UBER DATA Case Study

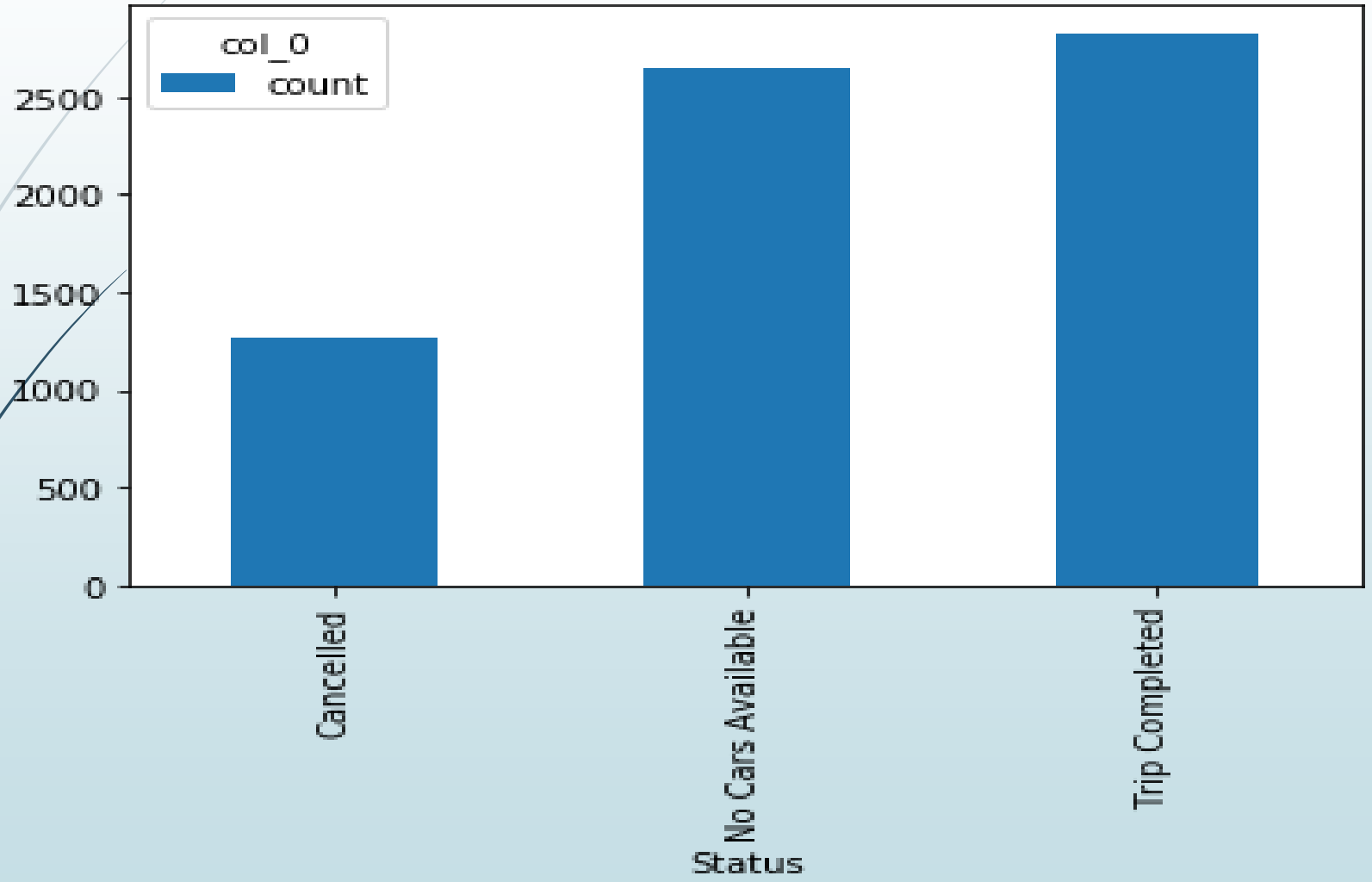
Problem Statement

- This data set is a masked data set which is similar to what data analysts at Uber handle. Solving this assignment will give you an idea about how problems are systematically solved using EDA and data visualisation.
- Business Understanding You may have some experience of travelling to and from the airport. Have you ever used Uber or any other cab service for this travel? Did you at any time face the problem of cancellation by the driver or non-availability of cars?
- Well, if these are the problems faced by customers, these very issues also impact the business of Uber. If drivers cancel the request of riders or if cars are unavailable, Uber loses out on its revenue.
- As an analyst, you decide to address the problem Uber is facing - driver cancellation and non-availability of cars leading to loss of potential revenue.

