UBER SUPPLY DEMAND GAP ASSIGNMENT

SUBMISSION

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Agenda

What is the business 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.

What is the strategy?

The strategy is to identify the Time Slots during which the cancellation and non-availability of cars arises, the location (i.e. Airport or City) and the hours of maximum demand gap.

What are the time slot assumptions made?

- 00 to 04 hrs is Late Night.

- 04 to 08 hrs is Early Morning.

- 08 to 12 hrs is Morning.

- 12 to 16 hrs is Afternoon.

- 16 to 20 hrs is Evening.

- 20 to 00 hrs is Night.

Specification of Dataset

- 6745 number of rows.

- 300 unique Driver Id.

- Pickup Points – City and Airport.

- Status – Cancelled, No Cars Available and Trip Completed.

- Total NA's – 6564

      Driver.id – 2650

      Drop.timestamp - 3914

Comparing percentage

- For **City**, the percentage of incomplete trips is 57.11% and for completed trips is 42.89%.

- For **Airport**, the percentage of incomplete trips is 59.02% and for completed trips is 40.98%.

## Time slots for highest number of requests

- For **City** the highest number of requests are during Early Morning and Morning.

- For **Airport** the highest number of requests are during Evening and Night.

Frequency of Total Requests at Different Time Slots
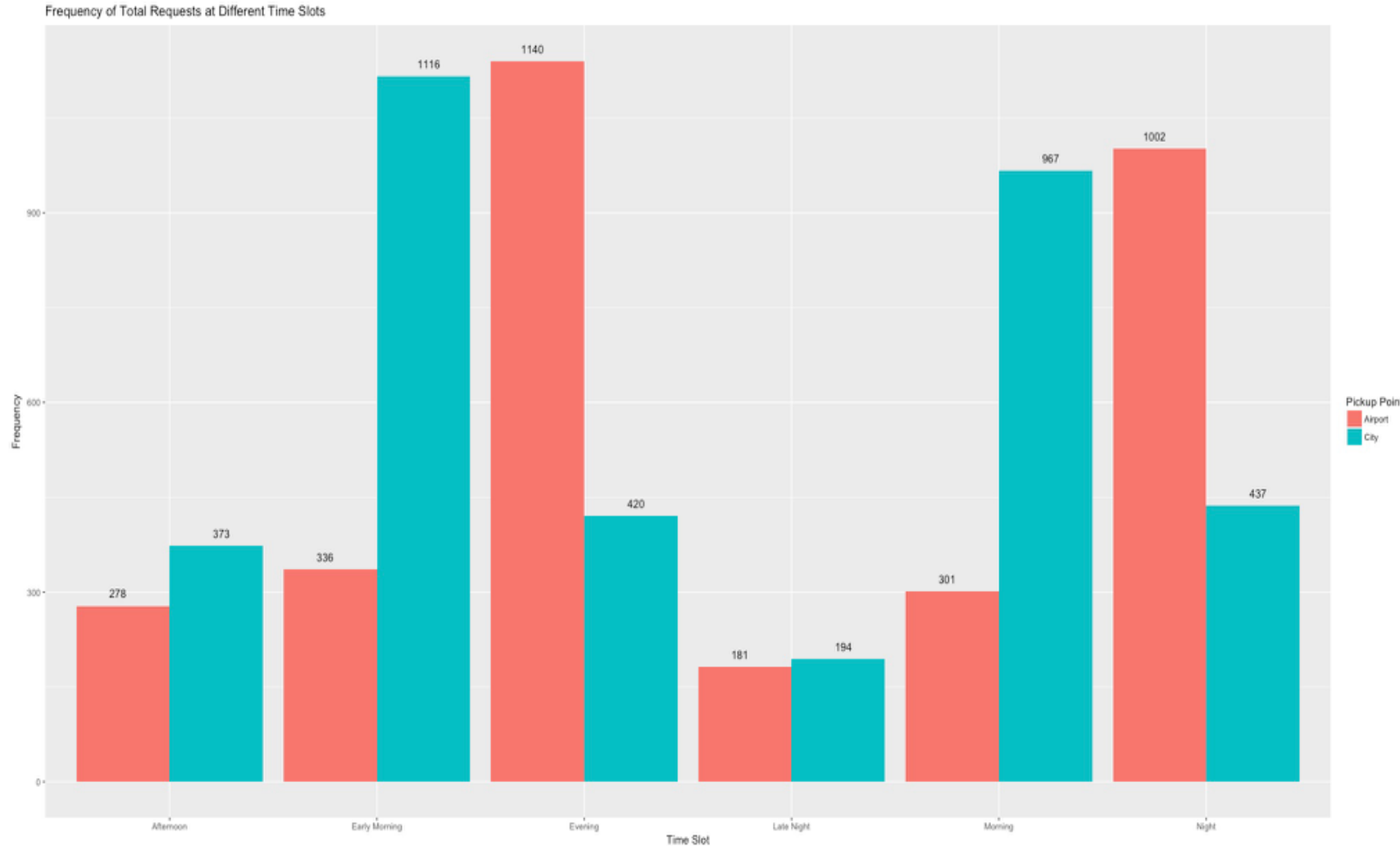
Major reasons for incomplete requests

