





MTA Exploratory Data Analysis

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Background & project scope

RTS (Road TO Success) is A company that have several vending machines that sells drinks , food and electronics. RTS focus is on where to put their vending machines on stations in the summer. By analyzing the given data I'm going to find top stations , best entries per station ,and daily traffic per week to do maintenance and refill vending machines.




Datasets:


MTA Turnstile data

Dataset that count
number of entries and
exits in NYC metro
stations.

My Dataset

- Three months per year (Summer).
 - Three years 17/18/19.
 - 11 columns.
 - 7809430 rows.
 - Focus in both entries and exits.
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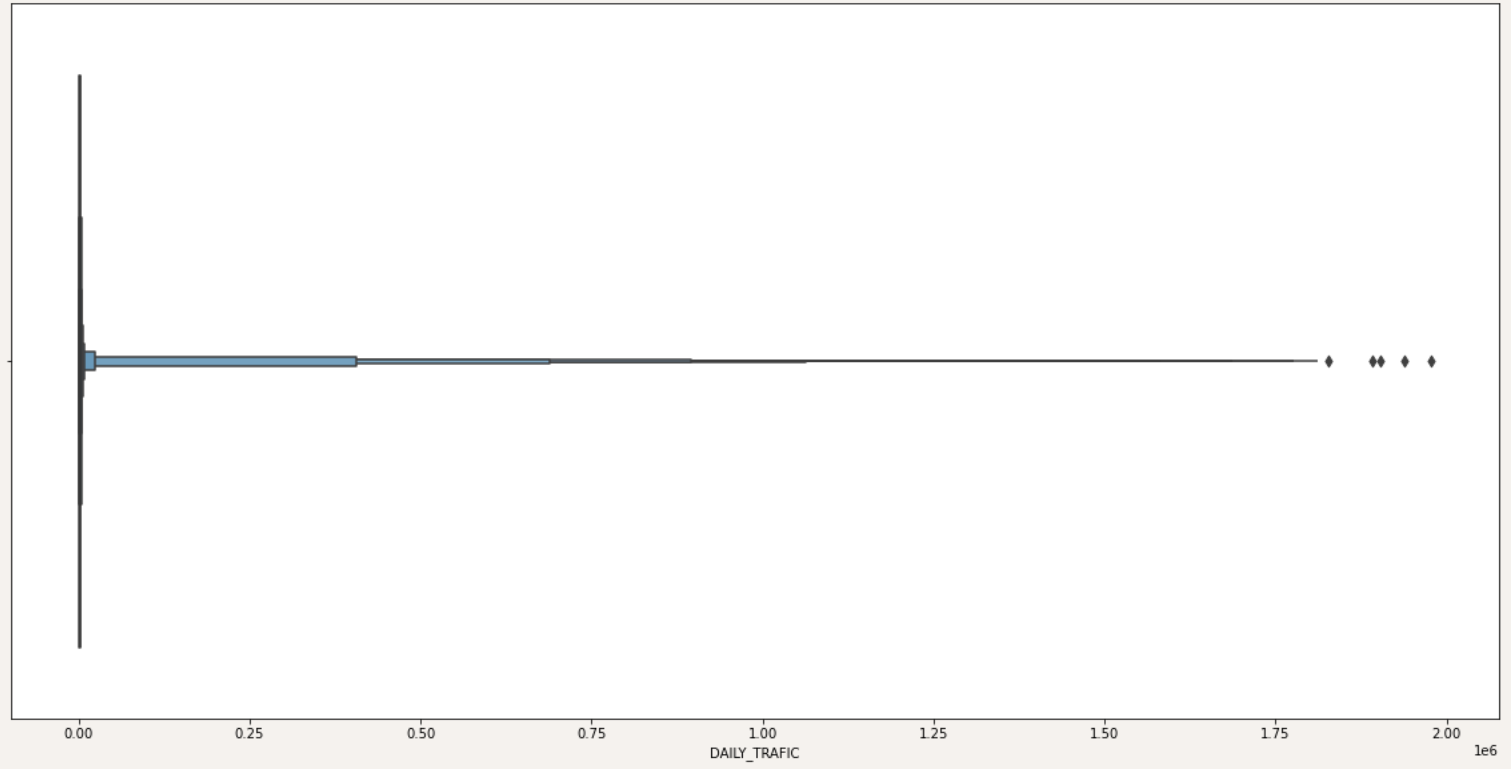
Tools:

