Uber CASE STUDY

SUBMISSION

Abstract

Business Objective:

- identify the root cause of the problem (i.e. cancellation and non-availability of cars)
- recommend ways to improve revenue by reducing on cancellation and non-availability

Strategy: Plot charts to visually identify problems areas

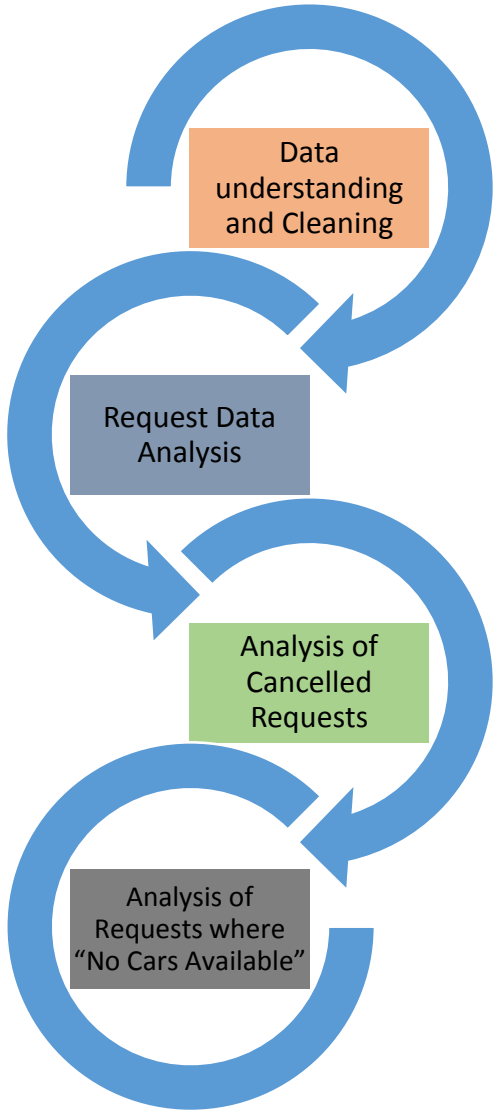
Constraints:

- only trips to and from airport are being considered.

Data Source:

- masked data set of Trip requested between 11th July to 15th July 2016
- 6700+ requests with various parameters

Problem solving methodology



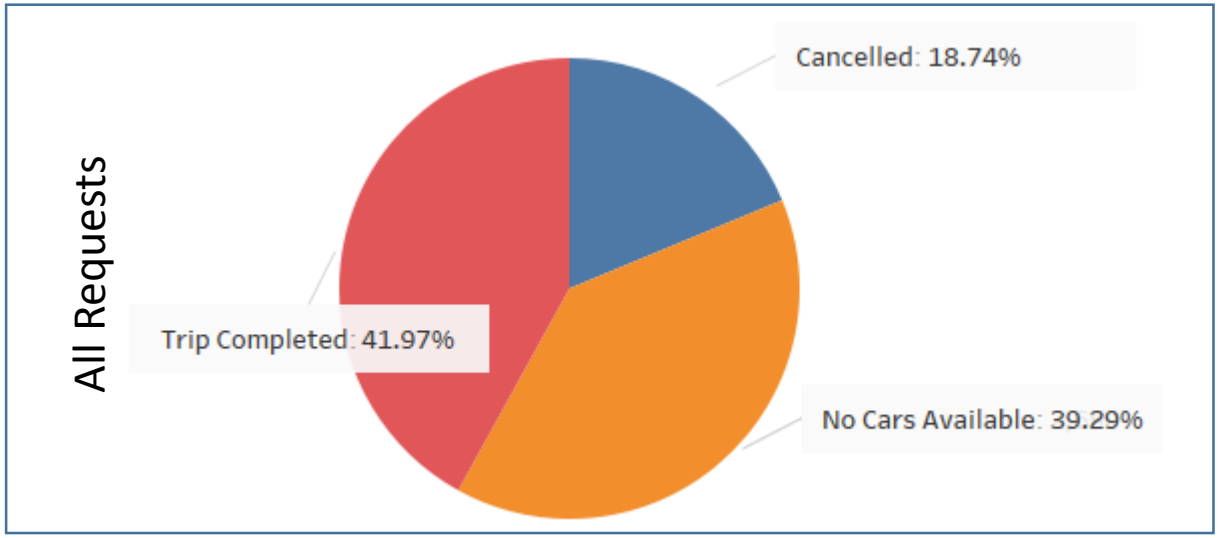
- AS-IS loading Uber Request Data in R
- Analysis of data to identify data integrity problems.
- Convert Request Timestamp & Drop Timestamp to standard format

