Title: Logistics & Transportation- Fleet Performance & Delivery Efficiency

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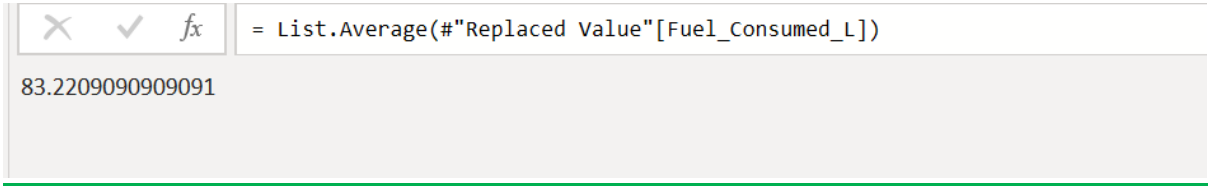
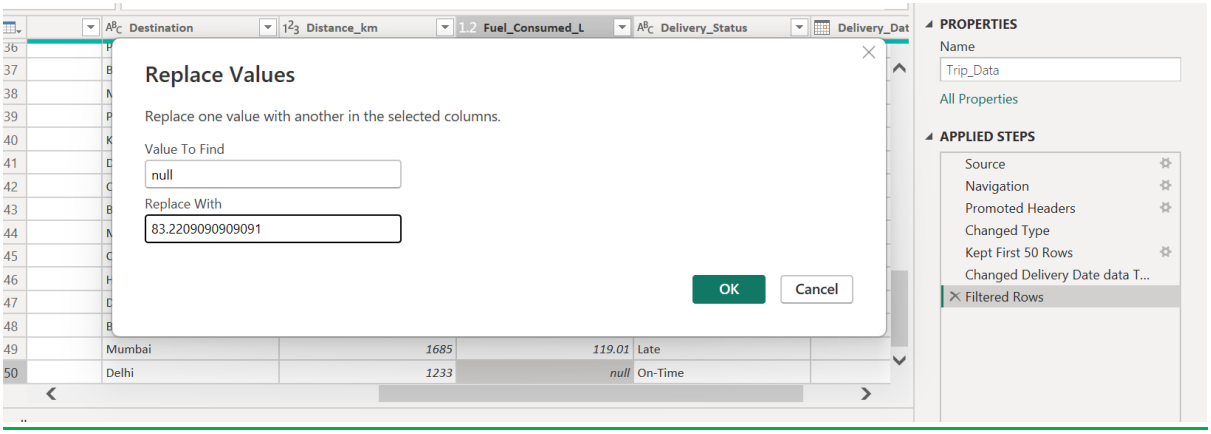
Topic Name: Logistics & Transportation- Fleet Performance & Delivery Efficiency

PROJECT STEPS:

1) Data Cleaning & Modeling:

i) Fix missing fuel consumption values:

