

road safety issues

The Land Transport Safety Authority (LTSA) has prepared this road safety issues report. It is based on reported injury crash data and trends for the 1999–2003 period. The intent of the report is to highlight the key road safety issues and to identify possible ways to reduce the number of road deaths and injuries in Auckland Region.

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

The overview section of this report gives details of trends and the main crash characteristics for the region. Issues reported on are based on fatal and serious crashes, which are comparable with the deaths and hospitalisations figure in the *Auckland Regional Road Safety Plan 2004–2010* and for which target reductions have been set for 2010. The table below shows the spread of crashes within the region.

Crashes on local authority roads

TLA	Injury	Fatal and serious
Rodney District	5%	8%
North Shore City	13%	11%
Waitakere City	15%	15%
Auckland City	37%	35%
Manukau City	22%	22%
Papakura District	4%	4%
Franklin District	4%	5%

Major road safety issues

Auckland Region

Roadside hazards

Vulnerable road users

Crashes at bends

Poor observation

Nationally

Speed

Alcohol

Failure to give way

Restraints



2003 road trauma for Auckland Region



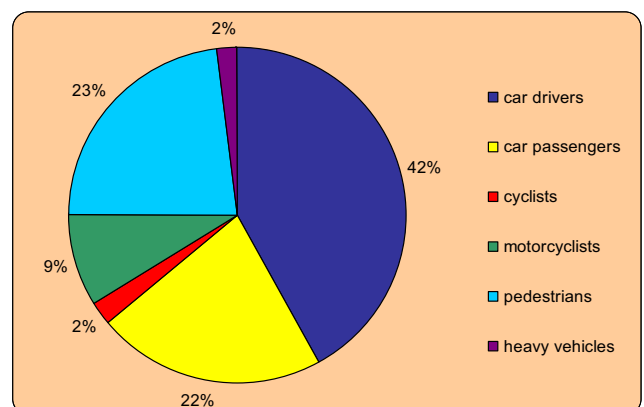
Deaths	79
Serious casualties	520
Minor casualties	3,432



Fatal crashes	75
Serious injury crashes	419
Minor injury crashes	2,563
Non-injury crashes	11,277

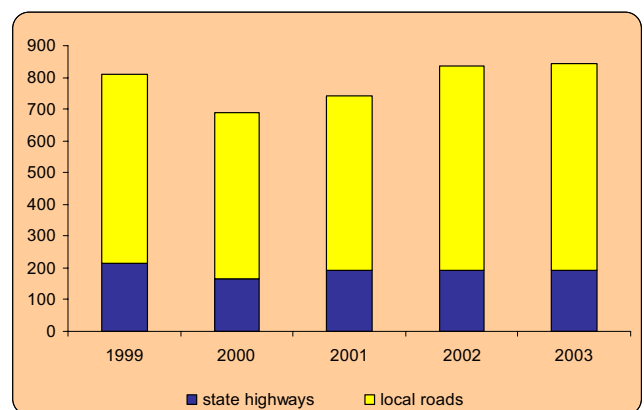
Road deaths 1999–2003

User type



Estimated social cost of crashes*

Social cost (\$ million)



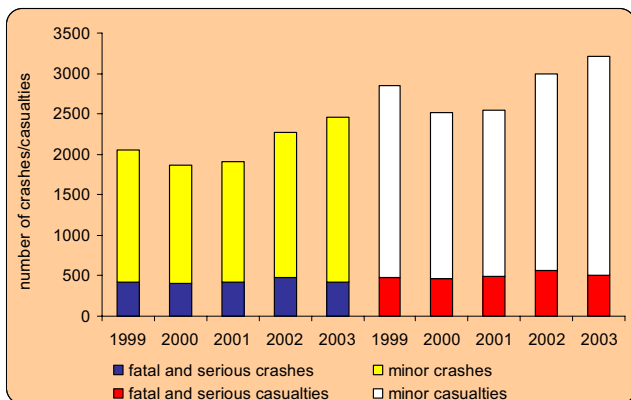
*The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs are expressed at June 2002 prices.

Overview of local road crashes

Crash and casualty trends

The overall number of injury crashes and casualties within the Auckland Region has increased for each of the last two years. Most of this increase has been the result of more crashes involving minor injuries. The combined number of fatal and serious injuries reduced by almost 60 last year compared with a peak in 2002.

