**Project Name:**

Uber Trips Data Analysis

**Project Type:**

EDA

**Project objectives:**

The primary goal of this project was to analyze Uber ride data to identify patterns in ride requests, cancellations, and service availability. The dataset was cleaned and examined using SQL queries and Python visualizations to support decision-making for operations and resource planning.

**Problem Statement:**

1: Problem Statement 1: Demand Pattern Analysis.

"Analyze Uber ride request data to identify demand patterns across different hours, days, and locations in order to optimize driver allocation and reduce cancellation rates."

Problem Statement 2: Trip Completion vs Cancellation Analysis

"Investigate the factors affecting trip completion and cancellation rates across cities and airports to provide actionable insights for improving service reliability."

Problem Statement 3: Operational Efficiency Analysis

"Evaluate Uber’s trip data to understand operational bottlenecks, such as high cancellation hours, low driver availability, and optimize time slots and pickup zones for better service efficiency."

**Data Overview:**

* Pickup point: City or Airport
* - Status: Trip Completed, Cancelled, or No Cars Available
* - Drop timestamp: Time the trip ended
* - Hour: Hour of the day (0–23)
* - Time Slot: Time category (e.g., Morning Rush)

**Trip status distribution:**

* • Most requests are successful
* • Significant number of requests are cancelled or see no cars available
* • Indicates gaps in driver availability

**Cancellations by Pickup Point:**

* • The Airport has the highest cancellations
* • Possible reasons: traffic, long wait times, location difficulty
* • Targeted driver support or improvements needed.

**Trip Success by Time Slot:**

* • Morning Rush sees sharp spike in 'No Cars Available'
* • Suggests driver shortage at a critical time
* • Indicates strong mismatch between demand and supply

**Project summary:**

**Key Insights:**

1. Trip Completion Rates by Pickup Point: City had a higher trip completion rate than Airport

2. Most ride requests occurred in the Morning and Evening. Chart: Bar plot of number of requests across time slots.

3. Significant proportion of cancelled rides or rides with no cars available during peak hours.

4. SQL query helped calculate percentage of each status per pickup point.

Insight: Operational issues differ between Airport and City

**Recommendations:**

* **✔ Add more drivers during rush hours**
* **✔ Use incentives or surge pricing to improve availability**
* **✔ Improve rider-driver matching algorithm**
* **✔ Monitor time slot and pickup-point performance regularly**

**GITHUB link:**

[**https://github.com/ShrutiSGhosh/uber-data-analysis.git**](https://github.com/ShrutiSGhosh/uber-data-analysis.git)

**Conclusion:**

* **The analysis highlights key problem areas in Uber trip requests.**
* **Improving driver availability at critical times and locations can**
* **significantly enhance customer satisfaction and reduce cancellations.**