Los Angeles Parking Citation Analysis

The Coding Bootcamp | 01-26-2018

Team

Aihua Chen, Andres Herrera, Glen Dinolfo and Ramneek Bali

Project Overview

Los Angeles Parking Citations:
- This dataset is maintained using Socrata's API and Kaggle's Dataset
- Updated Daily, millions of rows

Research Questions:
- Which area has most tickets over the course of the year
- Which agency issues the most tickets
- Who makes most money on fines
- What are the top violations
- Which car make gets the most tickets
- Weekdays vs Weekend tickets
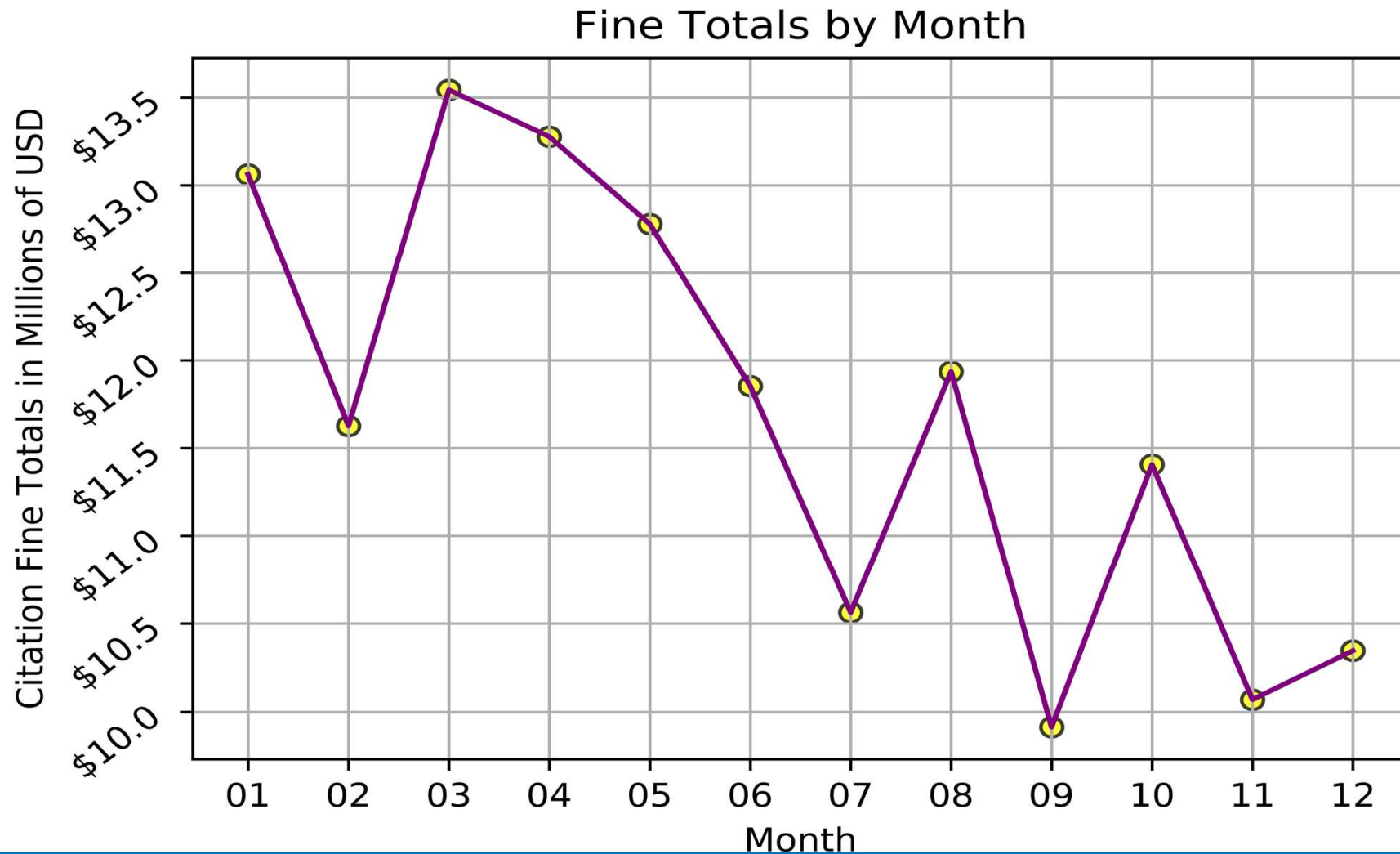- Time of day tickets
- Monthly ticket trends

Project Approach

Data Cleanup:
•Used Pandas in Jupyter to create and cleanup data.

