

This file consists of my findings from the Road Accident dataset provided. Please follow as per the name of the sheet in the pictures below.

1. Number of Accidents Per Year

The greatest number of accidents were recorded for the year 2015.

2. Number of Accidents Per Month

The greatest number of accidents were recorded for the month March.

3. Number of Accidents Per Weekday

The greatest number of accidents were recorded for Friday followed by Wednesday and Thursday. It seems that the most accidents happen in the mid-week.

4. Number of Accidents Per Accident Type

It seems that most accidents took place by direct vehicle collision

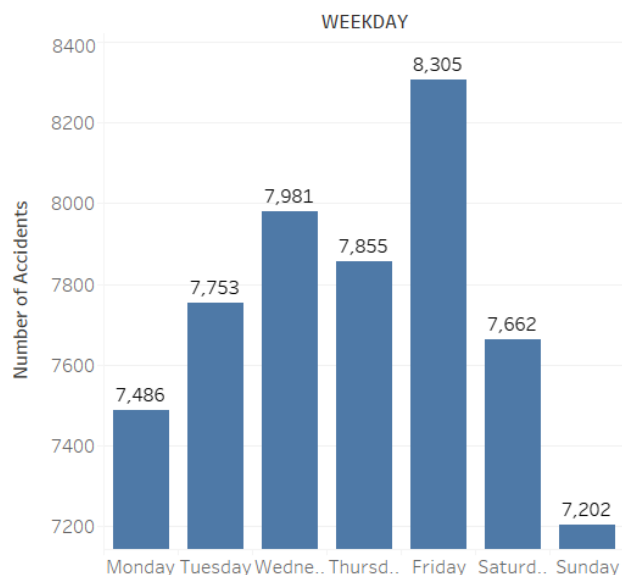
Number of Accidents Per Year

Year of ACCIDENT_DATETIME	Number of Accidents
2007	7
2008	2
2014	13,868
2015	14,409
2016	14,390
2017	11,495
2018	73

Number of Accidents Per Month

Month of ACCIDENT_DATETIME	Number of Accidents
January	4,559
February	4,364
March	4,849
April	4,565
May	4,765
June	4,304
July	4,546
August	4,406
September	4,088
October	4,714
November	4,670
December	4,414

Number of Accidents Per Weekday



Number of Accidents Per Accident Type

Accident Type Desc	Number of Accidents
Collision with a fixed object	8,563
collision with some other object	493
Collision with vehicle	34,156
Fall from or in moving vehicle	247
No collision and no object struck	2,790
Other accident	40
Struck animal	564
Struck Pedestrian	4,634
Vehicle overturned (no collision)	2,757

5. Number of Accidents Per DCA Description (Top 10)

Among all the DCA descriptions, the one category that holds the greatest number of accidents is the rear end (vehicles in same lane).

6. Number of Accidents Based on Node Type

Most number of accidents were recorded for non-intersection type where as off-road accidents were very less.

7. Number of Accidents Based on Light Condition

Contrary to the popular belief that the accidents occur when there is less or no light, maximum number of accidents were recorded during day light.

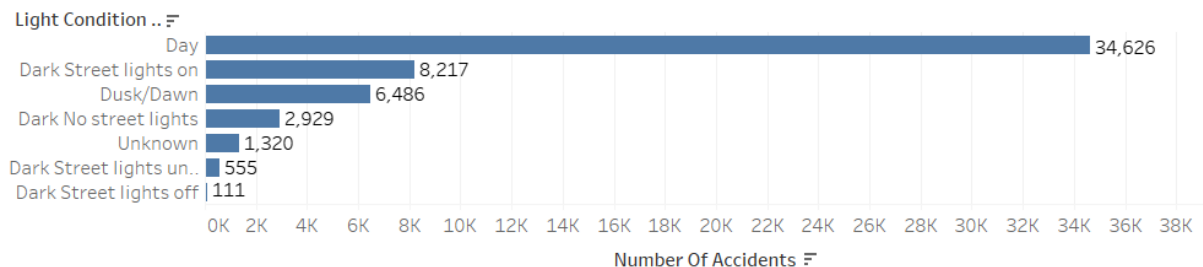
Number of Accidents Per DCA Description (Top 10)

