

road safety issues

Auckland Region

Land Transport New Zealand has prepared this road safety issues report. It is based on reported injury crash data and trends for the 2001–2005 period. The intent of the report is to highlight the key road safety issues and be a resource to identify possible ways to reduce the number of road deaths and injuries in the Auckland Region.

Issues discussed in the body of the report are based on analysis of crashes on the region's local roads only and do not include state highways which are covered in a separate report. However, state highway crashes are included in the casualty and social cost charts on this page.

The overview section of this report provides details of the main crash characteristics and trends for the region. The four main issues were chosen based on reported numbers of fatal and serious crashes. These approximate deaths and hospitalisations discussed in the *Auckland Regional Road Safety Plan 2004–2010* and for which target reductions have been set for 2010.

Since 2002, the number of fatal or serious injuries resulting from crashes on local roads within the Auckland Region has dropped by 140 – a massive 25 percent reduction.

Major road safety issues

Auckland Region

Vulnerable road users

Roadside hazards

Poor observation

Crashes at bends

Nationally

Speed

Alcohol

Failure to give way

Restraints



2005 road trauma for Auckland Region



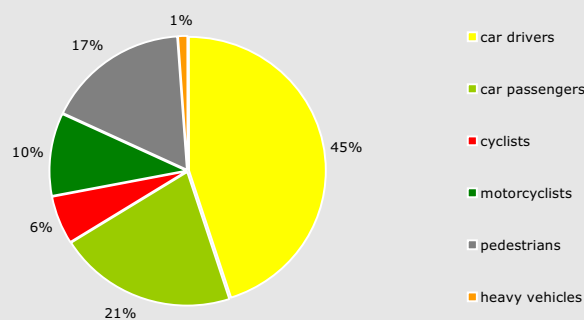
Deaths	74
Serious casualties	472
Minor casualties	3,500



Fatal crashes	66
Serious injury crashes	407
Minor injury crashes	2,619
Non-injury crashes	10,508

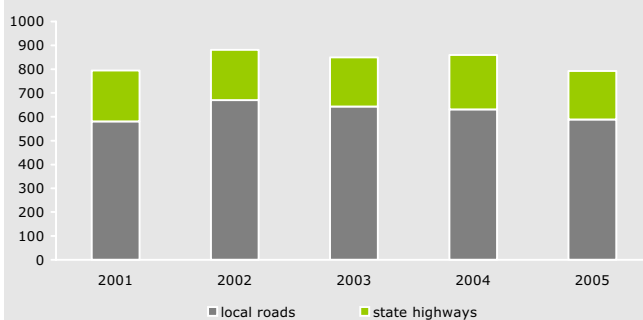
Fatal and serious casualties

User type 2001–2005



Estimated social cost of crashes*

Social cost (\$ million)

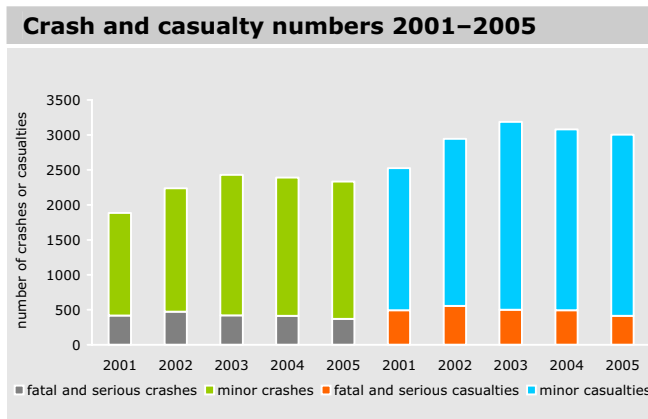


* The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs are expressed at June 2005 prices.

Overview of local road crashes

Crash and casualty trends

Since 2002 the number of fatal or serious injuries resulting from crashes on roads within the Auckland Region has dropped by 140 – a massive 25 percent reduction. The number of crashes resulting in minor injuries has reduced slightly since 2003.

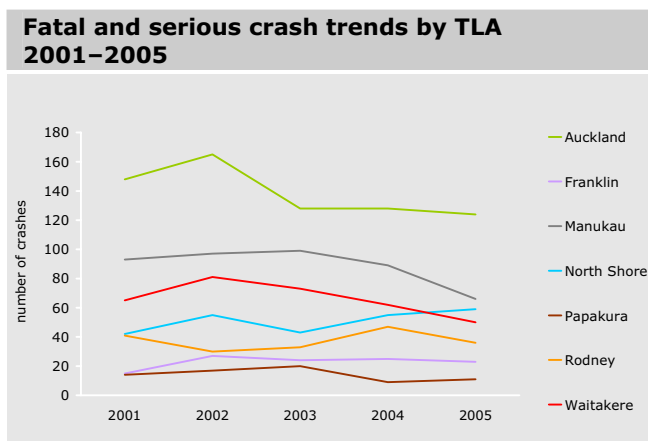


Crashes on local authority roads

The table below shows the percentage of crashes for each of the seven territorial local authorities (TLAs) in the region.

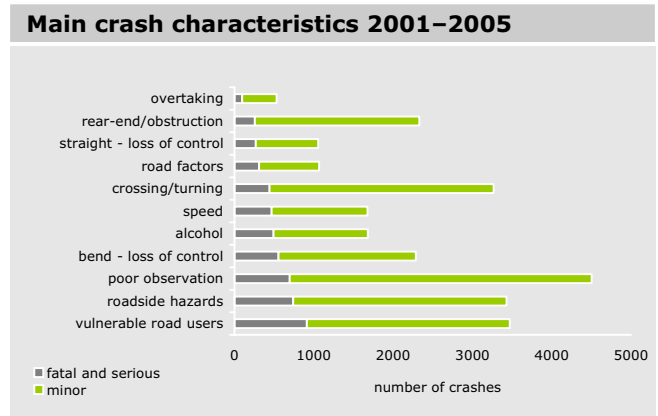
TLA	Injury	Fatal and serious
Auckland City	37%	33%
Franklin District	4%	5%
Manukau City	21%	21%
North Shore City	14%	12%
Papakura District	4%	3%
Rodney District	5%	9%
Waitakere City	15%	16%

The following chart illustrates the five-year trend in fatal and serious crash numbers for each of the TLAs.



Selecting the issues

The four main issues discussed in this report were chosen because they had the highest reported numbers of fatal and serious crashes (as shown in the following chart). Fatal and serious crashes approximate deaths and hospitalisations, upon which targets to 2010 have been set in the national *Road Safety to 2010* strategy, and the *Auckland Regional Road Safety Plan 2004–2010*.



Other significant issues not covered in this report, such as alcohol and speed, also need to be addressed in order to reach the targets.

Selected crash situations

The table below compares the proportions of injury crashes as well as crashes resulting in fatal or serious injuries, over a range of crash situations in the region.

Situation	Injury	Fatal and serious
Wet road	27%	27%
Dry road	73%	73%
Dark	34%	41%
Light	66%	59%
Rural road	11%	17%
Urban road	89%	83%
Intersection	47%	39%
Mid-block	53%	61%

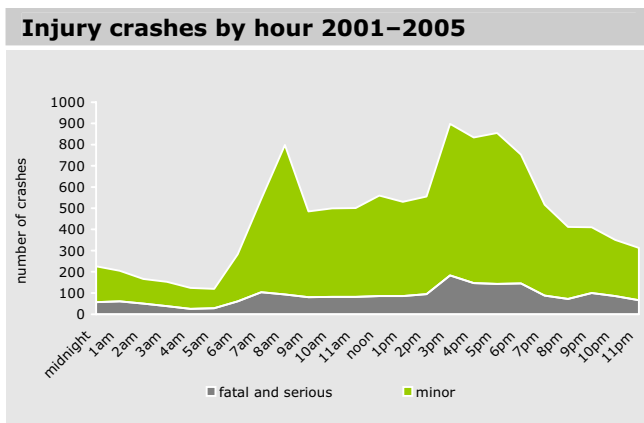
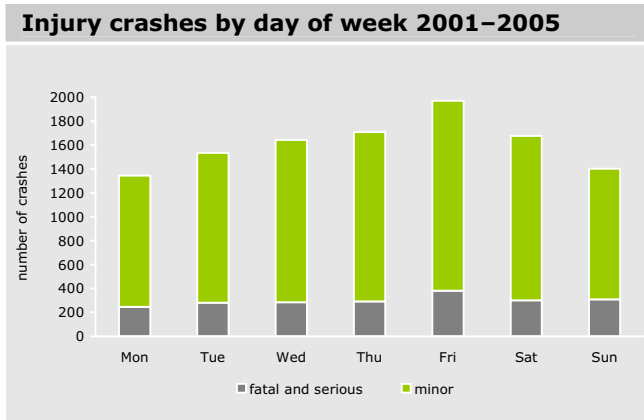
Crashes at night, on rural roads and away from intersections tended to result in higher injury severity. This may be due to higher speeds generally associated with these crashes.

