



City of Ryde

Crash Analysis Report

Ryde LGA

2000-2004

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PART 1

Introduction

The City of Ryde is committed to making its roads a safe environment to be. Better understanding of road safety issues and solutions is important in achieving our goal.

In the City of Ryde there are five main concerns when dealing with road safety. They are speeding, pedestrians, drink driving, occupant restraints, and young drivers. Promoting community-based action underlies these issues at the local level.

The Challenge

The City of Ryde commenced involvement with the NSW Local Government Road Safety Program in 1999 with the employment of a full-time Road Safety Officer. The challenge is to address the road safety issues within Ryde, by raising community awareness through enforcement, education and engineering efforts to make the roads a safer place to be.

Objectives of Action Plan

Road safety is an issue for all members of the Ryde community. The City of Ryde is committed to road safety and the Road Safety Action Plan will help to ensure our objectives are met. These objectives are stated in each road safety project initiative outlined in the Action Plan. They have been decided, based on the crash data evaluation of the City of Ryde. The activities of the Road Safety Action Plan aim to reduce the casualties on Ryde roads by educating the community and thereby changing driver and pedestrian behaviour.

The actions outlined in the Plan reflect both the commitment of the State Government and that of the City of Ryde.

PART 2

Ryde Demographic Data

The City of Ryde has an area of 40.651kms² and lies in the central northern part of the Sydney Metropolitan area, approximately 12kms from the centre of Sydney.



Figure 1: The location of the City of Ryde

The City occupies most of the divide between the Parramatta and Lane Cove rivers, and has 16 suburbs within its boundaries. The suburbs that make up the City of Ryde include Chatswood West, Denistone, Denistone East, Denistone West, East Ryde, Eastwood, Gladesville, Macquarie Park, Marsfield, Meadowbank, Melrose Park, North Ryde, Putney, Ryde, Tennyson Point, and West Ryde.

The traditional Aboriginal owners of the land are the Wallumedegal clan of the Dharug tribe. Aboriginal sites in the City are predominantly located around the foreshores of the Parramatta River and Lane Cove River.

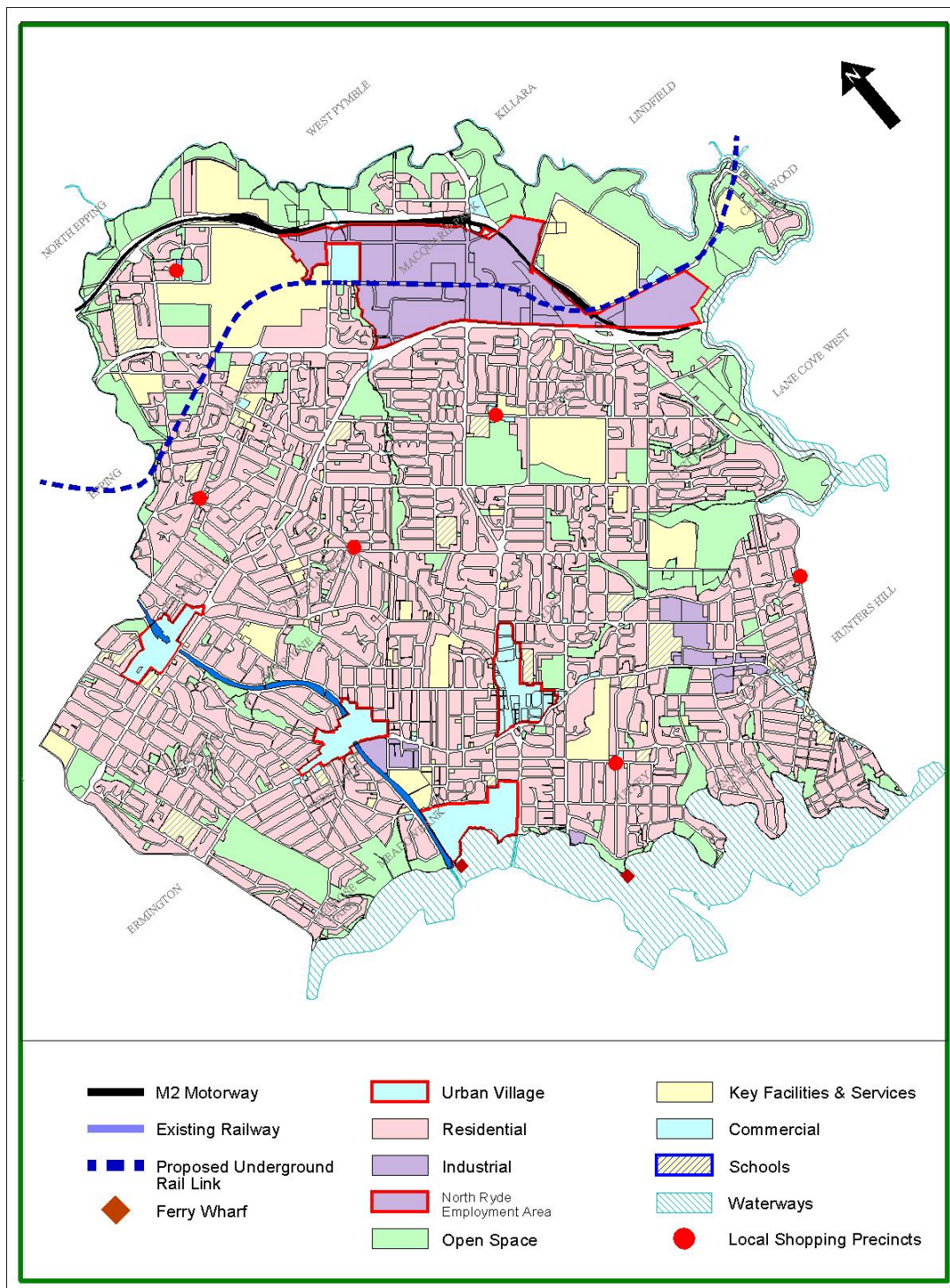


Figure 2: Structure Plan of the City of Ryde

The People

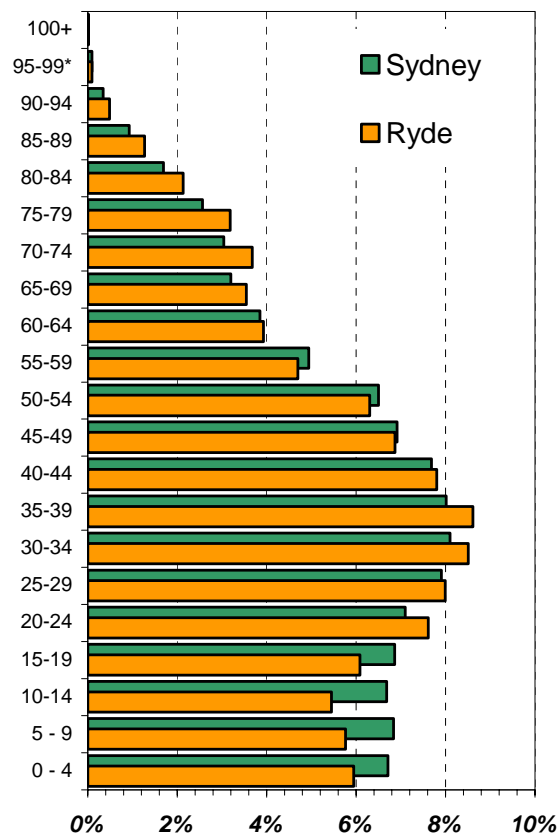
The residential population for the City of Ryde, as at the 2001 Census, was estimated at 95 744. The largest age group in the community is adults in their prime working age from 25–54 years who make up 46% of the population.

Notable changes from the 1996 Census among age groups are, that the adults age group (25–54) increased by 1 566 and the older persons (75+) age group increased by 902, while the mature adults age group (55–74) and pre-school age group (0–4) decreased.

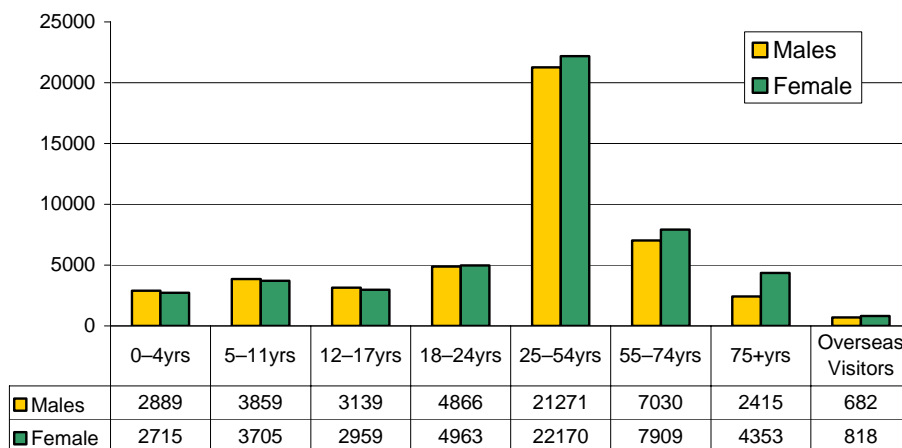
Of the population, 41% are married couples, 17% are dependant children under 15 years and 10% live alone. The City of Ryde has a stable community compared to the rest of Sydney with 56% of residents over the age of five living here prior to 1996.

In the City in 2001, there were 46 152 males and 49 592 females.

The City's Aboriginal and Torres Strait Islander population in 2001 was 227 persons.



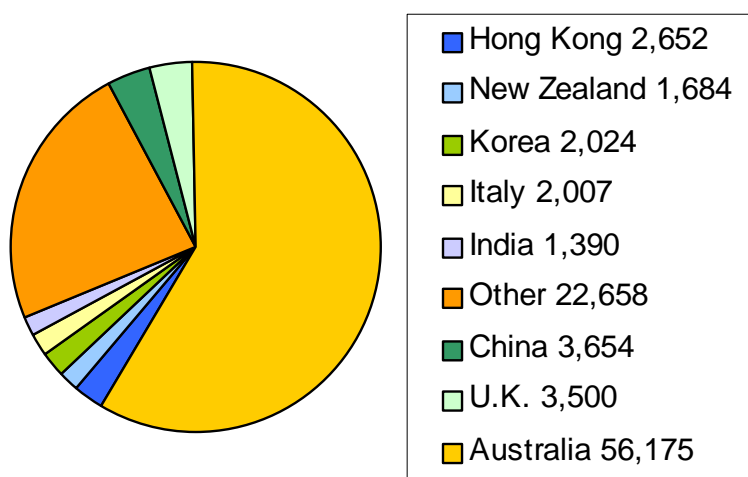
Graph 1: Relative size of age groups (ABS 2001 Census Population and Housing)



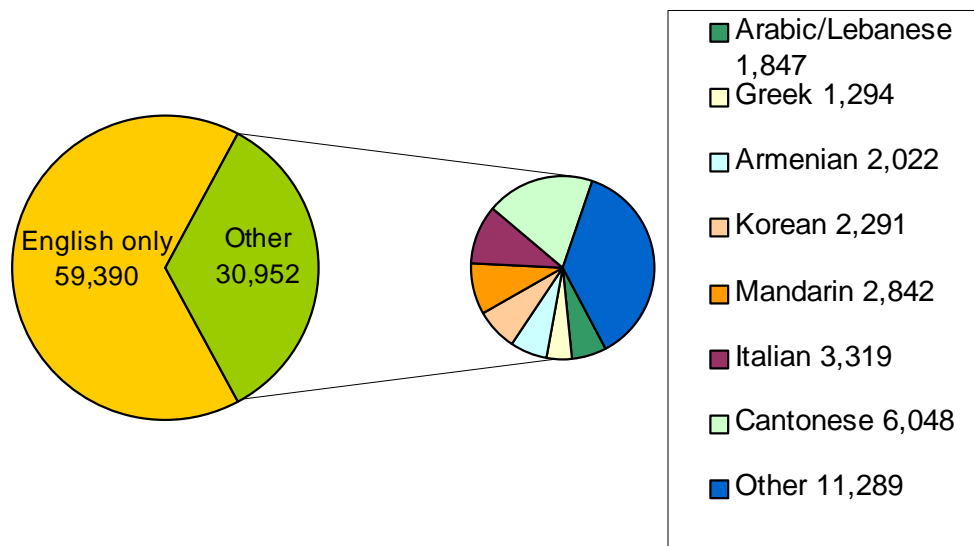
Graph 2: Relative size of age groups (ABS 2001 Census Population and Housing)

In 2001, some 63% of the City's people were born in Australia and 37% born overseas. The most common overseas birthplaces were China, U.K., Hong Kong and Korea.

People who spoke a language other than English at home made up 34% of the population. The most common of these languages were Cantonese, Italian, Mandarin, Korean, Armenian, Arabic/ Lebanese and Greek.



Graph 3: Country of birth (ABS 2001 Census Population and Housing)



Graph 4: Language spoken at home (ABS 2001 Census Population and Housing)

(City of Ryde – City Vision 2022, Draft)

The Cars

Table A, identifies the number of Vehicles registered in Ryde LGA as at June 2005. Approximately 74% of the total fleet are passenger vehicles, followed by Light Trucks (9%), and off-road passenger vehicles or 4WDs (8%).

Table A: Number of vehicles registered in Ryde LGA as at June 2005

Passenger Vehicles	Off-road Passenger Vehicles	Small Buses	Buses	Mobile Homes	Motor-cycles	Light Trucks	Heavy Trucks	Prime Movers	Light Plant	Heavy Plant	Small Trailers	Trailers	Other Vehicles	Size of Vehicle Fleet
53,614	5,583	277	140	42	1,068	6,432	396	33	91	34	3,351	1,042	4	72,107

Table B: Licence holders in Ryde by licence type as at 30 June 2005

Learner	P1	P2	Unrestricted	Total
4078	2035	2726	58347	67186

Table B shows the number of Licence holders in Ryde by Licence type as of 30 June 2005. The majority of licence holders have an unrestricted licence in Ryde (58347), however there are still 13% of licence holders who are on their Learner Permits or P plates, and may be considered inexperienced drivers.

PART 3

Ryde Crash Analysis 2000- 2004

The following information provides a statistical overview of the road crash data for Ryde LGA between 2000 and 2004. For definitions and explanatory notes please see Appendix 1.

1. CRASHES

Table 1 identifies the total number of crashes in Ryde LGA by fatal/injury/non-casualty classification between 2000 and 2004. The trend shows that the number of fatal crashes is decreasing. The number of injury crashes has fluctuated between 2000 and 2004, however has risen slightly since 2003 (+11). It is promising to note that, all crash categories in 2004 are below the 5-year average. The total number of crashes from 2000 to 2003 has also decreased, and has remained steady from 2003-2004.

Table 1. Ryde LGA number of crashes by fatal/injury/non-casualty classification 2000-2004

	2000	2001	2002	2003	2004	5 year Av.
Fatal Crashes	3	5	5	6	4	4.6
Injury Crashes	298	338	355	298	309	319.6
Non-casualty Crashes	583	536	525	546	539	545.8
Total Crashes	884	879	885	850	852	870

2. CASUALTIES

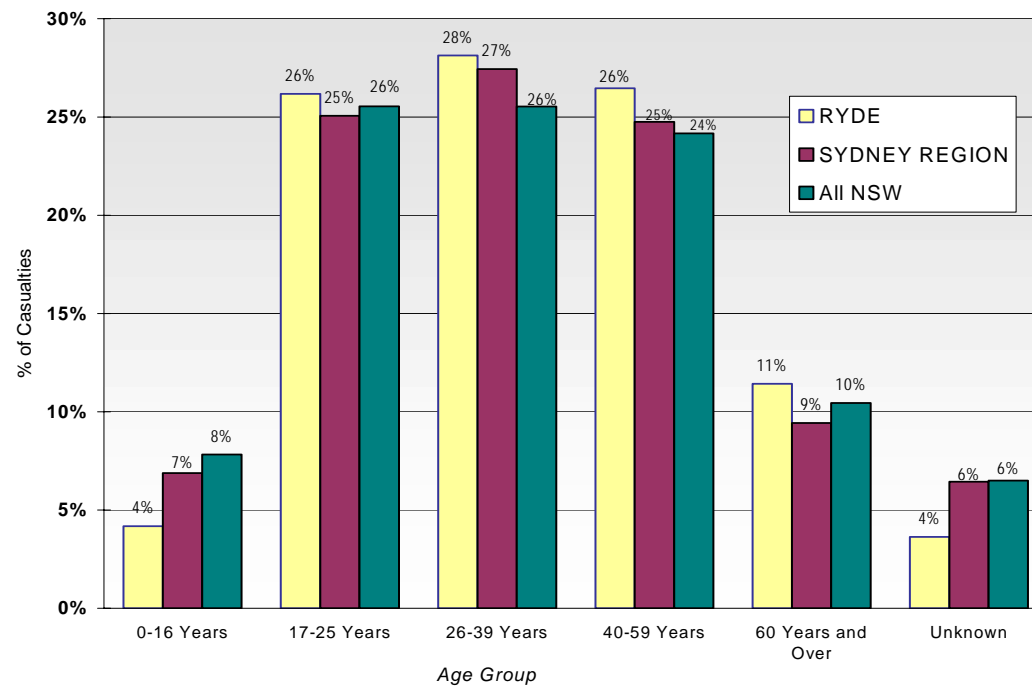
Table 2 shows the total number of casualties in Ryde LGA by killed/injured classification between 2000 and 2004. The total number of casualties for 2004 is at its lowest since 2000, with 359 casualties in 2004 compared to a high of 433 casualties in 2001 (-74). The number of people killed in 2004 (4) is also below the 5-year average (5).

Table 2. Ryde LGA number of casualties by killed/injured classification 2000-2004

	2000	2001	2002	2003	2004	5 yr Av.
Killed	3	5	6	7	4	5
Injured	374	428	419	373	355	389.8
Total	377	433	425	380	359	394.8

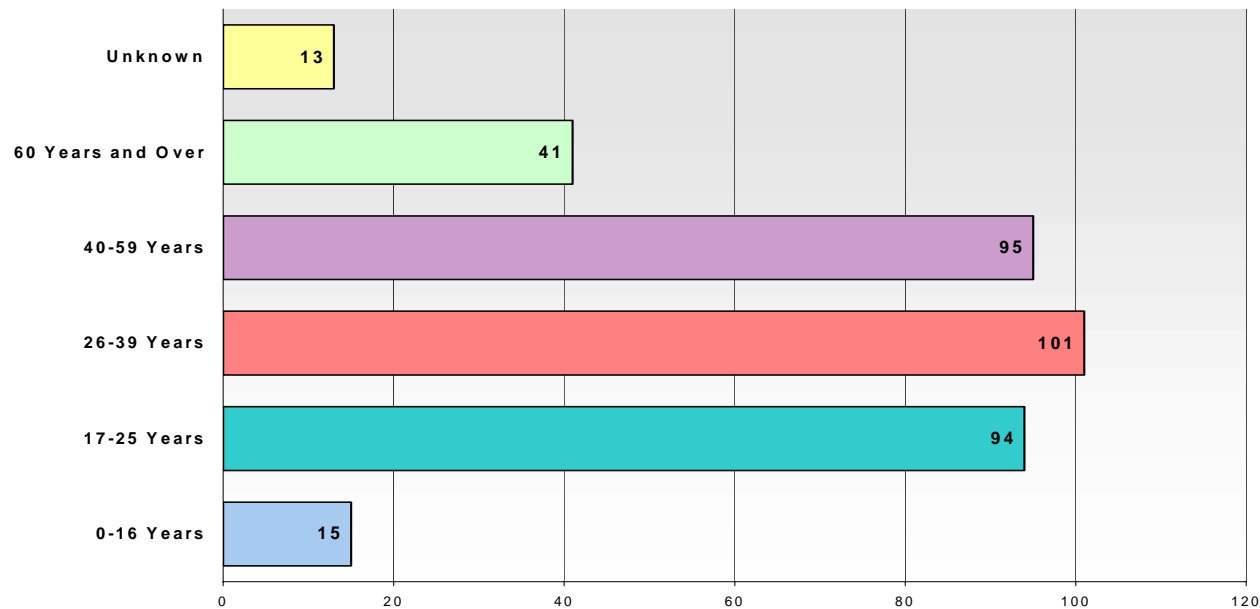
2a. Casualties by age group

Graph 5 shows the distribution of casualties by age group across Ryde LGA, Sydney and NSW for 2004. Ryde has a slightly higher percentage of casualties than NSW and Sydney for the 17-25, 26-39 and 40-59 year age group. This graph demonstrates the similarity across the age groups for each area, with most age groups differing by as little as 2%.



Graph 5: Distribution of casualties by age group and region 2004

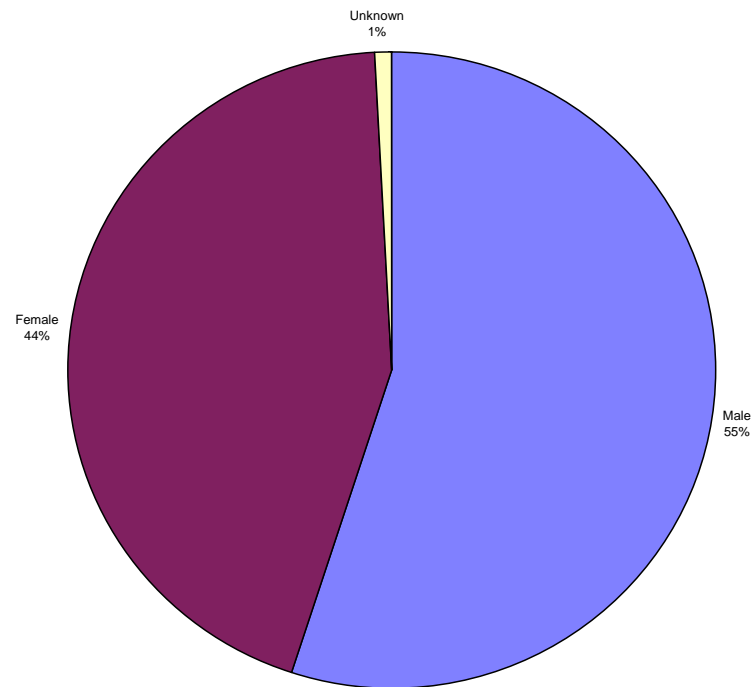
Graph 6 displays the number of casualties in Ryde by age group in 2004. The majority of crashes in Ryde occurred in the 26-39 year age group. It is important to note however that there is a smaller age gap in the 17-25 year group and this remains relatively high. The only age group whose casualty numbers has increased since 2003 is the 40-59 year age group (+7).



Graph 6: Casualties in Ryde LGA by age group 2004

2b. Casualties by gender

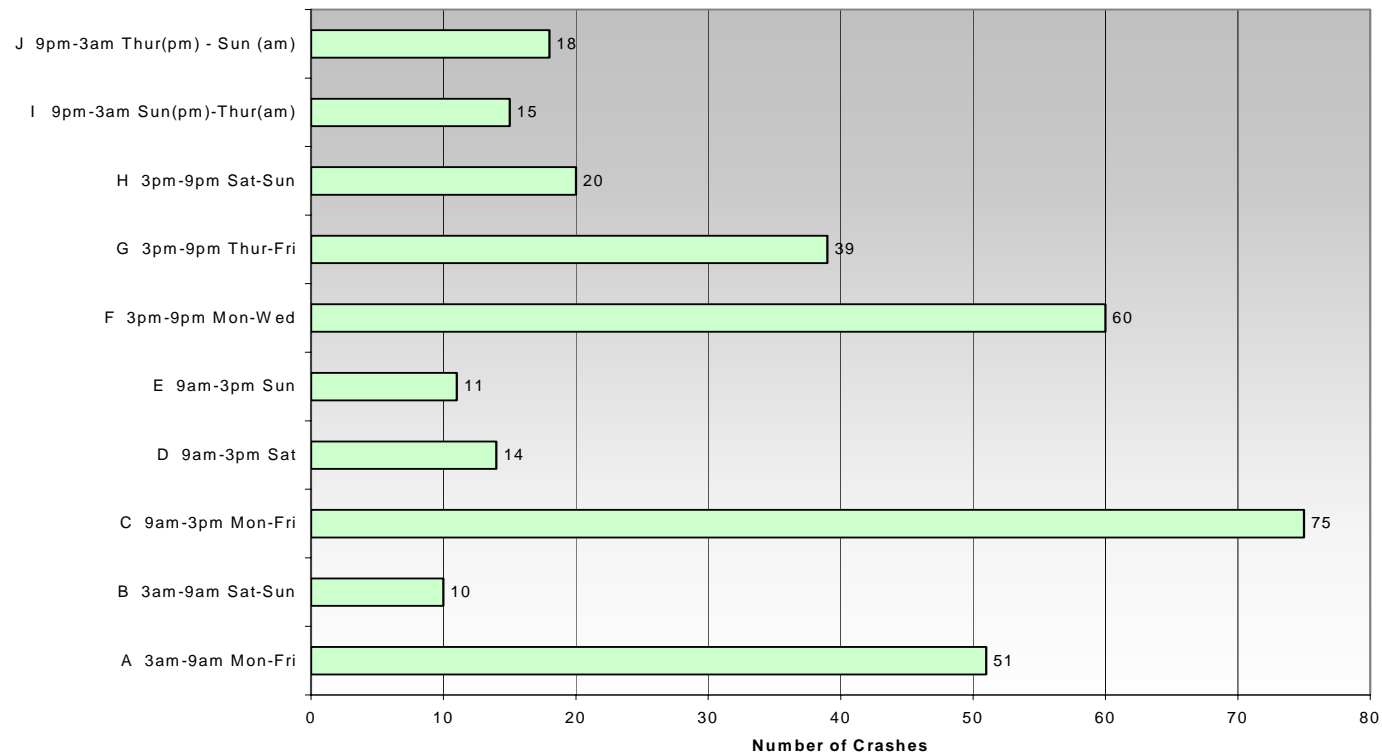
As mentioned there were 359 casualties in Ryde. In 2004, 55% of all casualties were male (197), and 3 of the 4 fatalities were also male (see graph 7). These percentages are also similar to 2004 NSW and Sydney figures.



Graph 7: Casualties by gender in Ryde 2004

2c. Casualty crashes by time period

Graph 8 describes the number of casualty crashes in Ryde by time periods, 2004. The greatest number of crashes resulting in at least one casualty occurred from Monday to Friday between 9am and 3pm.



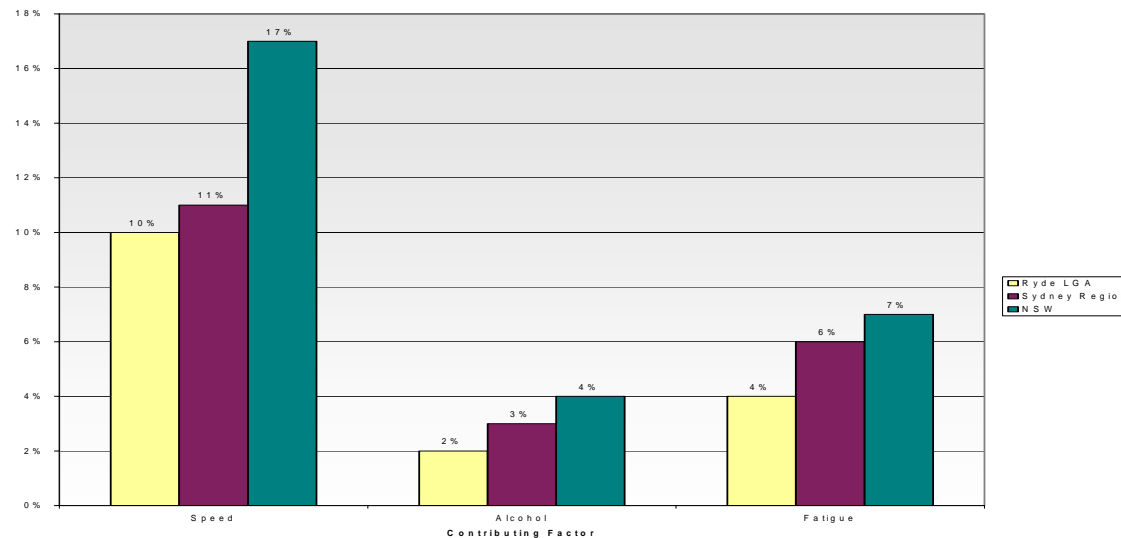
Graph 8: Number of fatal or injury crashes by time period in Ryde 2004

3. CONTRIBUTING FACTORS

This section discusses crash statistics in relation to contributing factors, notably speed, alcohol and fatigue.

3a. Comparisons by region

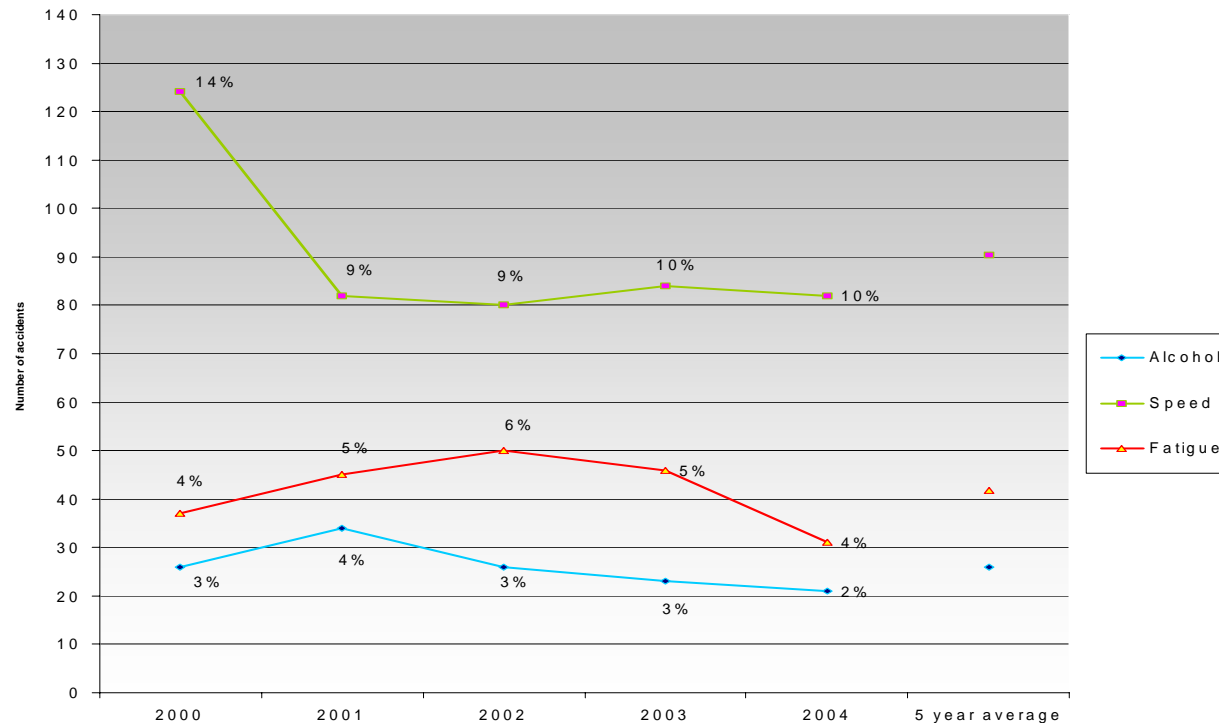
Graph 9 show the percentage of all crashes in Ryde, Sydney region and NSW according to contributing factors in 2004. As can be seen, NSW has the highest percentage of crashes with speed involvement, whereby 17% of all crashes in NSW involved speed. Speed is the highest contributing factor for Ryde, with 10% of all crashes involving speed, followed by fatigue (4%) and alcohol (2%). Ryde has the lowest percentage of crashes compared to NSW and Sydney across all contributing factors. In the previous year in Ryde, 2003, fatigue was equal to Sydney in comparison at 6%. While the percentage of crashes with speed and/or alcohol involvement is below Sydney region, residents in Ryde may still speed or drive above the legal BAC limit in other areas. The percentage of crashes involving at least one contributing factor has decreased since 2003.



Graph 9: Crash percentage and contributing factors between Ryde, Sydney region and NSW 2004

3b. Comparisons within Ryde 2000-2004

Graph 10 looks at the percentage of crashes with contributing factors between 2000 and 2004 in Ryde. As mentioned speed is the highest contributing factor to crashes in Ryde, followed by fatigue and alcohol. In 2004 all crashes involving contributing factors were below the 5-year average. The trend shows a decrease in fatigue-related crashes since 2002 and a decrease in alcohol-related crashes since 2001. Crashes involving speed have remained relatively stable since 2001.



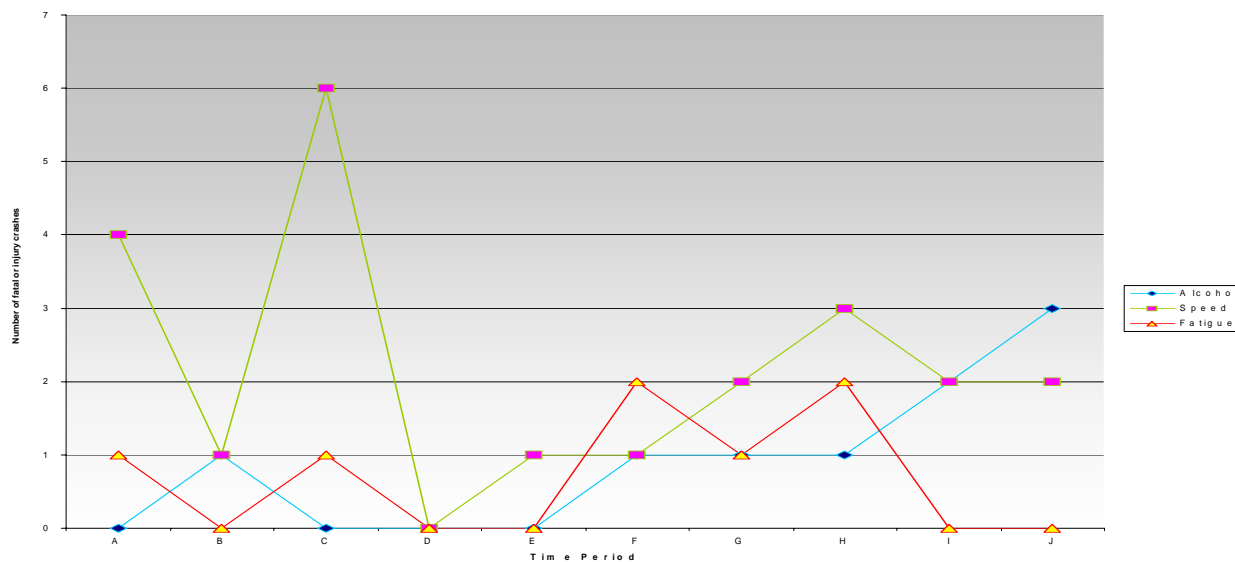
Graph 10: Percentage of all crashes according to contributing factors 2000-2004 Ryde

3c. Comparisons in Ryde by time period and contributing factor

McLean Time Periods

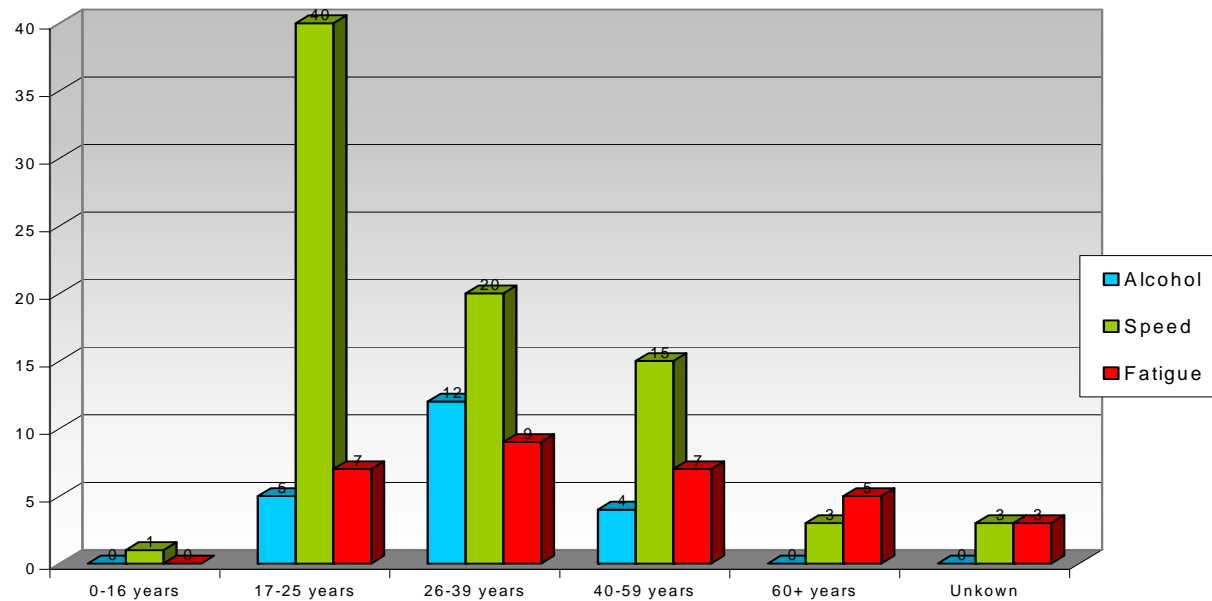
A	Monday – Friday 3am – 9am
B	Saturday – Sunday 3am – 9am
C	Monday – Friday 9am – 3pm
D	Saturday 9am – 3pm
E	Sunday 9am – 3pm
F	Monday – Wednesday 3pm – 9pm
G	Thursday – Friday 3pm – 9pm
H	Saturday – Sunday 3pm – 9pm
I	Sunday (pm) – Thursday (am) 9pm – 3am (the next day)
J	Thursday (pm) – Sunday (am) 9pm – 3am (the next day)

Graph 11: Fatal or injury crashes by contributing factor and time period Ryde 2004



Graph 11 shows the fatal or injury crashes by contributing factor and time period in Ryde 2004. The time periods are specified in the table above according to McLean Time Periods.

Graph 12 shows the number of motor vehicle controllers involved in crashes in Ryde according to contributing factors and age group for 2004. The greatest number of motor vehicle controllers involved in speeding related crashes occurred in the 17-25 year age group. The greatest number of motor vehicle controllers involved in fatigue and alcohol related crashes were aged between 26-39 years.

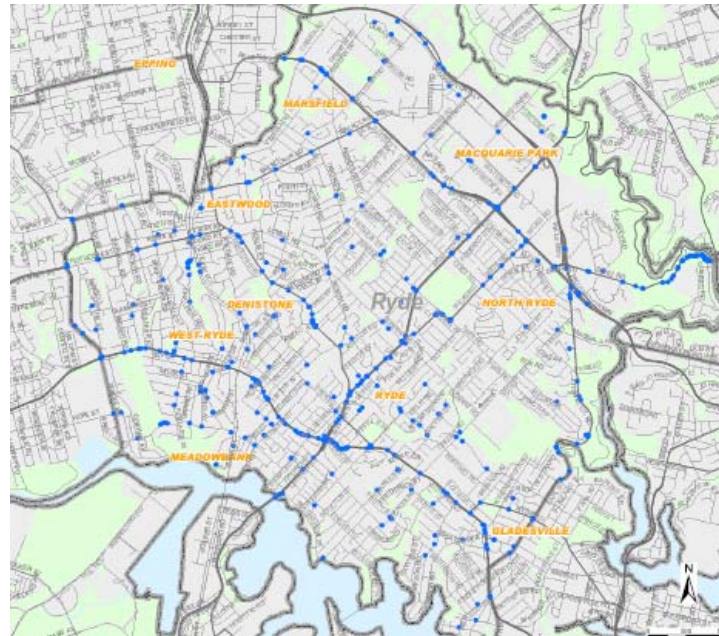


Graph 12: Number of motor vehicle controllers involved in crashes by contributing factor and age group Ryde 2004

3ci. Crashes involving speed

In 2004, there were 81 crashes involving speed in Ryde, 22 of which were injury crashes, contributing to almost 7% of the total number of fatal or injury crashes. It is positive to note that there were no fatal speed related crashes in 2004. There were 26 speeding related injury casualties in Ryde in 2004. The majority of casualty crashes involving speed in 2004 occurred during the week, Monday to Friday between 9am and 3pm, followed by Monday to Friday early morning between 3am and 9am (see Graph 11). As mentioned, speeding related crashes have remained relatively stable since 2001. The highest number of speeding crashes by motor vehicle controller occurred in the 17 to 25 year age group (40), whereby 49% of all speeding related crashes involved 17-25 year old motor vehicle controllers (see graph 12). Approximately 68% of the total number of Motor Vehicle Controllers involved in speeding related crashes were male. Road Safety 2010 has identified enhanced speed education and enforcement as a potential road safety initiative to promote safer people on the roads. The City of Ryde's aim is to reduce the number of speed related crashes in Ryde.

The map below identifies all the speeding related crash sites in Ryde between 2000 and 2004.



3cii. Crashes involving alcohol

In 2004, alcohol was a factor in 21 crashes, resulting in 12 casualties in Ryde. In 2004, alcohol contributed to almost 3% of the total number of fatal or injury crashes in Ryde. In 2004 the most common time of day where the highest number of casualty crashes were recorded involving alcohol, occurred from late evening until early morning (from 9pm until 3am), particularly from Thursday evening to Sunday morning (see graph 11). The majority of motor vehicle controllers involved in alcohol-related crashes in Ryde in 2004 were aged between 26-39 (12), followed by 17-25 years (5) of age. Approximately 90% of the total number of motor vehicle controllers involved in alcohol related crashes were male. There may be more drink driving incidences in the late evenings on weekends because of late night licensed premises and hence an increased number of patrons at these premises. Road Safety 2010 has identified the Government as leading in the development of alternative transport schemes as effective means to reduce drink driving incidence. Furthermore, the licensed premises within Ryde are in favour of participating in alternative transport initiatives to proactively address this issue, and improve driver and pedestrian behaviour in Ryde.

3ciii. Crashes involving fatigue

In 2004, there were 31 crashes involving fatigue in Ryde, resulting in 7 casualties. There were no fatalities in fatigue-related crashes in 2004. The majority of fatigue-related injury crashes in 2004 occurred in the evening, from 3pm-9pm Monday to Wednesday and Saturday to Sunday. Figures indicating the time of day and fatigue involvement in casualty crashes have been variable since 2000, and there is no clear pattern to suggest there is one significant time period when these crashes may occur. However, 3am to 9am Monday to Fridays consistently appears across the 5-year period as a time where fatigue-related crashes do occur. Again, the majority of motor vehicle controllers involved in fatigue-related crashes were aged between 26-39 years (29%), in particular the 30-39 year age group (6) (see graph 12). Approximately 71% of motor vehicle controllers involved in fatigue related crashes in 2004 were male. This may be work-related, as it does not appear to be caused by long distance driving. In 2002 there were 27 fatigue-related casualties and in 2004 only 7 casualties were recorded. Whilst it is encouraging to note that the number of casualties relating to fatigue involvement has decreased since 2002, fatigue is still a contributor to the NSW and Ryde road toll and is identified as a local priority issue with the RTA. Furthermore the fatigue-related crash pattern since 2000 shows an increase in crashes followed by a similar decrease, indicating that the trend for fatigue-related crashes may either continue to decrease or show another increase. Education campaigns targeting driver fatigue will help to ensure the fatigue-related crashes continue to decrease within the Ryde area.

4. ROAD USER TYPE

This section will now examine crash statistics and road user type.

Table 3 summarises the percentage of casualties by road user class between 2000 – 2004 for NSW, Sydney region and Ryde LGA.

- Ryde LGA has a higher percentage of motor vehicle driver casualties (59.9%) compared to Sydney region (54.9%) and NSW (54.6%).
- When looking at motor vehicle passenger and pedal cyclist casualties, Ryde LGA has a slightly lower percentage (17.2% and 3.9% respectively) of casualties in each group compared to NSW (24.3% and 4.1% respectively) and Sydney region (22.1% and 4.3% respectively).
- Ryde's percentage of motorcyclist casualties (7.6%) is higher than both NSW (7.4%) and Sydney region (6.9%).
- The percentage of pedestrian casualties for Ryde LGA (11.5%) is slightly lower than Sydney region (11.7%) but higher than NSW (9.5%). One reason for this may be that Ryde LGA has a similar demographic pattern to Sydney, compared to NSW as a whole, with a denser population.

It should be noted that followed by the percentage of motor vehicle driver and motor vehicle passenger casualties (59.9% and 17.2% respectively) pedestrians are the third highest casualty group in Ryde LGA, at 11.5%.

Table 3. Percentage of casualties by road user class 2000-2004 average

	NSW	Sydney Region	Ryde LGA
Motor Vehicle Driver	54.6%	54.9%	59.9%
Motor Vehicle Passenger	24.3%	22.1%	17.2%
Motorcyclist	7.4%	6.9%	7.6%
Pedal Cyclist	4.1%	4.3%	3.9%
Pedestrian	9.5%	11.7%	11.5%

Table 4 shows the percentage of casualties by road user class for each year from 2000 up to 2004 in Ryde LGA. The percentage of motorcyclist casualties by road user class have increased since 2000 from a low of 5.8% of the total number of casualties in Ryde in 2000 to a high of 10.6% in 2004 (+4.8%). This is above the 5-year average (+3%). Furthermore, the percentage of pedestrian casualties has also increased from 9.9% of the total number of casualties in Ryde in 2001 to 13.4% in 2004 (+3.5%). The percentage of pedestrian casualties for 2004 is also above the 5-year average of 11.5% (+1.9%). These two road user types will be examined in greater detail.

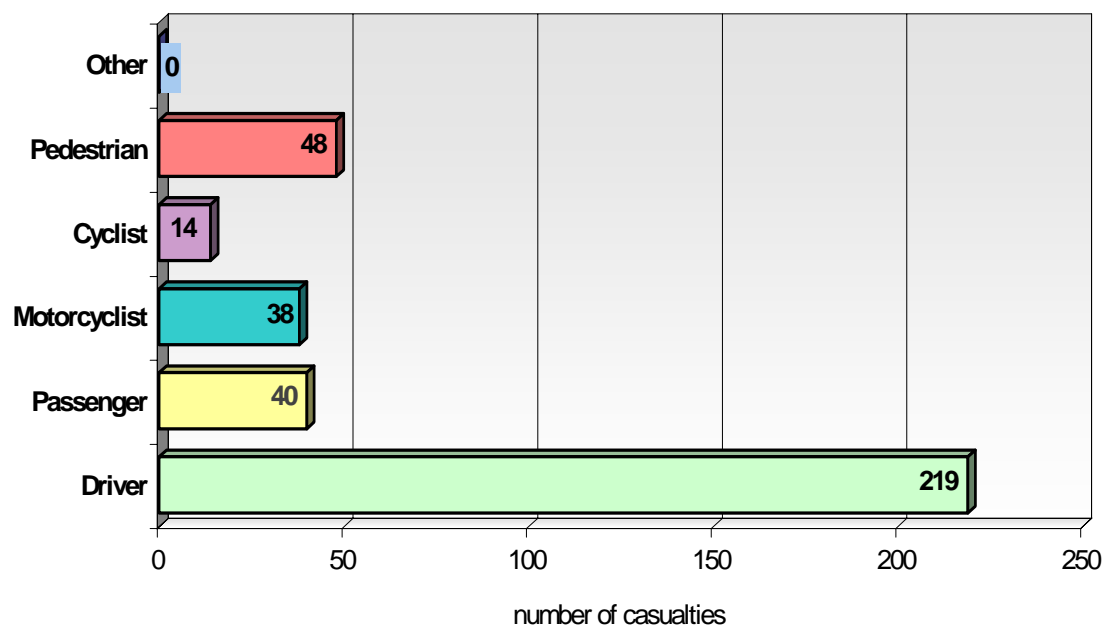
Table 4. Percentage of casualties by road user class 2000-2004 Ryde LGA

	2000	2001	2002	2003	2004	5 Yr. Average
Motor Vehicle Drivers	57.3%	61.7%	63.5%	55.8%	61%	59.9%
Motor Vehicle Passengers	20.1%	18.7%	14.8%	21.1%	11.1%	17.2%
Motorcyclists	5.8%	7.2%	6.6%	7.9%	10.6%	7.6%
Pedal Cyclists	4.5%	2.5%	5.2%	3.2%	3.9%	3.9%
Pedestrians	12.2%	9.9%	9.9%	12.1%	13.4%	11.5%

Table 5 now examines the total number of casualties by road user class from 2000 to 2004. These figures also show the total number of pedestrian and motorcyclist casualties are above the 5-year average, and numbers are at their highest in 2004.

Table 5. Number of casualties by road user class 2000-2004 Ryde LGA

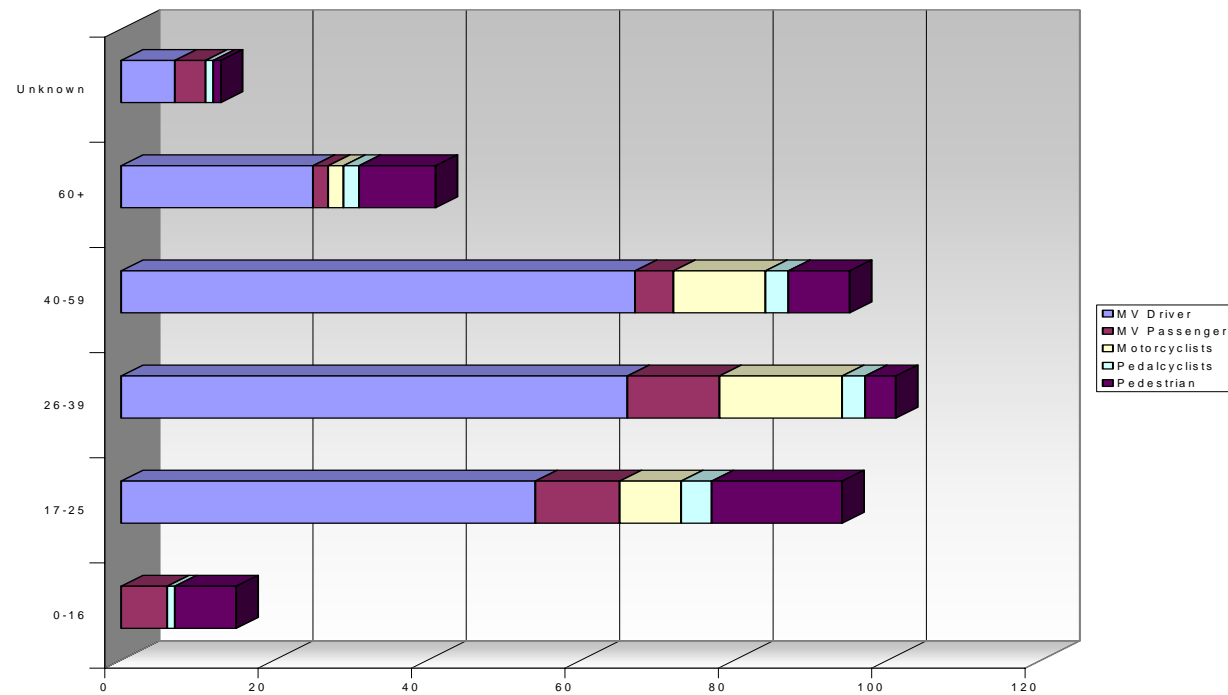
	2000	2001	2002	2003	2004	5 Yr. Average
Motor Vehicle Drivers	216	267	270	212	219	237
Motor Vehicle Passengers	76	81	63	80	40	68
Motorcyclists	22	31	28	30	38	30
Pedal Cyclists	17	11	22	12	14	15
Pedestrians	46	43	42	46	48	45



Graph 13: Casualties in Ryde LGA by road user group 2004

Table 6. 2004 Ryde casualties by age, gender and road user class

	0-16		17-25		26-39		40-59		60+		Unknown	Total
	M	F	M	F	M	F	M	F	M	F		
Motor Vehicle Drivers	-	-	24	30	27	39	37	30	17	8	7	219
Motor Vehicle Passengers	4	2	5	6	6	6	1	4	-	2	4	40
Motorcyclists	-	-	8	-	16	-	10	2	2	-	-	38
Pedal Cyclists	1	-	4	-	3	-	3	-	2	-	1	14
Pedestrians	4	4	7	10	2	2	6	2	5	5	1	48

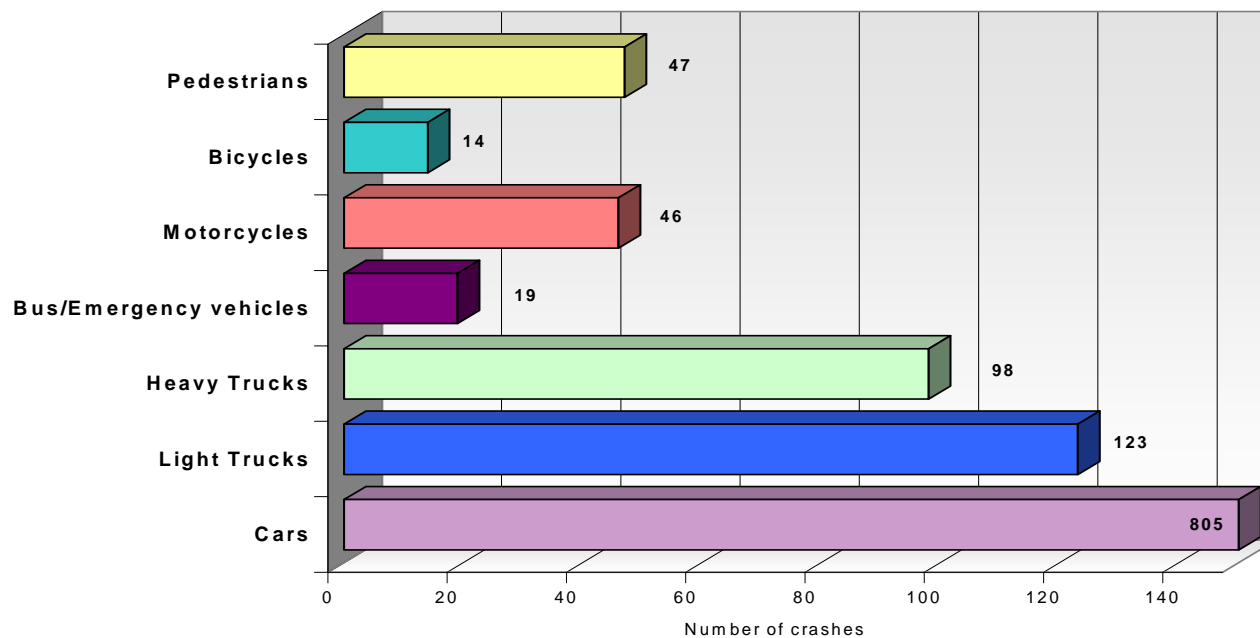


Graph 14: Casualties by road user class and age Ryde 2004

The following section addresses casualties in Ryde LGA according to age and road user class. The following has been identified from the RTA data and graphs and tables above.

4ai. Motor Vehicle Drivers

Graph 13 show the total number of casualties for each road user type in Ryde, 2004. Motor vehicle driver casualties account for 61% of all casualties in Ryde (see table 4). Graph 15 displays the total number of crashes in Ryde by crash type for 2004. It must be noted that the displayed accident types are not mutually exclusive and therefore should not be added together. For example an accident involving a car and a motorcycle would be included in the “car” and “motorcycle” crash type categories. As can be seen, the majority of crashes involved cars (805), with 94% of all crashes involving at least one car. This is followed by light trucks (123)



Graph 15: Crash types in Ryde 2004

and heavy trucks (98). No fatalities were recorded in either car or pedal cycle crashes. Fatalities were, however recorded in pedestrian, motorcycle, heavy and light truck and bus related crashes, which resulted in 1 motorcycle fatality and 3 pedestrian fatalities. Details relating to these fatalities specifically will be discussed in further detail.

Table 6 shows the number of Ryde casualties in 2004 by age, gender and road user class. The results show that 55% and 59% of motor vehicle driver casualties in the 17-25 and 26-39 year age group respectively, were female. According to table 6 and Graph 14, the majority of motor vehicle driver casualties were aged between 40 and 59 years of age. When looking at the number and type of licence holders in Ryde (see table A) results show that P-plate (P1 and P2) holder motor vehicle controllers have a higher percentage of crashes compared to Learner drivers and unrestricted licence holders. Almost 5% of p-plate motor vehicle controllers were involved in a crash in 2004 in Ryde compared to 2% of unrestricted licence holders and 0.4% of Learner drivers.

4a.ii. Motor Vehicle Passengers

The percentage of motor vehicle passenger casualties is at it's lowest in 2004 (11.1%), compared to the highest percentage of motor vehicle passenger casualties over a 5 year period seen in 2003 (21.1% of all casualties) (see table 4). There were 40 passenger casualties in Ryde in 2004 (table 5). The greatest number of casualties for motor vehicle passengers occurred in the 26-39 year age group in 2004 (12) accounting for 30% of all passenger casualties.

4a.iii. Occupant Restraints

It is important to now examine occupant restraints as it relates to motor vehicle drivers and passengers. Table 7 shows the percentage of casualties who had restraints fitted in the vehicle but did not wear them in NSW, Sydney region and Ryde area in 2004. Compared to NSW and Sydney region the percentage of restraints fitted but not worn in Ryde is low. Of all the motor vehicle driver and passenger casualties in Ryde, only 1 driver was not wearing a restraint. While Ryde's percentage is lower than NSW and Sydney region there is still a need to address this, as seatbelts save lives and Road Safety 2010 has identified restraints as an important safety issue. It is important to promote the correct use of restraints from the beginning of a child's life, to encourage continued restraint use from an early age, through to adulthood.

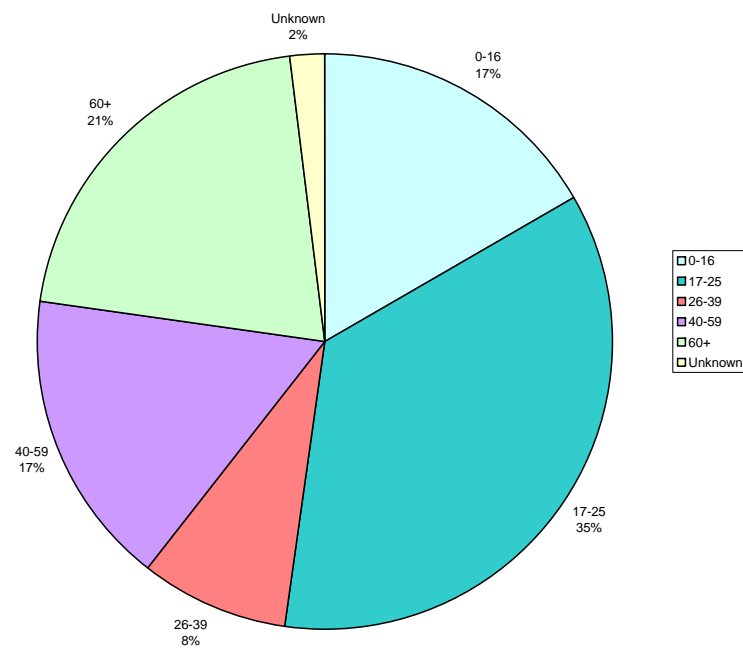
Table 7. Use of Restraints: 2004

	NSW		Sydney Region		Ryde	
All Motor Vehicle Driver Casualties						
Restraint fitted but not worn (as a % of the total number of driver casualties)	279	1.9%	115	1.3%	1	0.5%
	NSW		Sydney Region		Ryde	
All Motor Vehicle Passenger Casualties						
Restraint fitted but not worn (as a % of the total number of passenger casualties)	153	2.5%	52	1.6%	0	-

4c. Pedestrians

Pedestrian casualties will now be examined in detail due to the increase in the number of pedestrian casualties since 2002. In 2004, there were 48 pedestrian casualties in Ryde (see table 5 and graph 13), accounting for 13.4% of the total number of casualties by road user type, the highest percentage of pedestrian casualties for the 5 year period (see table 4). This is the second highest road user type casualty, followed by drivers in 2004. Pedestrian casualties for 2004 is above the 5 year average of 11.5% (see table 4).

Graph 16 shows the percentage of pedestrian casualties in Ryde in 2004 by age group. As can be seen, the 17-25 year age group has the highest percentage of pedestrian casualties (35%), followed by the 60+ age group (21%). In 2003 both these age groups rated the highest, however the 60+ age group rated higher at 24% compared to 22% for 17-25 year olds. There has been an increase in the percentage of pedestrian casualties aged 17-25 years (+13%).

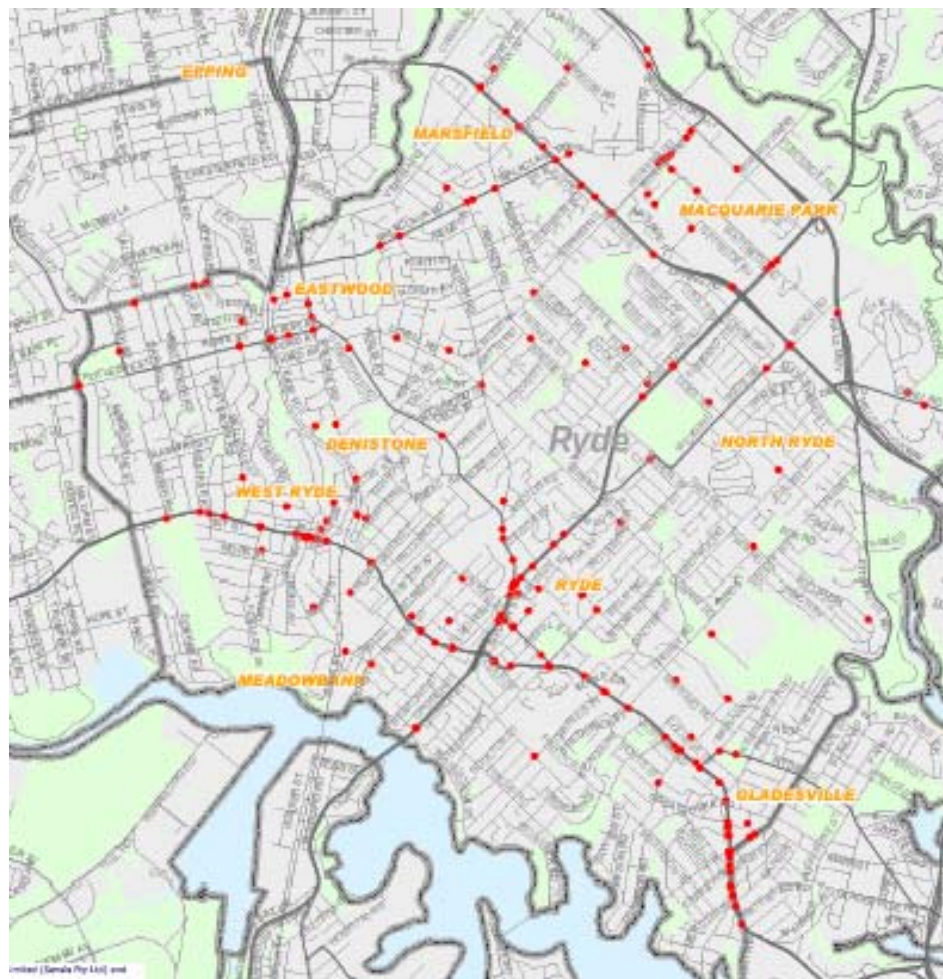


Graph 16: Pedestrian casualties by age group Ryde 2004

The number of pedestrian casualties for males and females respectively was 24 and 23, with 1 unknown. However when delving into the figures, there was a higher number of female pedestrian casualties in the 17-25 year age group, and a higher number of

male pedestrian casualties in the 40-59 year age group. Aside from these differences all other age groups displayed similar if not equal comparisons between male and female casualties (see table 6).

The map below displays each pedestrian accident in Ryde between 2000 and 2004.



When looking at the map over the 5-year period it appears that Eastwood, West Ryde, Ryde, Gladesville and Marsfield have a high number of pedestrian casualties. The following provides an overview of the streets and locations where more than 1 pedestrian crash occurred in 2004 only.

- Balaclava Rd Eastwood (2)
- Cox's Rd North Ryde (2)
- Epping Rd, Marsfield (3)
- Herring Rd, Marsfield (3)
- Lane Cove Rd, North Ryde (2)
- Pittwater Rd, Gladesville (2) (both near Harvard St)
- Victoria Rd, Gladesville (2)
- Victoria Rd, Ryde (3)
- Victoria Rd, West Ryde (6) (near Mons and Hermitage)

In 2004, approximately 8% of pedestrian crashes occurred in the January school holiday's (4), where 2 people were killed. Of these crashes 2 involved a car or car derivative, and the others a heavy truck and light truck. Of the truck crashes, which occurred on Victoria Rd (West Ryde) and Epping Rd (Marsfield) both male pedestrians (aged 43 and 80) were killed.

Approximately 17% of pedestrian crashes occurred on weekends, accounting for 8 pedestrian injury crashes. There were 2 pedestrian crashes on the weekend on Epping Rd near Balaclava and Herring Rd Marsfield. No pedestrians were killed on the weekends, and the majority of pedestrian crashes involved cars. Approximately 75% of pedestrian crashes occurred during the weekday.

The majority of pedestrian crashes for school aged children occurred during the weekdays particularly between 3 and 5pm in the afternoon. There were three occasions where the school aged pedestrian was either disobeying the traffic controls or was crossing from behind a parked vehicle where the driver could not see them. There were no reported pedestrian crashes in school zones. The majority of these crashes occurred on local 50km and some 60km speed zone roads including Abuklea Rd, First Ave and Blaxland Rd Eastwood, North Rd and Curzon St Ryde, Wicks Rd North Ryde, and Ryedale Rd and Victoria Rd West Ryde, located close to schools. It can not be concluded that these casualties attended the nearby schools.

The majority of pedestrian crashes involving 17-25 year olds occurred between 2pm and 11.30pm on weekdays followed by weekends. There is no clear pattern to suggest that these crashes occurred as a result of alcohol consumption near late night venues in Ryde. Whilst there is a possibility, data is unable to confirm this. The majority of pedestrian crashes involving 17-25 year olds occurred in Eastwood and Marsfield / Macquarie Park, suggesting, but not confirming, a possible relationship to the University located close by.

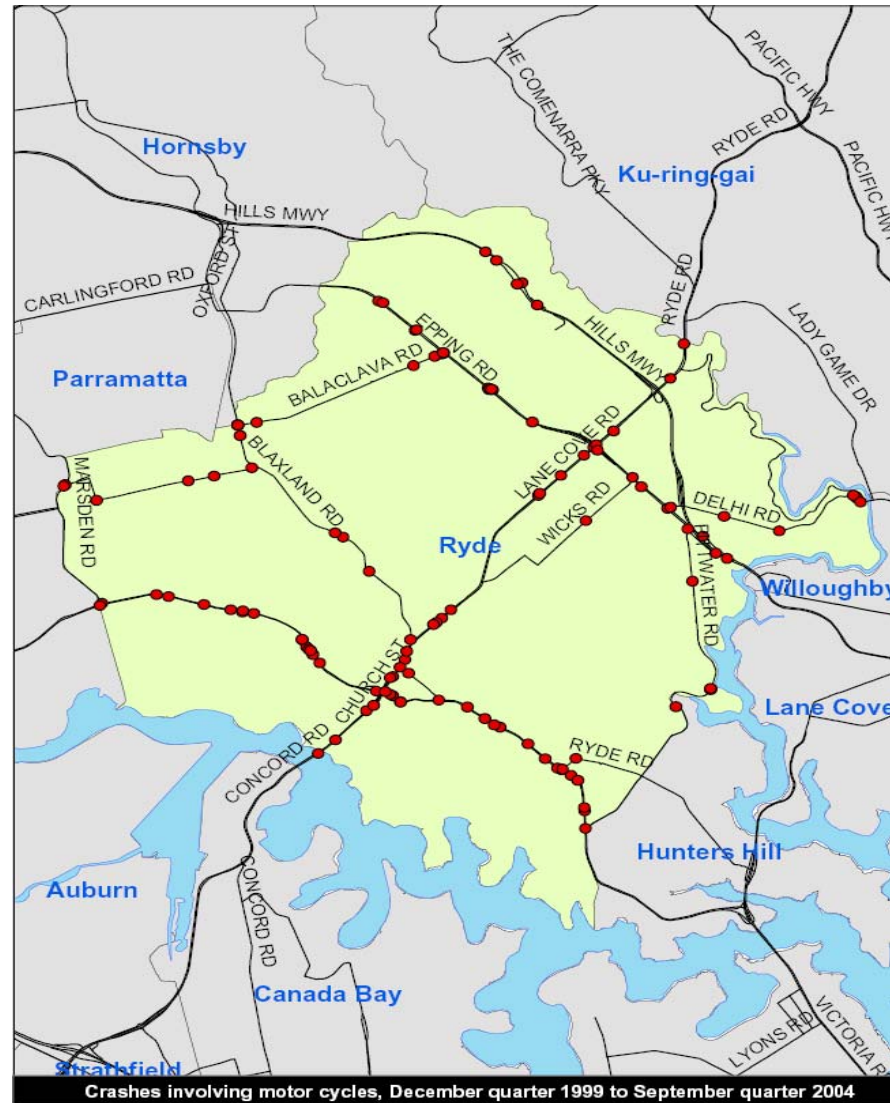
All pedestrian crashes involving 26-39 year olds occurred during the weekdays, with 2 occurring at approximately 6.30pm on a weeknight (Tuesday and Monday) and another 2 occurring at approximately 10.40pm (Wednesday night and Friday night).

One reason for the high percentage of older pedestrian casualties may be an increased number of older pedestrians over drivers who are more fragile with slower reaction times to dangerous situations. Two of the 3 pedestrians killed were aged 70 years and over. When examining the 60+ year age group, the majority of pedestrian crashes occurred on main roads including, Epping, Lane Cove, Victoria and Pittwater Rd, where the cars may be driving at an increased speed resulting in longer stopping distance and decreased reaction time. The majority of these crashes occurred in the morning between 9.25 and 11.30am and early afternoon between 1.20 and 4.10pm. There was a relatively high number of crashes involving older pedestrians and light trucks. In most cases the pedestrian was walking, running or standing still across a carriageway. There were a similar number of male and female older pedestrian crashes.

4b. Motorcyclists

The percentage of motorcycle casualties is at its highest over the 5 year period in 2004 accounting for 10.6% of all casualties. There were 46 motorcycle crashes resulting in 38 motorcycle casualties in Ryde in 2004 (see table 6 and graph 13). The highest number of motorcycle casualties occurred in the 26-39 year age group, followed by the 40-59 year age group (see table 6 and graph 14). This pattern has changed since the previous year 2003 where the highest number of casualties was also seen in the 17-25 year age group. Almost 95% of all motorcycle casualties in 2004 were male (see table 6). Epping Rd North Ryde, Victoria Rd Gladesville and West Ryde and Culloden Rd Macquarie Park stand out as more frequent motor cycle crash locations in 2004, where 3 or more crashes have occurred. The majority of motorcycle crashes occurred on weekdays between 7-8.30am and 2-7pm. This suggests motorcyclist commuting to and from work. There was 1 motorcyclist killed in 2004 on Lane Cove Rd, near Buffalo Rd in Ryde at 11am on Friday morning. This crash involved a heavy truck and bus. The motorcycle was described as proceeding along a lane on the carriageway. The male motorcycle driver was 23. Of the 38 motorcycle casualties in Ryde there were no known motorcyclists who were not wearing a helmet. This is promising to see.

Below is a map displaying each motorcycle crash location in Ryde, from 1999 to 2004.



As can be seen, over the years there has been a high number of motorcycle crashes along the length of Victoria Rd in Ryde, a large conglomeration near Church St/Devlin St in Ryde and Lane Cove Rd and Epping Rd.

4c. Pedal Cyclists

There were 14 pedal cyclist crashes resulting in 14 casualties in Ryde in 2004. There were no female pedal cycle casualties in Ryde across all age groups. There were also no pedal cycle fatalities. The highest number of pedal cyclist casualties occurred in the 17-25 year age group (4), followed similarly by the 26-39 (3) and 40-59 (3) year age group (see table 6 and graph 14). Pedal cyclist had the lowest recorded casualty numbers by road user class. As mentioned Ryde LGA has a lower percentage of pedal cyclist casualties compared to Sydney region and NSW. Furthermore, in 2004, the pedal cyclist casualty percentage by road user class was equal to the 5-year average of 3.9%. There were 2 or more recorded pedal cycle crashes on the following roads

- Lane Cove Rd (North Ryde) (3)
- M2 Hills (Macquarie Park / Marsfield) (2)
- Talavera Rd (Macquarie Park) (2)

The majority of the crashes identified above occurred in the morning and evening, mostly during peak hours on weekdays, suggesting a possibility that these cyclists were commuting. Furthermore the locations suggest they may have been travelling to and from Macquarie Business Park. This can not be confirmed however.

Of the 14 pedal cyclist casualties almost 29% (4) were reportedly not wearing a helmet. Two of these were aged between 17-25 years of age, one was between 5 and 12 years of age and the other was between 30-39 years. There is no clear pattern in the figures to suggest that pedal cyclist casualties are decreasing or increasing.

5. SUMMARY

In summary, the following issues have been identified for Ryde LGA, and therefore need to be addressed when developing road safety initiatives for 2006.

- The trend since 2000 shows the total number of casualties in Ryde is decreasing. The total number of crashes is below the 5-year average
- Most motor vehicle controller crashes occurred in the 26-39 year age group.
- Approximately 55% of all casualties in Ryde are male
- The majority of fatal or injury crashes occurred from Monday to Friday 9am to 3pm.
- The greatest contributing factor to crashes in Ryde LGA was speeding, followed by fatigue. The number of crashes involving speeding has remained relatively steady since 2001. The majority of speeding crashes occurred during weekdays, Monday to Friday between 9am and 3pm. The majority of speeding crashes occurred in the 17-25 year age group. Almost 49% of motor vehicle controllers involved in crashes were aged between 17-25.
- Fatigue-related crashes occurred mostly between 3pm and 9pm Monday to Wednesday and Saturday to Sunday in 2004. However, 3am to 9am Monday to Fridays consistently appears across the 5-year period as a time where fatigue-related crashes do occur. This may be work-related, as it does not appear to be caused by long distance driving. Whilst it is encouraging to note that the number of casualties relating to fatigue involvement has decreased since 2002, fatigue is still a contributor to the NSW, Sydney and Ryde road toll and is identified as a local priority issue with the RTA. Furthermore the fatigue-related crash pattern since 2000 shows an increase in crashes followed by a similar decrease, indicating that the trend for fatigue-related crashes may either continue to decrease or show another increase. Education campaigns targeting driver fatigue will help to ensure the fatigue-related crashes continue to decrease within the Ryde area.
- The number of alcohol related crashes have decreased since 2002. The majority of fatal or injury crashes involving alcohol occurred from Thursday to Saturday between 9pm and 3am. The majority of alcohol related crashes involved 26-39 year olds.
- Pedestrians are now the second highest casualty group in Ryde LGA after motor vehicle drivers. The percentage of pedestrian casualties has increased since 2001. The majority of pedestrian casualties were in the 17-25 year age group followed by the 60+ year age group.
- Motorcyclist casualties was at its highest in 2004, occurring during the weekdays in peak hour times. The majority of motorcyclist casualties were male aged between 26-39 years of age. Epping Rd North Ryde, Victoria Rd Gladesville and West Ryde and

Culloden Rd Macquarie Park are the sites where the most motorcycle crashes occurred in 2004. All motorcyclists were reportedly wearing a helmet.

- Pedestrians and motorcyclists seem to be the road users whose numbers have increased in the last year compared with other road users.

What needs to be addressed in 2006 road safety initiatives?

- Speeding, 17-25 year old male motor vehicle drivers. ie, young driver campaigns.
- Driver fatigue in the workplace
- Drink Driving, particularly late evenings on weekends and the beginning of the week, targeted at the 26-39 year age perhaps looking into drink driving from private premises.
- Pedestrian safety for younger people 17-25 years of age, on weekends at night (drink walking), and to and from work. Particularly women. Older people and pedestrian safety especially crossing busy intersections.
- Continued school based pedestrian safety campaigns targeting illegal parking.
- Male motorcyclists aged between 17-39 years.

7. SOURCES

- Sydney Profile
- RTA Crash Data
- Road Safety 2010
- Maps provided by the RTA

Appendix 1

DEFINITIONS AND EXPLANATORY NOTES

Animal rider: A person sitting on/riding a horse or other animal.

Articulated truck: Comprised of articulated tanker, semi-trailer, low loader, road train and B-double.

Bicycle rider: See *Pedal cycle rider*.

Bus: Includes 'State Transit Authority' bus and long distance/tourist coach.

Car: Includes sedan, station wagon, utility (based on car design), panel van (based on car design), coupe, hatchback, fastback, sports car, taxi-cab, passenger van and four wheel drive vehicle.

Carriageway: That part of the road improved or designed and/or ordinarily used for vehicular movement. When a road has two or more of these portions, divided by a median strip or other physical separation, each of these is a separate carriageway.

Casualty: Any person killed or injured as a result of a crash.

Controller: A person occupying the controlling position of a road vehicle.

Crash: Any apparently unpremeditated event reported to the police and resulting in death, injury or property damage attributable to the movement of a road vehicle on a road.

Driver: A controller of a motor vehicle other than a motorcycle.

Emergency vehicle: Includes ambulance, fire brigade vehicle, police patrol car (or van) and tow truck.

Fatal crash: A crash for which there is at least one fatality.

Fatality: A person who dies within 30 days of a crash as a result of injuries received in that crash.

Footpath: That part of the road which is ordinarily reserved for pedestrian movement as a matter of right or custom.

Heavy truck: Comprised of heavy rigid truck and articulated truck.

Heavy rigid truck: Comprised of rigid lorry and rigid tanker with a tare weight in excess of 4.5 tonnes.

Injured: A person who is injured as a result of a crash, and who does not die as a result of those injuries within 30 days of the crash.

Injury crash: A non-fatal crash for which at least one person is injured.

Intersection crash: A crash for which the first impact occurs at or within 10 metres of an intersection.

Killed: See *Fatality*.

Light truck: Includes panel van (not based on car design), utility (not based on car design) and mobile vending vehicle.

Motor vehicle: Any road vehicle which is mechanically or electrically powered but not operated on rails.

Motorcycle: Any mechanically or electrically propelled two or three-wheeled machine with or without side-car. Includes solo motorcycle, motorcycle with sidecar, motor scooter, mini-bike, three-wheeled special mobility vehicle and moped (motorized 'pedal cycle').

Motorcycle passenger: A person on but not controlling a motorcycle.

Motorcycle rider: A person occupying the controlling position of a motorcycle.

Newcastle Metropolitan Area: Comprised of the following local government areas: Newcastle and Lake Macquarie cities.

Non-casualty crash: A crash for which at least one vehicle is towed away but there is no fatality or person injured.

Passenger: Any person, other than the controller, who is in, on, boarding, entering, alighting or falling from a road vehicle at the time of the crash, provided a portion of the person is in/on the road vehicle.

Pedal cycle: Any two or three-wheeled device operated solely by pedals and propelled by human power except toy vehicles or other pedestrian conveyances. Includes bicycles with side-car, trailer or training wheels attached.

Pedal cycle passenger: A person on but not controlling a pedal cycle.

Pedal cycle rider: A person occupying the controlling position of a pedal cycle.

Pedestrian: Any person who is not in, on, boarding, entering, alighting or falling from a road vehicle at the time of the crash.

Pedestrian conveyance: Any device, ordinarily operated on the footpath, by which a pedestrian may move, or by which a pedestrian may move another pedestrian or goods. Includes non-motorized scooter, pedal car, skateboard, roller skates, in-line skates, toy tricycle, unicycle, push cart, sled, trolley, non-motorized go-cart, bilycart, pram, wheelbarrow, handbarrow, non-motorized wheelchair or any other toy device used as a means of mobility.

Road: The area devoted to public travel within a surveyed road reserve. Includes a footpath and cycle path inside the road reserve and a median strip or traffic island.

Road vehicle: Any device (except pedestrian conveyance) upon which or by which any person or property may be transported or drawn on a road.

Sydney Metropolitan Area: Comprised of the following local government areas: City of Sydney, Bankstown, Blacktown, Botany Bay, Campbelltown, Canada Bay, Canterbury, Fairfield, Holroyd, Hurstville, Liverpool, Parramatta, Penrith, Randwick, Rockdale, Ryde, South Sydney and Willoughby cities, Ashfield, Auburn, Baulkham Hills, Burwood, Camden, Hornsby, Hunters Hill, Kogarah, Ku-ring-gai, Lane Cove, Leichhardt, Manly, Murrumbidgee, Mosman, North Sydney, Pittwater, Strathfield, Sutherland, Warringah, Waverley and Woollahra.

Wollongong Metropolitan Area: Comprised of the following local government areas: Wollongong and Shellharbour cities.

CRITERIA FOR DETERMINING SPEEDING AND FATIGUE INVOLVEMENT

Speeding

The identification of speeding (excessive speed for the prevailing conditions) as a contributing factor in road crashes cannot always be determined directly from police reports of those crashes. Certain circumstances, however, suggest the involvement of speeding. The Roads and Traffic Authority has therefore drawn up criteria for determining whether or not a crash is to be considered as having involved speeding as a contributing factor.

Speeding is considered to have been a contributing factor to a road crash if that crash involved at least one *speeding* motor vehicle.

A motor vehicle is assessed as having been *speeding* if it satisfies the conditions described below under (a) or (b) or both.

- (a) The vehicle's controller (driver or rider) was charged with a speeding offence; or
the vehicle was described by police as travelling at excessive speed; or
the stated speed of the vehicle was in excess of the speed limit.
- (b) The vehicle was performing a manoeuvre characteristic of excessive speed, that is:
 - while on a curve the vehicle jack-knifed, skidded, slid or the controller lost control; or
 - the vehicle ran off the road while negotiating a bend or turning a corner and the controller was not distracted by something or disadvantaged by drowsiness or sudden illness and was not swerving to avoid another vehicle, animal or object and the vehicle did not suffer equipment failure.

Fatigue

The identification of fatigue as a contributing factor in road crashes similarly cannot always be determined directly from police reports of those crashes and the following criteria are used to assess its involvement. Fatigue is considered to have been involved as a contributing factor to a road crash if that crash involved at least one *fatigued* motor vehicle controller.

A motor vehicle controller is assessed as having been *fatigued* if the conditions described under (c) or (d) are satisfied together or separately.

- (c) The vehicle's controller was described by police as being asleep, drowsy or fatigued.
- (d) The vehicle performed a manoeuvre which suggested loss of concentration of the controller due to fatigue, that is
 - the vehicle travelled onto the incorrect side of a straight road and was involved in a head-on collision (and was not overtaking another vehicle and no other relevant factor was identified); or
 - the vehicle ran off a straight road or off the road to the outside of a curve and the vehicle was not directly identified as travelling at excessive speed and there was no other relevant factor identified for the manoeuvre.

Roads and Traffic Authority (2004) Road Traffic Crashes in NSW – 2003 Statistical Statement