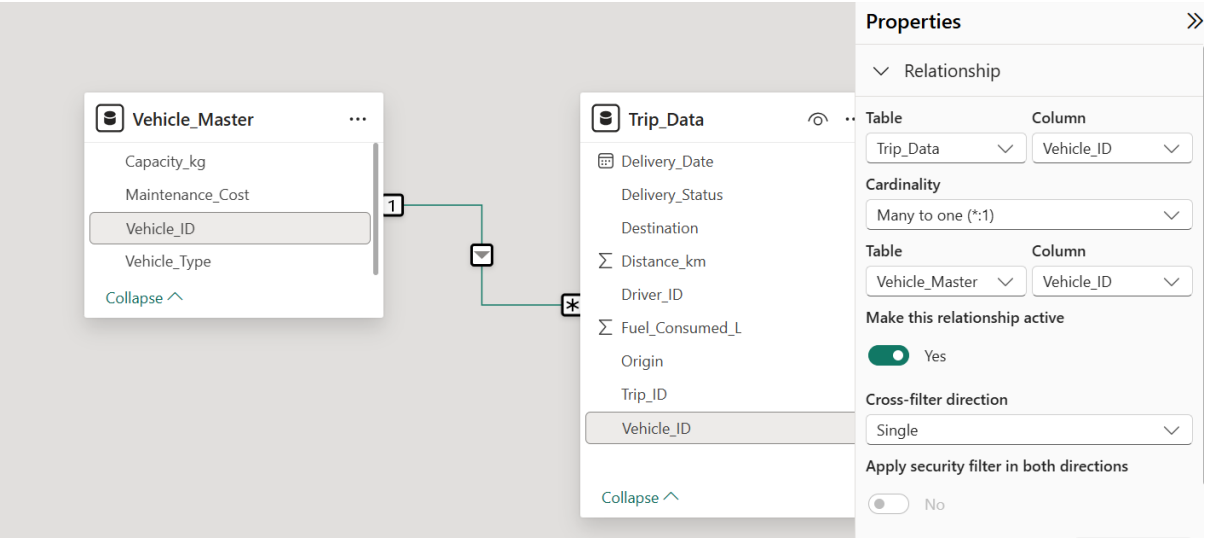




Null value filled in the fuel consumed column with average value by Vehicle ID through filtering the vehicle Id which holding null value→selecting the fuel consumed column after filtering→Transform Tab→Number Column Group→Statistics Option→Average. Average value will reflect, Copy the value and Replace in Null values. Click on the null value cell→Transform Tab→Any Column Group→Replace Values.

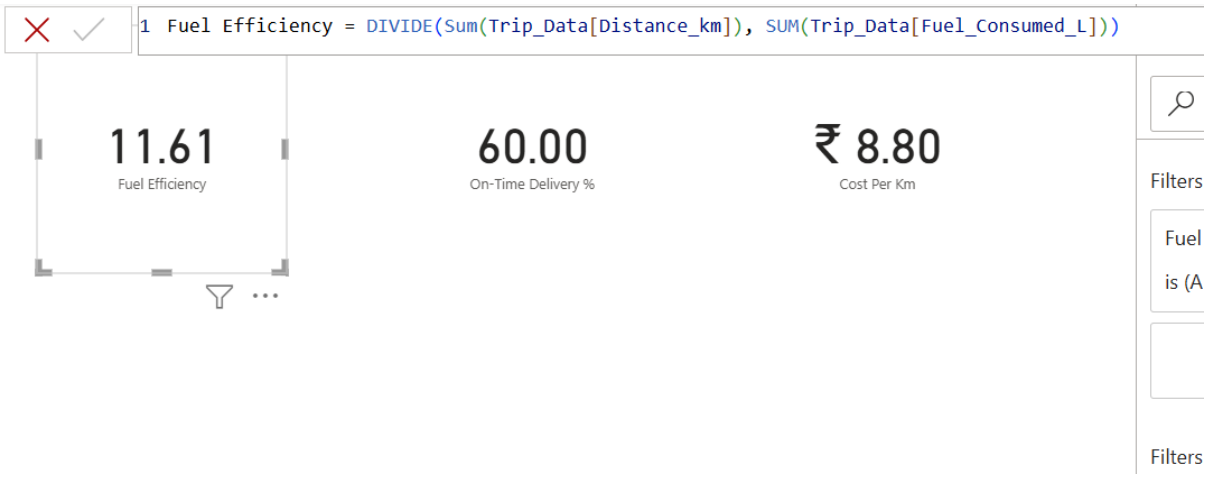
ii) Relate Trips with Vehicle Master:

Data Modeling has been done for both Trip_Data Table and Vehicle master table by using Vehicle Id as Common Column. And Relationship is Active.



