Project Proposal

Question/need:

The framing question of the analysis is which tourists' attractions would have more visitors at which time or season of the year; so, the purpose of this model is to help our client make their decisions on pricing and availability of ticketing throughout the year depending on the prediction of number of visitors.

The client who benefits from exploring this question and building this model is **NYC & Company Incorporation**. NYC & Company is the official destination marketing organization (DMO) and convention and visitor's bureau (CVB) of New York City. The company's mission is to maximize travel and tourism opportunities throughout New York City and spread the dynamic image of New York City around the world. NYC & Company provides resources for visitors to discover everything they need to know about what to do and see in NYC. NYC & Company's marketing efforts position the city to attract business and leisure travelers.

As a result of Covid-19, NYC & Company continues to face several unprecedented challenges. While the recovery is expected both locally and abroad to be gradual, NYC & Co also believes that the industry will regain its vibrancy, and that New York City will be one of the world's top destinations when it does.

According to NYC & Company's annual report, the year 2020 was unlike any other. Still facing the extraordinary challenges brought on by the coronavirus pandemic, New York City's world-class hospitality and tourism industry continues to respond with its signature resilience, heart and soul. As they plan for the next chapter, NYC & Company remains keeping with their tradition in issuing an Annual Report each spring during this extraordinary time.

Another thing is included in the latest annual report Is the founding's of NYC & Company and the economists at Tourism Economics, February 2021, where they finalized the numbers for the City's travel and tourism sector in 2020. The year started well but later in response to the pandemic and public health restrictions on movement and gathering when the pandemic went all over the world, international and domestic traveling stopped leaving the City without leisure visitors and business travelers for the remaining 10 months. The result was a loss of two-thirds of market by year-end. From a record high of 66.6 million visitors in 2019, December 2020 fell to 22.3 million. Hardest hit was the international market, falling to just 2.43 million total trips, as the US border was closed to almost all arrivals. The domestic market fell by 63% to 19.87 million. Throughout the spring and summer as the City faced the worst months of the pandemic, visitation was linked to medical and emergency personnel and other health-related trips and to the pull of being with family and friends in a time of crisis. With the majority of the City's attractions and businesses closed. As for the future, the pattern turns positive with the slow return of visitors initially, to be followed over the next four years by more confident travel

and the return of international markets. The current forecast for 2021 will bring travel back to an estimated 36.4 million visitors—31.8 million domestic and 4.6 million internationals. The pace of recovery will depend upon a strong leisure travel response to lockdown with the pace of vaccine production and distribution. The projection for domestic travel brings the city back to peak levels by 2023.

NYC VISITOR OUTLOOK BY MARKET
(MILLIONS OF VISITORS)
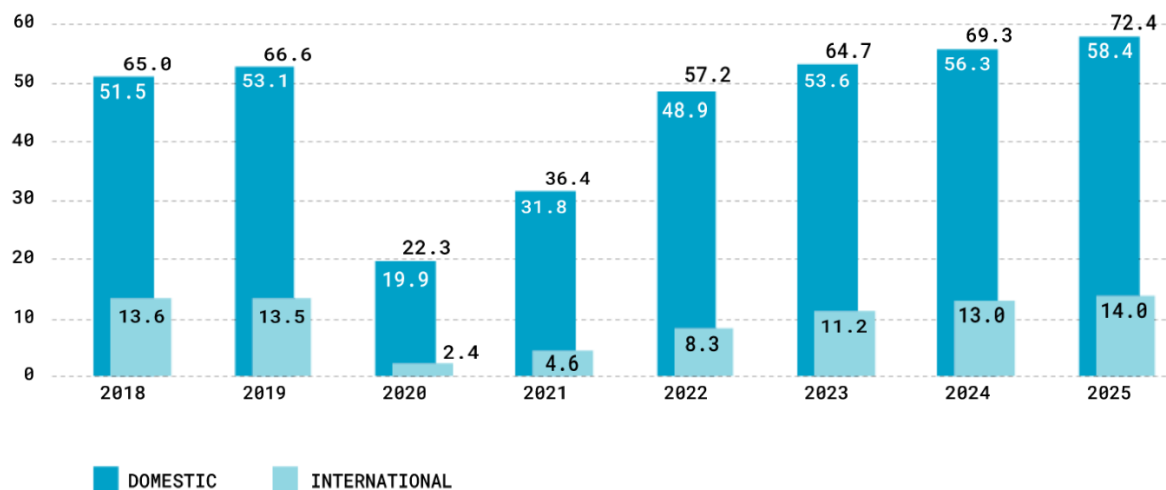
Data Description:

The planned dataset will include 4 months of MTA's data which includes the holiday season in September, October, November and December of 2019, the reason behind choosing this data over the most recent data because of the exceptional period the world been through which is not stable in order to make decisions based on. The mentioned data is being obtained since it's a publicly available data.

The unit of analysis is the individual's entry and exit through MTA's transportation network. The data shows the entry/exit register values for one turnstile at control area through a specific time (Historical data).

The target prediction would be the traffic and density of each area in NewYork city.

Tools:

In order to meet the requirement of the project, the plan to do that would be by using SQL database to insert the raw data into tables and querying from those tables into Python via SQLAlchemy. The Exploratory data analysis part will be done using Pandas. Finlay, using seaborn which is one of Python's visualization libraries to visualize the data. Another data visualization tool that might be considered would be Tableau because of its power to visualize data into a more of an interactive setting and appealing way to the client.

An additional tool that might be considered Looking into using TensorFlow or any similar library to perform numerical computation to the data.

MVP Goal:

The aimed output of the analysis would have a throughout report with expected or predicted density of how many individuals in each area that has an attraction of New York where the client is going to use those findings to decide the pricing and availability of ticketing in those certain areas. This would be achieved by analyzing dataset of MTA's turnstile data from September to December 2019 Recommending the clint to price certain location higher/lower based on the traffic analyzed and predicted.

Another future possibility is by using machine learning to predict the traffic.

References:

NYC & Company. (2006). NYC & Company. https://www.business.nycgo.com

Juri AlSayigh