Uber Supply-Demand Gap Analysis

(Using SQL, Python & Excel)

Objective

To identify critical gaps between rider demand and cab supply by analyzing Uber pickup data using SQL, Python, and Excel.

Dataset Overview

Feature	Description
Request id----------	Unique ride request ID
Pickup point---------	Location: City or Airport
Driver id----------	Driver assigned (null if not)
Trip status----------	Completed, Cancelled, or No Cabs
Request timestamp---	Time of request
Drop timestamp-------	Time trip ended (null if incomplete)

Total - 6745 records found
Cleaned in SQL, Python (timestamp formatting, null handling)
No duplicates found.

SQL Analysis Highlights

Total Requests---------- 6745
Status Breakdown--------- Most trips were completed, but 2650+ had no driver
Pickup Point Demand---- More requests from **City**
Trip Status by Pickup----- **Airport** had more “No Cars Available”
No Driver Assignments--- Mostly for “No Cars Available” & “Cancelled”

Insight: Severe cab unavailability at Airport and early hours.

Few SQL query results are adding here.

Result Grid | Filter Rows:

Trip_status	no_driver_count
No Cars Available	2650

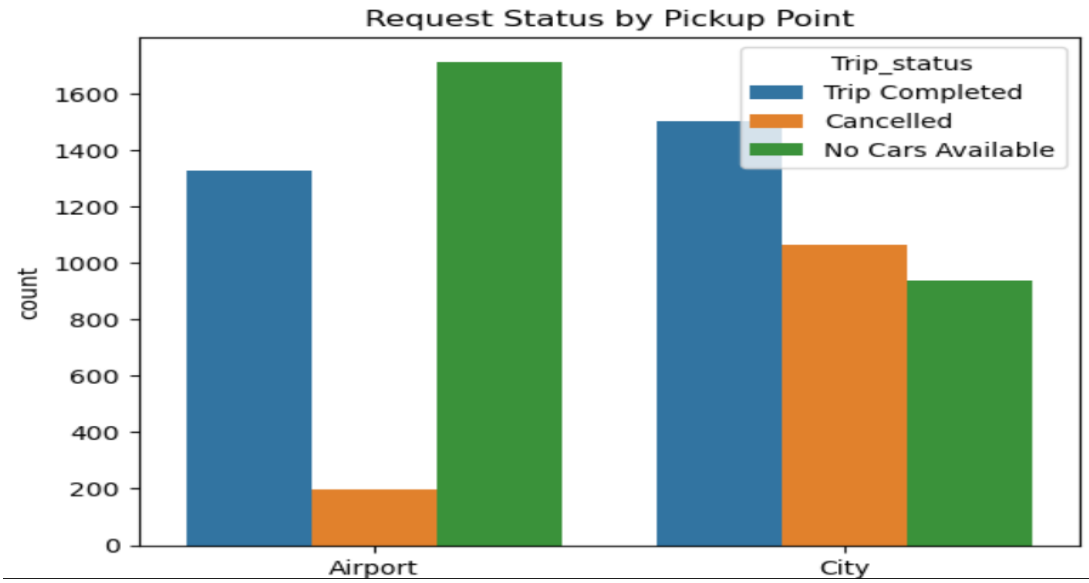
Result Grid | Filter Rows:

