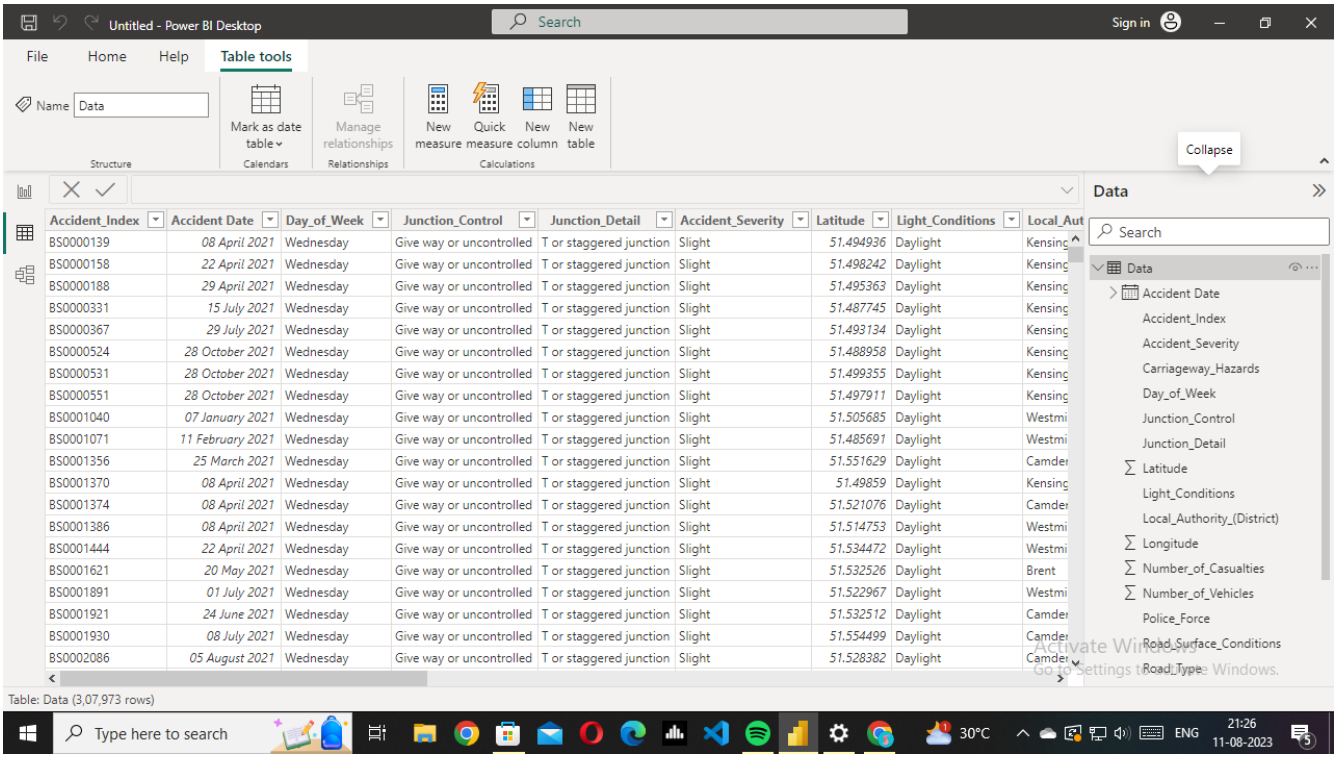
BEE TEAM

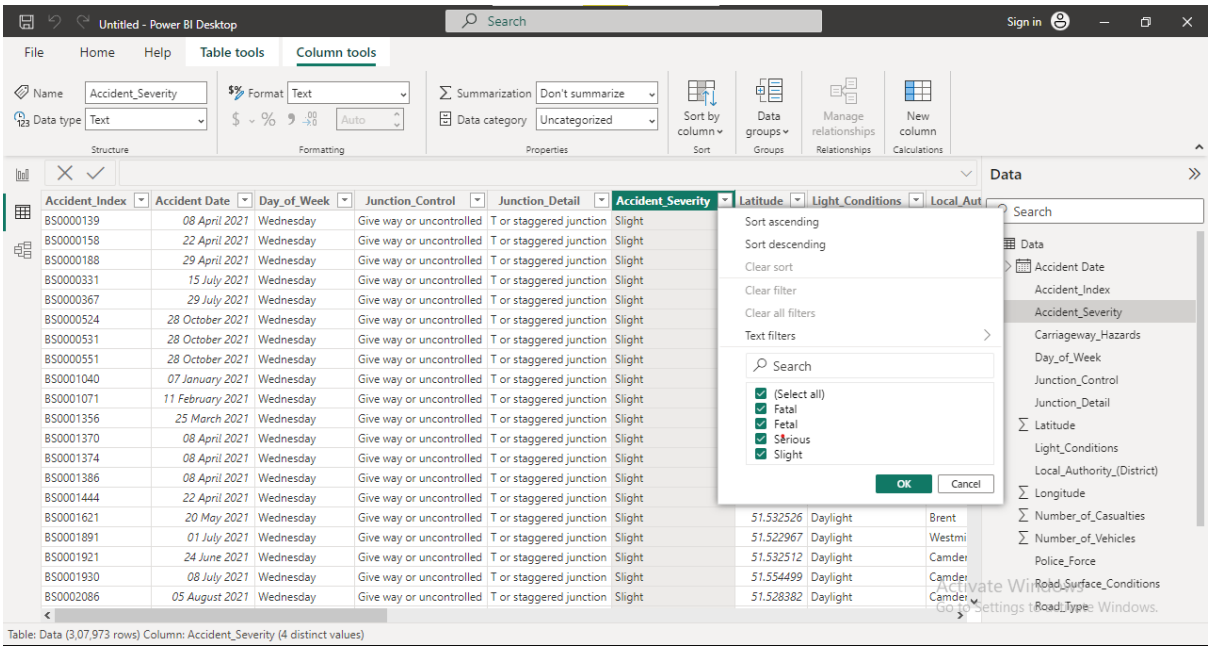
ROAD ACCIDENT ANALYSIS

CONNECTING POWER BI TO DATASOURCE

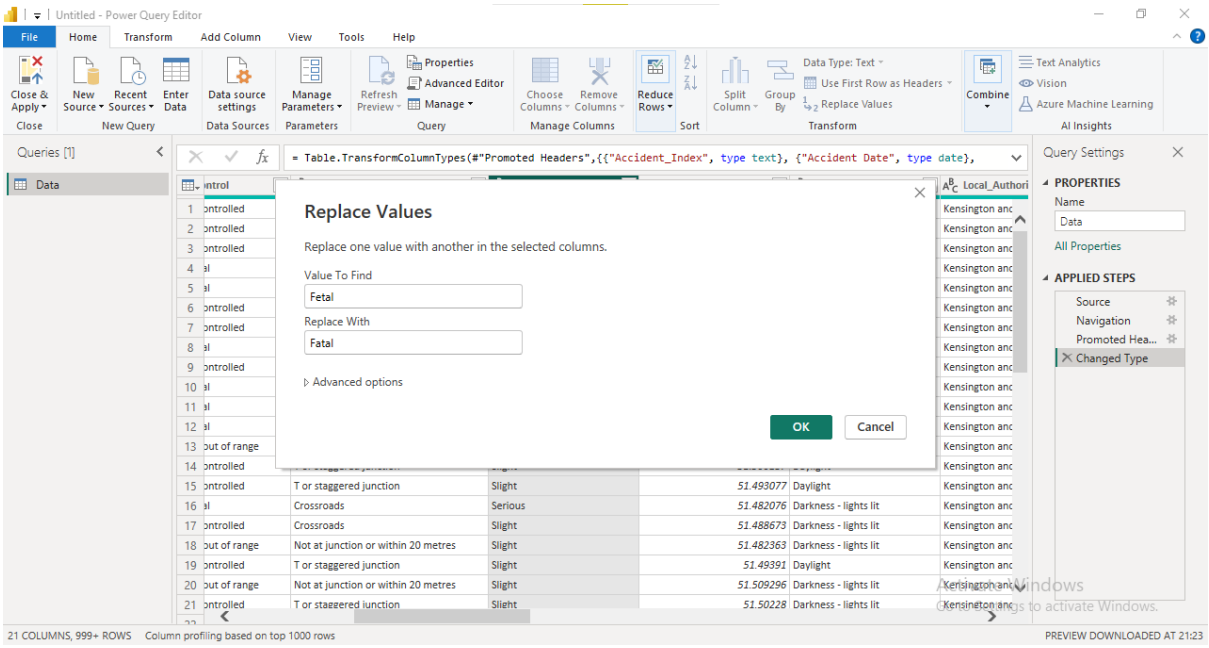


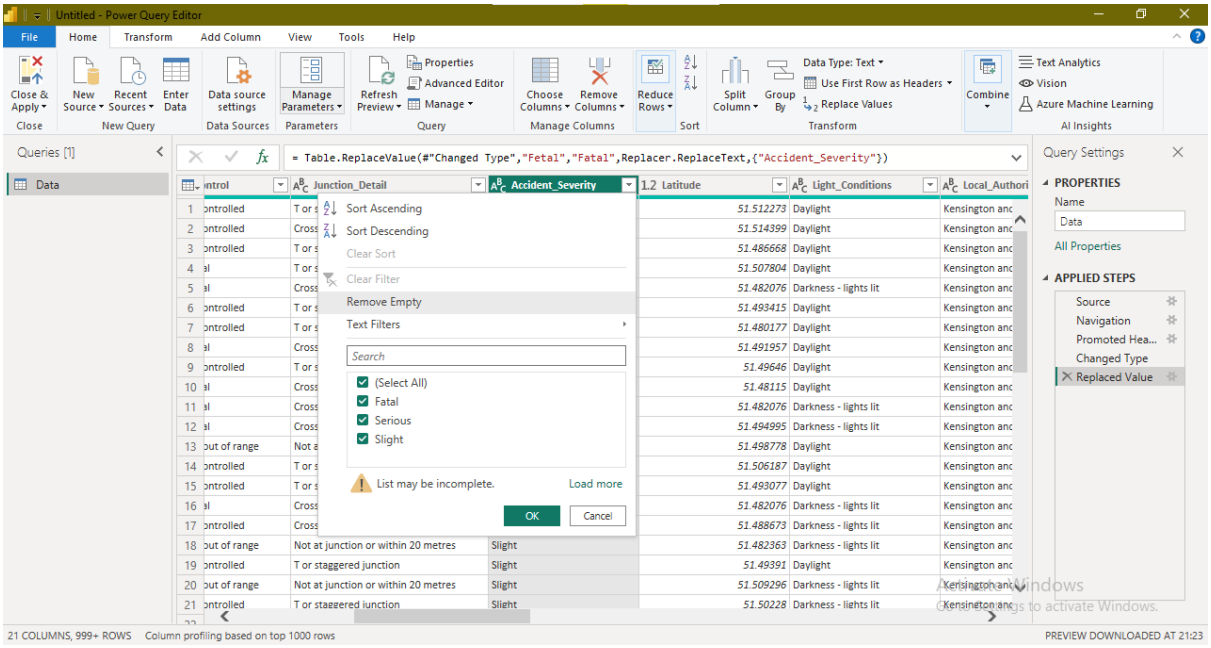
The excel file is used as a dataset for our project.

