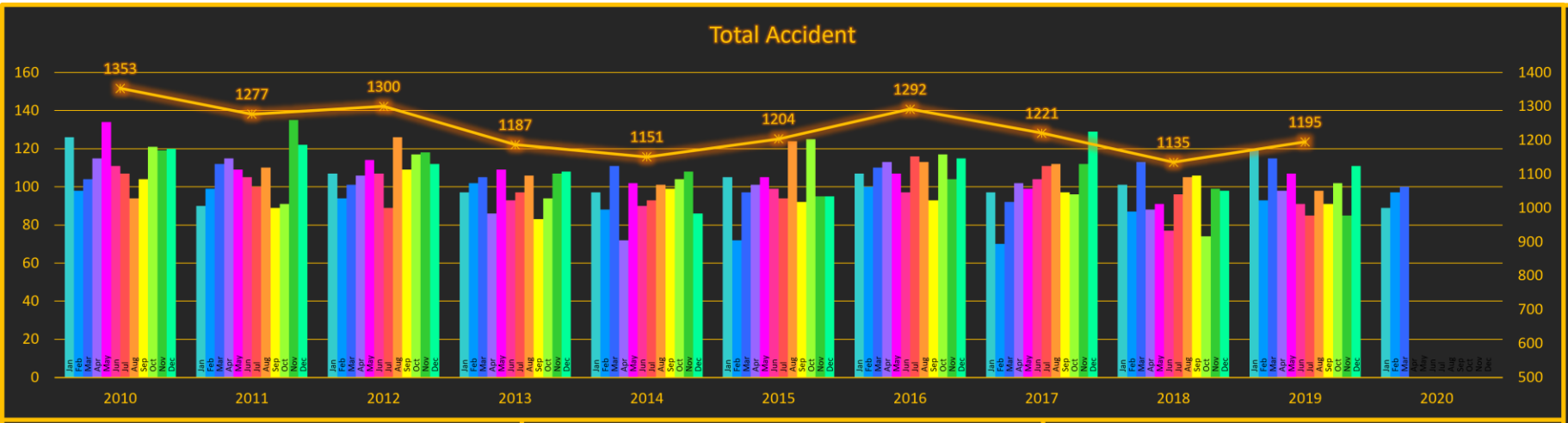
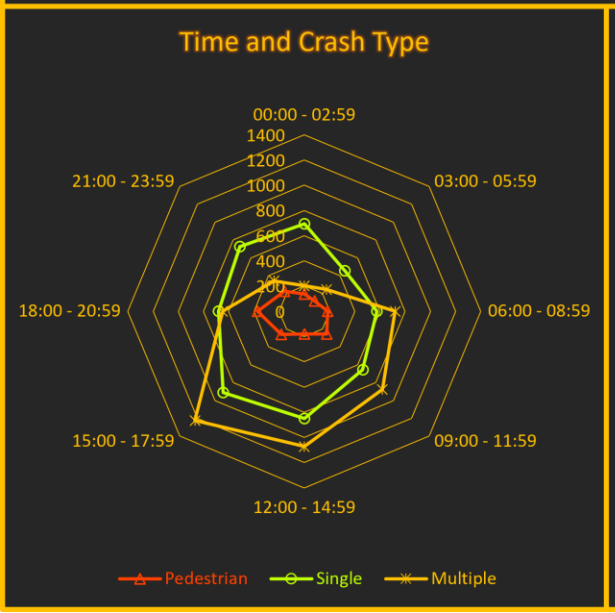
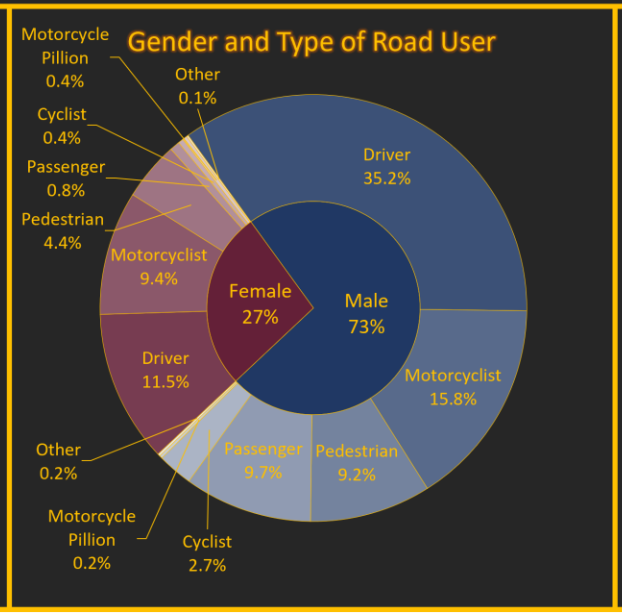