•Converted the data into year and split the data per year.

•Created the right date format and time format.

•Created a separate CSV file for 2018 to manage the number of rows

•Formatted the Latitude and Longitude for plotting

•Got rid of rows with error data

•Cleaned up the violation code and violation description

•Merged the tables in one master table.

•Used pandas to create data frames for plot

•Used API to get the maps and create heatmaps

Monthly Overview

Fine Totals by Month
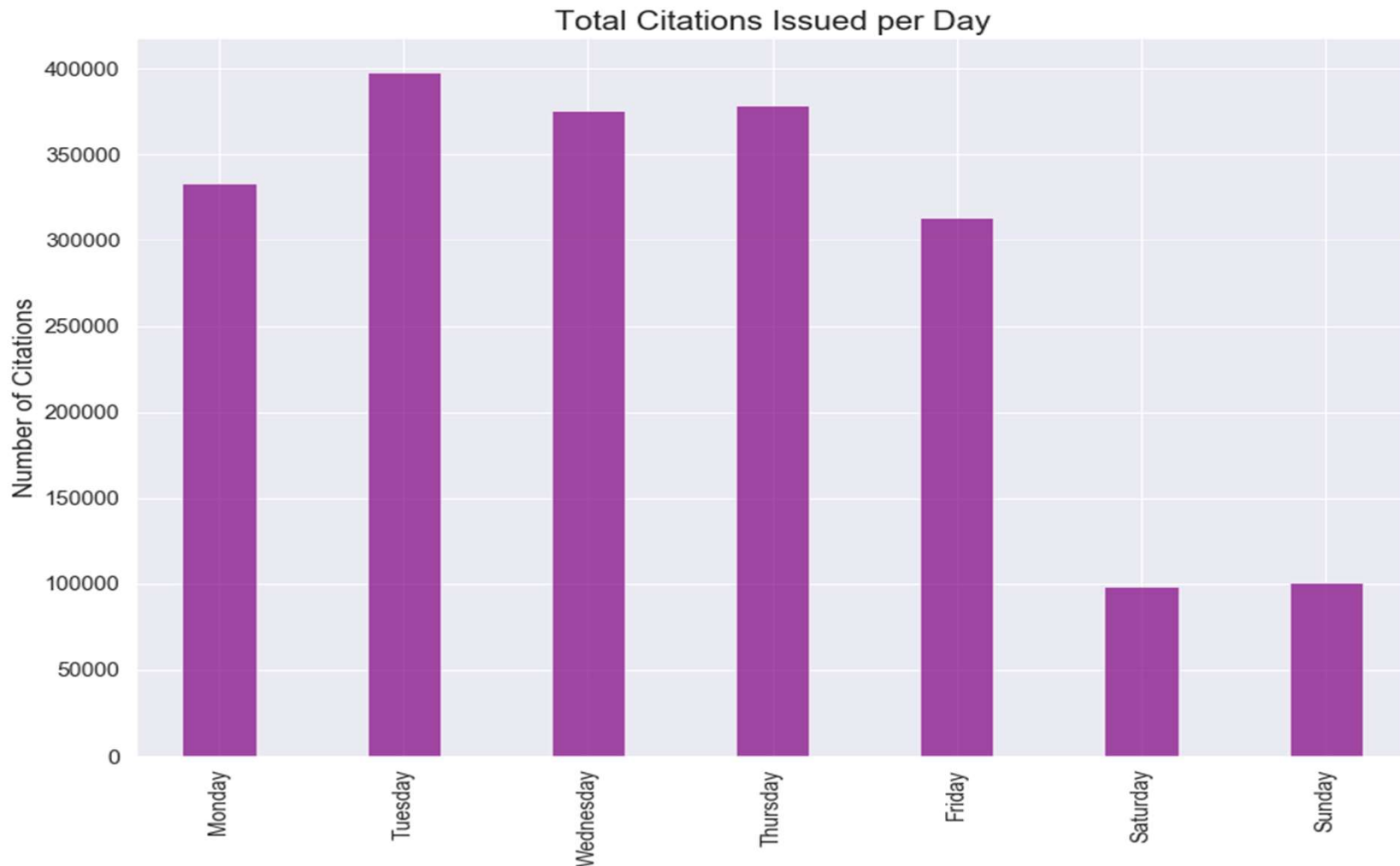
- Total of $140.4 M revenue generated in 2018, with March being the peak and September the lowest.
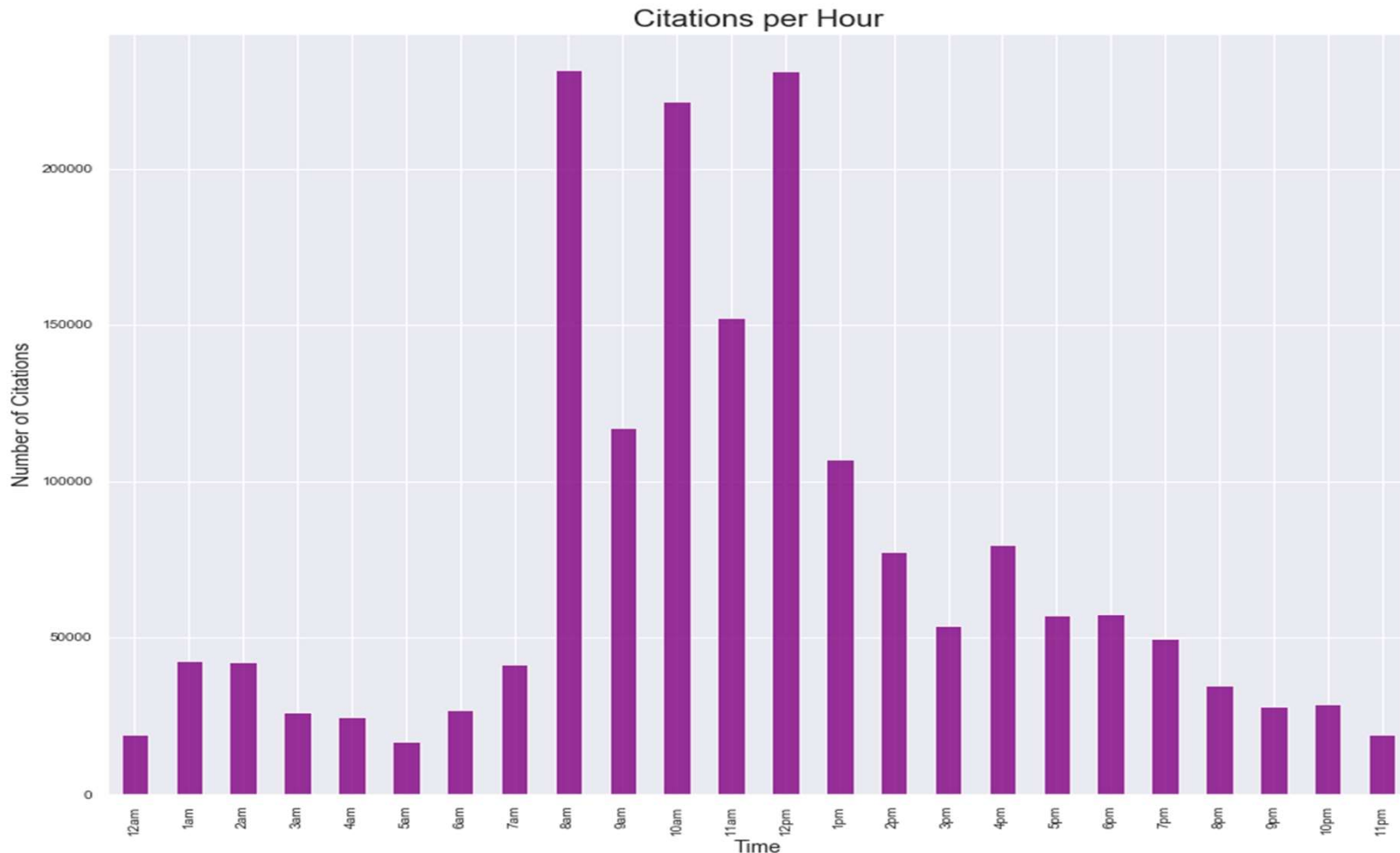- City presents the budget to the board in April.