2) DAX Measures:

i) Fuel Efficiency:



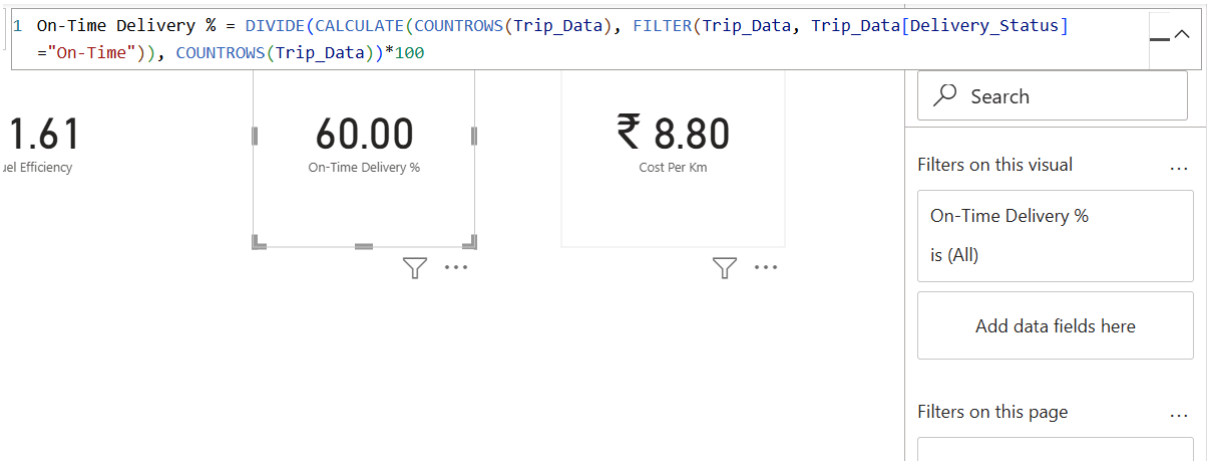
New Measure created to calculated fuel efficiency by using formula,

Fuel Efficiency = DIVIDE(Sum(Trip_Data[Distance_km]), SUM(Trip_Data[Fuel_Consumed_L]))

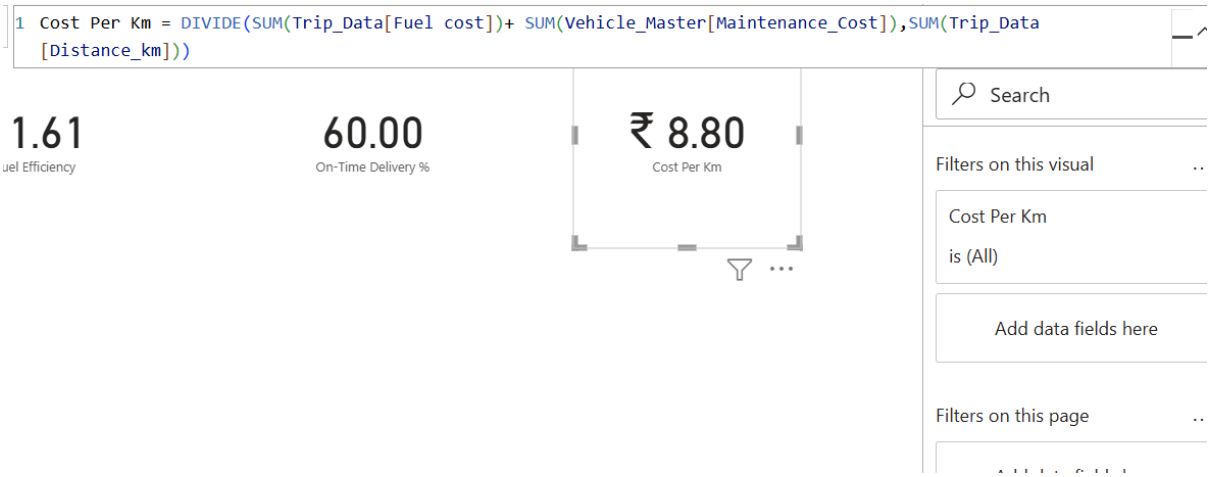
ii) On-Time Delivery %:

On-Time delivery % calculated by using new measure in Home tab with below mentioned formula.