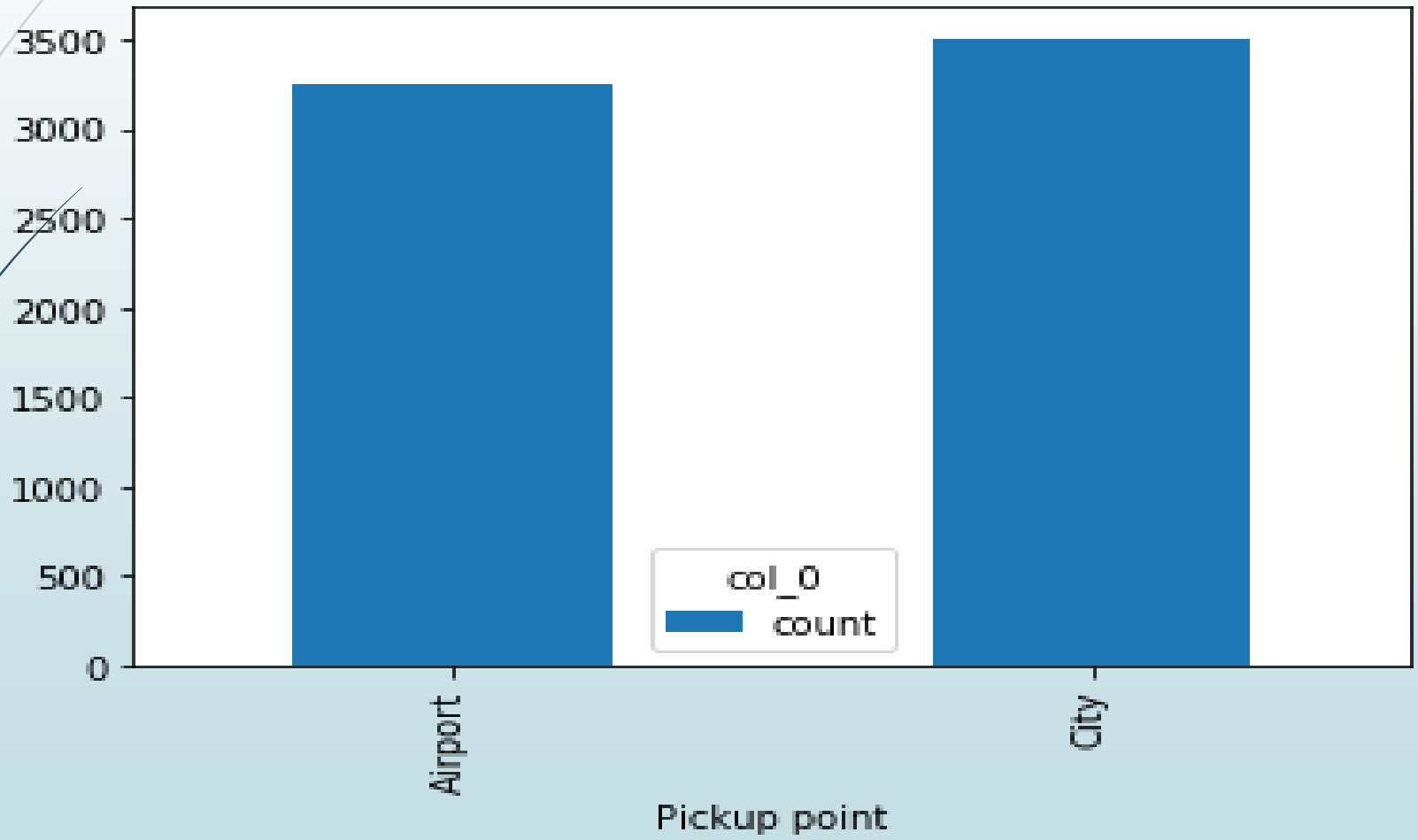
Methods

- 1. Request id: A unique identifier of the request
- 2. Time of request: The date and time at which the customer made the trip request
- 3. Drop-off time: The drop-off date and time, in case the trip was completed
- 4. Pick-up point: The point from which the request was made
- 5. Driver id: The unique identification number of the driver
- 6. Status of the request: The final status of the trip, that can be either completed, cancelled by the driver or no cars available
