NZ TRANSPORT AGENCY
WAKA KOTAHI

New Zealand Government

briefing notes road safety issues

Masterton District

NZ Transport Agency has prepared this road safety issues report. It is based on reported crash data and trends for the 2004–2008 period.

This report is the tenth road safety report for Masterton District. Most of the information, unless otherwise stated in this report, applies to both local roads and state highways.

The intent of the report is to highlight the key road safety issues and assist in identifying possible ways to reduce the number of road deaths and injuries in the district. More detailed information may be obtained from either Masterton District Council (local roads) or NZ Transport Agency. Please refer to the last page for contact details.

The issues chosen for this report are drawn from the most common crash types, those that appear over-represented when Masterton District is compared to similar local authorities and those crashes with a high social cost (relating mainly to high numbers of fatal and serious crashes).

We have also included a brief overview of crashes in Masterton District for 2008.

Major road safety issues
Masterton District
Rear-end/obstruction
Loss of control
Vulnerable road users: pedestrians & cyclists
Alcohol
National issues
Speed
Alcohol
Failure to give way
Restraints

2008 road trauma	
Casualties	**Masterton District**
Deaths	1
Serious injuries	15
Minor injuries	76
Total casualties	92
Crashes	**Masterton District**
Fatal crashes	1
Serious injury crashes	14
Minor injury crashes	55
Non injury crashes	174

Overview 2008

In 2008 in Masterton District there were 70 injury crashes and 174 non-injury crashes reported by the New Zealand Police. Twenty-seven percent of the injury crashes in the district were on state highways. The table below shows the number of injuries resulting from these crashes in the district.

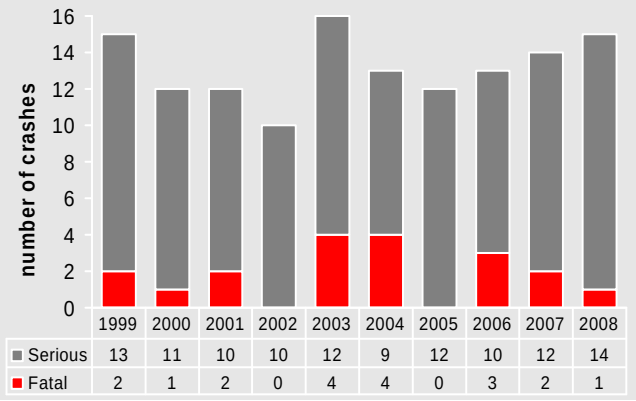
Casualties by injury type in 2008

	Fatalities	Serious injuries	Minor injuries	Total
Total	**1**	**15**	**76**	**92**
Local roads vs state highways				
Local roads	1	13	52	66
State highways	0	2	24	26
Rural vs urban roads				
Rural[1]	1	4	20	25
Urban	0	11	56	67

Note: 1/ Rural - area with a speed limit of 80km/h or more

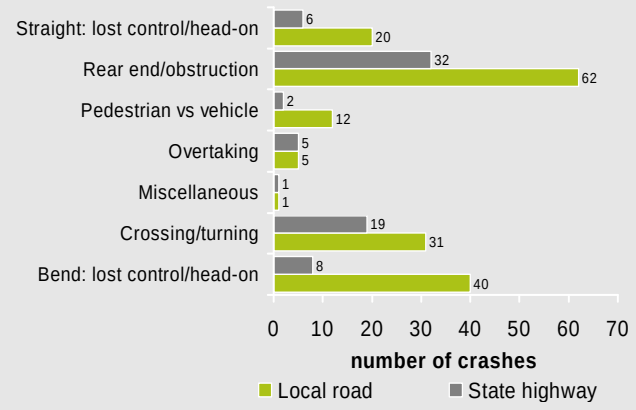
The number of fatal crashes has been gradually decreasing over the last three years. However the latest five year trends show both the number of serious injury crashes, and the total serious and fatal crashes combined to be increasing.

