**Data Analytics Capstone Topic Approval Form**

**Student Name:** Tony Dunsworth

**Student ID:** 000329564

**Capstone Project Name:** Analysis of COVID-19 adjustments on 911 Operations in the City of Alexandria, VA

**Project Topic**: A statistical analysis of 911 Call Processing Times of the Alexandria, VA Department of Emergency and Customer Communication’s responses to the SARS-COV2 pandemic

**X This project does not involve human subjects research and is exempt from WGU IRB review.**

**Research Question:** Were the Alexandria VA DECC 911 Call Processing Times impacted by the department’s moves to continue operations during the SARS-COV2 pandemic?

**Hypothesis**: H0 is 911 Call Processing Times were not impacted by the department’s moves to continue operations during the SARS-COV2 pandemic

**Context:** In order to evolve 911 operations and to ensure a community is best served, most especially in a time of crisis such as the SARS-COV2 pandemic (Covid-19), analysis on the Public Safety Answer Point’s (PSAP) decisions to ensure operational continuity can provide insight as to the impact of decisions taken upon the PSAP’s time to answer and assign calls for service. In order to determine the full impact of those decisions, comparisons will be made to the previous year over the same time frame; January 01 through September 30. This provides for a fair evaluation to determine if the response times for answering and assigning calls are actually comparable to a year without modifications for the pandemic.

**Data:** The data to be used is Computer Aided Dispatch call data taken from January 01, 2019 to September 01, 2019 and from January 01, 2020 to September 01, 2020

|  |  |
| --- | --- |
| Response\_Date | DateTime |
| Month | Categorical |
| WeekNo | Numeric (Discreet) |
| DayofWeek | Categorical |
| Hour | Numeric (Discreet) |
| Shift | Categorical |
| Priority\_Number | Numeric (Discreet) |
| Problem | Categorical |
| Agency | Categorical |
| MethodOfCallRcvd | Categorical |
| Fixed\_Time\_PhonePickUp | DateTime |
| Fixed\_Time\_CallEnteredQueue | DateTime |
| Time\_Unit\_Assigned | DateTime |
| Fixed\_Time\_CallTakingComplete | DateTime |
| InitialCallTaking | Numeric (Continuous) |
| FirstUnitDispatching | Numeric (Continuous) |
| InitialProcessing | Numeric (Continuous) |
| CustomerInteraction | Numeric (Continuous) |

Copies of the 2019 and 2020 data can

The data is owned by the Department of Emergency and Customer Communications of the City of Alexandria, VA. I have secured permission from the director, Renee Gordon, to use data from 2019 and 2020 for this capstone. The director has allowed the use of the data in return for a copy of the results which is to be the introduction for a deeper study into the efficacy of the remote dispatcher operations and for discussions with APCO, an industry group interested in the survey as well.

**Data Gathering:** *Describe the data-gathering methodology you will use to collect data.*The data will be collected via a SQL Query from a Microsoft SQL Server 2016 database. Steps have been taken to ensure no identifiable information will be collected, analyzed, or presented to the committee.

**Data Analytics Tools and Techniques**: *Identify the appropriate data-analysis technique you will use to analyze this data.* The analysis will start with baseline exploratory data analysis of both the 2019 and 2020 data. After that, there will be detailed intraset analysis in order to establish secondary baselines for comparisons between 2019 and 2020.

**Justification of Tools/Techniques:** *Explain why the data-analysis technique you chose is an appropriate technique to analyze the data collected*. The use of R as a

**Project Outcomes**: *List the key anticipated project outcomes and deliverables in less than 500 words*. Click here to enter text.

**Projected Project End Date**: Click here to enter a date.

**Sources**: Kinsley, J., 2009. *Analysis Of 9-1-1 Call Processing Times*. [online] Hsdl.org. Available at: <https://www.hsdl.org/?view&did=692620> [Accessed 13 November 2020]. Gates, David. “Call Processing Time 1 Running Head: Emergency Service Call Processing Time Executive Analysis of Fire Service Operations in Emergency Management Emergency Service Call Processing Time.” National Fire Academy, 2007. ‌

**Course Instructor Signature/Date:**

**https://www.dropbox.com/home/WGU/Capstone%20Project**