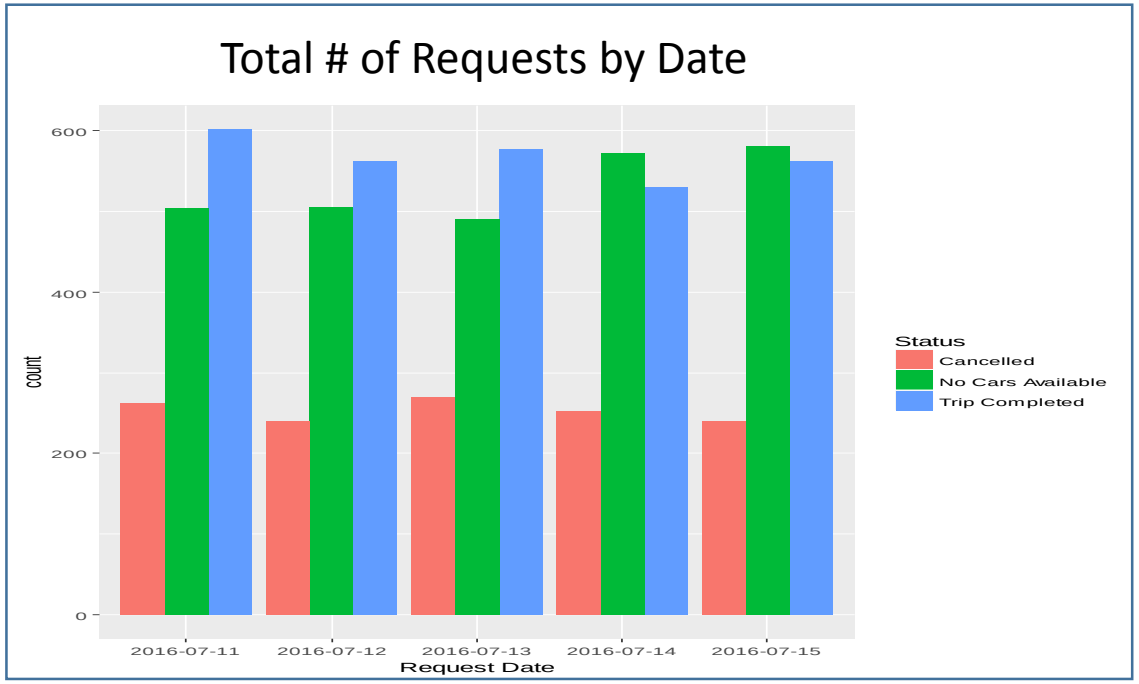
- Identify Total Request made from Airport & City for each Status – Trip Completed, Cancelled, No cars Available
- Identify Total Request between 11th – 15th July 2016 for each Status – Trip Completed, Cancelled, No cars Available