- SQLite, DB browser, SQLAlchemy.
 - Python, Pandas, NumPy.
 - Seaborn and Matplotlib.
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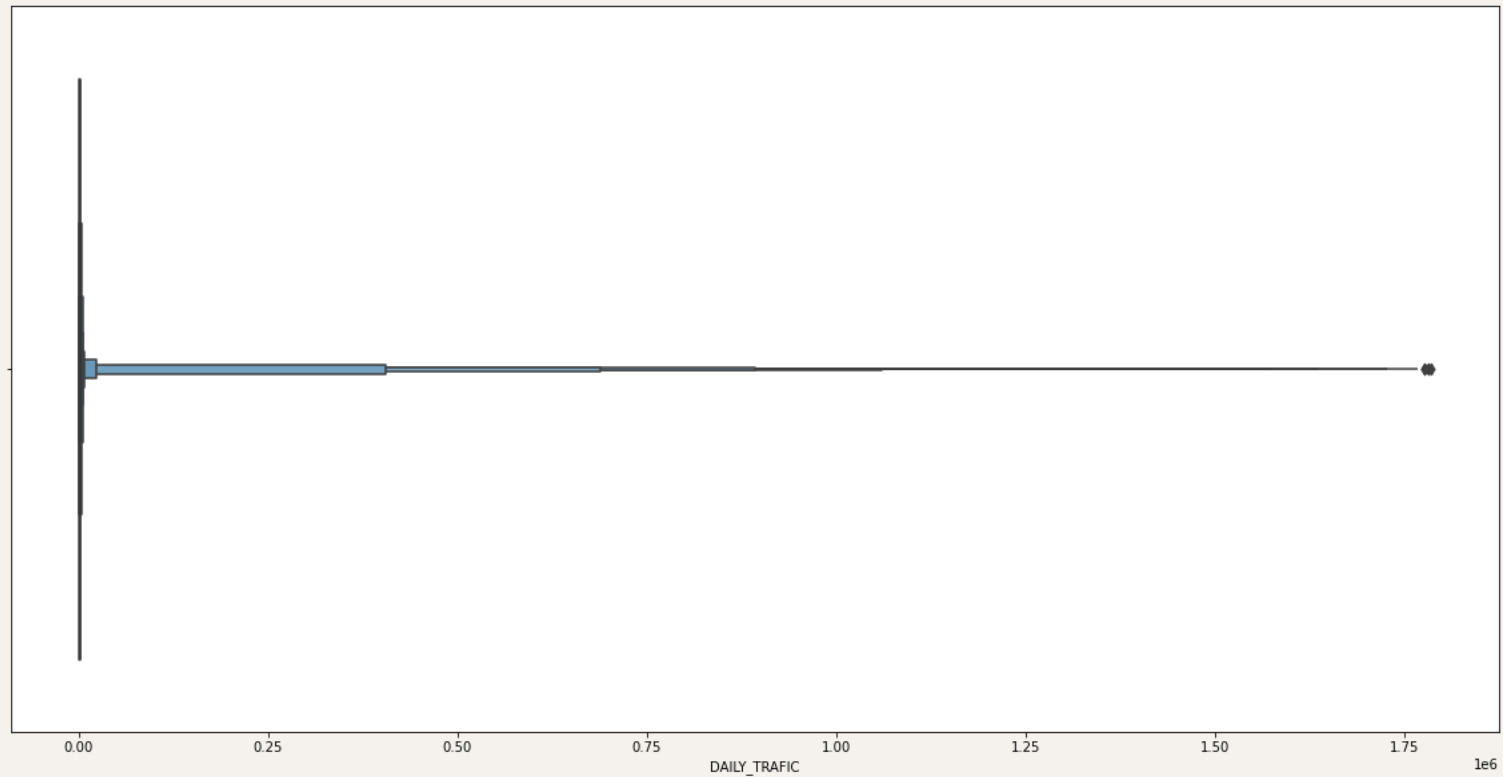
Data Cleaning