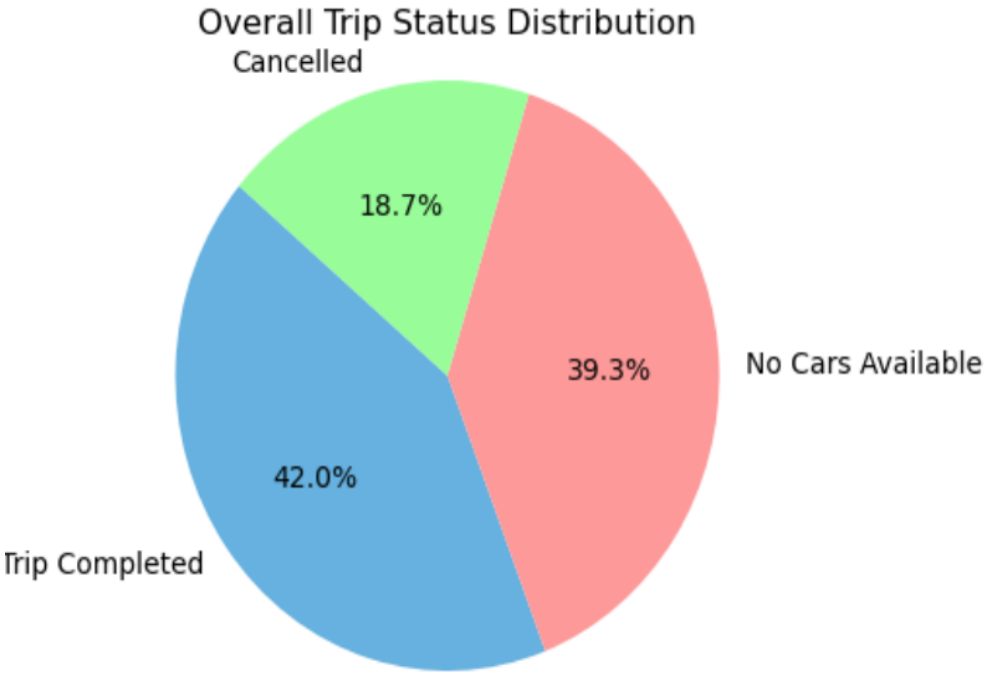
Trip_status	count
Trip Completed	2831
No Cars Available	2650
Cancelled	1264

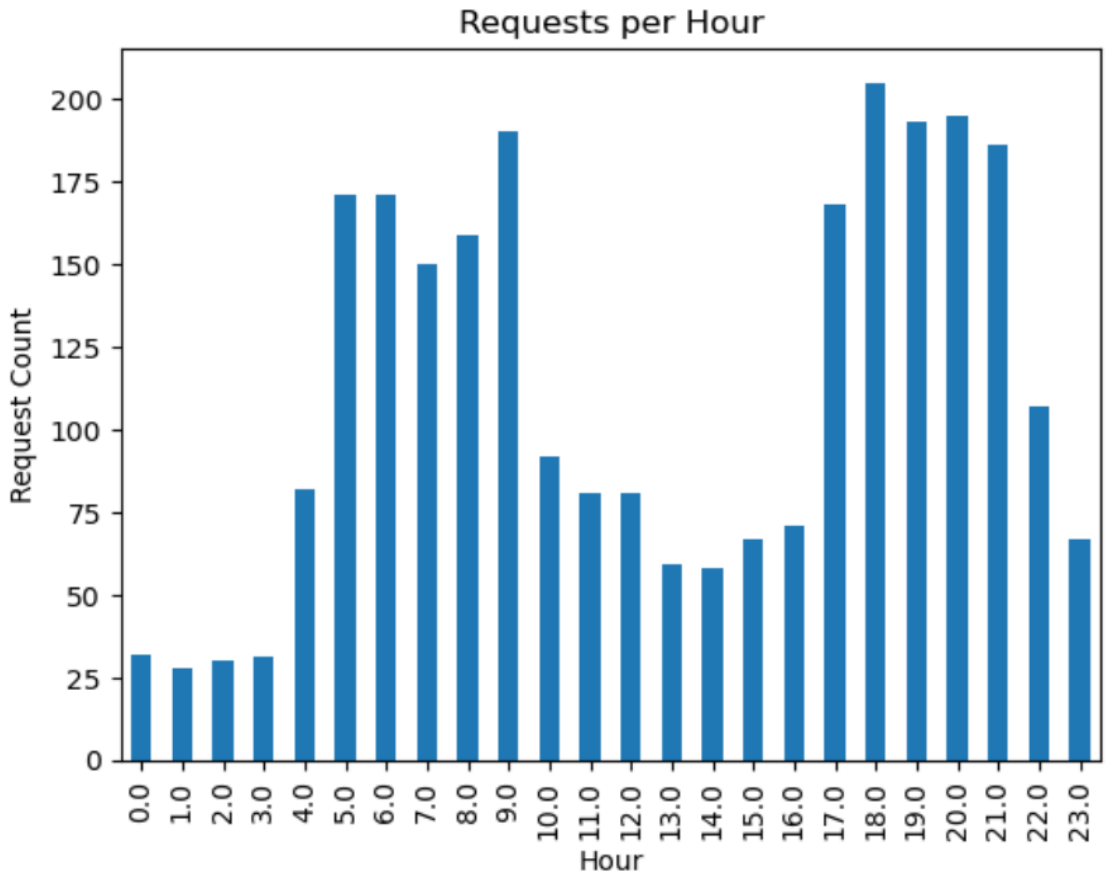
Pickup_point	Trip_status	count
Airport	No Cars Available	1713
Airport	Trip Completed	1327
Airport	Cancelled	198
City	Trip Completed	1504
City	Cancelled	1066
City	No Cars Available	937

Python Insights

- Cleaned timestamps using `pd.to datetime ( )`
- Added `Request hour` and `Time slot` columns
- Plotted:
  - Requests vs Time Slot
  - Trip Status vs Time Slot
- Insights:
  - **Morning & Night** have max cancellations
  - **Late Night (12 M–4 AM)** → Peak for "No Cars Available"
  - **Including few of my python plots here**


Request Status by Pickup Point
Trip_status
Trip Completed
Cancelled
No Cars Available
count
1600
1400
1200
1000
800
600
400
200
0
Airport
City


Overall Trip Status Distribution
Cancelled
18.7%
39.3%
No Cars Available
42.0%
Trip Completed



Excel Dashboard Highlights

- Used Pivot Tables Slicers
- Key Views:
  - Requests by Status (Pie Chart)
  - Pickup Point vs Trip Status (Stacked Bar)
  - Requests by Hour (Bar Chart)
- Interactivity: Filter by Time Slot, Status

Key Insights Summary

- **Peak Hours** found 5 AM, 9 AM, 6 PM
- Most **driver cancellations in Morning**
- Most **unavailability at Night**
- **City** has more ride requests at **Airport** has more issues

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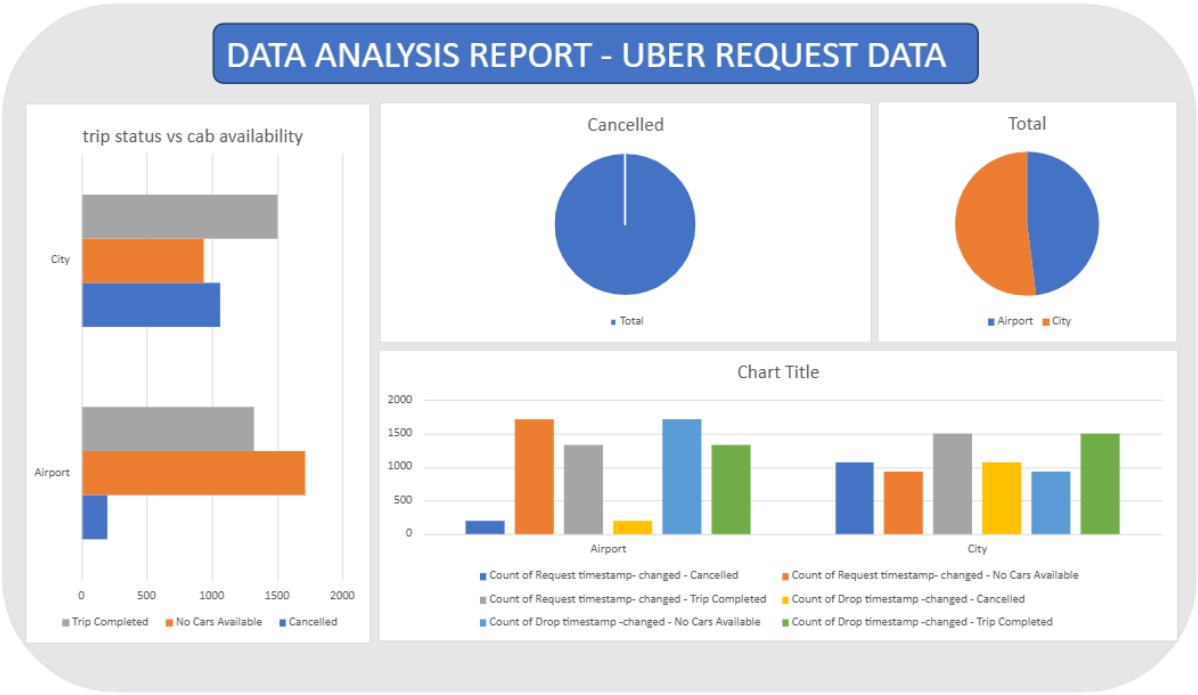

Included my excel dashboard here