



UBER DEMAND-SUPPLY GAP

SUBMISSION

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Abstract

Objective:

The aim of analysis is to identify the root cause of the problem (i.e. cancellation and non-availability of cars) and recommend ways to improve the situation.

Problem Statement:

Uber is an online cabs rental service provider. Uber is facing driver cancellation and no availability of cars issue for commutation from or to the Airport leading impact on the business and loss of potential revenue.

Approach:

- Identify the most pressing problems for Uber.
- Identify the gap between supply and demand of requests.
- Identify the reason for the supply-demand gap and recommend some ways to resolve them.

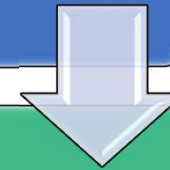
Problem solving methodology

Data Cleaning and Preparation

Identify the data quality issues and clean the data so that you can use it for analysis.

Ensure that the dates and time are in the proper format.

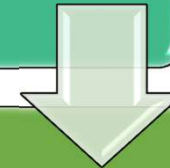
Derive new variables which will be useful for analysis.



Data Exploration and Analysis

Visually identify the most pressing problems for Uber.

Find out the gap between supply and demand and show the same using plots.

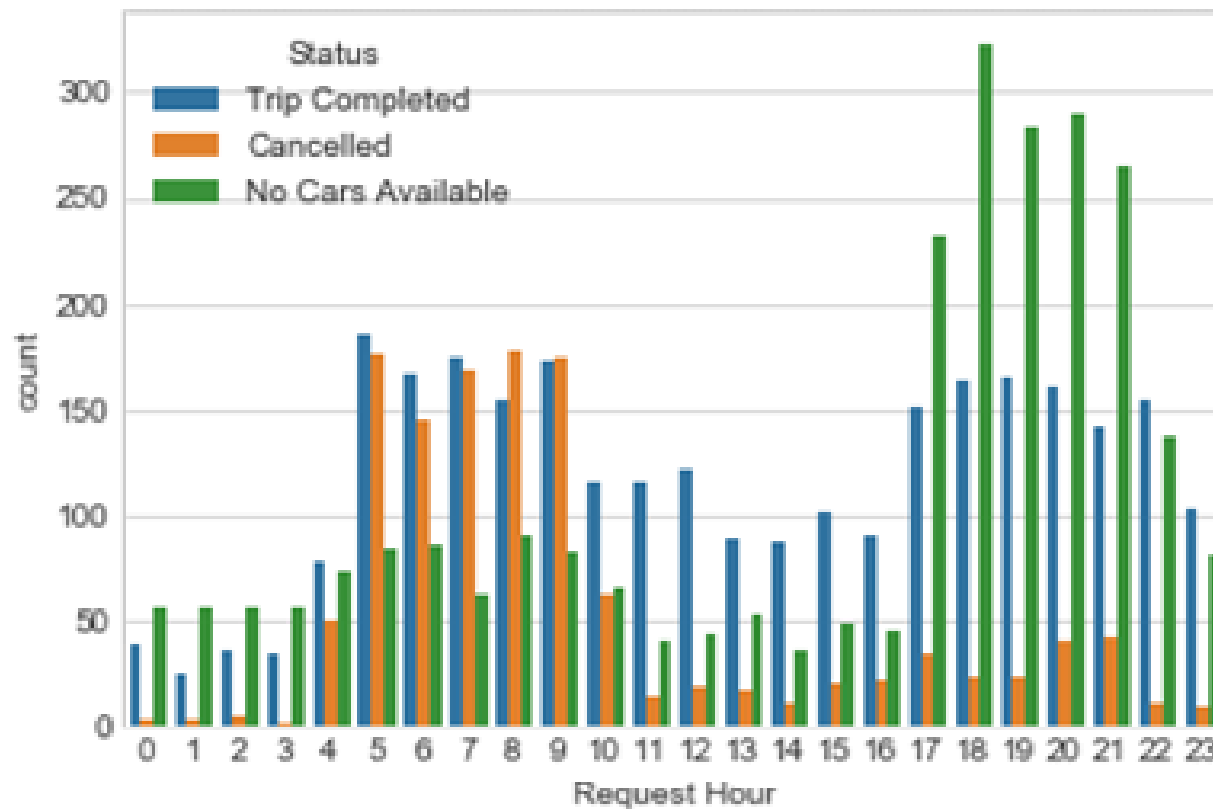


Insights and recommendation

Recommend ways to resolve the supply-demand gap.