On-Time Delivery % = DIVIDE(CALCULATE(COUNTROWS(Trip_Data), FILTER(Trip_Data, Trip_Data[Delivery_Status]="On-Time")), COUNTROWS(Trip_Data))*100



iii) Cost per km:

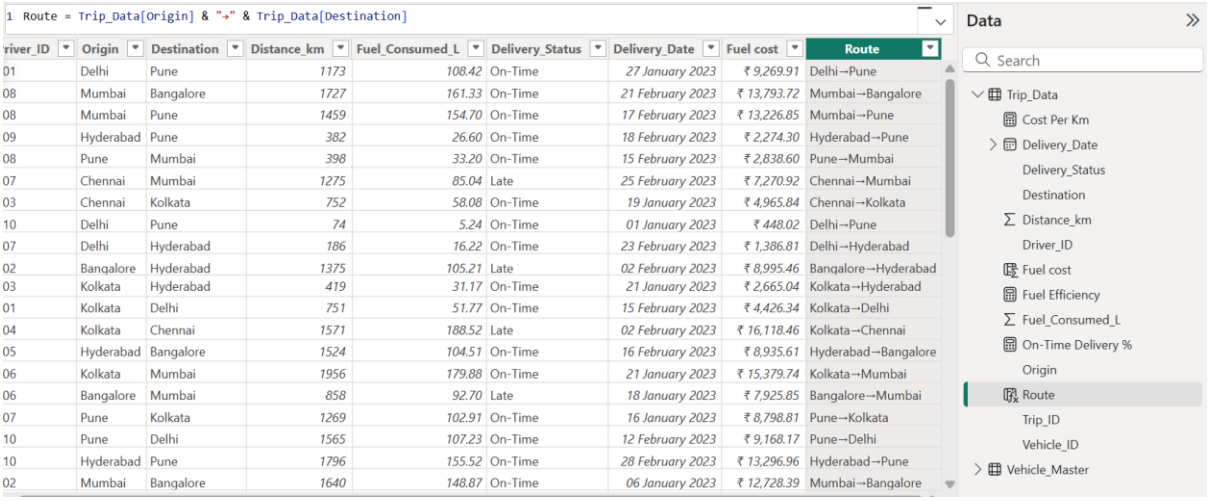


New measure created to calculate cost per km using formula,

Cost Per Km = DIVIDE(SUM(Trip_Data[Fuel cost])+ SUM(Vehicle_Master[Maintenance_Cost]),SUM(Trip_Data[Distance_km]))

3) Visualization:

i) Bar chart: On-Time Delivery % by Route:



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1 Route = Trip_Data[Origin] & "→" & Trip_Data[Destination]
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river_ID	Origin	Destination	Distance_km	Fuel_Consumed_L	Delivery_Status	Delivery_Date	Fuel cost	Route
01	Delhi	Pune	1173	108.42	On-Time	27 January 2023	₹ 9,269.91	Delhi→Pune
08	Mumbai	Bangalore	1727	161.33	On-Time	21 February 2023	₹ 13,793.72	Mumbai→Bangalore
08	Mumbai	Pune	1459	154.70	On-Time	17 February 2023	₹ 13,226.85	Mumbai→Pune
09	Hyderabad	Pune	382	26.60	On-Time	18 February 2023	₹ 2,274.30	Hyderabad→Pune
08	Pune	Mumbai	398	33.20	On-Time	15 February 2023	₹ 2,838.60	Pune→Mumbai
07	Chennai	Mumbai	1275	85.04	Late	25 February 2023	₹ 7,270.92	Chennai→Mumbai
03	Chennai	Kolkata	752	58.08	On-Time	19 January 2023	₹ 4,965.84	Chennai→Kolkata
10	Delhi	Pune	74	5.24	On-Time	01 January 2023	₹ 448.02	Delhi→Pune
07	Delhi	Hyderabad	186	16.22	On-Time	23 February 2023	₹ 1,386.81	Delhi→Hyderabad
02	Bangalore	Hyderabad	1375	105.21	Late	02 February 2023	₹ 8,995.46	Bangalore→Hyderabad
03	Kolkata	Hyderabad	419	31.17	On-Time	21 January 2023	₹ 2,665.04	Kolkata→Hyderabad
01	Kolkata	Delhi	751	51.77	On-Time	15 February 2023	₹ 4,426.34	Kolkata→Delhi
04	Kolkata	Chennai	1571	188.52	Late	02 February 2023	₹ 16,118.46	Kolkata→Chennai
05	Hyderabad	Bangalore	1524	104.51	On-Time	16 February 2023	₹ 8,935.61	Hyderabad→Bangalore
06	Kolkata	Mumbai	1956	179.88	On-Time	21 January 2023	₹ 15,379.74	Kolkata→Mumbai
06	Bangalore	Mumbai	858	92.70	Late	18 January 2023	₹ 7,925.85	Bangalore→Mumbai
07	Pune	Kolkata	1269	102.91	On-Time	16 January 2023	₹ 8,798.81	Pune→Kolkata
10	Pune	Delhi	1565	107.23	On-Time	12 February 2023	₹ 9,168.17	Pune→Delhi
10	Hyderabad	Pune	1796	155.52	On-Time	28 February 2023	₹ 13,296.96	Hyderabad→Pune
02	Mumbai	Bangalore	1640	148.87	On-Time	06 January 2023	₹ 12,728.39	Mumbai→Bangalore