Fatal and serious injury crash trends



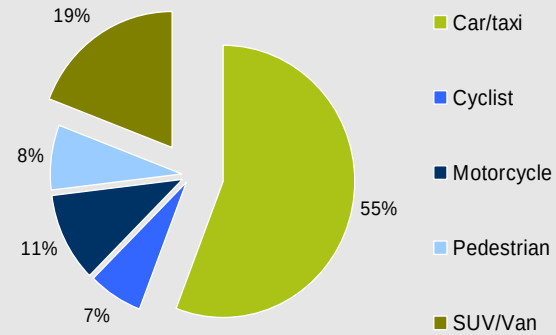
The main type of crashes (of all crashes in the district, both injury and non-injury combined) in 2008 was *rear-end/obstruction* followed by *crossing/turning* and *lost control/head-on at bend* crash movement types.

Crash characteristics (2008)



The highest number of casualties in 2008 were drivers and passengers of cars. Meanwhile vulnerable road users (pedestrians/cyclists/motorcyclists) constituted 26 percent of all casualties.

Casualties by user type in 2008



Further information about all crashes in 2008 on:

Local roads

- Worst month: June (11 percent)
- Worst day of week: Thursday (18 percent)
- Wet road crashes: 18 percent
- Night time crashes: 29 percent
- Alcohol over limit (injury crashes): 16 percent
- Too fast for conditions (injury crashes): 16 percent
- Crashes at intersection: 41 percent
- Road factors: 5 percent
- At fault male driver (injury crashes): 69 percent
- At fault driver held full NZ licence (injury crashes): 56 percent

State highways

- Worst month: August (21 percent)
- Worst days of week: Monday and Tuesday (18 percent each)
- Wet road crashes: 23 percent
- Night time crashes: 26 percent
- Alcohol over limit (injury crashes): 11 percent
- Too fast for conditions (injury crashes): 26 percent
- Crashes at intersection: 48 percent
- Road factors: 10 percent
- At fault male driver (injury crashes): 53 percent
- At fault driver held full NZ licence (injury crashes): 65 percent

Social cost of crashes

Local roads	$ 19.39M
State highways	$ 4.11M
Total	**$ 23.5M**

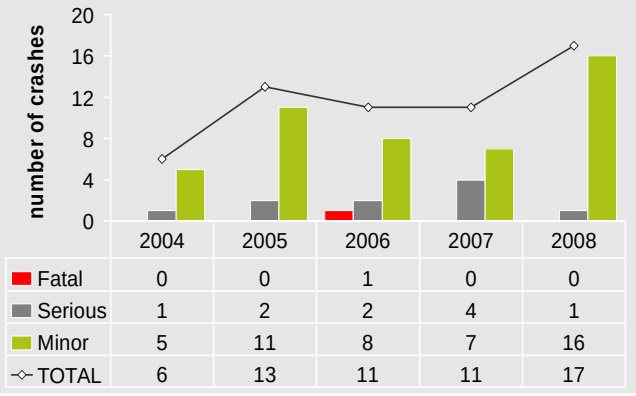
NOTE: The estimated social cost includes loss of life or life quality, loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage.

Rear-end / obstruction

During the most recent five year period (2004-2008) rear-end or obstruction on the roadway type crashes were the most common crash type in Masterton District representing 35 percent of all crashes. These crashes resulted in 1 death, 10 serious injuries and 22 minor injuries. There were a further 328 non-injury crashes reported.

The latest five year data shows an increasing trend in the total number of injury crashes with the highest number reported in 2008, primarily minor injury crashes.

Rear-end injury crash trend



	2004	2005	2006	2007	2008
Fatal	0	0	1	0	0
Serious	1	2	2	4	1
Minor	5	11	8	7	16
TOTAL	6	13	11	11	17

The main crash scenarios for injury crashes of this type in Masterton District 2004-2008 were:

- collision with a right turning vehicle by a straight through vehicle behind : 19 percent
- collision with a parked vehicle on the roadside: 14 percent
- collision with a slower vehicle ahead: 11 percent
- collision with a U-turning vehicle: 9 percent
- Collision with a vehicle that is completing a parking manoeuvre: 9 percent
- collision with a vehicle ahead slowing or stopped for a pedestrian anywhere (pedestrian crossing, the roadway or elsewhere):7 percent
- collision with non-vehicular obstruction (including animals): 7 percent

Driver factors play a significant part in crashes of this type. The number of crashes involving poor observation was 79 percent of all rear-end injury crashes. Failing to notice other traffic ahead slowing was a factor in 28 percent and not seeing or looking for other party until too late was a factor in 13 percent of these rear-end/obstruction injury crashes.