Daily Overview

Total Citations Issued per Day

- The graph shows a leveled number of ticket across the workweek. Just about a 1/4 of the daily citations happened on Saturday and Sunday individually.
- Tuesday saw the most citations by about 25,000 more than Wednesday or Thursday.
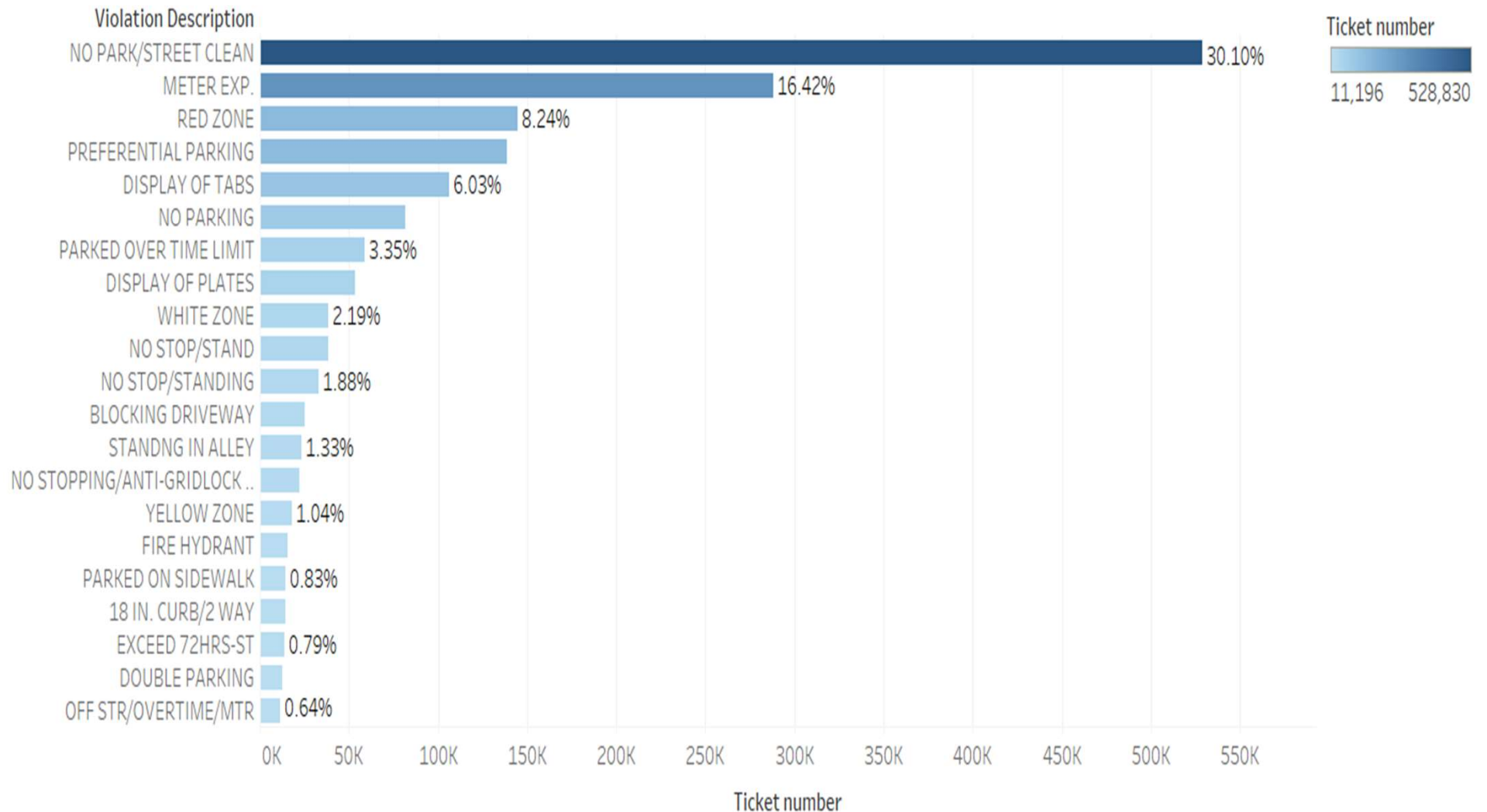
Hourly Overview

Citations per Hour

- The graph shows a drastic jump in issued tickets starting at 8am and lasting throughout noon, where after the number of citations start to decrease.
- Most of the citations were issued at 8am, 10am, and noon.
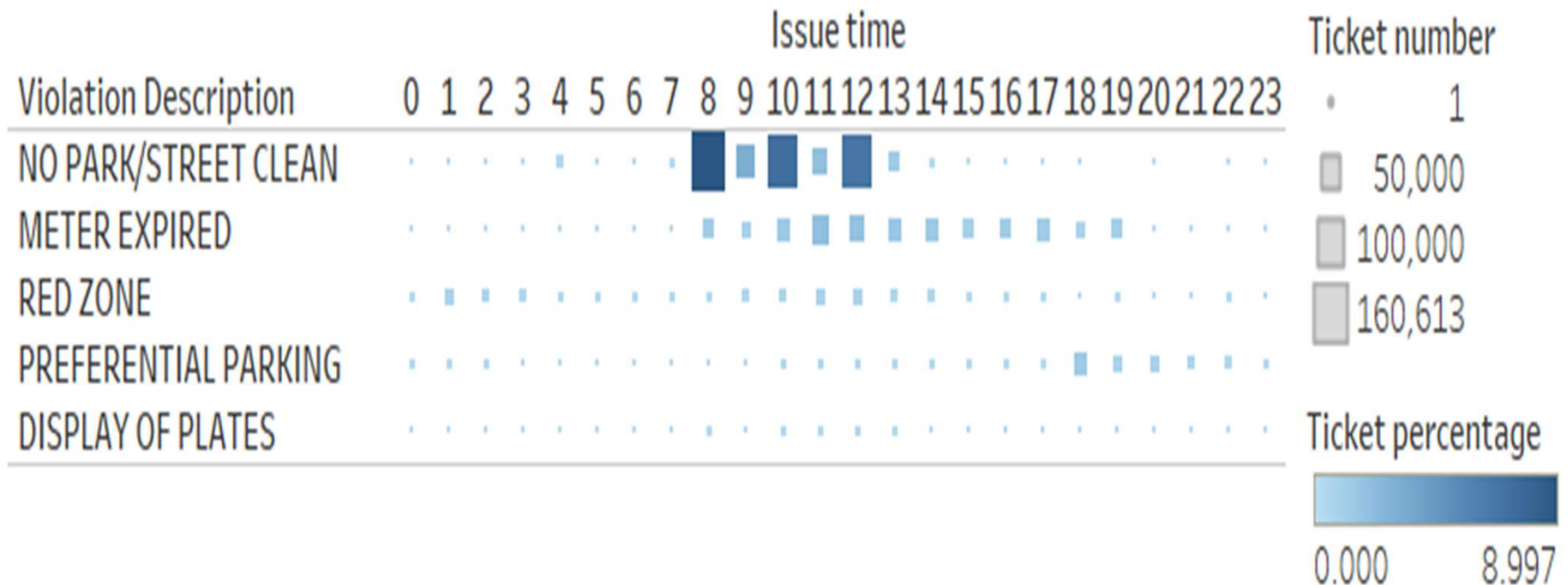
Violation type analysis

Violations VS Ticket Number

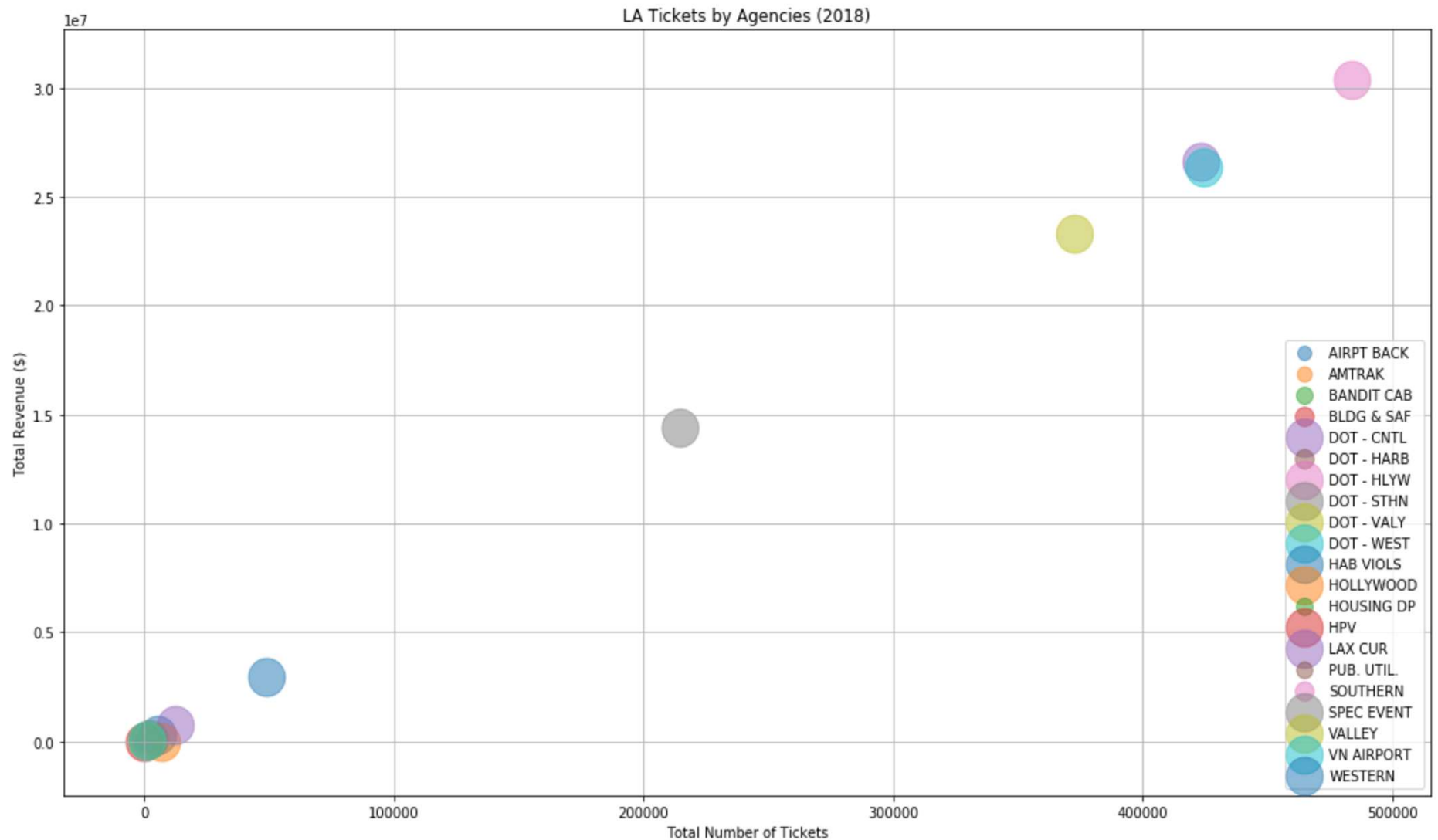The most frequently issued tickets in LA are given for No Park/Street Clean (30%) and Meter Expired (16.42%).

Top Five violations

Top 5 Violations VS Time of the day

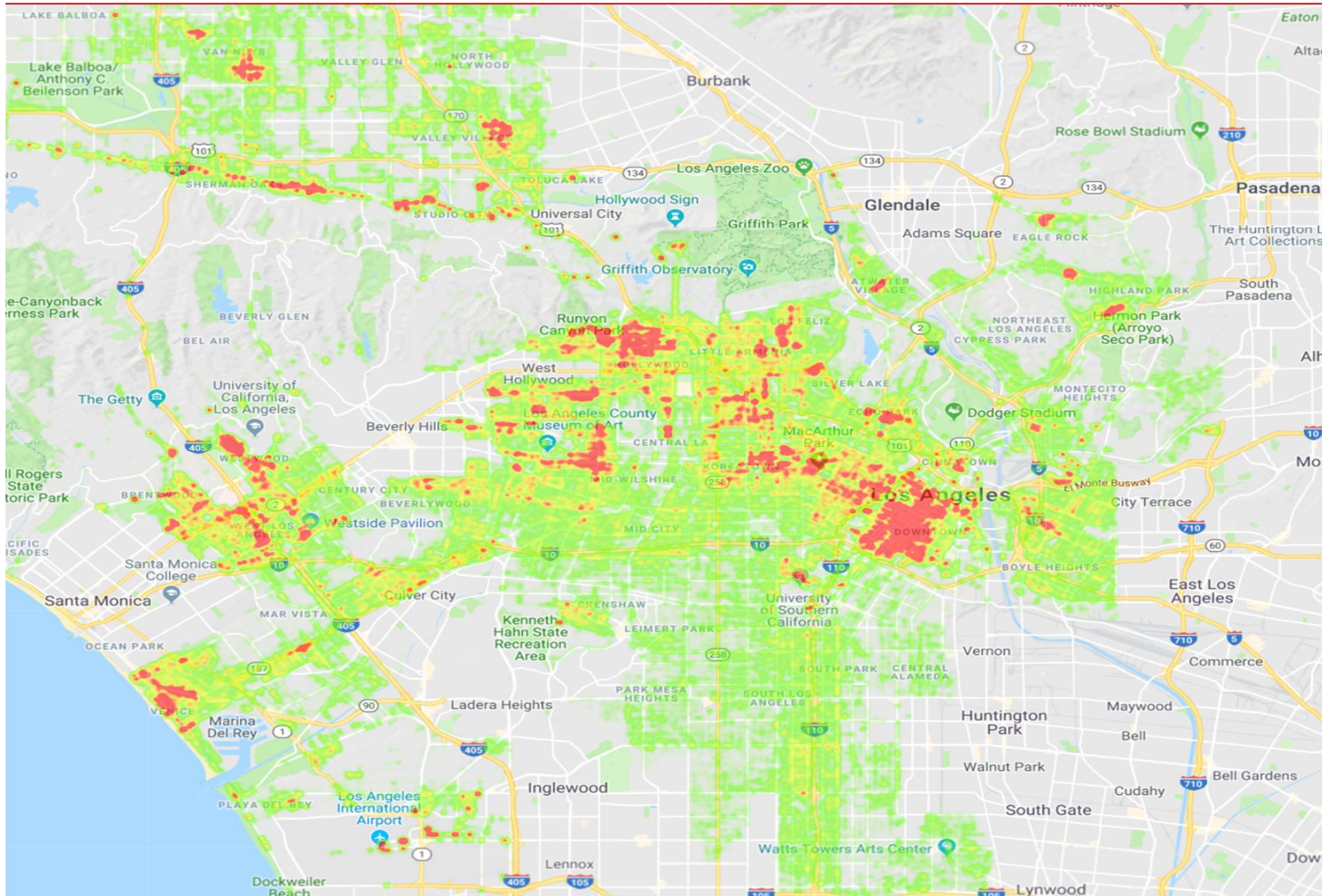| Violation Description	Issue time	Ticket number

- No Park/Street Clean violation happened most frequently around 8am to 13pm.
- Meter Expired violation happened most frequently in the daytime around 8am to 19 pm.
- The frequency of the other three violations tend to be less time sensitive.
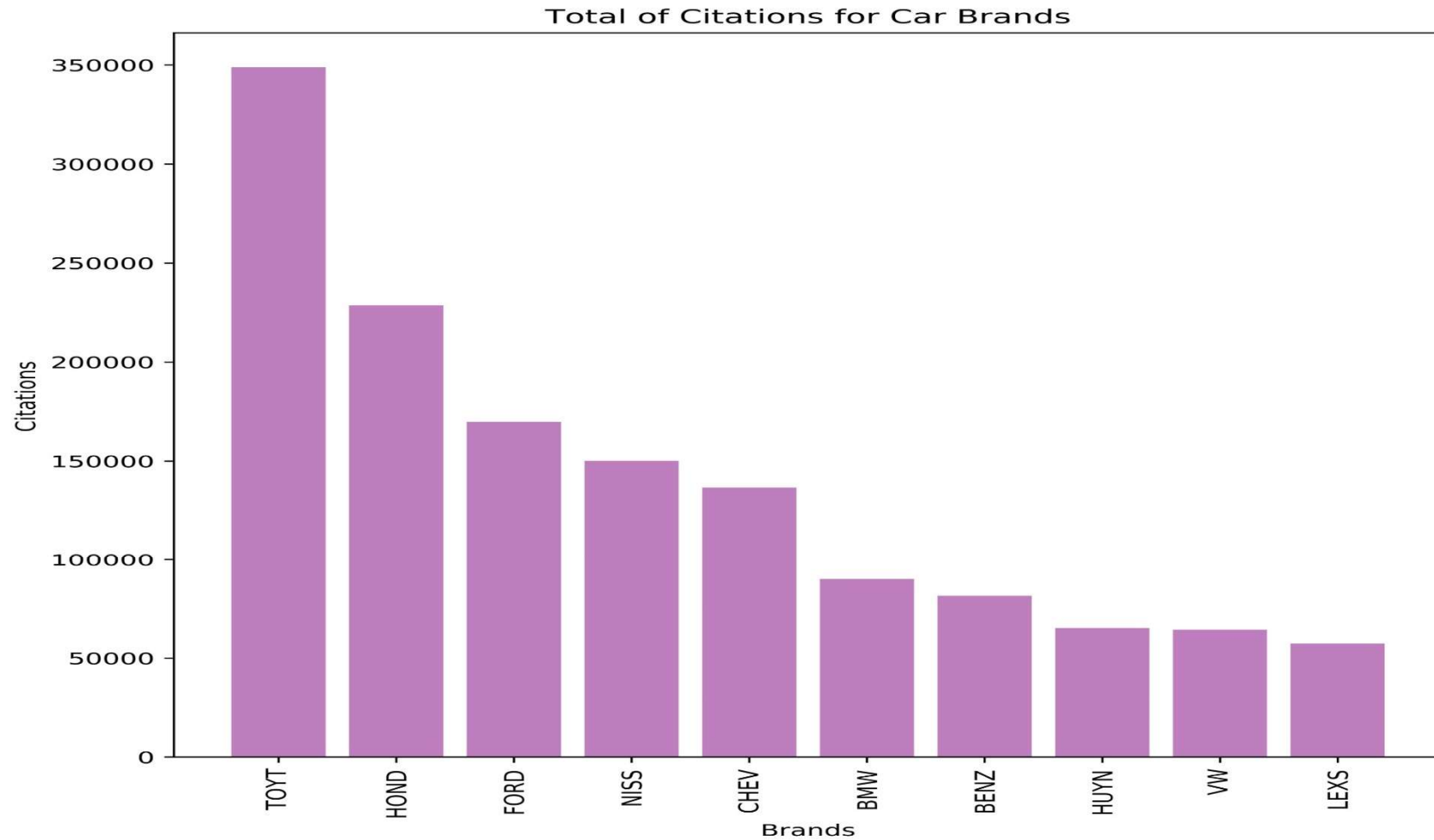
Agency analysis

LA Tickets by Agencies (2018)

DOT Hollywood gives the most tickets, earns the most revenue from the tickets and has the highest single ticket amount out of 23 different agencies.
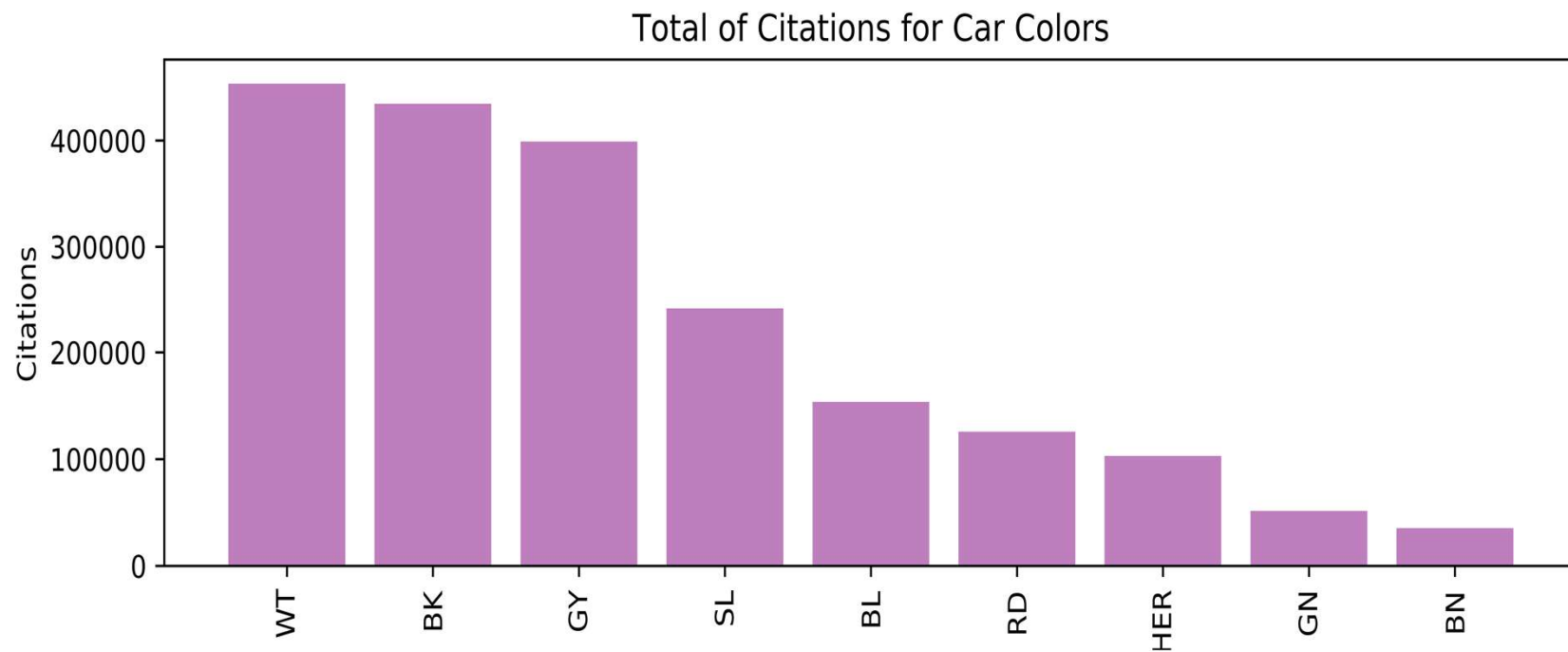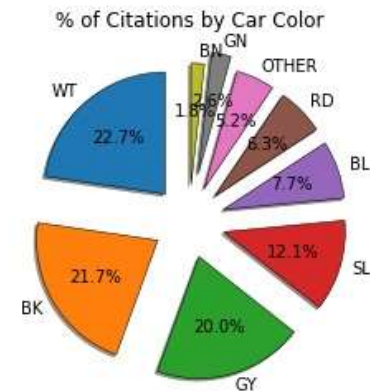
Tickets heat map

Car type analysis

Total of Citations for Car Brands

Most foreign brand cars are in the top 10 for the most citations with Toyota at the top.

Color type analysis

% of Citations by Car Color

Total of Citations for Car Colors

White, black and grey color cars have the most citations and are the most popular car colors

Questions