

Checkpoint 3: Interactive Visualization

COMP_SCI 396/496: Data Science Seminar

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An interactive bar graph to observe how the distribution of TRRs by category (and the total number of TRR incidents) changes over time in relation to certain events such as the implementation of reform measures as part of the consent decree

Initially we wanted to visualize how the distribution of TRRs changed in relation to certain events such as the approval of the consent decree. However, the consent decree was not passed until 2019 and our data only spans from 2004 to 2016. Thus, we decided to visualize how the distribution of TRRs changes in relation to the factors that we explored in the first checkpoint: police district, subject age, subject race, lighting condition, and whether the officer was on duty. For each of these factors we created a dropdown menu that allows the user of the visualization to select specific values to filter the TRR data. The bar chart automatically updates to reflect the filtered data. As we noted in the first checkpoint, the distribution of TRRs across categories remains relatively stable across different districts, subject ages, subject races, lighting conditions, and officer status. Our visualization clearly illustrates this point as the proportion of TRRs in each category remains the same as the data is filtered across the five categories. We can also see that the distribution of TRRs remains relatively stable through time as the data is filtered by date.

Future directions:

- Would the publicity of these analyses bring changes in the behaviour of the officers ? Or do Departments increase the accountability of officers' actions ? (This could be observed by a downward trend in TRRs arising from that department, or less aggressive actions corresponding to the TRRs filed)
- Will the current trend of relatively stable TRRs across each category continue or will we see an increase in the "less aggressive" actions (e.g. verbal commands) and a decrease in the more aggressive actions (e.g. use of firearm)?
- Once we get more up to date data (from 2016 onwards), it would be interesting to look into how the distribution of TRRs has changed since the time the consent decree was passed.