Visualize and present the hypothesis to support your insights.

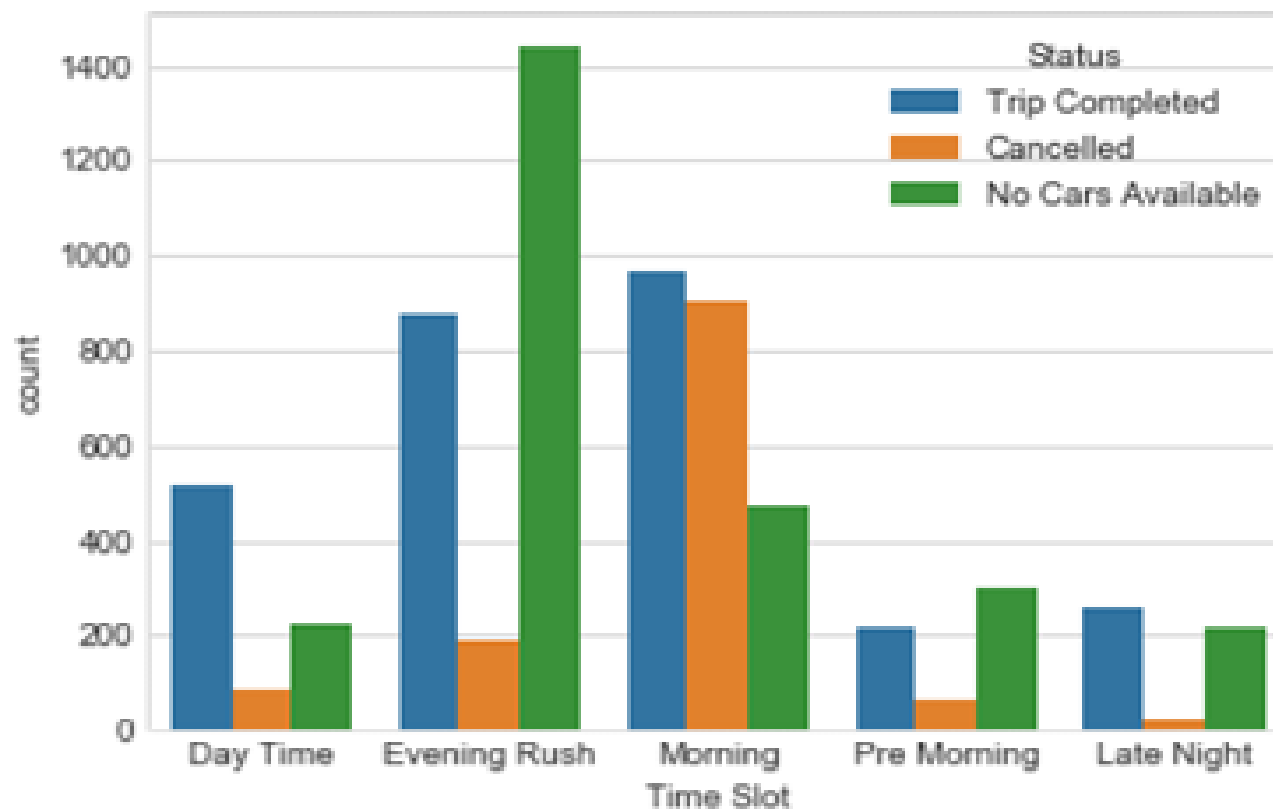
Analysis: Demand Pattern in a Day