DATA CLEANING

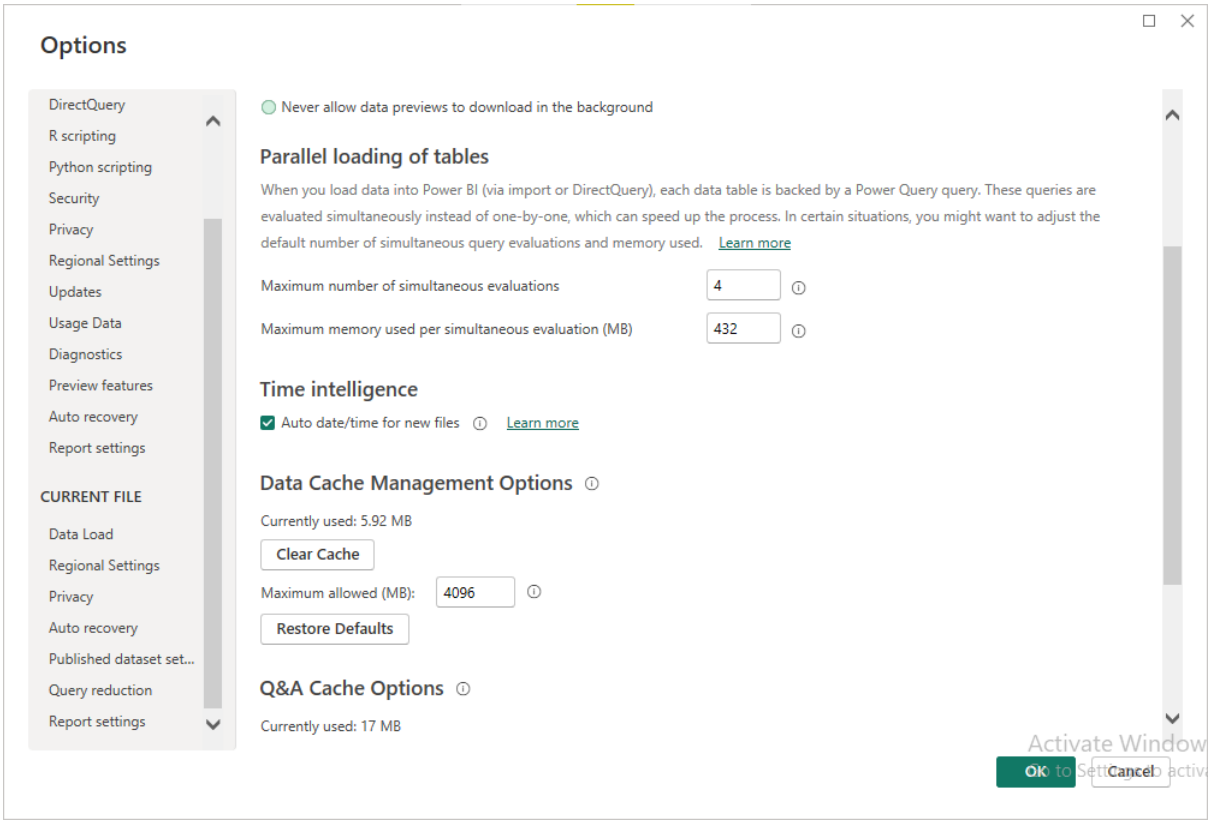


The dataset have some misspelled data, so we used the find and replace option to correct the spelling.





DATA PROCESSING



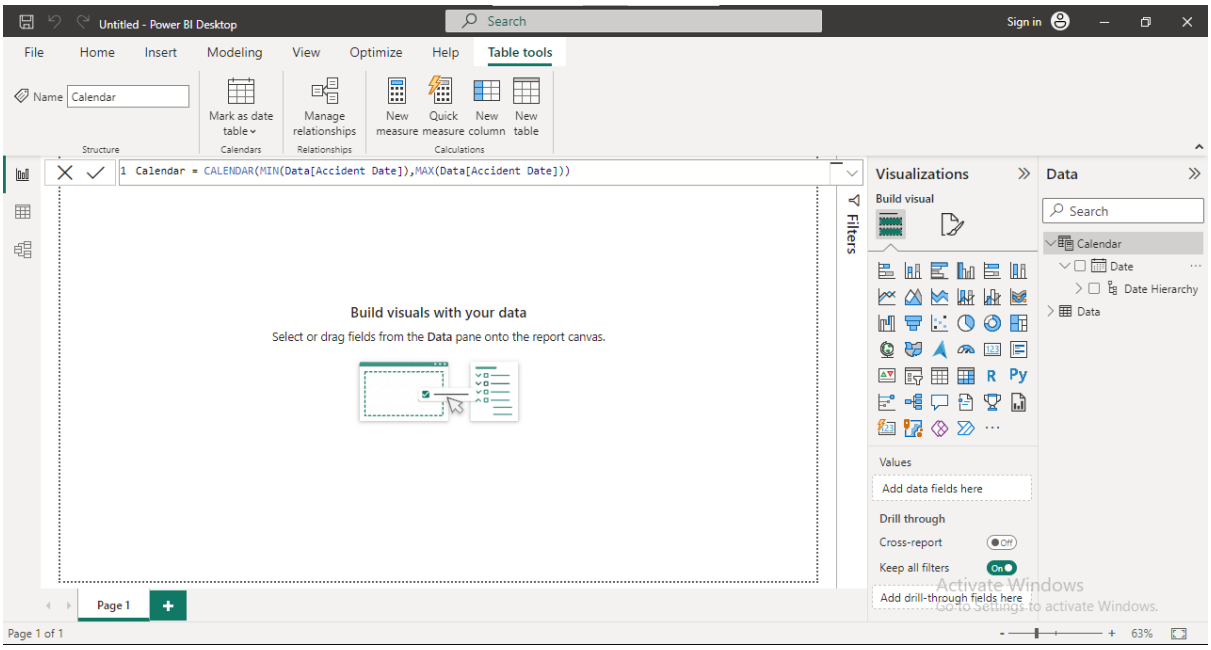
The dataset only has a single table. We have created a new table named Calendar which we used to specify the date, month and year

Calendar = CALENDAR(MIN(Data[Accident Date]),MAX(Data[Accident Date]))

Year = YEAR('Calendar'[Date])

Month = FORMAT('Calendar'[Date],"mmm")

Month Number = MONTH('Calendar'[Date])



