

A screenshot of Microsoft Excel showing a table titled "Vehicle_Master". The table has columns: A (Vehicle_ID), B (Vehicle_Type), C (Capacity_kg), and D (Maintenance_Cost). The data includes rows for V01 (Van, 8424, 5632), V02 (Truck, 1970, 6776), V03 (Truck, 1207, 18031), V04 (Mini-Truck, 8803, 9033), V05 (Truck, 9941, 17751), V06 (Van, 6053, 5914), and V07 (Van, 2598, 12837). The ribbon at the top shows tabs for Home, Insert, Page Layout, Formulas, Data, Review, View, Help, and Power Pivot. The status bar at the bottom shows "Ready", "Accessibility: Investigate", and system information like weather (26°C, Partly cloudy) and date/time (12-10-2025).

1. Data Cleaning & Modeling:

A screenshot of Microsoft Power BI showing a table titled "Trip_Data". The table has columns: Trip_ID, Vehicle_ID, Driver_ID, Origin, Destination, Distance_km, Fuel_Consumed_L, Delivery_Status, Delivery_Date, Fuel_cost_Itr, and Fuel_cost. The data includes rows for various trips between cities like Delhi, Mumbai, Bangalore, and Hyderabad. To the right, the "Column tools" pane is open, showing properties for the "Fuel_Consumed_L" column, including data type (Decimal number), format (\$, ., 00), summarization (Sum), and data category (Uncategorized). The "Data" pane on the right shows relationships and calculations for the model.

The screenshot shows the Power BI Data view interface. At the top, there's a ribbon with Home, Help, and various data management options like Get data, Transform Refresh data, Manage relationships, and Calculations. Below the ribbon, two tables are displayed: 'Vehicle_Master' and 'Trip_Data'. The 'Vehicle_Master' table contains columns: Capacity_kg, Maintenance_Cost, Vehicle_ID, and Vehicle_Type. The 'Trip_Data' table contains columns: Delivery_Date, Delivery_Status, Destination, Distance_km, Driver_ID, Fuel cost, Fuel cost_ltr, Fuel_Consumed_L, and Origin. A 'Properties' pane is visible on the right side of the interface.

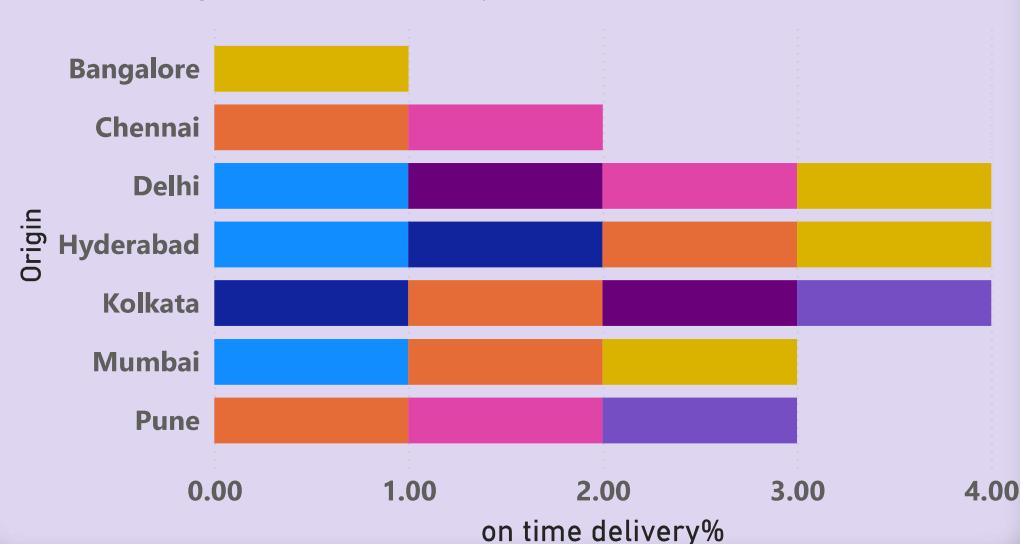
2. DAX Measures:

The screenshot shows the Power BI Report view. It features a dashboard with four measures: Fuel Efficiency (11.43), total trips (50), on time delivery% (0.60), and Cost per KM (9.54). To the right of the dashboard is a 'Data' pane containing a tree view of the 'Trip_Data' table with its various columns listed. The report navigation bar at the bottom includes options like Report, Page 1, Bar chart, Line chart, KPI, map, and a plus sign for new visualizations.

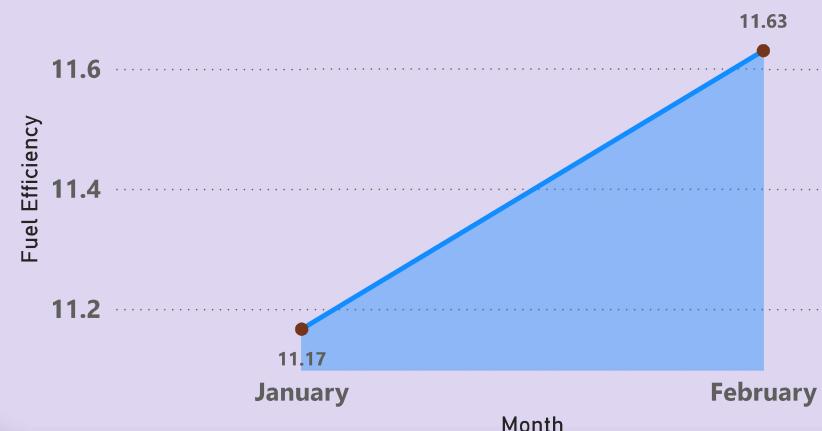
Fleet Performance & Delivery Efficiency Analysis Report

On time delivery% by Route

Destination ● Bangalore ● Chennai ● Delhi ● Hyderabad ● Kolkata ● Mumbai ● Pune



Fuel Efficiency trend by Month



Cost per km by Delivery_time

44.04

Delivery_Status

Late

On-Time

Delivery performance by Route



11.43

Fuel Efficiency

50

total trips

0.60

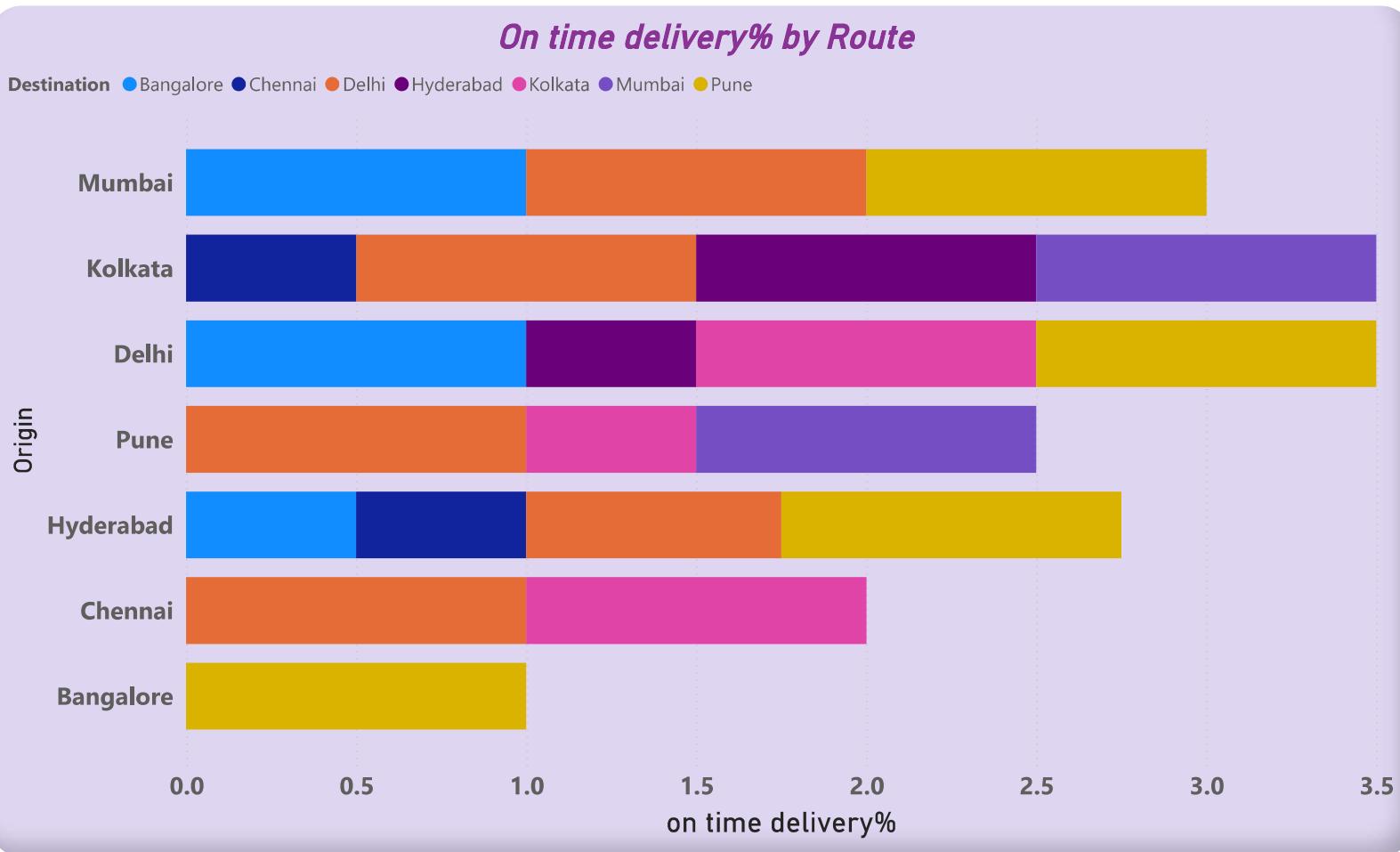
on time delivery%

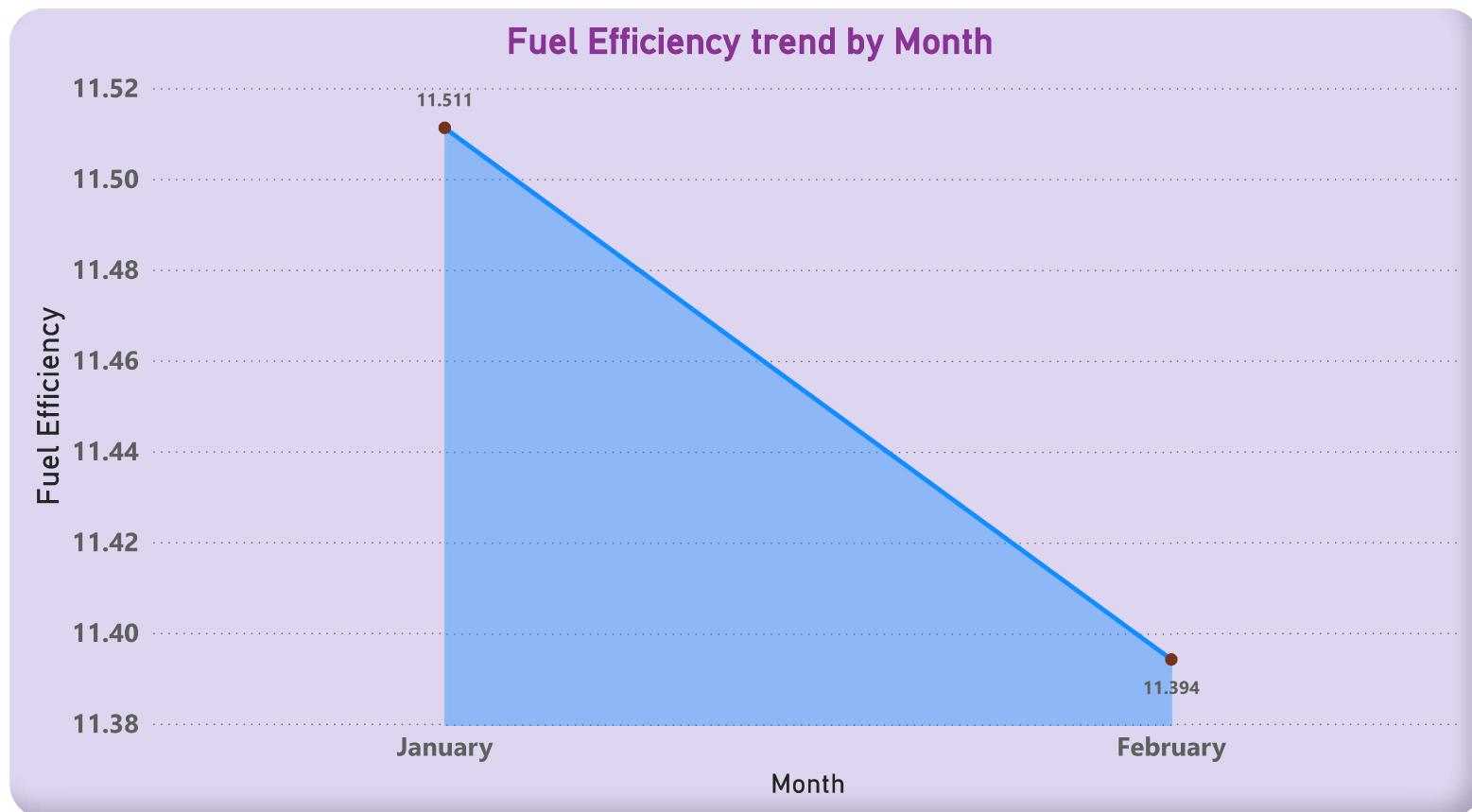
9.54

Cost per KM

30

On time trips





Cost per km by Delivery_time

29.85

Delivery performance by Route

Delivery_Status ● Late ● On-Time



Insights:

1. On-Time Delivery Performance by City

- **Pune and Mumbai** tied for the **highest average on-time delivery percentage**, each recording a perfect score of **1.00**.
- **Delhi** followed closely with an **on-time delivery rate of 0.95**.