- For Airport, the major reason for incomplete trips are "No Cars Available".

- For City, the major reasons is Cancellation by driver.

One interesting observation is that there is no cancellation at Airport during Late Night

Frequency of Requests of Different Status at Various Time Slots
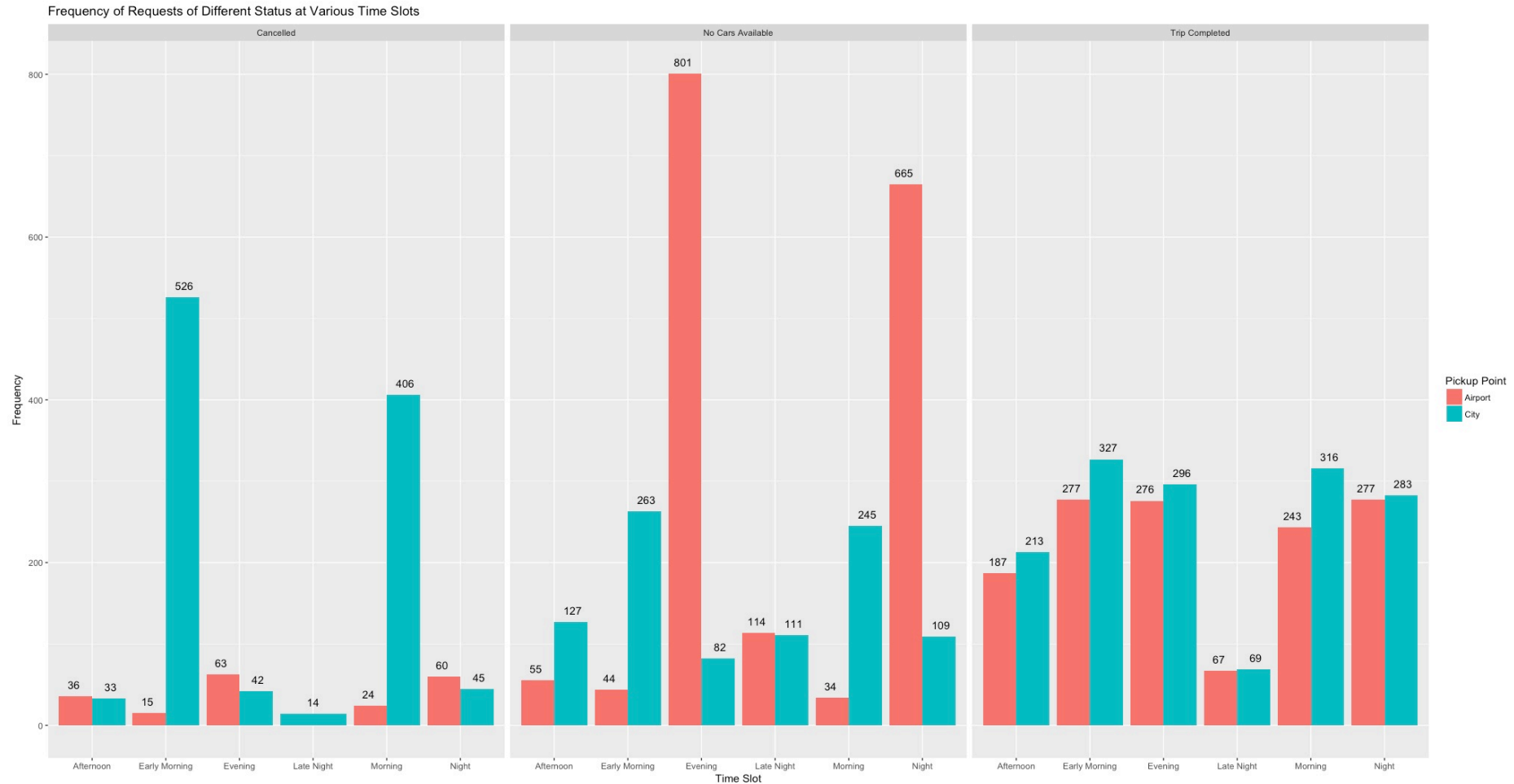
The maximum number of incomplete requests at different time slots

