Part 1: Make a plan for the dashboard

Citi Bike 2022 – Dashboard Plan

Objective:
This project will analyse Citi Bike trip data for New York City during 2022, alongside weather information from NOAA. The data includes trip details such as start and end stations, timestamps, and bike types. By combining these datasets, the goal is to identify patterns in station usage, seasonal demand, and weather effects on usage. The dashboard will help highlight areas with potential supply–demand imbalances and provide insights for improving bike distribution and station placement across the city.

Research Questions:

1. What are the most popular start and end stations in the city?
2. What are the most popular routes or trips between stations, and are there specific corridors with consistently high traffic?
3. Which months show the highest or lowest trip volumes, and how does weather affect this?
4. Are bike stations evenly distributed across the city, or are there problem areas?
5. What are the most common routes between stations?
6. When does usage peak—by hour, weekday, or weekend?

Planned Dashboard Sections / Visualisations:

Introduction: Overview of the project objectives and data sources (Citi Bike trip data and NOAA weather data).

Seasonal Demand: Line chart showing total trips per month with an overlay of avaerage monthly temperature to identify seasonal patterns.

Top Stations: Bar chart highlighting the most popular start and end stations across New York City.

Station Distribution: Interactive city map displaying station density to identify areas with potential shortages or oversupply.

Routes & Flow Analysis: Geographic or flow map visualising the most frequent station to station trips and directional movement patterns across the city.

Weather Impact: Scatter or dual-axis chart comparing trip volume with temperature and rain to explore weather effects on usage.

Recommendations: Summary page presenting key findings, insights, and strategy suggestions for improving bike placement and system balance.

GitHub