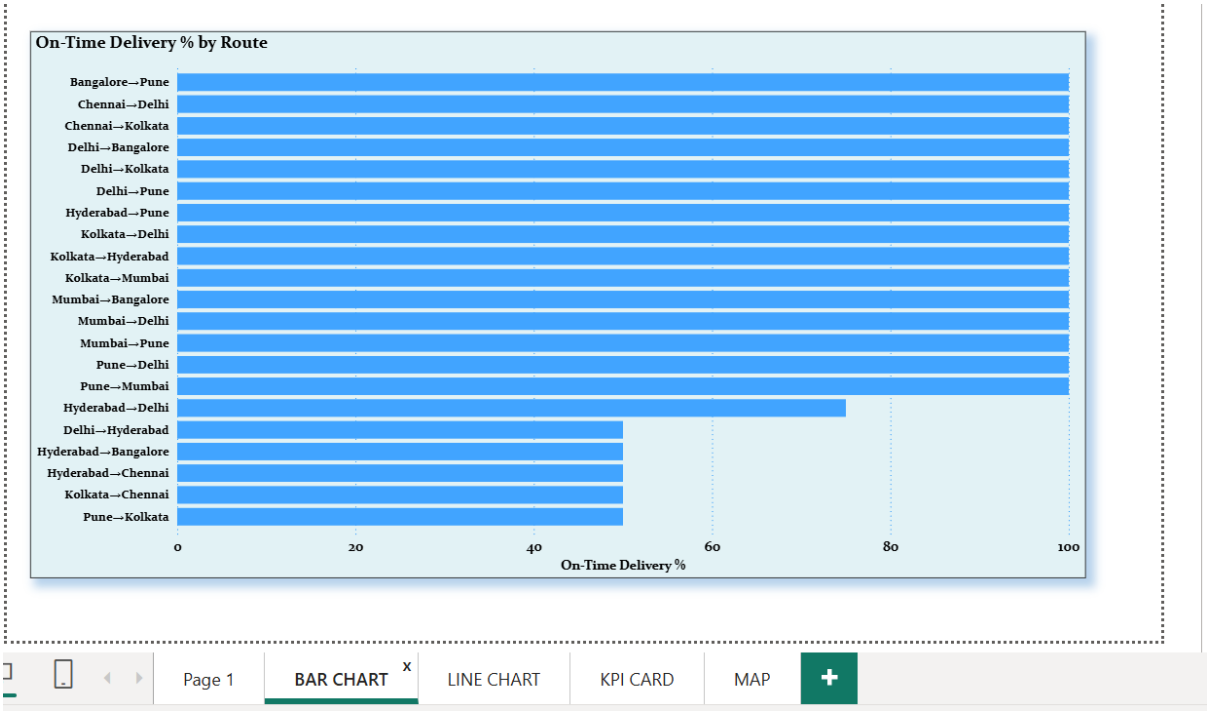
Data

Search

- Trip_Data
  - Cost Per Km
  - Delivery_Date
  - Delivery_Status
  - Destination
  - Distance_km
  - Driver_ID
  - Fuel cost
  - Fuel Efficiency
  - Fuel_Consumed_L
  - On-Time Delivery %
  - Origin
  - Route
  - Trip_ID
  - Vehicle_ID
- Vehicle_Master

