

# UBER

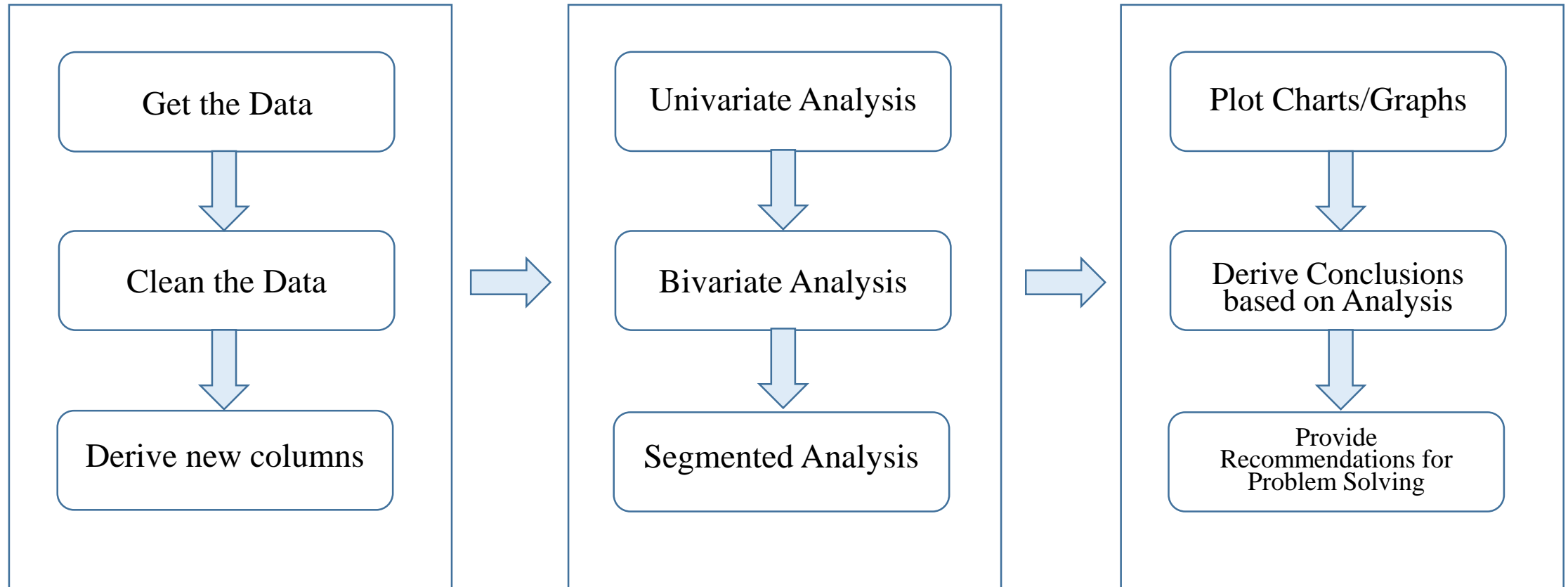
## **Demand Supply Gap Analysis**

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# Business Objective

- Uber Technologies Inc. (doing business as Uber) is a peer-to-peer ridesharing, taxi-cab, food-delivery, bicycle-sharing, and transportation network company headquartered in San Francisco, California, with operations in 785 metropolitan areas worldwide.
- The aim of this analysis is to study the Demand and Supply of Uber Cabs running between the City and the Airport. Through this analysis we need to find out the possible reasons behind the gap in Demand and Supply of Cabs and provide suggestions for reducing this gap and enhancing the Uber Business and profit.