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 as shown below.

Road user	Injury	Fatal and serious
Pedestrians	16%	23%
Motorcyclists	6%	11%
Cyclists	8%	9%

Crash times

The number of crashes and their injury severity generally increased from Monday through to a peak on Friday, and then decreased slightly on Saturday and more so on Sunday.



The highest numbers of fatal and serious as well as minor injury crashes occurred between 3 pm and 4 pm. This coincides with pupils travelling home from school.

A number of crash characteristics were over-represented at night. The numbers in the table below compare with a regional average of 34 percent of all injury crashes occurring at night.

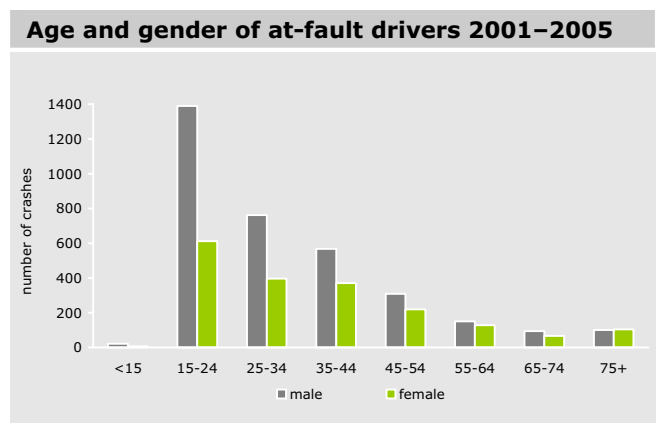
Crash characteristic	Crashes at night
Alcohol	77%
Fatigue	52%
Excessive speed	52%
Loss of control on straight	51%
Roadside hazard struck	49%
Loss of control on bend	48%
Weekend	48%

Drivers at fault

The following chart shows the gender and age distribution of drivers deemed to have been at fault in crashes. Most crashes (64 percent) were caused by male drivers, and these crashes typically resulted in more severe injuries than crashes involving female drivers. Male drivers were primarily responsible for crashes involving:

- alcohol
- excessive speed for the conditions
- overtaking
- loss of control
- poor handling
- fatigue.

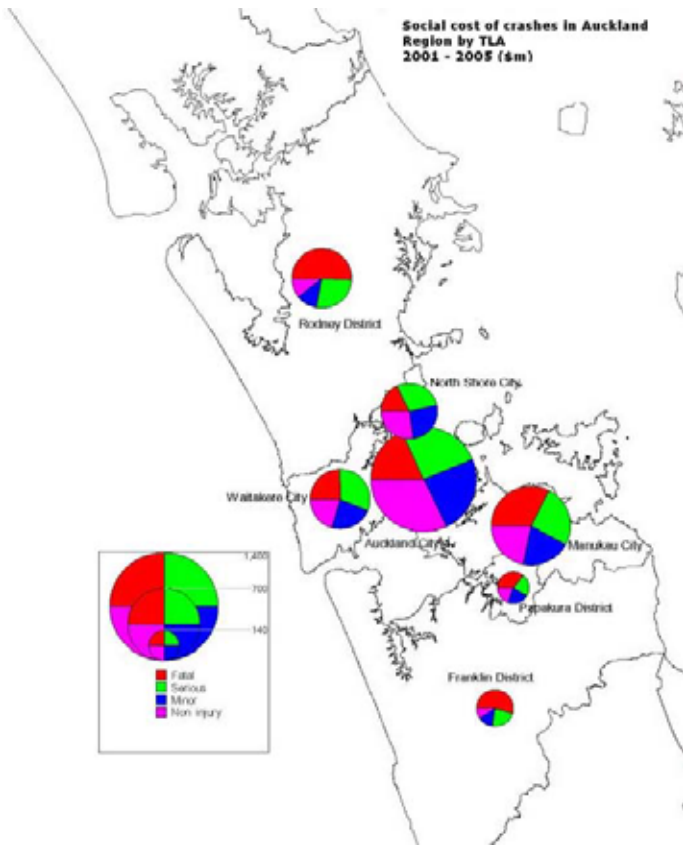
Female drivers were disproportionately represented in crashes involving failure to give way or stop, or poor observation.