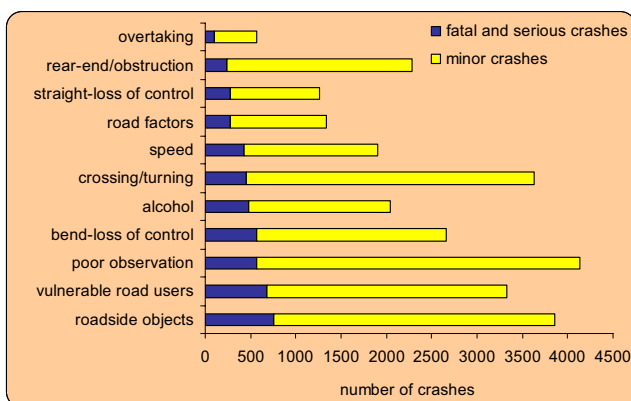
Crash and casualty numbers



Main crash characteristics

The four main issues discussed in this report were chosen because crashes with their characteristics had the highest numbers of fatal and serious injuries (as shown in the chart below). Focusing on crashes resulting in severe injury is consistent with the national *Road Safety to 2010* strategy and the *Auckland Regional Road Safety Plan 2004–2010*. These documents both set targets for reductions in deaths and hospitalisations arising from road crashes.

Main crash characteristics



Crash types not specifically covered in this report also need to be addressed if these targets are to be met.

Selected crash situations

The following table shows the proportions of injury crashes, plus crashes resulting in fatal or serious injuries, for a selected number of crash situations in the region.

Situation	Injury crashes	Fatal/serious crashes
Wet road	28%	26%
Dry road	72%	74%
Dark	34%	41%
Light	66%	59%
Rural road	11%	17%
Urban road	89%	83%
Intersection	47%	37%
Mid-block	53%	63%

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.

Higher risk of severe injury is also associated with some road users, as shown below:

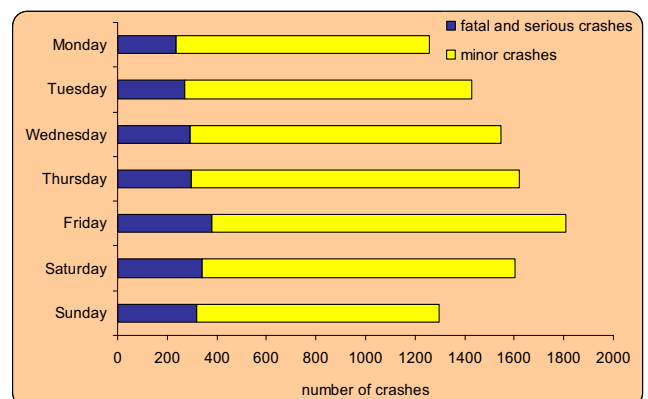
Road users	Injury crashes	Fatal/serious crashes
Pedestrians	17%	24%
Motorcyclists	6%	11%
Cyclists	8%	7%

These road users are vulnerable through having little protection in a crash. However, it is interesting to note that cyclists did not suffer a high proportion of severe injuries. Motorcyclists often travel at higher speeds than other traffic.

Crash times

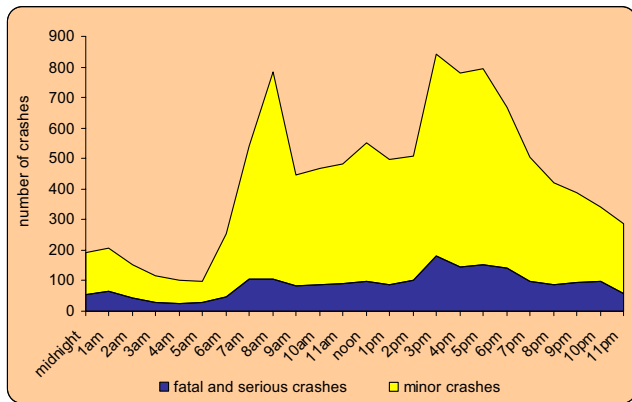
The number and severity of crashes increased from Monday through to Friday then tapered off slightly on Saturday and more so on Sunday.

Day of week for crashes



The peak periods for crashes were from 3 pm to 5 pm and also around 8 am.

