The Wicked Roadrunners
Kylie Chesner, Nimesh Tripathi, Aura Ulloa-Ordonez

Checkpoint 3 Findings

1. Using a D3 bubble chart, we explored which units have the highest settlement costs. Each bubble represents each unit, and the size of the bubble represents the settlement costs (total over time). Our project theme is the relationship between settlement/disciplinary action and police behavior. Furthermore, this bubble chart can be used to identify the police units that cost the CPD the most money over time, thus pinpointing specific problem areas for the CPD. Members of the most costly police units can undergo training or programs to help them avoid causing complaints that lead to settlement.

   The largest unit in the visualization belongs to Unit ID 214 (Violent Crimes Dda 2), costing the CPD almost 40 million dollars. The other police units do not even compare in settlement costs. The following police units with massive settlement costs would be Unit IDs 217 (Violent Crimes Dda 3), 12 (District 11/Harrison), 211 (Violent Crimes Dda 1), each costing around 20 million dollars over time. To some degree, this isn't surprising since the most expensive units are three units dedicated to violent crime. Police District 11 also covers the most dangerous Chicago neighborhoods, has the highest murder rate and tends to have the youngest and most inexperienced officers. Its novice officers mixed with violent crimes could contribute to additional aggression, abuse, and general improper behavior that could lead to more settlement costs.

   This brings a few questions despite the seemingly "obvious" result. What officers cause these units' massive settlement costs? Are there more settlements than other police units, or is it that this unit's settlement costs are more expensive? Given our previous checkpoints, officers whose most common complaints were the use of force and verbal abuse cost the Chicago police department the most in settlements. How would that graph look like if it only looked at these Violent Crime units and District 11? And what are these districts' most common offenses?

2. Using the D3 Fund Visualization, with each line representing each district, what is the ratio of total disciplines to total complaints per year? Since you can select which lines you want to see, users shouldn't be overwhelmed with too many lines at a time. If we see the ratio of disciplines to complaints decrease over time, that could suggest officers increasingly not being held responsible for their behavior. As a note, units 2-26 map to districts 1-25 (as seen in the unit descriptions in data_policeunit).

   First, many districts have incredibly high percentages for data before and during the 1980s (80% or more). Then, a couple of data points later, the percentage drops significantly (20% or less) (e.g. districts 1-5). This may be a result of limited data points during that time. In many of the charts (e.g. districts 9-11) we see a decrease in percentage over time. This suggests that these units don't take complaints/allegations seriously, as they don't lead to discipline.

   For further investigation, it would be good to look into how the misconduct category frequencies change over time, along with the discipline/complaint ratio. This could potentially help explain

the pattern. It would also be meaningful to explore neighboring districts and similarities between their line plots since they are geographically close together. It could suggest that behavior among cops can spread through geographic proximity to each other. For example, the line plots for Districts 13 and 14 or 8 and 9 are quite similar, and those districts are geographically close (http://www.chicagonow.com/blogs/chicago-muckrakers/assets_c/2010/06/PoliceDistrictMurderRateMap2-thumb-580x600-165718.jpg for a map).