The table below compares drivers at fault against all drivers involved in crashes for different classes of driver licence.

Licence status	All drivers	Drivers at fault
Full	68%	56%
Learner/restricted/overseas	26%	34%
Disqualified/expired/forbidden/never licensed/wrong class	6%	10%

A higher proportion of unlicensed or disqualified drivers and also drivers with conditional licences were at fault in crashes than drivers holding a full licence.



The table below compares the proportion of injury crashes for pedestrians, cyclists and motorcyclists over a range of road situations.

Situation	Pedestrian	Cyclist	Motorcyclist
Wet road	19%	13%	17%
Dry road	81%	87%	83%
Dark	27%	16%	27%
Light	73%	84%	73%
Rural road	1%	2%	12%
Urban road	99%	98%	88%
Intersection	38%	56%	51%
Mid-block	62%	44%	49%

Compared with regional averages, a much lower proportion of crashes occurred on wet roads, in the dark and on rural roads (with the exception of motorcyclists). Approximately two pedestrian crashes were at mid-block locations for every crash at an intersection, while cyclist and motorcyclist crashes were fairly evenly divided between intersections and mid-block locations.

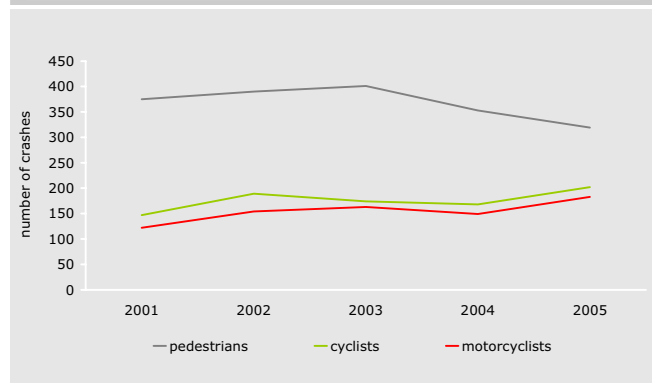
The following chart shows the numbers and the crash trends of the three vulnerable road user categories. The number of pedestrian crashes has reduced substantially in the last two years, while cyclist and motorcyclist crashes increased significantly in 2005.

Vulnerable road users

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

Vulnerable road users were involved in 31 percent of the region's injury crashes, and 44 percent of the fatal or serious crashes between 2001 and 2005. In this period they accounted for 99 fatalities, 849 serious injuries and 2,829 minor injuries.

Vulnerable road user categories 2001-2005



Vulnerable road user injury crashes 2001-2005



The number of fatal and serious crashes has reduced steadily since 2002, while minor crashes increased substantially last year.

Pedestrians

Most pedestrian crashes occurred on roads with high traffic volumes such as arterials or major collector roads. The majority of crashes involved pedestrians attempting to cross the road where in most cases they were struck by a vehicle approaching from the pedestrian's right side. Common crash causes are shown in the following table.

Crash cause	Crashes
Running/walking heedless of traffic	59%
Vehicle failed to give way at crossing	5%
Vehicle failed to give way in other situation	4%
Stepped out from behind parked car	8%
Unsupervised child	9%
Pedestrian intoxicated	6%
Pedestrian not complying with traffic signals or school patrol	3%

Just under half of pedestrians injured were aged 19 or less, with peak times coinciding with school start and finish times on week days.

Cyclists

Almost 60 percent of cyclist crashes involved crossing or turning movements, mostly at intersections. The remaining crashes were generally rear-end or overtaking types and occurred primarily in mid-block locations. Some of the most common crash causes are listed below.

