**Peer Evaluation, due on Thur, Nov 18:**

Each group will be assigned another group with which to do peer evaluations. By class time on Tues, Nov 16, make your latest draft available to your partner group. We will use another Blackboard group for this. Your group will be called Peer Evaluation Group x\_y, with the number of the two groups, x and y. By Thur, Nov 18 at 11:59pm, each member should evaluate the paper of the other group, and upload the evaluation to the same channel, so members of the other group can see them.

The evaluation form is on pages 2 and 3 of this document. For each criterion, please select a score (highlight the box), and enter your comments in the last column. Scores are suggestions; comments are very important; try to give your peer group some good suggestions. Also, offer some overall comments at the bottom. Save the file as *PeerEval\_yourlastname.docx* and upload to the Peer Evaluation Group File Exchange on Blackboard.

**The Four Parts of the Paper:**

1. **Introduction:** At the beginning of your paper, you must describe the data, in a paragraph. Note the following:

* What is the source of the data? Where and when was it created?
* If it is a sample, from what population was it drawn, and how was the sample selected?
* Do you suspect any sampling bias?
* Was it an experiment or an observational study?
* How were measurements taken, or questions asked?
* Do you suspect any bias in the questions or measurements?
* Why is this data of interest to you, and why should the class find it interesting?
* What kind of data cleaning was necessary (R code for this must show…)

1. **Data Analysis:** Write R code to create some relevant graphs, using techniques that we’ve used in class (ggplot, maybe dplyr). About **4 or 5 graphs** should be plenty, depending on complexity. Include some numerical summaries as well. If possible and appropriate, include **a bootstrap confidence interval.**

For each graph and numerical summary, write a paragraph or two summarizing what you see, and suggesting some implications. For example, describe patterns that you observe in a graph, and suggest why they make sense, given what you know about the subject, or if they are unexpected. Do you think there is a cause-effect relationship between any variables? Explain your reasoning.

1. **Conclusions:** Write some overall conclusions – an overall summary of what you learned from your analysis. Summarize in one paragraph.
2. **Limitations / Recommendations:** Write a paragraph describing some of the limitations that are inherent in your study. Also discuss ideas for future research that might build on the work you did in this project. Summarize in one paragraph.

Rubric for Peer Evaluation of Project: Your Name:

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| --- | --- | --- | --- | --- | --- |
| Criteria | 0 | 1 | 2 | 3 | Peer Reviewer Comments: |
| Introduction | Data background is not stated. | Data background is not clearly stated and/or is not accurate. | Data background description is reasonably clear. | Data background description is very clear and thorough. In addition, the student gave a compelling reason why the question is interesting. | Introduction is very thorough and directs the reader to thinking about how the student population impacts the fire department. Only suggestion I would give is to read over the introduction a couple more times, there are a few typos/punctuation mistakes. Otherwise, great introduction. |
| Data Analysis -- Coding | No R code is included in the presentation. | R code for graphs and data summary has errors, or is not completely present. | R code is present and largely correct. Students made use of dplyr, ggplot, techniques learned in class. | R code is correct, uses techniques learned in class, and is well documented with comments in the Rmd script. | There is no R code included in the presentation. You should make it so that the PDF includes the code used to make each one of your graphs. It could help the reader better understand the graphs you created and the data set the graphs are derived from. |
| Data Analysis –  Graphs | No graphs are included in the presentation. | Some graphs are presented, but there is an insufficient number, or some are incorrect or inappropriate for the particular data. | A sufficient number of graphs are presented, appropriate to the data. | A sufficient number of appropriate graphs are presented. Graphs are interesting, attractive, and easy for the audience to interpret. | The majority of the graphs you included are very easy to interpret. The only graph that I might suggest adding to is the very last one, Time Spent at Each Incident. The high skew of the graph makes it hard to interpret the exact amount of time is typically spent at incidents.  It might be helpful to include a table with the median time spent at incidents by shift. This would help clarify what a typical value is for time spent. Make sure to use median since the data is skewed. |
| Data Analysis –  Summary Statistics | No summary statistics are included in the presentation. | Some summary stats are presented, but there is an insufficient number, or some are incorrect or inappropriate for the particular data. | A sufficient number of summary stats are presented, appropriate to the data. | A sufficient number of appropriate summary stats are presented. Stats are interesting, useful, and easy for the audience to interpret. | I like how you included some summary statistics in the descriptions for each graph. For some of the graphs though, it might be helpful to include tables with summary statistics alongside the graphs. For example, as I previously mentioned with Time Spent at Each Incident graph, medians could be included.  With the type of incident bar graph, you mentioned that EMS was the most common type. Maybe include a table with the frequencies of each type? |
| Data Analysis  (Graphs and Numerical Summaries)-- Written Description | There is no written description of the data analysis. | The written description of the data analysis is incorrect or not relevant to answering the research question | The written description of the data analysis is accurate but not complete. | The written description of the data analysis is accurate and completely describes the important features of the distribution | I like what you have done so far with the written description of the data analysis but I think that for some of your graphs there is more to be said.  For example, I would suggest going into more depth in your description of the Types of Incidents bar graph. Why do you think EMS is the most common?  With the number of calls at each hour graph, I think you could go into more depth on why you think specific hours have more calls than others. Why do you think there is a peak from 11-12? |
| Conclusions | There is no written interpretation of the overall project. | There is a written interpretation, but it is incorrect. | Written interpretation is correct, but not clear and/or not in context | Written interpretation is clear and correct and in the context of the research question. | I have you in-between 1 and 2 for conclusions. I like what you have written so far but I think you could go into more depth on many of your points though. For example, why do you think that most calls tend to only last 20 minutes? Also, you don’t mention the number of calls at each hour which I think is a very interesting part of the data.  You also mention in your conclusion that there are more dispatches when school is starting which is likely. I think that you should remember though that the data is from August 2018 to November 2019. This means that the data includes dispatches from two different August’s, September’s, October’s, and November’s. How could that be impacting your data? |
| Limitations and Recommendations | There is no discussion of limitations of the project or ideas for future work | There is some discussion of limitations and ideas for future work, but the ideas are unclear and/or don’t make sense | Limitations of the study and ideas for future work are described and are generally sensible but are lackluster | Student sensibly describes limitations of the study and has strong suggestions for future work. | You do a great job describing the limitations of the study. I think that a possible limitation that you could also include is how the data is only from a little over a year’s span. Think about how the size of the data set could limit your research.  In terms of your recommendations, I would look at them in relation to your limitations. Could further research be done once the Burlington fire department releases more data? Could more research be done on other college towns to see how student populations impact the fire department? |
| Quality of Writing | Work is not submitted. | Write up does not use complete sentences and/or uses poor spelling and grammar | Write up uses complete sentences but has quite a few spelling and/or grammatical errors | Write up uses complete sentences and has almost no spelling and/or grammatical errors | The quality of writing is overall great. I would just read through each part over again because there are a few typos and punctuation errors that need to be fixed. |

Overall Comments: Great work! My overall comments would be to try to go in more depth when writing your analyses for each graph. Think about what might be causing the trends in the data. For example, why are there more calls during some hours of the day than others? Finally, I would also recommend reading over the introduction and conclusion once over just to fix up any remaining typos.