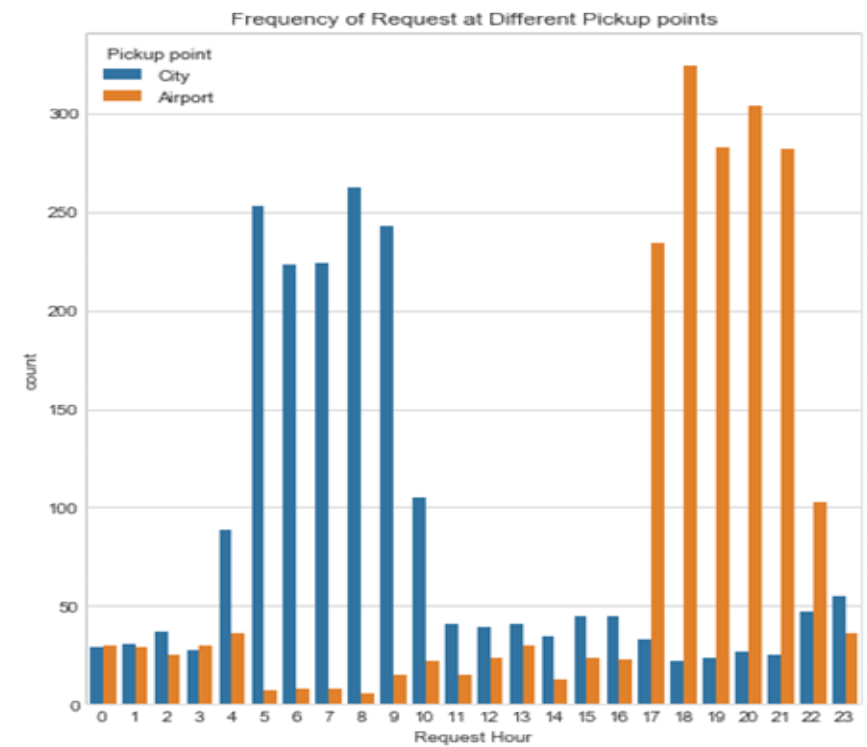
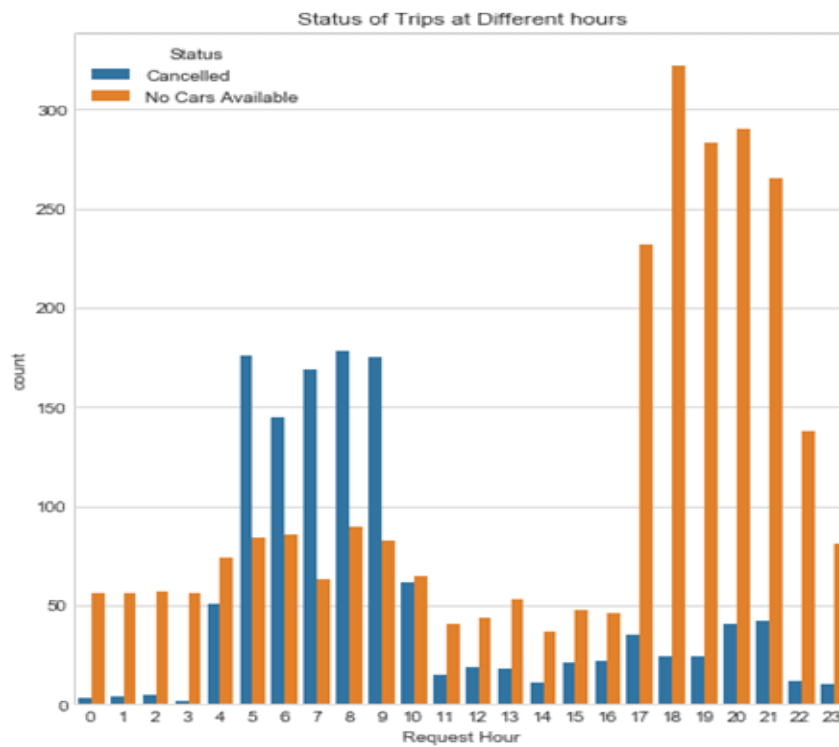
Maximum No cars available during evening hours

