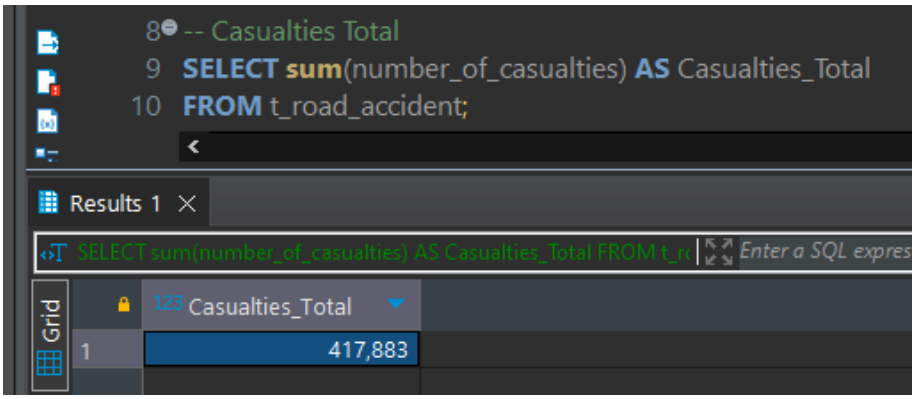
Road Accident Analysis SQL Queries

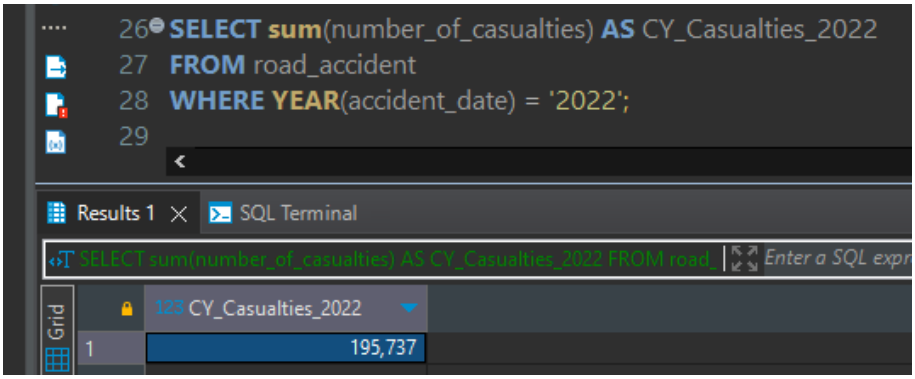
REPORT

- Primary KPI - Total Casualties taken place after the accident

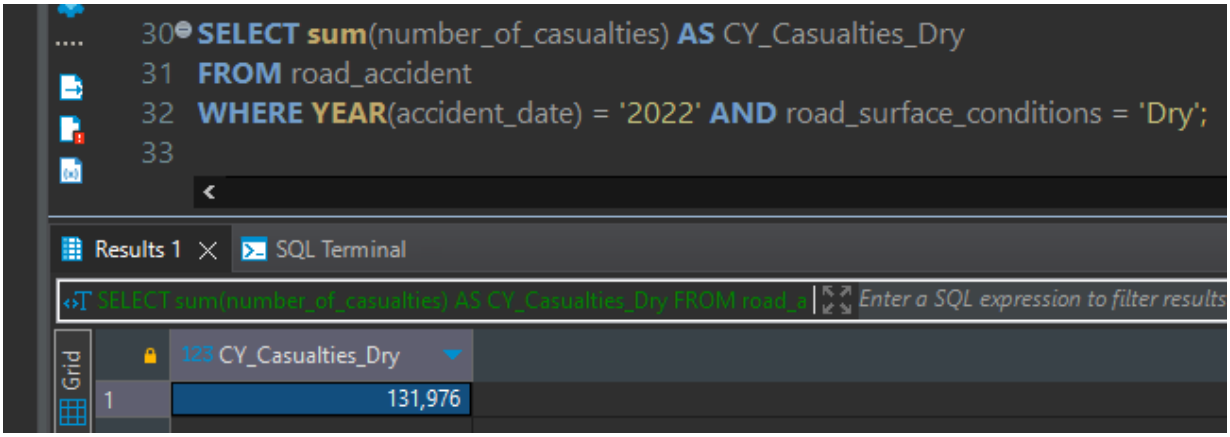
Total Casualties 417 883



CY Casualties 195 737

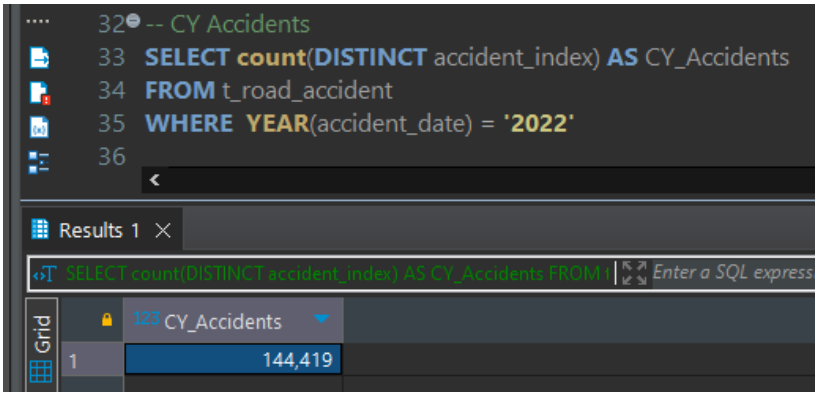


CY Casualties Dry 131 976

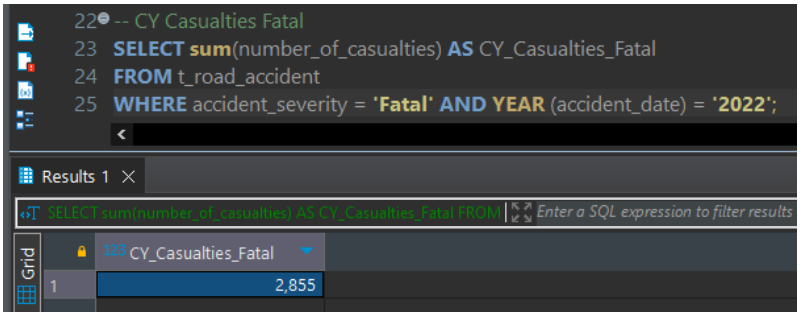


- Primary KPI's — Total Casualties & percentage of total with respect to accident severity and maximum casualties by type of vehicle