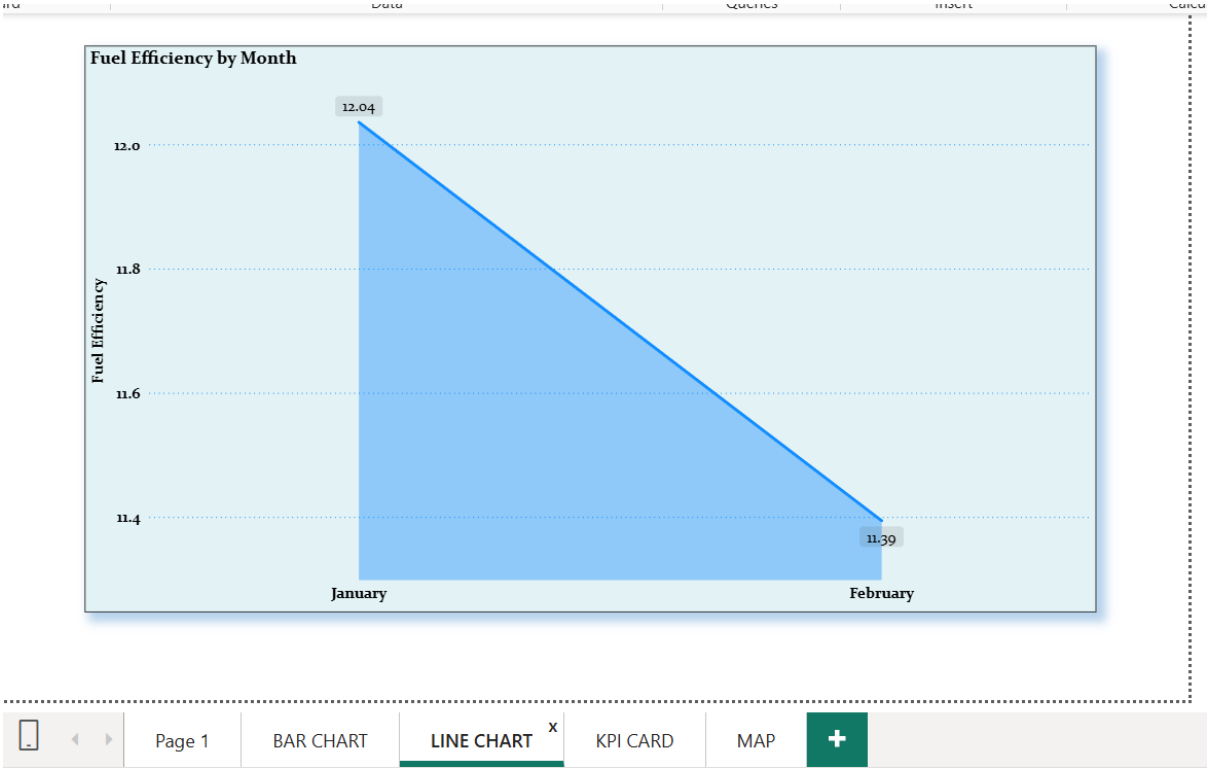
New column created first for Route to find on time delivery % by route using formula,

Route = Trip_Data[Origin] & "→" & Trip_Data[Destination]