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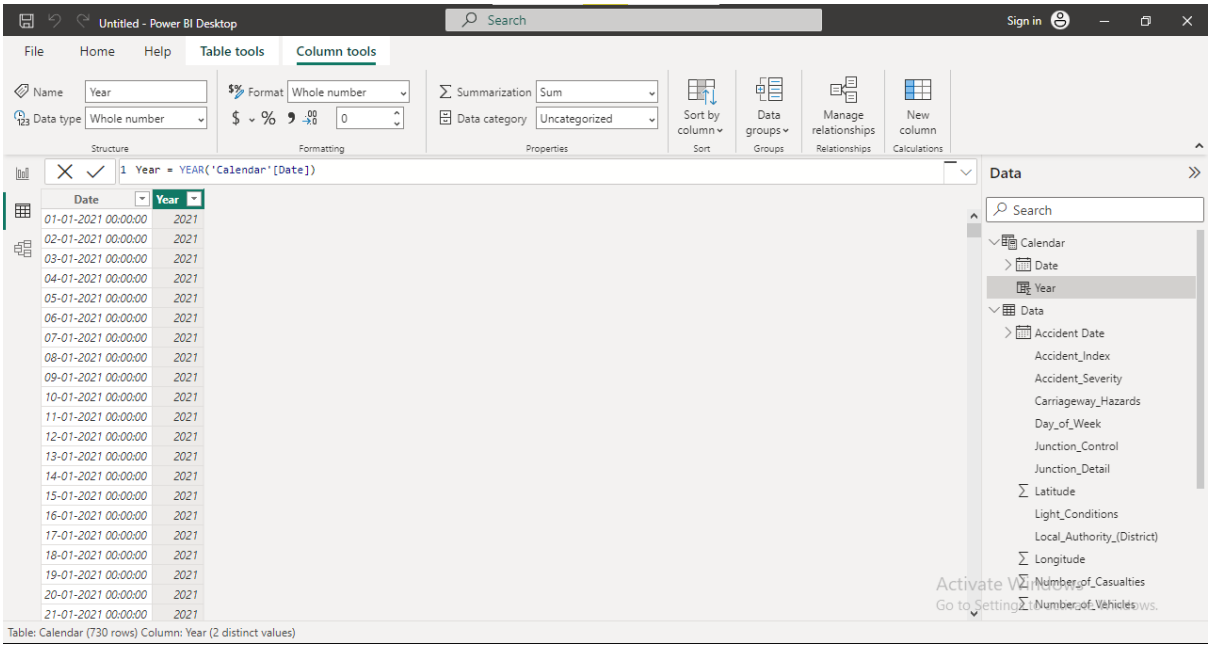
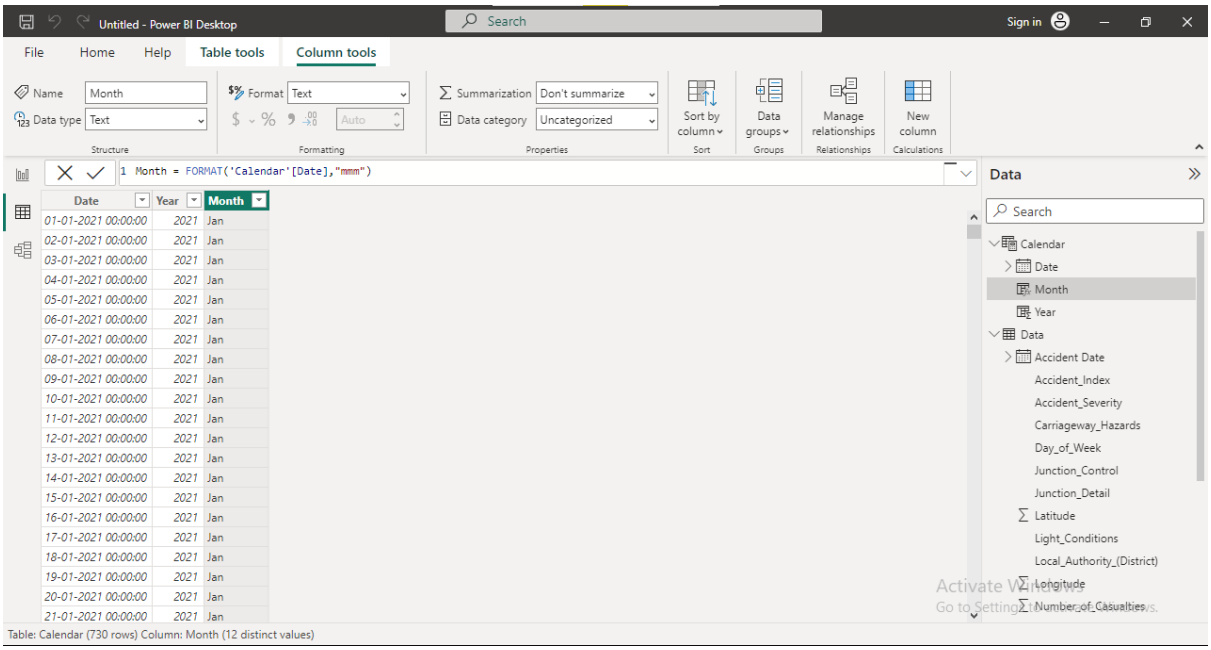
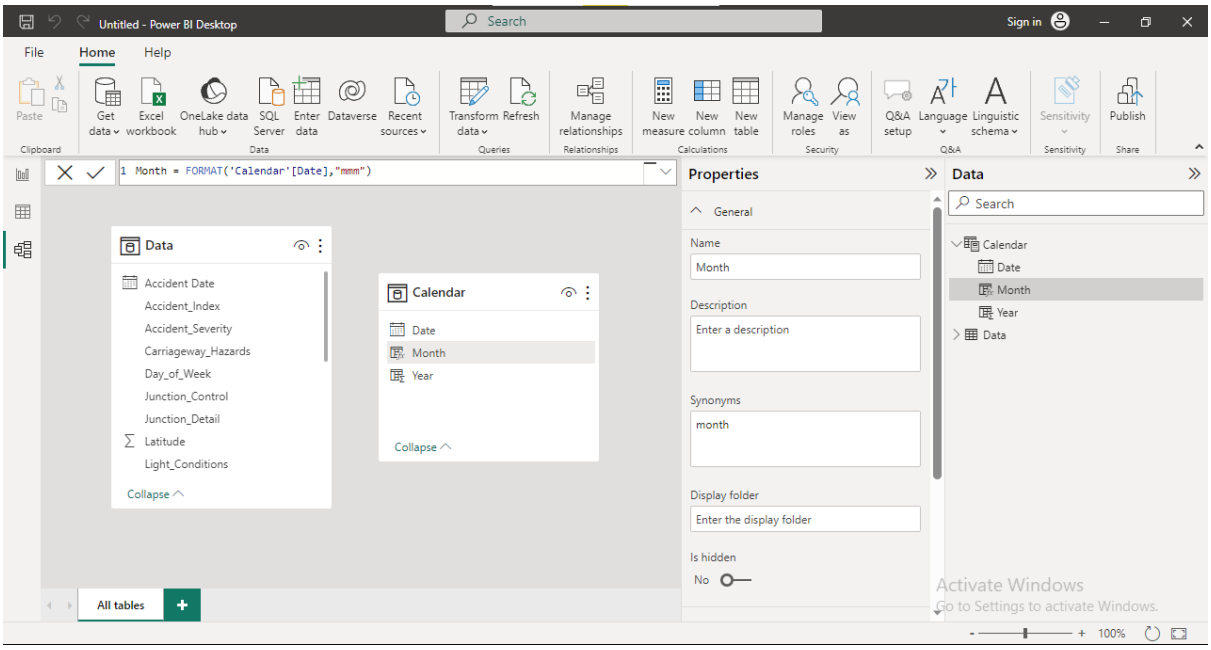
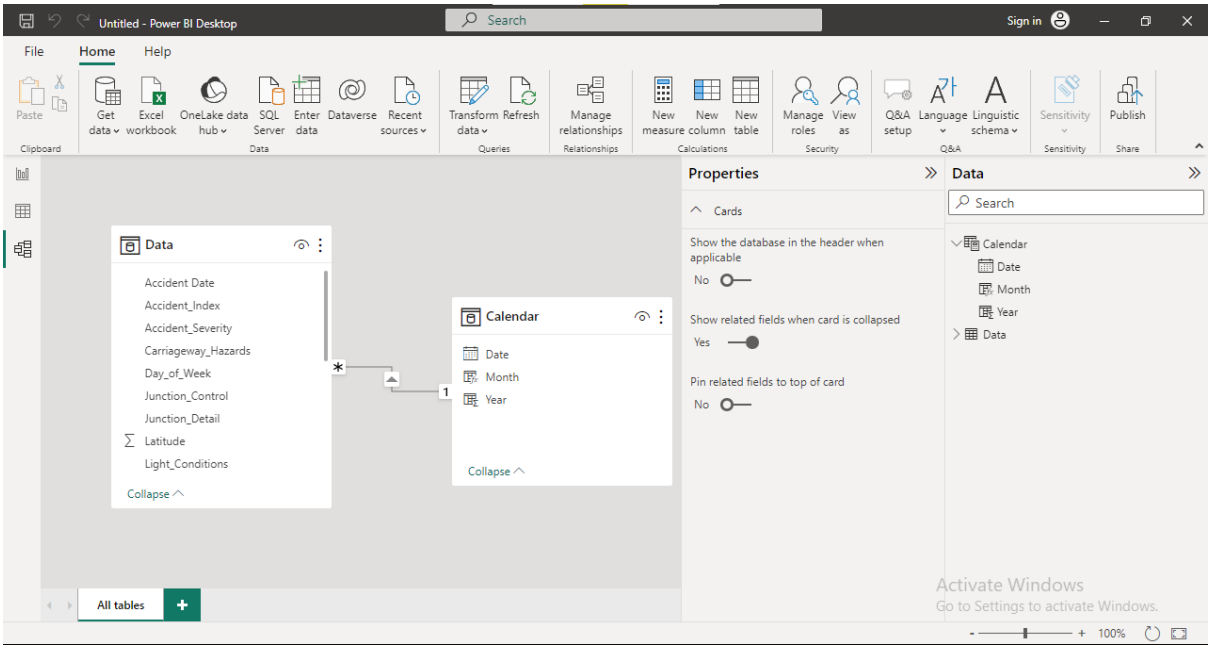




DATA MODELING



In the Data model the Data table and Calendar Table were connected using Accident Date [Data] and Date [Calendar].



Clients wants to create a Road Accident Dashboard for year 2021 and 2022 so that they can have insight on the below requirements-

Primary KPI - Total Casualties and Total Accident values for Current Year and YoY growth

* Primary KPI's - Total Casualties by Accident Severity for Current Year and YoY growth

• Secondary KPI's - Total Casualties with respect to vehicle type for Current Year

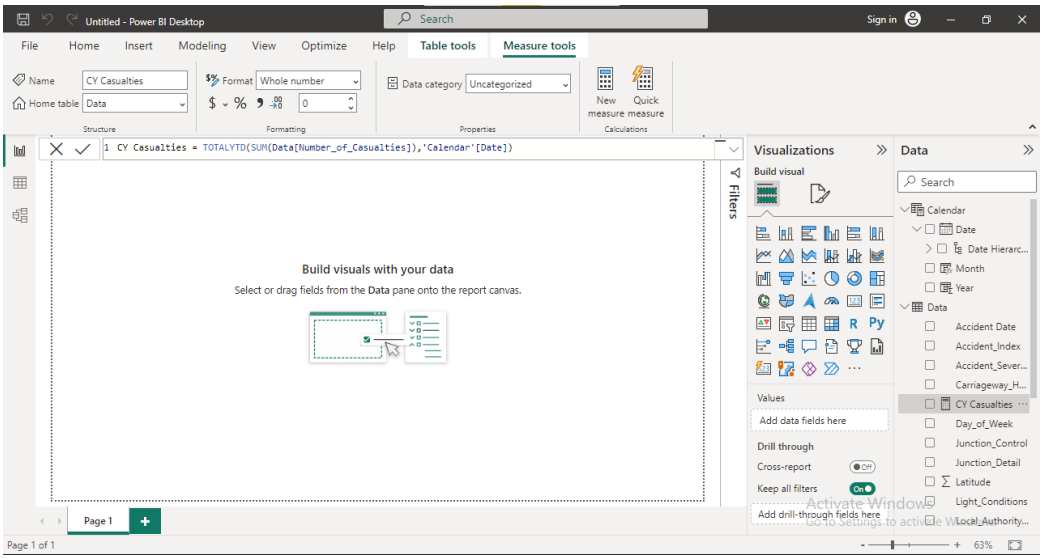
→ Monthly trend showing comparison of casualties for Current Year and Previous Year

* Casualties by Road Type for Current year

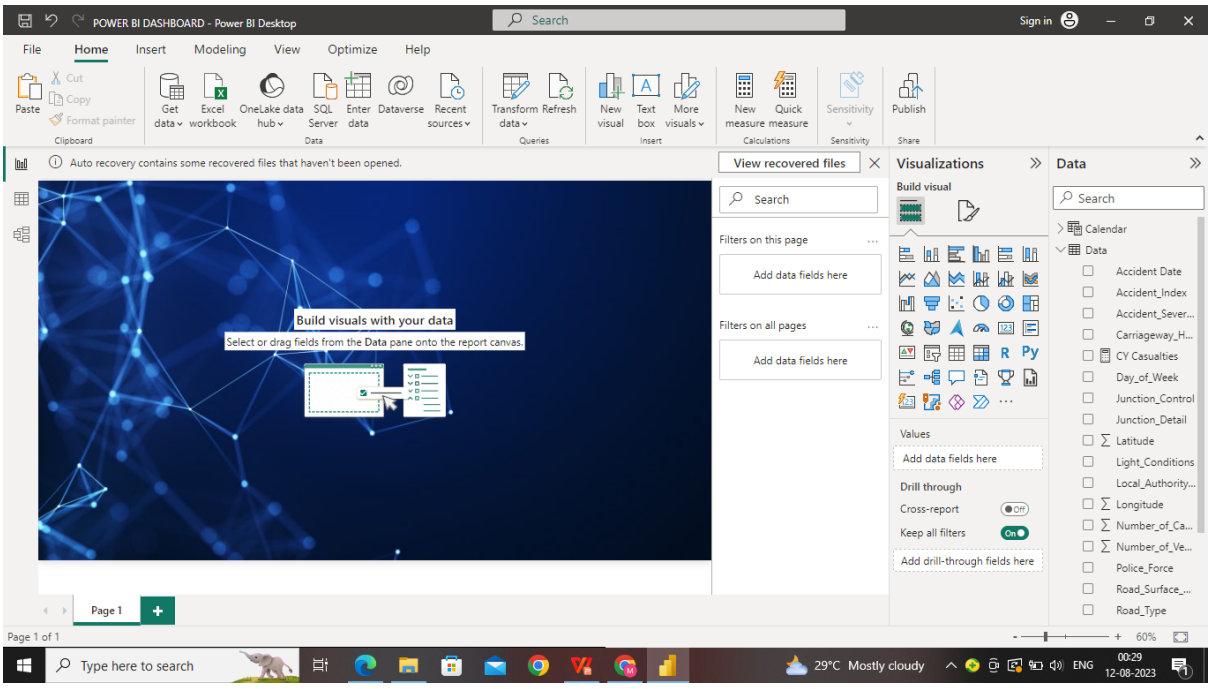
Current Year Casualties by Area/ Location & by Day/Night

Total Casualties and Total Accidents by Location

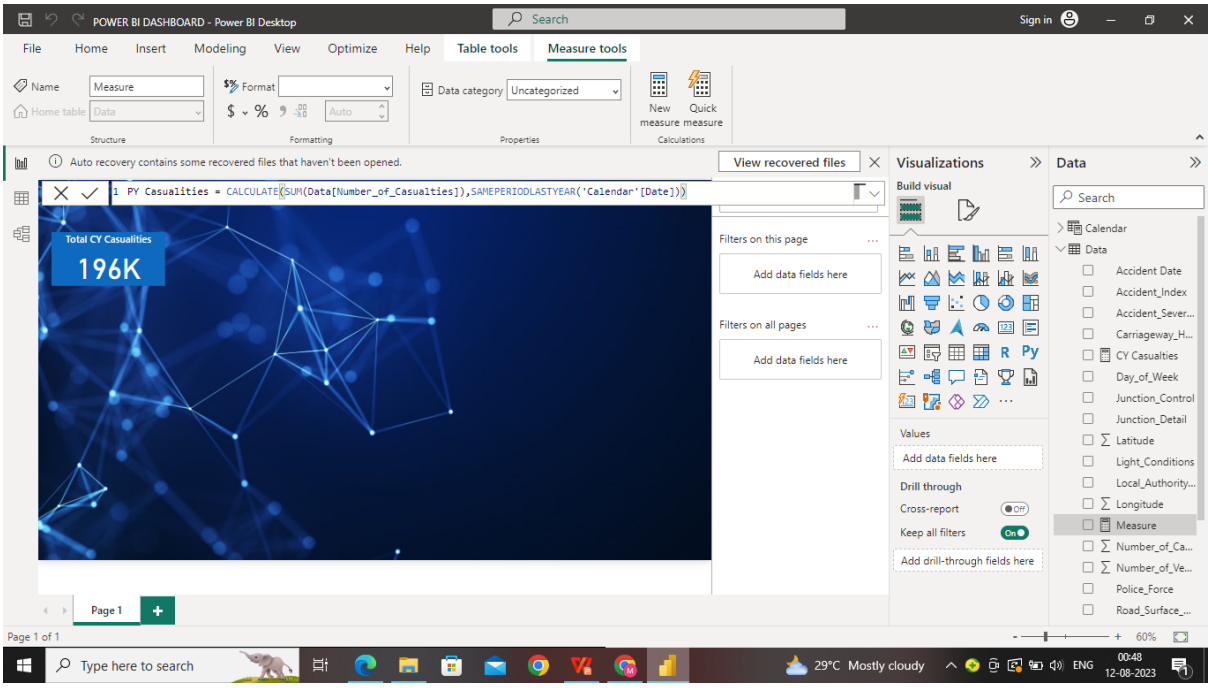
- CY Casualties = TOTALYTD(SUM(Data[Number_of_Casualties]),'Calendar'[Date])
- PY Casualties = CALCULATE(SUM(Data[Number_of_Casulaties]),SAMEPERIODLASTYEAR('Calendar'[Date]))
- YoY Casualties = ([CY Casualties]-[PY Casualties])/PY Casualties]
- CY Accident Count= TOTALYTD(COUNT(Date[Accident_Index]),'Calendar'[Date])
- PY Accidents = CALCULATE(COUNT(Data[Accident_Index]),SAMEPERIODLASTYEAR('Calendar'[Date]))
- YoY Accidents =([CY Accident Count]-[PY Accidents])/[PY Accidents]



