

Executive Summary:

1. Shinyapps.io final project dashboard link:  
[https://irishmitch19.shinyapps.io/DataViz\\_EastSection\\_Group3\\_FinalProject/](https://irishmitch19.shinyapps.io/DataViz_EastSection_Group3_FinalProject/)
2. GitHub raw code file link: <https://github.com/Bilwa/DV.Final.Project/blob/master/Final-Project-East-Group-3.R>
3. The raw code and proper data files are all packed in the sub-folder in this zip file. Please see those for reference as needed.
4. Overall, we decided not to go the route of each submitting a separate dashboard and then creating a unique, trimmed-down group app (we had asked you about that in Monday’s live session). Instead, we combined our results and worked to polish a final, collaborative dashboard that flows and has a common theme/format. **We did not deviate from the final project write-up which was previously submitted.**
5. Thank you for your help this semester and please let us know if you have any technical difficulties with the links or files and if you have any questions.
6. The Project Brief/Write-up is re-pasted below. It is identical to the one submitted via Nexus on December 4<sup>th</sup>. It is here for reference.

Final Project Write-Up (included for reference):

For our Data Visualization project, we chose to design a Shiny App that reflects the geographic trends of South Bend area shootings. The South Bend Police Department’s Open Data Transparency Hub contains a downloadable dataset called ‘Criminally Assaulted Shootings’ that we chose to use in addition to the given datasets. “This dataset includes fatal and non fatal, criminally assaulted shootings in South Bend from 2015-2017”<sup>1</sup>. The shooting data will act as the main dataset, and on which we will layer geographic locations from the street lights, parks, and abandoned properties datasets provided to us.

---

<sup>1</sup>South Bend Police Department Open Data Transparency Hub: Criminally Assaulted Shootings Dataset  
<http://police-southbend.opendata.arcgis.com/datasets/criminally-assaulted-shootings>

The goal of the final dashboard's user interface will be to provide an overview of how all the datasets interact with each other, followed by deep dives into each dataset. The first dashboard tab will be the master map, containing a map of South Bend with multiple filters and features to define the year of the shooting, whether it caused fatalities or not, and general location, such as the proximity to a park, street light intersection, or abandoned property. There will be additional dashboards to allow the user to dig into the datasets further to avoid over-cluttering the main map. Our four individual dashboards contributed to the final dashboard.

The Shooting dashboard contains a map of all the South Bend area shootings between 2015 and 2017. Colored by fatality status, the map makes it clear to the Mayor and his council how these shootings have affected South Bend citizens. Filters for the year and zip code will be available as well as a histogram of total fatalities for a full-scale view of the dataset. These additional features make the data flexible and enhance the user experience. A map display of fatal shootings is informative, but some different datasets will widen the scope of this project.

Through the Parks and Facilities datasets, Mayor Pete can locate and identify the many parks and facilities owned by the city of South Bend. Facilities include Police stations, fire stations, and libraries. The three tabs in this section allow for the Mayor to see a quick map view, then scroll through either parks or facilities to see how many sites are in that area and dive into the details if desired. With large circle markers representing police stations and shades of green to represent parks, this section is easy to interpret at a glance and does not clutter the user's view. Because of this data, South Bend's parks and public facilities will not be left out in this city-wide effort to tackle crime and support safety.

On the Abandoned Properties tab, users can review the ultimate outcome associated with abandoned properties between the years 2013 and 2018. Properties are either deconstructed, demolished, occupied and not repaired, repaired, or repaired and occupied. The first tab illustrates the ultimate fate of these properties, based on a user-defined date range. The map tab puts a marker, color-coded by outcome, on a map of the city. At launch, the minimum viable product for this tab is to be able to drill and restrict by date range.

In the city of South Bend, the Office of Traffic & Lighting maintains traffic signs, signals and city-owned street lights, and is responsible for approximately 3,000 street lights<sup>2</sup>. The dataset of street lights gives details about each street light along with its location. Included are a map and plots about interesting details in the Streetlight dataset.

---

<sup>2</sup> <https://southbendin.gov/departments/public-works/streets-sewers-division/>

The map shows the location of every street light in the South Bend area and is color coded based on the ownership. The street lights are owned by City of South Bend or American Electric Power (AEP). Apart from installing street lights, it is important that they are regularly inspected and maintained. The line plot shows how many inspections were done in the year. The lumens give an idea about how effective the street light is. The bar plot lets the user filter and visualize the number of street lights per lumen category. With these datasets presented in a multi-tabbed dashboard, the user will have a ton of voice-and-choice in this data investigation.

The main targets of our presentation are Mayor Pete Buttigieg and his staff. Mayor Pete is a proud, native “South Bender” who was elected to his first mayoral term at the young age of 29. He has been pushing for a rejuvenation of the city of South Bend since he took office. His passion for the well-being of his hometown coupled with the desire to clean up a formerly downtrodden city keeps him searching for the next big idea to make “the Bend” a better place to live.

Among the Mayor’s staff are his Chief of Staff, Laura O’Sullivan; Policy Director, Suzanna Fritzberg; Director of Community Outreach, Cherri Peate; and Director of Communications, Mark Bode. Each of these individuals comes with a very highly-esteemed educational background and a great Hoosier work-ethic. We will need to show them well-formed, high-level analyses about the city’s crime data and present a tool which will inspire solutions. They need a simple, reliable tool that provides an easy way to answer spontaneous questions in their meetings. If we can win over the Mayor’s team and give the power of data, then Mayor Pete will be able to focus on the decision-making and solutions rather than being stuck in the weeds. With fast, flexible, and dependable data at their fingertips, our dashboard will be the next spark that triggers a great South Bend boom.