Time of day for crashes



A number of crash types and crash factors were over-represented at night, as shown below:

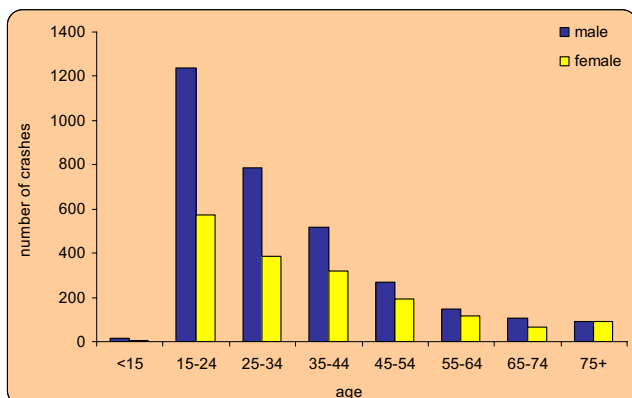
Crash characteristic	Percent at night
Alcohol	77%
Fatigue	54%
Excessive speed	52%
Straight-loss of control	51%
Roadside hazard struck	49%
Bend-loss of control	48%

These figures compare with a regional average of 34 percent of crashes at night.

Drivers at fault

The following chart shows the gender and age distribution of drivers deemed to have been at fault in crashes. Sixty-four percent of crashes were caused by male drivers and 37 percent by drivers aged between 15 and 24 years old.

Drivers at fault in crashes



Male drivers had proportionally more crashes resulting in severe injuries than females. This can be explained by males being involved in the majority of crashes involving excess speed. Women drivers were disproportionately represented in crossing or turning crashes, where failure to give way or poor observation was often a factor.

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

Licence status	All drivers	Drivers at fault
Full	70%	59%
Learner/restricted/ overseas	23%	29%
Disqualified/expired/ forbidden/never licenced	6%	11%

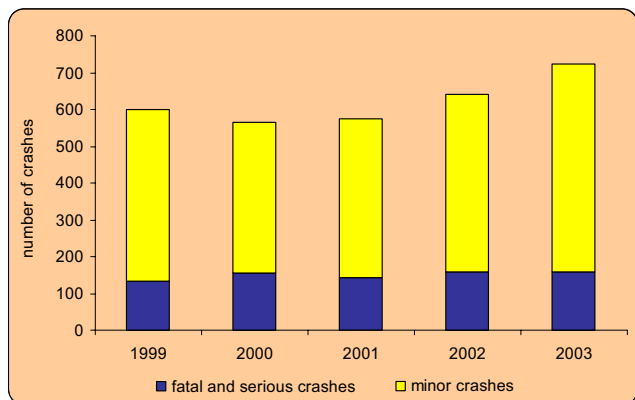
It is evident that unlicenced/disqualified drivers and also drivers with conditional licences were at fault in proportionately more crashes than those holding a full licence.



Roadside hazards

Roadside hazards were struck in 35 percent of the fatal or serious crashes and 29 percent of all injury crashes in the Auckland Region between 1999 and 2003. Crash numbers have been steadily increasing since 2000.

Crashes with roadside hazards



In total, 4,409 roadside hazards have been struck in 3,108 crashes in the last five years. These crashes resulted in 121 fatalities and 4,133 injuries. The roadside hazards most frequently struck are shown below.

Roadside hazard	Number of strikes
Post/pole	764
Parked vehicle	676
Fence	575
Tree	542
Cliff/bank	344
Ditch	234
Kerb	206
Traffic sign	158

Solid objects or unprotected hazards near the side of a road increase the likelihood of severe injuries occurring in a crash. Programmes to remove hazards or mitigate their effects based on risk would be beneficial.

Some of the main characteristics of these crashes are set out below.

Crash characteristic	% of crashes
Vehicle lost control	69%
At a bend	46%
Urban road	80%
Mid-block location	70%
Single vehicle	73%
Excessive speed	29%
Alcohol	31%
Road factors	18%
Poor handling	23%
Fatigue	9%

As shown in the overview section, crashes involving roadside hazards occurred disproportionately at night compared with all crashes in the Auckland Region. Some of the individual characteristics of roadside hazard crashes were over-represented either at night or in the wet as shown below.

