Contents

Road Accident Analysis

1. Current Year Total Casualties

```
SELECT SUM(number_of_casualties) AS CY_Casualties
FROM road_accident
WHERE YEAR(accident_date) = '2022'
```

SQL Output:

	CY_Casualties
1	195737

PowerBI Visualization:

2. Current Year Total Accidents

```
-- Current Year Total Accidents
SELECT COUNT(DISTINCT accident_index) as CY_Total_Accidents
FROM road_accident
WHERE YEAR(accident_date)='2022'
```

SQL Output:

	CY_Total_Accidents
1	144419

PowerBI Visualization:

3. Current Year Total Fatal Casualties

```
SELECT SUM(number_of_casualties) AS Total_Fatal_Casualties
FROM road_accident
WHERE YEAR(accident_date)='2022'
AND accident_severity='Fatal'
```

SQL Output:

Total_CY_Fatal_Casualties
2855

PowerBI Visualization:

4. Current Year Total Serious Casualties

```
SELECT SUM(number_of_casualties) AS Total_CY_Serious_Casualties
FROM road_accident
WHERE YEAR(accident_date)='2022'
AND accident_severity='Serious'
```

SQL Output:

Total_CY_Serious_Casualties
27045

PowerBI Visualization:

5. Current Year Total Slight Casualties

```
SELECT SUM(number_of_casualties) AS Total_CY_Slight_Casualties
FROM road_accident
WHERE YEAR(accident_date)='2022'
AND accident_severity='Slight'
```

SQL Output:

Total_CY_Slight_Casualties
165837

PowerBI Visualization:

6. Casualties By Vechicle Type

```
SELECT
    CASE
        WHEN vehicle_type IN ('Agricultural vehicle') THEN 'Agricultural'
        WHEN vehicle_type IN ('Taxi/Private hire car', 'Car') Then 'Car'
        WHEN vehicle_type IN ('Motorcycle over 125cc and up to 500cc',
                              'Pedal cycle','Motorcycle 125cc and under',
                              'Motorcycle 50cc and under', 'Motorcycle over 500cc') Then 'Bike'
        WHEN vehicle_type IN ('Minibus (8 - 16 passenger seats)', 'Bus or coach (17 or more pass seats)') Then 'Bus'
        WHEN vehicle_type IN ('Goods 7.5 tonnes mgw and over',
                              'Van / Goods 3.5 tonnes mgw or under',
                              'Goods over 3.5t. and under 7.5t') Then 'Van'
        ELSE 'Other'
    END As Vehicle_type,
    SUM(number_of_casualties) AS 'Total Casualties'
FROM road_accident
WHERE YEAR(accident_date)='2022'
GROUP BY
    CASE
        WHEN vehicle_type IN ('Agricultural vehicle') THEN 'Agricultural'
        WHEN vehicle_type IN ('Taxi/Private hire car', 'Car') Then 'Car'
        WHEN vehicle_type IN ('Motorcycle over 125cc and up to 500cc',
                              'Pedal cycle','Motorcycle 125cc and under',
                              'Motorcycle 50cc and under', 'Motorcycle over 500cc') Then 'Bike'
        WHEN vehicle_type IN ('Minibus (8 - 16 passenger seats)', 'Bus or coach (17 or more pass seats)') Then 'Bus'
        WHEN vehicle_type IN ('Goods 7.5 tonnes mgw and over',
                              'Van / Goods 3.5 tonnes mgw or under',
                              'Goods over 3.5t. and under 7.5t') Then 'Van'
        ELSE 'Other'
    END
ORDER BY Vehicle_type
```

SQL Output:

	Vehicle_type	Total Casualties
1	Agricultural	399
2	Bike	15610
3	Bus	6573
4	Car	155804
5	Other	1446
6	Van	15905

PowerBI Visualization:

7. Casualties by Monthly of the years

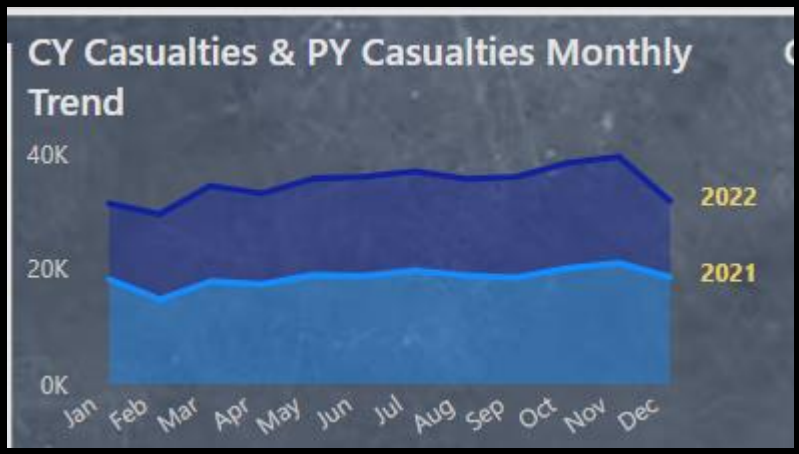
```
SELECT DATENAME(MONTH, accident_date) As Month_Name,
       SUM(number_of_casualties)
FROM road_accident
WHERE YEAR(accident_date)='2021'
GROUP BY DATENAME(MONTH, accident_date), DATEPART(MONTH, accident_date)
ORDER BY DATEPART(MONTH, accident_date)

SELECT DATENAME(MONTH, accident_date) As Month_Name,
       SUM(number_of_casualties)
FROM road_accident
WHERE YEAR(accident_date)='2022'
GROUP BY DATENAME(MONTH, accident_date), DATEPART(MONTH, accident_date)
ORDER BY DATEPART(MONTH, accident_date)
```

SQL Output:

Month_Name	Casualties_2021
January	18173
February	14648
March	17815
April	17335
May	18852
June	18728
July	19682
August	18797
September	18456
October	20109
November	20975
December	18576

Month_Name	Casualties_2022
January	13163
February	14804
March	16575
April	15767
May	16775
June	17230
July	17201
August	16796
September	17500
October	18287
November	18439
December	13200

PowerBI Visualization:



8. Casualties By Road Type

```
SELECT road_type, SUM(number_of_casualties) AS Total_Casualties
FROM road_accident
WHERE YEAR(accident_date)='2022'
GROUP BY road_type
ORDER BY Total_Casualties DESC
```

SQL Output:

road_type	Total_Casualties
Single carriageway	144653
Dual carriageway	31912
Roundabout	12683
One way street	3499
Slip road	2990

PowerBI Visualization:

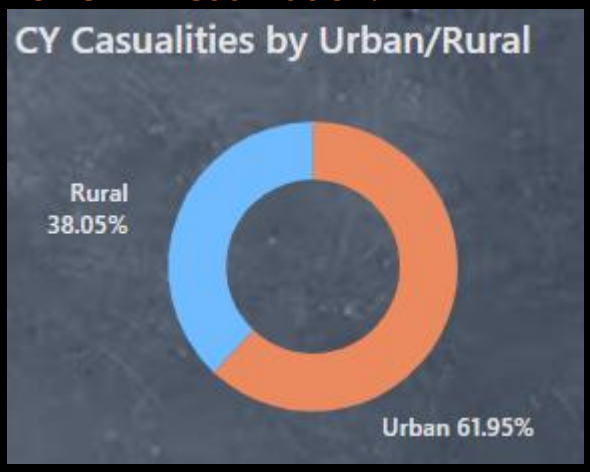
9. Casualties by Urban/Rural

```sql
SELECT urban_or_rural_area,
       SUM(number_of_casualties) AS Total_Casualties,
       (SUM(number_of_casualties) * 100.0 /
        (SELECT SUM(number_of_casualties)
         FROM road_accident
         WHERE YEAR(accident_date) = 2022)) AS Percentage
FROM road_accident
WHERE YEAR(accident_date) = 2022
GROUP BY urban_or_rural_area

SELECT DISTINCT light_conditions
FROM road_accident
```

SQL Output:

urban_or_rural_area	Total_Casualties	Percentage
Urban	121251	61.945876354496
Rural	74486	38.054123645503

PowerBI Visualization:



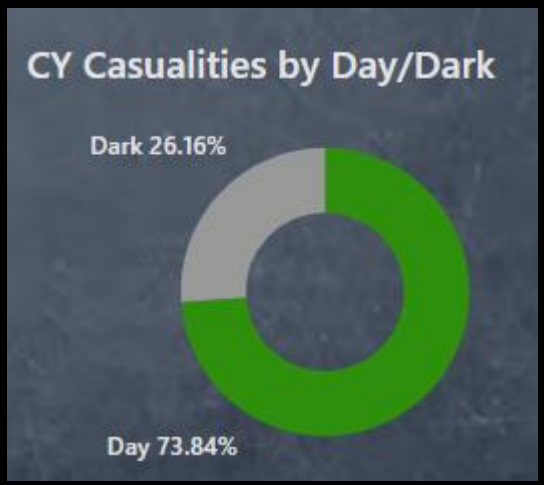
10. Casualties by Day/Dark

```
SELECT
    CASE
       WHEN light_conditions IN ('Daylight') THEN 'Day'
       Else 'Dark'
    END AS light_condition,
    SUM(number_of_casualties) AS Total_Casualties,
    ROUND((SUM(number_of_casualties)*100.0/
    (SELECT SUM(number_of_casualties)
    FROM road_accident
    WHERE YEAR(accident_date) = 2022)),2) AS Percentage
FROM road_accident
WHERE YEAR(accident_date) = 2022
GROUP BY
       CASE
       WHEN light_conditions IN ('Daylight') THEN 'Day'
       Else 'Dark'
    END
```

SQL Output:

light_condition	Total_Casualties	Percentage
Day	144539	73.840000000000
Dark	51198	26.160000000000

PowerBI Visualization:



11. Top 10 locations by high Casualties

```
SELECT TOP 10
       local_authority,
       SUM(number_of_casualties) AS Total_Casualties
FROM road_accident
WHERE YEAR(accident_date)='2022'
GROUP BY local_authority
ORDER BY Total_Casualties DESC
```

SQL Output:

local_authority	Total_Casualtie
Birmingham	4092
Leeds	2764
Cornwall	2092
Bradford	2089
Liverpool	2077
Manchester	1962
Sheffield	1764
County Durham	1708
Cheshire East	1656
Kirklees	1614

PowerBI Visualization: