



Uber Supply-Demand Gap Case Study

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Business Problem

Uber is facing loss of potential revenue due to drivers cancel the request of riders and if cars are unavailable.

Business Objective

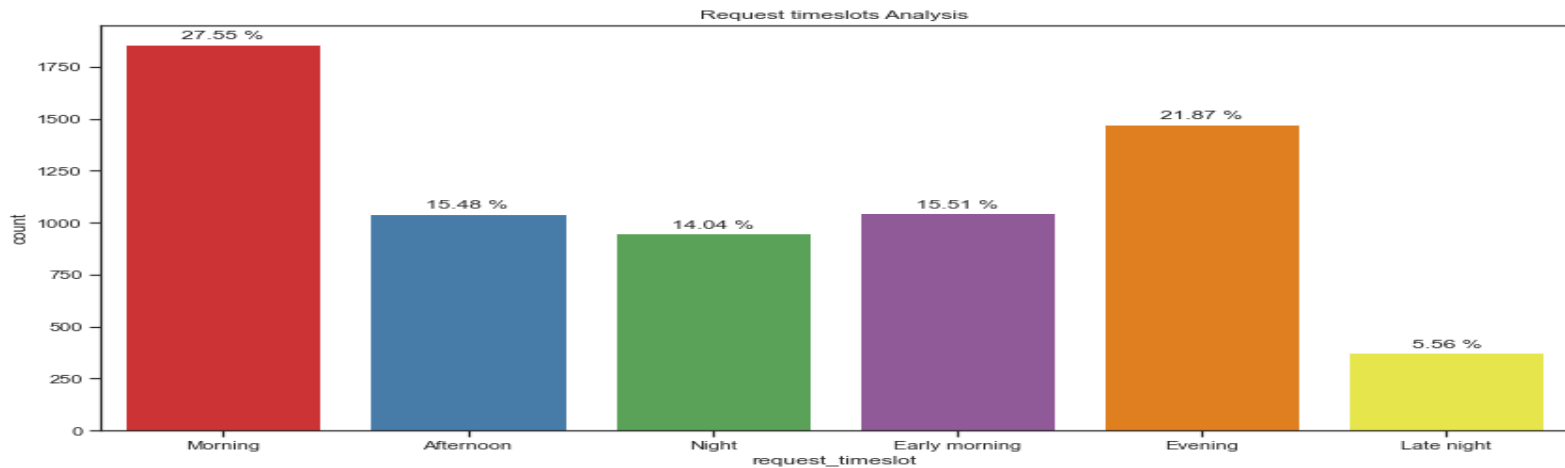
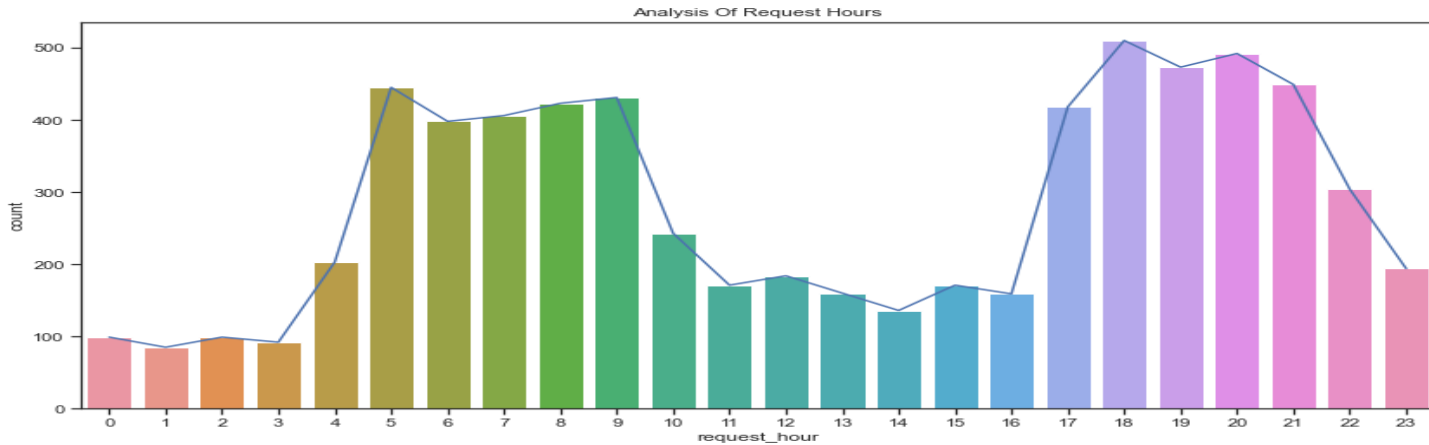
To identify the root cause of cancellation and non-availability of cars addressing the Uber supply-demand gap.