Maximum Cancelled requests at early morning

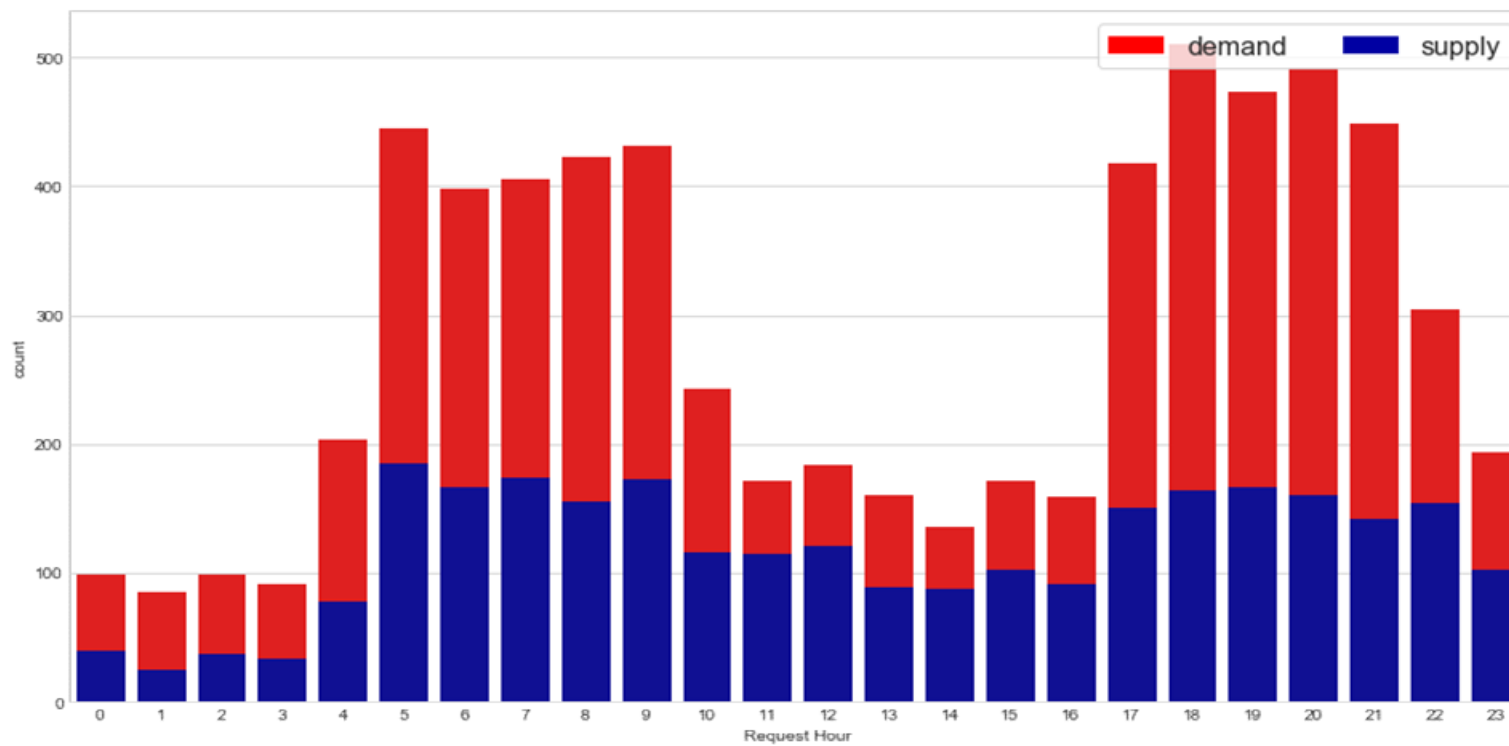
Analysis: Demand Pattern in a Day w.r.t. Time Slot



