

Logistics & Transportation- Fleet Performance & Delivery Efficiency

Data Cleaning & Modelling

1. Fix missing fuel consumption values (use avg. per vehicle type).

Found Value "0" in "Fuel_Consumed_L" Column > Found **Average value** > Replaced it

The image illustrates the steps to replace missing values in a Power BI dataset:

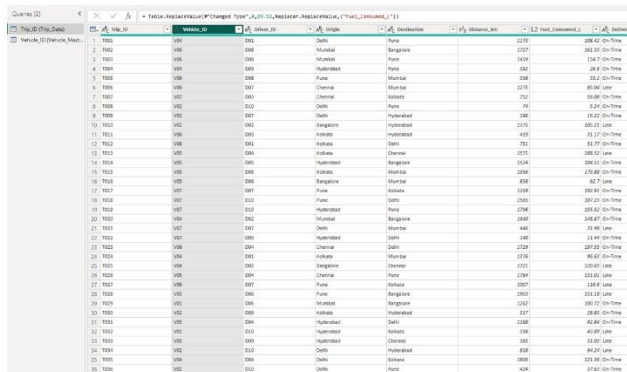
- Statistics Menu:** A dropdown menu is shown with the 'Average' option highlighted. Other options include Sum, Minimum, Maximum, Median, Standard Deviation, Count Values, and Count Distinct Values.
- Average Calculation:** A formula bar shows the calculation: `= List.Average(#"Changed Type"[Fuel_Consumed_L])`, resulting in the value **89.529**.
- Context Menu:** A right-click context menu is shown over the 'Fuel_Consumed_L' column, with the 'Replace Values...' option highlighted.
- Replace Values Dialog:** A dialog box titled 'Replace Values' is shown, with 'Value To Find' set to **0** and 'Replace With' set to **89.52** (rounded from 89.529).

2.Relate Trips with Vehicle Master.

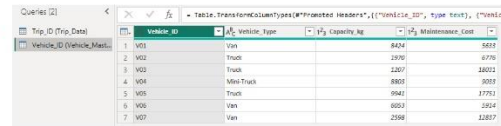
We have two table called **Trip** and **Vehicle Master** and each table has a common column called **Vehicle_ID**.

Trip ID

Vehicle ID



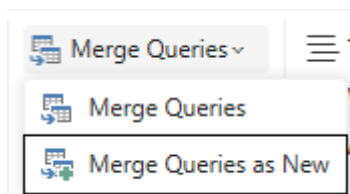
Trip ID	Vehicle ID	Vehicle Type	Capacity	On-Time
1	1001	Van	1000	On-Time
2	1002	Van	1000	On-Time
3	1003	Van	1000	On-Time
4	1004	Van	1000	On-Time
5	1005	Van	1000	On-Time
6	1006	Van	1000	On-Time
7	1007	Van	1000	On-Time
8	1008	Van	1000	On-Time
9	1009	Van	1000	On-Time
10	1010	Van	1000	On-Time
11	1011	Van	1000	On-Time
12	1012	Van	1000	On-Time
13	1013	Van	1000	On-Time
14	1014	Van	1000	On-Time
15	1015	Van	1000	On-Time
16	1016	Van	1000	On-Time
17	1017	Van	1000	On-Time
18	1018	Van	1000	On-Time
19	1019	Van	1000	On-Time
20	1020	Van	1000	On-Time
21	1021	Van	1000	On-Time
22	1022	Van	1000	On-Time
23	1023	Van	1000	On-Time
24	1024	Van	1000	On-Time
25	1025	Van	1000	On-Time
26	1026	Van	1000	On-Time
27	1027	Van	1000	On-Time
28	1028	Van	1000	On-Time
29	1029	Van	1000	On-Time
30	1030	Van	1000	On-Time



Trip ID	Vehicle ID	Vehicle Type	Capacity	On-Time
1	1001	Van	1000	On-Time
2	1002	Van	1000	On-Time
3	1003	Van	1000	On-Time
4	1004	Van	1000	On-Time
5	1005	Van	1000	On-Time
6	1006	Van	1000	On-Time
7	1007	Van	1000	On-Time

Vehicle_ID Column

We're going to relate a both table using **"Merge queries"**



I Used **Left Outer** for this joins



Merge

Select tables and matching columns to create a merged table.