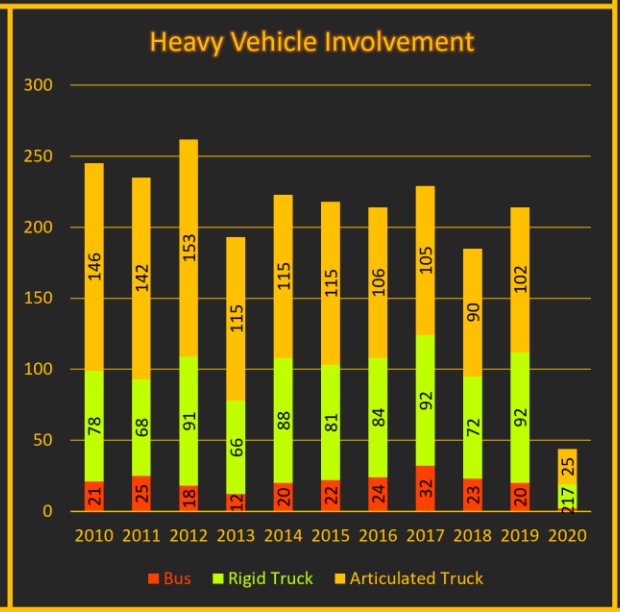
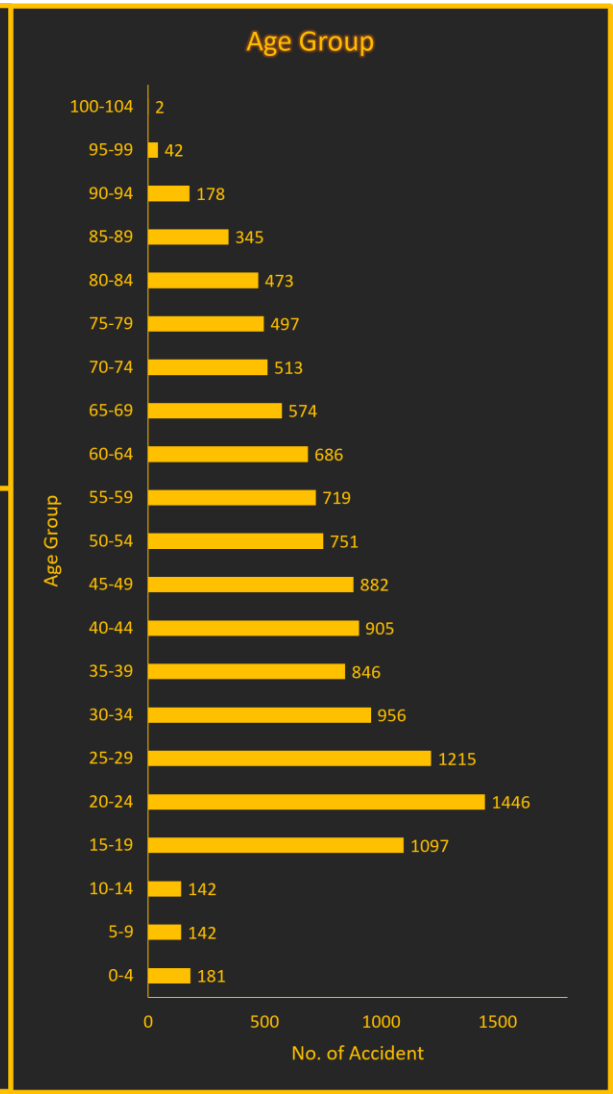
Traffic Accident Analysis Dashboard