Most Pressing Problem: Cancelled & No Cars Available

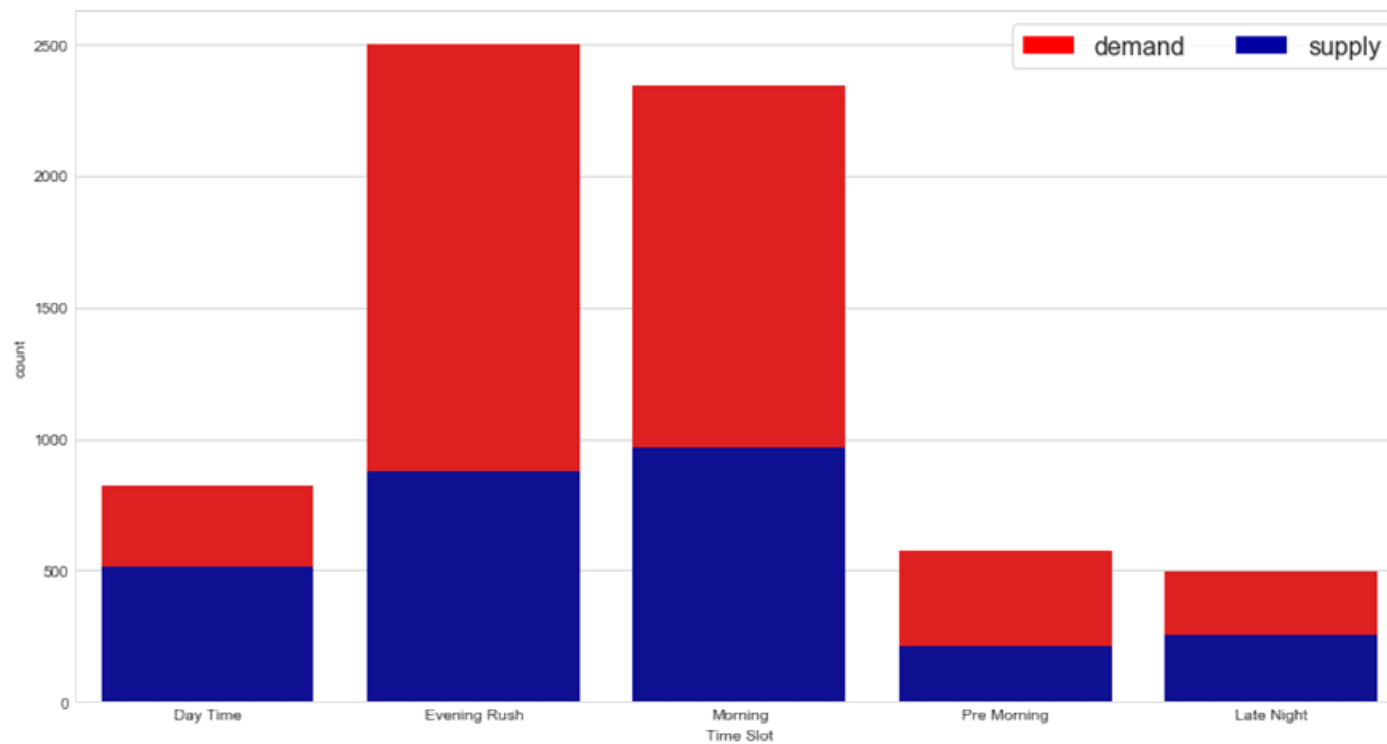


