

# COVID-19 Spread Assessment in New York Counties

## Background

Corona virus disease (COVID-19) is an infectious disease caused by a new virus. The disease causes respiratory illness (like the flu) with symptoms such as a cough, fever, and in more severe cases, leads to pneumonia and breathing difficulties. This disease spreads through contact with an infected person when they cough or sneeze. It also spreads when a person touches a surface or object that has the virus on it, then touches their eyes, nose, or mouth.

New York is the most populous city in the United States of America (USA). It is also deemed as the cultural, financial, and media capital of the world. The state of New York consists of 62 counties, with each county representing an administrative and political subdivision of the state.

With the spread of corona virus around the world, a massive surge in the number of cases is also being reported in the state of New York. There are different sorts of places and venues situated and operational in the NY state with various eateries, cafes, shopping malls, night life, and transportation stations.

## Motivation

Since the outburst of COVID-19 pandemic, many researches have been performed which shows how this virus spreads, how long this virus survives on different surfaces, how to keep safe from the virus, etc. The best possible way to keep safe from the virus is to implement social distancing and maintain hygiene and cleanliness. It is imperative that the virus catches from person to person, so it is bound to spread among the people socializing and continuing with their daily dine out, transportation, and night life activities.

Current information available on this topic also shows that older population (people aged over 60) are more likely to die from this disease, while younger population has a better chance of recovery. However, no study has come forward as per my knowledge which analyses the lifestyle with regards to choice of restaurants, travel, and nightlife preferences of people impacted by the disease.

The motivation of this project is to determine the extent to which each sort of venue has contributed to the newly reported cases and deaths in the New York.

## Problem Statement

1. This project aims to find how night life and different travel and transportation venues across counties is linked to the spread of COVID-19 in the state of New York.
2. In addition, it also aims to analyse the extent to which different kinds of food joints are linked to the number of deaths in the New York.

## COVID-19 Data

The COVID-19 data obtained for this project is obtained from the New York Times Github source:

<https://raw.githubusercontent.com/nytimes/covid-19-data/master/us-counties.csv>

This data has the following attributes:

date, county, state, fips, cases, deaths

date: refers to the date of reported cases and deaths in the respective United States county.

county: is the name of County reporting the cases and deaths.

state: the state in which the county is present.

fips: The Federal Information Processing Standard Publication 6-4 (FIPS 6-4) is the five-digit Federal Information Processing Standards code which uniquely identifies counties in the United States.

cases: the reported number of COVID-19 cases in the respective county on a certain date.

deaths: the reported number of deaths due to COVID-19 in the respective county on a certain date.

This data will be used along with the coordinates of each county to explore the most popular venues in each of these counties. An analysis will be performed on the resulting venues and county data to determine how certain travel and nightlife venues impact the number of cases. Also, an analysis will be performed to determine how the number of deaths in a county is linked to the kind of most popular eateries and restaurants.

### [Significance of this Project](#)

A large number of COVID-19 data are being collected around the world in these times. So, it is important to make sense of this data at deeper levels so to enable people to make better lifestyle choices. This kind of study aims at promoting healthy choices when hopefully the world comes out of this pandemic. For example, in future people may prefer to avoid certain kinds of restaurants which do not serve immunity-boosting foods.