Rear-end and obstruction crashes are more commonly a route rather than a site specific problem, associated with the main traffic flows and were widely distributed, mostly through Masterton town centre.

Rear-end/obstruction injury crash Locations / routes
SH 2 through town centre- High Street, Chapel Street
Queen Street
Dixon Street
Renall Street
Lincoln Road

Further information about all rear-end crashes in Masterton District 2004-2008 on:

Local roads

- 5 serious injury and 40 minor injuries
- Worst month: June (27 crashes)
- Worst day of week: Sunday (7 crashes)
- Wet road crashes: 10 percent
- Night time crashes: 20 percent
- Crashes at intersection: 21 percent
- Road factors: 5 percent
- Alcohol over limit (injury crashes): 6 percent
- Most common injury crash factor: poor observation (83 percent)
- At fault male driver (injury crashes): 59 percent
- At fault driver held full NZ licence (injury crashes): 66 percent
- Most common at fault drivers' age group (injury crashes): 15-19 and 30 to 49 years old

State highways

- 1 death, 5 minor injuries and 19 minor injuries
- Worst month: September (18 crashes)
- Worst day of week: Friday (35 crashes)
- Wet road crashes: 12 percent
- Night time crashes: 16 percent
- Crashes at intersection: 43 percent
- Road factors: 3 percent
- Alcohol over limit (injury crashes): nil
- Most common injury crash factors: poor observation (74 percent) followed by incorrect lane position (30 percent)
- At fault male driver (injury crashes): 78 percent
- At fault driver held full NZ licence (injury crashes): 61 percent
- Most common at fault drivers' age group (injury crashes): 15-19 and 30-39 years old

Loss of control

During the most recent five year period (2004-2008) 47 percent of all injury crashes in Masterton District occurred due to loss of control. These crashes resulted in 8 deaths, 37 serious injuries and 171 minor injuries. There were a further 228 non-injury crashes reported.

The latest five year trends show the combined fatal and serious injury numbers to be steady over this period. The total number of injury crashes were increasing until 2006, followed by significant fall in minor injuries in 2007. Injury crash numbers have been steady for the last two years.

Loss of control injury crash trends

	2004	2005	2006	2007	2008
Fatal	3	0	2	2	1
Serious	4	8	6	5	6
Minor	23	29	30	19	19
TOTAL	30	37	38	26	26

Seventy-one percent of loss of control crashes occurred at bends. These involved a driver losing control of their vehicle, then commonly running off the road or 17 percent of these colliding with another vehicle.

Loss of Control	Local Urban	Local Rural	SH urban	SH Rural
At bends	27%	31%	6%	6%
On Straight	12%	8%	4%	6%

The following table shows a breakdown of the general environment of all loss of control crashes (385 crashes) in Masterton District 2004-2008.

Eighty-one percent of all crashes struck roadside objects. The three most common roadside hazards struck in the district were *fences* (35 percent), *posts or poles* (16 percent) and *ditches* (13 percent) for a total of 420 reported objects struck.

The majority of loss of control crashes were a single vehicle crashes. Alcohol was a factor in a fifth of these crashes, nearly a third of these crashes recorded too fast for conditions and wet roads separately, two-fifths recorded poor handling and a similar number was recorded for the crashes occurring during hours of darkness.

