MTA Seasonal Traffic Case Study

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Introduction

The Metropolitan Transportation Authority (MTA) is a public benefit company that was founded on 21/05/1965 and oversees public transportation in the New York City metropolitan region in the United States state of New York.

The MTA is the biggest public transportation organization in the United States, covering 12 counties in Downstate New York and transporting over 11 million people and 850,000 cars every weekday on its seven toll bridges and two tunnels.

Assuming the usage of public transports differs between seasons,
We well be trying to increase MTA’s income by observing the people traffic in summer & winter seasons.

Goals & Vision

Goals

- ✓ increase public transport popularity
- ✓ Urge people to use the public transport more

Vision

- ✓ Enable MTA to observe people traffic to manage the best plan each season

Project Details

Description of the dataset

The MTA dataset shows the number of people using the stations gates each 4 hours, Each row of the tables represetns a gate number and it’s entering and exiting time

Sample size

We well be using data of 8 months as following:

January - February 2014 (Winter season)

July – August 2014 (Summer season)

January – February 2019 (Winter season)

July – August 2019 (Summer season)

This way we can state if the people usage of public transport differs each season and get a solution for the decrease of usage.

Scope

The dataset contains 3,088,413 rows & 11 columns.

The important columns are:

C/A: Control Area

UNIT: Remote Unit for a station

SCP: Subunit Channel Position represents a specific address for a device

STATION: Represents the station name the device is located at

LINENAME: Represents all train lines that can be boarded at this station

DIVISION: Represents the Line originally the station belonged to BMT, IRT, or IND

DATE: Represents the date

TIME: Represents the time for a scheduled audit event

DESC: Represent the "REGULAR" scheduled audit event

ENTRIES: The comulative entry register value for a device

EXITS: The cumulative exit register value for a device

Tools

Technologies:

- Python
- SQL
- Jupyter notebook

Libraries:

- NumPy
- Pandas
- Matplotlib