Trip_ID (Trip_Data)

Trip_ID	Vehicle_ID	Driver_ID	Origin	Destination	Distance_km	Fuel_Consumed_L	Delivery_Status
T001	V04	D01	Delhi	Pune	1173	108.42	On-Time
T002	V06	D08	Mumbai	Bangalore	1727	161.33	On-Time
T003	V06	D08	Mumbai	Pune	1459	154.7	On-Time
T004	V04	D09	Hyderabad	Pune	382	26.6	On-Time

Vehicle_ID (Vehicle_Master)

Vehicle_ID	Vehicle_Type	Capacity_kg	Maintenance_Cost
V01	Van	8424	5633
V02	Truck	1970	6776
V03	Truck	1207	18031
V04	Mini-Truck	8803	9033
V05	Truck	9941	17751

Join Kind

Left Outer (all from first, matching from second)

☐ Use fuzzy matching to perform the merge

▸ Fuzzy matching options

✓ The selection matches 50 of 50 rows from the first table.

OK

Cancel

Delivery_Date

Vehicle_ID (Vehicle_Master)

Search Columns to Expand

☒ Expand ☐ Aggregate

☒ (Select All Columns)

☐ Vehicle_ID

☒ Vehicle_Type

☒ Capacity_kg

☒ Maintenance_Cost

☐ Use original column name as prefix

OK

Cancel

Renamed as **Vehicle_Report**

DAX Measures

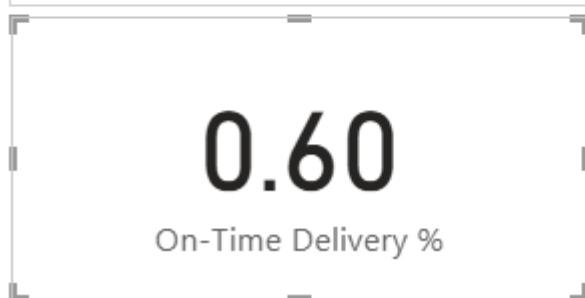
1. Fuel Efficiency = Distance / Fuel Consumed

```
1 Fuel Efficiency = DIVIDE(SUM(Vehicle_Report[Distance_km]),SUM('Trip_ID (Trip_Data)'[Fuel_Consumed_L]),0)
```



2. On-Time Delivery % = On-Time Trips / Total Trips

```
1 On-Time Delivery % =  
2 DIVIDE(  
3     CALCULATE(  
4         COUNTROWS('Vehicle_Report'),  
5         'Vehicle_Report'[Delivery_status] = "On-Time"  
6     ),  
7     COUNTROWS('Vehicle_Report'),  
8     0  
9 )
```



3. Cost per km = (Fuel Cost + Maintenance Cost) / Distance

```
1 Fuel Cost = 85.50
```

85.50

Fuel Cost

```
1 Cost per km =  
2 DIVIDE(  
3   [Fuel Cost] + SUM('Vehicle_Report'[Maintenance_Cost]),  
4   SUM('Vehicle_Report'[Distance_km]),  
5   0  
6 )
```

9.82

Cost per km

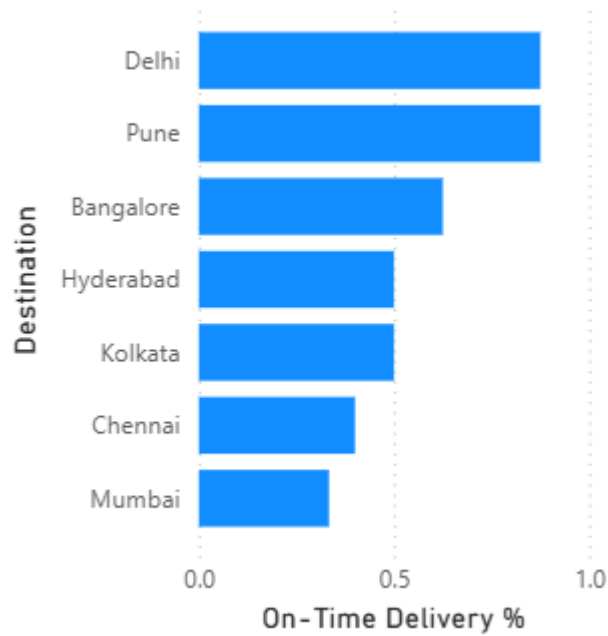
85.50

Fuel Cost

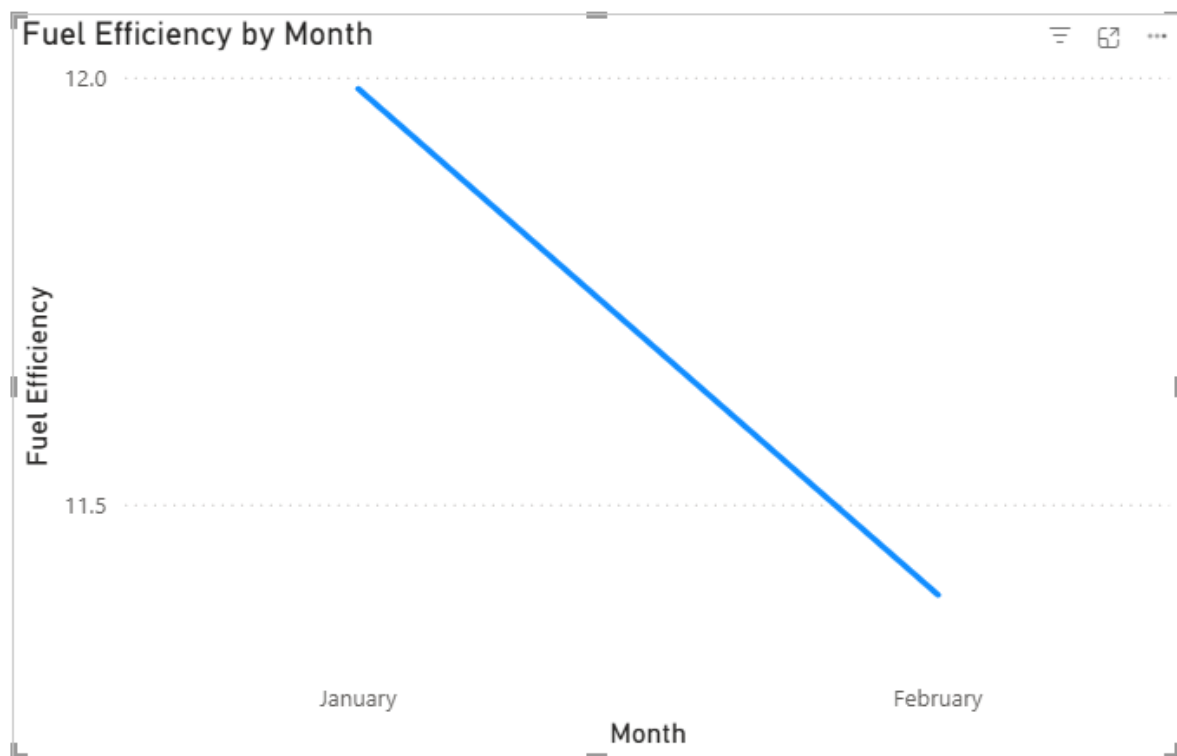
Visualization

1.Bar chart: On-Time Delivery % by Route.

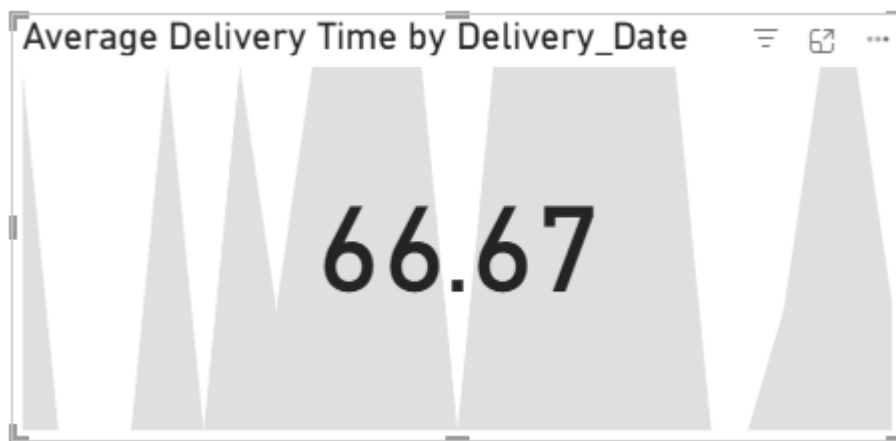
On-Time Delivery % by Destination



2.Line chart: Fuel Efficiency trend by month.



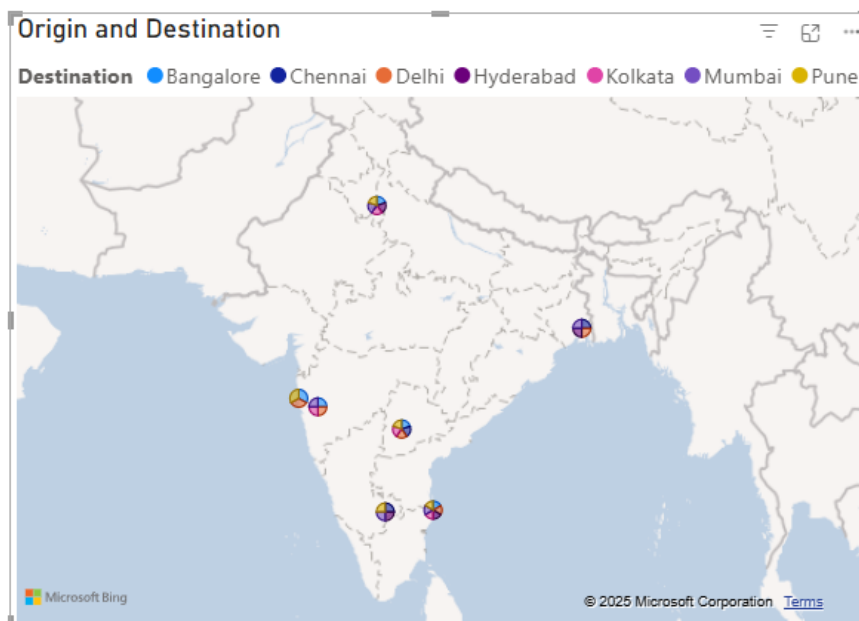
3. KPI cards: Avg. Delivery Time, Cost per km.



Cost per km by Destination

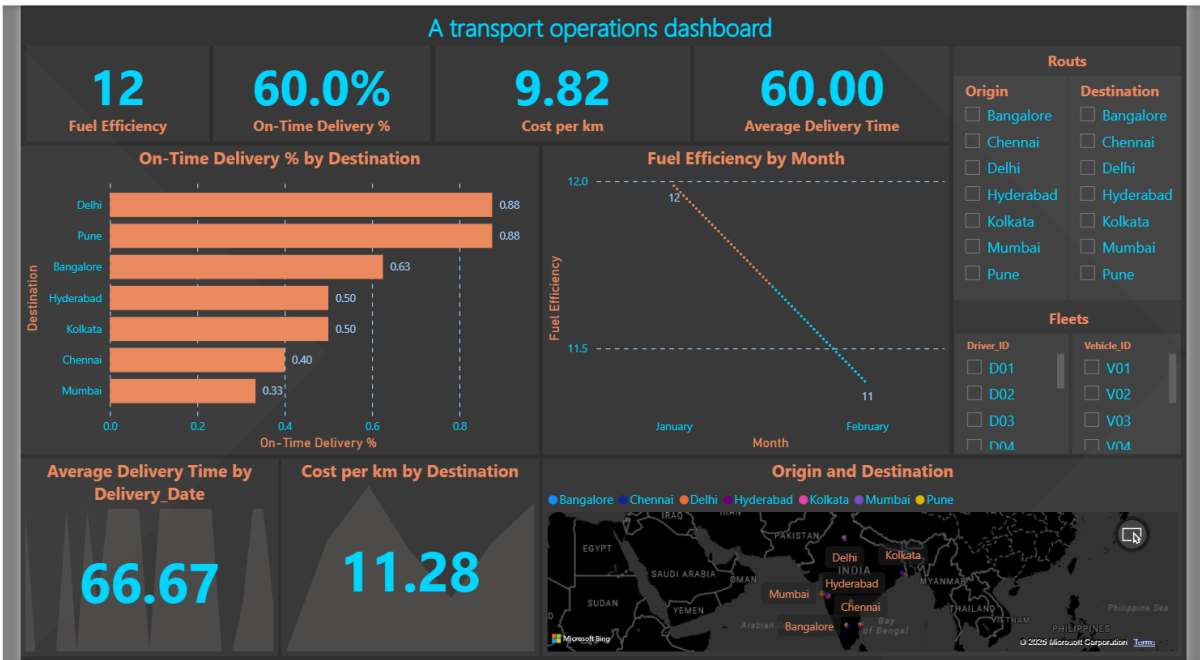


4. Map visual: Delivery performance by route (Origin → Destination).



A transport operations dashboard to optimize routes and fleet usage.

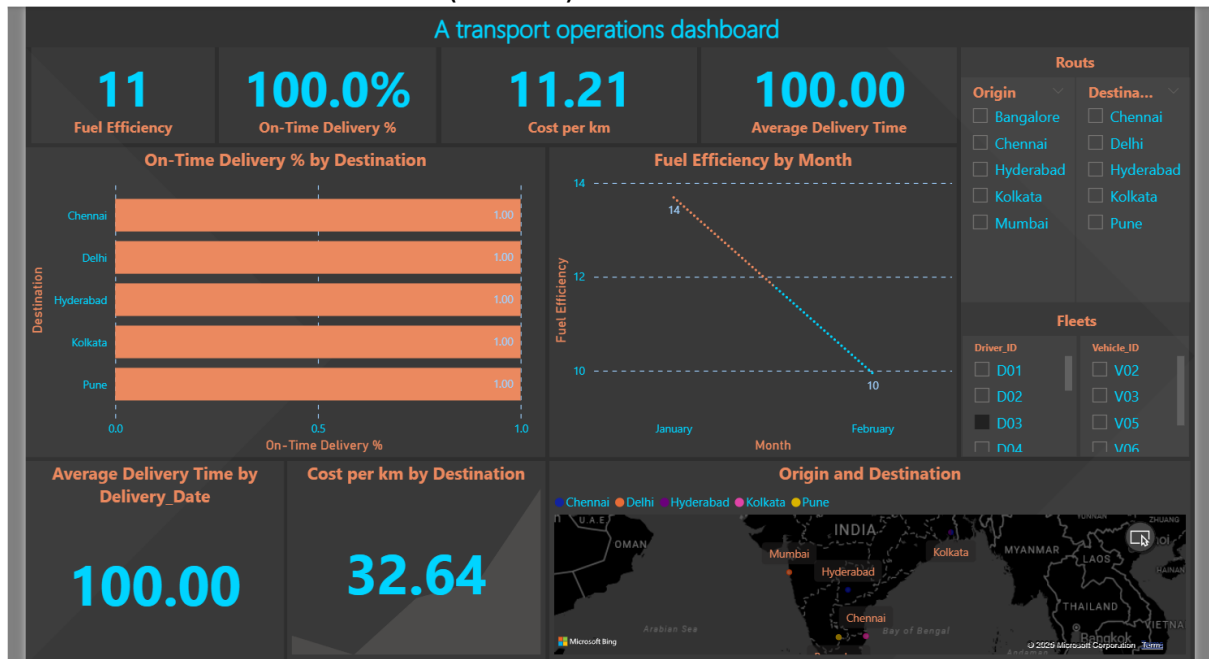
Dashboard view 1 : Normal



Dashboard view 2 : Based on Rout (Delhi to Pune)



Dashboard view 3 : Based on Fleet (Driver ID)



Mobile Dashboard View: 1