- Data Cleaning and Preparation
- 1. Identify the data quality issues and clean the data so that you can use it for analysis.
- 2. Ensure that the dates and time are in the proper format. Derive new variables which will be useful for analy

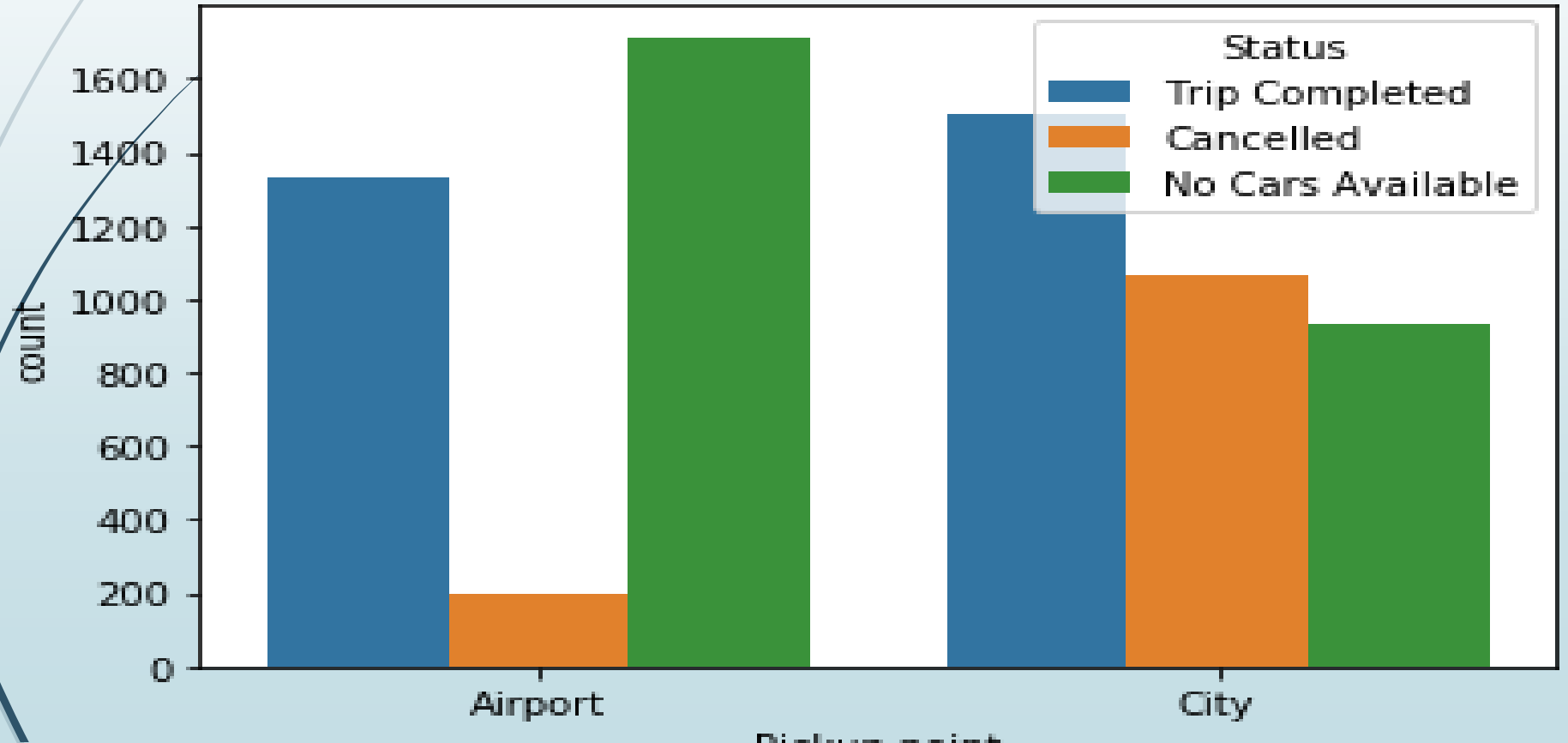
Charts


col_0
count
2500
2000
1500
1000
500
0
Cancelled
No Cars Available
Trip Completed
Status

The pickup points Airport and City are almost equal times present in the dataset.