- Null values
 - Fix column
 - Duplicates Rows
 - Outliers
- ✓ NO Null values
 - ✓ Rename , add columns , change types of columns
 - ✓ Delete duplicates, fix cumulative entries and exits , found daily traffic
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Distribution of Records for trafic

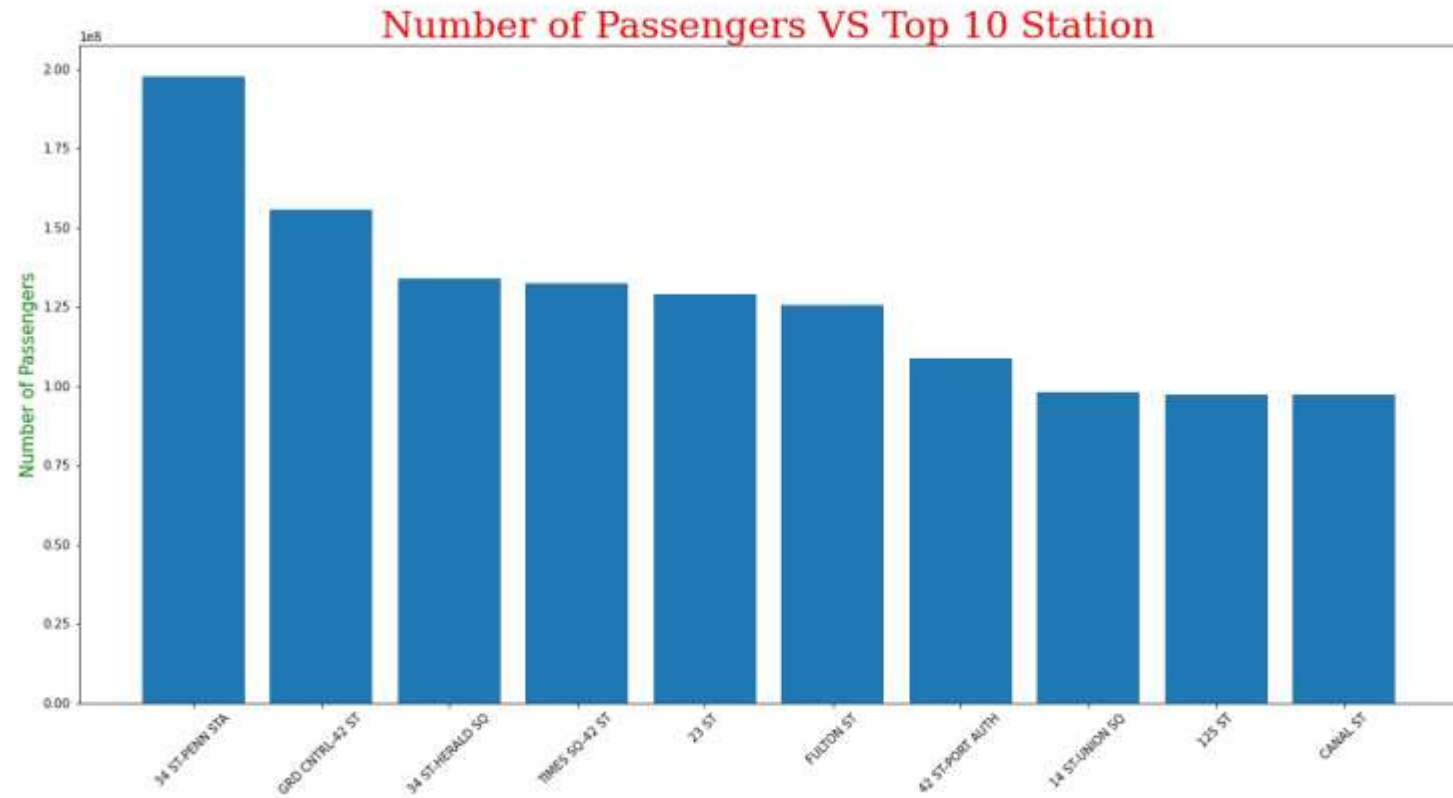


Distribution of Records for trafic



