Uber Pickups Analysis

UBER PICKUPS IN NYC

In this project, we are going to analyse the Uber Pickups in New York City.

ABOUT THE DATASET

The dataset provided contains data on over 4.5 million Uber pickups in New York City

from April to September 2014, and 14.3 million more Uber pickups from January to

June 2015.

This Analysis is based on the August month dataset, `uber-raw-data-aug14.csv`

Q1. On what date did we see the most number of Uber pickups?

Sol. Date with the highest number of pickups: 2014-08-01

Number of pickups on that date: 10734

Q.2 How many Uber pickups were made on the date with the highest number of pickups?

Sol. Count of pickups on the date with the highest number of pickups: 10734

Q.3 How many unique TLC base companies are affiliated with the Uber pickups in the dataset?

Sol. Number of unique TLC base companies: 2

Q.4 Which TLC base company had the highest number of pickups?

Sol. TLC base company with the highest number of pickups: B02512

Number of pickups by the highest TLC base company: 31472

Q.5 How many Uber pickups were made at each unique TLC base company?

Sol. Number of pickups by TLC base company :

B02512 : 31472

B02598 : 14117

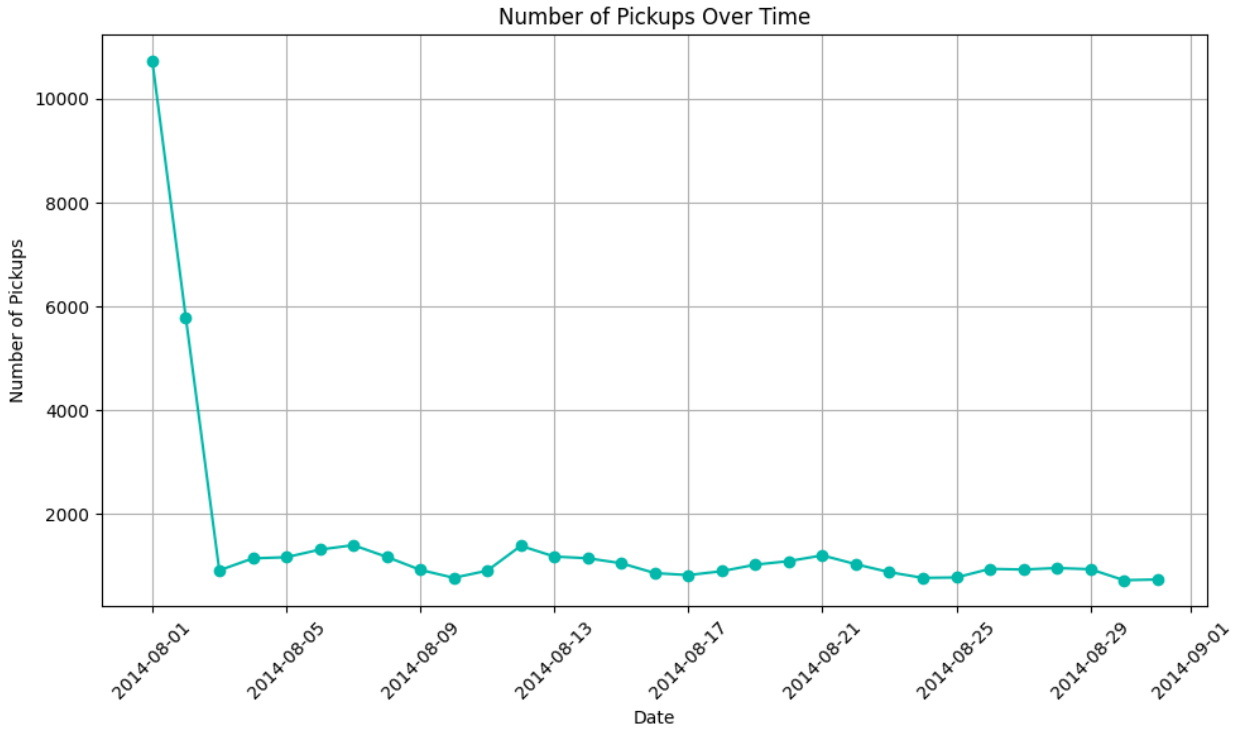
Q.6 Can you determine the busiest time of day for Uber pickups based on the date/time column?

Sol. Hour with the highest number of pickups: 16

Number of pickups during the highest hour: 3313

Q.7 Can you create a visualization (e.g., a bar chart or line plot) to represent the number of Uber pickups over time?

Sol. “Number of Pickups Over Time” shows a line graph depicting the number of pickups over a specific period.



Here are the insights from the graph:

Initial Drop and Stabilization :

The graph starts with a significant drop in pickups from the beginning of the period.