Crash cause	Crashes
Failure to give way at a driveway	8%
Failure to give way in other situations	46%
Inadequate checking before giving way	56%
Riding on the footpath	9%
Cyclist wandering or wobbling along road	3%

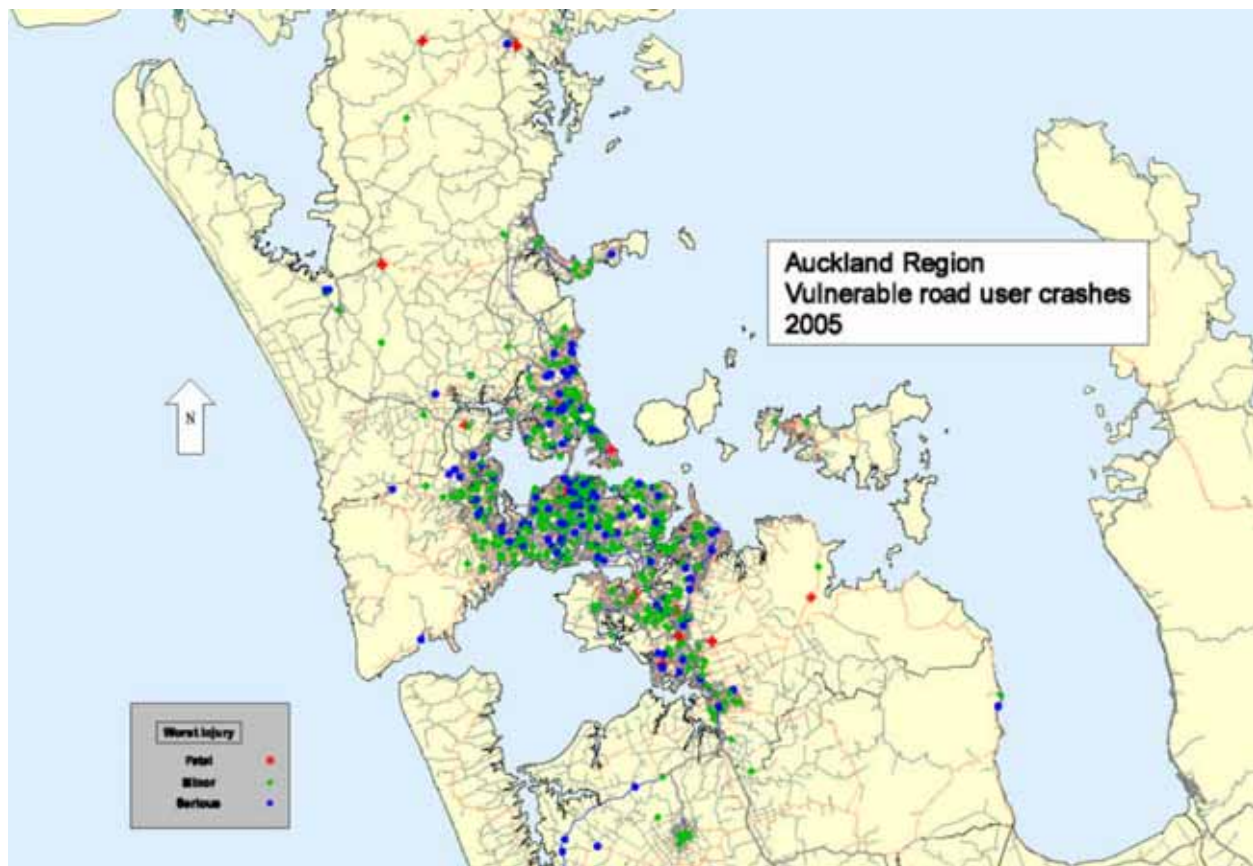
Over three quarters of cyclist crashes involved males. Crashes were fairly evenly spread among cyclists from five to 60 years old, although peak age groups were 10 to 14 and 30 to 34 year olds. Most crashes occurred on weekdays with peak times being around 8 am and between 4 pm and 6 pm.

Motorcyclists

Over 40 percent of crashes involving motorcyclists involved crossing or turning movements and around three quarters of these were at intersections. Remaining crashes were fairly evenly split between loss of control and rear-end movements, most of these occurring mid-block. The most common crash causes are listed below.

Crash cause	Crashes
Poor observation	56%
Failure to give way or stop	40%
Excessive speed for the conditions	10%
Poor handling	13%
Road factors	16%

Road factors were primarily a slippery surface due to rain or loose material and poor visibility. Eighty-seven percent of motorcyclist injuries involved males, the peak groups being aged between 20 to 34 years old. Crashes were spread evenly throughout the week apart from a peak on Fridays.