BACKGROUND DESIGN IN POWERPOINT



DATA VISUALIZATION


POWER BI DASHBOARD - Power BI Desktop
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Optimize
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Table tools
Measure tools
Name
Measure
Home table
Data
Structure
Format
Auto
Formatting
Data category
Uncategorized
Properties
New measure
Quick measure
Calculations
Auto recovery contains some recovered files that haven't been opened.
View recovered files
1 PY Casualities = CALCULATE(SUM(Data[Number_of_Casualties]),SAMEPERIODLASTYEAR('Calendar'[Date]))
Total CY Casualities
196K
Filters on this page
Add data fields here
Filters on all pages
Add data fields here
Visualizations
Build visual
Values
Add data fields here
Drill through
Cross-report
Off
Keep all filters
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Add drill-through fields here
Data
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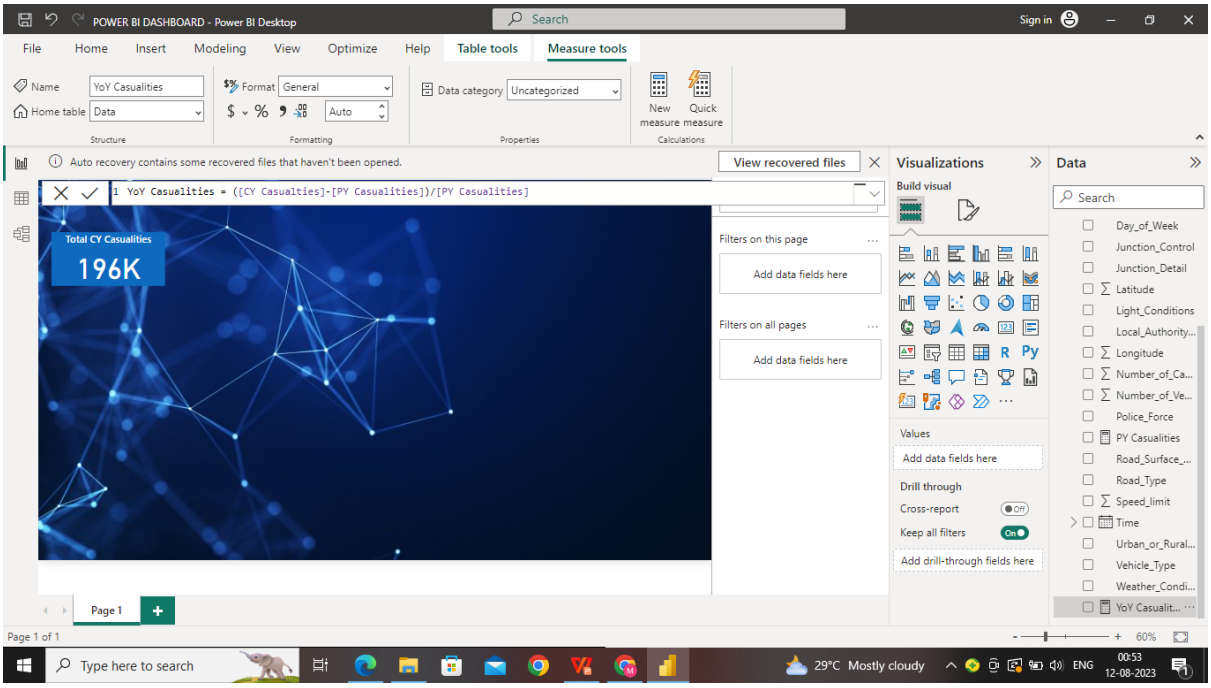
Calendar
Data
Accident Date
Accident_Index
Accident_Sever...
Carriageway_H...
CY Casualties
Day_of_Week
Junction_Control
Junction_Detail
Latitude
Light_Conditions
Local_Authority...
Longitude
Measure
Number_of_Ca...
Number_of_Ve...
Police_Force
Road_Surface_...
Page 1
Page 1 of 1
60%
Type here to search
29°C Mostly cloudy
ENG
00:48
12-08-2023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Data category
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Properties
New measure
Quick measure
Calculations
Auto recovery contains some recovered files that haven't been opened.
View recovered files
1 YoY Casualities = ([CY Casualties]-[PY Casualities])/[PY Casualities]
Total CY Casualities
196K
Filters on this page
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Visualizations
Build visual
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Add data fields here
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Junction_Control
Junction_Detail
Latitude
Light_Conditions
Local_Authority...
Longitude
Number_of_Ca...
Number_of_Ve...
Police_Force
PY Casualities
Road_Surface_...
Road_Type
Speed_limit
Time
Urban_or_Rural...
Vehicle_Type
Weather_Condi...
YoY Casualit...
Page 1
Page 1 of 1
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29°C Mostly cloudy
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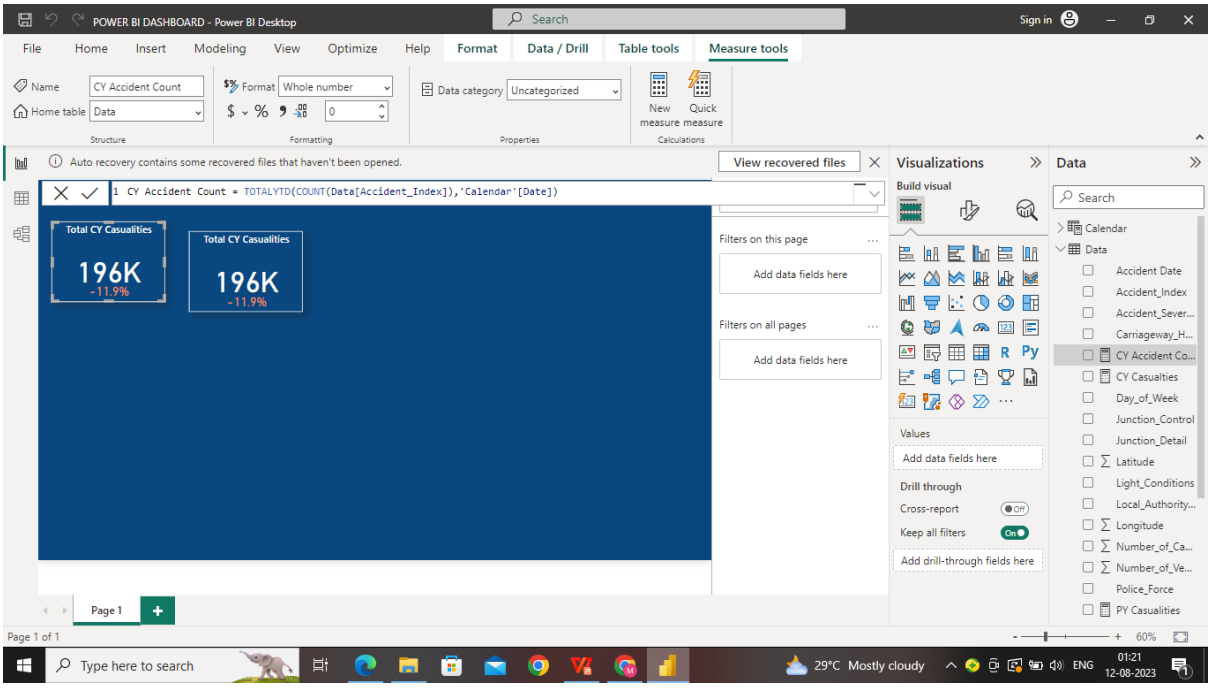
00:53
12-08-2023


POWER BI DASHBOARD - Power BI Desktop
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Measure tools
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CY Accident Count
Home table
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Format
Whole number
Formatting
Data category
Uncategorized
Properties
New measure
Quick measure
Calculations
Auto recovery contains some recovered files that haven't been opened.
View recovered files
1 CY Accident Count = TOTALYTD(COUNT(Data[Accident_Index]),'Calendar'[Date])
Total CY Casualities
196K
-11.9%
Total CY Casualities
196K
-11.9%
Filters on this page
Add data fields here
Filters on all pages
Add data fields here
Visualizations
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Add data fields here
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Cross-report
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Accident Date
Accident_Index
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Carriageway_H...
CY Accident Co...
CY Casualties
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Junction_Control
Junction_Detail
Latitude
Light_Conditions
Local_Authority...
Longitude
Number_of_Ca...
Number_of_Ve...
Police_Force
PY Casualities
Page 1
Page 1 of 1
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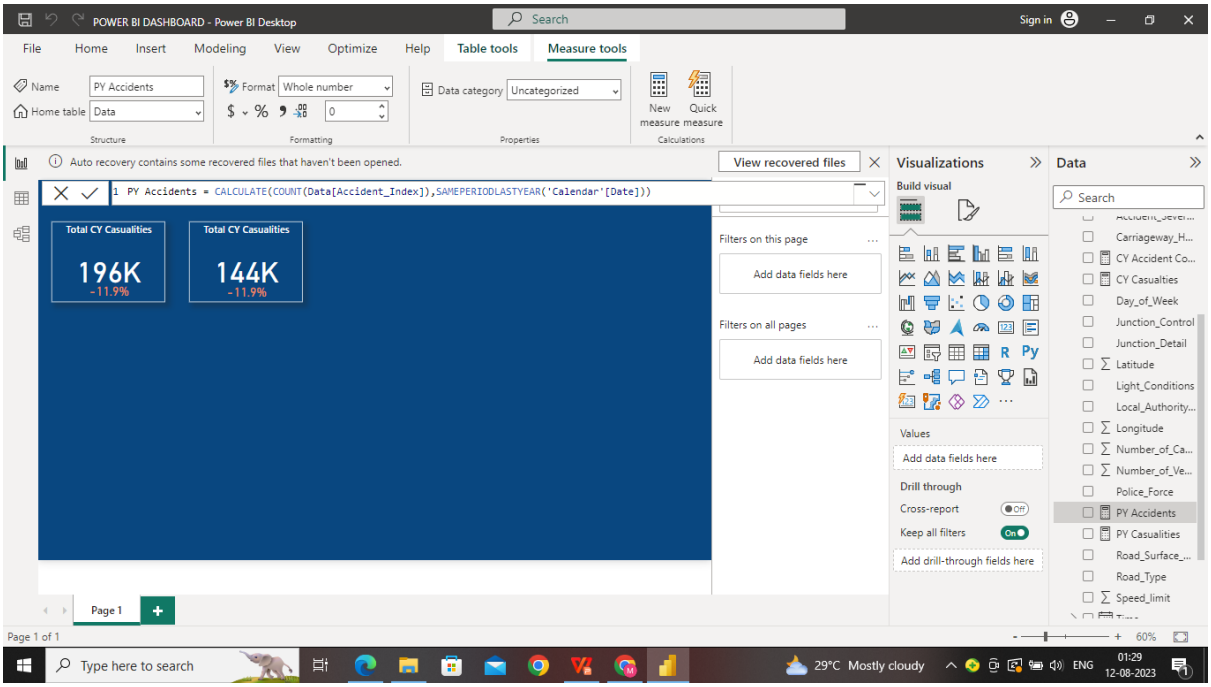
29°C Mostly cloudy
ENG
01:21
12-08-2023