Analysis: Supply Vs. Demand- Gap

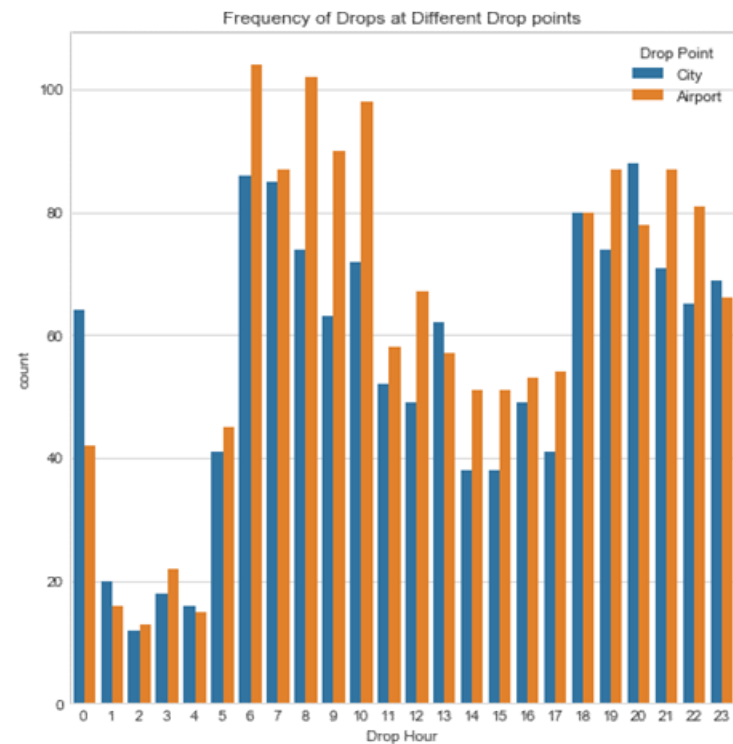
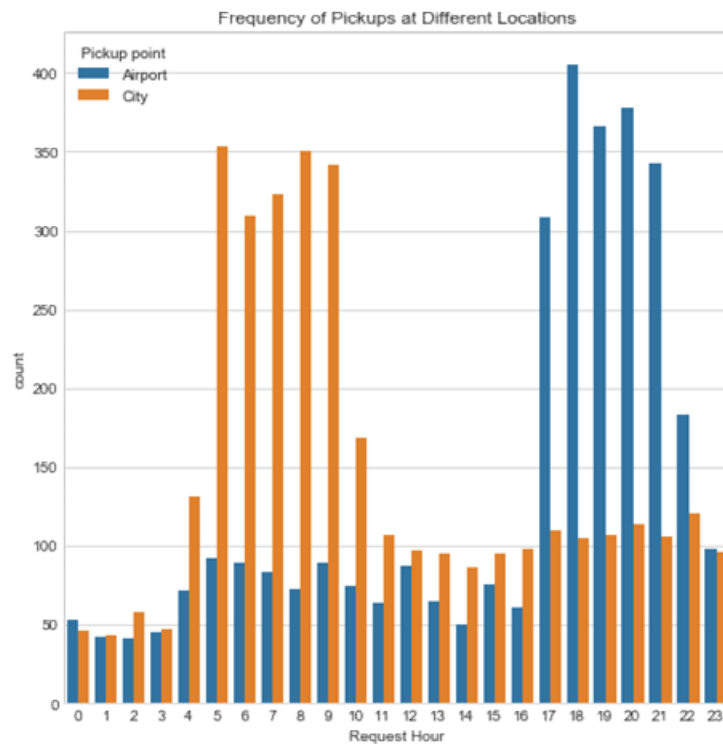