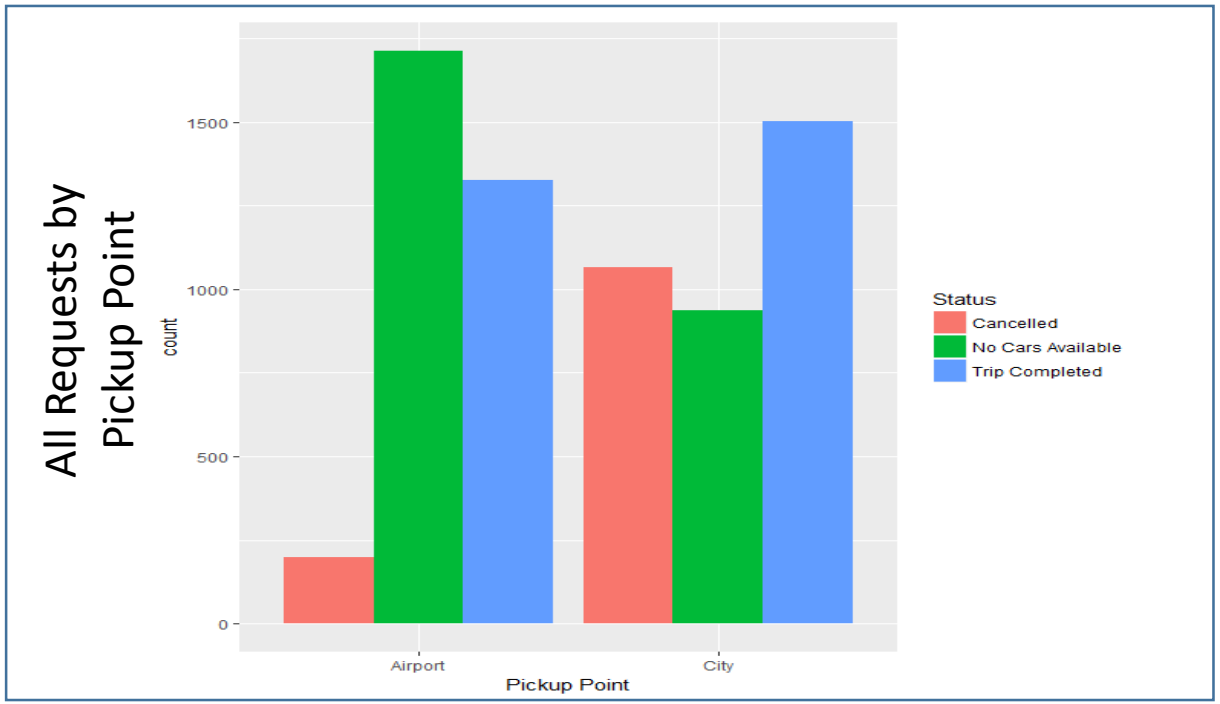
- Identify the time when most trips were cancelled.
- Identify location from where the trips request were cancelled most.
- Plot a day wise graph for cancelled request between 11th - 15th July to identify patterns

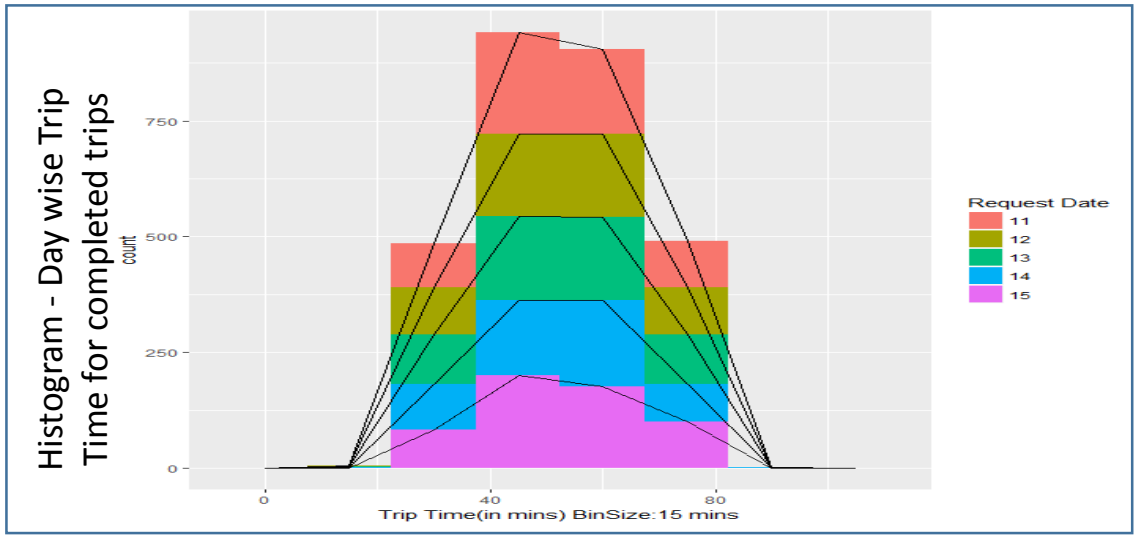
- Identify the time when car were not available.
- Identify location from where the cars were not available
- Plot a day wise graph for request between 11th - 15th July to identify patterns

Analysis – Total Requests based on date and pickup









Analysis – Total Requests based on date and pickup(Contd…)

All Request

- Trip Completed - Only **42%** of total Request
- **58%** Requests were either **"Cancelled"** or not fulfilled due to **"No Cars Available"**
- More # of requests during early mornings(from city) and Late evenings (from Airport).

