Accident

Tags

	Accident_Index	Accident Date	Day_of_Week	Junction_Control	Junction_Detail	Accident_Severity	Latitude	Light_Conditions	Local_Author
	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid Error Empty
1	BS0000001	01/01/2021	Thursday	Give way or uncontrolled	T or staggered junction	Serious	51.512273	Daylight	Kensington an
2	BS0000002	05/01/2021	Monday	Give way or uncontrolled	Crossroads	Serious	51.514399	Daylight	Kensington an
3	BS0000003	04/01/2021	Sunday	Give way or uncontrolled	T or staggered junction	Slight	51.486668	Daylight	Kensington an
4	BS0000004	05/01/2021	Monday	Auto traffic signal	T or staggered junction	Serious	51.507804	Daylight	Kensington an
5	BS0000005	06/01/2021	Tuesday	Auto traffic signal	Crossroads	Serious	51.482076	Darkness - lights lit	Kensington an
6	BS0000006	01/01/2021	Thursday	Give way or uncontrolled	T or staggered junction	Slight	51.493415	Daylight	Kensington an
7	BS0000007	08/01/2021	Thursday	Give way or uncontrolled	T or staggered junction	Serious	51.480177	Daylight	Kensington an
8	BS0000008	02/01/2021	Friday	Auto traffic signal	Crossroads	Slight	51.491957	Daylight	Kensington an
9	BS0000009	07/01/2021	Wednesday	Give way or uncontrolled	T or staggered junction	Slight	51.49646	Daylight	Kensington an
10	BS0000010	10/01/2021	Saturday	Auto traffic signal	Crossroads	Slight	51.48115	Daylight	Kensington an
11	BS0000011	07/01/2021	Wednesday	Auto traffic signal	Crossroads	Slight	51.482076	Darkness - lights lit	Kensington an
12	BS0000012	16/01/2021	Friday	Auto traffic signal	Crossroads	Slight	51.494995	Darkness - lights lit	Kensington an
13	BS0000013	12/01/2021	Monday	Data missing or out of range	Not at junction or within 20 metres	Slight	51.498778	Daylight	Kensington an
14	BS0000014	09/01/2021	Friday	Give way or uncontrolled	T or staggered junction	Slight	51.506187	Daylight	Kensington an
15	BS0000015	17/01/2021	Saturday	Give way or uncontrolled	T or staggered junction	Slight	51.493077	Daylight	Kensington an
16	BS0000016	25/01/2021	Sunday	Auto traffic signal	Crossroads	Serious	51.482076	Darkness - lights lit	Kensington an
17	BS0000017	26/01/2021	Monday	Give way or uncontrolled	Crossroads	Slight	51.488673	Darkness - lights lit	Kensington an
18	BS0000018	26/01/2021	Monday	Data missing or out of range	Not at junction or within 20 metres	Slight	51.482363	Darkness - lights lit	Kensington an
19	BS0000019	19/01/2021	Monday	Give way or uncontrolled	T or staggered junction	Slight	51.49391	Daylight	Kensington an
20	BS0000020	27/01/2021	Tuesday	Data missing or out of range	Not at junction or within 20 metres	Slight	51.509296	Darkness - lights lit	Kensington an
21	BS0000021	21/01/2021	Wednesday	Give way or uncontrolled	T or staggered junction	Slight	51.50228	Darkness - lights lit	Kensington an
22	BS0000022	22/01/2021	Thursday	Give way or uncontrolled	T or staggered junction	Slight	51.507588	Darkness - lights lit	Kensington an
23	BS0000023	31/01/2021	Saturday	Auto traffic signal	Crossroads	Serious	51.488585	Daylight	Kensington an
24	BS0000024	03/02/2021	Tuesday	Give way or uncontrolled	T or staggered junction	Slight	51.528344	Daylight	Kensington an
25	BS0000025	31/01/2021	Saturday	Give way or uncontrolled	T or staggered junction	Slight	51.499201	Darkness - lights lit	Kensington an
26	BS0000026	31/01/2021	Saturday	Give way or uncontrolled	T or staggered junction	Serious	51.517081	Daylight	Kensington an
27	BS0000027	29/01/2021	Thursday	Auto traffic signal	Crossroads	Slight	51.48944	Daylight	Kensington an
28	BS0000028	31/01/2021	Saturday	Give way or uncontrolled	Crossroads	Slight	51.494521	Daylight	Kensington an
29	BS0000029	29/01/2021	Thursday	Auto traffic signal	Crossroads	Slight	51.508624	Daylight	Kensington an
30	BS0000030	31/01/2021	Saturday	Auto traffic signal	Crossroads	Slight	51.491173	Darkness - lights lit	Kensington an
31	BS0000031	28/01/2021	Wednesday	Give way or uncontrolled	T or staggered junction	Slight	51.495478	Daylight	Kensington an
32	BS0000032	27/01/2021	Tuesday	Auto traffic signal	Crossroads	Serious	51.495658	Daylight	Kensington an
33	BS0000033	31/01/2021	Saturday	Give way or uncontrolled	T or staggered junction	Slight	51.499727	Daylight	Kensington an
34	BS0000034	22/01/2021	Thursday	Give way or uncontrolled	T or staggered junction	Slight	51.507802	Darkness - lights lit	Kensington an
35	BS0000035	29/01/2021	Thursday	Auto traffic signal	T or staggered junction	Slight	51.508972	Darkness - lights lit	Kensington an

This is the traffic accident data for the UK in the years 2021 and 2022.

Accident Date
08 Tháng Tư 2021
22 Tháng Tư 2021
29 Tháng Tư 2021

The "Accident Date" column in this format may pose challenges for data segmentation.

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

So I created an additional table using the Calendar function with the parameters being the Min and Max of the Accident Date column.

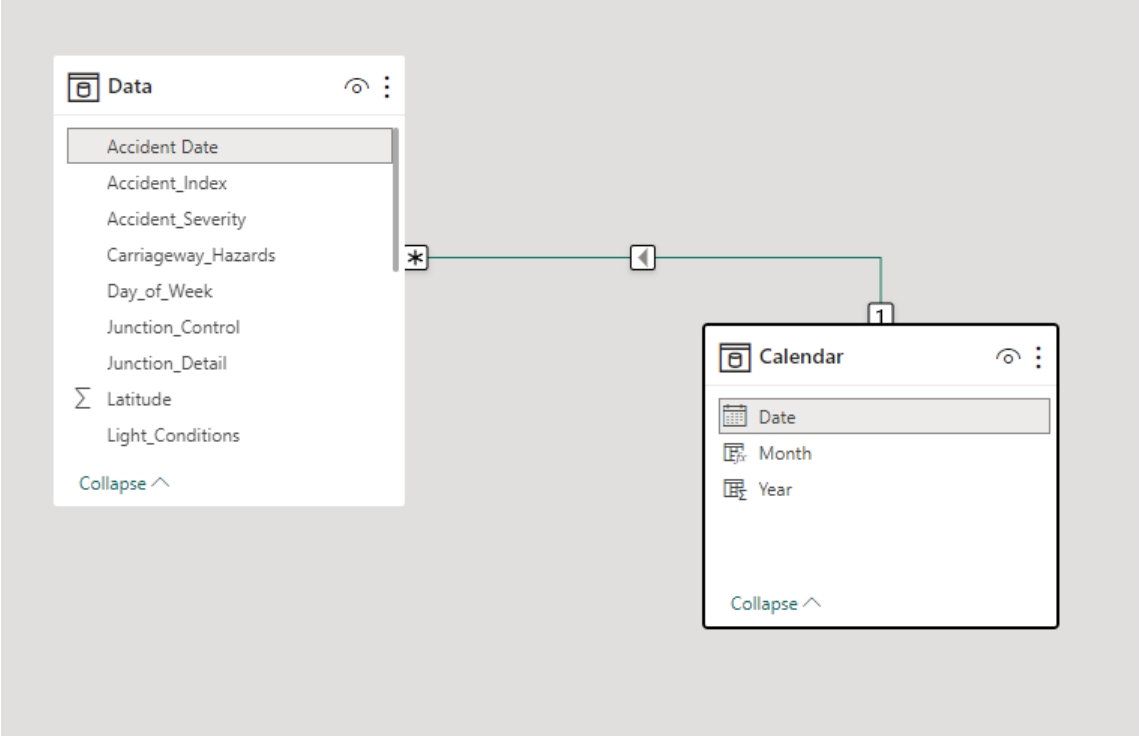
```
1 Year = YEAR('Calendar'[Date])
```

Date	Year
01/01/2021 12:00:00 SA	2021
02/01/2021 12:00:00 SA	2021

And then I added Year and Month columns as follows.

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

	Year	Month
12:00:00 SA	2021	Jan
12:00:00 SA	2021	Jan



Set up the relationship between the two tables.

```
1 CY Casualties = TOTALYTD(SUM(Data[Number_of_Casualties]),'Calendar'[Date])
```

I created a measure to calculate the total number of casualties from the beginning of the year (Current Year Casualties).


```
1  PY Casualties = CALCULATE(SUM(Data[Number_of_Casualties]), SAMEPERIODLASTYEAR('Calendar'[Date]))
```

I created an additional measure to calculate the total number of casualties for the same period last year (Previous Year Casualties).

```
1  YoY Casualties = ([CY Casualties]-[PY Casualties])/[PY Casualties]
```

And create an additional measure to calculate growth.

Add it below CY Casualties to show growth over the previous year.

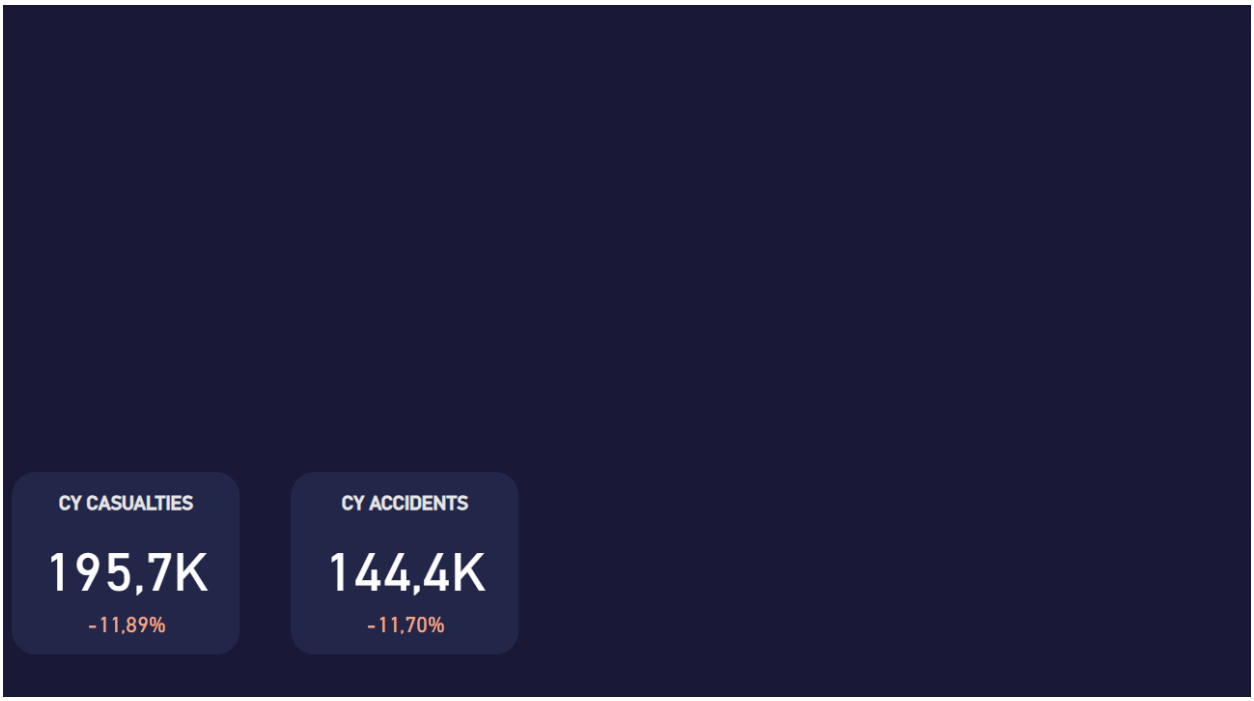
Draw an additional rectangle to contain data.

Similarly, to calculate the total number of accidents since the beginning of the year and growth over the previous year, I also create the following measures.

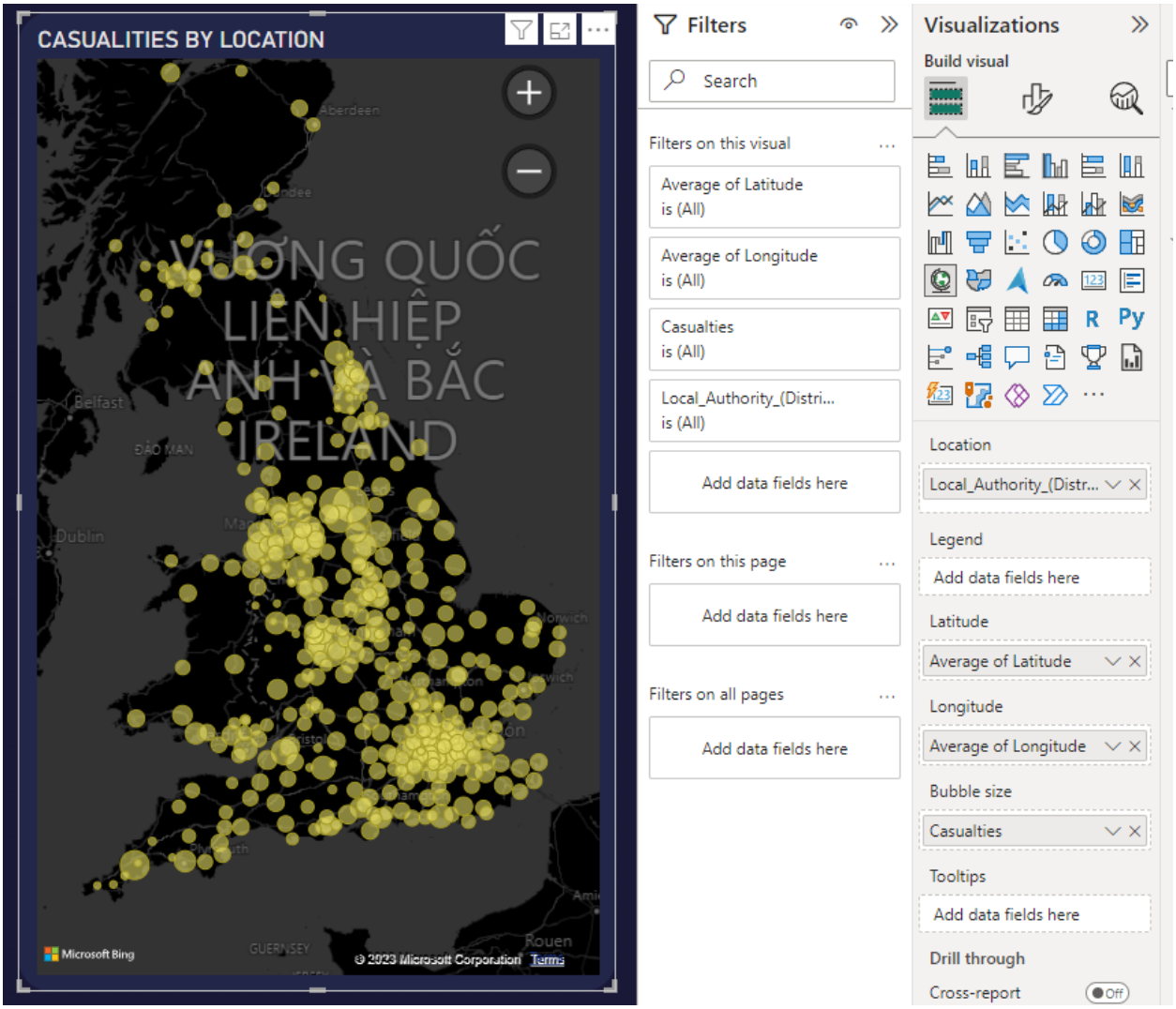
```
1 CY Accidents = TOTALYTD(COUNT(Data[Accident_Index]), 'Calendar'[Date])
```

```
1  PY Accidents = CALCULATE(COUNT(Data[Accident_Index]), SAMEPERIODLASTYEAR('Calendar'[Date]))
```

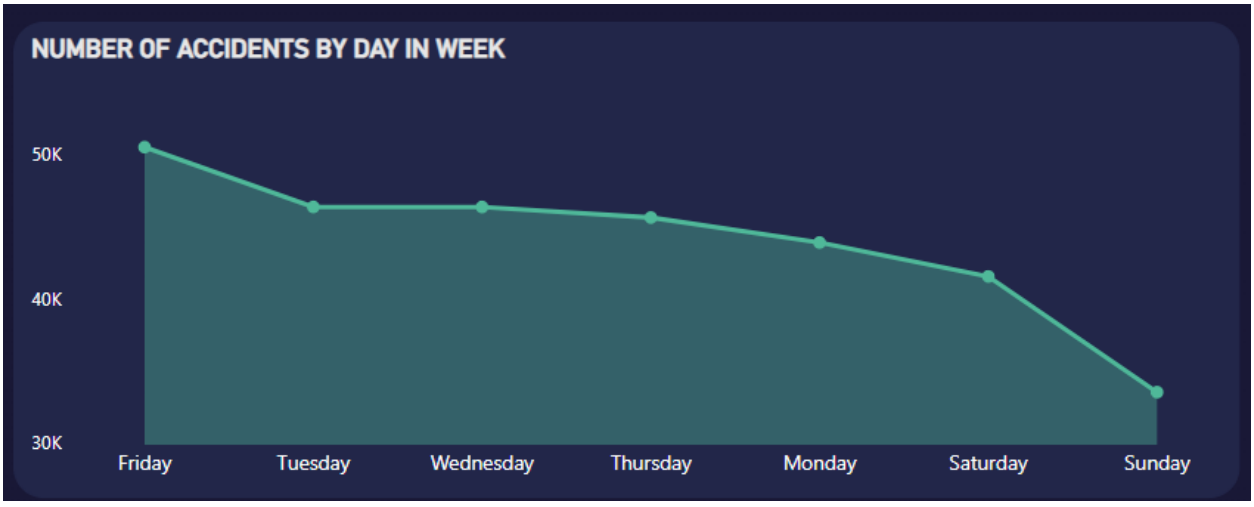
```
1  YoY Accidents = ([CY Accidents]-[PY Accidents])/[PY Accidents]
```



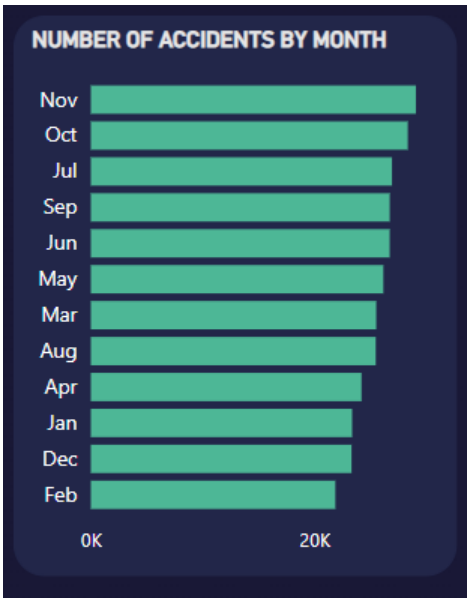
I add 2 filters by vehicle type and severity level.



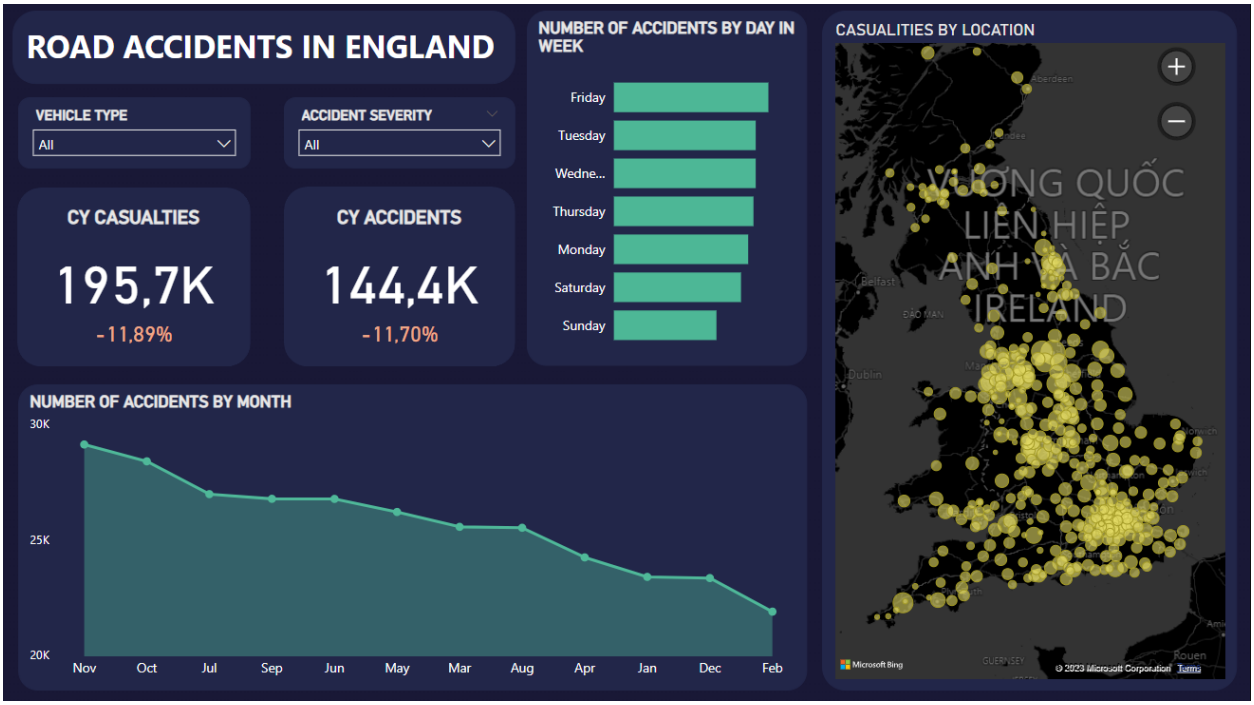
Next, I added a map to visualize the data better. The size of the markers corresponds to the number of casualties.



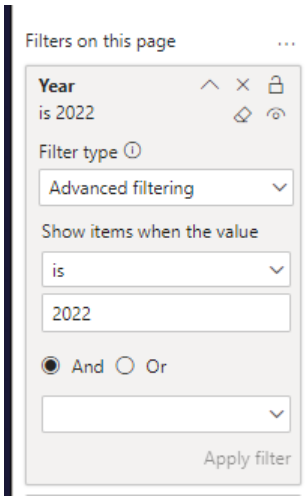
I added a line chart to show the number of accidents by day of the week.



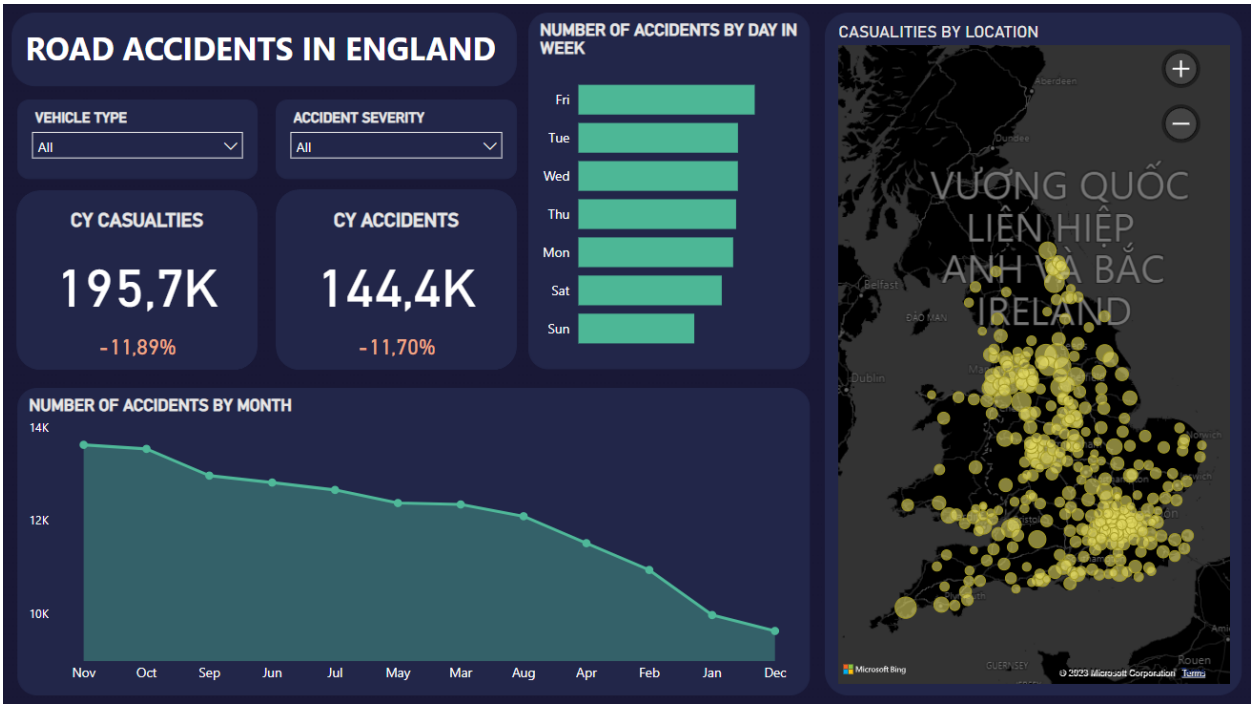
I added a bar chart to show the number of accidents by month of the year. However, after adding these two charts, I realized that swapping them would be more intuitive.



It will look like this.



Because I originally calculated the KPI and the scenario is set in 2022, I will filter the data to only show 2022. I will also only use the first 3 characters of the day of the week.



The conclusions drawn from the 2022 dashboard are not much different from the previous two years.

What I see:

- The majority of accidents are concentrated in the densely populated areas around London.
- The second half of the year (excluding December) accounts for the majority of the total accidents.
- Throughout the week, excluding Sundays (a day off), the number of accidents is fairly evenly distributed. But Friday is the day with the highest accident rate of the week.

The above can be explained as follows:

- The concentration of incidents around London can be attributed to urban areas, especially large ones like London, which tend to have high population densities along with heavy traffic flow. This creates favorable conditions for accidents and incidents to occur more frequently.
- The second half of the year accounting for the majority of accidents can be attributed to various factors. It could be due to weather conditions, increased traffic volume (e.g., during summer vacations), or people engaging in more outdoor activities. These factors may play a significant role in this trend.
- There are fewer accidents in December: People tend to stay at home more in December due to holidays like Christmas and New Year's. This can lead to a reduction in traffic flow and consequently a decrease in the accident rate.
- Throughout the week, excluding Sundays and Fridays, the number of accidents is fairly evenly distributed: Sunday is typically a day off, which can reduce traffic flow and consequently lower the accident rate. Weekdays usually have a relatively steady traffic flow, resulting in a relatively stable accident rate.
- Dangerous Friday: This could be attributed to various factors such as increased traffic volume and people rushing to finish their work for the week.

I can suggest some solutions as follows:

- For the densely populated areas around London: Improve the public transportation system to alleviate the pressure on individual traffic.
- Regarding the second half of the year accounting for the majority of accidents: Enhance traffic monitoring and provide increased weather-related information for drivers during adverse weather conditions. Organize campaigns to reinforce traffic safety during months with higher accident rates, particularly in October and November.
- Dangerous Friday: Responsible authorities should give special attention to this day.