Loss of control crashes

Crash characteristic	Percentage of crashes
Single vehicle	83
Alcohol (injury crashes)	19
Too fast for the conditions (injury crashes)	31
Road factors	15
Poor handling (injury crashes)	40
Rural road	51
Wet road	30
Night time	43

Further information about all crashes due to loss of control in Masterton District 2004-2008 on:

Local roads

- 6 deaths, 33 serious injuries and 132 minor injuries
- Worst months: March (30 crashes)
- Worst day of week: Saturday (61 crashes)
- Wet road crashes: 27 percent
- Night time crashes: 44 percent
- Alcohol over limit (injury crashes): 21 percent
- Most common injury crash factors: poor handling (43 percent) followed by too fast (35 percent)
- At fault male driver (injury crashes): 78 percent
- At fault driver held full NZ licence (injury crashes): 51 percent
- Most common at fault drivers' age group (injury crashes): 15-19 years old

State highways

- 2 deaths, 4 serious injuries and 39 minor injuries
- Worst month: June (12 crashes)
- Worst day of week: Sunday (19 crashes)
- Wet road crashes: 40 percent
- Night time crashes: 41 percent
- Alcohol over limit (injury crashes): 11 percent
- Most common injury crash factors: poor handling (29 percent) followed by too fast (17 percent)
- At fault male driver (injury crashes): 51 percent
- At fault driver held full NZ licence (injury crashes): 62 percent
- Most common at fault drivers' age group (injury crashes): 15-19 years old

Vulnerable road users

Vulnerable road users are those who have very little physical protection in the event of a crash and are therefore more susceptible to severe injuries. These are pedestrians, cyclists and motorcyclists.

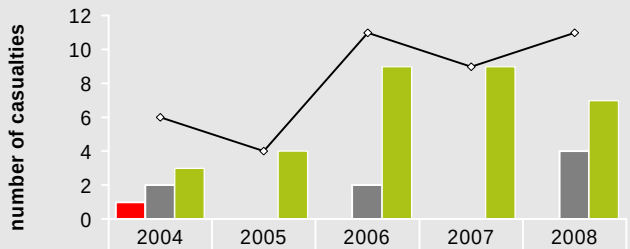
In Masterton District vulnerable road users were involved 39 percent of all injury crashes over the last five years (2004-2008), accounting for 30 percent of all deaths and 36 percent of all serious injuries in the district for this period.

Pedestrians

Injury crashes involving pedestrians in Masterton District accounted for 11 percent of all injury crashes during the last five year period. These pedestrian crashes resulted in 1 death, 8 serious injuries and 32 minor injuries.

The latest five year trends show an increase in the total number of casualties in crashes involving pedestrians, although there has been some fluctuation in the consecutive years.

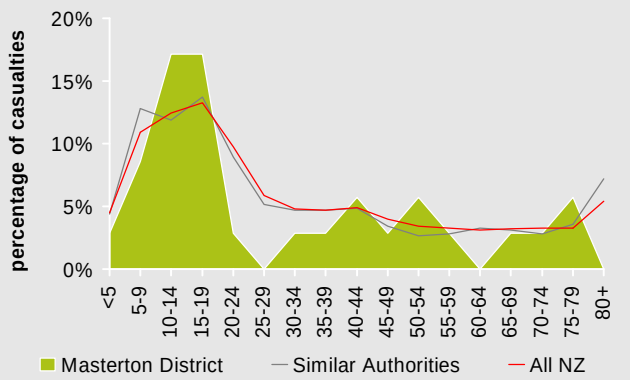
Casualty trends: pedestrian crashes



	2004	2005	2006	2007	2008
Fatal	1	0	0	0	0
Serious	2	0	2	0	4
Minor	3	4	9	9	7
TOTAL	6	4	11	9	11

Thirty-four percent of pedestrians injured were in the 10-19 year age group. The high proportion of pedestrians injured in this age group is significant, making the average age of injured pedestrians lower in the district than in similar authorities and all NZ. Young people under 10 years constituted 12 percent of the pedestrians injured in these crashes.

Age: pedestrians injured 2004-2008



Nearly all pedestrian crashes occurred on urban roads (97 percent). Slightly less than half were at intersections (47 percent). Eighty-one percent took place during the hours of daylight.

The following were the most commonly reported pedestrian factors involved in these pedestrian crashes:

- 24 percent of crashes involved pedestrians crossing roads heedless of traffic
- 7 percent stepped suddenly onto a pedestrian crossing or from behind a parked vehicle

The following were the most commonly reported driver factors involved in these pedestrian crashes:

- 26 percent of crashes involved vehicles failed to give way to pedestrians on a crossing
- 24 percent of crashes involved a driver not seeing or looking for the other party until too late

The high pedestrian crash locations/routes in the district 2004-2008 are shown in the table below:

Location	Number of pedestrians injured
SH 2	11
Queen Street	8
Dixon Street	7
Lincoln Road / Queen Street	4
Renall St / Pownall St	3

Further information regarding pedestrian injury crashes in Masterton District 2004-2008 on:

Local roads

- 1 death, 6 serious injuries and 23 minor injuries
- Worst months: March and July (6 crashes each)
- Worst days of week: Monday and Friday (7 crashes each)
- Wet road crashes: 10 percent
- Night time crashes: 20 percent
- Alcohol over limit (injury crashes): 4 percent
- Crashes at intersection: 36 percent
- Pedestrian factors (injury crashes): 59 percent

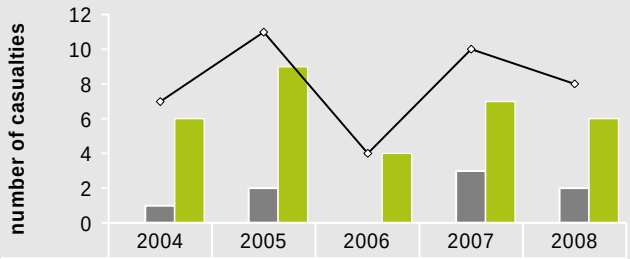
State highways

- 2 serious injuries and 9 minor injuries
- Worst months: March and August (3 crashes each)
- Worst day of week: Friday (3 crashes)
- Wet road crashes: 9 percent
- Night time crashes: 18 percent
- Alcohol over limit (injury crashes): nil
- Crashes at intersection: 45 percent
- Pedestrian factors (injury crashes): 30 percent

Cyclists

Injury crashes involving cyclists in Masterton District accounted for 11 percent of all injury crashes during the last 5 year period, resulting in 8 serious injuries and 32 minor injuries. The latest five year trends show a fluctuation in the total number of casualties involving cyclists.

Cyclist casualties trend

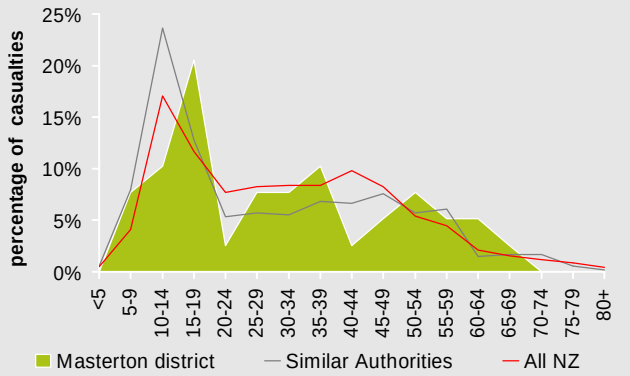


	2004	2005	2006	2007	2008
Fatal	0	0	0	0	0
Serious	1	2	0	3	2
Minor	6	9	4	7	6
TOTAL	7	11	4	10	8

Cyclist injuries are not spread evenly across all age groups. The most commonly injured age group is young cyclists of 10-19 years old (31 percent), this is slightly less than similar authorities average (35 percent) for the same age group. While the second most commonly injured age group in the district is cyclists aged 25-39 years old (26 percent), which is higher than the average for similar authorities (19 percent).

Most (92 percent) cycling crashes occurred on urban roads, 56 percent were at intersections and 90 percent were during daylight hours.

Injuries by age group 2004-2008



At fault drivers in these crashes were mostly male (69 percent), while most at fault drivers held a full drivers licence (81 percent).

The high cyclist crash locations/routes (on the basis of all crashes 2004-2008) in the district are shown in the table below:

Location / route	Number of Cyclist crashes
SH2 entire route through Masterton District	17
SH2 section from Michael Street to Wrigley Street	14
Dixon Street, section Herbert St through to Church Street	6
Ngaumutawa Rd, Worksop Rd	3 crashes each
Church St, Queen St and Villa St	2 crashes each

Further information about cyclist injury crashes in Masterton District 2004-2008 on:

Local roads

- 6 serious injuries and 21 minor injuries
- Worst months: February and August (5 crashes each)
- Worst day of week: Wednesday (8 crashes)
- Most common injury crash factors: poor observation (68 percent) followed by failure to give way/stop (40 percent)
- Crashes at intersection: 42 percent
- Wet road crashes: 13 percent
- Night time crashes: 3 percent
- Alcohol over limit (injury crashes): 4 percent
- Most common age group of injured cyclists: 30 to 49 years old
- Male cyclist injured: (69 percent)

State highways

- 2 serious injuries and 11 minor injuries
- Worst month: August (4 crashes)
- Worst days of week: Monday, Tuesday and Thursday (4 crashes each)
- Most common injury crash factors: poor observation (92 percent) followed by failure to give way/stop (58 percent)
- Crashes at intersection: 79 percent
- Wet road crashes: 11 percent
- Night time crashes: 22 percent
- Alcohol over limit (injury crashes): nil
- Most common age group of injured cyclists: 15 to 19 years old
- Male cyclist injured: (64 percent)

Alcohol

Alcohol affects the way people drive. Studies show that the risk of being involved in a crash increases rapidly as a driver's blood alcohol level rises. A driver over the legal limit (80mg of alcohol per 100ml of blood) is three times more likely to be involved in a crash than a sober driver.

People with high blood alcohol levels are more likely to be injured or killed in a crash than sober drivers in similar crashes.

During 2008, alcohol-affected drivers contributed to 34 percent of all fatal crashes and 15 percent of all injury crashes in New Zealand.

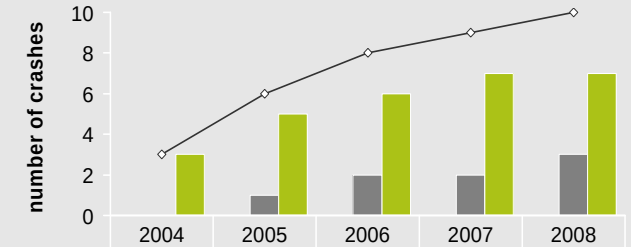
Masterton District

During the most recent five year period (2004-2008) 11 percent of all injury crashes in Masterton District were alcohol related. Although lower than the latest five year average for similar authorities (17 percent), the trend is increasing. In 2008 14 percent of all injury crashes in the city recorded alcohol as a contributing factor.

There were 36 injury and 57 non-injury alcohol related crashes reported in the last five years. These crashes resulted in 11 serious injuries and 36 minor injuries.

The latest five year data shows an increasing trend in the total number of alcohol related injury crashes with the highest number in 2008. There were 3 serious injury crashes reported in 2008.

Alcohol related injury crash trends



	2004	2005	2006	2007	2008
Fatal	0	0	0	0	0
Serious	0	1	2	2	3
Minor	3	5	6	7	7
TOTAL	3	6	8	9	10

Eighty-six percent of alcohol related crashes occurred on local roads, 80 percent of these were single vehicle crashes and these local road crashes account for 83 percent of the serious injuries. Nearly three quarters (72 percent) of alcohol related crashes occurred on urban roads, with speed limits less than 80km/h.

Fifty-four percent of at fault drivers involved in alcohol related crashes held a full New Zealand drivers' licence. Thirty-one percent of at fault drivers held a learner or restricted drivers' licence. Forty-one percent of the at fault drivers were 15-24 years old age group.

