



ROAD ACCIDENT ANALYSIS

ABSTRACT

The road analysis dataset was examined using SQL, revealing insights into accident trends. It included the extraction of monthly casualty totals for the years providing valuable information for safety assessments and decision-making.

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Road Accident Report SQL Queries

Total Casualties

```
SELECT SUM(number_of_casualties) AS Total_Casualties  
FROM accident.road_accident;
```

	Total_Casualties
▶	190765

Fatal Casualties

```
SELECT SUM(number_of_casualties) AS Fatal_Casualties  
FROM accident.road_accident  
WHERE accident_severity = 'Fatal'
```

	Fatal_Casualties
▶	3568

Percentage of total Fatal Casualties

```
select CAST(CAST(SUM(number_of_casualties) AS DECIMAL(10,2)) * 100 / (Select CAST(SUM(number_of_casualties) AS DECIMAL(10,2)) FROM accident.road_accident) as decimal (10,2)) AS POTFC
```

FROM accident.road_accident
WHERE accident_severity = 'Fatal'

	POTFC
▶	1.87

Serious Casualities

select SUM(number_of_casualties) AS Serious_Casualities
FROM accident.road_accident
WHERE accident_severity = 'Serious'

	Serious_Casualities
▶	26750

Percentage of total Serious Casualities

Select CAST(CAST(SUM(number_of_casualties) AS DECIMAL(10,2)) * 100 / (Select CAST(SUM(number_of_casualties) AS DECIMAL(10,2)) FROM accident.road_accident) as decimal (10,2)) AS POTSC
FROM accident.road_accident
WHERE accident_severity = 'Serious'

	POTSC
▶	14.02

Slight Casualties

```
select SUM(number_of_casualties) AS Slight_Casualties
FROM accident.road_accident
WHERE accident_severity = 'Slight'
```

	Slight_Casualties
▶	160447

Percentage of total Slight Casualties

```
select CAST(CAST(SUM(number_of_casualties) AS DECIMAL(10,2)) * 100 / (Select CAST(SUM(number_of_casualties) AS DECIMAL(10,2)) FROM accident.road_accident) as decimal (10,2)) AS POTSC
FROM accident.road_accident
WHERE accident_severity = 'Slight'
```

	POTSC
▶	84.11

Total Casualties by the type of vehicles

```
SELECT
```

**CASE WHEN vehicle_type IN ("Car" , "Taxi/Private hire car")
THEN 'Cars'**

WHEN vehicle_type IN ("Agricultural Vehicle") Then "Agricultural"

**WHEN vehicle_type IN ("Motorcycle over 500cc" , "Motorcycle 125cc and under" , "Motorcycle 50cc and under" , "Pedal cycle" , 'Motorcycle over 125cc and up to 500cc') THEN
"Bike"**

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 ('Minibus (8 - 16 passenger seats)' , 'Bus or coach (17 or more pass seats)') THEN "Bus"

ELSE 'Others'

END AS vehicle_group , sum(number_of_casualties)

FROM accident.road_accident

GROUP BY vehicle_group;

	vehicle_group	sum(number_of_casualties)
►	Cars	153422
	Bike	15601
	Van	15037
	Bus	4738
	Others	1465
	Agricultural	502

CY and PY Casualties by Month

Select Month(accident_date) as Month_Name , SUM(number_of_casualties) as CY_Casualties

FROM accident.road_accident

where Year(accident_date) = 2022

group by Month(accident_date)

	Month_Name	CY_Casualties
1	February	14804
2	June	17230
3	August	16796
4	April	15767
5	May	16775
6	December	13200
7	January	13163
8	September	17500
9	October	18287
10	July	17201
11	November	18439
12	March	16575

Py Casualties by Month

Select Month(accident_date) as Month_Name , SUM(number_of_casualties) as PY_Casualties

FROM accident.road_accident

where Year(accident_date) = 2021

group by Month(accident_date)

	Month_Name	PY_Casualties
1	February	14648
2	June	18728
3	August	18797
4	April	17335
5	May	18852
6	December	18576
7	January	18173
8	September	18456
9	October	20109
10	July	19682
11	November	20975
12	March	17815

Casualties by Road_Type

```
select road_type , sum(number_of_casualties) as Casualties
FROM accident.road_accident
group by road_type;
```

	road_type	Casualties
►	One way street	3331
	Single carriageway	140854
	Dual carriageway	31141
	Roundabout	12441
	Slip road	2998

Casualties by Road_Surface

```
select
```

```

case
when road_surface_conditions in ('Dry') THEN 'Dry'
when road_surface_conditions in ('Wet or damp','Flood
over 3cm. deep') THEN "Wet"
when road_surface_conditions in ('Snow' ,'Frost or ice')
THEN 'Ice\Snow'
ELSE 'Default'
END AS Road_surface_Group , sum(number_of_casualties)
as Total_Casualties
FROM accident.road_accident
group by Road_surface_Group;

```

	Road_surface_Group	Total_Casualties
►	Dry	128869
	Wet	54011
	IceSnow	7885

Casualties by Area

```

select urban_or_rural_area as Area , sum(number_of_casu-
alties) as Total_Casualties, CAST(sum(number_of_casual-
ties) as DECIMAL(10,2))*100/ (select CAST(sum(num-
ber_of_casualties) as decimal(10,2)) FROM acci-
dent.road_accident) as Total_Casualties_Percent
FROM accident.road_accident
group by Area;

```


	Area	Total_Casualties	Total_Casualties_Percent
►	Urban	119964	62.885749
	Rural	70801	37.114251

Casualties by Light_Conditions

select

case

when light_conditions in ('Daylight') then "Day"

when light_conditions in ('Darkness - lights lit','Darkness - lighting unknown' , 'Darkness - lights unlit' , 'Darkness - no lighting') then "Dark"

END as Light_Conditions ,

**sum(number_of_casualties) as Total_Casualties ,
CAST(sum(number_of_casualties) as DECIMAL(10,2))*100/
(select CAST(sum(number_of_casualties) as decimal(10,2))
FROM accident.road_accident) as Total_Casualties_Percent**

FROM accident.road_accident

group by case

when light_conditions in ('Daylight') then "Day"

when light_conditions in ('Darkness - lights lit','Darkness - lighting unknown' , 'Darkness - lights unlit' , 'Darkness - no lighting') then "Dark"

END ;

	Light_Conditions	Total_Casualties	Total_Casualties_Percent
►	Day	137284	71.964983
	Dark	53481	28.035017