Results

Top Ten Traffic Stations

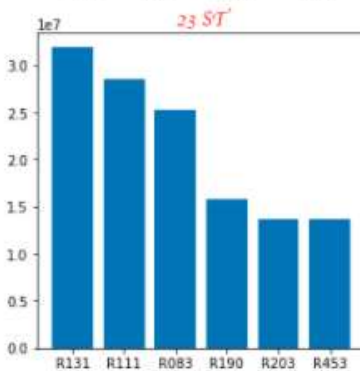
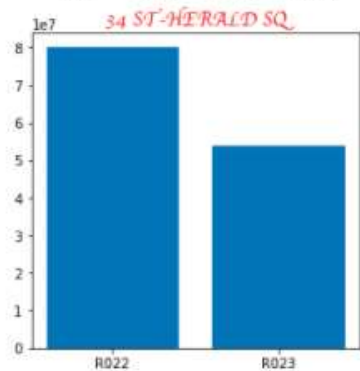
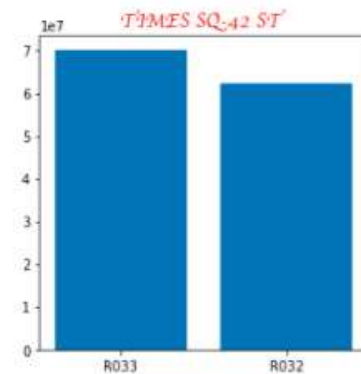
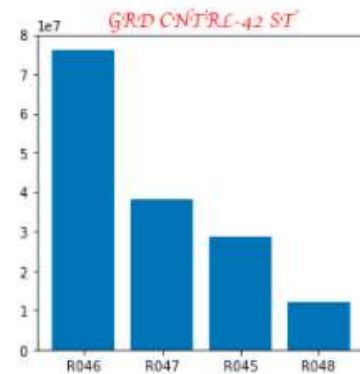


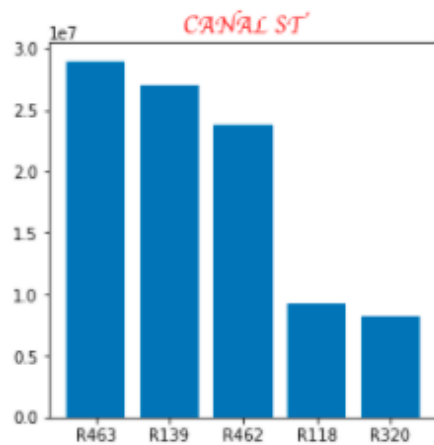
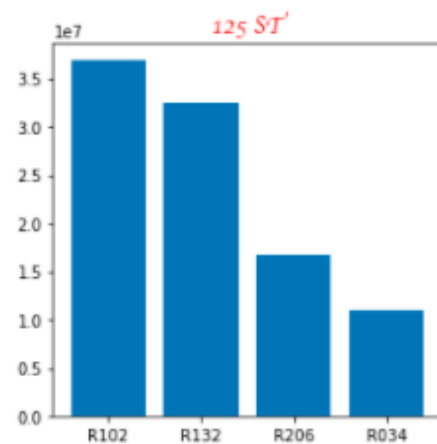
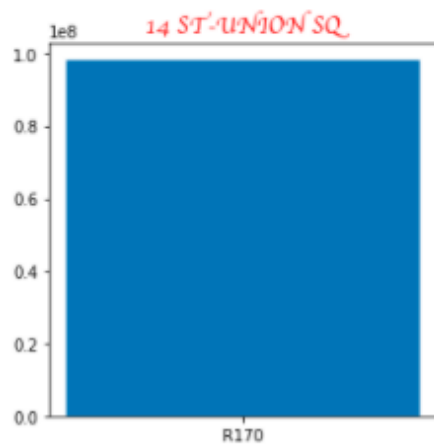
Best entry in single station