Description	% at night	% in wet
Alcohol	79%	32%
Speed	61%	39%
Road factors	43%	70%
Poor handling	47%	40%
Fatigue	59%	24%

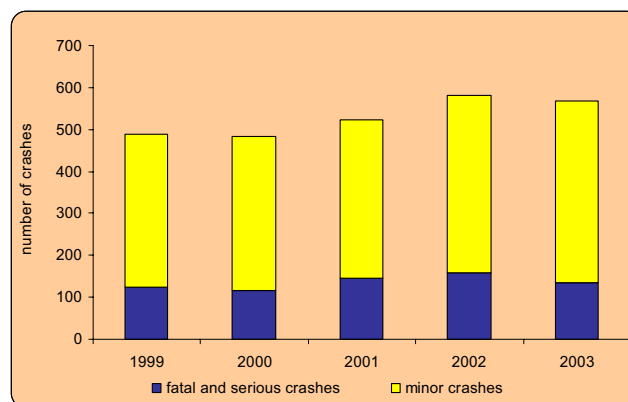
Most road factors were concerned with a slippery surface, although the condition of the road surface itself and restricted visibility along the road also featured.

Male drivers were at fault in 70 percent of these crashes and three quarters were aged between 15 and 39 years old. Crash numbers were fairly evenly spread from Monday to Wednesday, increased substantially from Thursday to Saturday and fell slightly on Sunday.

Vulnerable road users

Vulnerable road users were involved in 32 percent of fatal or serious crashes and a quarter of all injury crashes in the Auckland Region. Between 1999 and 2003, there were 76 fatalities and 2,809 other injuries. Pedestrians accounted for 69 percent of vulnerable road user crashes and cyclists accounted for most of the remainder. Crash numbers have generally been trending upward in the past four years. Last year, however, saw a reduction in the number of crashes resulting in fatal or serious injuries.

Vulnerable road users



The following table compares details for pedestrians and cyclists for a number of selected crash situations, using the same format as in the overview of local road crashes.

Situation	Pedestrians	Cyclists
Wet road	19%	13%
Dry road	81%	87%
Dark	26%	15%
Light	74%	85%
Rural road	1%	2%
Urban road	99%	98%
Intersection	36%	55%
Mid-block	64%	45%

When comparing these figures with the regional averages shown in the overview section, it is apparent that pedestrians and cyclists had fewer crashes than other road users in the wet, at night and on rural roads. Since many pedestrian and cyclist trips are connected with school activities, it is not surprising that a higher proportion of crashes occur on urban roads in daytime. Lower numbers of wet road crashes could suggest that pedestrians and cyclists use other transport modes during inclement weather.

A high proportion of pedestrian crashes occurred in mid-block locations, generally where no formal pedestrian crossings existed. Common crash causes are set out below.

Crash cause	% of crashes
Running/walking heedless of traffic	59%
Vehicle failed to give way at crossing	7%
Vehicle failed to give way in other situations	5%
Stepped from behind parked car	6%
Unsupervised child	9%
Pedestrian intoxicated	6%
Pedestrian not complying with traffic signals or school patrol	4%

Sixty percent of cyclist crashes involved crossing or turning movements, generally at intersections, with most remaining crashes being either rear-end collisions or overtaking manoeuvres. Some common crash causes were:

Crash cause	% of crashes
Failure to give way at a driveway	10%
Failure to give way or stop in other situations	45%
Inadequate checking before giving way	43%
Riding on footpath	9%
Entering or leaving land use	28%

Over three quarters of cyclist crashes involved males. Pedestrian crashes were more evenly spread with 54 percent involving males. The table below shows the age distribution of vulnerable road users involved in crashes within the Auckland Region.

Age (years)	Percent of injuries
0 to 9	15%
10 to 14	16%
15 to 24	21%
25 to 49	30%
50 and over	18%

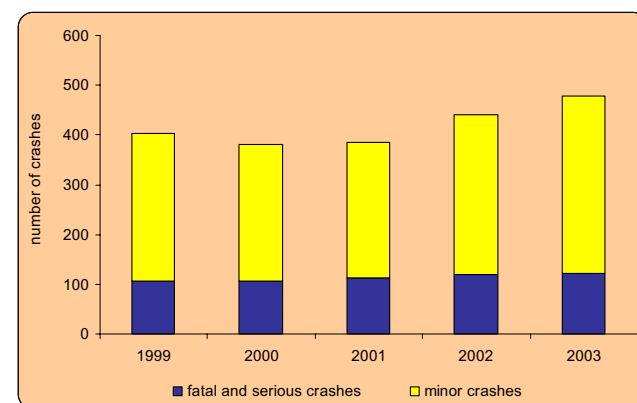
Crash numbers were highest on week days, with Sunday having far fewer crashes than other days. Peak crash times were between 3 pm and 5 pm and around 8 am.