DCA Description	Number of Accidents
REAR END(VEHICLES IN SAME LANE)	9,781
RIGHT THROUGH	4,756
RIGHT OFF CARRIAGEWAY INTO OBJECT/PARKED VEHICLE	2,145
RIGHT NEAR (INTERSECTIONS ONLY)	2,512
PED NEAR SIDE. PED HIT BY VEHICLE FROM THE RIGHT.	1,827
OUT OF CONTROL ON CARRIAGEWAY (ON STRAIGHT)	2,466
OFF RIGHT BEND INTO OBJECT/PARKED VEHICLE	1,643
LEFT OFF CARRIAGEWAY INTO OBJECT/PARKED VEHICLE	3,040
HEAD ON (NOT OVERTAKING)	1,723
CROSS TRAFFIC(INTERSECTIONS ONLY)	3,624

Number of Accidents Based On Node Type

NODE_TYPE	Number of Accidents
Intersection	24,741
Non-Intersection	29,328
Off Road	155
Unknown	20

Number of Accidents Based on Light Condition



8. Number of Accidents Per Road Geometry

Most number of accidents were recorded for non-intersection followed by T-intersection and cross-intersection.

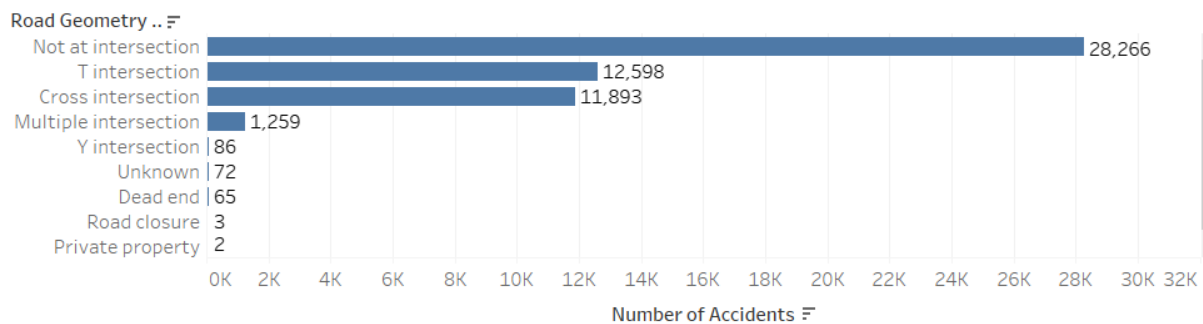
9. Number of Accidents Based on Severity

15,356 number of accidents resulted into serious injuries while over 37k number of accidents resulted into non-serious other kind of injuries.

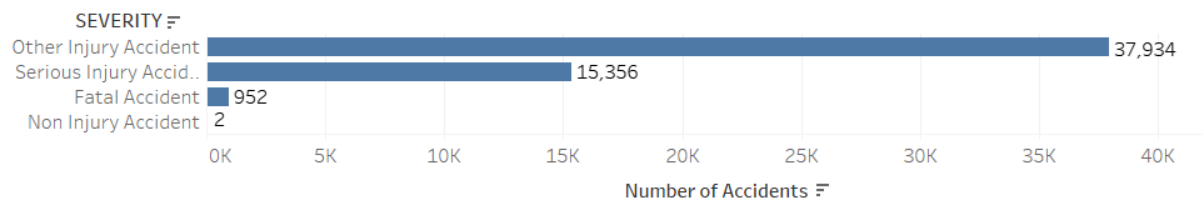
10. Number of Accidents Per Road Route

Contrary to the popular belief that most accidents take place on freeways or highways due to no speed limit, the greatest number of accidents were recorded on unclassified and main roads.