Status - No Cars Available

- 40% Request not handled
- More than 500 Requests/day could not be completed

Status - Cancelled

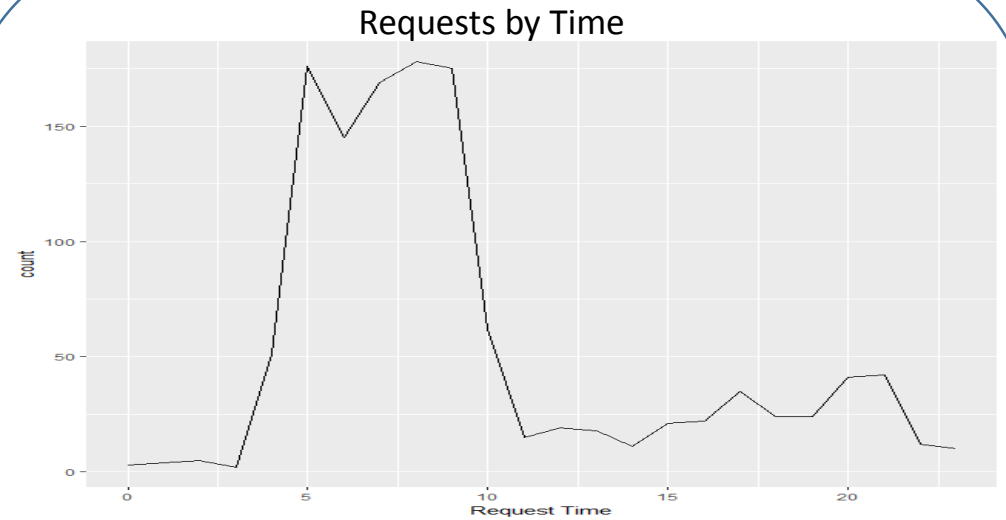
- 19% Request not handled due to this reason
- More than 200 Requests/day were cancelled by drivers

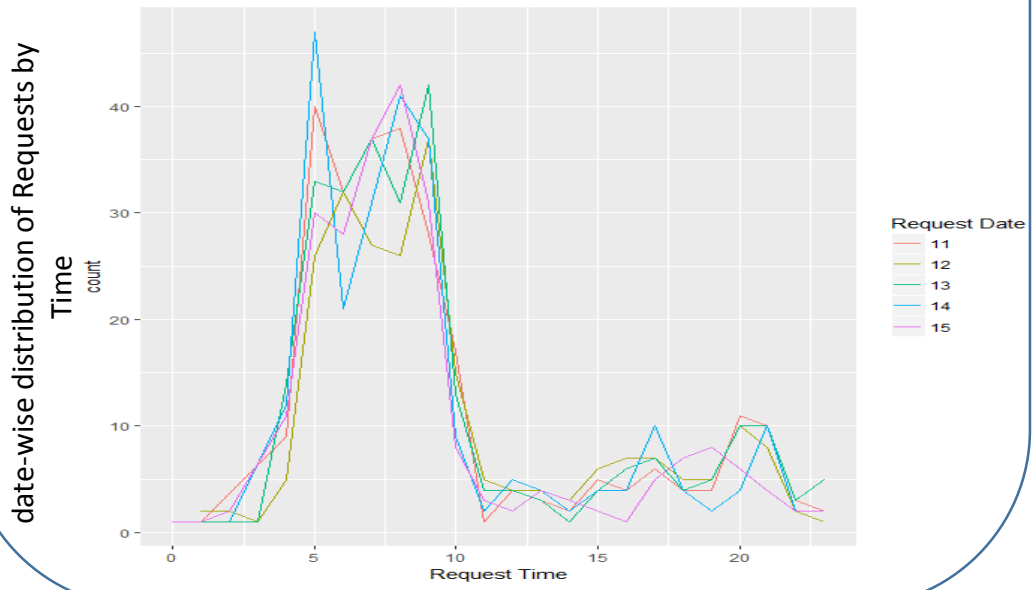
Pickup Point

- No. of requests from city were higher during early mornings.
- No. of requests from Airport were higher during late evening and night time
- High number of Requests from Airport were not fulfilled due to "No Cars Available"
- Relatively high number of requests from City were cancelled by drivers

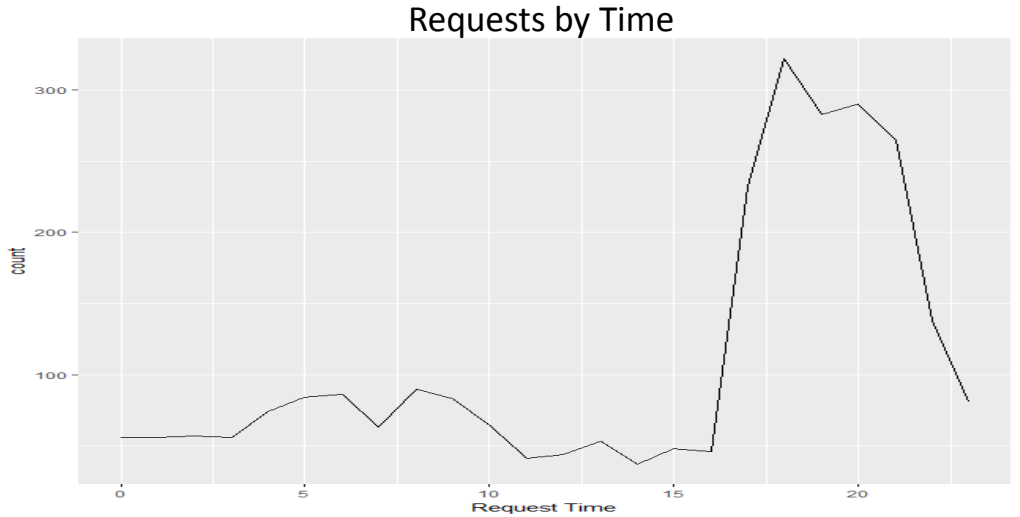
Analysis – "Cancelled" and "No Cars Available" Requests

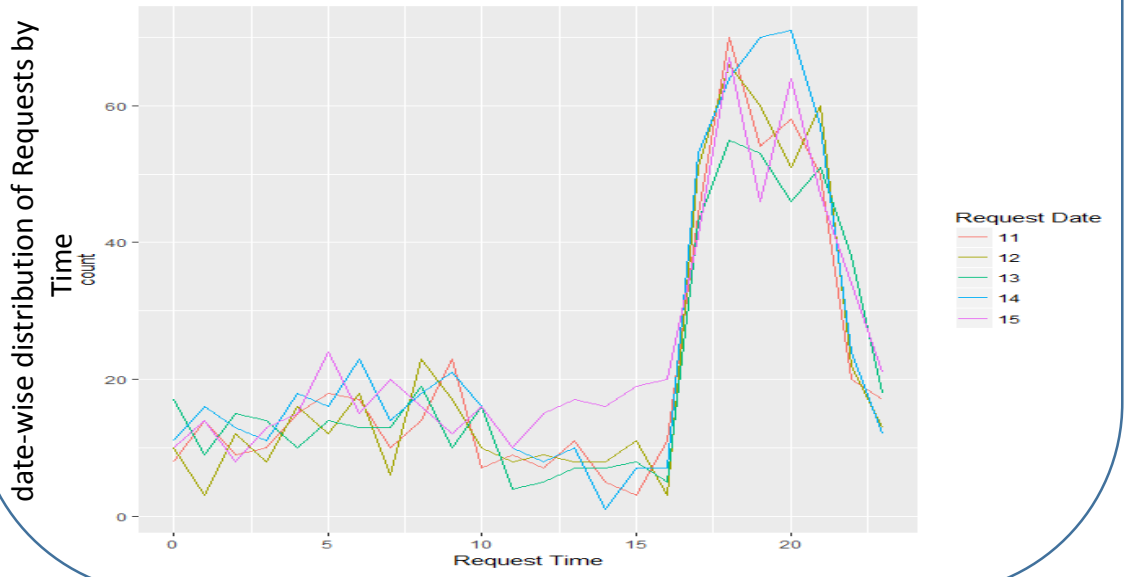
"Cancelled" Request





"No Car Available" Request





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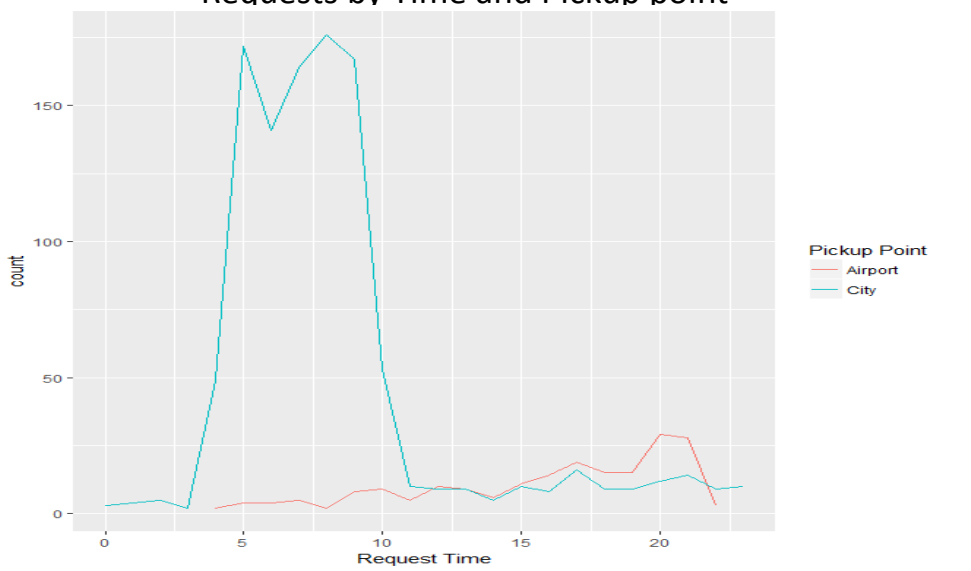
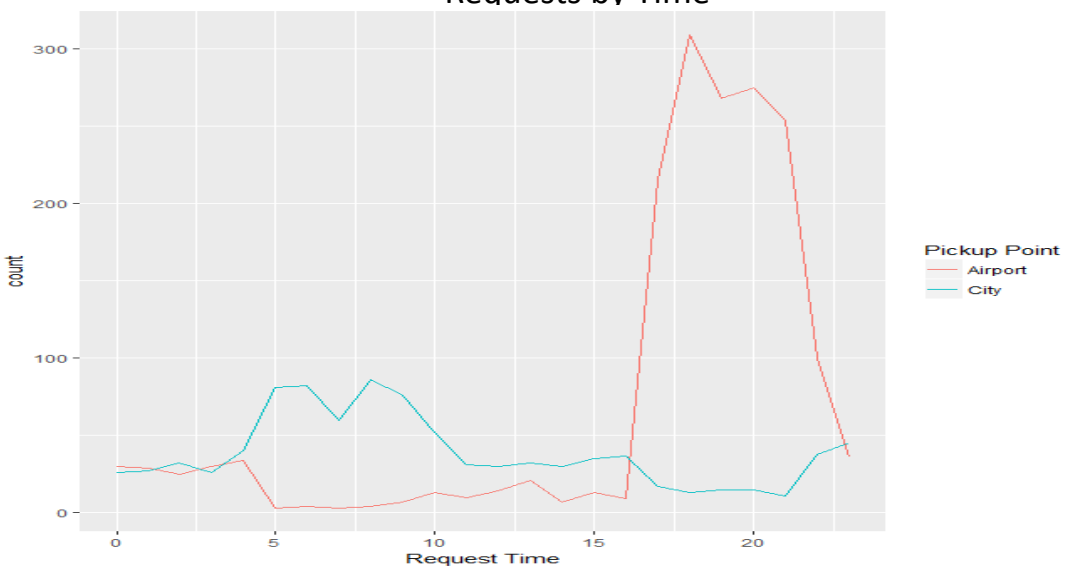
"Cancelled" Request

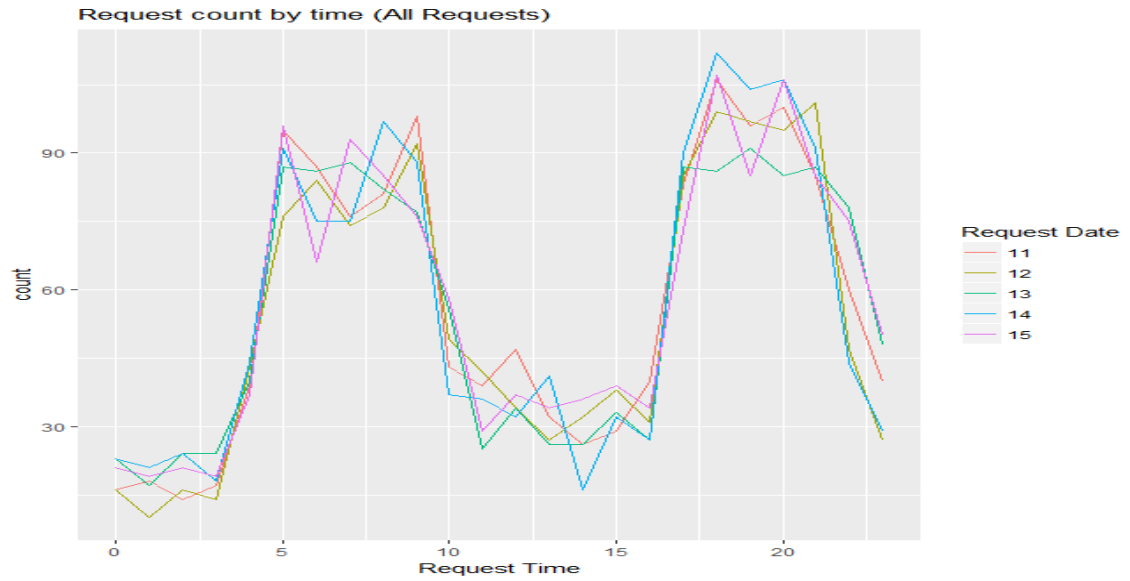


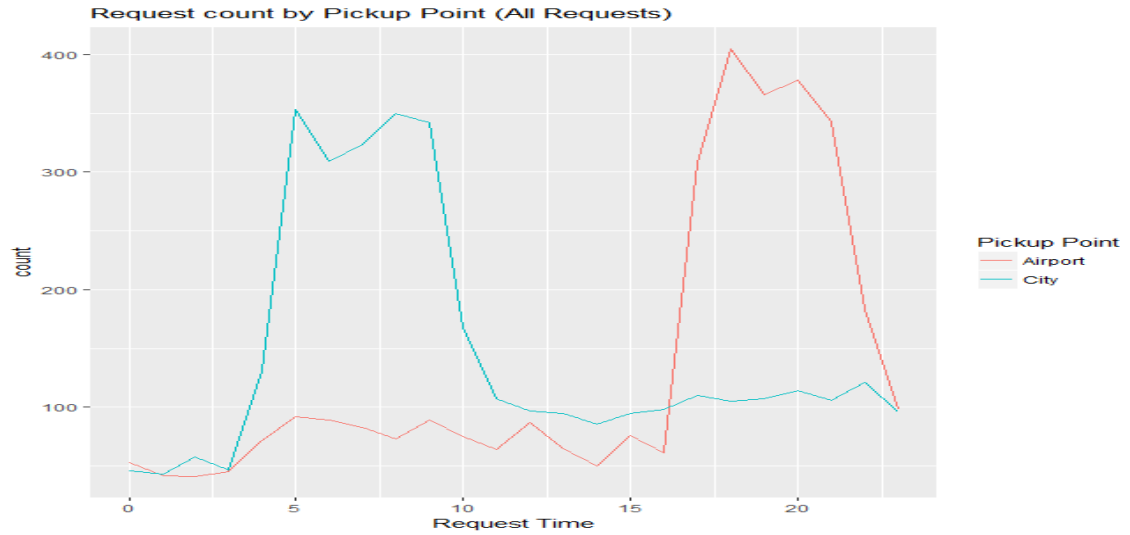
"No Car Available" Request



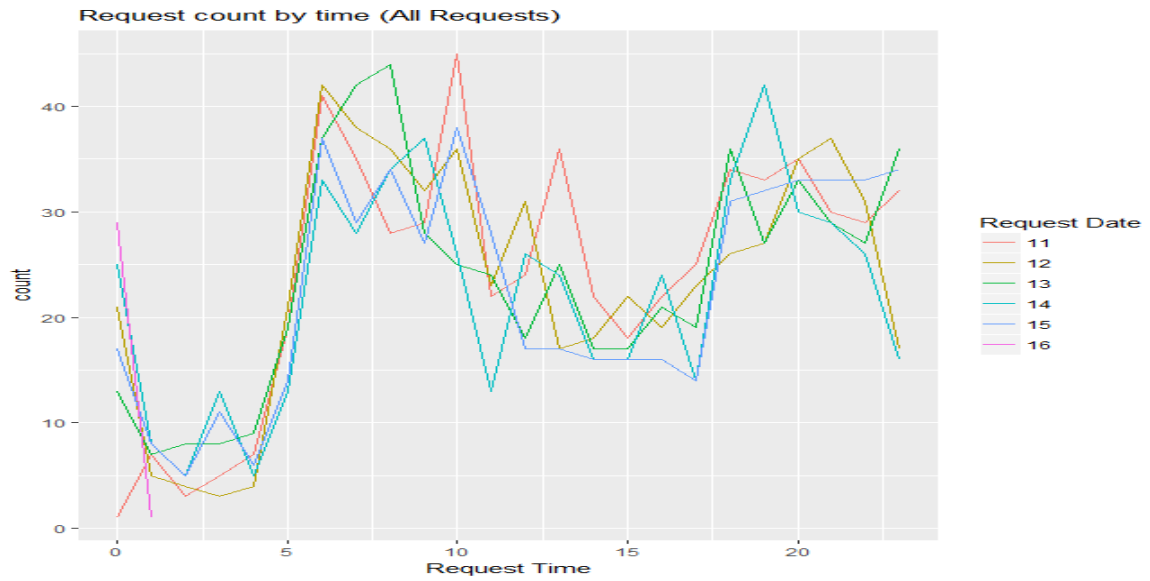
Analysis – Pickup & Drops for All Requests

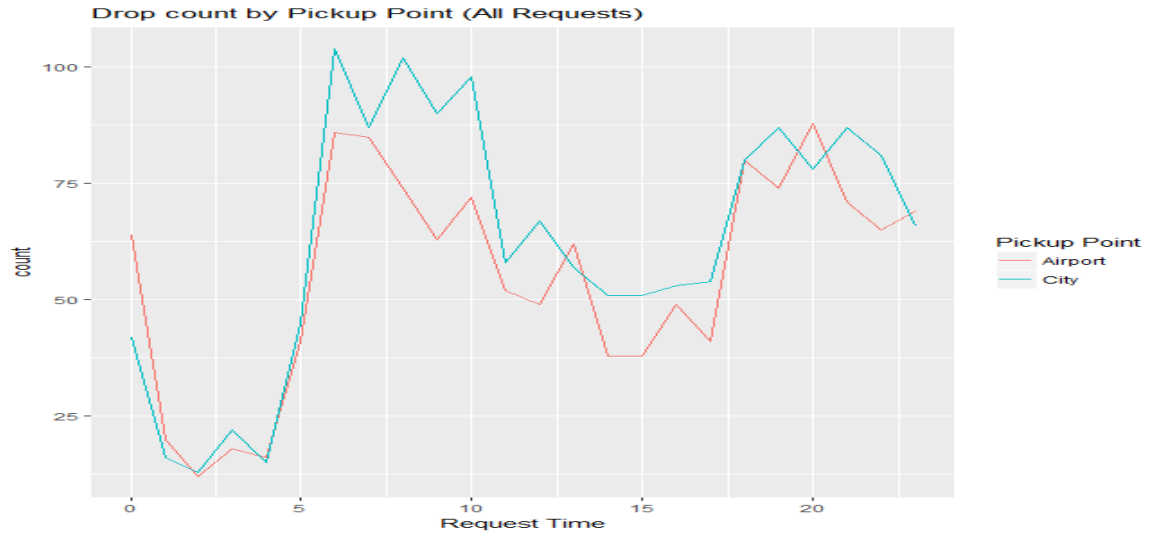
Pickup





Drops





Overall Analysis

- During peak hours from both pickup locations (city, airport), there are not enough taxis available:
  - City (4AM-10AM):
    - 75-90 Requests for pickup on a daily basis
    - 30-40 Cabs are available after drops are complete during the same time
  - Airport (5PM-11PM):
    - 80-100 Requests for pickup on daily basis
    - 30-40 Cabs available
- During early mornings (4AM-10AM), number of request are more from city. Airport has fewer pickup request during the same time window
- During evening and night (5PM-11PM), pickup requests are more from Airport. City has fewer requests during the same time period.
- Most Cancellations happen during early morning (4AM-10AM) from City
- Most request with status as “No Cars Available” are for Airport pickup requests raised during evening and night (5PM-11PM).
- Above two may be because of the wait time the driver has to spend at Airport during early morning or in City during evening/night time
- Pattern is consistent for the entire duration of data (11th July – 15th July)

Recommendations

- Give incentives to drivers who do not cancel Pickup Requests consistently in a given duration.
- Penalize drivers who cancel requests too often
- Enable drivers with short trips(<30 mins) to return quickly at peak time locations by letting them know no. of un-fulfilled requests to help them take a call on whether they want to wait or go to peak location to pickup travelers.
- Share peak loads information with drivers so that they know where most requests are coming from.