Understanding Dataset

- ❑ For this case study, trips to and from the airport are being considered.
- ❑ There are six attributes associated with each request made by a customer:
 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.



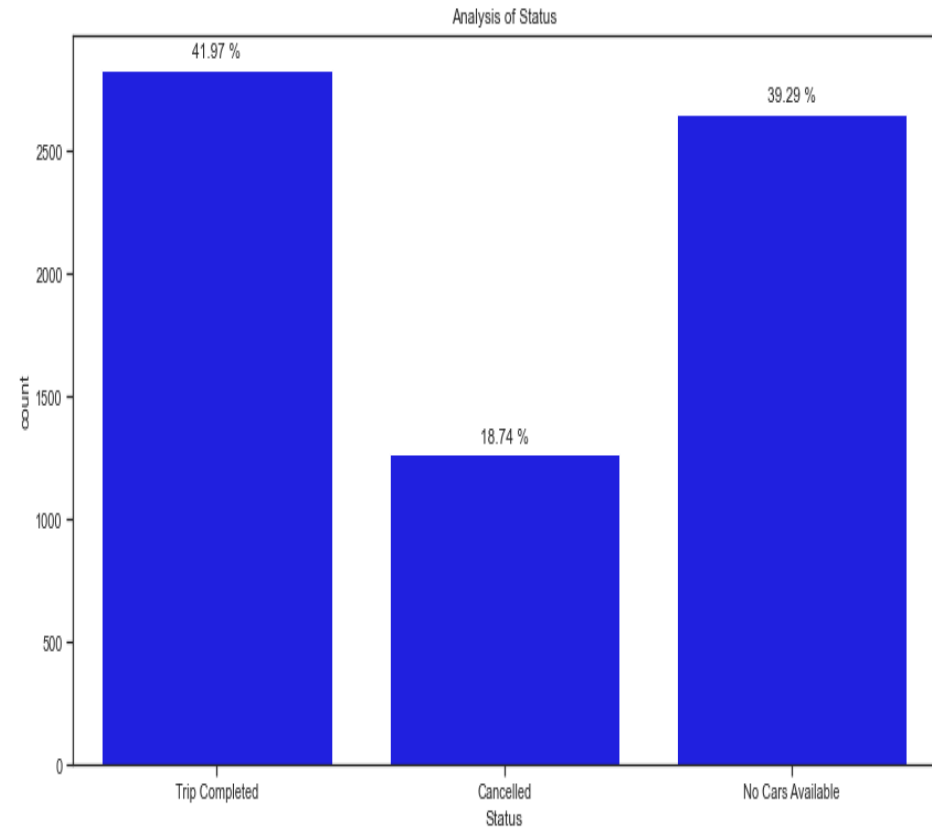
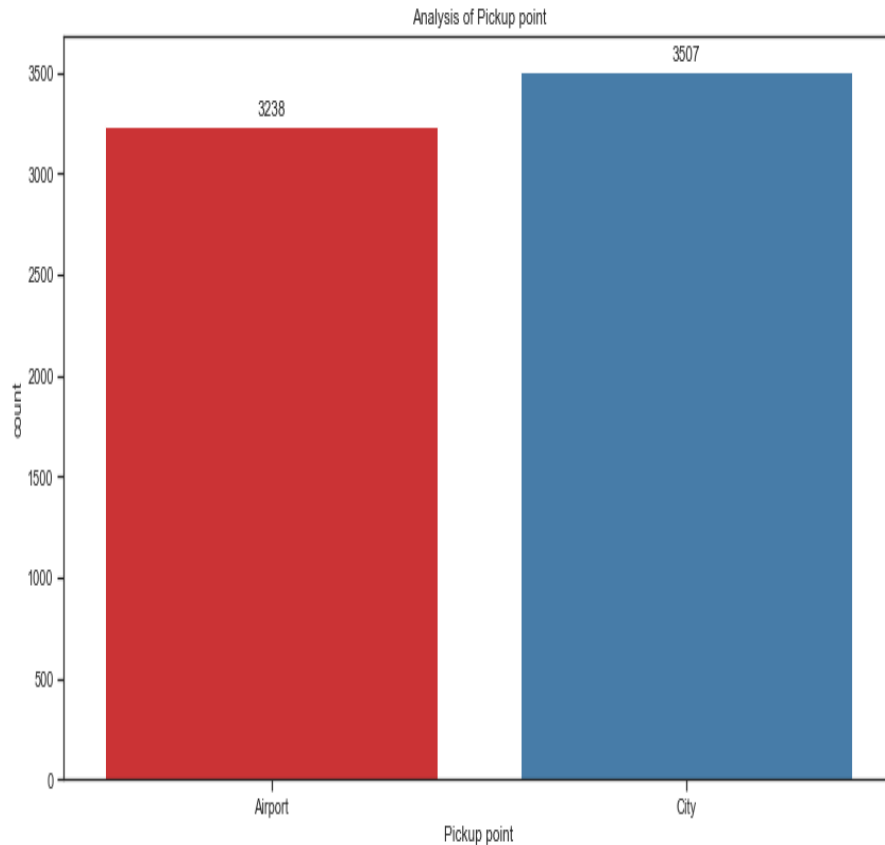
**Technical Roadmap used for Supply Demand Gap Analysis
From Data Sourcing to Data Visualization.**