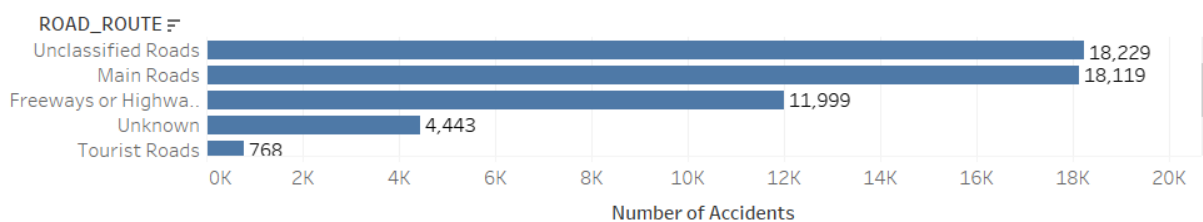
Number of Accidents Per Road Geometry



Number of Accidents Based On Severity



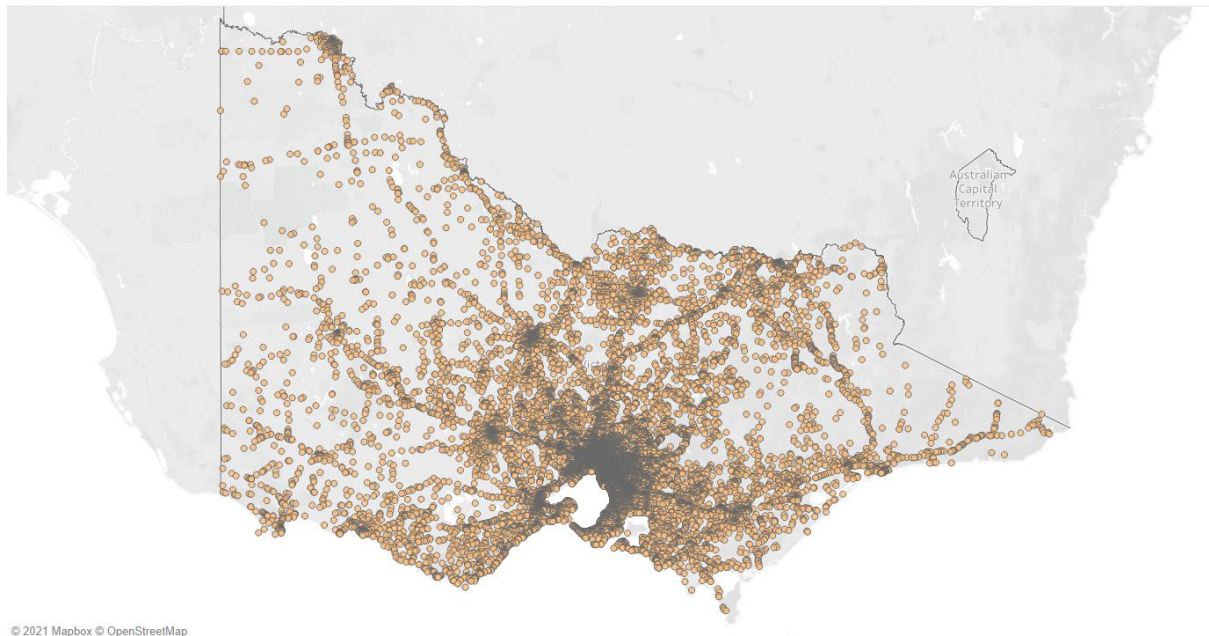
Number of Accidents Per Road Route



11. Spot of Accident

From the below map, it can be seen that the most number of accidents were concentrated at the metropolitan/urban area (around Melbourne to be specific) where as there were barely cases in the outskirt regions of Victoria.

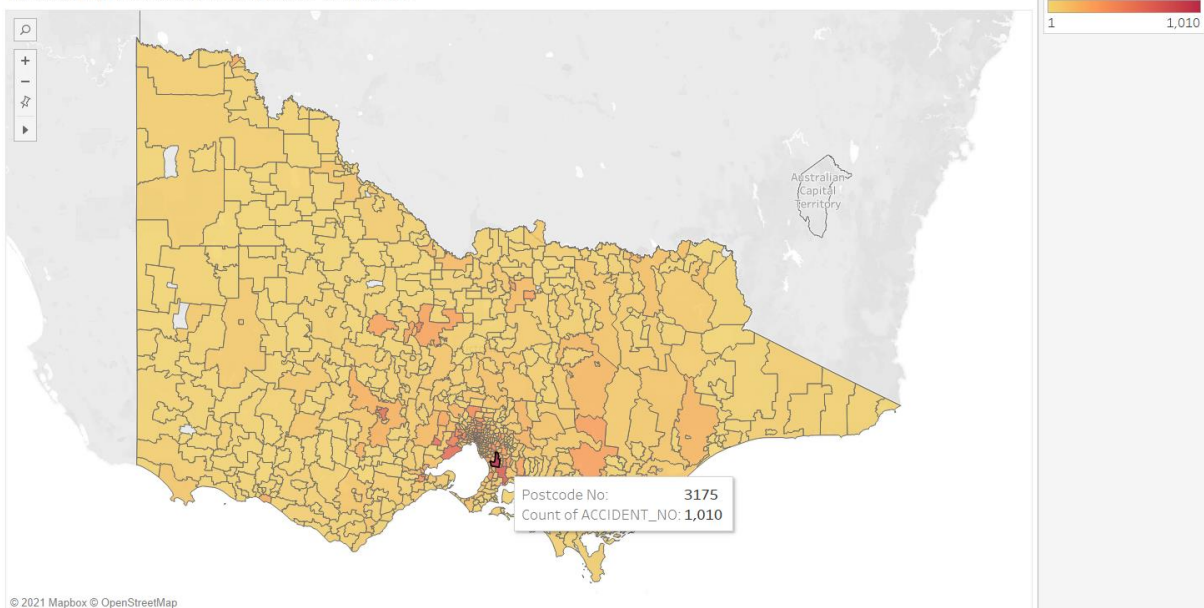
Spot of Accident



12. Number of Accidents Based on Postcodes

The below heatmap shows the number of accidents per postcodes. Postcode 3175 has recorded the greatest number of accidents.

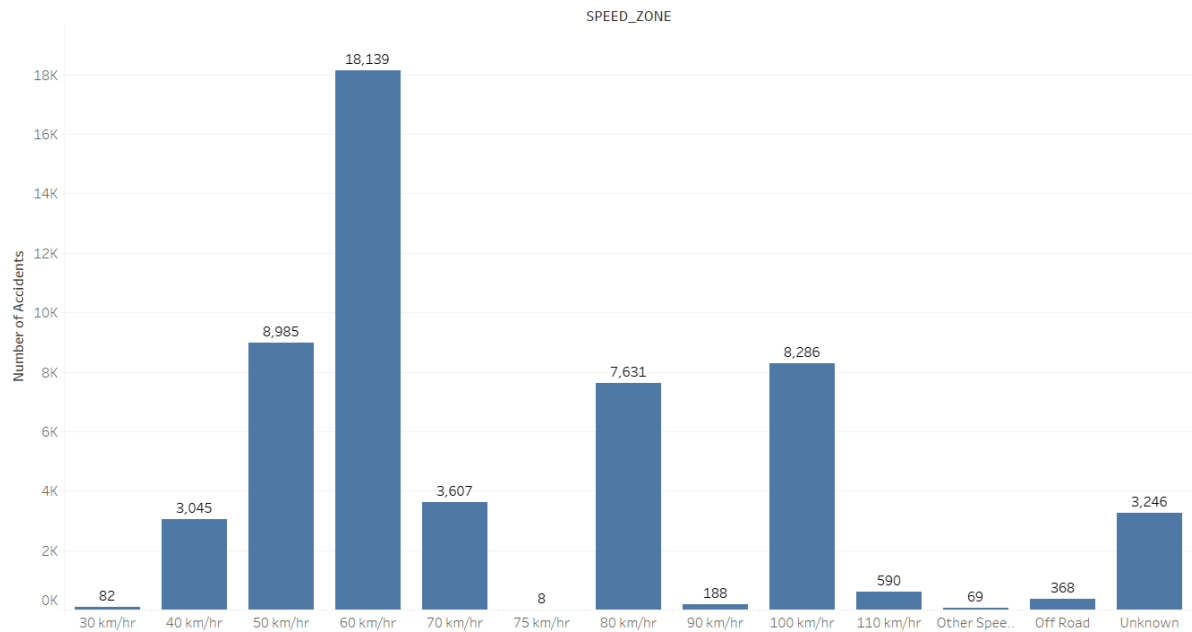
Number of Accidents Based on Postcodes



13. Number of Accidents Based on Speed Zone

It is amusing to note that the greatest number of accidents were recorded in the speed zone of 60km/hr where as other higher speed zones have a smaller number of accidents. May be that the people get too relaxed in this speed zone and compromise on attention level.

Number of Accidents Based On Speed Zone



14. Number of Accidents Based on LGA

It can be seen that top 3 local government areas where the maximum number of accidents were recorded are Melbourne, Casey and Geelong.

15. No of affected cases per year

Affected cases include the number of persons involved, number of vehicles, number of persons with injury level 2/3 and number of persons killed. Again, year 2015 records the maximum cases.

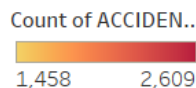
16. No of affected cases per month

Similar to earlier findings, the month March records the maximum number of affected cases.

17. Number of affected cases per weekday

Similar to earlier findings, Friday records the maximum number of affected cases followed by Wednesday and Thursday.

Number of Accidents Based on Local Gov Areas



Lga Name All	Number of Accidents
MELBOURNE	2,609
CASEY	2,143
GEELONG	1,966
DANDENONG	1,701
HUME	1,697
YARRA RANGES	1,612
BRIMBANK	1,572
MORELAND	1,514
WHITTLESEA	1,491
MONASH	1,458

No of affected cases per year

Year of ACCIDENT_DATETIME	
2007	34
2008	12
2014	75,765
2015	78,305
2016	78,152
2017	63,096
2018	350

No of affected cases per weekday

WEEKDAY	
Monday	41,016
Tuesday	42,219
Wednesday	43,828
Thursday	42,804
Friday	45,408
Saturday	41,513
Sunday	38,926

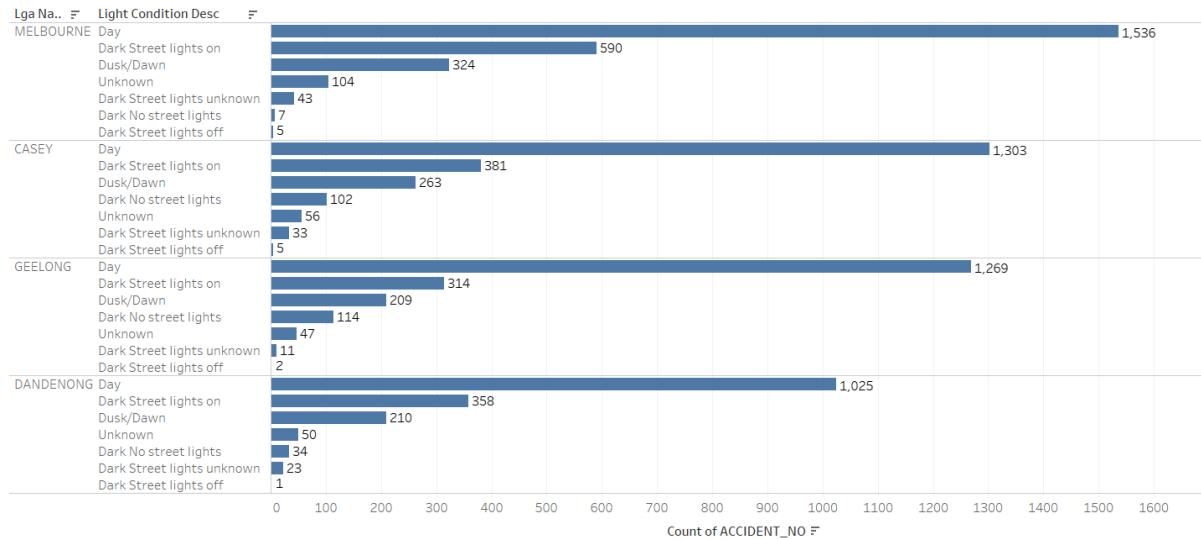
No of affected cases per month

Month of A..	
January	24,625
February	23,781
March	26,147
April	24,882
May	26,330
June	23,338
July	24,707
August	23,940
September	22,298
October	25,722
November	25,454
December	24,490

18. Impact of light condition in top 5 locations

As determined earlier, the regions which recorded the maximum number of accidents, it can be seen that still most accidents occur during the day light.

Impact of light condition in top 5 locations



19. Number of accidents based on top 5 locations and road route

It can be seen that the greatest number of accidents were recorded on unclassified roads in Melbourne, on main roads in Casey, unclassified roads in Geelong, freeways or highways in Dandenong and main roads in Hume. In all the regions, the least number of accidents were recorded for ramps.

Number of accidents based on top 5 locations and road route

Lga Name All	ROAD_ROUTE	Number of Accidents
MELBOURNE	Unclassified Roads	1,247
	Main Roads	749
	Freeways or Highways	395
	Unknown	181
	Ramps	37
CASEY	Main Roads	699
	Unclassified Roads	684
	Freeways or Highways	532
	Unknown	169
	Ramps	59
GEELONG	Unclassified Roads	693
	Main Roads	556
	Freeways or Highways	507
	Unknown	194
	Tourist Roads	12
	Ramps	4
DANDENONG	Freeways or Highways	742
	Unclassified Roads	575
	Main Roads	223
	Unknown	122
	Ramps	39
HUME	Main Roads	751
	Unclassified Roads	655
	Unknown	149
	Freeways or Highways	114
	Ramps	28

20. Number of accidents based on time of the day

From the below table, it can be seen that the maximum number of accidents were recorded at 5 PM while the least number of accidents were recorded at 4 AM.

Number of accidents based on time of the day

Hour of ACCIDENT_DATETIME	Number of Accidents
0	714
1	580
2	472
3	434
4	415
5	761
6	1,489
7	2,361
8	3,547
9	2,946
10	2,827
11	3,111
12	3,367
13	3,224
14	3,374
15	4,402
16	4,310
17	4,502
18	3,667
19	2,394
20	1,568
21	1,487
22	1,278
23	1,014

21. Number of accidents based on location and DCA description

It can be seen that most accidents occur due to rear end vehicle collision on the same lane in the top locations where the maximum number of accidents were recorded.

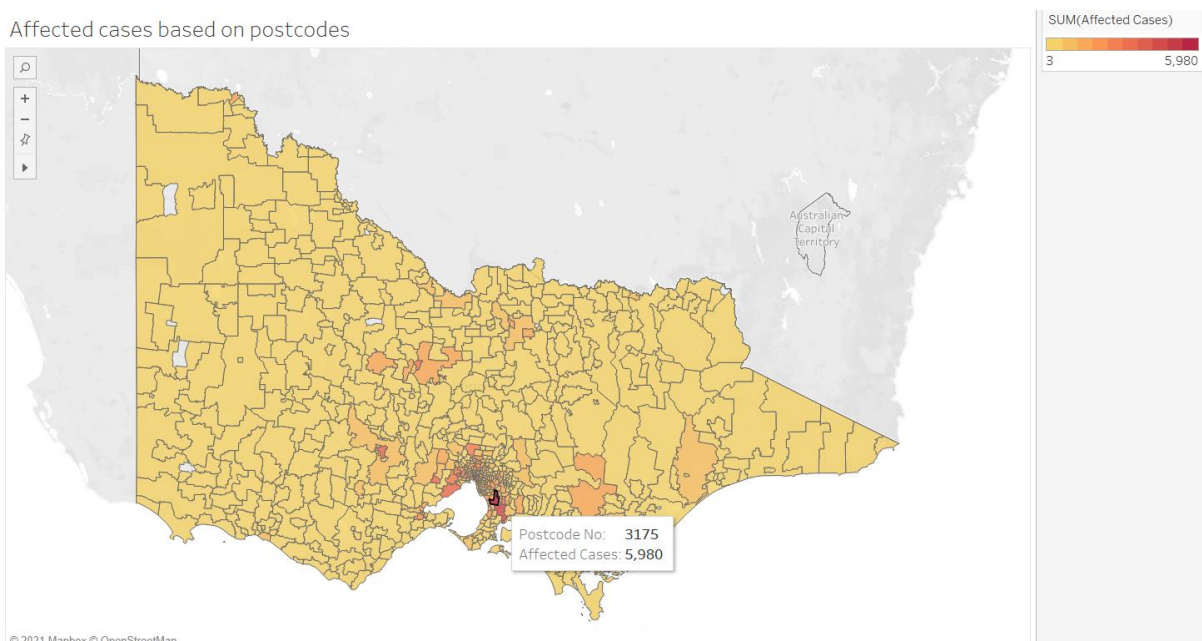
Number of accidents based on location and DCA description

Lga Name All	DCA Description	2	Number of Accidents
CASEY	CROSS TRAFFIC(INTERSECTIONS ONLY)		79
	LEFT OFF CARRIAGEWAY INTO OBJECT/PARKED VEHICLE		147
	REAR END(VEHICLES IN SAME LANE)		581
	RIGHT NEAR (INTERSECTIONS ONLY)		149
	RIGHT THROUGH		270
DANDENONG	CROSS TRAFFIC(INTERSECTIONS ONLY)		123
	LEFT OFF CARRIAGEWAY INTO OBJECT/PARKED VEHICLE		87
	REAR END(VEHICLES IN SAME LANE)		360
	RIGHT NEAR (INTERSECTIONS ONLY)		103
	RIGHT THROUGH		197
GEELONG	CROSS TRAFFIC(INTERSECTIONS ONLY)		179
	LEFT OFF CARRIAGEWAY INTO OBJECT/PARKED VEHICLE		138
	REAR END(VEHICLES IN SAME LANE)		406
	RIGHT NEAR (INTERSECTIONS ONLY)		100
	RIGHT THROUGH		178
HUME	CROSS TRAFFIC(INTERSECTIONS ONLY)		94
	LEFT OFF CARRIAGEWAY INTO OBJECT/PARKED VEHICLE		113
	REAR END(VEHICLES IN SAME LANE)		455
	RIGHT NEAR (INTERSECTIONS ONLY)		85
	RIGHT THROUGH		125
MELBOURNE	CROSS TRAFFIC(INTERSECTIONS ONLY)		135
	LEFT OFF CARRIAGEWAY INTO OBJECT/PARKED VEHICLE		42
	REAR END(VEHICLES IN SAME LANE)		484
	RIGHT NEAR (INTERSECTIONS ONLY)		40
	RIGHT THROUGH		286

22. Affected cases based on postcodes

Similar to the above map finding, postcode 3175 has recorded the maximum number of affected cases.

Affected cases based on postcodes



23. Number of accidents based on time range

It is quite strange that maximum number of accidents occur during the afternoon period where there is broad day light in most cases.

Number of accidents based on time range

TIME_OF..	Number of Accidents
Morning	17,457
Afternoon	29,240
Night	7,547