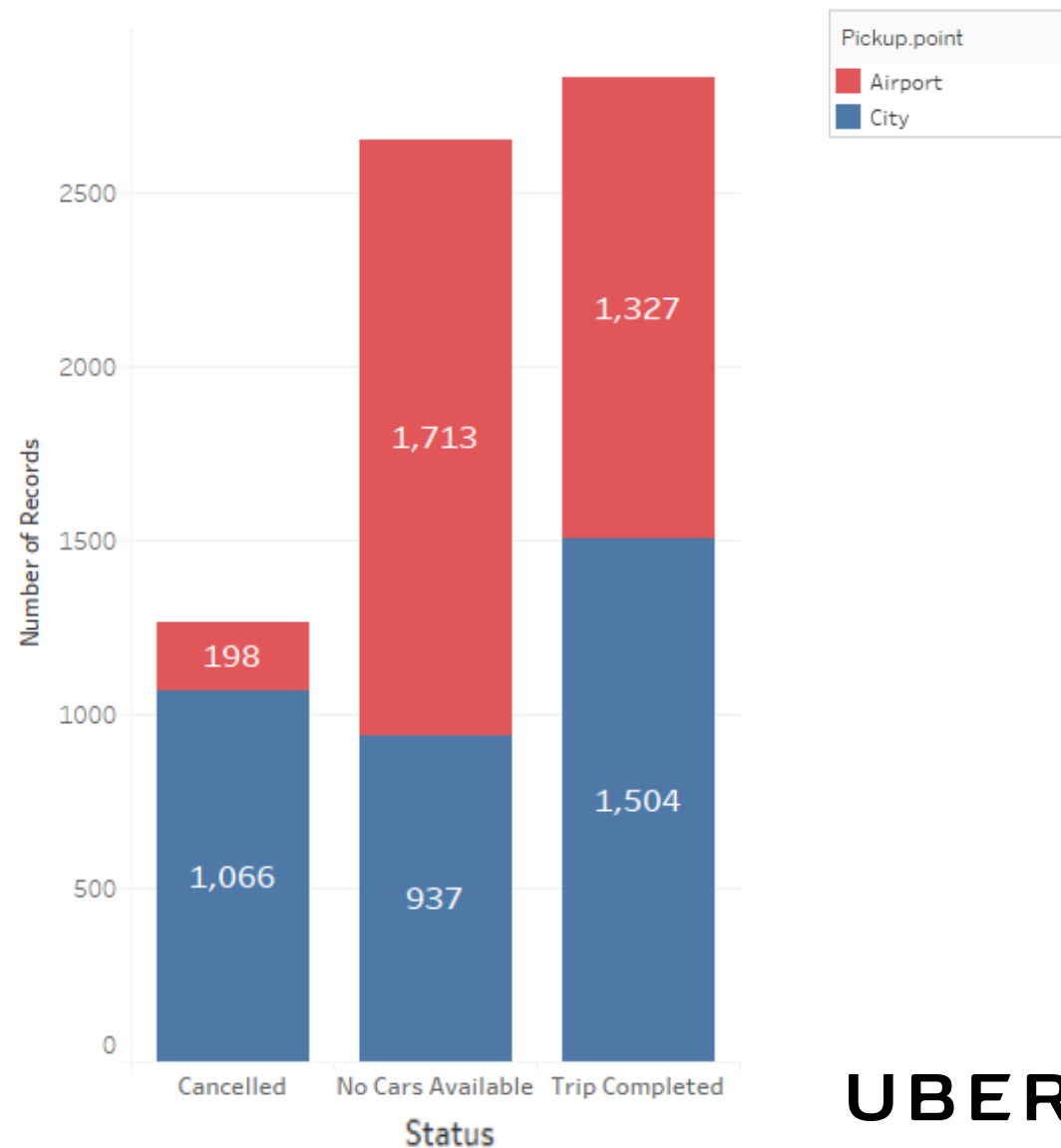
# Problem Solving Methodology



# Analysis

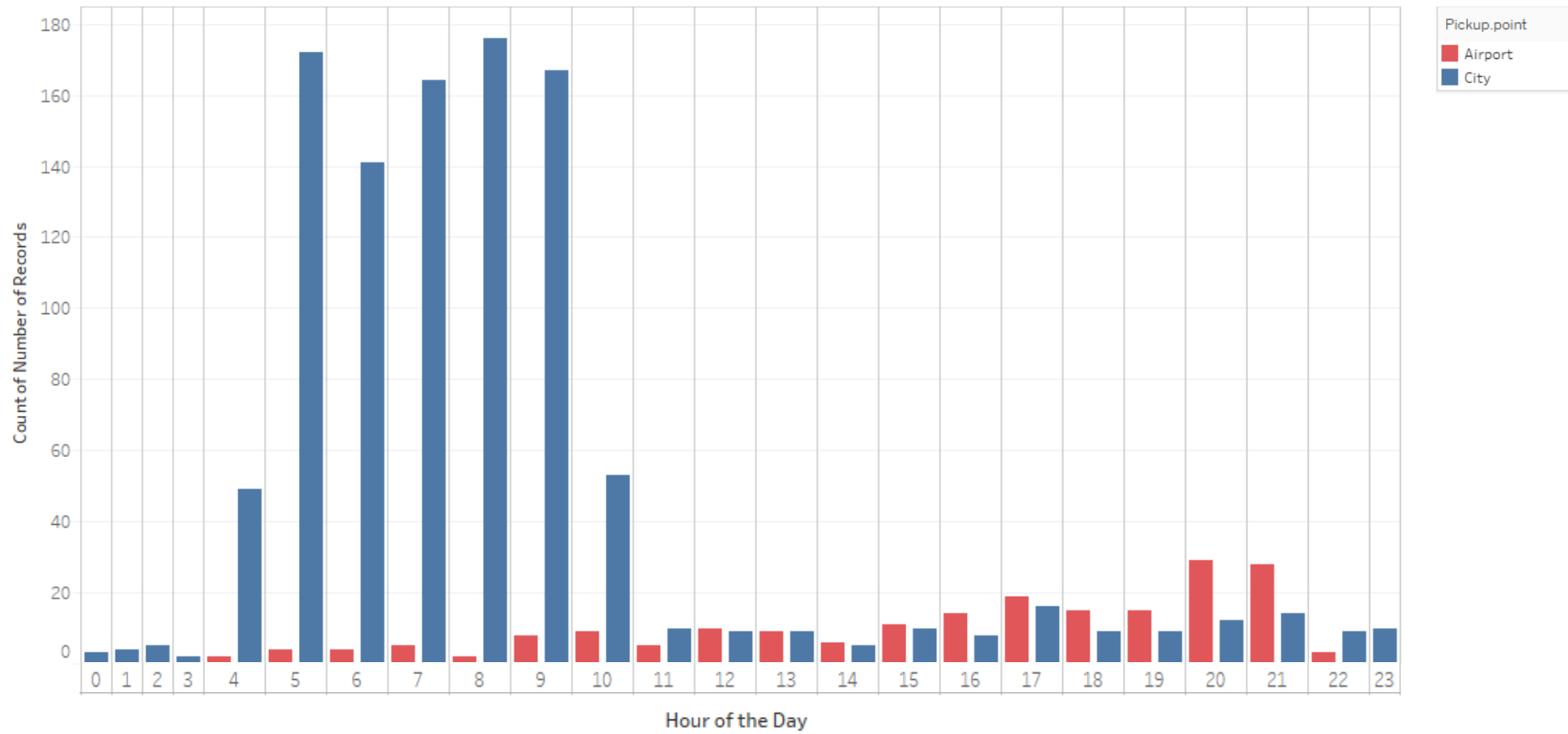
- There are a very high number of cancellations happening at the City.
- Unavailability of cars is on a higher side at the Airport.
- These cancellations and unavailability of cabs are negatively impacting the Uber Business and are directly reducing the profits.