After the initial decline, the number of pickups stabilizes and remains relatively low throughout the rest of the month.

Adaptation and Consistency :

The drastic change in pickups suggests an adaptation or adjustment in the system.

Despite the initial drop, the system maintains a consistent level of pickups afterward.

Potential Factors :

Investigate the reasons behind the initial drop. Possible factors could include changes in demand, operational adjustments, or external events.

Consider analyzing other related metrics (e.g., ride requests, driver availability) to understand the overall ecosystem.

Q8. Can you create a scatter plot to visualize the distribution of Uber pickups based on latitude and longitude?

Sol.

The scatter plot titled “Distribution of Uber Pickups” visualizes the concentration of Uber pickups based on latitude and longitude coordinates.

Here are the key insights :

Hotspots : The plot reveals specific areas with high pickup density, likely corresponding to busy urban centers or popular destinations.

Demand Patterns : Clusters of pickups indicate peak demand times or locations, which can inform Uber’s operational decisions.

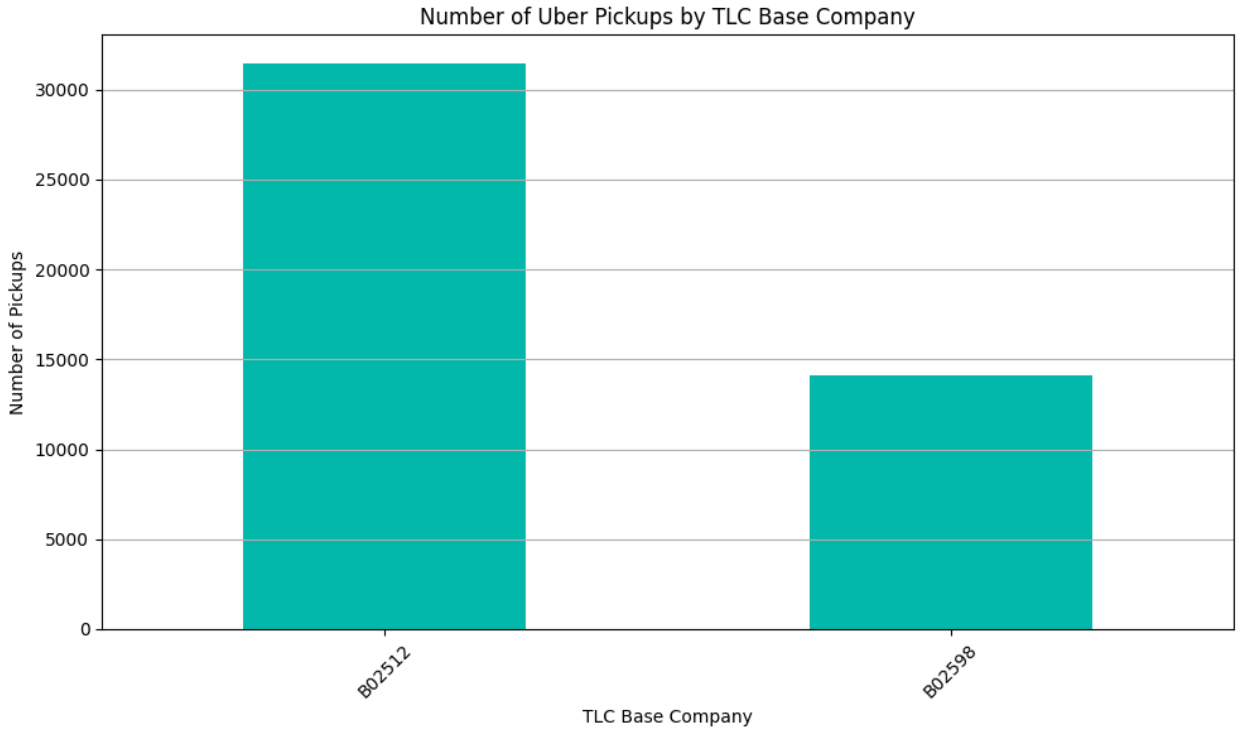
Geographic Variability : The distribution varies across different regions, suggesting that Uber’s service is more popular in certain neighborhoods.

Potential Growth Areas : Sparse pickup regions may represent untapped markets where Uber could expand its services.

Q9. Can you create a bar chart to compare the number of Uber pickups for each TLC base company?

Sol.

The bar graph comparing the number of Uber pickups by two different TLC Base Companies, B02512 and B02598, reveals the following insights:



Service Volume Disparity : Base Company B02512 has significantly more pickups than Base Company B02598. This disparity suggests varying demand patterns or operational efficiency between the two bases.

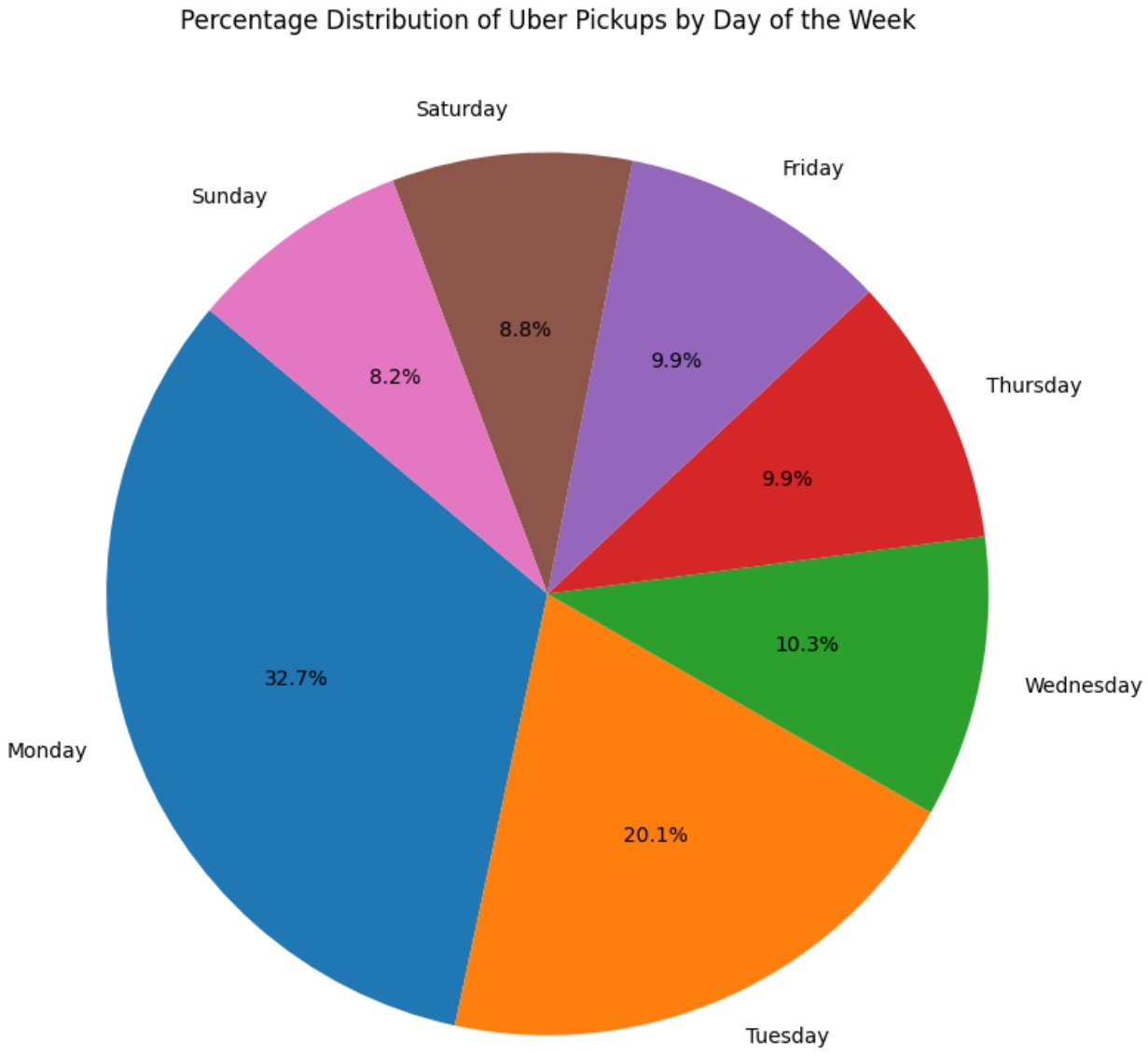
Market Dominance : Base Company B02512 likely covers a larger service area or operates during peak hours, resulting in higher pickup numbers.

Strategic Decisions : Uber can use this data to allocate resources effectively, optimize driver availability, and enhance service quality in areas with lower pickup volumes (such as Base Company B02598).

Q10. Can you create a pie chart to display the percentage distribution of Uber pickups for each day of the week?

Sol.

The pie chart illustrates the percentage distribution of Uber pickups by each day of the week.



Here are the key insights:

Monday : 32.7% of pickups occur on Mondays, indicating higher demand at the start of the week.

Tuesday to Sunday : The remaining days have relatively similar percentages, with Tuesday having the lowest at 13.1% and Sunday at 14.2%.

Weekend Effect : The weekend (Saturday and Sunday) shows a slight increase in pickups compared to weekdays, suggesting more leisure or social travel during weekends.

This data can inform Uber's operational decisions, such as driver allocation and marketing strategies, to optimize service availability and meet user demand throughout the week.