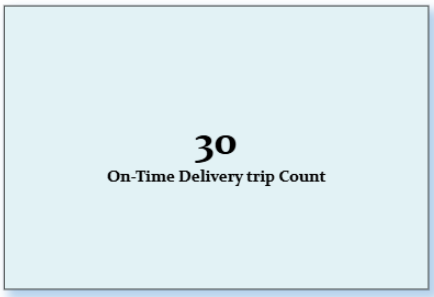
Page 1 | BAR CHART | LINE CHART | KPI CARD | MAP

ii) Line chart: Fuel Efficiency trend by month:



Fuel Efficiency trend by month shown above, Fuel efficiency is low in February Month compared to month of January.

iii) Cards: Total number of Trips which has delivery status “On-time”, Cost per Km:

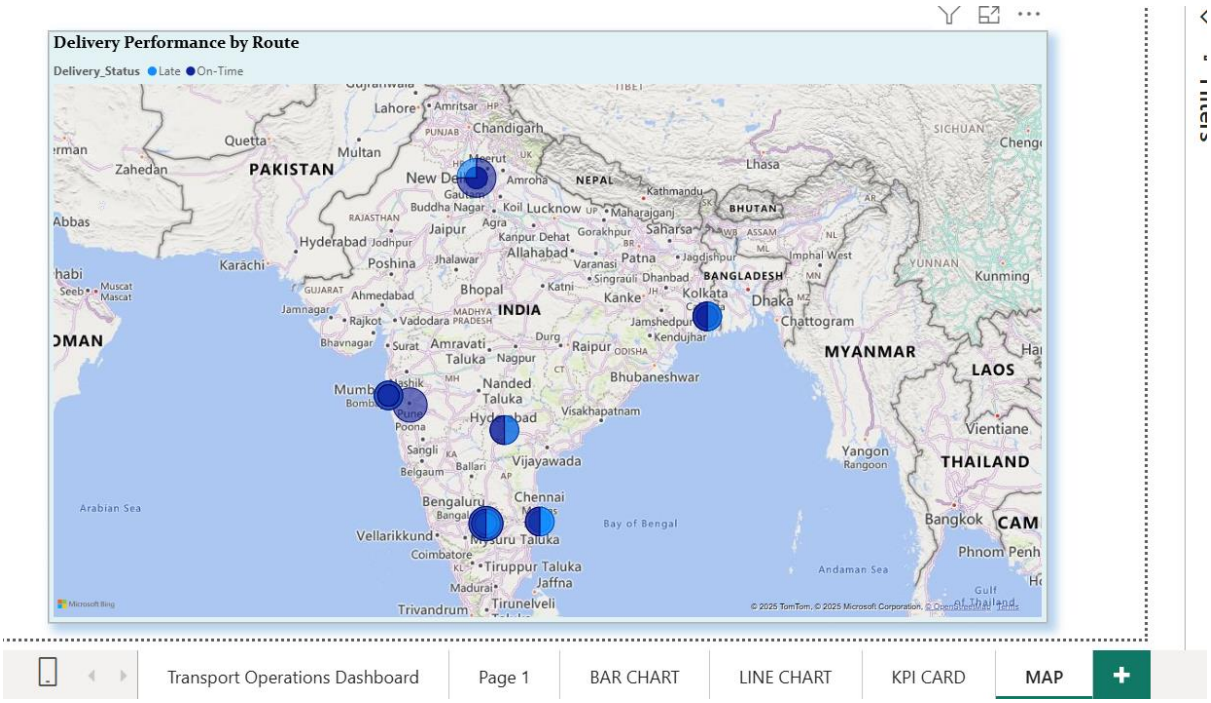


Two different cards created using formula,

On-Time Delivery trip Count = CALCULATE(COUNTROWS(Trip_Data), FILTER(Trip_Data, Trip_Data[Delivery_Status]="On-Time"))

Cost Per Km = DIVIDE(SUM(Trip_Data[Fuel cost])+ SUM(Vehicle_Master[Maintenance_Cost]),SUM(Trip_Data[Distance_km]))

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



The above map is Delivery performance based on delivery status and count of trips by Route.

Expected Output: