

ETHEKWINI TRANSPORT AUTHORITY (ETA)

ROAD ACCIDENT STATISTICS AND ROAD TRAFFIC VOLUMES 2009-2010

This report presents a summary of road traffic accident statistics and road traffic volumes in the eThekweni Municipal Area. Information contained herein may be reproduced provided that the source is acknowledged. The eThekweni Transport Authority cannot be held liable for any consequence arising from the use of this information either direct or otherwise.

All of the road accidents referred to in this report took place on public roadways unless otherwise stated. In recent years there have been some instances of false claims against the Road Accident Fund supported by accident reports with fictitious or inflated personal injuries. This practice may have impacted to a certain extent on casualty statistics for the eThekweni Municipal Area over the past few years.

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INTRODUCTION

This report consists of two sections, Accident Statistics and Traffic Volumes. The Accident Statistics section is based on accident reports submitted to the South African Police Services by members of the public involved in accidents. The accident reports are captured and stored on the Accident Database called "Impact". This database has edit checks for accuracy. Computer tabulations and summaries are again checked for accuracy before information is released or disseminated. It is intended that the information presented in this report will assist road safety practitioners by highlighting some of the road safety problems currently being experienced.

The Traffic Volume section is based on classified vehicle counts at intersections. This type of survey records all the vehicle movements at an intersection classified by car, minibus-taxi, heavy vehicle and bus. Classified intersection surveys are usually conducted during school term from Mondays to Thursdays over a 12-hour period (from 06h00 to 18h00).

1. ACCIDENT STATISTICS

1.1. Trends in Accidents

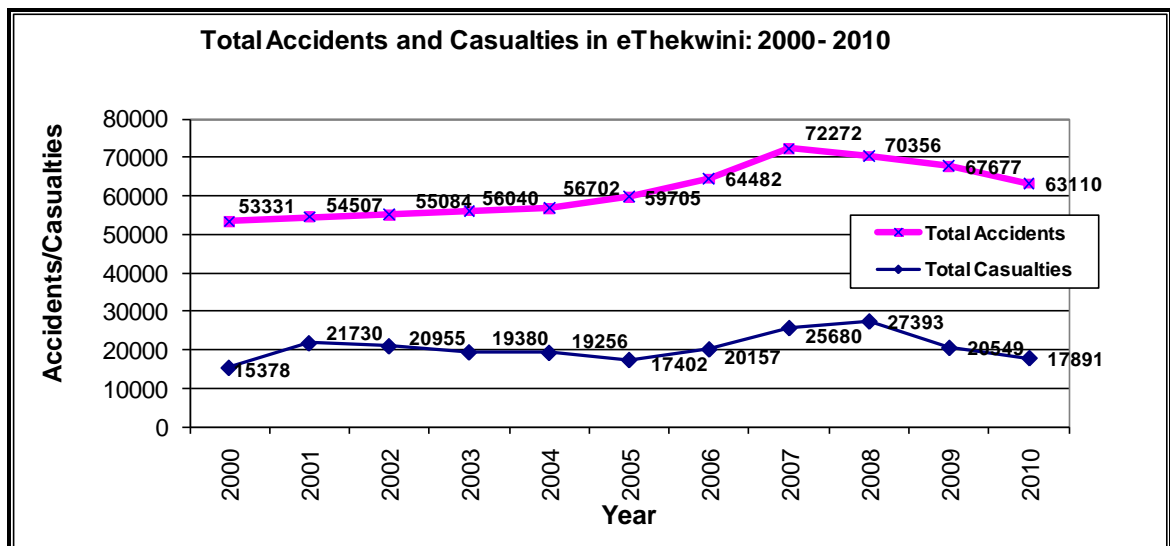
YEAR	NUMBER OF ACCIDENTS				Total Accidents
	Fatal	Serious	Slight	Damage only	
2000	496	2413	7751	42671	53331
2001	537	2620	10312	41038	54507
2002	635	2674	10309	41466	55084
2003	665	2824	9580	42971	56040
2004	720	2826	9467	43689	56702
2005	656	2497	9387	47165	59705
2006	613	3104	10521	50244	64482
2007	605	3659	13901	54107	72272
2008	492	3282	14873	51709	70356
2009	523	3051	11294	52809	67677
2010	532	2611	9467	50500	63110

- There was a slight increase in fatal accidents from 523 in 2009 to 532 in 2010.
- Although the number of fatal accidents increased, there was a statistically significant reduction compared with the average for 2000 to 2009 (594 fatal accidents per year).

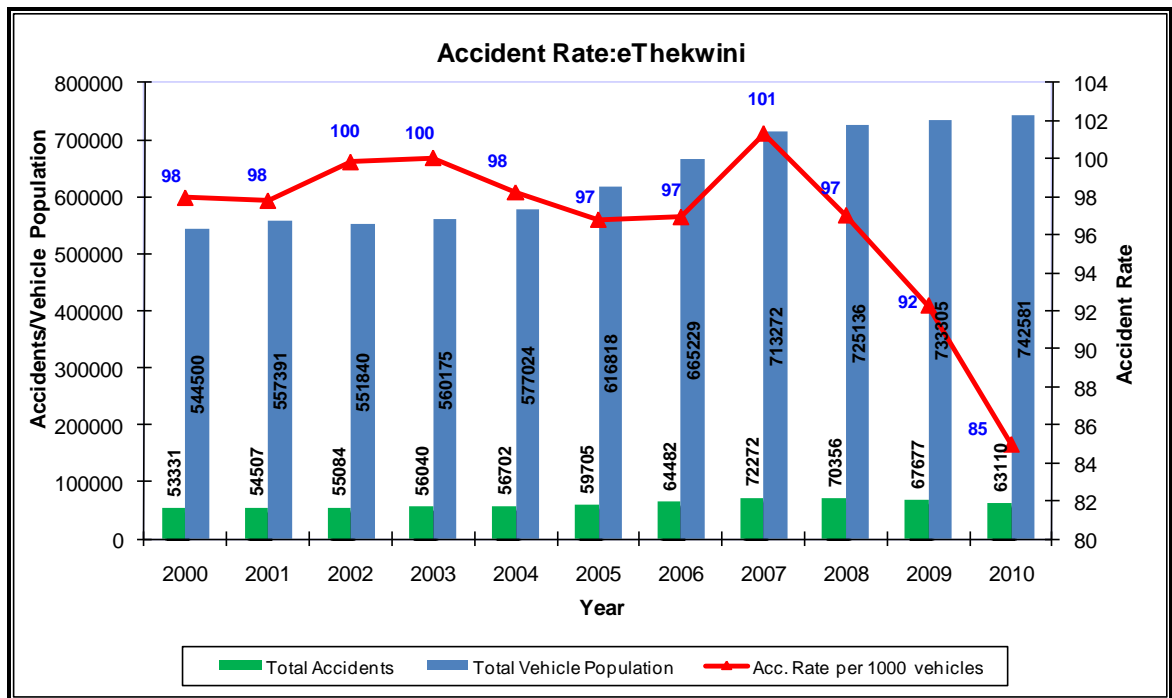
1.2. Trends in Casualties

YEAR	CASUALTIES			
	Fatal	Serious	Slight	Total Casualties
2000	545	3188	11645	15378
2001	609	3715	17406	21730
2002	714	3860	16381	20955
2003	753	3917	14710	19380
2004	789	4048	14419	19256
2005	719	3260	13423	17402
2006	708	4064	15385	20157
2007	683	4790	20207	25680
2008	534	4330	22529	27393
2009	579	4078	15892	20549
2010	578	3564	13749	17891

- There was a decrease in fatalities of 0.1% from 579 in 2009 to 578 in 2010.



- There was a 6.7% decrease in total accidents from 67677 in 2009 to 63110 in 2010.
- Total casualties decreased by 12.9% from 20549 in 2009 to 17891 in 2010.



- The accident rate per 10 000 vehicles has been decreasing steadily from 101 in 2007 to 85 in 2010.

1.3. Accidents by Road Type

There are five main classes of roads:

1. Class 1 – Freeways

These roads carry large volumes of traffic making relatively long distance trips. Generally the physical characteristics are divided (dual) carriageways with grade separated intersections, a 120km/h design speed and they have no direct access to properties.

2. Class 2 – Arterials

These roads supplement freeways forming the primary road network within an urban area. The physical characteristics are divided (dual) carriageways or at least 4 lane roads, intersections are usually at grade and signal controlled, 80km/h design speed, limited access to properties often via parallel service roads.

3. Class 3 – Distributors

These roads distribute traffic between the various major land-use development areas linking arterials and freeways to the Class 4 roads. These roads have slightly lower design standards/capacities than major arterials with correspondingly lower running speeds and traffic volumes.

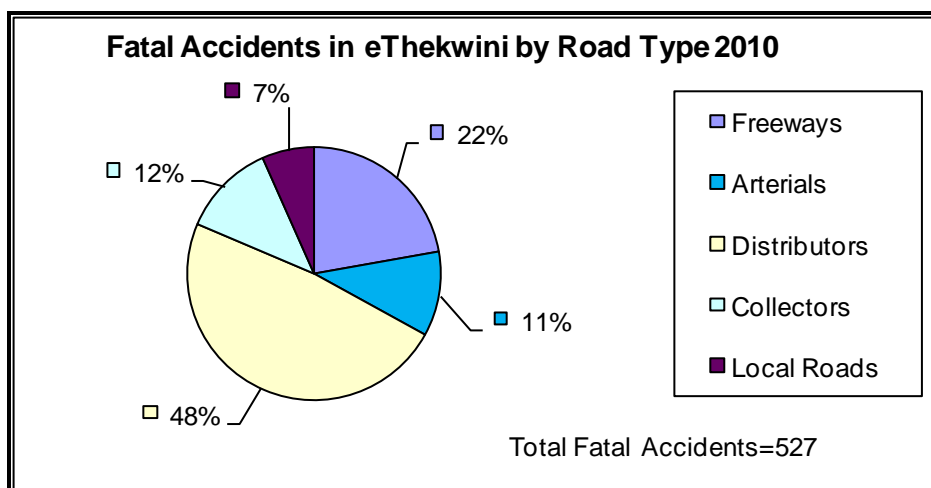
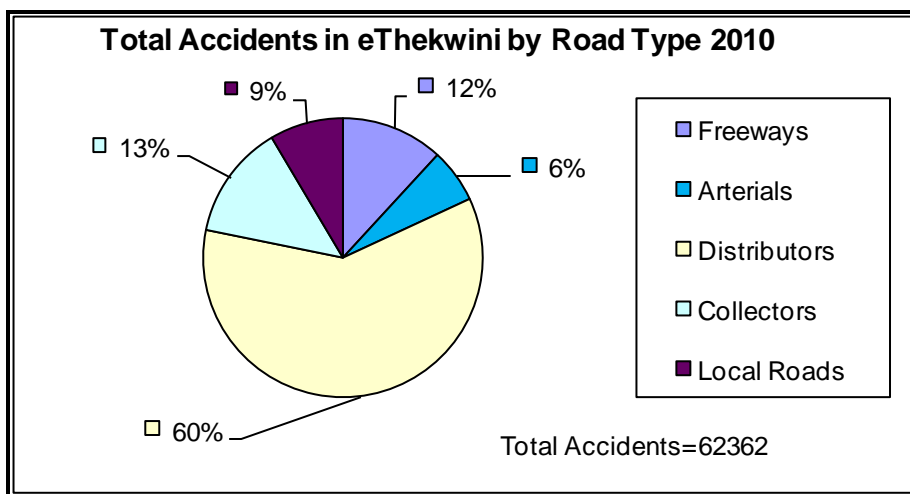
4. Class 4 –Collectors

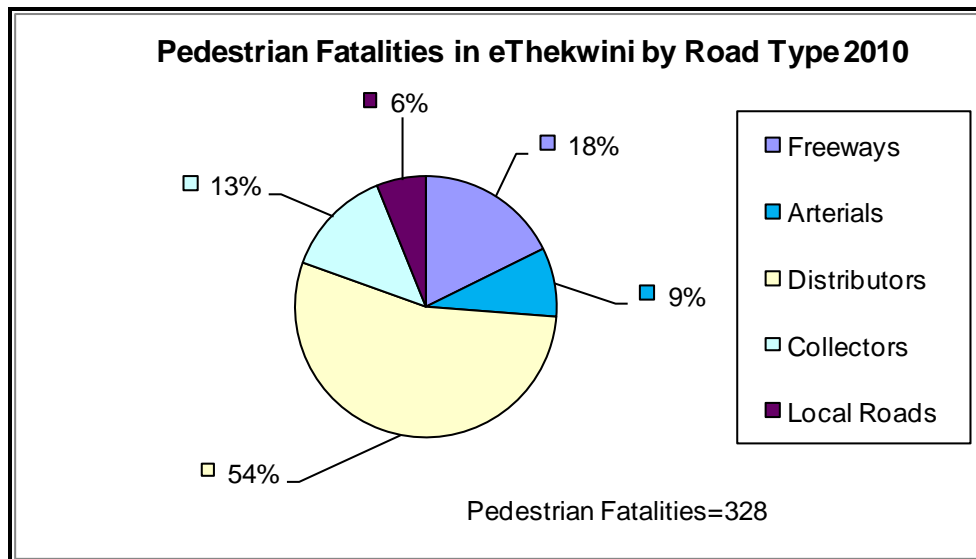
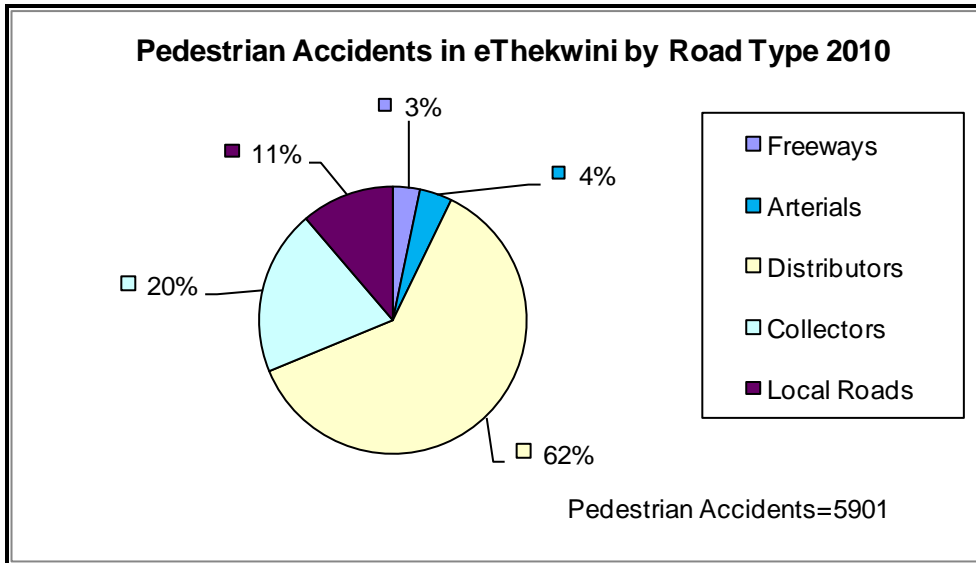
These roads distribute traffic within the residential development areas and in fact are the “main roads” in such areas providing the main circulation routes within residential areas. The physical characteristics are single carriageway roads two lanes wide.

5. Class 5 – Local Roads

These roads provide access to residential properties. The physical characteristics are single carriageway roads two (or sometimes less) lanes wide.

The following pie charts depict the total accidents, fatal accidents, pedestrian accidents and pedestrian fatalities reported in eThekweni during 2010 according to the type of road on which they have occurred.

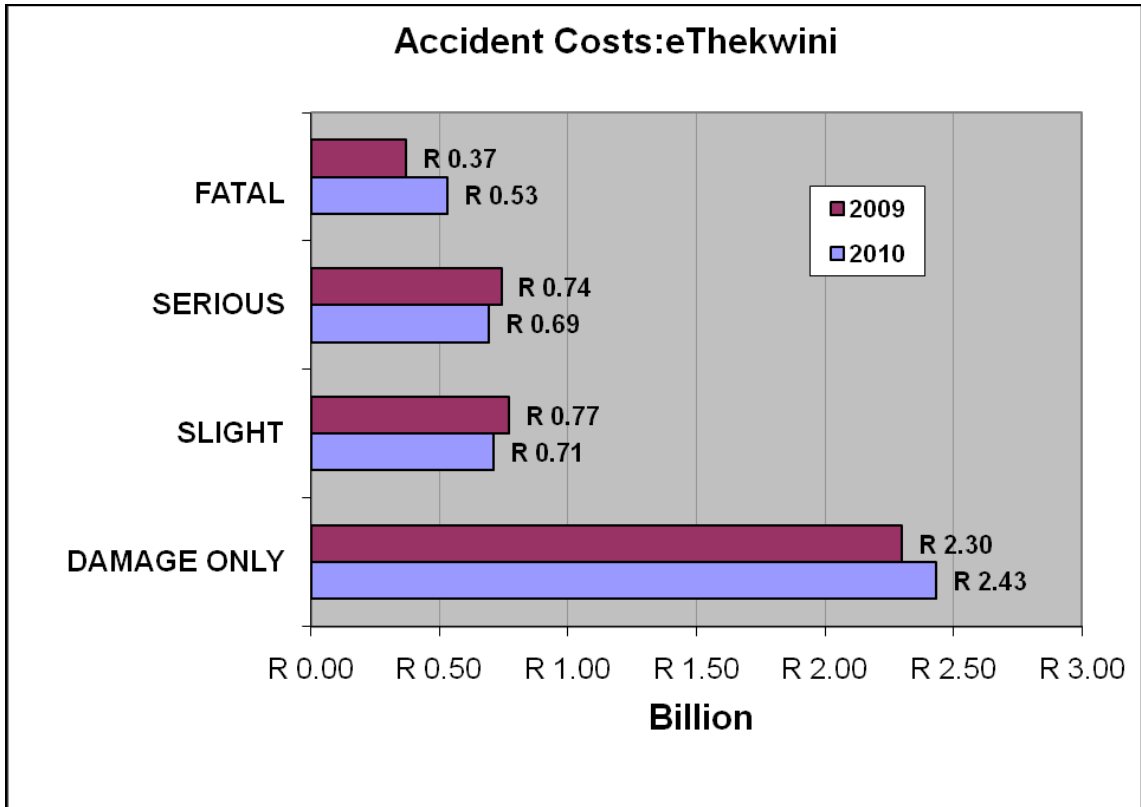




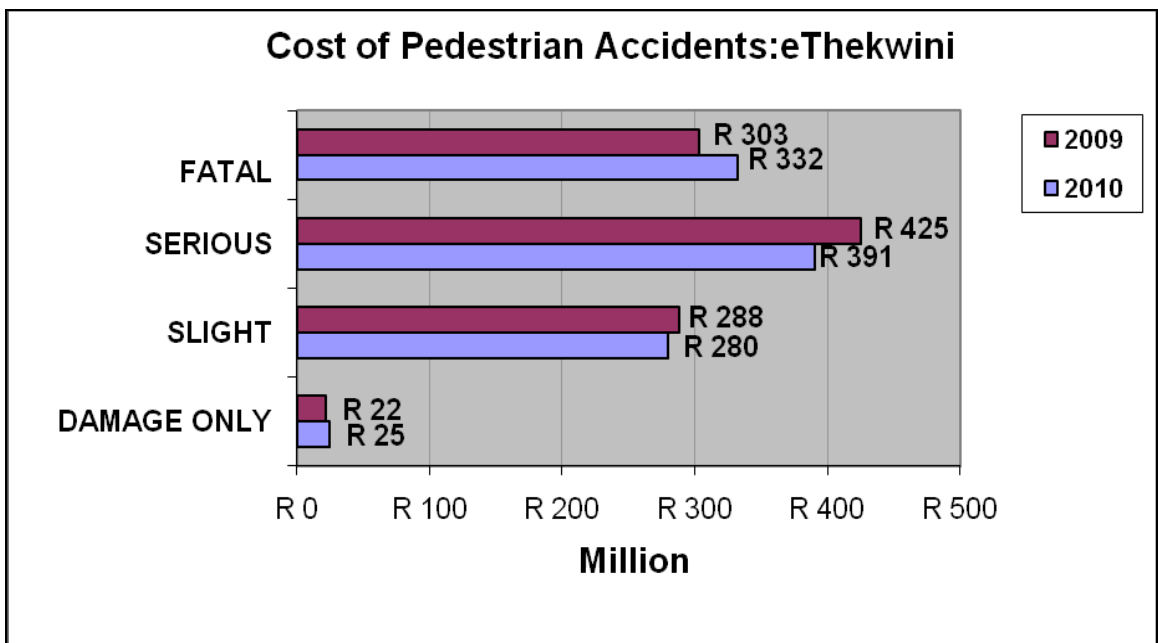
Overall the majority of accidents occurred on distributor roads. Freeways generally accounted for a small proportion of accidents but a significant proportion of these accidents were fatal. Pedestrians accounted for the majority of fatalities. A quarter of pedestrian fatalities occurred on freeways, highlighting the problem of pedestrian activity on freeways.

1.4. Accident Costs

During 2010 the estimated cost of all accidents was R12 million per day. The accident costs used are based on a model developed by the CSIR. This 'cost' is derived by assigning a monetary value in rands to accidents of varying degree using variables such as medical costs, vehicle damage, property damage but excluding hidden costs such as trauma, grief, suffering, etc since these are difficult to quantify.



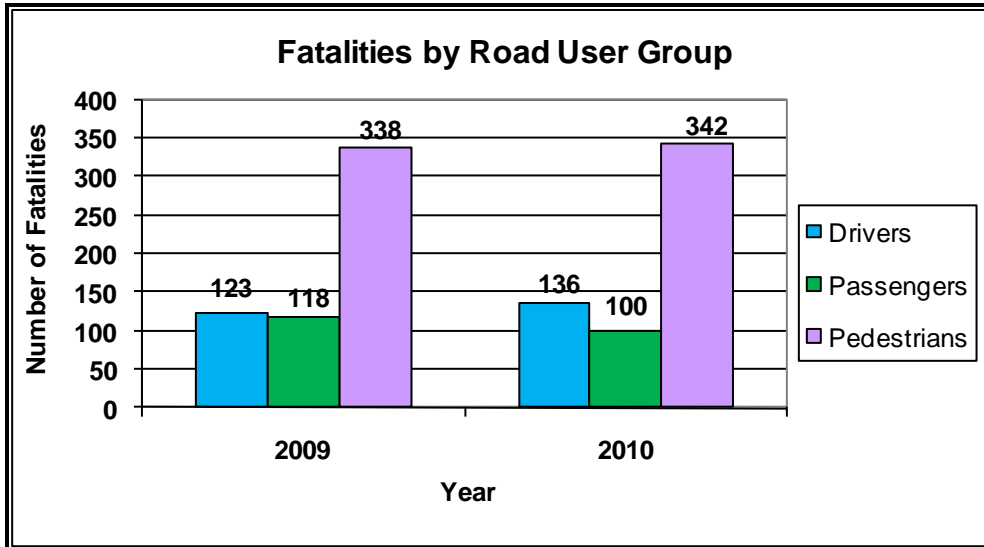
Damage only accidents are accidents where no personal injury occurred. This type of accident continues to account for approximately 50% of all accident costs.



Pedestrian accidents account for approximately 50% of the cost of accidents involving injury.

1.5. Fatalities by Road User Group

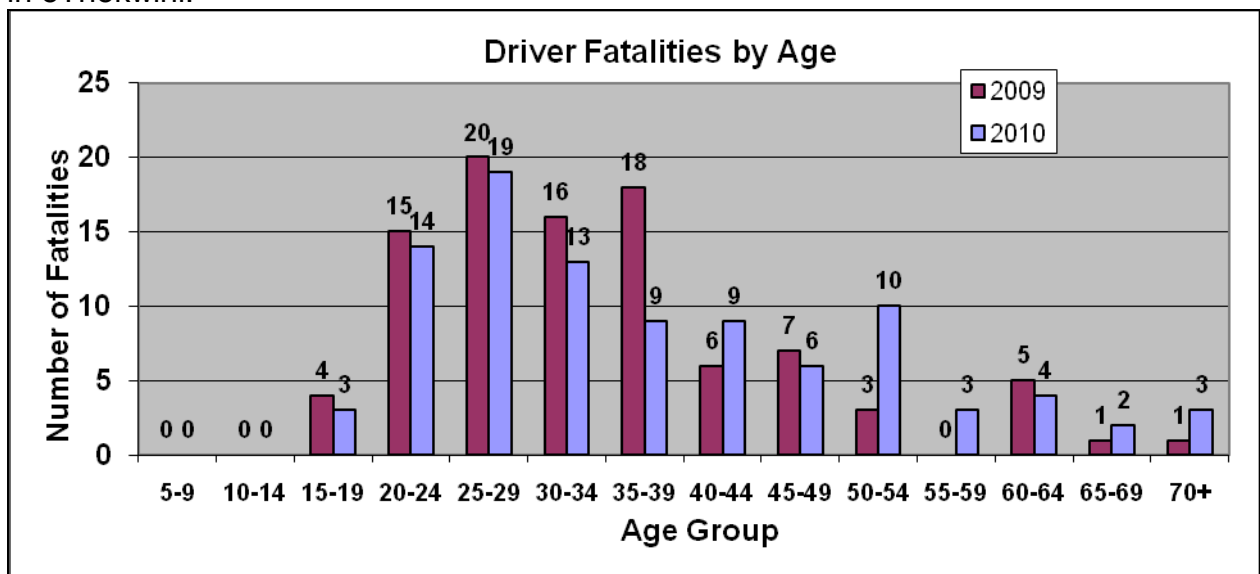
The number of fatalities per road user group is shown in the following histogram:



Pedestrian fatalities increased by 1.1% from 338 in 2009 to 342 in 2010, passenger fatalities decreased by 15% from 118 in 2009 to 100 in 2010 and the number of driver fatalities increased by 11% from 123 in 2009 to 136 in 2010.

1.6. Fatalities by Road User Group by Age

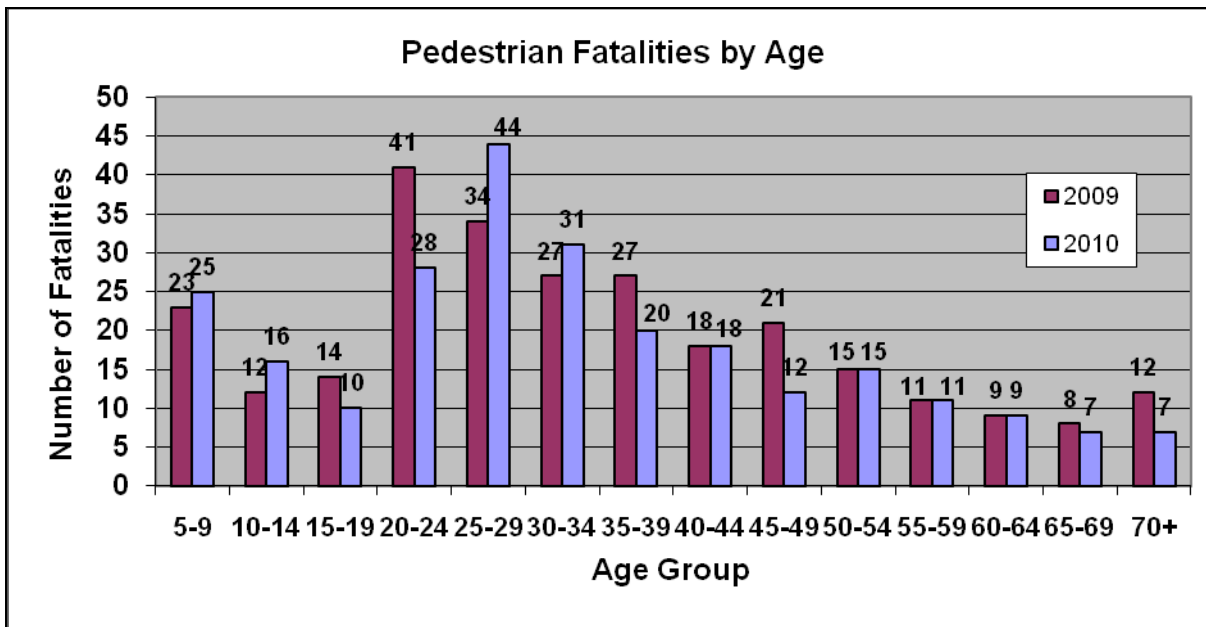
The following chart shows the fatalities by age for drivers involved in all accidents in eThekweni:



The highest number of driver fatalities reported in 2009 and 2010 was in the 25 to 29 age category.



Twenty-one percent of the passenger fatalities in 2009 were in the 20 to 24 age category, whilst the highest number of passenger fatalities reported in 2010 was in the 20 to 24 and 25 to 29 age categories which equates to 16% and the second highest age category being the 15 to 19 age category with 15%. The total passenger fatalities were 90 in 2009 and 73 in 2010 reflecting a 19% decrease.



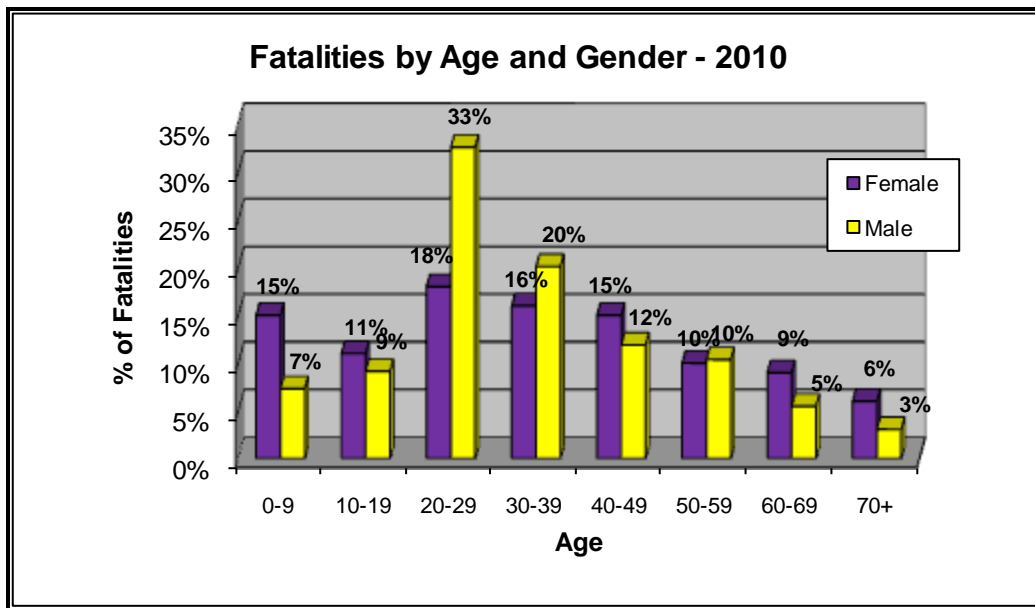
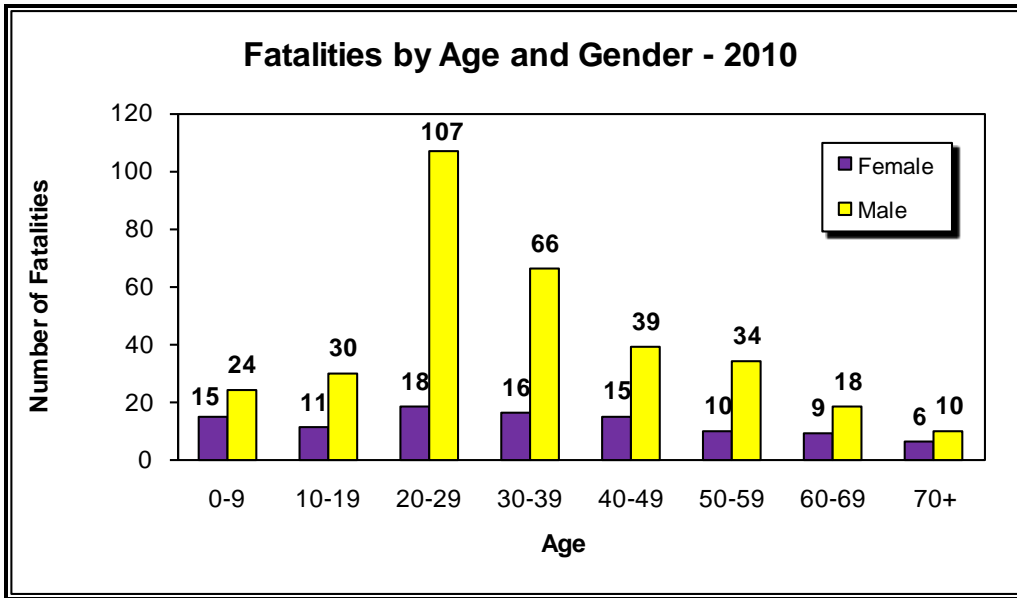
During 2009, the 20 to 24 age category accounted for 15% of pedestrian fatalities. In 2010 the highest number of pedestrian fatalities occurred in the 25 to 29 age category (17%), whilst 12% occurred in the 30 to 34 age group. The total pedestrian fatalities were 272 in 2009 and 253 in 2010 reflecting a 7% decrease.

Overall, the number of fatalities in 2010 shows a decrease. The distribution of fatalities by age, however, continues to show that the 20 to 34 age group accounts for a disproportionate share of driver, passenger and pedestrian fatalities.

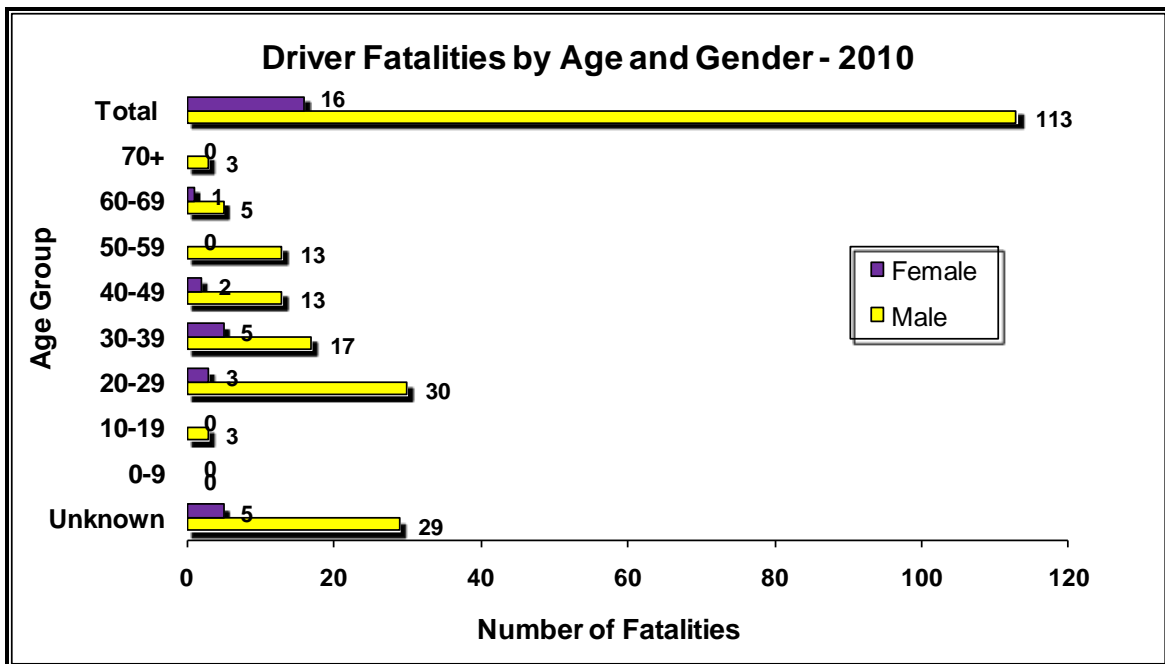
1.7. Fatalities by Age and Gender

The number of persons killed in collisions in 2010 is shown by age and gender in the accompanying table. There were 417 males versus 125 females killed. Thirty three percent of males killed in traffic collisions in 2010 were in the 20 to 29 year old age group, whilst 18% of the females killed were in the 20 to 29 year old age group.

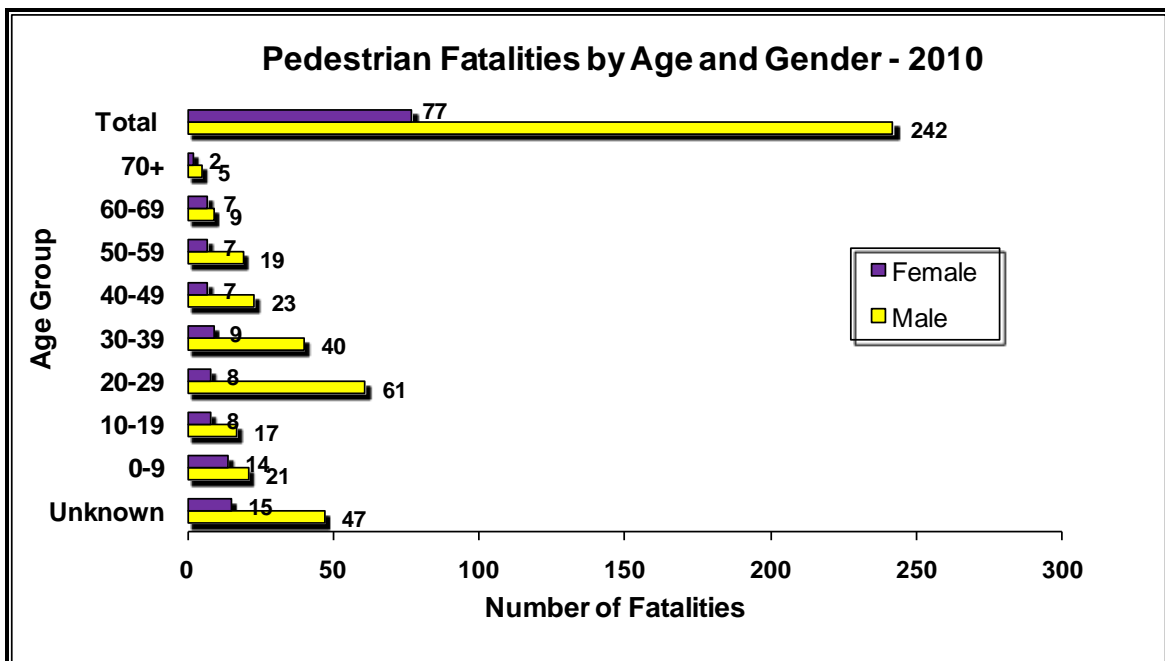
AGE	FEMALE	MALE	UNKNOWN	TOTAL
0-9	15	24	2	41
10-19	11	30	1	42
20-29	18	107	4	129
30-39	16	66	2	84
40-49	15	39	0	54
50-59	10	34	0	44
60-69	9	18	0	27
70+	6	10	1	17
Unknown Age	25	89	26	140
Total	125	417	36	578



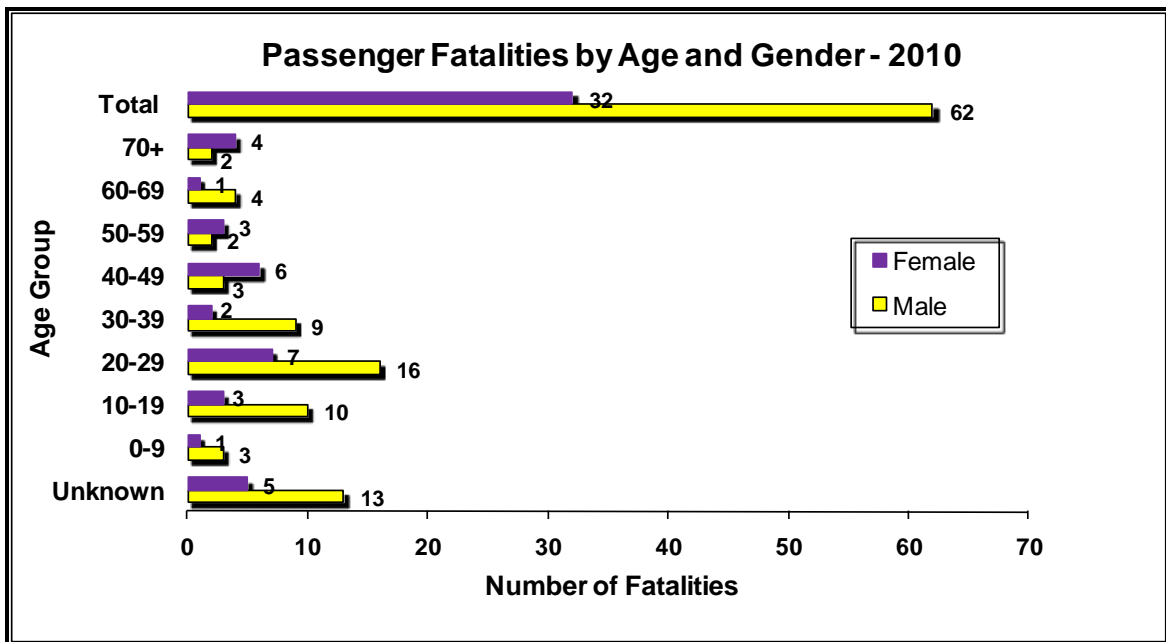
In 2010, over 500 fatalities occurred on the roads in eThekweni. Although males account for around half of the population they account for three quarters of these fatalities. Considering the distribution by age, female fatalities were unevenly distributed up to the age of 30 and this age group accounts for half of the female fatalities. However, the majority of male fatalities were between the ages of 20 to 39, displaying a skewed distribution.



The highest numbers of female driver fatalities during 2010 were in the 30 to 39 age category (31%), whilst the highest number of male driver fatalities was in the 20 to 29 age category (27%). It is however important to note that there was a high percentage of unknown driver fatalities.



In 2010 over 300 pedestrian fatalities occurred, accounting for two thirds of all road accident fatalities in eThekweni. Again males accounted for a disproportionately high number of these fatalities.



The highest numbers of female passenger fatalities during 2010 were in the 20 to 29 age category (22%), whilst the highest number of male passenger fatalities was also in the 20 to 29 age category (26%). It is however important to note that there was a high percentage of unknown passenger fatalities.

1.8. Child and Adult Casualties related to Mode of Travel

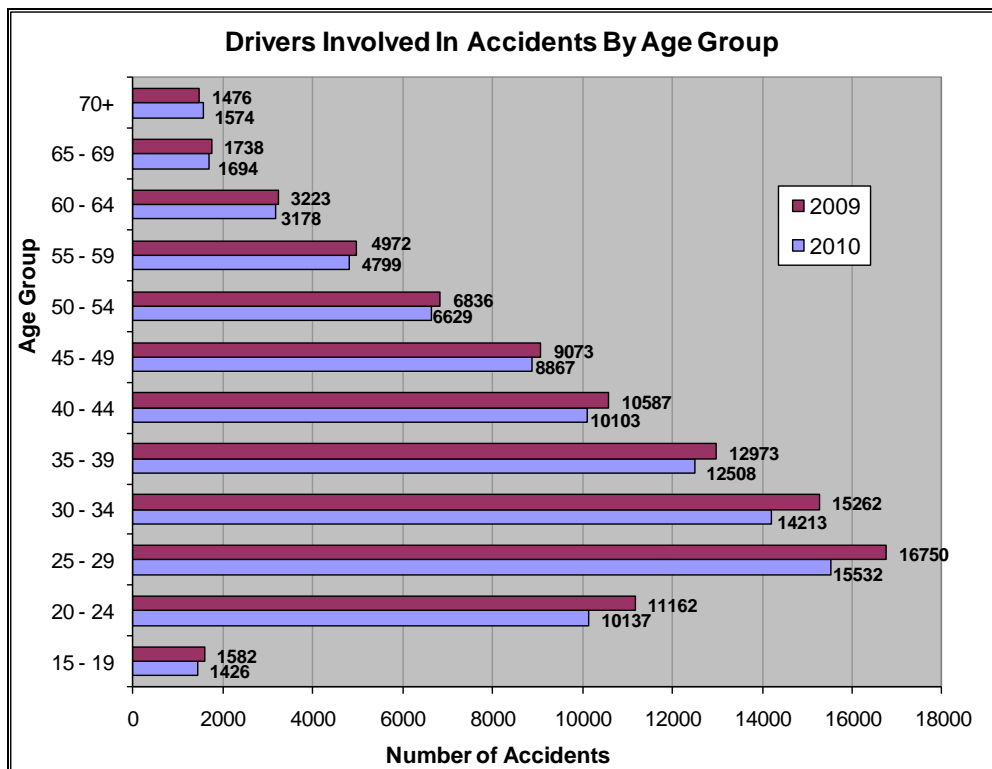
	CHILDREN (16 AND UNDER)						ADULTS (OVER 16)					
	TOTAL		DEATHS		INJURED		TOTAL		DEATHS		INJURED	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
MOTOR CAR	300	252	14	6	286	246	8064	6558	111	130	7953	6428
COMBI/MINIBUS/ MINIBUS TAXI	62	73	2	0	60	73	2109	2303	18	21	2091	2282
LIGHT DELIVERY VAN	67	67	6	1	61	66	2021	1775	54	42	1967	1733
HEAVY GOODS VEHICLE	7	4	2	0	5	4	282	293	9	15	273	278
BUS	1	2	0	0	1	2	117	186	3	3	114	183
MOTOR CYCLE	7	4	1	0	6	4	321	404	8	15	313	389
BICYCLE	15	8	1	0	14	8	107	107	4	2	103	105
PEDESTRIAN	1069	1119	48	59	1021	1060	5318	4604	281	283	5037	4321
OTHER	1	1	0	0	1	1	5	15	0	0	5	15
UNKNOWN	4	2	0	0	4	2	52	17	1	1	51	16
TOTAL	1533	1532	74	66	1459	1466	18396	16262	489	512	17907	15750

Total child casualties decreased by 0.06% from 2009 to 2010. The total number of child deaths (16 and below) decreased by 11% from 74 in 2009 to 66 in 2010. A 12% decrease has occurred in the adult casualties from 18396 in 2009 to 16262 in 2010. The number of adult deaths shows an increase of 5% from 489 in 2009 to 512 in 2010. Adult driver casualties by motor car decreased by 18% from 6423 in 2009 to 5241 in 2010.

Adult passenger casualties by motor car decreased by 20% from 1641 in 2009 to 1317 in 2010, adult passenger casualties by combi/minibus/minibus taxi increased by 25% from 1257 in 2009 to 1566 in 2010, and adult passenger casualties by bus increased by 100% from 72 in 2009 to 144 in 2010.

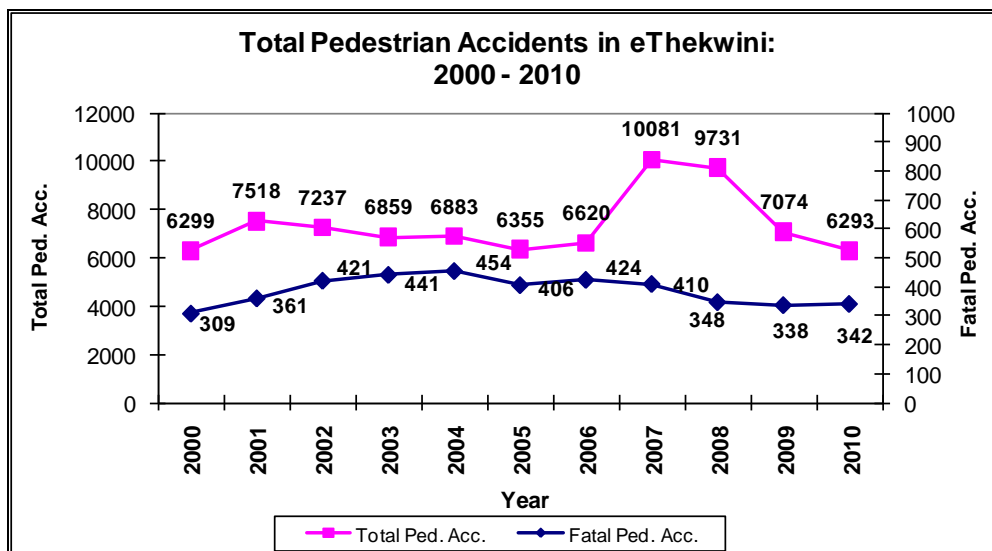
Child passenger casualties by motor car decreased by 16% from 300 in 2009 to 252 in 2010, child passenger casualties by combi/minibus/minibus taxi increased by 18% from 62 in 2009 to 73 in 2010, and child passenger casualties by bus increased by 100% from 1 in 2009 to 2 in 2010.

1.9. Drivers Involved in Accidents by Age Group



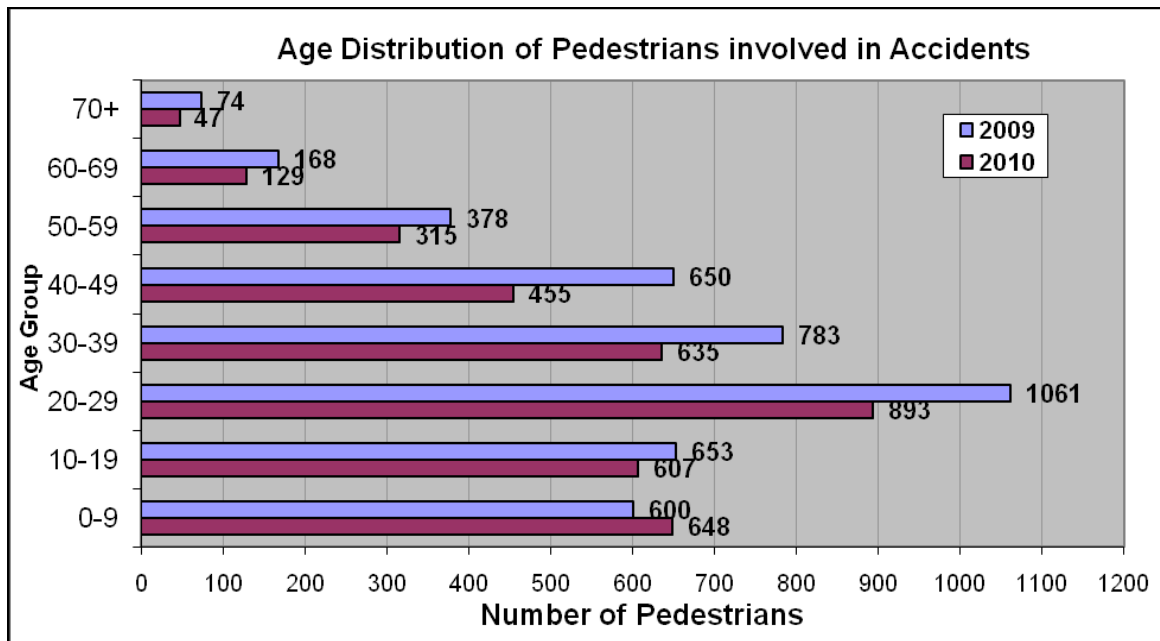
The highest number of accidents involved drivers in the 25 to 39 age category in both 2009 and 2010. There was a 5% decrease in the total number of drivers involved in accidents from 94174 in 2009 to 89093 in 2010.

1.10. Trends in Pedestrian Accidents

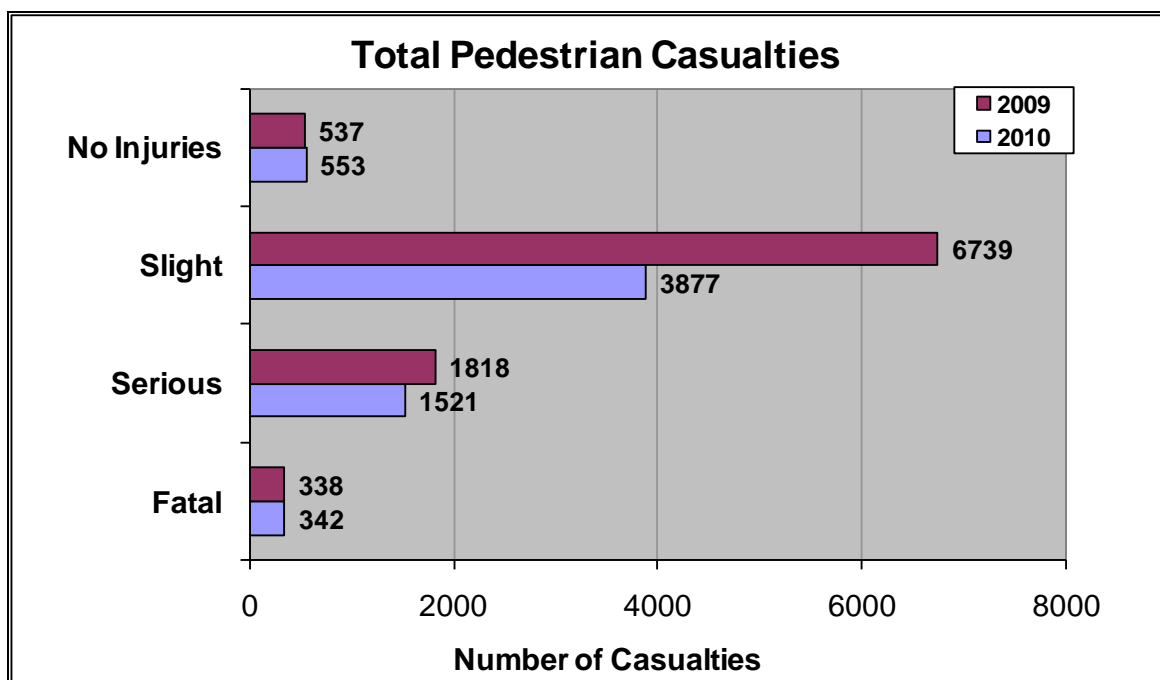


The high number of pedestrians involved in accidents is a cause for concern, there is on average 20 pedestrian accidents per day and 1 pedestrian killed every day. During 2009, 7074 pedestrians were involved in accidents of which 338 died and 1818 were seriously injured. In 2010, 6293 pedestrians were involved in accidents of which 342 pedestrians died and 1521 were seriously injured.

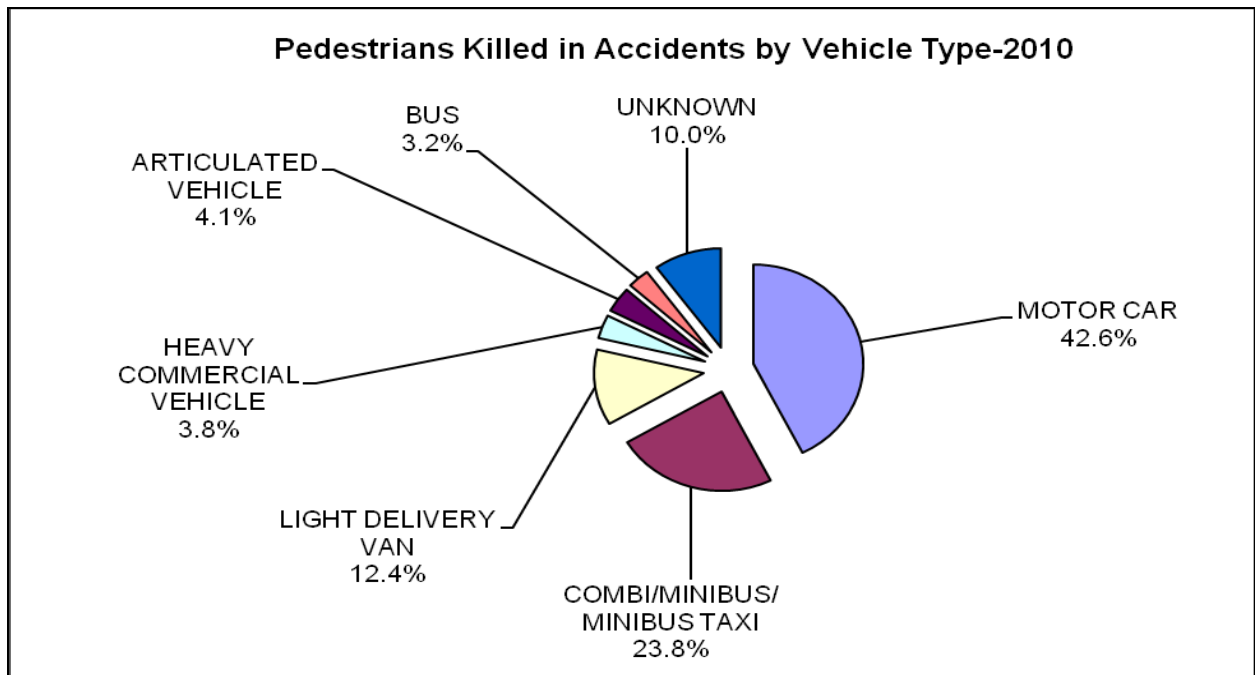
1.11. Age Distribution of Pedestrians involved in Accidents



1.12. Total Pedestrian Casualties

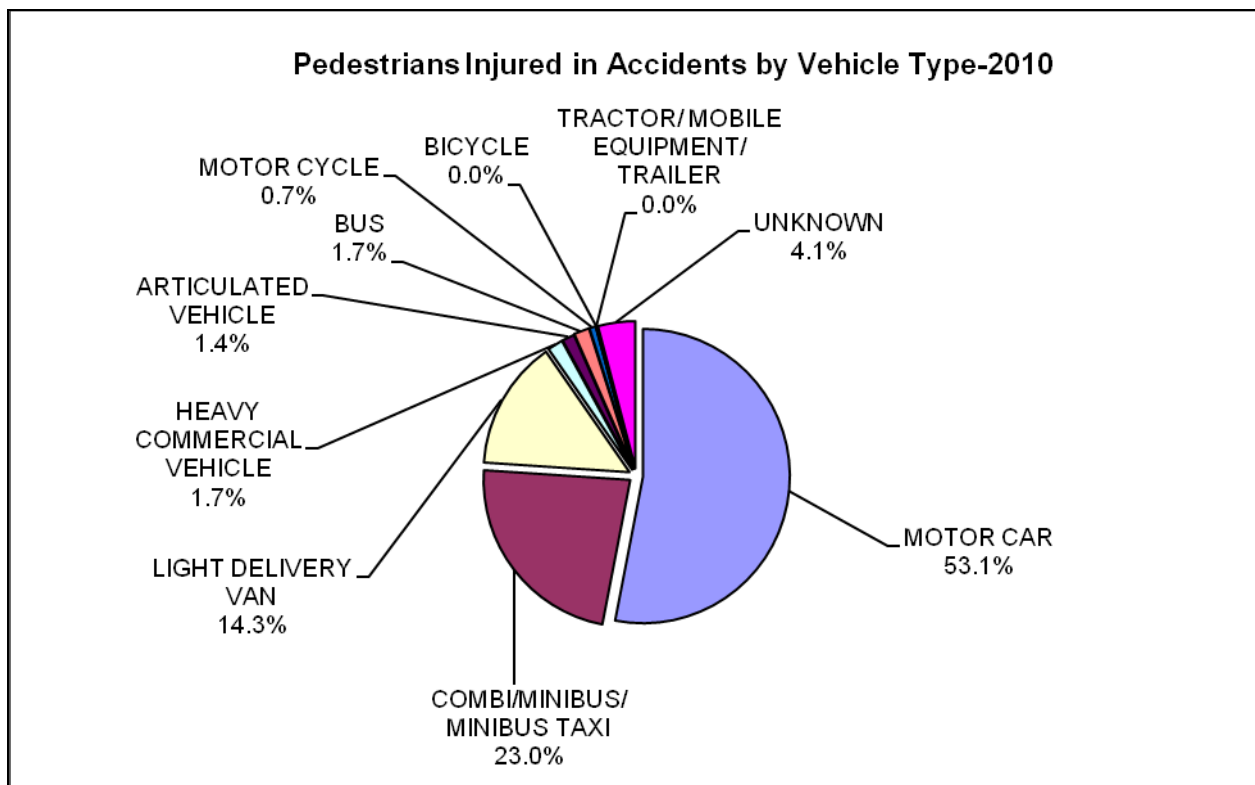


1.13. Pedestrians Killed in Accidents by Vehicle Type-2010



Forty three percent of pedestrians killed were by motor cars, 24% killed were by combi/minibus/minibus taxis and 12% of the pedestrians killed were by light delivery vans during 2010.

1.14. Pedestrians Injured in Accidents by Vehicle Type-2010



Motor cars, combi/minibus/minibus taxi and light delivery vehicles are mostly involved in pedestrian accidents. Fifty three percent of pedestrians were injured in

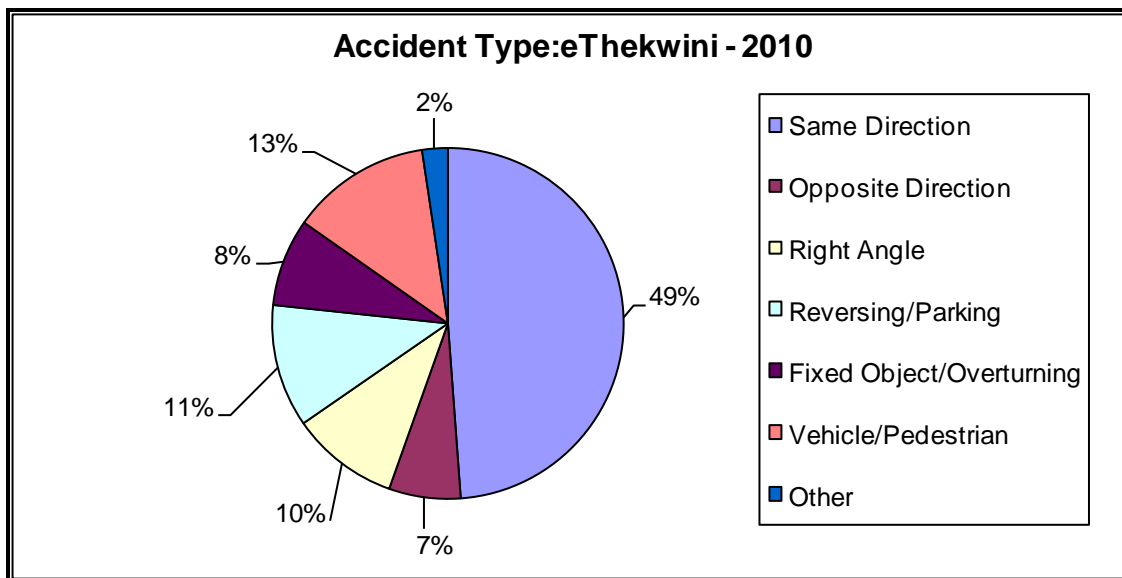
accidents by motor cars, 23% by combi/minibus/minibus taxi, 14% by light delivery van and 2% by bus.

Analysis reveals that 21 percent of the pedestrians involved in accidents were children thereby making them a high-risk category. To reduce the high occurrences of pedestrian accidents and to increase road safety awareness, the ETA has implemented the Road Safety School Awareness campaign at various primary schools within the eThekweni Municipal Area. The programme commenced in 2005 and is ongoing. The School's Road Safety Campaign aims to educate school children in order to reduce the number of pedestrian accidents occurring in residential areas. This is done via a road safety drama presentation. The Road Safety Drama presentation teaches the correct procedure to follow when crossing the road and when travelling in or alighting from and boarding buses and taxis. This programme is presented in a fun filled manner that is both stimulating and interactive for the learners. Approximately 559 000 learners have been exposed to the road safety drama presentation thus far with a majority of the schools having been completed.

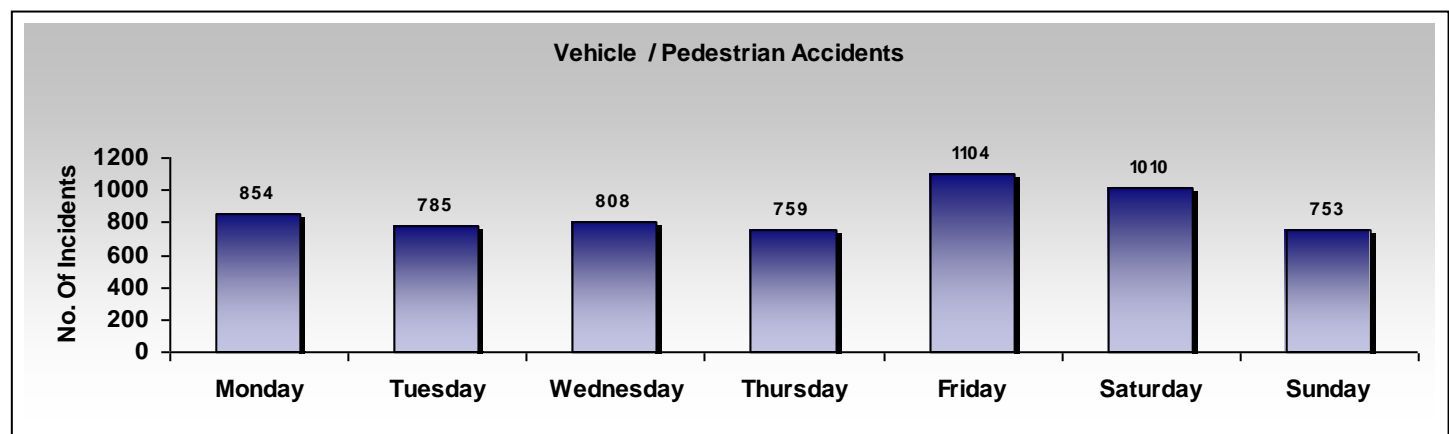
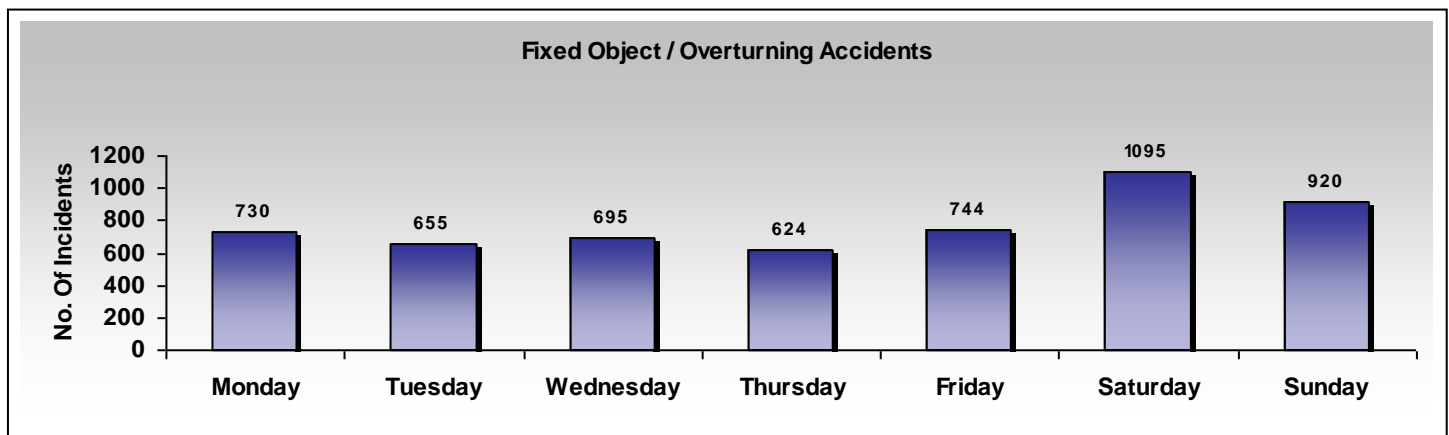
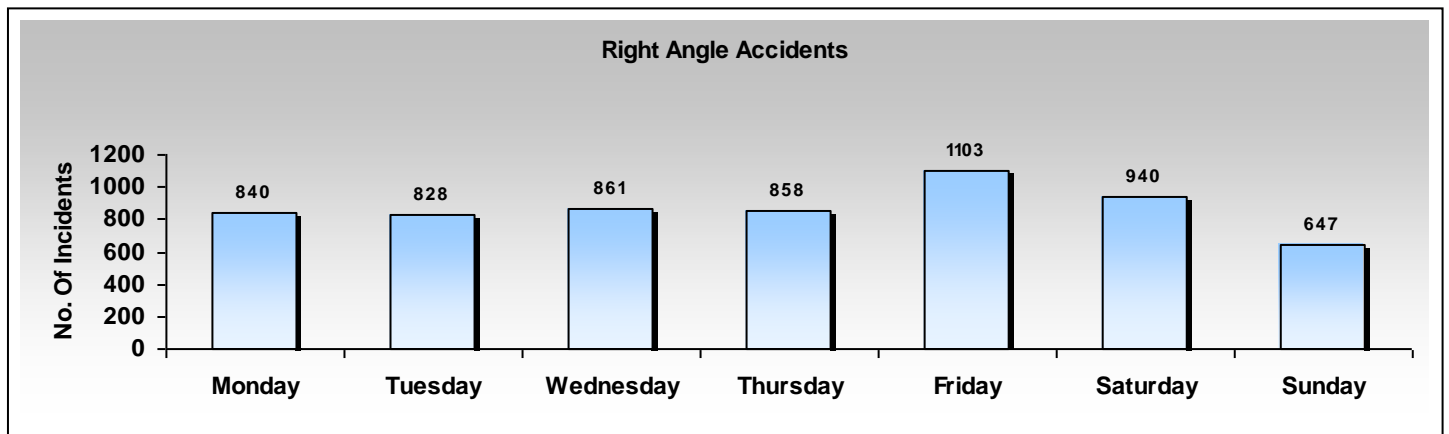
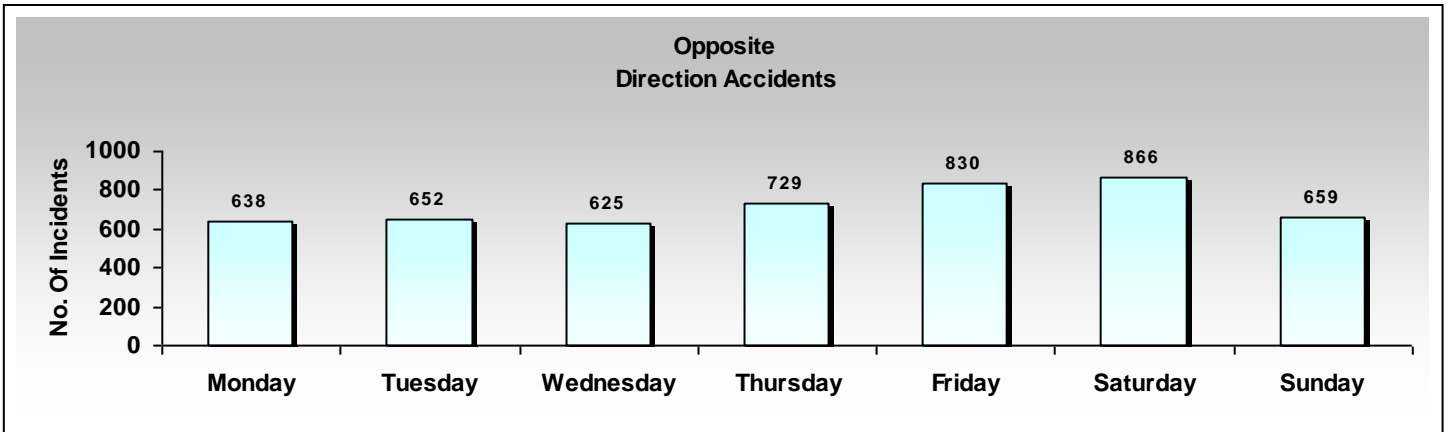
1.15. Vehicle Accidents by Type

The classification of the accident type is based upon the traffic movements leading up to the conflict situation. In 2010, 50% of all accidents in eThekweni were of the same direction accident type whilst the second highest were the vehicle pedestrian accidents which constituted 13% of the total accidents. Vehicle/pedestrian accidents are a cause for concern as they account for the highest number of fatalities.

2010	TOTAL ACCIDENTS	% OF ALL	FATAL ACCIDENTS	SERIOUS INJURY ACCIDENTS
Same Direction	31322	49.6%	28	299
Opposite Direction	4841	6.7%	45	240
Right Angle	6077	10.1%	13	187
Reversing/Parking	7402	11.5%	2	30
Fixed Object/Overturning	5463	8.2%	105	310
Vehicle/Pedestrian	6073	13.1%	331	1486
Other	1932	2.4%	8	59
TOTAL	63110	101.6%	532	2611



1.16. Accident Type by Day of Week

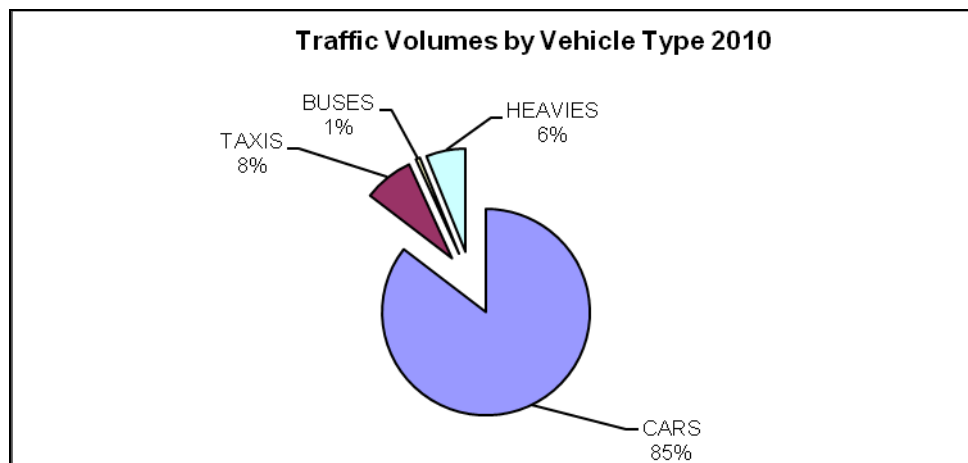
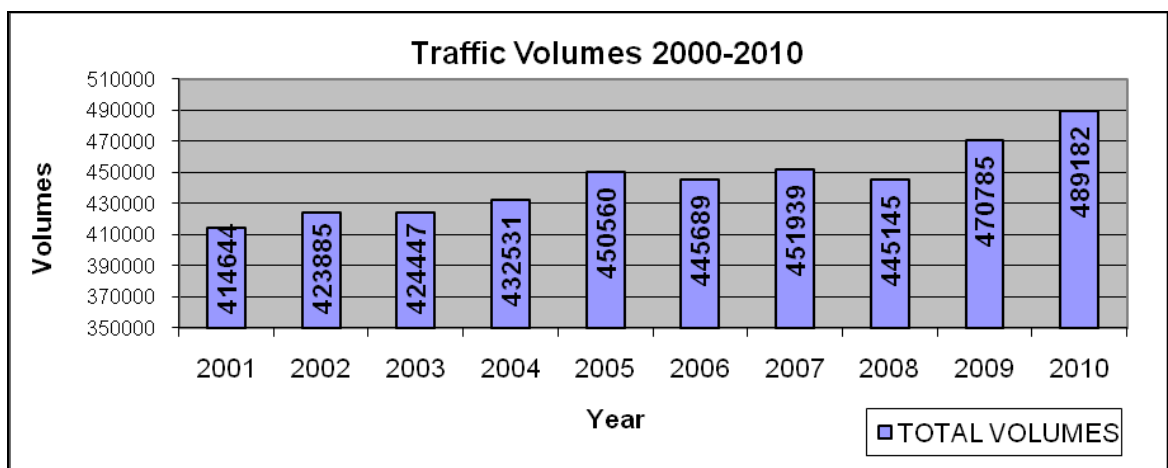


2. TRAFFIC VOLUMES

2.1. Traffic Volume Growth

The following table shows the traffic volume growth for the period 2001 through to 2010 in the eThekweni Municipal Area. The figures were derived from two-way counts conducted over a 12 hour period of vehicles accessing the central area of the city.

YEAR	CARS	TAXIS	BUSES	HEAVIES	2 WAY TOTAL VOLUMES
2001	361011	26802	6641	20190	414644
2002	366770	30357	5802	20956	423885
2003	366643	30404	5231	22169	424447
2004	367641	34266	5824	24800	432531
2005	384660	33846	5612	26442	450560
2006	378934	32763	5431	28561	445689
2007	384212	32548	5510	29669	451939
2008	376839	34187	4446	29673	445145
2009	402043	36617	3108	29017	470785
2010	415149	39845	4640	29548	489182



2.2. Top 10 Busiest Signalised Intersections for all Vehicles in eThekweni

RANK	LOCATION	12 HOUR VOLUME 06:00 TO 18:00	NUMBER OF ACCIDENTS (2010)
1	MR94 (M41) and Outer Ring Road (N2) (West)	68100	78
2	Sandile Thusi Road(Argyle Road) (M17) and Stalwart Simelane Street (Stanger Street) (M4)	67000	185
3	Umgeni Road (M19) and Outer Ring Road (N2) (East)	66300	199
4	Chris Hani Road (North Coast Road) (R102) and Sea Cow Lake Road (M21)	65800	47
5	Solomon Mahlangu Drive (Edwin Swales Drive) (M7) and South Coast Road	64400	256
6	M19 and Outer Ring Road (N2) (West)	64200	142
7	MR94 (M41) and Outer Ring Road (N2) (East)	62800	47
8	Umgeni Road (R102) and Smiso Nkwananya Road (Goble Road)	59800	143
9	Umgeni Road (M19) and Alpine Road (M10)	57800	123
10	Umgeni Road (R102) and Sandile Thusi Road(Argyle Road) (M17)	56600	120

2.3. Top 10 Busiest Intersections by Vehicle Type

BUSES

RANK	LOCATION	12 HOUR VOLUME 06:00 TO 18:00
1	Johannes Nkosi Street (Alice Street) (R102) and Ingcuce Road (Albert Street) (R102)	2506
2	David Webster Street (Leopold Street) (M4) (R102) and Joe Slovo Street (Field Street)	2431
3	Dr Yusuf Dadoo Street (Grey Street) and Charlotte Maxeke Street (Beatrice Street)	2339
4	David Webster Street (Leopold Street) (M4) (R102) and Julius Nyerere Avenue (Warwick Avenue) (M4) (R102)	2240
5	Braam Fischer Road (Ordinance Road) (M4) and Soldiers Way	1989
6	Umgeni Road (R102) and Smiso Nkwananya Road (Goble Road)	1944
7	Umgeni Road (M19) and K E Masinga Road (Old Fort Road) (M4)	1827
8	Market Road (M4) and Johannes Nkosi Street (Alice Street) (M4)	1709
9	Ingcuce Road (Albert Street) and Charlotte Maxeke Street (Beatrice Street)	1685
10	Soldiers Way and Dr Goonam Street (Prince Edward Street)	1674

TAXIS

RANK	LOCATION	12 HOUR VOLUME 06:00 TO 18:00
1	Johannes Nkosi Street (Alice Street) (M4) (R102) and Julius Nyerere Avenue (Warwick Avenue) (M4) (R102)	15347
2	David Webster Street (Leopold Street) (M4) (R102) and Julius Nyerere Avenue (Warwick Avenue) (M4) (R102)	14994
3	Josiah Gumede Road (Old Main Road-Pinetown) (M31) and Anderson Road	14080
4	Market Road (M4) and David Webster Street (Leopold Street) (M4)	14063
5	Market Road (M4) and Johannes Nkosi Street (Alice Street) (M4)	13468
6	David Webster Street (Leopold Street) (M4) (R102) and Joseph Nduli Street (Russel Street)	12486
7	Braam Fischer Road (Ordinance Road) (M4) and Soldiers Way	12227
8	Johannes Nkosi Street (Alice Street) (R102) and Ingcuze Road (Albert Street) (R102)	11484
9	Umgeni Road (M19) and KE Masinga Road (Old Fort Road) (M4)	10806
10	Dr Yusuf Dadoo Street (Grey Street) and Dr Pixley kaSeme Street (West Street)	10802

HEAVIES

RANK	LOCATION	12 HOUR VOLUME 06:00 TO 18:00
1	Solomon Mahlangu Drive (Edwin Swales VC Drive) (M7) and South Coast Road	10306
2	Solomon Mahlangu Drive (Edwin Swales VC Drive) (M7) and Wakesleigh Road (M10)	7195
3	South Coast Road and Bayhead Road	7160
4	Solomon Mahlangu Drive (Edwin Swales VC Drive) (M7) and Outer Ring Road (N2) (East)	7146
5	Solomon Mahlangu Drive (Edwin Swales VC Drive) (M7) and Titren Road	6909
6	Bayhead Road (M9) and Langeberg Road	6778
7	M7 and Outer Ring Road (N2) (West)	6502
8	Bayhead Road (M9) and Wagtail Road	6206
9	Solomon Mahlangu Drive (Edwin Swales VC Drive) (M7) and Recreation Road	6087
10	South Coast Road (R102) and Transnet	6023