- The maximum number of incomplete requests for **Airport** is:

    Evening 864
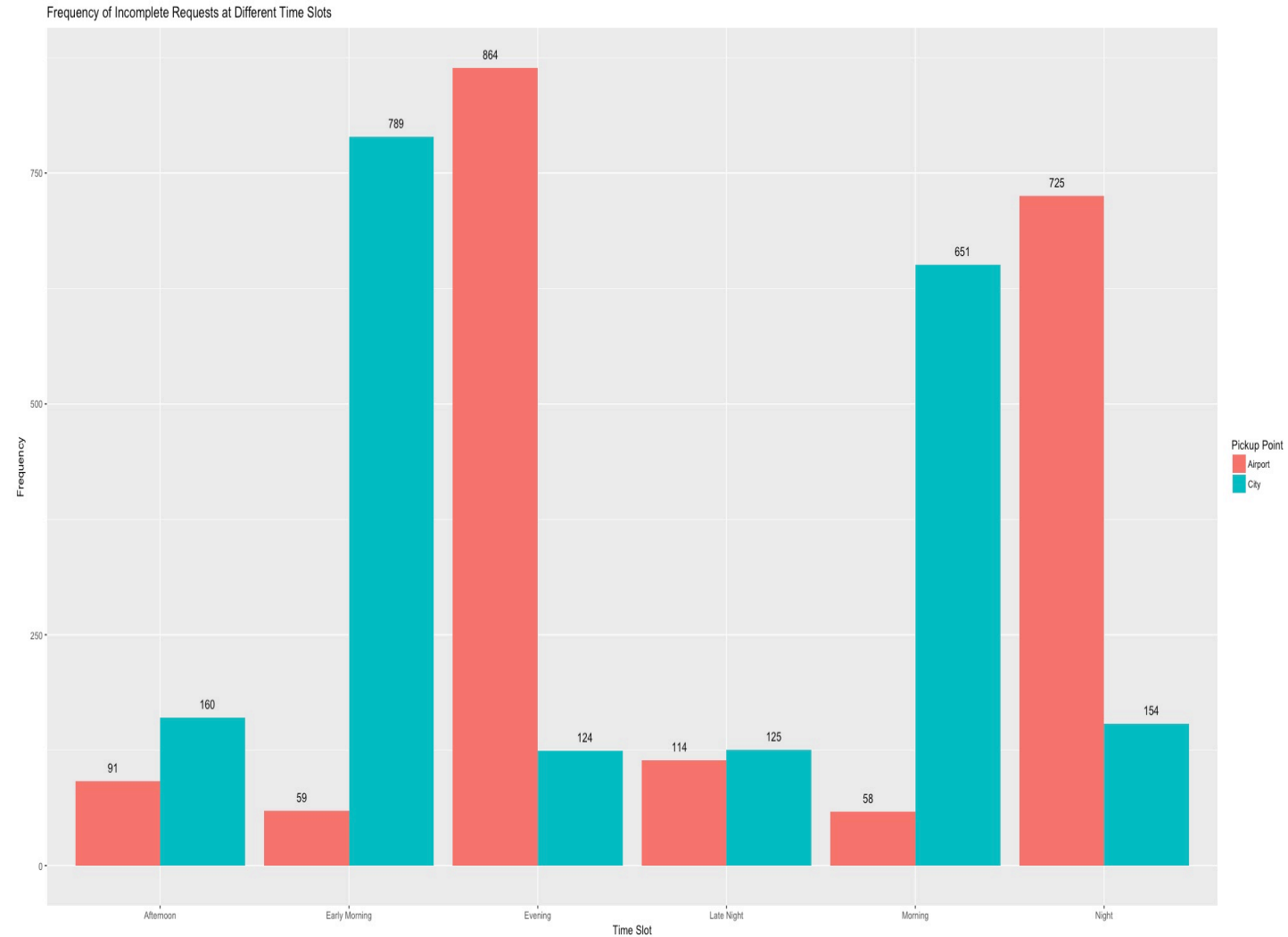
    Night 725

- The maximum number of incomplete requests for **City** is :

    Early Morning 789

    Morning 651

Frequency of Incomplete Requests at Different Time Slots

- For **Airport**, the percentage of incomplete trips during Evening and Night 74.18% and completed trips is 25.82%.

