

# Project Reflections

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## Motivation

The focus of my project was mass shooting incidents in the United States from 1999 to 2019 obtained from the Mother Jones Mass Shooting Database. I wanted to determine if there were any trends in these mass shootings, specifically, if there was a predominant race or gender that ends up becoming mass shooters and if there were any geographic or temporal trends in mass shootings. This project was in part inspired by the Black Lives Matters protests earlier this year as there are racial biases that cause people to assume that shooters are Black when they hear about shooting incidents.

## Project

This project is comprised of several visuals supplemented by text in a narrative format. I wanted the feel of my project to be a somber one so the background of the project is grey with the text being white. The visuals themselves have a red theme with the exception being the waffle charts which are categorically colored based on race or gender. The project starts off as exploratory by exploring geographic and temporal trends and then turns into a narrative through a racial and gender analysis of the shooters.

Although I created the prototypes for this project in Observable using D3.js, I decided to create the visuals in Tableau and embed them using HTML as well as use JavaScript to make each visual responsive to changes in device width so that the entire project can be made responsive. I chose Tableau for the visuals because the map renders better in Tableau and the tooltips render more rapidly on hover in Tableau as well. The embedded Tableau visuals also have the added benefit of being able to exclude individual points or marks and filter data which makes it perfect for exploration and interactivity and there are also arrows on the tool bar to undo or redo any changes made to the embeds. The Tableau visuals are also able to be viewed in full-screen mode for further exploration and interactivity and there

is even an option to download the workbook that I used to create the visuals to see how I used the available data and any data calculations made in the creation of the visuals.

## The Visuals

The first visual is an incident map which displays the location of each of the 91 mass shooting incidents from 1999 to 2019 and was included to show geographic trends, if any, in mass shootings. It shows that California has the largest number of mass shooting incidents followed by Texas and Florida.

The second visual is a tree map displaying the location types of the shootings measured by the total number of victims for each location type. This visual shows us that although “concert” type mass shootings has the highest number of victims “workplace” shootings have the highest number of incidents. I initially thought about using a pie chart for this visual, but I thought that the tree map communicated the impact of the location type shootings better than a pie chart would have been able to do.

The third visual is comprised of two stacked timelines, the first displaying the first decade from 1999 to 2009 and the second displaying the second decade from 2010 to 2019. From the timelines we can clearly see an increase in mass shooting incidents from the first decade to the second decade, quantitatively it was a 164% increase in mass shooting incidents from the first decade to the second.

The fourth visual is a tree map displaying each mass shooting incident measured by the total number of victims. With this visualization we can clearly see that the Las Vegas Strip massacre had the highest number of victims by far with a victim count of 604.

The final visual is comprised of two side by side waffle charts, the first displaying the breakdown of the shooter’s race and the second displaying the breakdown of the shooter’s gender. The racial analysis only contains three categories; “Black”, “White”, and “Other Races” (comprised of “Asian”, “Latino”, “Native American”, “Other”) to highlight the difference in the percentage of shootings between “Black” and “White” shooters. From this analysis we can see that “White” shooters perpetrate more shootings than “Black” shooters. The gender analysis clearly shows that the predominant gender of mass shooters

is Male. The waffle charts could have also easily been a pie chart as they are both “parts of a whole” visuals, but I decided that a waffle chart was more visually appealing than a pie chart and it is easier to estimate percentages with a waffle chart than with an unlabeled pie chart.

## Conclusion

Although I am satisfied with the final outcome of my project, I would have liked this project to focus on the victims of the mass shootings, but with this database it would have been impossible to do so. Despite this limitation, I was able to learn a lot from that data that I had available. I was able to determine that gender, race and location-type all play a role in mass shootings, specifically, mass shooters are predominantly Male, predominantly White, and most mass shootings occur at the shooter’s workplace.

I found that the critique sessions were helpful because it alerted me to little details that I overlooked, since I was so familiar with the data, and that helped provide context for the viewer. Details such as titles for my waffle charts, even though I wrote which waffle chart was for which analysis in the text body and the legend had titles on them, helped to provide clarification for those just glancing through. I also found that using section headings helped to provide the viewer with an idea of what the visual for that section was trying to convey and an idea of why I chose that particular visual for that section.

If I had to do this project over, I might have utilized a “scrollytelling” format rather than the article format that I used for more visual appeal. I may have even tried to find a way to make the visuals render properly and more efficiently in D3.js or use the Observable notebook embeds which were created using D3.js although I believe that the Tableau embeds would work the same as the Observable embeds would.