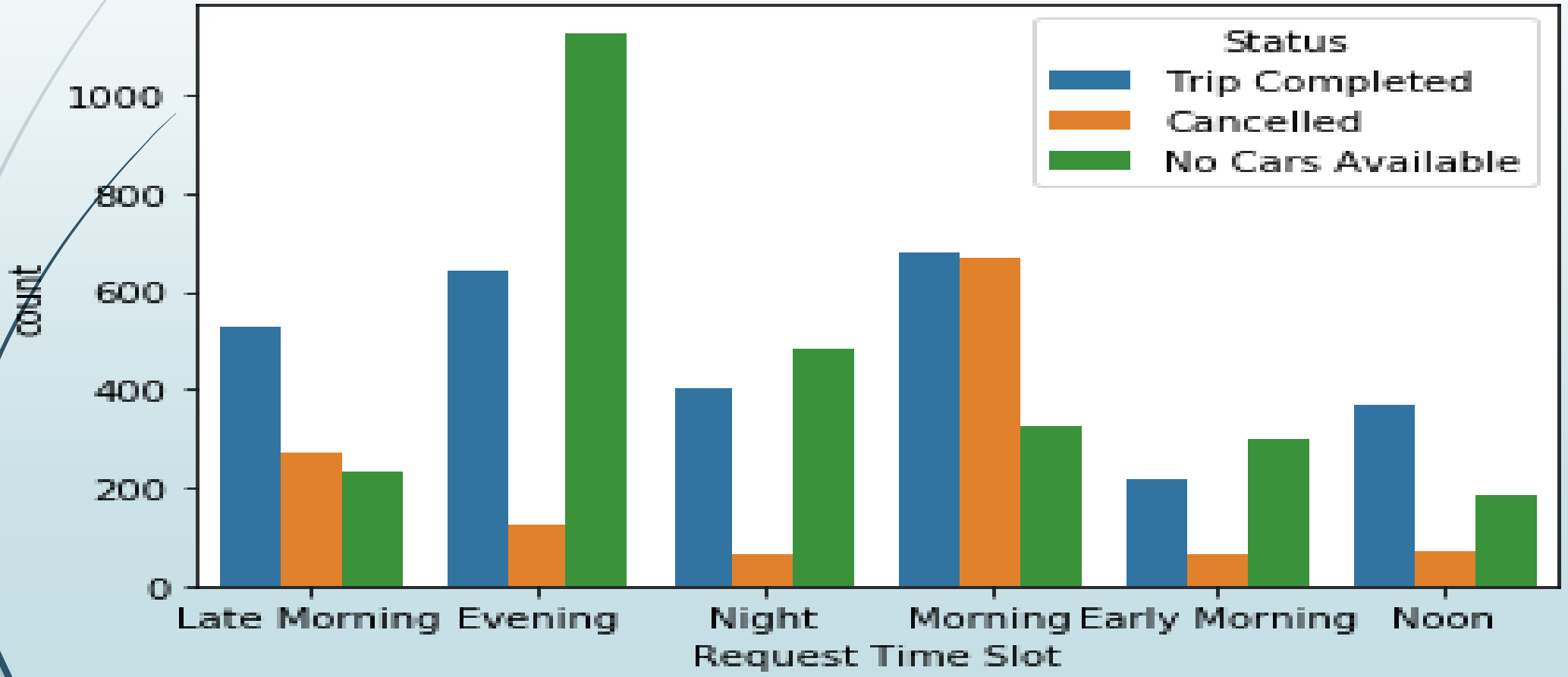


There are more No cars available from Airport to City.
There are more cars Cancelled from City to Airport.



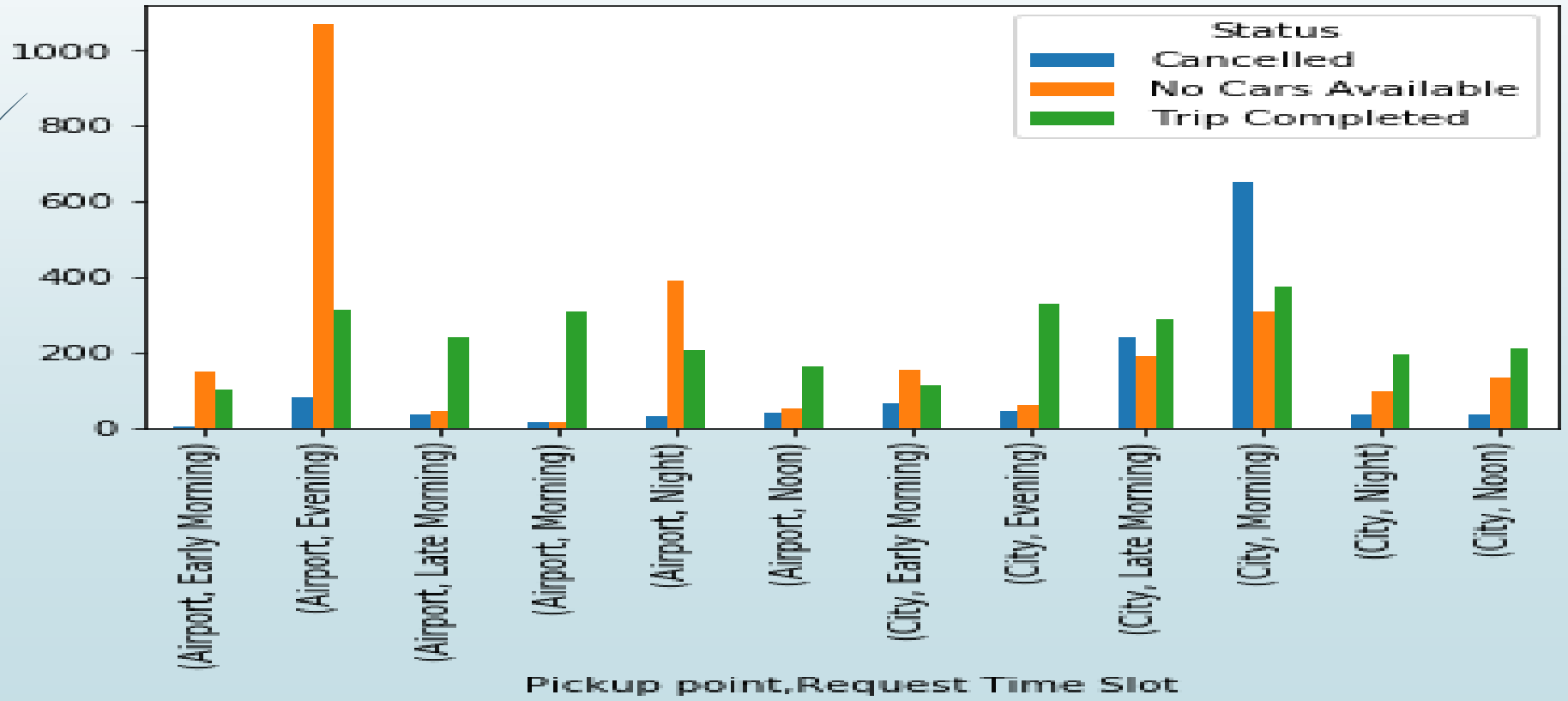
Most No Cars Available are in the Evening.

Most Cancelled trips are in the Morning.