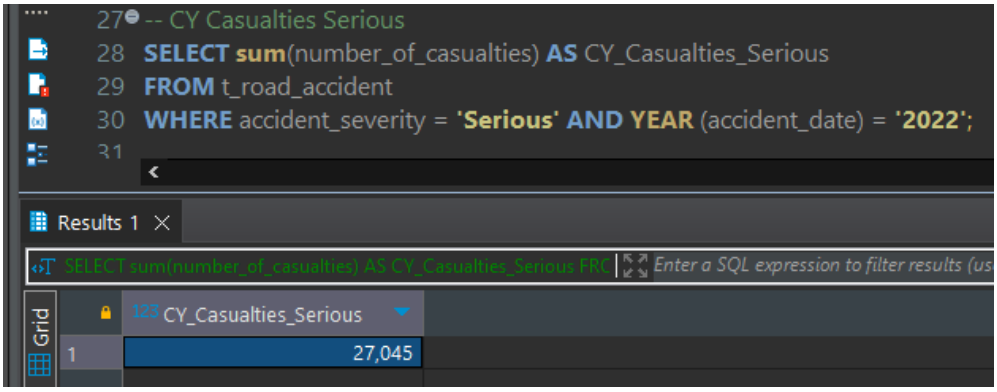
CY Accidents 144 419



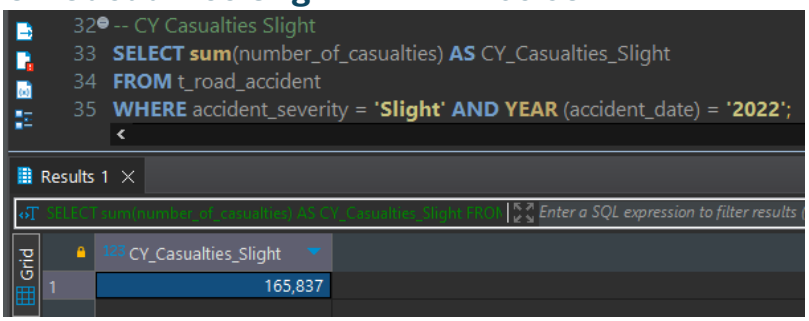
CY Casualties Fatal 2 855



CY Casualties Serious 27 045



CY Casualties Slight 165 837



Total Casualties in %

```sql
-- Percentages
SELECT round( sum(number_of_casualties) * 100 / (SELECT sum(number_of_casualties) FROM t_road_accident),2) AS PCT_Slight
FROM t_road_accident
WHERE accident_severity = 'Slight';
-- 84.1 %

SELECT ROUND((sum(number_of_casualties) * 100 / (SELECT sum(number_of_casualties) FROM t_road_accident)), 2) AS PCT_Serious
FROM t_road_accident
WHERE accident_severity = 'Serious';
-- 14.19 %

SELECT ROUND((sum(number_of_casualties) * 100 / (SELECT sum(number_of_casualties) FROM t_road_accident)), 2) AS PCT_Fatal
FROM t_road_accident
WHERE accident_severity = 'Fatal';
-- 1.71 %
```

Results 1

Enter a SQL expression to filter results (use Ctrl+Space)

Grid

	PCT_Slight
1	84.1

CY Casualties in %

```sql
-- CY Percentages
SELECT round(sum(number_of_casualties) * 100 / (SELECT sum(number_of_casualties) FROM t_road_accident
    WHERE YEAR(accident_date) = '2022'), 2) AS CY_PCT_Slight
FROM t_road_accident
WHERE accident_severity = 'Slight'
    AND YEAR(accident_date) = '2022';
-- 84.72 %

SELECT round(sum(number_of_casualties) * 100 / (SELECT sum(number_of_casualties) FROM t_road_accident
    WHERE YEAR(accident_date) = '2022'), 2) AS CY_PCT_Serious
FROM t_road_accident
WHERE accident_severity = 'Serious'
    AND YEAR(accident_date) = '2022';
-- 13.82 %

SELECT round(sum(number_of_casualties) * 100 / (SELECT sum(number_of_casualties) FROM t_road_accident
    WHERE YEAR(accident_date) = '2022'), 2) AS CY_PCT_Fatal
FROM t_road_accident
WHERE accident_severity = 'Fatal'
    AND YEAR(accident_date) = '2022';
-- 1.46 %
```

Results 1

Enter a SQL expression to filter results (use Ctrl+Space)

Grid

	CY_PCT_Slight
1	84.72

- maximum casualties by type of vehicle

Create Groups

```sql
-- Create Groups
SELECT
  CASE
    WHEN vehicle_type IN ('Agricultural vehicle') THEN 'Agricultural'
    WHEN vehicle_type IN ('Car', 'Taxi/Private hire car') THEN 'Cars'
    WHEN vehicle_type IN ('Bus or coach (17 or more pass seats)', 'Minibus (8 - 16 passenger seats)') THEN 'Bus'
    WHEN vehicle_type IN ('Van / Goods 3.5 tonnes mgw or under', 'Goods over 3.5t. and under 7.5t', 'Goods 7.5 tonnes mgw and over') THEN 'Van'
    WHEN vehicle_type IN ('Pedal cycle', 'Motorcycle over 500cc', 'Motorcycle over 125cc and up to 500cc', 'Motorcycle 50cc and under', 'Motorcycle 125cc and under') THEN 'Bike'
    ELSE 'Other'
  END AS vehicle_group,
  max (number_of_casualties) AS CY_max_Casualties
--   sum (number_of_casualties) AS CY_Casualties
FROM t_road_accident tra
WHERE YEAR (accident_date) = '2022'
GROUP BY
  CASE
    WHEN vehicle_type IN ('Agricultural vehicle') THEN 'Agricultural'
    WHEN vehicle_type IN ('Car', 'Taxi/Private hire car') THEN 'Cars'
    WHEN vehicle_type IN ('Bus or coach (17 or more pass seats)', 'Minibus (8 - 16 passenger seats)') THEN 'Bus'
    WHEN vehicle_type IN ('Van / Goods 3.5 tonnes mgw or under', 'Goods over 3.5t. and under 7.5t', 'Goods 7.5 tonnes mgw and over') THEN 'Van'
    WHEN vehicle_type IN ('Pedal cycle', 'Motorcycle over 500cc', 'Motorcycle over 125cc and up to 500cc', 'Motorcycle 50cc and under', 'Motorcycle 125cc and under') THEN 'Bike'
    ELSE 'Other'
  END;
```

esults 1

Enter a SQL expression to filter results (use Ctrl+Space)

vehicle_group	CY_max_Casualties
Agricultural	8
Bike	12
Bus	6
Cars	43
Other	7
Van	16

- Secondary KPI's - Total Casualties with respect to vehicle type

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

Results 1

Enter a SQL expression to filter results (use Ctrl+Space)

	vehicle_group	CY_Casualties
1	Agricultural	399
2	Bike	15,610
3	Bus	6,573
4	Cars	155,804
5	Other	1,446
6	Van	15,905

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

```sql
SELECT
   monthname(accident_date) AS Month_Name,
   sum(number_of_casualties) AS CY_Casualties
FROM t_road_accident tra
WHERE YEAR (accident_date) = '2022'
GROUP BY monthname(accident_date);
```

Results 1

	Month_Name	CY_Casualties
1	April	15,767
2	August	16,796
3	December	13,200
4	February	14,804
5	January	13,163
6	July	17,201
7	June	17,230
8	March	16,575
9	May	16,775
10	November	18,439
11	October	18,287
12	September	17,500

```sql
SELECT
   monthname(accident_date) AS Month_Name,
   sum(number_of_casualties) AS PY_Casualties
FROM t_road_accident tra
WHERE YEAR (accident_date) = '2021'
GROUP BY monthname(accident_date);
```

Results 1

	Month_Name	PY_Casualties
1	April	17,335
2	August	18,797
3	December	18,576
4	February	14,648
5	January	18,173
6	July	19,682
7	June	18,728
8	March	17,815
9	May	18,852
10	November	20,975
11	October	20,109
12	September	18,456

```sql
SELECT
   CY.Month_Name,
   PY.PY_Casualties,
   CY.CY_Casualties,
   CY.CY_Casualties - PY.PY_Casualties AS Difference,
   round((CY.CY_Casualties - PY.PY_Casualties) / PY.PY_Casualties * 100, 2) AS 'Diff in %'
FROM
   (SELECT
   monthname(accident_date) AS Month_Name,
   sum(number_of_casualties) AS CY_Casualties
   FROM t_road_accident tra
   WHERE YEAR (accident_date) = '2022'
   GROUP BY monthname(accident_date)) AS CY
JOIN
   (SELECT
   monthname(accident_date) AS Month_Name,
   sum(number_of_casualties) AS PY_Casualties
FROM t_road_accident tra
WHERE YEAR (accident_date) = '2021'
GROUP BY monthname(accident_date)) AS PY
ON CY.Month_Name = PY.Month_Name;
```

Results 1

Enter a SQL expression to filter results (use Ctrl+Space)

	Month_Name	PY_Casualties	CY_Casualties	Difference	Diff in %
1	April	17,335	15,767	-1,568	-9.05
2	August	18,797	16,796	-2,001	-10.65
3	December	18,576	13,200	-5,376	-28.94
4	February	14,648	14,804	156	1.06
5	January	18,173	13,163	-5,010	-27.57
6	July	19,682	17,201	-2,481	-12.61
7	June	18,728	17,230	-1,498	-8
8	March	17,815	16,575	-1,240	-6.96
9	May	18,852	16,775	-2,077	-11.02
10	November	20,975	18,439	-2,536	-12.09
11	October	20,109	18,287	-1,822	-9.06
12	September	18,456	17,500	-956	-5.18

- Casualties by Road Type for Current Year

```sql
-- Casualties by Road Type for Current Year
SELECT
    road_type,
    sum(number_of_casualties) AS CY_Casualties
FROM t_road_accident
WHERE YEAR (accident_date) = '2022'
GROUP BY road_type
ORDER BY CY_Casualties DESC;
```

t_road_accident 1

	road_type	CY_Casualties
1	Single carriageway	144,653
2	Dual carriageway	31,912
3	Roundabout	12,683
4	One way street	3,499
5	Slip road	2,990

- Distribution of total casualties by Road Surface

```sql
-- Distribution of total casualties by Road Surface
SELECT
    road_surface_conditions AS 'Road Surface',
    sum(number_of_casualties) AS Casualties
FROM t_road_accident
GROUP BY road_surface_conditions
ORDER BY Casualties DESC;
```

t_road_accident 1

	Road Surface	Casualties
1	Dry	279,445
2	Wet or damp	115,093
3	Frost or ice	16,306
4	Snow	6,475
5	Flood over 3cm. deep	564

- Relation between Casualties by Area/ Location

```sql
SELECT
    urban_or_rural_area AS 'Urban/Rural',
    sum(number_of_casualties) AS 'Total Casualties',
    round(sum(number_of_casualties) * 100 /
      (SELECT sum(number_of_casualties)
      FROM t_road_accident
      ), 2) AS 'Casualties in %'
FROM t_road_accident
GROUP BY urban_or_rural_area;
```

t_road_accident 1

	Urban/Rural	Total Casualties	Casualties in %
1	Rural	162,019	38.77
2	Urban	255,864	61.23

```sql
SELECT
    urban_or_rural_area AS 'Urban/Rural',
    round(sum(number_of_casualties) * 100 /
      (SELECT sum(number_of_casualties)
      FROM t_road_accident
      WHERE YEAR (accident_date) = '2022'), 2) AS 'Casualties in %'
FROM t_road_accident
WHERE YEAR (accident_date) = '2022'
GROUP BY urban_or_rural_area;
```

t_road_accident 1

	Urban/Rural	Casualties in %
1	Rural	38.05
2	Urban	61.95

- Relation between Casualties by Day/ Night

```sql
-- Relation between Casualties by Day / Night
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 /
    (SELECT sum(number_of_casualties)
    FROM t_road_accident), 2) AS 'Casualties IN %'
FROM t_road_accident
GROUP BY
  CASE
    WHEN light_conditions IN ('Daylight') THEN 'Day'
    ELSE 'Dark'
  END;
```

Results 1

	Light Condition	Total Casualties	Casualties IN %
1	Dark	112,920	27.02
2	Day	304,963	72.98

```sql
-- Relation between Casualties by Day / Night
SELECT
  CASE
    WHEN light_conditions IN ('Daylight') THEN 'Day'
    ELSE 'Dark'
  END AS 'Light Condition',
  sum(number_of_casualties) AS 'CY Casualties',
  round(sum(number_of_casualties) *100 /
    (SELECT sum(number_of_casualties)
    FROM t_road_accident
    WHERE YEAR (accident_date) = '2022'), 2) AS 'CY Casualties in %'
FROM t_road_accident
WHERE YEAR (accident_date) = '2022'
GROUP BY
  CASE
    WHEN light_conditions IN ('Daylight') THEN 'Day'
    ELSE 'Dark'
  END;
```

Results 1

	Light Condition	CY Casualties	CY Casualties in %
1	Dark	51,198	26.16
2	Day	144,539	73.84

- Top 10 locations by number of Casualties

```sql
-- Top 10 locations by number of Casualties
SELECT
    local_authority,
    sum(number_of_casualties) AS  Total_Casualties
FROM t_road_accident
-- WHERE YEAR (accident_date) = '2022'
GROUP BY local_authority
ORDER  BY Total_Casualties DESC
LIMIT 10;
```

t_road_accident 1

	local_authority	Total_Casualties
1	Birmingham	8,611
2	Leeds	5,821
3	Bradford	4,431
4	Manchester	4,366
5	Liverpool	4,052
6	Cornwall	3,820
7	Sheffield	3,737
8	Kirklees	3,312
9	County Durham	3,295
10	Westminster	3,169