Alcohol and speed

Of the 36 alcohol related injury crashes in the district in the last five years (2004-2008), 36 percent occurred due to drivers driving too fast for the conditions. In crashes where driver alcohol and speed were both contributing factors, more than half (55%) of the crashes occurred on local roads in urban areas and they occurred mostly in hours of darkness (82%). Drivers at fault involved in these crashes were mostly of the age group 20-24 years (29 percent), also of significance is the larger grouping aged 30-39 years (36 percent).

Further information about alcohol related crashes in Masterton District 2004-2008 on:

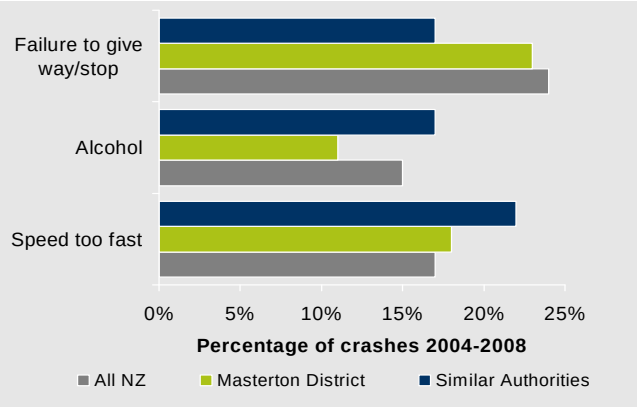
Local roads

- 7 serious injuries and 32 minor injuries
- Worst month: February (10 crashes)
- Worst day of week: Saturday (31 crashes)
- Wet road crashes: 25 percent
- Night time crashes: 80 percent
- Crashes at intersection: 35 percent
- Excessive speed: 39 percent
- Most common injury crash factors: poor handling (26 percent) and poor observation (19 percent)
- Road factors: 3 percent
- At fault male driver (injury crashes): 88 percent
- At fault driver held full NZ licence (injury crashes): 47 percent
- Most common at fault drivers' age group (injury crashes): 15-39 years old

State highways

- 4 serious injuries and 4 minor injuries
- Worst month: April (4 crashes)
- Worst day of week: Friday (6 crashes)
- Wet road crashes: nil
- Night time crashes: 62 percent
- Crashes at intersection: 46 percent
- Excessive speed: 20 percent
- Most common injury crash factors: poor observation (40 percent) followed by failed give way/stop and failed keep left (20 percent each)
- Road factors: 8 percent
- At fault male driver (injury crashes): 57 percent
- At fault driver held full NZ licence (injury crashes): 86 percent
- Most common at fault drivers' age group (injury crashes): 15-24 years old

National issues



Speed

In Masterton District speed too fast was recorded in 18 percent of injury crashes in the last five years resulting in 6 deaths and 81 other injures. Speed as a factor in crashes was slightly reduced in the district in 2008.

Seventy-one percent of speed related crashes were *lost control/head-on at bend* crash movement types. *Alcohol* and *poor handling* are driver factors most often associated with these crashes. Male drivers aged under 25 years old were the group most involved in these crashes.

Alcohol

In Masterton District, alcohol was involved in 11 percent of injury crashes in the last five years resulting in 47 casualties. The number of injury crashes involving alcohol is increasing.

Fifty-eight percent of alcohol related crashes were in urban areas. Sixty-one percent of these crashes involved *lost control/head-on* crash movement types. Travelling *too fast* and *poor handling* are factors often associated with alcohol.

Failure to give way

In Masterton District, *failure to give way or stop* was reported in 23 percent of all reported injury crashes for the last five years resulting in 94 injuries. Most (79 percent) of these were during *crossing/turning* manoeuvres and often associated with *failure to look* for other parties. Sixty-three percent of at fault drivers in these crashes were male.

Restraints

The Ministry of Transport conducts surveys of restraint use. According to 2008 survey results restraint use rate in Masterton District for front seat and rear seat are 96 and 91 percent respectively (while corresponding national rates are 95 and 87 percent). The results are obtainable from the Ministry of Transport website.
http://www.transport.govt.nz/research/safetybeltstatistics/

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