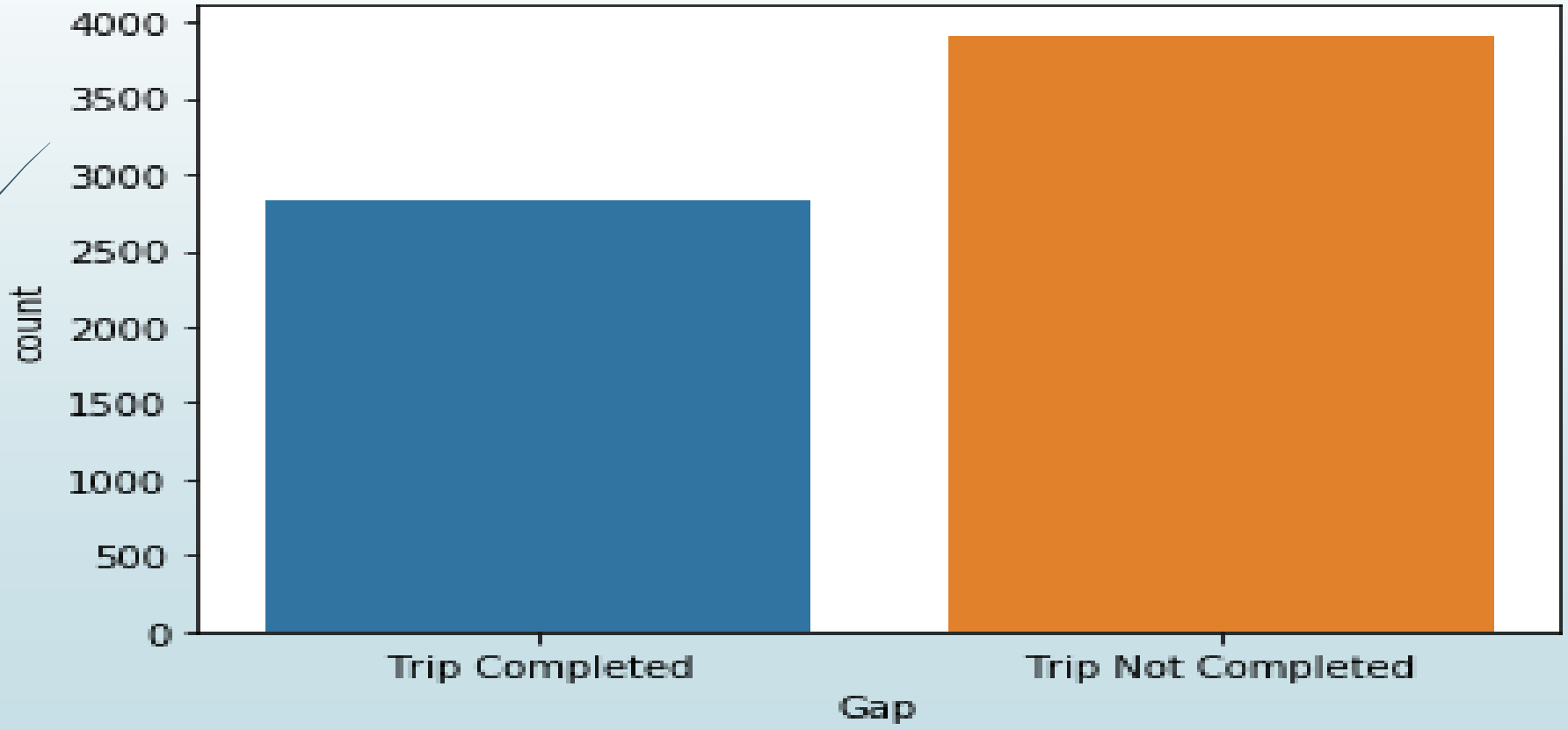


Most No Cars Available are in the Evening from Airport to City.