Crashes at bends

Between 1999 and 2003, 27 percent of crashes resulting in fatal or serious injury and 20 percent of all injury crashes in the Auckland Region occurred at bends. During this time there were 96 fatalities and 2,000 other injuries. Crash numbers have been increasing steadily since 2000.


Crashes at bends



Crashes at bends usually involved a driver losing control of their vehicle and had the following main characteristics:

Crash characteristic	% of crashes
Single vehicle	73%
Head-on collision	27%
Roadside hazard struck	69%
Alcohol	30%
Excessive speed	43%
Road factors	31%
Poor handling	31%
Urban road	70%

The proportion of crashes on bends occurring at night (48 percent) or in the rain (42 percent) was higher than the regional average. Some of the individual characteristics of these crashes were over-represented.

Description		% at night	% in wet
Head-on		33%	63%
Alcohol		79%	33%
Speed		54%	46%
Road factors		35%	75%

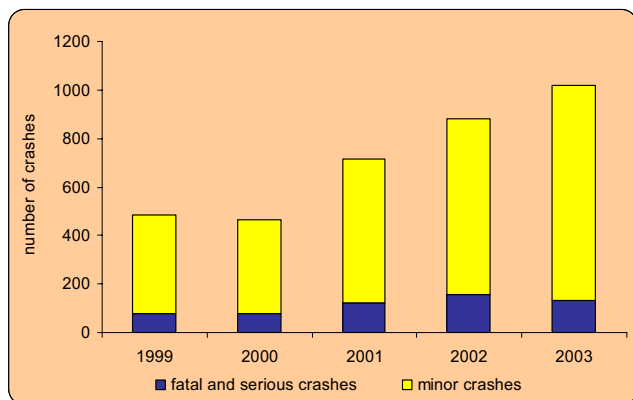
Most road factors were concerned with a slippery surface, although the condition of the road surface itself and restricted visibility along the road also featured. Night-time delineation and lighting on routes and road surface friction should be investigated in response to these crashes.

Drivers at fault were young males in around three quarters of 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.

Poor observation

Poor observation contributed to 27 percent of crashes resulting in fatal or serious injuries and 34 percent of all injury crashes in the Auckland Region between 1999 and 2003. In this period, 50 fatalities and 4,676 other injuries were attributed to crashes where poor observation was a factor. Crash numbers have been rising sharply since 2000.

Crashes involving poor observation



Most crashes were either intersection type turning or crossing movements or rear-end collisions. 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 were:

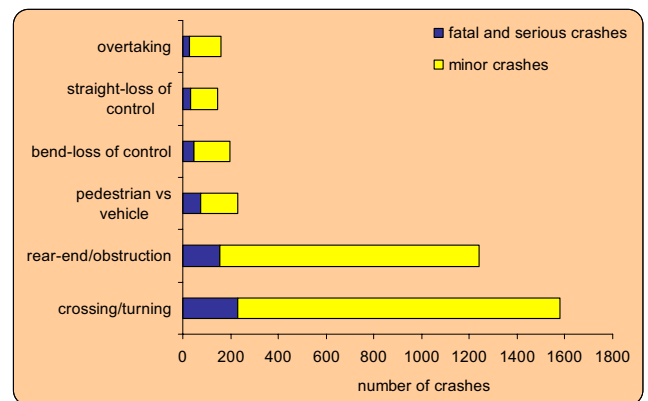
Crash factor	% of crashes
Checked too late when required to give way to traffic from another direction	70%
Failure to give way when turning to non turning traffic	39%
Failure to give way at give way sign	22%
Failure to give way at stop sign	13%
Failure to give way at driveway	8%

A disproportionate number of cyclists and motorcyclists were involved in these crashes. They may be difficult for other road users to see in complex situations due to their small size.

