Abstract

Eric Lian is a musician who is looking to open up a new jazz bar in New York City's West Village, a neighborhood known for its historical music scene. The goal of this project is to analyze where the bar should be located by looking at human traffic in five different metro stations spread around the West Village — Astor Place, 14th Street, Bleecker Street, Spring Street, and Prince Street. By focusing on average monthly exits after 5 pm, it was found that Astor Place Station has the highest amount of people leaving the station, which means that if the bar were located within eyesight of the exit, it may benefit from the high foot traffic. Bleecker Street Station had the lowest monthly average exits.

Design

Mr.Lian has had plans to open up "Monk's Place" for quite some time, but plans were put on hold when the pandemic caused the city to shutdown. Mr.Lian not only wants to find a prime location based off of foot traffic around nearby West Village metro stations, but also wants to see that the daily exits reflect a recovered New York City after a year of Covid-19.

Data

The MTA turnstiles data used in this project cover the full months of May, June, and July. The daily exits reflected in graphs only show activity after 5 pm, as that is when jazz bars tend to have shows. The dataset features station names, specific turnstile identification data, dates, times, entrances, and exits.

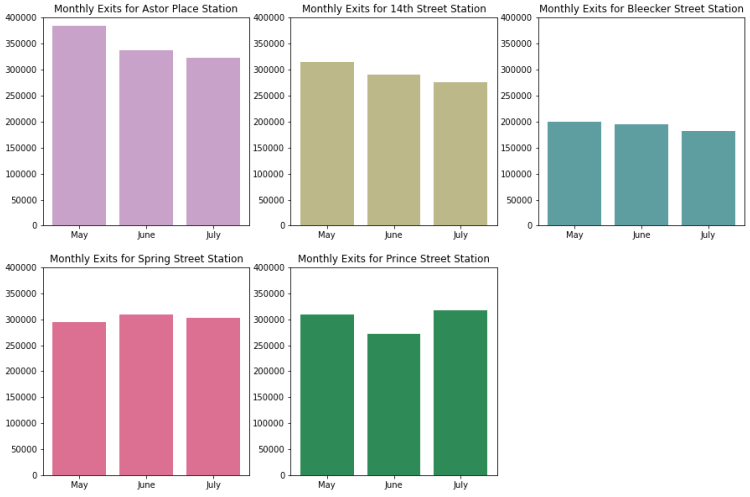
Algorithms

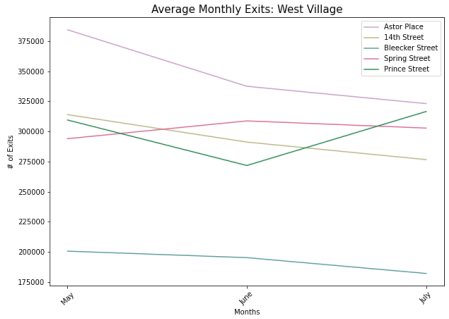
The MTA data was cleaned so that duplicated data and inconsistent counts were eliminated. A Daily Exits column was added. Then, irrelevant data, such as activity before 5 pm, was eliminated.

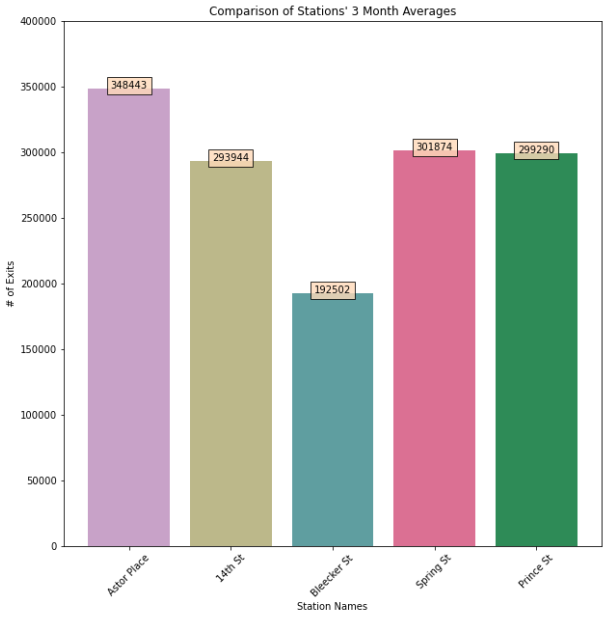
Tools

Numpy, Pandas, Matplotlib

Communication


Monthly Exits for Astor Place Station
Monthly Exits for 14th Street Station
Monthly Exits for Bleecker Street Station
Monthly Exits for Spring Street Station
Monthly Exits for Prince Street Station
May
June
July


Average Monthly Exits: West Village
Astor Place
14th Street
Bleecker Street
Spring Street
Prince Street
# of Exits
Months
May
June
July


Comparison of Stations' 3 Month Averages
348443
293944
192502
301874
299290
# of Exits
Astor Place
14th St
Bleecker St
Spring St
Prince St
Station Names