**KPI & Visualization Plan NYC YELLOW TAXI**

**1. Passenger Count**

* **KPI Name:** Total Passengers Served
* **Formula:** SUM(passenger\_count)
* **Purpose:** Tracks total customer volume served.
* **Visualization:** **KPI Card** (Numeric display, e.g., **995.1K**)

**2. Tip & Fare Amount by Location**

* **KPI Name:** Tip & Fare Analysis by Location
* **X-axis:** Location
* **Y-axis:** Tip Amount & Fare Amount
* **Purpose:** Identify which locations generate higher tips and profits.
* **Visualization:** **Dual Line Graph**
* **Color Coding:**
  + **Green:** Profit (Fare + Tip > Cost)
  + **Red:** Loss (Fare + Tip < Cost)

**3. Total Amount Collected**

* **KPI Name:** Total Revenue
* **Formula:** SUM(total\_amount)
* **Purpose:** Displays overall revenue earned.
* **Visualization:** **KPI Card**

**4. Payment Type Analysis**

* **KPI Name:** Payment Method Distribution
* **Categories:** Credit Card, Cash, Wallet, Others
* **Purpose:** Understand customer payment preferences.
* **Visualization:** **Stacked Bar Chart** or **Pie Chart**

**5. Year-wise Filter**

* **KPI Name:** Year Selection Filter
* **Range:** 2016–2022
* **Purpose:** Allows filtering of KPIs and visuals by year.
* **Visualization:** **Slicer** (Dropdown or Buttons)

**6. Vendor ID Analysis**

* **KPI Name:** Vendor Performance Share
* **Formula:** Vendor Trip Count Distribution
* **Purpose:** Identify the most frequently used vendor.
* **Visualization:** **Pie Chart** with Vendor Names as Legends

**7. Distance Miles Slicer**

* **KPI Name:** Trip Distance Filter
* **Range:** 0–5 miles, 5–10 miles, 10–20 miles, >20 miles
* **Purpose:** Filter trips based on travel distance.
* **Visualization:** **Slicer** (Range Slider or Buttons)

**8. Year-over-Year Comparison**

* **KPI Name:** Yearly Performance Comparison
* **Chart Type:** Bar Chart or Pie Chart
* **Color Coding:**
  + **Year 1:** Blue
  + **Year 2:** Light Blue
* **Purpose:** Compare key metrics between two selected years.

**9. Busiest Days Analysis**

* **KPI Name:** Peak Business Days
* **X-axis:** Day of the Week
* **Y-axis:** Trip Count or Total Amount
* **Purpose:** Identify high-demand days across years.
* **Visualization:** **Line Chart**

**10. Taxi Availability**

* **KPI Name:** Availability by Time Interval
* **Purpose:** Show number of taxis available at different time slots.
* **Visualization:** **Bar Chart** (Time on X-axis, Count on Y-axis)

**11. Drop-off Density Map**

* **KPI Name:** Drop Zone Analysis
* **Purpose:** Identify high drop-off density locations.
* **Visualization:** **Geo Map** (Heatmap or Bubble Size)

**12. Time-based Profit Analysis**

* **KPI Name:** Profit & Loss Over Time
* **Filters:** Year, Month, Date
* **Purpose:** View trends of profit vs. loss over time.
* **Visualization:** **Line Graph** with color-coded profit/loss areas

**13. Total Travel Time**

* **KPI Name:** Total Travel Time
* **Formula:** SUM(trip\_duration) (in hours)
* **Purpose:** Show total time spent on all trips.
* **Visualization:** **KPI Card**

**14. Total Distance Covered**

* **KPI Name:** Cumulative Distance
* **Formula:** SUM(trip\_distance) (in miles)
* **Purpose:** Display total distance traveled across all trips.
* **Visualization:** **KPI Card**

**15. Total Trips**

* **KPI Name:** Total Trips Completed
* **Formula:** COUNT(trip\_id)
* **Purpose:** Monitor the number of completed trips.
* **Visualization:** **KPI Card**