Demand-Supply
Gap during
morning and
evening

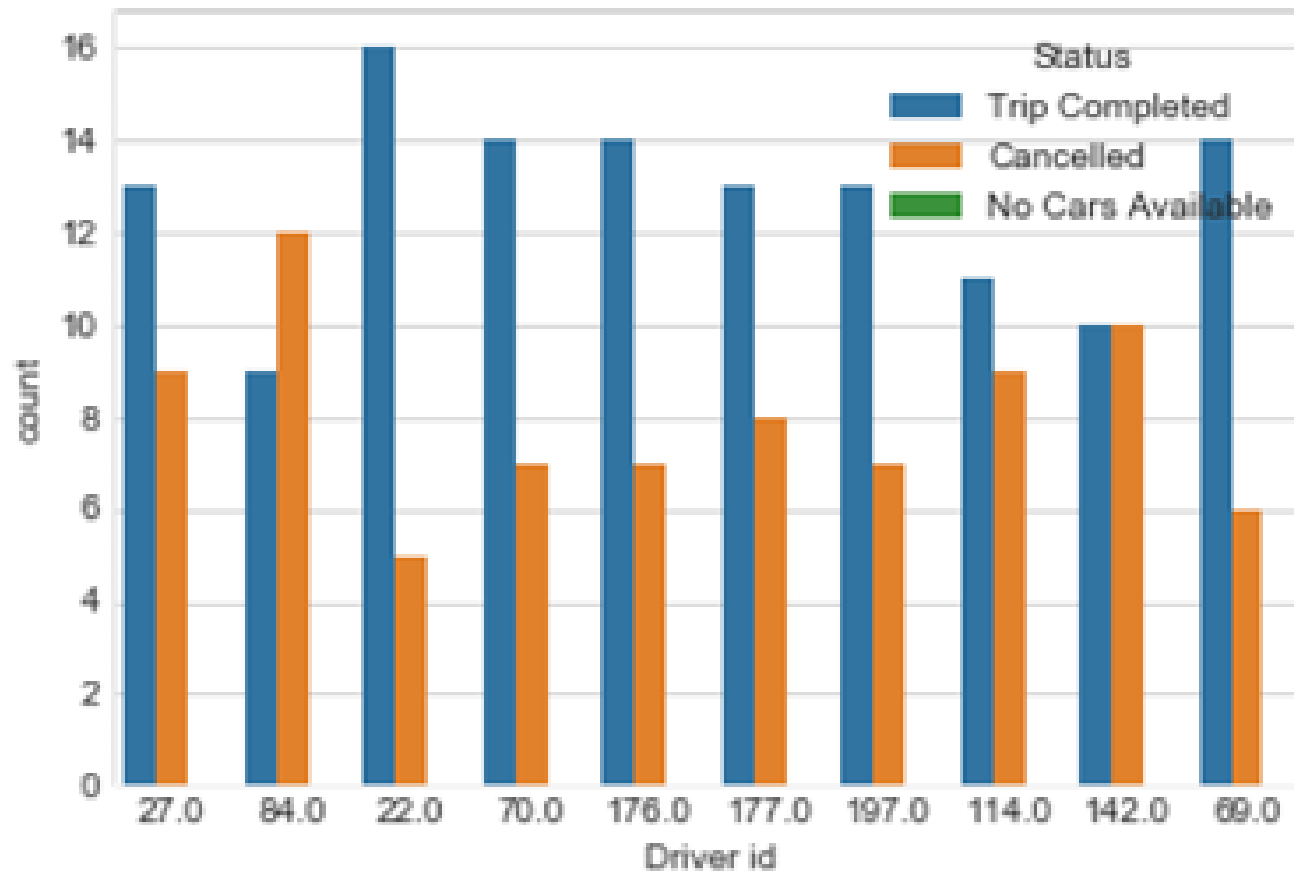
Analysis: Supply Vs. Demand- Gap Timeslot wise



Requests vs. Available Cars



Drivers with maximum 'Statuses'





Reasons for Supply-Demand Gap

- Inflow of Uber cabs to the airport is less during late mornings and Mid day which results in lesser available cabs from airport as can be seen from the graph mentioned in above slides.
- Driver needs to be idle for longer time to get booking back to city.
- Chances of getting pickup is way more than that from Airport.
- Driver may get multiple chance of requests within city runs to complete his daily target, which might be the reason for cancellation for airport travels.
- For most drivers end of day would be late evening
- Travel from city to airport and vice-versa is time consuming due to heavy traffic in cities during peak hours.
- A single Airport ride takes much longer time to complete than a normal city ride and can have multiple rides within city too.
- There is always a gap due to lesser number of requests getting completed and more number of requests coming up for particular location.



Recommendations / Actionable Insights

- Car pool/Share rides service can be introduced to serve the multiple requests in rush hours
- Provide incentives for airport trips during peak time and numerous other benefits too.
- Impose penalty for cancellation of requests by Driver and set threshold for maximum number of cancellations per day
- Provide base price for drivers idle time or to comeback to city with empty passengers.
- Scheduling a cab before ride (Ride Later) options can be initiated thus benefiting both customers and drivers as drivers would be sure of getting pickup from airport.
- Promote to and fro airport rides with more incentives for continuous 3-4 trips.
- Directly asking the driver with maximum cancellations and maximum rides to listen to both sides of story rather than completely relying on data and asking their problems or reasons behind it.