POWER BI DASHBOARD - Power BI Desktop
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Optimize
Help
Table tools
Measure tools
Name
PY Accidents
Home table
Data
Structure
Format
Whole number
Formatting
Data category
Uncategorized
Properties
New measure
Quick measure
Calculations
Auto recovery contains some recovered files that haven't been opened.
View recovered files
1 PY Accidents = CALCULATE(COUNT(Data[Accident_Index]),SAMEPERIODLASTYEAR('Calendar'[Date]))
Total CY Casualities
196K
-11.9%
Total CY Casualities
144K
-11.9%
Filters on this page
Add data fields here
Filters on all pages
Add data fields here
Visualizations
Build visual
Values
Add data fields here
Drill through
Cross-report
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Keep all filters
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Add drill-through fields here
Data
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Carriageway_H...
CY Accident Co...
CY Casualties
Day_of_Week
Junction_Control
Junction_Detail
Latitude
Light_Conditions
Local_Authority...
Longitude
Number_of_Ca...
Number_of_Ve...
Police_Force
PY Accidents
PY Casualities
Road_Surface_...
Road_Type
Speed_limit
Page 1
Page 1 of 1
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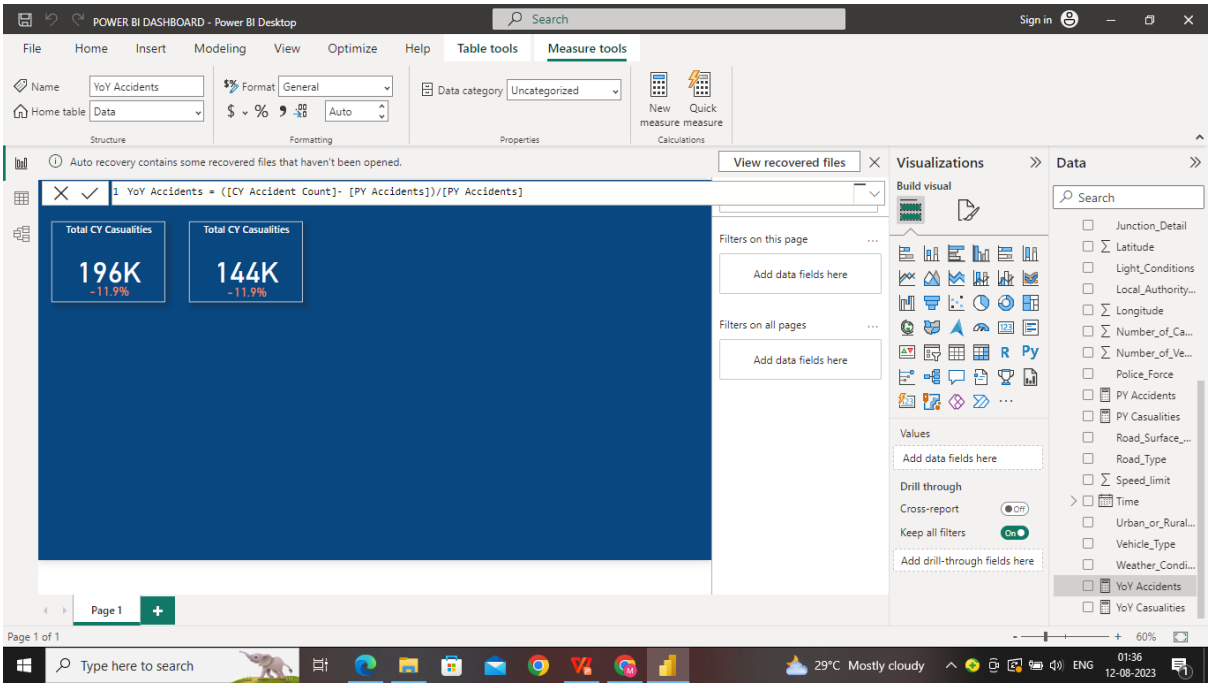
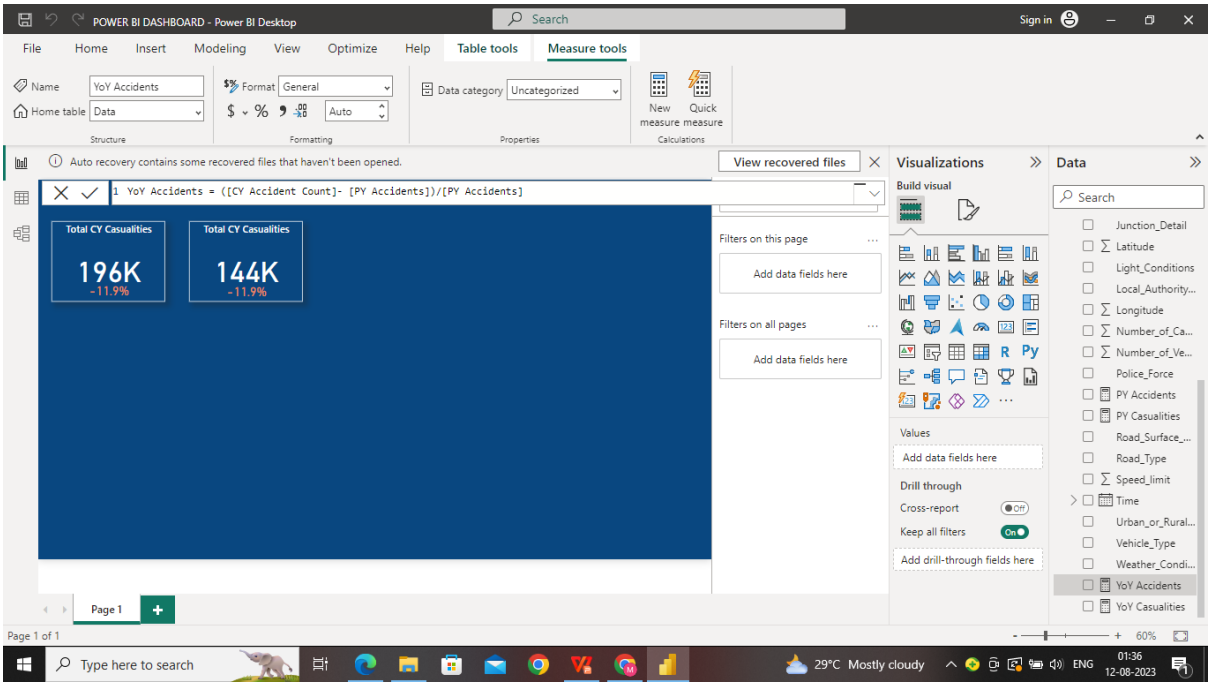
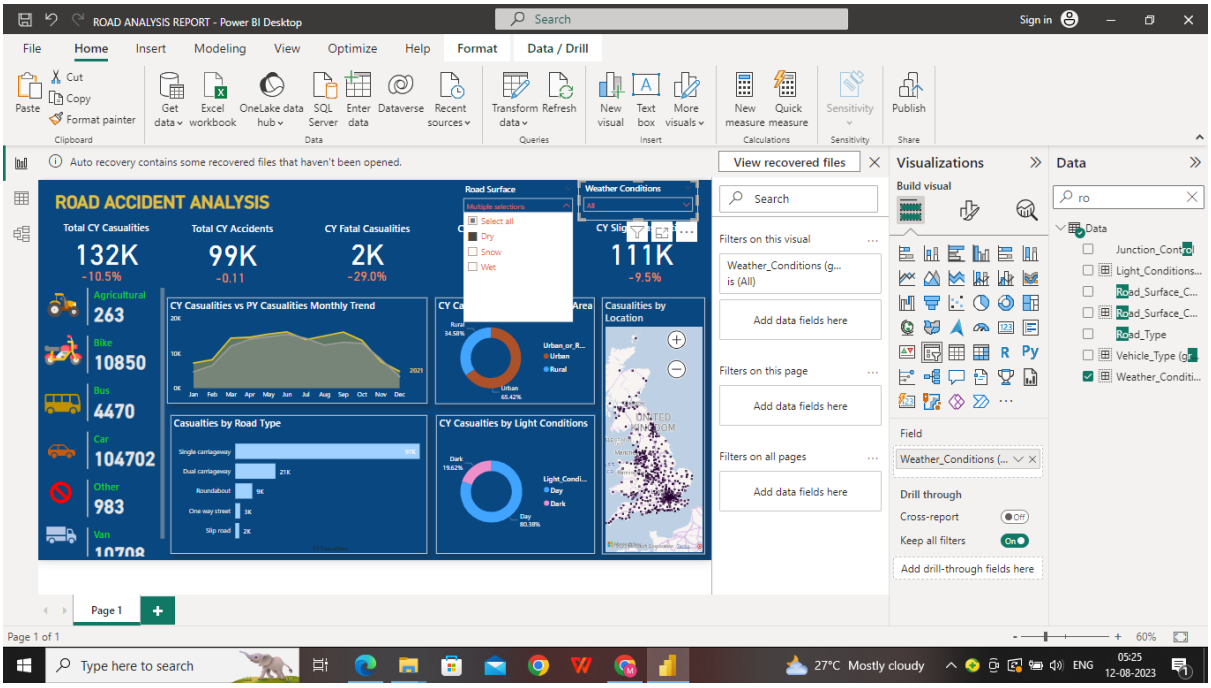
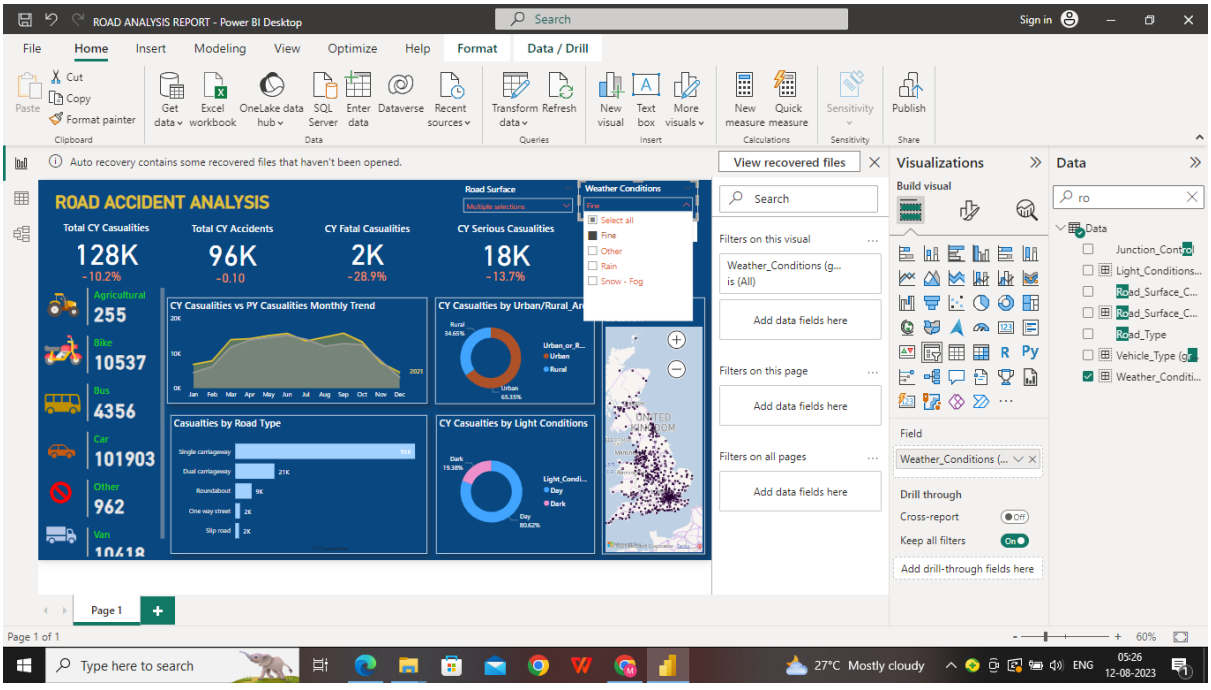
29°C Mostly cloudy
ENG
01:29
12-08-2023



The above listed DAX Expression are used to create the visualization.




ROAD ANALYSIS REPORT - Power BI Desktop
ROAD ACCIDENT ANALYSIS
Total CY Casualities
132K
-10.5%
Total CY Accidents
99K
-0.11
CY Fatal Casualities
2K
-29.0%
111K
-9.5%
Agricultural
263
Bike
10850
Bus
4470
Car
104702
Other
983
Road Surface
Weather Conditions
Select all
Dry
Snow
Wet
CY Casualities vs PY Casualities Monthly Trend
Casualities by Location
Casualities by Road Type
CY Casualities by Light Conditions
Page 1


ROAD ANALYSIS REPORT - Power BI Desktop
ROAD ACCIDENT ANALYSIS
Total CY Casualities
128K
-10.2%
Total CY Accidents
96K
-0.10
CY Fatal Casualities
2K
-28.9%
CY Serious Casualities
18K
-13.7%
Agricultural
255
Bike
10537
Bus
4356
Car
101903
Other
962
Road Surface
Weather Conditions
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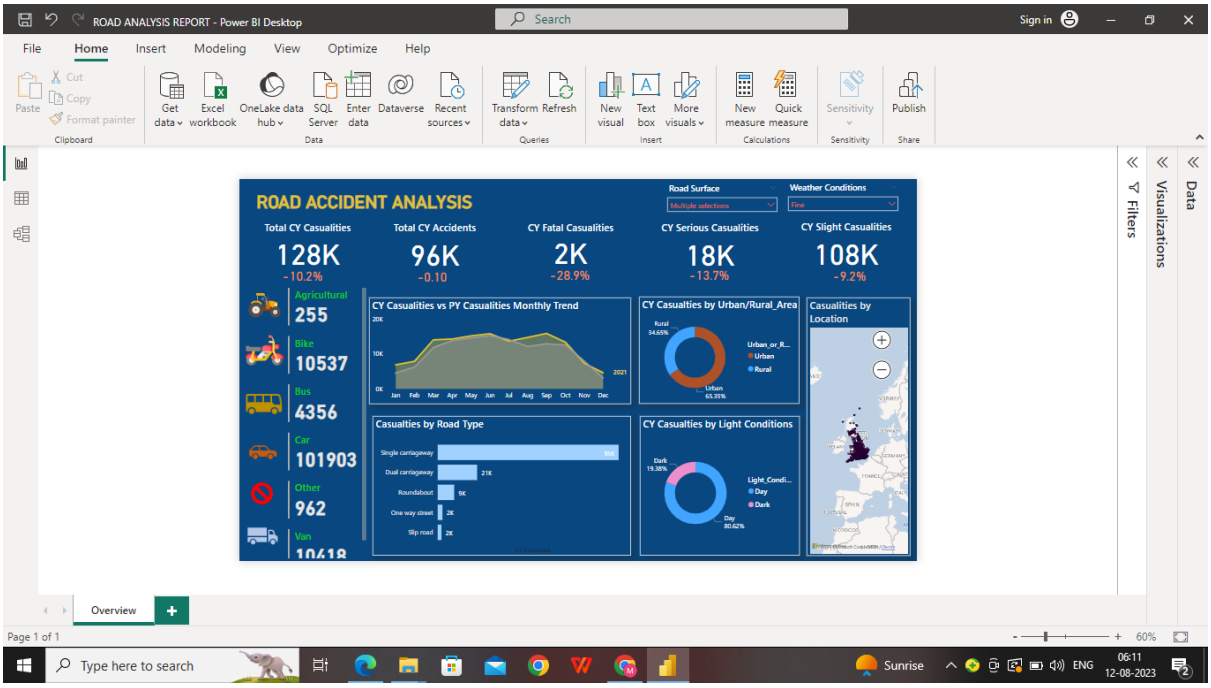
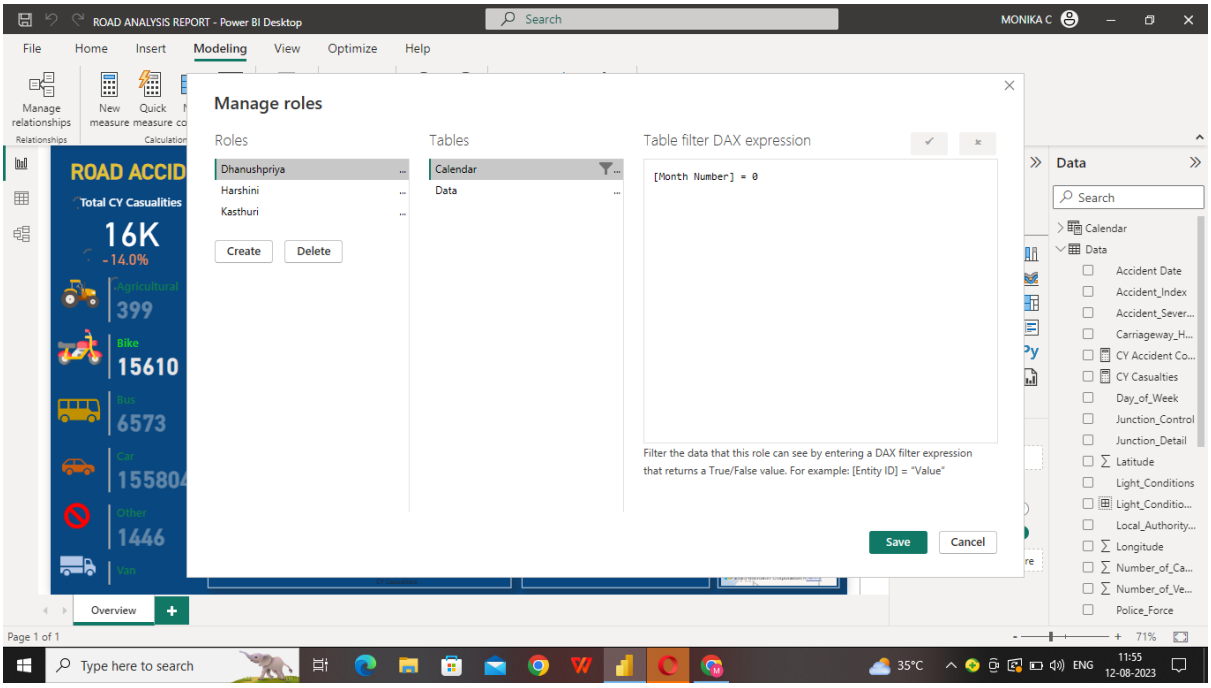
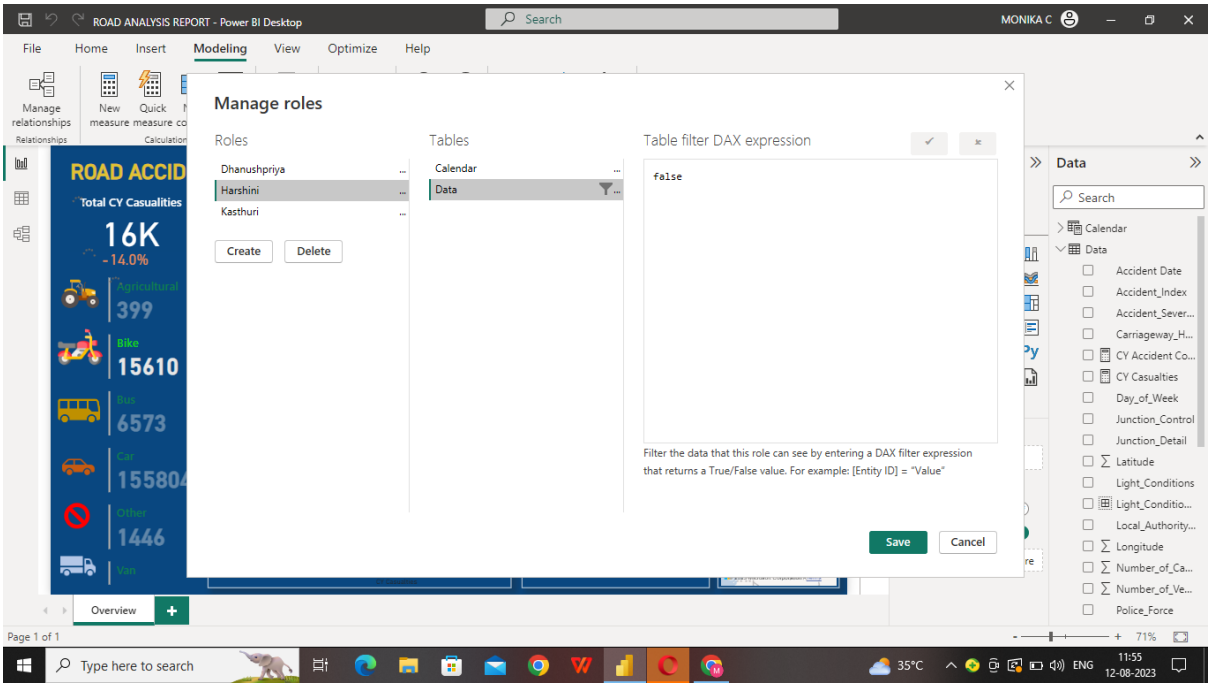
Other
Rain
Snow - Fog
CY Casualities vs PY Casualities Monthly Trend
Casualities by Road Type
CY Casualities by Light Conditions
Page 1



Security Role




ROAD ANALYSIS REPORT - Power BI Desktop
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View
Optimize
Help
Manage relationships
New measure
Quick measure
Manage roles
Roles
Tables
Table filter DAX expression
Dhanushpriya
Harshini
Kasthuri
Calendar
Data
false
Create
Delete
Filter the data that this role can see by entering a DAX filter expression that returns a True/False value. For example: [Entity ID] = "Value"
Save
Cancel
ROAD ACCID
Total CY Casualities
16K
-14.0%
Agricultural
399
Bike
15610
Bus
6573
Car
155804
Other
1446
Van
Overview
Page 1 of 1
Data
Search
Calendar
Data
Accident Date
Accident_Index
Accident_Sever...
Carriageway_H...
CY Accident Co...
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Day_of_Week
Junction_Control
Junction_Detail
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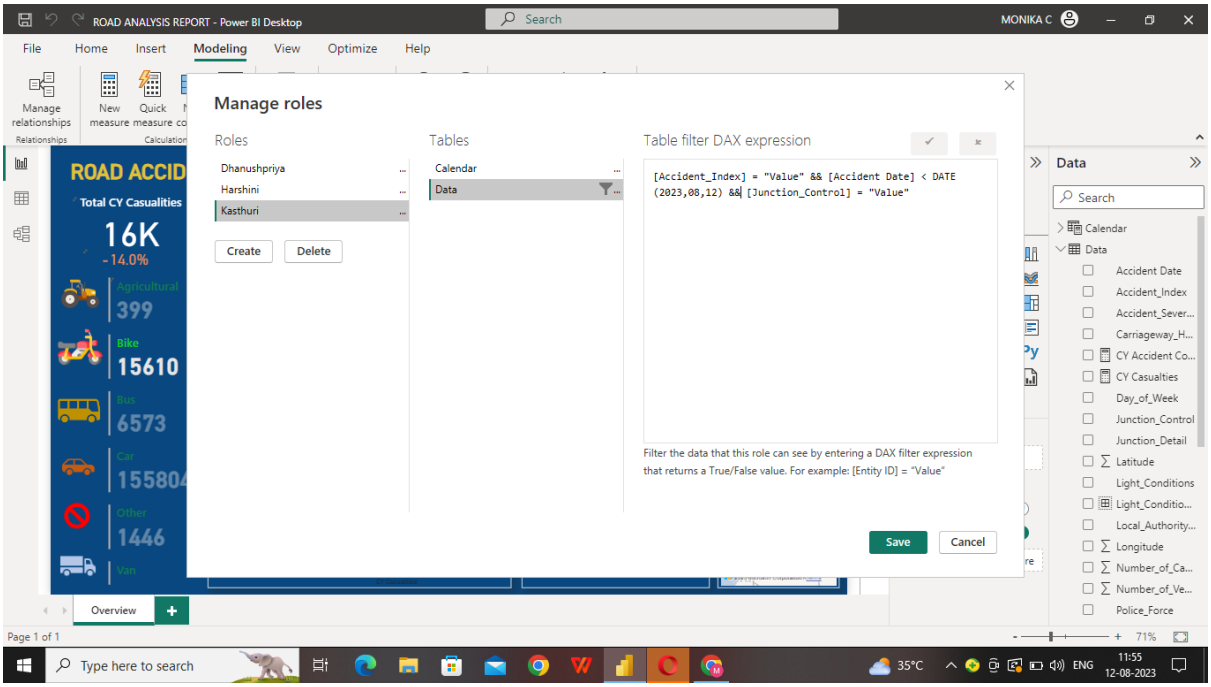
Police_Force
71%
Type here to search
35°C
ENG
11:55
12-08-2023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Search
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Manage relationships
New measure
Quick measure
Manage roles
Roles
Tables
Table filter DAX expression
Dhanushpriya
Harshini
Kasthuri
Calendar
Data
[Accident_Index] = "Value" && [Accident Date] < DATE (2023,08,12) && [Junction_Control] = "Value"
Create
Delete
Filter the data that this role can see by entering a DAX filter expression that returns a True/False value. For example: [Entity ID] = "Value"
Save
Cancel
ROAD ACCID
Total CY Casualities
16K
-14.0%
Agricultural
399
Bike
15610
Bus
6573
Car
155804
Other
1446
Van
Overview
Page 1 of 1
Data
Search
Calendar
Data
Accident Date
Accident_Index
Accident_Sever...
Carriageway_H...
CY Accident Co...
CY Casualties
Day_of_Week
Junction_Control
Junction_Detail
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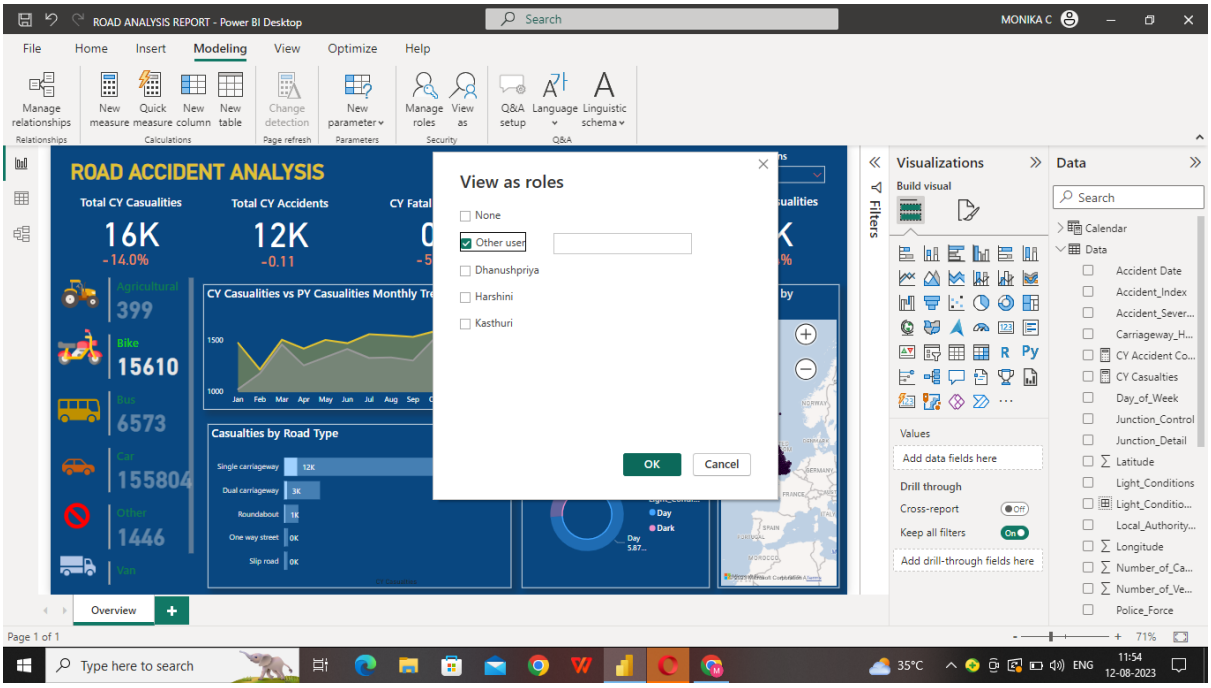
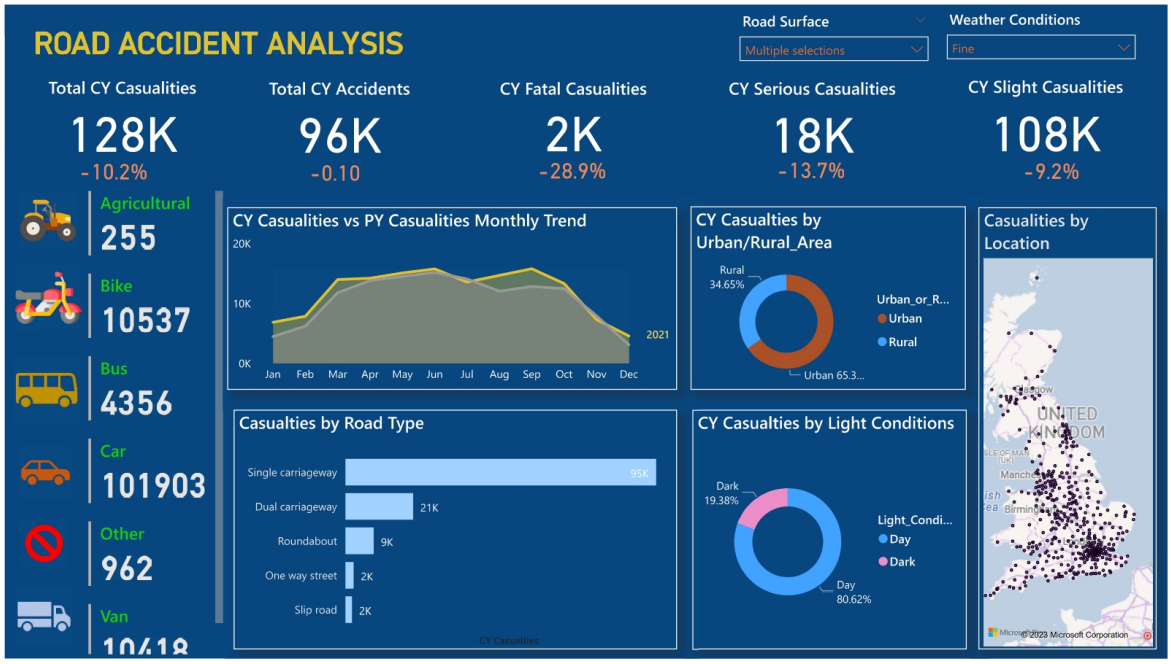
Local_Authority...
Longitude
Number_of_Ca...
Number_of_Ve...
Police_Force
71%
Type here to search
35°C
ENG
11:55
12-08-2023



Final Report