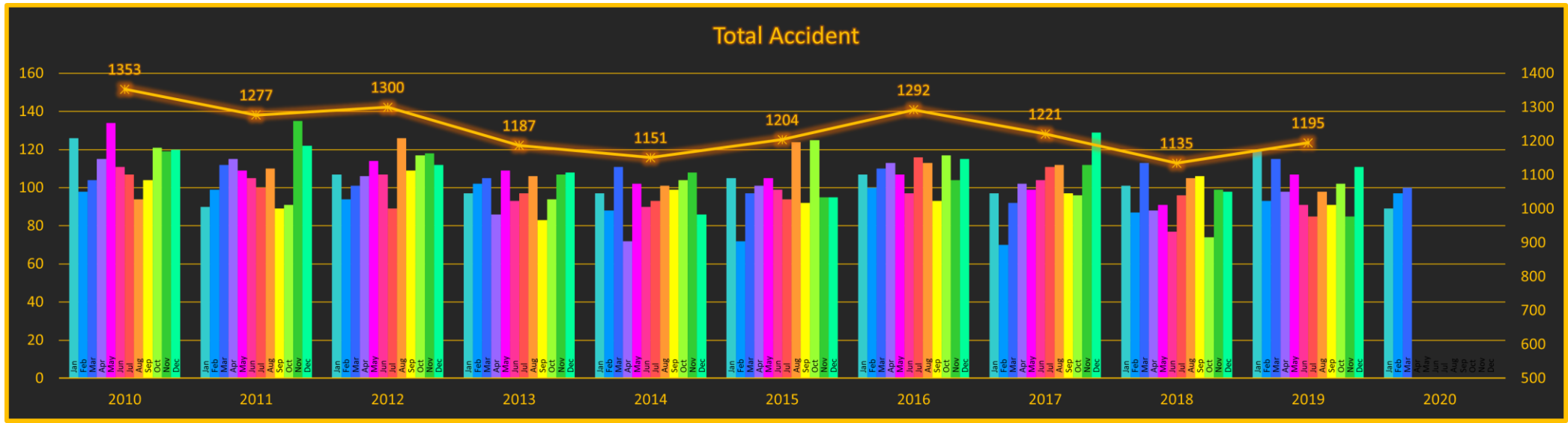
Total Accident											
Month | Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Jan	126	90	107	97	97	105	107	97	101	119	89
Feb	98	99	94	102	88	72	100	70	87	93	97
Mar	104	112	101	105	111	97	110	92	113	115	100
Apr	115	115	106	86	72	101	113	102	88	98	0
May	134	109	114	109	102	105	107	99	91	107	0
Jun	111	105	107	93	90	99	97	104	77	91	0
Jul	107	100	89	97	93	94	116	111	96	85	0
Aug	94	110	126	106	101	124	113	112	105	98	0
Sep	104	89	109	83	99	92	93	97	106	91	0
Oct	121	91	117	94	104	125	117	96	74	102	0
Nov	119	135	118	107	108	95	104	112	99	85	0
Dec	120	122	112	108	86	95	115	129	98	111	0
Year Total	1353	1277	1300	1187	1151	1204	1292	1221	1135	1195	286

Data Preparation:

- The frame of the table was created with the years as the heading of the columns and the months as the heading of the rows.
- SUMPRODUCT function was used to get the total number of accidents in the given year and month.
- SUM function was then used to get the total number of accidents in the year at the end of the table.

Data Visualization:

- From the line and clustered column combo chart below, we can see that the highest number of accident that happened in the 10 years of data was in year 2010 with 1,353 cases and the lowest was in year 2018 with 1,135 cases. The month with the highest number of accident was November and in year 2011, while the month with the lowest number of accident was February and in year 2017.



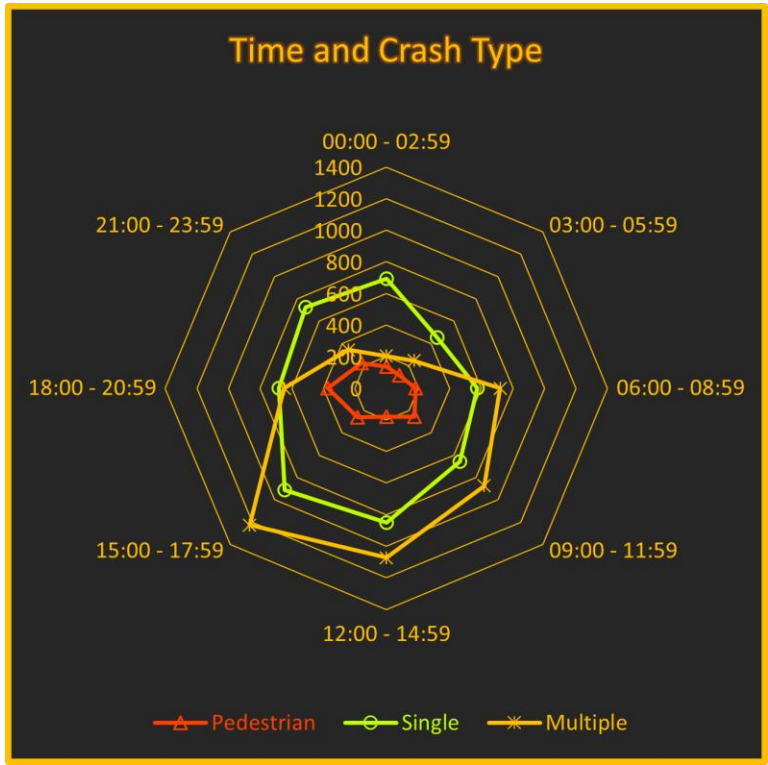
Radar Chart					
from	to	Time	Single	Multiple	Pedestrian
0:00	2:59	00:00 - 02:59	693	203	138
3:00	5:59	03:00 - 05:59	456	246	114
6:00	8:59	06:00 - 08:59	576	720	184
9:00	11:59	09:00 - 11:59	655	874	253
12:00	14:59	12:00 - 14:59	849	1072	181
15:00	17:59	15:00 - 17:59	911	1226	258
18:00	20:59	18:00 - 20:59	680	648	373
21:00	23:59	21:00 - 23:59	725	342	223

Data Preparation:

- The frame of the table was created with the crash type as column heading and time as row heading.
- The time of the day was divided into 8 groups, each group lasting 3 hours.
- COUNTIFS function was used to get the number of accidents that happened in each of the time groups and the different crash types.

Data Visualization

- From the radar chart, we can see that most of the accidents happened at between 15:00 to 17:59 with around 1,200 cases that involved multiple crash types and around 900 cases that involved single crash type, while most of the accidents that involved pedestrian crash type happened at between 18:00 to 20:59 with around 380 cases.



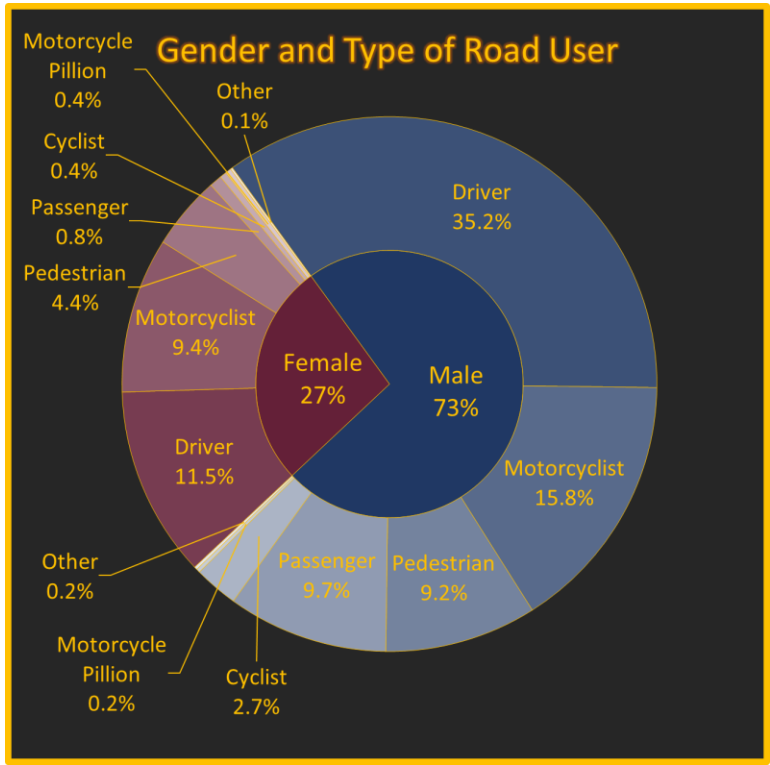
Pie Chart		
	Gender	**No. of accident**
	Male	9193
	Female	3401
	Road User	**No. of accident**
Male	Driver	4434
	Motorcyclist	1993
	Pedestrian	1157
	Passenger	1222
	Cyclist	335
	Motorcycle Pillion	29
	Other	23
Female	Driver	1452
	Motorcyclist	1182
	Pedestrian	560
	Passenger	95
	Cyclist	51
	Motorcycle Pillion	45
	Other	16

Data Preparation:

- 2 tables were required to get the outer and inner doughnut chart.
- COUNTIF function was used to get the data for the 1st table which contains the total number of male and female involved in the accident.
- SUMPRODUCT function was used to get the data for the 2nd table which contains the breakdown of the road user from the male and female that were involved in the accident.

Data Visualization

- From the doughnut chart, we can see that 73% of the total road users that were involved in the accident is male and 27% is female. Driver and motorcyclist made up almost 70% of the road user for the male and more than 75% of the female road user.



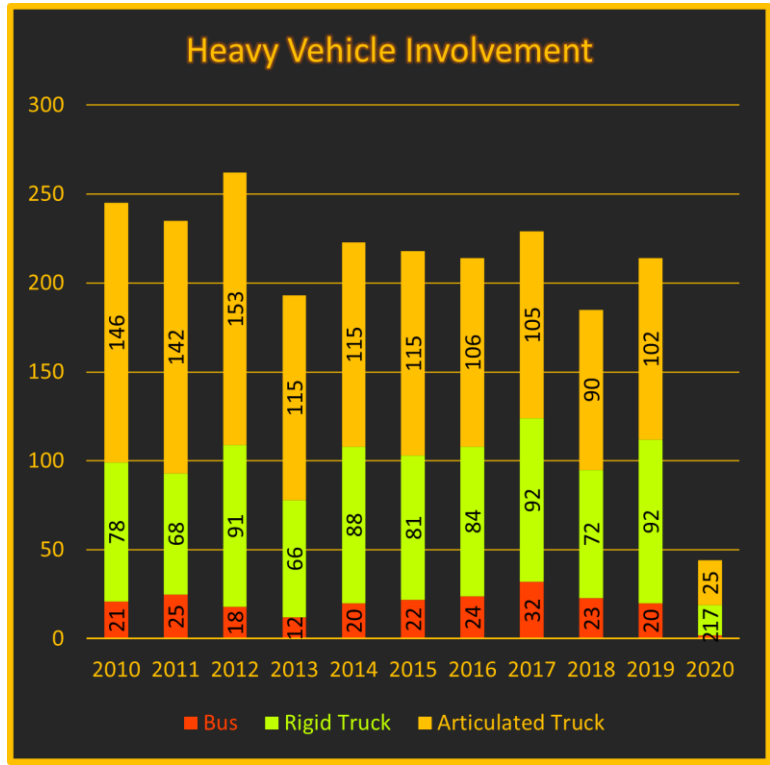
Stacked Column Chart			
Year | Vehicle	Bus	Rigid Truck	Articulated Truck
2010	21	78	146
2011	25	68	142
2012	18	91	153
2013	12	66	115
2014	20	88	115
2015	22	81	115
2016	24	84	106
2017	32	92	105
2018	23	72	90
2019	20	92	102
2020	2	17	25

Data Preparation:

- Headings for the columns are the type of heavy vehicles that were involved in the accidents, headings for the rows are the years.
- COUNTIFS function was used to extract the data into the table.

