING INSTRUMENT | 13 |
| 111Th St | FIREARM - SEMI-AUTOMATIC | 13 |
| Clark St | FIREARM - SEMI-AUTOMATIC | 12 |
| North Ave | FIREARM - SEMI-AUTOMATIC | 12 |
| Wood St | FIREARM - SEMI-AUTOMATIC | 11 |

**Question 5: What are the most dangerous areas in Chicago based on the severity of the police response (using the action response categories in the tactical response reports)?**

| Use of Force Metric | Street | Number of Incidents |
|---|---|---|
| 6.0 | Roosevelt Rd | 4 |
| 6.0 | Madison St | 3 |
| 6.0 | Belmont Ave | 3 |
| 6.0 | State St | 3 |
| 6.0 | Clark St | 2 |
| 6.0 | St Louis Ave | 2 |
| 6.0 | Cicero Ave | 2 |
| 6.0 | Kimball Ave | 2 |
| 6.0 | 63Rd St | 2 |
| 6.0 | Lafayette Ave | 2 |
| 6.0 | Washtenaw Ave | 2 |
| 6.0 | 74Th St | 2 |
| 6.0 | Parkside Ave | 2 |
| 6.0 | Sangamon St | 2 |
| 6.0 | Kedzie Ave | 2 |
| 6.0 | 45Th St | 2 |
| 6.0 | Michigan Ave | 2 |
| 6.0 | Wentworth Ave | 2 |
| 6.0 | Arthington St | 2 |

**Question 6: What is the percentage of officers that used excessive force when they were not required to do so? For example, when the subject was unarmed.**

| Use of Force Metric | Weapon Type | Number of Incidents |
|---|---|---|
| 6.0 | MOUTH (SPIT,BITE,ETC) | 5 |
| 6.0 | FEET | 18 |
| 6.0 | VERBAL THREAT (ASSAULT) | 55 |
| 6.0 | HANDS/FISTS | 61 |
| 5.3 | MOUTH (SPIT,BITE,ETC) | 195 |
| 5.3 | FEET | 579 |
| 5.3 | VERBAL THREAT (ASSAULT) | 679 |
| 5.3 | HANDS/FISTS | 1198 |
| 5.2 | MOUTH (SPIT,BITE,ETC) | 94 |
| 5.2 | VERBAL THREAT (ASSAULT) | 417 |
| 5.2 | FEET | 465 |
| 5.2 | HANDS/FISTS | 1017 |
| 5.1 | MOUTH (SPIT,BITE,ETC) | 1298 |
| 5.1 | VERBAL THREAT (ASSAULT) | 2918 |
| 5.1 | FEET | 4049 |
| 5.1 | HANDS/FISTS | 7648 |
| 4.2 | MOUTH (SPIT,BITE,ETC) | 3171 |
| 4.2 | FEET | 7682 |
| 4.2 | VERBAL THREAT (ASSAULT) | 8218 |

**Question 7: Do police officers who use potentially lethal force also receive a great number of awards?**

| Number of Rewards | Use of Force Metric | Number of Incidents |
|---|---|---|
| 77 | 6.0 | 19 |
| 50 | 6.0 | 18 |
| 41 | 6.0 | 17 |
| 55 | 6.0 | 17 |
| 43 | 6.0 | 15 |
| 61 | 6.0 | 15 |
| 105 | 6.0 | 15 |
| 20 | 6.0 | 13 |
| 44 | 6.0 | 13 |
| 51 | 6.0 | 13 |
| 103 | 6.0 | 13 |
| 23 | 6.0 | 12 |
| 27 | 6.0 | 12 |
| 52 | 6.0 | 12 |
| 38 | 6.0 | 11 |
| 54 | 6.0 | 11 |
| 56 | 6.0 | 11 |
| 18 | 6.0 | 10 |
| 25 | 6.0 | 10 |