- That is an increase of 15.16 % from overall percentage of 59.02 % for incomplete trips.

- For **City**, the percentage of incomplete trips during Early Morning and Morning is 69.13% and completed trips is 30.87%.

- That is an increase of 12.02 % from overall percentage of 57.11 % for incomplete trips.

Frequency of Incomplete Requests of Different Status at Different Time Slots
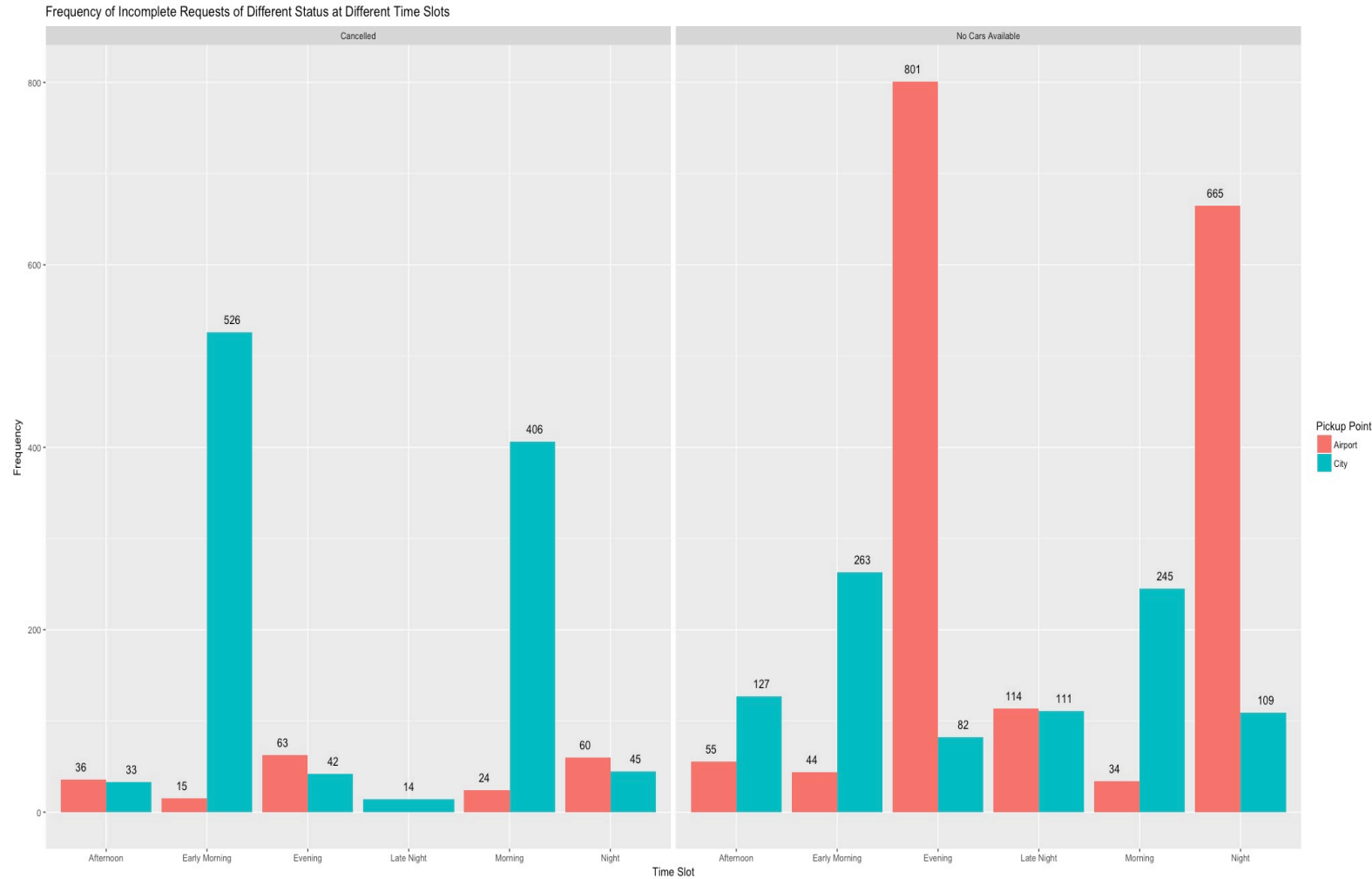
The hours during Early Morning and Morning, when the number of requests for City are maximum is from 5:00 AM to 10:00 AM.
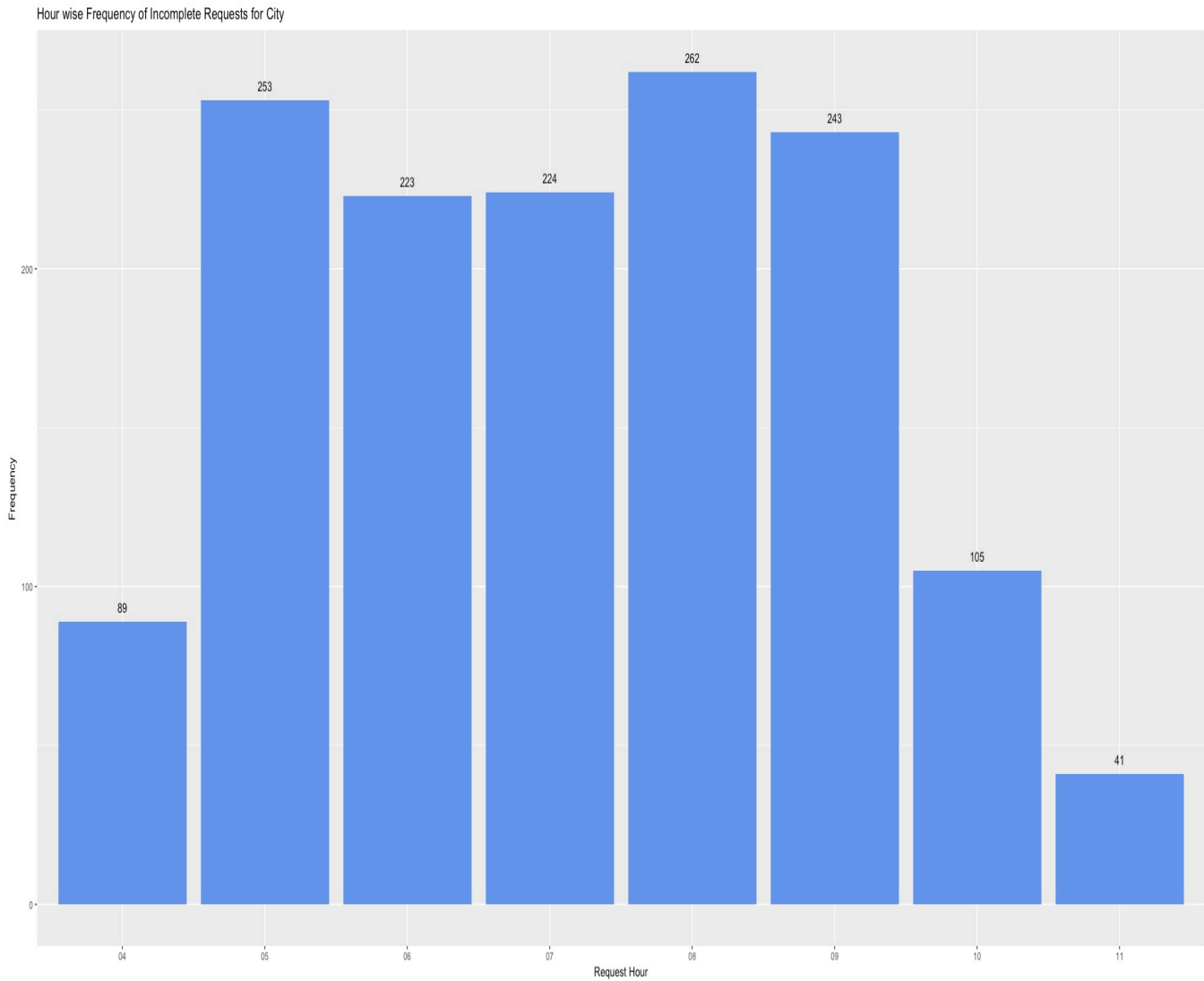
The hours during Evening and Night, when the number of requests for Airport are maximum is from 5:00 PM to 10:00 PM.