Plot of the Status at the Airport and the City



# Analysis

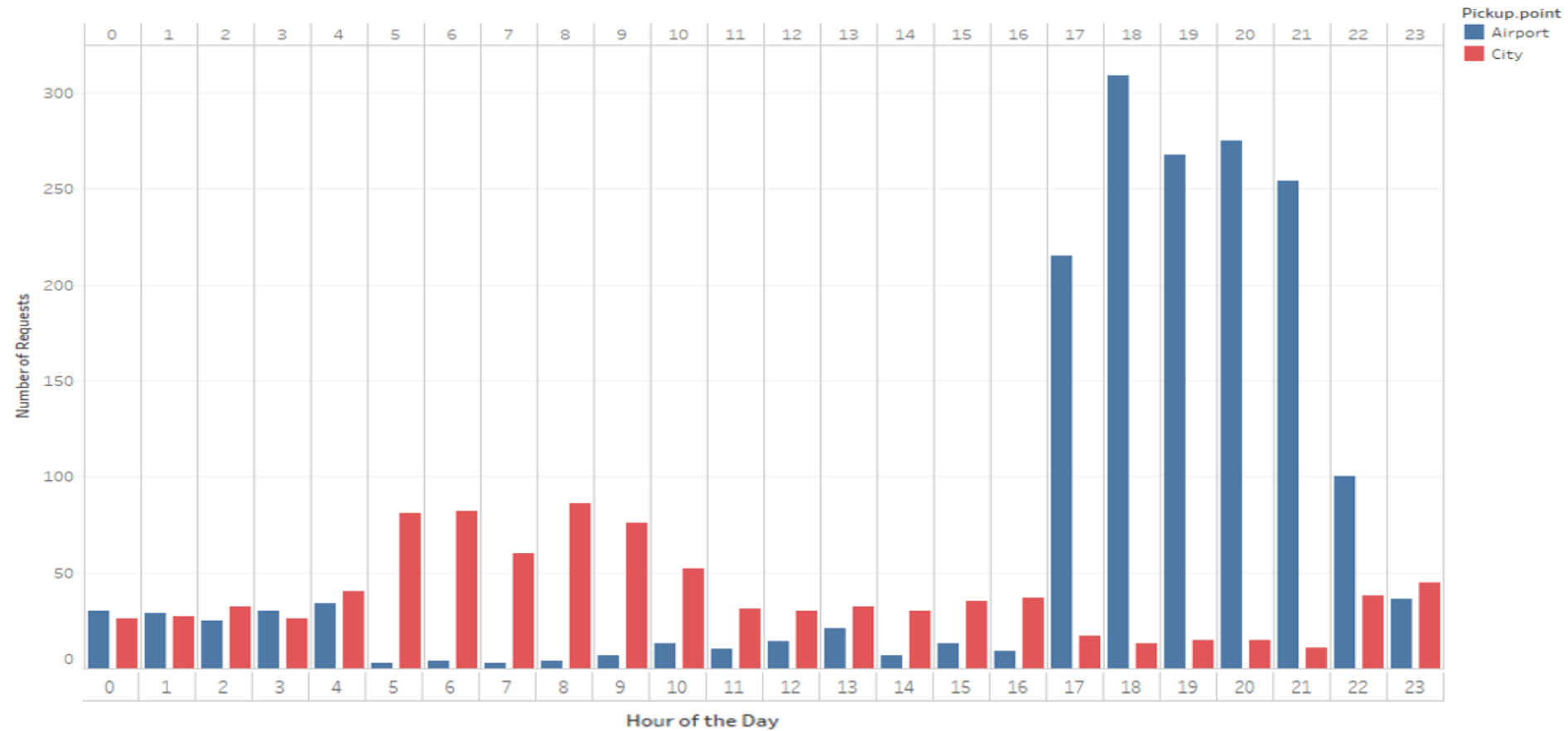
Plot of cancelled requests throughout the day



➤ High number of cancellations are observed from 5:00 hrs to 9:00 hrs at the City.

