

Project #4: Gun Violence

This assignment is due to Canvas before the 11:59 PM ET on Monday, March 11th. The paper should be typed, 12 pt. font, double spaced, and the whole assignment in **one single PDF file**, including copies of all supporting material identified below. I will not accept assignments that are not combined as a single file, and please do not exceed the space limit of two written pages of analysis—the grading will stop there.

This is to be independent work. If assignments closely resemble the work of another student (past, present, or future) then you run the risk of being submitted to the College of the Liberal Arts for academic misconduct (even after you finish the course). TurnItIn will be used AFTER you submit your assignment to check for authenticity. [Review the project overview page for Academic Integrity issues \(https://psu.instructure.com/courses/1973867/pages/avoiding-plagiarism\)](https://psu.instructure.com/courses/1973867/pages/avoiding-plagiarism).

This project will look at gun violence in the US and in your selected state. The data is scraped from [Gun Violence Archive \(https://www.gunviolencearchive.org/about\)](https://www.gunviolencearchive.org/about), which is a non-profit organization that collects news articles from around the United States and tracks gun-related violence. The data is missing the Las Vegas mass shooting because of the number of casualties made it difficult for the program to read the article. This is the only known, missing data point. Be careful on the visualizations that you are sorting the data by your selected state. Here's a look at what you can [expect to complete \(https://public.tableau.com/views/GunIncidentsinTexas/Dashboard1?:embed=y&:display_count=yes\)](https://public.tableau.com/views/GunIncidentsinTexas/Dashboard1?:embed=y&:display_count=yes). In your write-up, please discuss the potential impacts of open carry and concealed carry laws on criminal activity and summarize the Vox article below.

Data Sources

[Gun Violence Archive \(https://www.kaggle.com/jameslko/gun-violence-data\)](https://www.kaggle.com/jameslko/gun-violence-data) (you'll need to create a Kaggle account to download the data)

Here's What to Do

Read this Vox article on how guns are [regulated in the United States and in Canada \(https://www.vox.com/2014/10/24/7047547/canada-gun-law-us-comparison\)](https://www.vox.com/2014/10/24/7047547/canada-gun-law-us-comparison). One of the calculations you will make in this project is to combine gun deaths with gun injuries, some of which may be accidental. In your write-up, identify one of the differences listed in the Vox article and discuss whether you support the difference or find it discouraging.

Data Sheet

Download the Gun Violence Archive data using the link above. You will need to create a Kaggle account, but this is a Google-funded project, so you can use your Google account if you have one. This file will be

large (more than 239,000 rows) because it contains every gun-related incident in the United States since 2013. We will use Tableau to filter the data for your visualizations.

Tableau Work

Open Tableau, and connect the above Excel file with a new workbook. Create a new worksheet and title it "Map." Create a new measure called "Incidents" that is the sum of the number of people injured (N Injured) and people killed (N Killed).

Gun Violence Across the US

On the worksheet, select "State" from the dimensions window and your newly created gun incidents measure. In the "Show Me" tab, select the map (not the symbol map). Each US state will be highlighted based on the total number of gun-related incidents. Keep only the contiguous US states for this visualization. Identify your selected state and be prepared to compare your state's gun violence relative to the other states. One thing to note, we aren't controlling for population, so large states will have the most incidents.

Be sure to update the features of your data visualization to ensure they look good. For example:

- Add a title to describe your visualization
- Change the default color scheme from the automatic palette
- Change the opacity of the shading to 100%
- Be sure the Tooltip description is presentable
- Update the title of the legend to be more presentable

City Analysis

For the remaining sheets, we want to analyze gun violence in your state. Be sure to use the Filter feature and only focus on your state. Create a second worksheet and rename the sheet "City Analysis." On this worksheet, we will look at the top 10 cities in your selected state.

Select City for the Dimension and Incidents for the Measure then use the "Show Me" box to select horizontal bars. Drag "State" into the Filter box and select your state of analysis to filter only observations from your state. Sort your results by the largest value, highlight the top 10 cities and mark "Keep Only," so that your bar chart only shows the cities with the most incidents. Again, these are not adjusted for population, so in your write-up, look up the populations for each of these 10 cities and see if any of these stand out once adjusted for population.

Be sure to update the features of your data visualization to ensure they look good, including:

- Update your title to ensure it's clear what state you're analyzing
- Select a complementary color scheme to what you did for the first data viz
- Add labels for the number of incidents to the outside of the bar
- Add a notation if any of the top 10 cities are not in the top 10 for population
- Be sure the Tooltip description is presentable

- Update the vertical axis if any city names are being cutoff

Timing of Violence

The last visualization we will create is to identify what time of year/week is most violent for your state. Create a new worksheet and title it "Day/Month." Add the State dimension to the filter and filter by your state. Add the Date dimension to the column data section and update it to show "weekday." Drag the date dimension to the rows data section and update it to show "month." Drag the incidents measure to the data window and drop it in the middle of the table. In the marks section, identify the label that shows Incidents as a text box and change it to color.