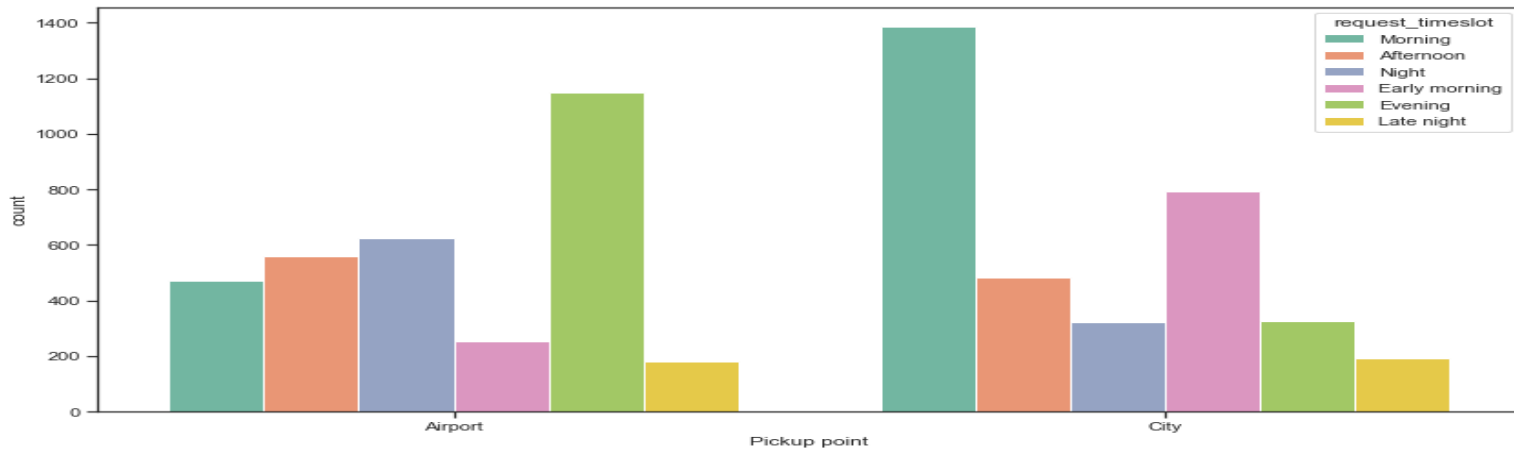
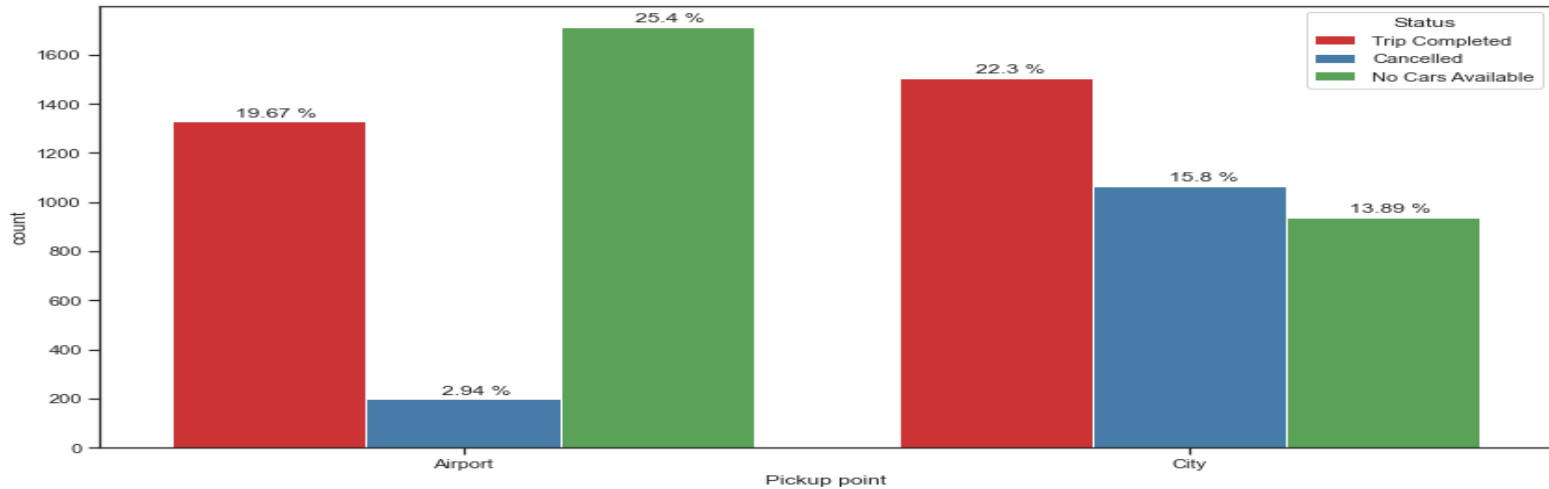
High request rates observed from 5am to 9am (28%) and 5pm to 10 pm (22%) as they are Office Rush hours.

Identifying Business Problem

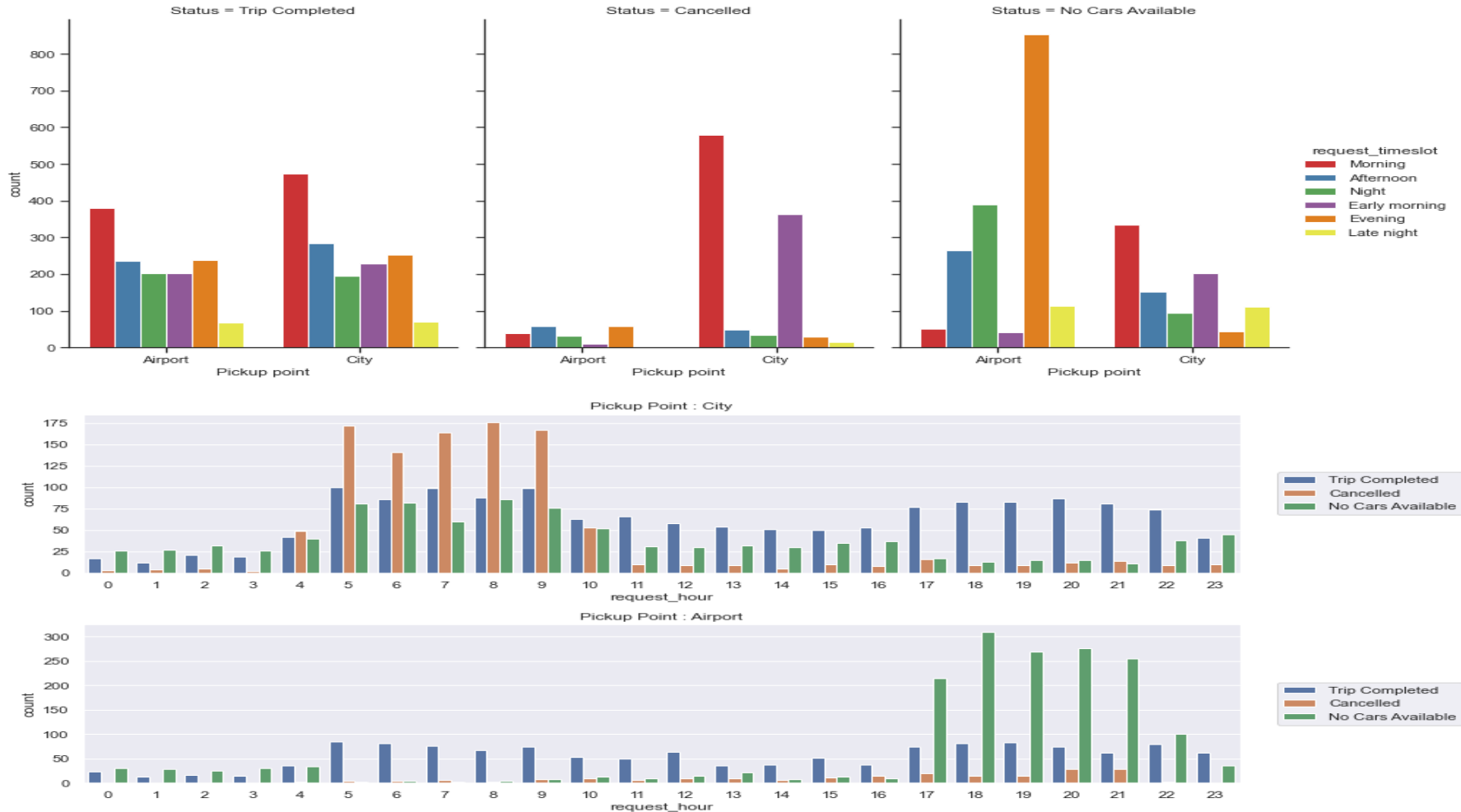




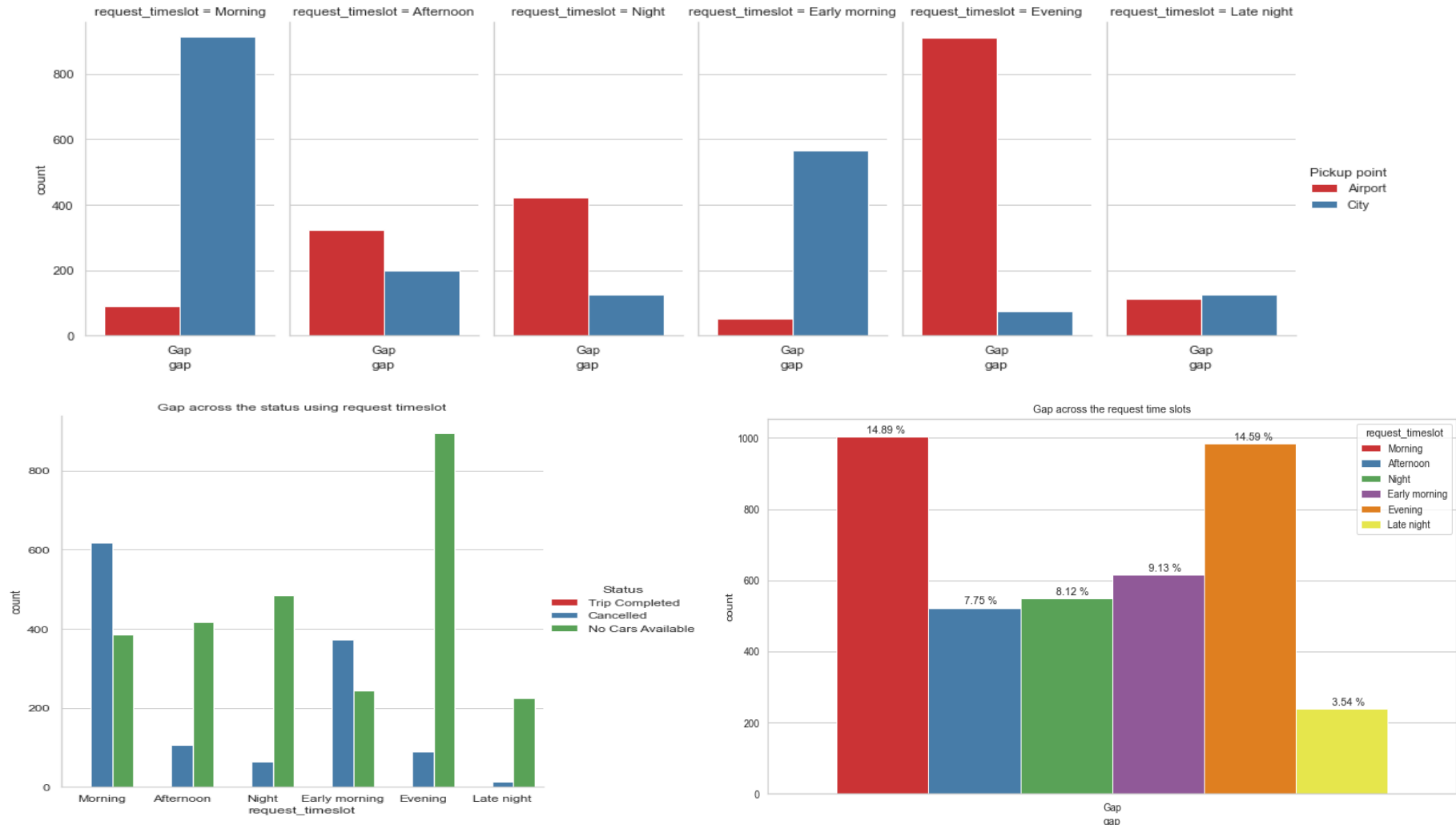
- ❑ There are almost similar requests made From Airport and City.
- ❑ Only 41.97% Trips got completed (Less than 50%).
- ❑ 19% of the cabs got cancelled by the drivers.
- ❑ 39% of the cabs were not available for riders.



- ❑ There is 25% non-availability of cars at Airport.
- ❑ 16% City's rider pickup requests are getting cancelled.



