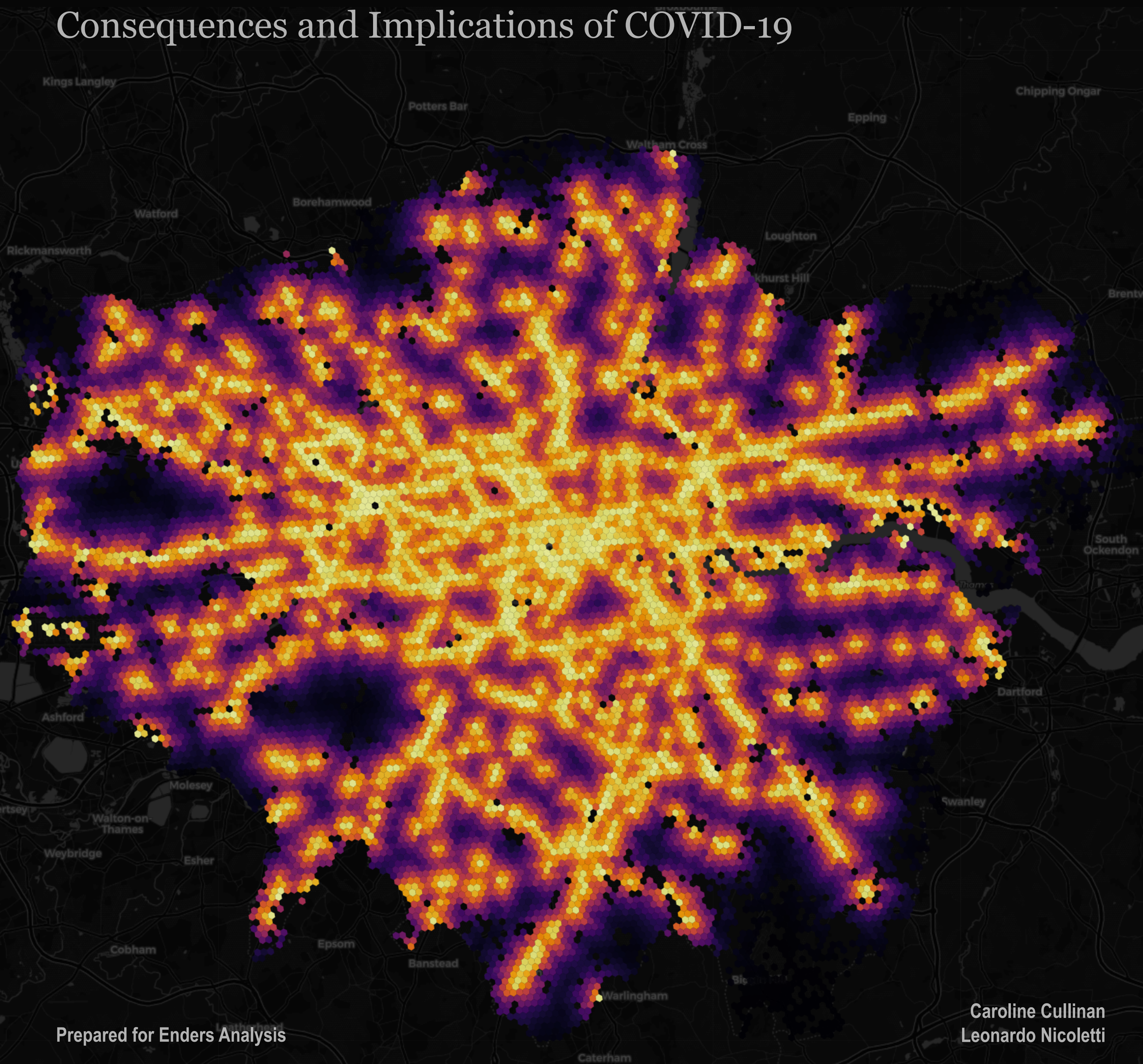
PROJECT PROPOSAL

London in the Pandemic Era: Consequences and Implications of COVID-19



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Prepared for Enders Analysis

On March 11, 2020, the World Health Organization (WHO) officially announced the COVID-19 outbreak as a global pandemic. As a result of COVID-19, cities like London, UK, have particularly suffered from staggering infection rates and high mortality rates. In Greater London, the severity of this infectious disease has resulted in political repercussions which impact societal mobility behaviours. Now, as Greater London is on the brink of a second wave of COVID-19 infections, the resulting societal consequences and implications of the COVID-19 pandemic are as relevant as ever. This study aims to investigate the relationship between COVID-19 infections, resulting government policy measures, and the mobility of people during the COVID-19 pandemic across the Greater London area. Through a data-driven modelling approach, potential futures of mobility trends in Greater London across four different categories of services (1) Leisure and Recreation; 2) Essential Services; 3) Work Habits; and 4) Public Transportation) are forecasted.

1.0 Project Description

1.1 Purpose

The purpose of this project is to investigate the relationship between COVID-19 infections, resulting government policy measures, and the mobility of people during the COVID-19 pandemic across the Greater London area. In doing so, we aim not only to develop clearer insight into how COVID-19 has already impacted urban communities in terms of leisure and recreation, essential services, work habits, and public transportation, but also to develop future insight into how the COVID-19 pandemic could further impact the region.

1.2 Method

In order to complete this project, relevant information with regard to the social impact of COVID-19 in Greater London, UK will be considered. In particular, we will incorporate two key datasets in our analysis: 1) Google's COVID-19 Community Mobility Reports and 2) Greater London Authority's (GLA) dataset on daily COVID-19 cases. Google's COVID-19 Community Mobility Reports data will be used to investigate temporal trends in mobility across four key categories of services: 1) Leisure and Recreation (retail and recreation, parks), 2) Essential Services (grocery and pharmacy), 3) Work Habits (workplaces, residential areas), and 4) Public Transportation (transit stations). Trends will be graphed temporally and mapped spatially for not only the entirety of Greater London, but also for a series of key highlighted locations (e.g. central business district). In order to gain insights into the potential future development of such trends, a deep learning approach will be taken, and a model will be trained on both the Google mobility data and GLA's daily COVID-19 cases. This model will be evaluated and used to forecast potential futures of mobility trends across different categories of services. Results will be highlighted through intuitive and thought provoking visualisations.

1.3 Data

Dataset	Dataset Description	Source	Link to Dataset
COVID-19 Community Mobility Reports	A record of movement trends over time by geography, for different categories of places	Google	https://www.google.com/covid19/mobility/?hl=en
Coronavirus (COVID-19) Cases	Daily Updated Data on confirmed cases of COVID-19	Greater London Authority (GLA)	https://data.london.gov.uk/dataset/coronavirus--covid-19--cases

1.4 Deliverables

Deliverables for this project proposal are as follows:

- A 10-15 page report outlining the findings of the analysis
- All files relevant to data analysis (i.e. scripts, data)
- All files relevant to data visualisations (i.e. scripts, graphics)

2.0 Timeline