- **Chennai** recorded the **lowest performance**, with an average on-time delivery of **0.50**, indicating potential route inefficiencies or delays.

Action: Prioritize investigation into Chennai's delivery operations to identify and resolve bottlenecks.

2. Fuel Efficiency Overview

- **January:** Fuel efficiency was **11.51 km/l**, outperforming February.
- **February:** Slightly lower at **11.39 km/l**.

Action: Analyze February's routes and vehicle usage to understand the drop and replicate January's efficiency patterns.

3. Cost per KM Trends & Anomalies

Steepest Decline (Cost Optimization)

- From **₹67.38** to **₹30.20** between **Monday, January 16** and **Saturday, January 21, 2023**.
- This is a **55.18% decrease** over 5 days.
- Indicates effective cost optimization during this period.

Cost Anomalies

- **Sunday, January 1, 2023:** Spiked to **₹103.25**
- **Thursday, January 26, 2023:** Extreme anomaly at **₹1,194.29**

Action: Review and validate cost inputs for these dates; check for data entry errors, unplanned events, or exceptional operational costs.

Overall Dashboard Deliverables

- **Interactive Route Map:** Visualize route-wise delivery performance (Origin → Destination).
- **Fleet Usage Panel:** Track vehicle utilization and idle time.
- **KPI Cards:** On-Time %, Avg Delay, Fuel Efficiency, Cost per KM.
- **Trend Charts:**
 - Cost per KM over time
 - Fuel efficiency trends by month
- **Anomaly Detection Flags:** Highlight outlier cost days for review.
- **Slicers:** Date, City, Route, Vehicle Type, Delivery Status

Final Goal:

Enable data-driven decisions to **optimize delivery routes, reduce operational costs, and maximize fleet efficiency.**