# Analysis

For **Question 1**, we are mapping the officer with the allegations that they received, as well as the rewards they received. After that we aggregated all officers' counts by their allegations and reward's count to see how officers' counts are distributed for a particular reward number and allegation number. After that we chose both the average number of rewards for a particular number of allegations and the value of rewards which have the most number of officers inside a certain allegation number to compare how different their distributions are. The results are fascinating: there is a vivid correlation between allegation numbers and reward numbers for police officers. The more rewards police officers get the more allegations they receive. But it is essential to notice that there are also groups of officers that did receive a large number of allegations and a small number of rewards and vice versa. This can serve as a potential identification of bad and good cops.

For **Question 2**, we have calculated the streets with the greatest number of related tactical response reports. This does not mean that these are necessarily dangerous, but these are the areas in which the police experienced the greatest number of violent altercations. From our analysis, it is clearly seen that there are certain streets that have a disproportionately high amount of crimes.

For **Question 3** we wanted to compare whether streets that we identified in Question 2 as the most dangerous are actually the same, in which people allegate on police officers the most. We have used a data_allegation table and aggregated the number of allegations by street. We identified that the areas where people have the most allegations are very close to the ones where the majority of violent altercations take place.

For **Question 4**, we determined the streets with the highest count of altercations involving perpetrators armed with dangerous weapons (revolvers, semi-automatics, and even vehicles). Once again, this does not mean danger, but it demonstrates that these locations are where the police encounter the greatest number of deadly weapons. As a result of our analysis, we identified that there is certain number of streets, where use of the dangerous weapons constitutes the largest part of tactical reports

For **Question 5**, we ranked the streets based on the highest count of severe police actions (eg. use of firearms or tasers). These are the streets in which the police felt it most necessary to use the greatest force.

For **Question 6**, we found pairings of subject weapons and police response in which the police used significantly more force than they were faced with. For example, the associated table shows 55 incidents in which the police were met with verbal abuse and responded by discharging a firearm. We believe that this adequately demonstrates "unnecessary force." We have calculated the count of such events and similar events.

For **Question 7**, we tied the police response metric back to the award count. Specifically, we counted the number of times that an officer used a specific level of force and compared it to the number of rewards they received. From this, we can see that a number of officers who have been involved in situations where they discharged their weapon also received a great number of awards. At the same time we have found there is a certain number of officers who used a specific level of force but did not receive many awards. That led to the question whether police officers have been using unjust force and that reflected on the number of awards they received.

# Future Research

This project could be extended by focusing on those officers who used disproportionate force. Specifically, do such officers receive more allegations or awards. Are they promoted? Do they operate in dangerous areas such as the streets involved in a great number of tactical response reports? Do such officers "infect" other officers to have similar behavior in a similar manner to that which was proposed in the Intercept article. Most importantly, we need to understand how use of unnecessary force by police officers impacts their careers. How that phenomenon was connected to the locations in which they are operating. By doing so, we will not only be able to potentially identify "bad cops" but also understand the reaction of the whole police system in their presense.

# Appendix - Use of Force Metric Table

This table represents the police officers actions severity on a scale from 0 all the way to 6, with 6 being the highest and most aggressive reaction to an event.

| Use of Force Metric | Description of Actions Taken |
|---|---|
| **0.0** | **Officer Present** |
| **1.0** | **Verbal Commands** |
| **2.0** | **Canine Response** |
| **3.1** | **Taser pointed at subject/spark shown** |
| **3.2** | **Chemical Weapon w/ approval** |
| **3.3** | **Subject restrained** |
| **4.0** | **Chemical Weapon discharged** |
| **4.1** | **Open hand strike (likely a slap)** |
| **4.2** | **Takedown performed/Handcuffed** |
| **5.1** | **Melee strikes (eg. punching)** |
| **5.2** | **Forceful impact with a weapon** |
| **5.3** | **Taser discharged at subject** |
| **6.0** | **Firearm(s) discharged** |