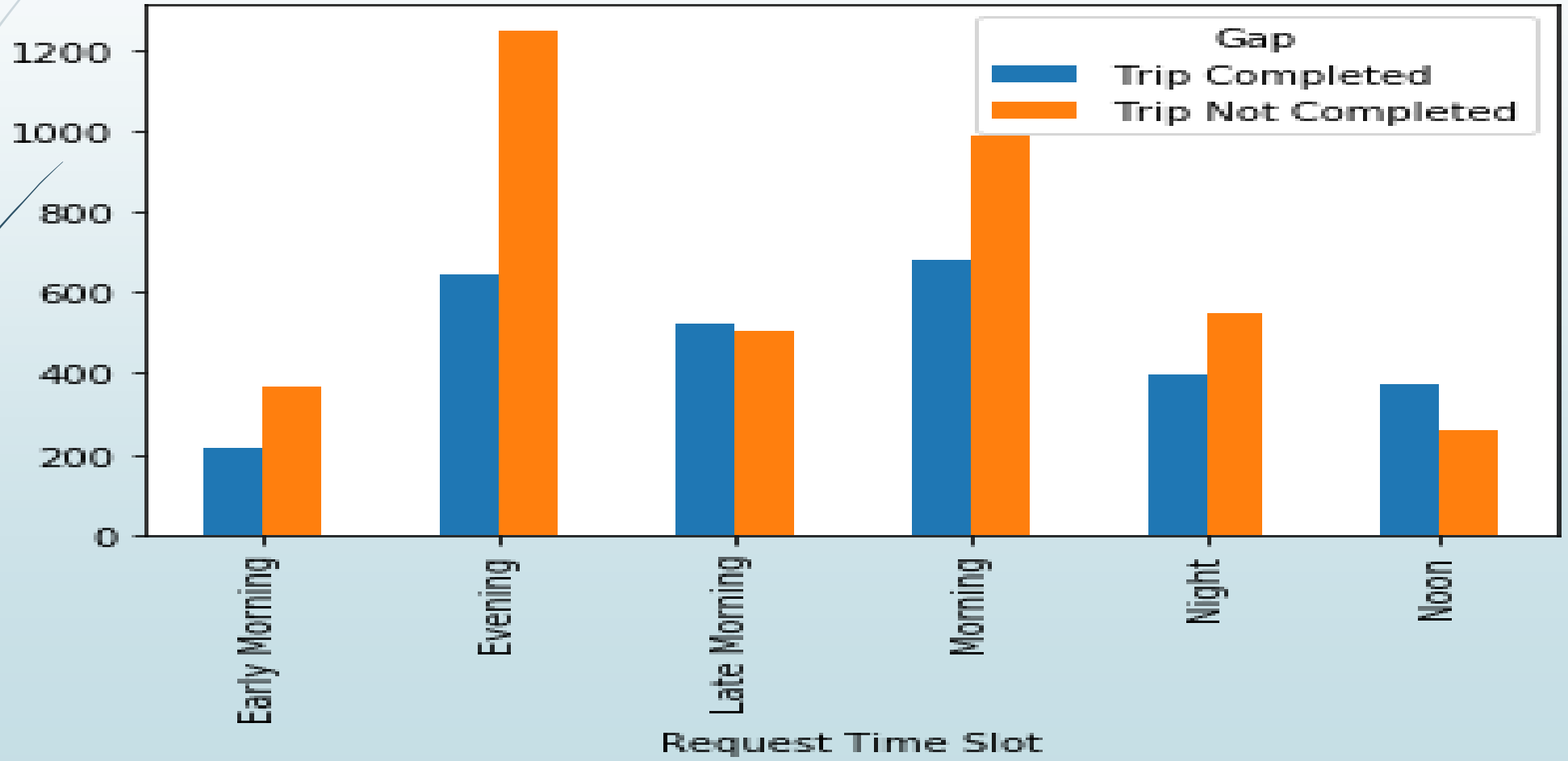
Most Cancelled trips are in the Morning from City to Airport.