Hour wise Frequency of Incomplete Requests for Airport
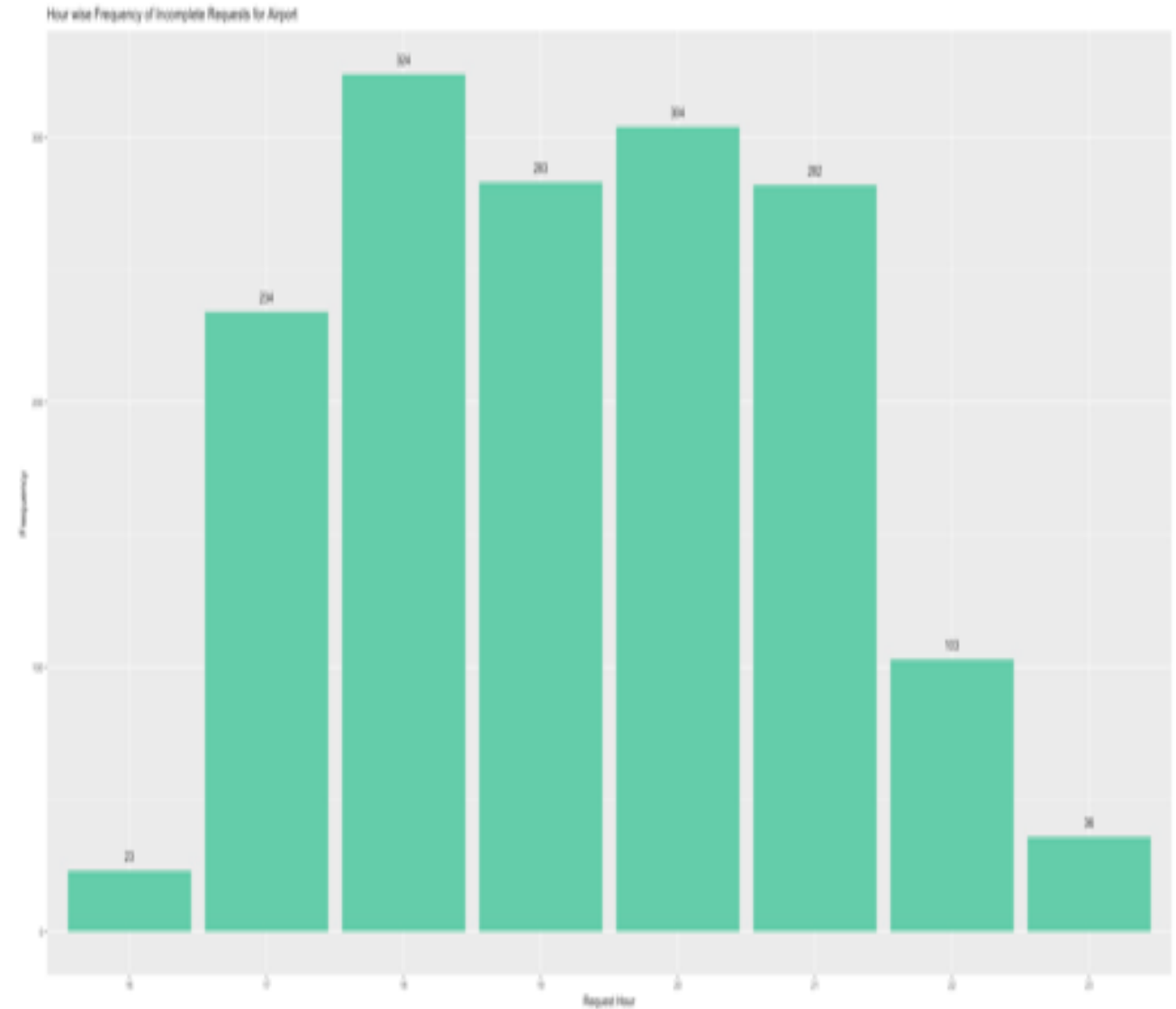
What do you think is the reason for this supply-demand gap? Write the answer in less than 100 words.

For City, during peak hours, the major reason for incomplete trips is Cancellation by the driver, might be because of more number of outgoing than incoming Flights, the demand for City is more while the driver needs to wait at the airport for long hours for passenger from an incoming flight, hence they tend to cancel.

For Airport, during peak hours, the major reason for incomplete trips is Non-availability of cars, might be because of less number of outgoing flights, the cars do not get passengers to the Airport, and hence there is less number of cars at the airport.

Recommendations.

1. During the peak time, driver could be given bonus to drive from **City** to **Airport** and peak time charges could be charged to the passengers.

2. During the peak time in the **Airport,** driver from nearest area in the city could be allocated the trip, with bonus pay and peak time charges is charged to the customer.