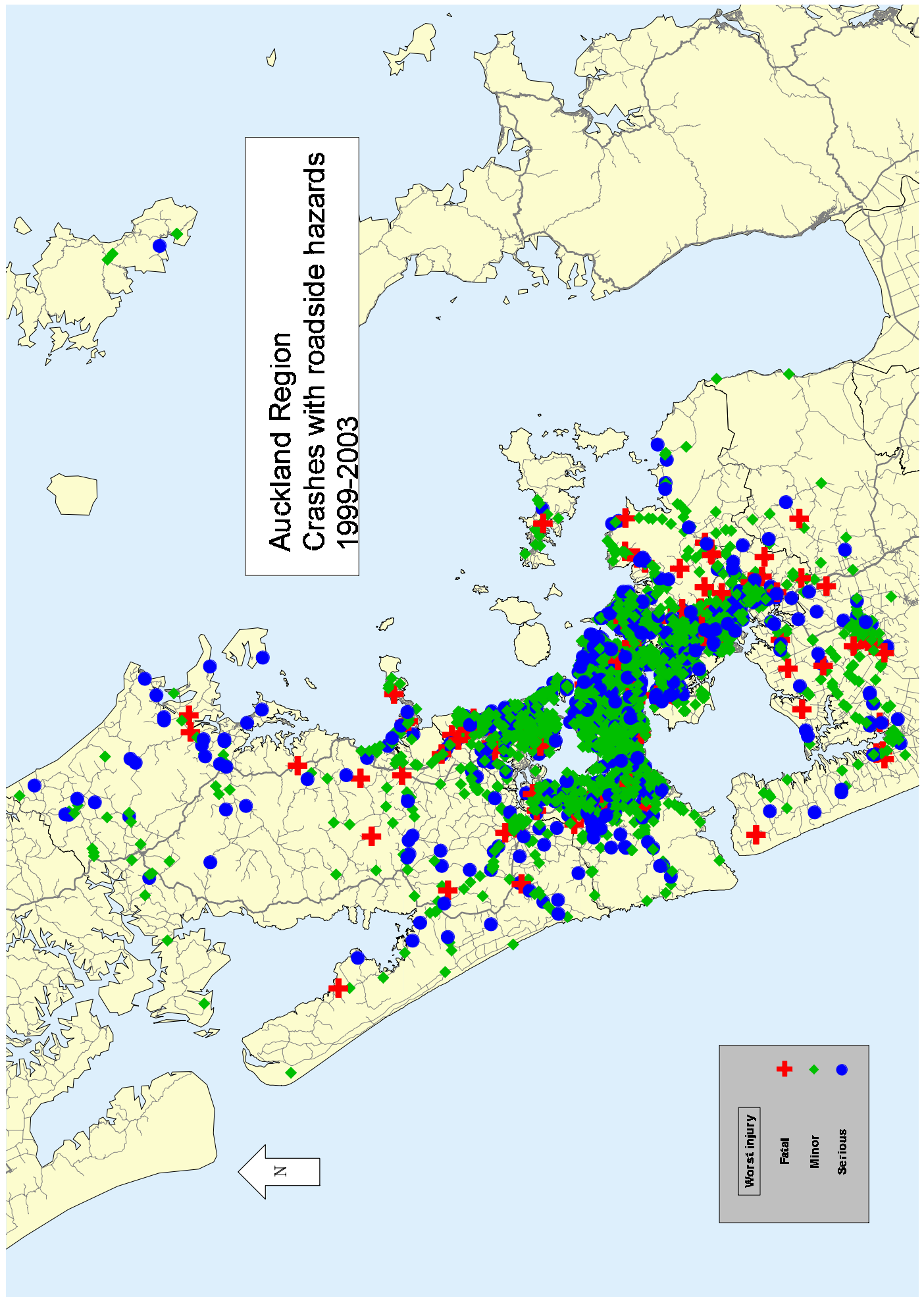
Rear-end crashes typically involved drivers not responding properly to situations around them in the traffic stream, with the most common factors being:

Crash cause	% of crashes
Failure to notice car slowing	37%
Didn't check behind when changing lanes	25%

Crash movement types



Women drivers were at fault in 49 percent of crossing or turning crashes and 46 percent of rear-end collisions, compared with their regional average of 36 percent in all crashes. Almost three quarters of crashes were caused by drivers aged between 15 and 44 years old and most occurred during daylight hours with a reasonably even spread between 7 am and 8 pm. Crash numbers generally increased throughout the week from Monday to Friday, dropping somewhat on Saturday and substantially on Sunday.



Road environment

The LTSA's crash reduction monitoring database shows that works implemented as a result of crash reduction studies have reduced crashes at the study sites by 31 percent in Auckland Region (45 percent at state highway sites and 25 percent at local road sites).

Recommendations from recent studies should be implemented as soon as possible. Analysis of the crashes at all completed sites should be undertaken regularly to ensure that safety has been improved and sites re-examined if no improvement has occurred. Further crash reduction studies should be undertaken to continue the reduction of crash numbers and severity.

Where to get more information

For more specific information relating to road crashes in Auckland Region, please refer to the 1999 to 2003 Road Safety Data Report, the LTSA's Crash Analysis System or contact the LTSA as listed below.

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