Crowded passengers For A Every Station

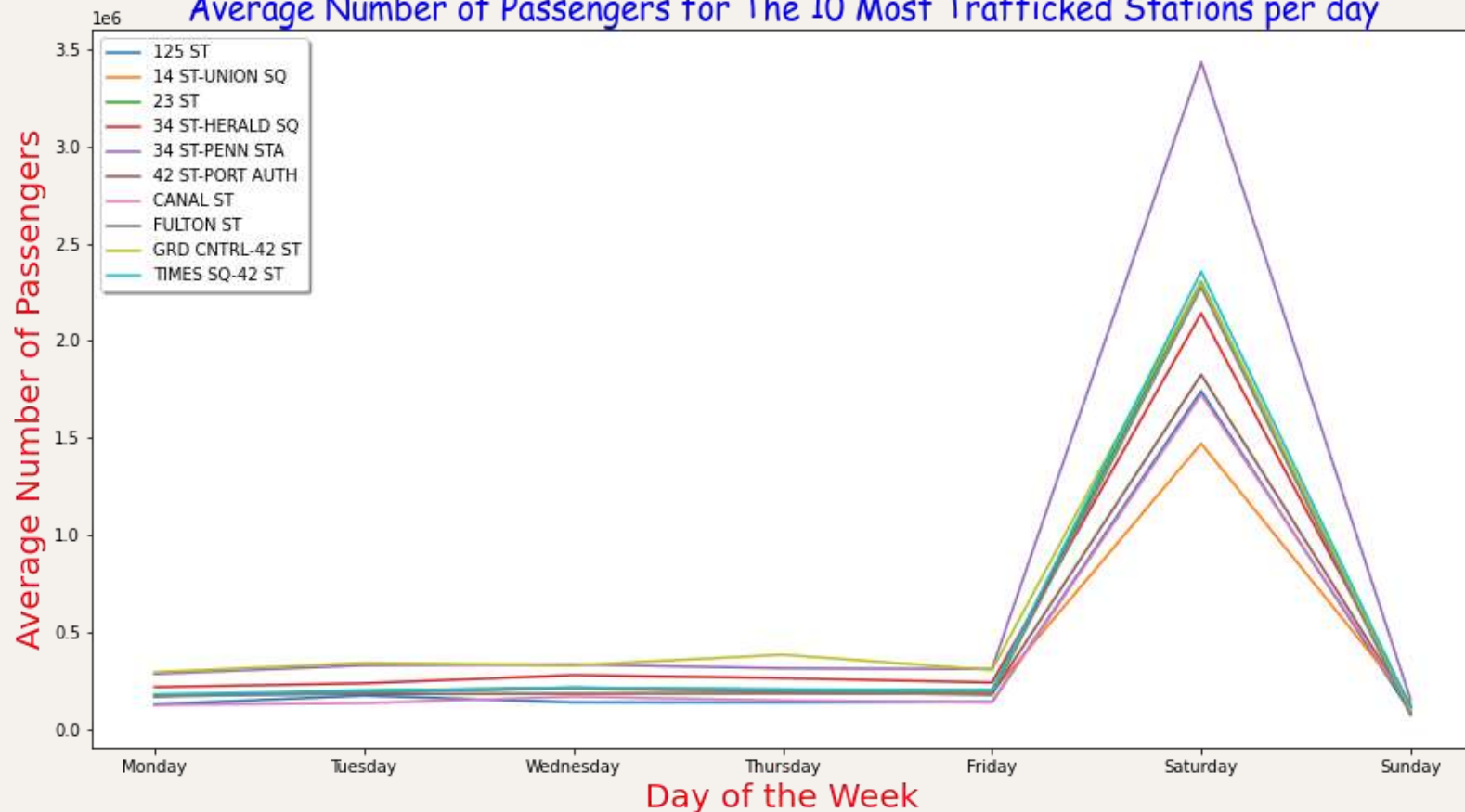


Crowded passengers For A Every Station





Average Number of Passengers for The 10 Most Trafficked Stations per day



Conclusion:

- The top stations are :
 - ✓ 34 ST-PENN STA
 - ✓ GRD CNTRL-42 ST
 - ✓ 34 ST-HERALD SQ
 - ✓ TIMES SQ-42 ST
 - ✓ 23 ST
 - ✓ FULTON ST
 - ✓ 42 ST-PORT AUTH
 - ✓ 14 ST-UNION SQ
 - ✓ 125 ST
 - ✓ CANAL ST.
- Each station have multiple entry so I choose best entry.
- Weekdays is the best days for maintenance and refill vending machines.

Thanks

Do you have any
questions?

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