# Analysis

Plot of Unavailability of cars throughout the day

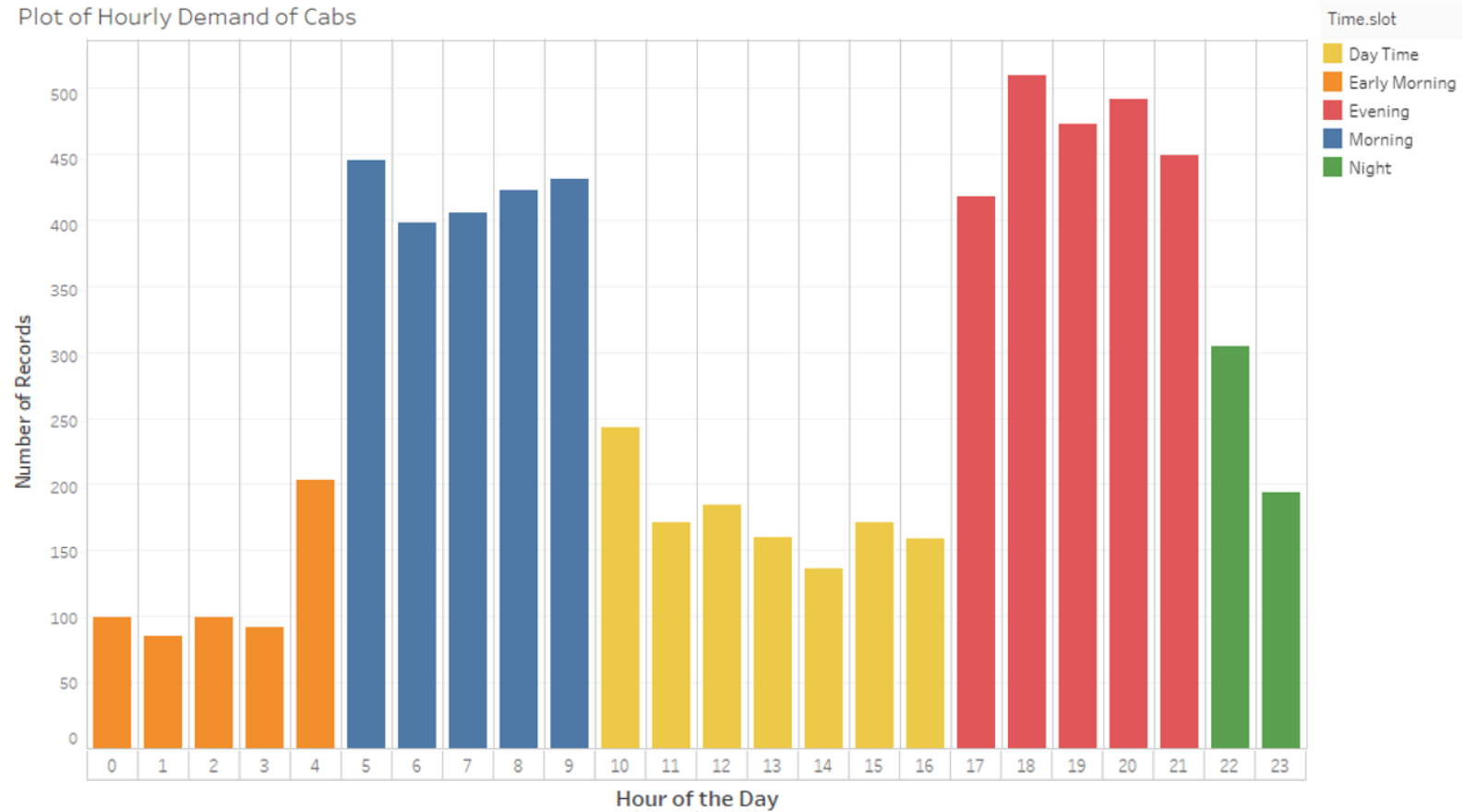


- High unavailability of cabs is observed from 17:00 hrs to 21:59 hrs at the Airport.

# Analysis

- This plot shows the hourly demand throughout the day divided into different time slots using different colours.
- We can clearly see that there are higher demand of cabs in the morning and evening slots of the day.