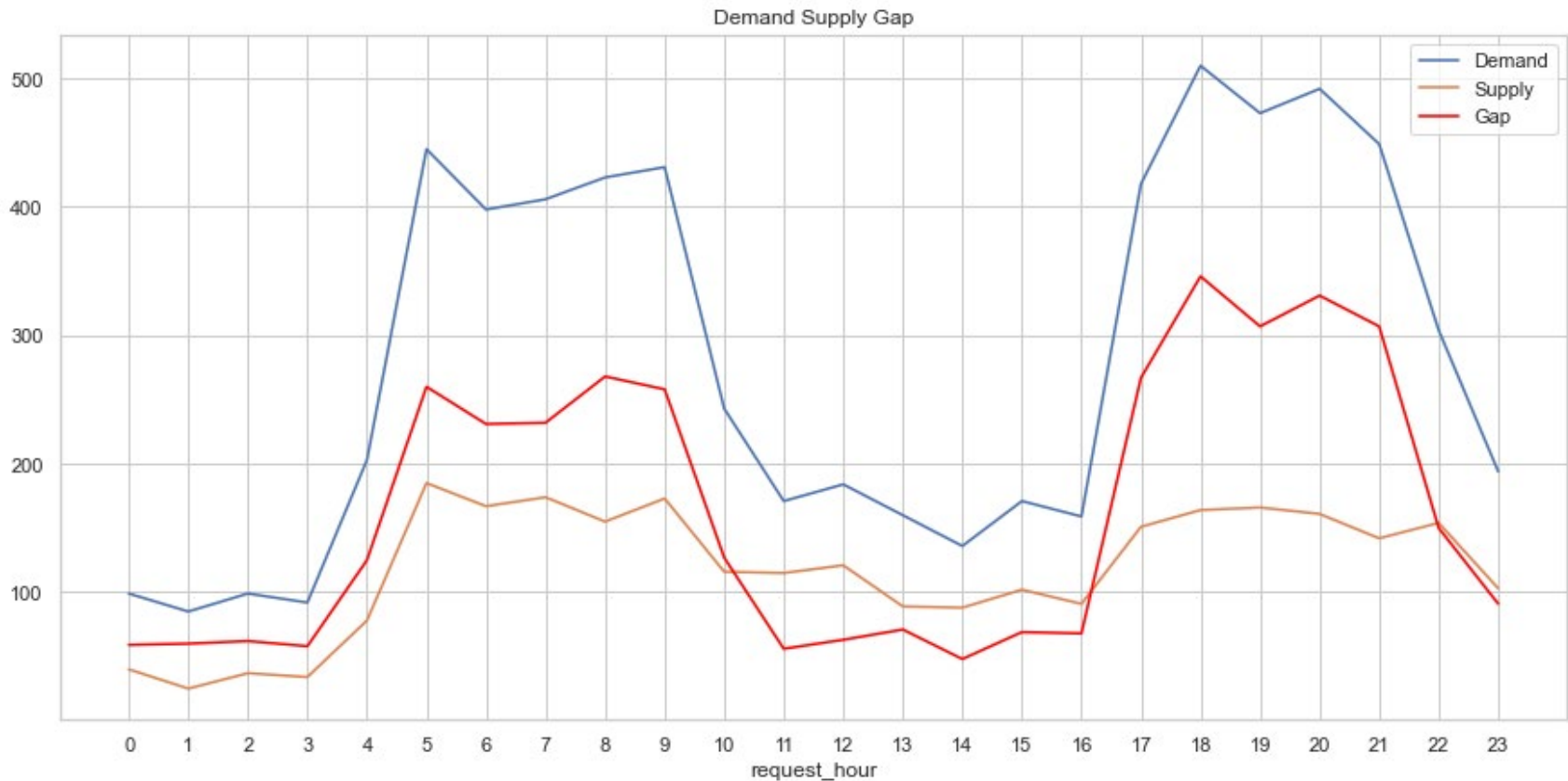
❑ Most requests from Airports are made in the evening while most requests from City are made in the morning. And at such time only, riders are facing issues like cancellation and non-availability of cars.



❑ In the supply of cabs, there is 58% GAP.

❑ From that 58% GAP, In the morning slot and evening slot each are experiencing 15% GAP.

Supply-Demand Gap (shown in Red-line)



OBSERVATIONS

❑ **Morning Slot:** There is a high demand for cabs from City to Airport, the vice versa is not true. But, the driver tends to cancel the request as higher waiting period at the airport at these time slot and getting a return trip from airport to city would be tough. so they seek chances of earning more by trip completion inside the city.

❑ **Evening Slot :** There is a high demand for cabs from Airport to City, the vice versa is not true. But, No Cars Available for the requests made in evening. The reason looks like that there are not enough cars available to service more cars are serving inside the city. Thus, the evening time slot is most troublesome.

RECOMMENDATIONS

- ☐ **Cabs Positioning** : Position extra cabs in morning slot for city to airport trips, and in the evening slot for airport to city trips.
- ☐ **Advance booking** : This can keep the drivers updated the schedule and so they can plan their trips accordingly.
- ☐ **Incentives** : Provide incentives for the trips during peak time slots. Promote it.
- ☐ **Base Price** : Set a base price for idle time of drivers at the airport or returning to the city without any passenger.
- ☐ **Penalty** : Charge penalty for cancellation of requests by the drivers.
Set a threshold for the maximum cancellation per day by the drivers.