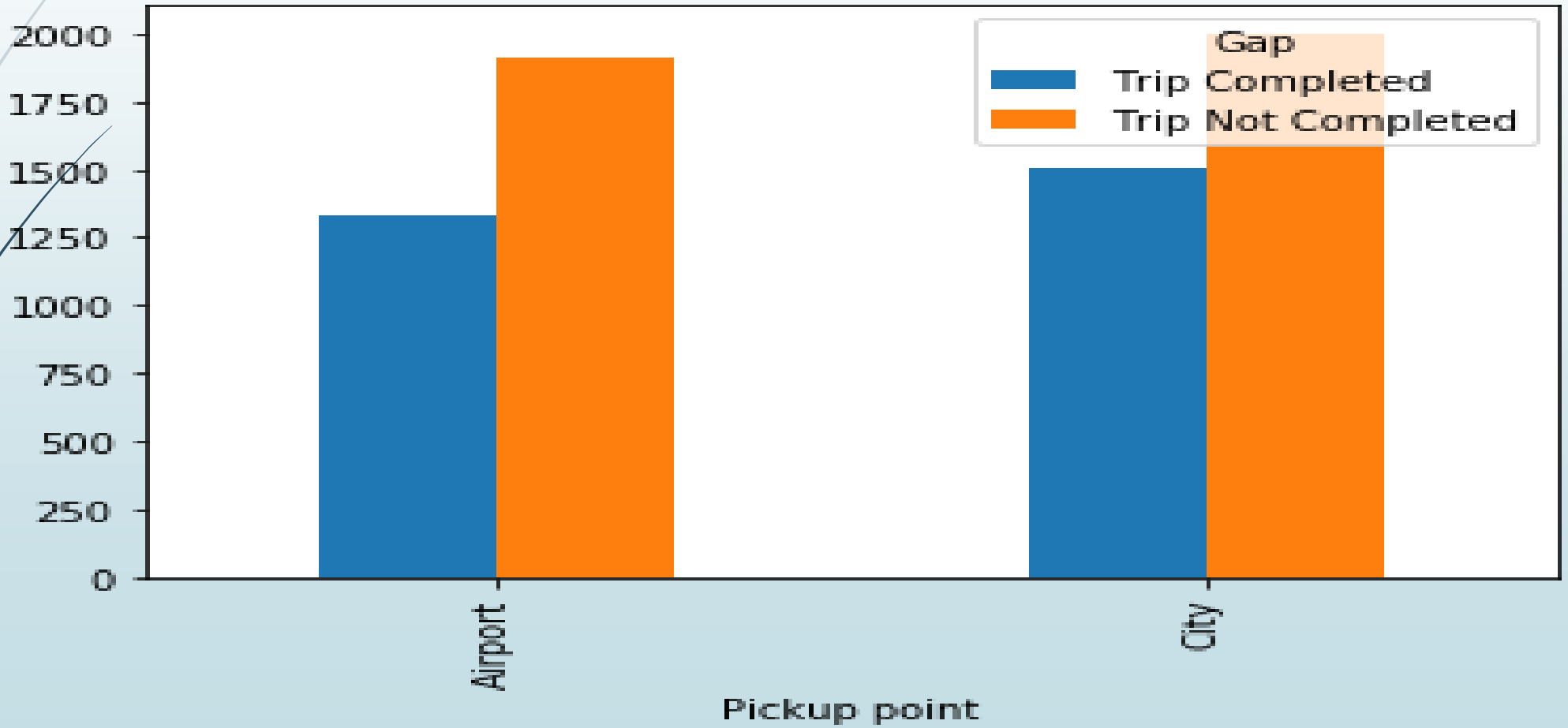


More Trip not completed than Trip Completed.



Gaps


Gap
Trip Completed
Trip Not Completed
1200
1000
800
600
400
200
0
Early Morning
Evening
Late Morning
Morning
Night
Noon
Request Time Slot


2000
1750
1500
1250
1000
750
500
250
0
Gap
Trip Completed
Trip Not Completed
Airport
City
Pickup point

Reasons

- Pickup Point - City : As per the analysis, the morning time slot is most problematic where the requests are being cancelled. Most probably the requests are being cancelled by the drivers due to the morning rush as it being the office hours and seeing the destination as airport which would be too far, the driver would think to earn more for the shorter trips within the city.
- Pickup Point - Airport : Upon analysis, the evening time slot seems to be most problematic for pickup points as airport where the requests being No Cars Available. The reason seems to be that not enough cars are available to service the requests as cars might not be available at the airport due to the cars serving inside the city.

Conclusion & Insight

- For addressing early morning and morning 'Cancelled' rides
- * Penalty for driver cancelling Airport booking thrice a day
- * Provide incentive to drivers for Airport Rides / Airport Wait Duration
- For addressing 'No Car Available' issue at Airport in evening and night
- * Airport Rides can be given weightage of 1.5 ride count
- * Exempt drivers with Airport Rides from daily minimum rides
- For addressing 'No Car Available' issue in City during early morning and morning
- * Provide incentive to drivers for Airport Rides / Airport Wait Duration
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- For reducing the demand supply gap from airport to city, making a permanent stand in the airport to wait.

- Last solution to bring down the gap is to increase the numbers of cab in its fleet.