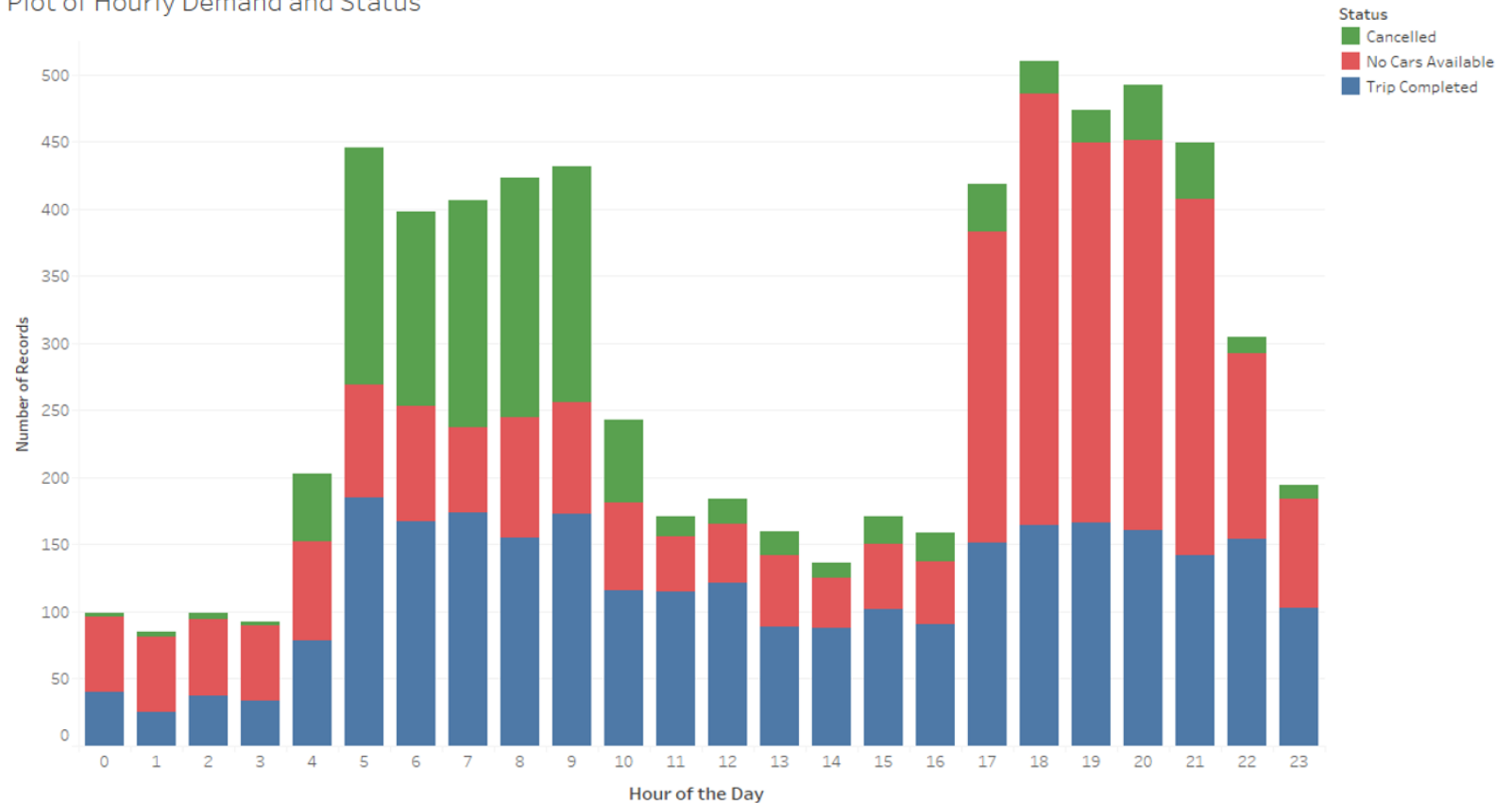
Plot of Hourly Demand of Cabs



# Analysis

- This plot shows the status (Cancelled, No Cars Available, Trip Completed) along with the hourly demand throughout the day.
- We can see that there are more number of trips Cancelled during the earlier hours of the day.
- Unavailability of cabs is higher towards the later part of the day.

Plot of Hourly Demand and Status





# Results

- There are currently 301 drivers available in Uber who travel between the City and the Airport.
  - Only 42% trips are completed. This is the only revenue which Uber earns currently.
  - 19% of the Pickup Requests are cancelled.
  - Around 39% times, there is unavailability of Cabs.
  - This means that there is a gap of demand-supply by 39% here. This causes loss to Uber Business.
  - There is a high demand of Cabs in the morning slot from City to the Airport.
  - There is a high demand of cabs the evening slot from Airport to the City.
  - Higher number of cancellations are done in the Morning Slot at the City.
  - Higher Unavailability of cabs is observed in the Evening Slot at the Airport.
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- On an average, each driver is currently completing 4 trips from the Airport to the City, and 5 trips from the City to the Airport.
  - To meet the required demand, each driver needs to complete 23 trips on an average in a week of 5 days.

# Conclusions

- The drivers are cancelling most of the Pickup requests from the City to the Airport in the morning slot (5:00 HRS to 9:59 HRS).
- Reason might be that there is a high idle time at the airport for a driver (because most of the flights are taking off in the morning and there are a very few landings taking place at that time), and returning to the city without a passenger won't be considered economical.
- There is a huge unavailability of cabs at the Airport in the Evening Slot (17:00 HRS to 21:59 HRS). Most of the flights are landing in the evening time, and because the drivers cancelled the trips from the City to the Airport in the morning, there is a huge gap in the Demand and Supply here.
- Drivers are currently completing 9 trips on an average per week (5 days).
- To meet the current Demands, each driver needs to complete around 23trips per week (5 days).

# Recommendations

To meet the current requirements and reduce the Demand-Supply gap, following points can be considered:

- Drivers should be provided certain incentives during the peak hours for completing trips. This incentive can be collected from the customers in the form of surcharge levied on the total amount of the transit. This surcharge can be a certain fraction of the total fare amount depending on the number of Pickup Requests and the unavailability of cabs.
- The number of cancellations that each driver can do should be limited to a lower number (say 5 cancellations allowed per driver per week).
- Each driver needs to complete around 23 trips between Airport and the City in 5 days of the week to meet the demand. This could be achieved by reducing the "idle time" of the drivers at the airport.

**Thankyou**