Roadside hazards

Roadside hazards were struck in 35 percent of fatal or serious crashes and 30 percent of injury crashes between 2001 and 2005. Crash numbers reduced last year to below the level of 2003.



In total, 4,790 roadside hazards were struck in 3,430 crashes in the last five years. These crashes resulted in 139 fatalities, 759 serious injuries and 3,643 minor injuries. Some of the roadside hazards most frequently struck were as follows.

Roadside hazard	Number of strikes	Proportion fatal and serious
Parked vehicle	826	14%
Post or pole	759	24%
Fence	672	22%
Tree	580	26%
Cliff or bank	350	26%
Ditch	237	25%
Kerb	183	22%
Traffic sign	182	23%
Water	26	46%

Although parked vehicles were the most commonly struck roadside hazard, only one in seven resulted in a fatal or serious injury. Water was the most dangerous hazard resulting in a fatal or serious injury almost half the time. Some of the main characteristics of roadside hazard crashes are set out below.

Crash characteristic	Crashes
Loss of control	69%
Crash at a bend	48%
Urban road	80%
Mid-block location	70%
Single vehicle	74%
Excessive speed for the conditions	31%
Alcohol	31%
Road factors	15%
Poor handling	26%
Fatigue	9%

Forty-nine percent of roadside hazard crashes occurred at night compared with 34 percent of all crashes in the Auckland Region. The following table shows examples of individual characteristics of these crashes that occurred disproportionately at night or in the wet.

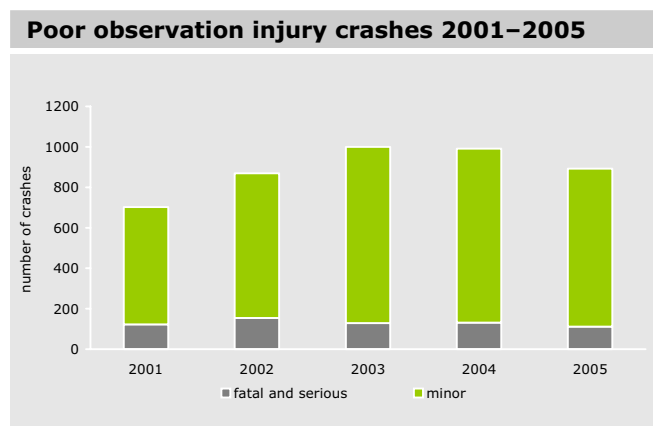
Description	Night	Wet
Alcohol	81%	33%
Excessive speed	63%	40%
Road factors	43%	70%
Poor handling	47%	42%
Fatigue	59%	26%

Road factors were primarily a slippery surface, although the condition of the road surface itself and restricted visibility along the road, were also concerns.

Male drivers were at fault in over two thirds of crashes and over three quarters of drivers were aged between 15 and 44 years old. The worst days for crashes were Saturdays, Fridays and Sundays.

Poor observation

Poor observation contributed to one third of crashes resulting in fatal or serious injuries, and 39 percent of all injury crashes between 2001 and 2005. In this period, 56 fatalities, 661 serious injuries and 5,076 minor injuries were attributed to crashes where poor observation was a factor. Crash numbers reduced substantially in 2005.



Most crashes involving poor observation were either crossing or turning movements or rear-end collisions.

Crossing or turning crashes

Crossing or turning crashes generally involved drivers failing to give way by not checking properly for other traffic at intersections or driveways. The most common factors associated with these crashes are shown below.

Crash factor	Crashes
Checked too late when required to give way to traffic from another direction	74%
Failure to give way to non-turning traffic when turning	38%
Failure to give way at Give Way sign	24%
Failure to give way at Stop sign	13%
Failure to give way at driveway	10%

A disproportionate number of cyclists and motorcyclists were involved in these crashes. Female drivers were at fault in approximately half of these crashes, the peak age group being 15 to 24 year olds. Peak times for crashes were from 7 am to 9 am, midday and from 3 pm to 6 pm. Crash numbers generally increased throughout the week from Monday to Friday with the lowest numbers on weekends.

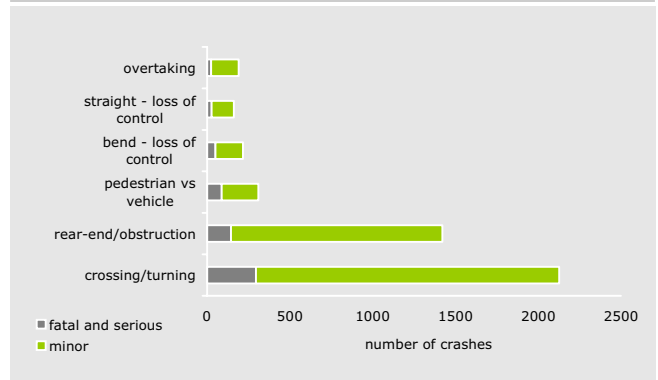
Rear-end crashes

Rear-end crashes typically involved drivers not responding appropriately to situations around them in the traffic stream. The most common factors are shown below.

Crash factor	Crashes
Failure to notice car slowing	38%
Didn't check behind when changing lanes	20%
Alcohol	8%
Attention diverted – driver dazzled by sun/ lights	5%
Attention diverted by other traffic	6%
Didn't check behind when reversing	5%

Female drivers were disproportionately at fault in rear-end crashes. Young drivers in the 15 to 24 year old age group were over-represented. Peak crash times were around 8 am and 3 to 6 pm. The number of crashes generally increased throughout the working week, with highest numbers on Fridays and lower numbers during the weekend.

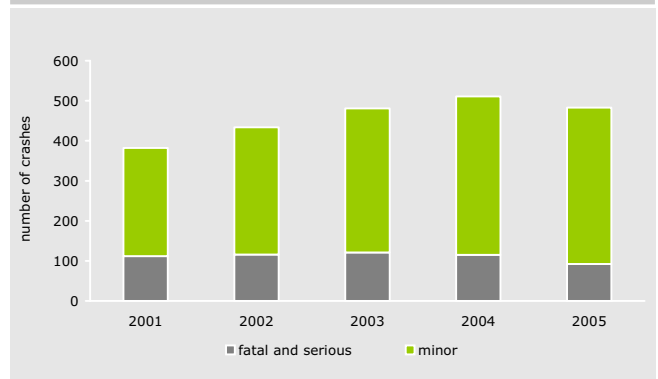
Crash type 2001–2005



Crashes at bends

Between 2001 and 2005, 27 percent of crashes resulting in fatal or serious injury and 20 percent of all injury crashes occurred at bends. These crashes resulted in 98 fatalities, 606 serious injuries and 2,612 minor injuries. Crash numbers reduced in 2005 compared with the previous year.

Injury crashes at bends 2001–2005



Most crashes at bends involved a driver losing control of their vehicle. The following lists the main characteristics.

Crash characteristic	Crashes
Single vehicle	69%
Head-on collision	26%
Roadside hazard struck	70%
Alcohol	30%
Excessive speed for the conditions	45%
Road factors	26%
Poor handling	36%
Urban road	70%

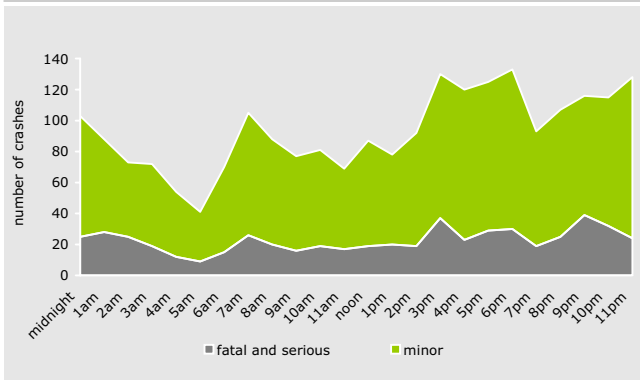
Crashes at bends were over-represented at night (49 percent) and on wet roads (41 percent) compared with the regional average. Some of the individual characteristics of these crashes were also over-represented.

Description	Night	Wet
Head-on	38%	64%
Alcohol	79%	35%
Excessive speed	55%	45%
Road factors	36%	74%

Road factors generally involved a slippery road surface, although the condition of the road surface itself and restricted visibility along the road also featured.

Drivers at fault were young males in approximately three quarters of these crashes and almost half were aged between 15 and 24 years. Crash numbers generally rose throughout the week from Monday to Saturday, with a slight drop on Sunday. The distribution of crashes throughout the day is shown below.

Crashes at bends by time of day 2001–2005



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