Be sure to update the features of your data visualization to ensure they look good, including:

- Add a title to describe your visualization
- Select a color scheme similar to your first two visualizations
- Rearrange the days so that Saturday and Sunday are next to each other
- Be sure the Tooltip description is presentable
- Update your axes if any city names are being cutoff
- Remove axes labels
- Update the label title to be more presentable

Dashboard

To complete your data visualization, create a New Dashboard and label it "County Level Crime." Change the dimension on the dashboard to be 800 wide and 1100 tall so that it mirrors the dimension of a sheet of paper. The dashboard is your chance to arrange your visualizations that you've created before sharing them with the public. Think about the best way to arrange your visualizations and use the "objects" pane on the left side to arrange pieces to tell a story. Review [Tableau's Best Practices for Effective Dashboards](https://onlinehelp.tableau.com/current/pro/desktop/en-us/dashboards_best_practices.htm). [_\(https://onlinehelp.tableau.com/current/pro/desktop/en-us/dashboards_best_practices.htm\)](https://onlinehelp.tableau.com/current/pro/desktop/en-us/dashboards_best_practices.htm)

Be sure your dashboard has at least the following items:

- A clear, distinct title
- A brief description less than 150 words
- Each of the 3 visualizations you made
- Highlight tools and legends to make your work interactive
- A note of the source of your data file

Each of the visualizations on your dashboard should be fitted to the boxes (no scroll bars). This can be done by clicking on "More Options" within each visualization and selecting "Fit > Entire View." You will also save your dashboard as an image to include in your write-up. To save your dashboard as an image, select "Dashboard" from the menu bar and then select "Export Image" to save the dashboard as a .png file.

Extract your data by going to "data" in the menu bar, selecting the title of your sheet, and then "Extract Data." Save this file with your other project files. To publish your dashboard to your Tableau Public account, select "Server" from the menu and select "Publish Workbook." When your Tableau Public

account opens, be sure have your dashboard public. In the bottom corner of your visualization is a sharing icon, which will provide a sharable link. If you use this link on your social media accounts, please tag me (@Wootenomics). You'll use this link to [submit your dashboard for grading \(https://psu.instructure.com/courses/1973867/assignments/10601855\)](https://psu.instructure.com/courses/1973867/assignments/10601855). 50% of your project grade comes from peer reviews completed by your classmates. 25% of your project scores come from [peer reviewing your classmates \(https://psu.instructure.com/courses/1973867/assignments/10602115\)](https://psu.instructure.com/courses/1973867/assignments/10602115).

Write Up

You have two pages to summarize any readings associated with this project, to summarize your data, and summarize the data visualizations that you created. Be sure to define any variables you are analyzing, discuss the purpose of converting to similar rates, and discuss these outcomes with what we have talked about in class. Be sure that you are citing material correctly and quoting outside sources appropriately with proper in-text citations for any material you discuss in your write-up, including the articles mentioned above and any databases we use.

Appendix Material

In the appendix (material after your analysis), include a reference page that lists your references in APA format. Any additional references you decide to include should also be cited parenthetically and included in the reference page. Next, add your exported Tableau dashboard. The entirety of the file should be saved as one single PDF and uploaded to Canvas.

Here's the order:

- 2 page analysis
- Reference list
- Dashboard image export & link

Ready to Submit?

To submit your project, do the following:

1. Publish your data visualization to your Tableau Public profile.
2. [Submit the link to your completed dashboard \(https://psu.instructure.com/courses/1973867/assignments/10601855\)](https://psu.instructure.com/courses/1973867/assignments/10601855)
3. [Submit your final PDF \(https://psu.instructure.com/courses/1973867/assignments/10601753\)](https://psu.instructure.com/courses/1973867/assignments/10601753)

Peer Grading

Part of the learning process (and your grade) is to evaluate other student's on their organization, presentation, and accuracy of the same dashboard you just completed. Your role as the peer grader is anonymous to the other students you are grading. By providing honest feedback, you can help improve

not only their projects, but your future ones as well. You will not be grading their paper, but only their dashboard. You will be grading on the quality of the work, not on the actual completion of the work. I need you to be critical.

One of the reasons for this is for you to learn some valuable skills in providing feedback, but also to think deeper about how you can improve your own presentation. After the projects are submitted, you will be assigned to peer review 5 dashboards through the Canvas system. You will be use a rubric to judge the quality of work submitted and a portion of your final grade will come from the grading of others. You can see your list of students you've been assigned by going to the [dashboard submission page \(https://psu.instructure.com/courses/1973867/assignments/10601855\)](https://psu.instructure.com/courses/1973867/assignments/10601855) in Canvas.

The grade you receive on your project will be comprised of your written analysis, the median score of your peers, and the completion of peer grading. Each peer review you complete will be worth 5% of your project (up to 25% of your grade). 50% of your overall score will come from the median score you receive from your peers and the remaining 25% of your score will come from your written work.

For each project, I will randomly select 20 students and evaluate your ability to provide accurate reviews and constructive feedback. Your role as a peer grader is anonymous, so I expect you to provide open and honest feedback to help them in the course. If you are found to be inflating grades or shirking on the peer grading portion, you will not receive credit for any peer reviews you complete on that project.