Data Visualization

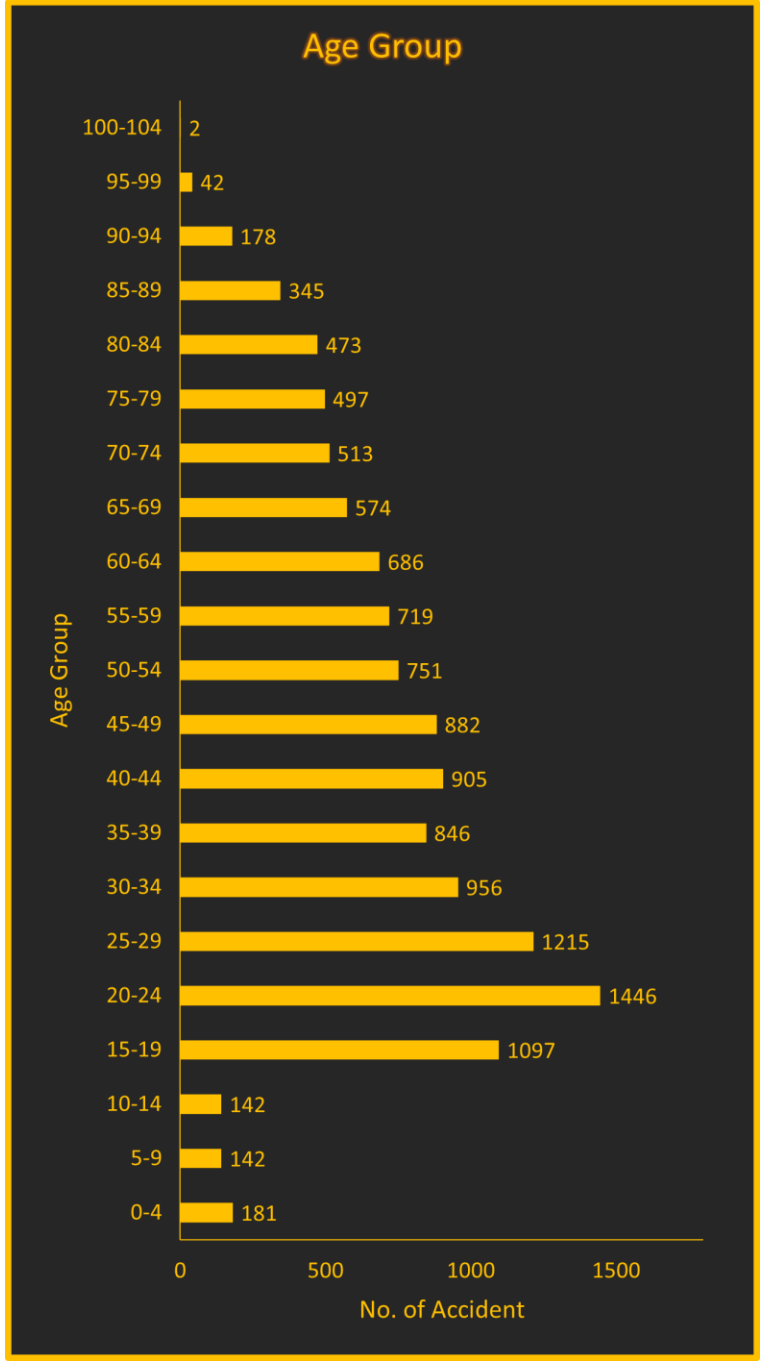
- The stacked column chart shows that the year that had that highest number of accidents that involved heavy vehicle was in year 2012, with articulated truck contributed 153 cases, rigid truck 91 cases and bus 18 cases. The year that had the highest number of rigid truck involved was in 2017 and 2019 with 92 cases while the year that had the highest number of bus involvement was in 2017 with 32 cases.



Bar Chart			
from	to	Age Group	No. of Accident
0	4	0-4	181
5	9	5-9	142
10	14	10-14	142
15	19	15-19	1097
20	24	20-24	1446
25	29	25-29	1215
30	34	30-34	956
35	39	35-39	846
40	44	40-44	905
45	49	45-49	882
50	54	50-54	751
55	59	55-59	719
60	64	60-64	686
65	69	65-69	574
70	74	70-74	513
75	79	75-79	497
80	84	80-84	473
85	89	85-89	345
90	94	90-94	178
95	99	95-99	42
100	104	100-104	2

Data Preparation:

- All the age of the users that were involved in the accidents were divided into age group with 5 years a group starting from 0 to 100.
- Headings for the rows are the age group and heading for the column is number of accidents.
- COUNTIFS function was used to extract the data into the table.



Data Visualization

- The bar chart shows that the highest number of accidents involved road user of age between 20 to 24 with 1,446 cases