road safety issues

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

The annual social cost of crashes in the Whangarei District is significant. The cost increased in 2003, reaching over $107 million (or $2.1 million per week). This was partly influenced by improved levels of Police crash reporting, and comparisons with previous years will be difficult. Therefore, this report will concentrate on data for the five-year period rather than identifying emerging problems in 2003.

Between 1999 and 2003, the main crash type in the Whangarei District was loss of control on curves, making up nearly 40 percent of all injury crashes. Factors over-represented in crashes included travelling too fast for the conditions, alcohol, road conditions and pedestrian factors.

Car drivers and passengers made up the majority of casualties. However, pedestrians also had more than the expected share of casualties. Motorcyclist casualties also increased. Driver and passenger casualties were highest in the 15 to 19 year age group while pedestrian and cyclist casualties occurred mostly in the 10 to 14 year age group. The peak time of year for crashes in the district was March followed by September and November. Crashes occurred more often on Friday night and there was also a peak on Tuesday afternoons.

Major road safety issues

Whangarei District

- **Loss of control on curves**
- **Pedestrians**
- **Speed**
- **Road and environmental factors**

Nationally

- **Speed**
- **Alcohol**
- **Failure to give way**
- **Restraints**

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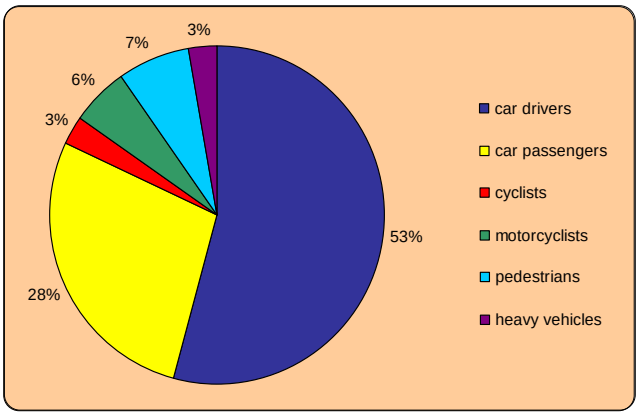
2003 road trauma for Whangarei District

Deaths	21
Serious casualties	41
Minor casualties	226

Fatal crashes	20
Serious injury crashes	32
Minor injury crashes	149
Non-injury crashes	601

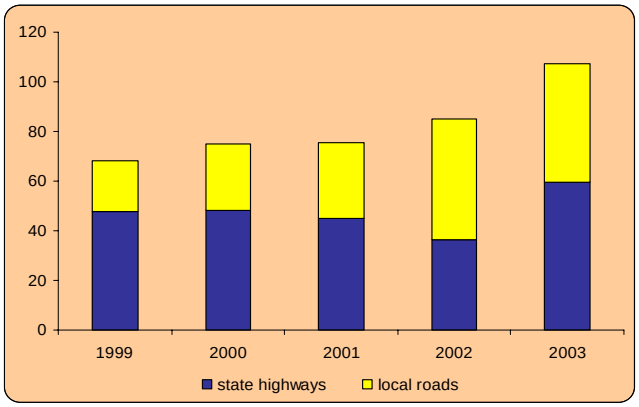
Road casualties 1999–2003

User type 1999–2003



Estimated social cost of crashes*

Social cost ($ million)



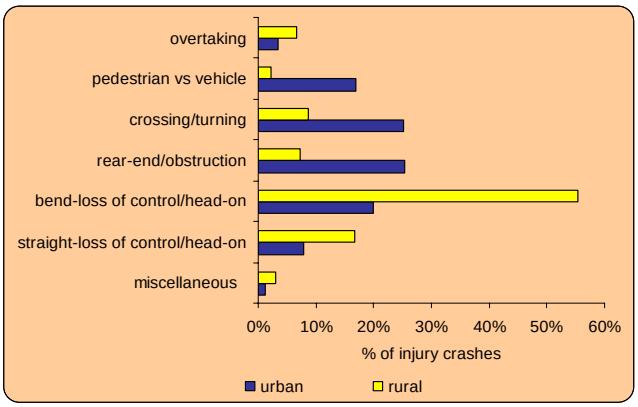
*The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs are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

LAND transport safety AUTHORITY

Loss of control on curves

Loss of control on curves is an ongoing problem on Northland Region roads although numbers have changed in recent years. Between 1999 and 2003, 38 percent of all injury crashes in the district involved drivers losing control on curves. It was the main crash type on the open road and the third most common type in urban crashes. When compared with other parts of the country, loss of control was over-represented in both urban and open crashes. Local roads in the district have plenty of loss of control crashes. More than half occurred off the state highway network.

Crash movement type



In the Whangarei District, the number of crashes at night is increasing. Following a crash, vehicles often end up in roadside ditches. A systematic approach to ongoing improvement of shoulder width and recovery slopes on high-risk curves on rural roads, coupled with improved streetlighting or roadmarking and delineation should help to address this issue. The increase in funding and the doubling of the maximum allowable project cost recently provided through Transfund New Zealand will assist in implementing safety improvements in this area.

Crashes such as loss of control on curves have three components:

- what happens before a crash that results in its occurrence
- what happens during a crash that contributes to how severe it is and how severe the injuries are
- what happens after a crash that can minimise the harm caused or prevent further similar crashes.

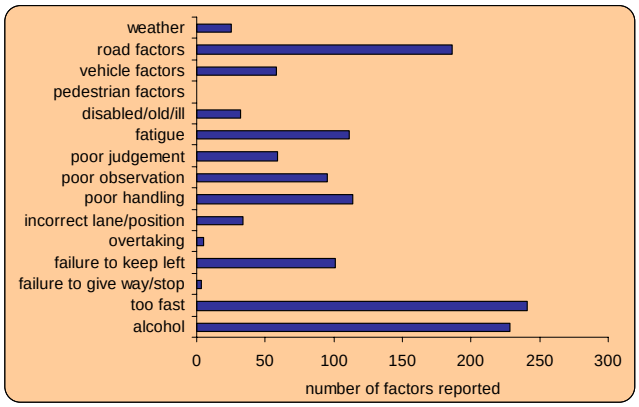
What happens before a crash can be affected by driver factors, environmental factors, and vehicle factors. Common driver factors include driving too fast for the conditions and alcohol. Common road factors include a wet and/or slippery surface, poor delineation or lighting and lack of shoulder for recovery space.

Vehicle factors include worn tyres, uneven tyre pressure, puncture or blowout, and steering or suspension faults.

What happens during a crash can include driver factors such as whether they are wearing a safety belt and how skilled the driver is at controlling the vehicle. Environmental factors can increase the severity of a crash and include an unprotected roadside environment such as steep side-slopes into ditches, trees or poles close to the roadside and solid structures such as bridges without guard-rail protection. Vehicle factors include whether the vehicle is equipped with airbags, an antilock-braking system, or a strong occupant protection structure.

What happens after a crash is where emergency services need to be their most efficient in preserving life, reducing further harm and investigating causes. The public can also contribute by ensuring that the Police are informed of every crash. When equipped with the best crash information, road controlling authorities, the Police and road safety co-ordinators can set up systems to improve the road environment, driver education and vehicle design/standards requirements. This will ensure there is less likelihood of similar crashes occurring in the future.

Factors in loss of control crashes

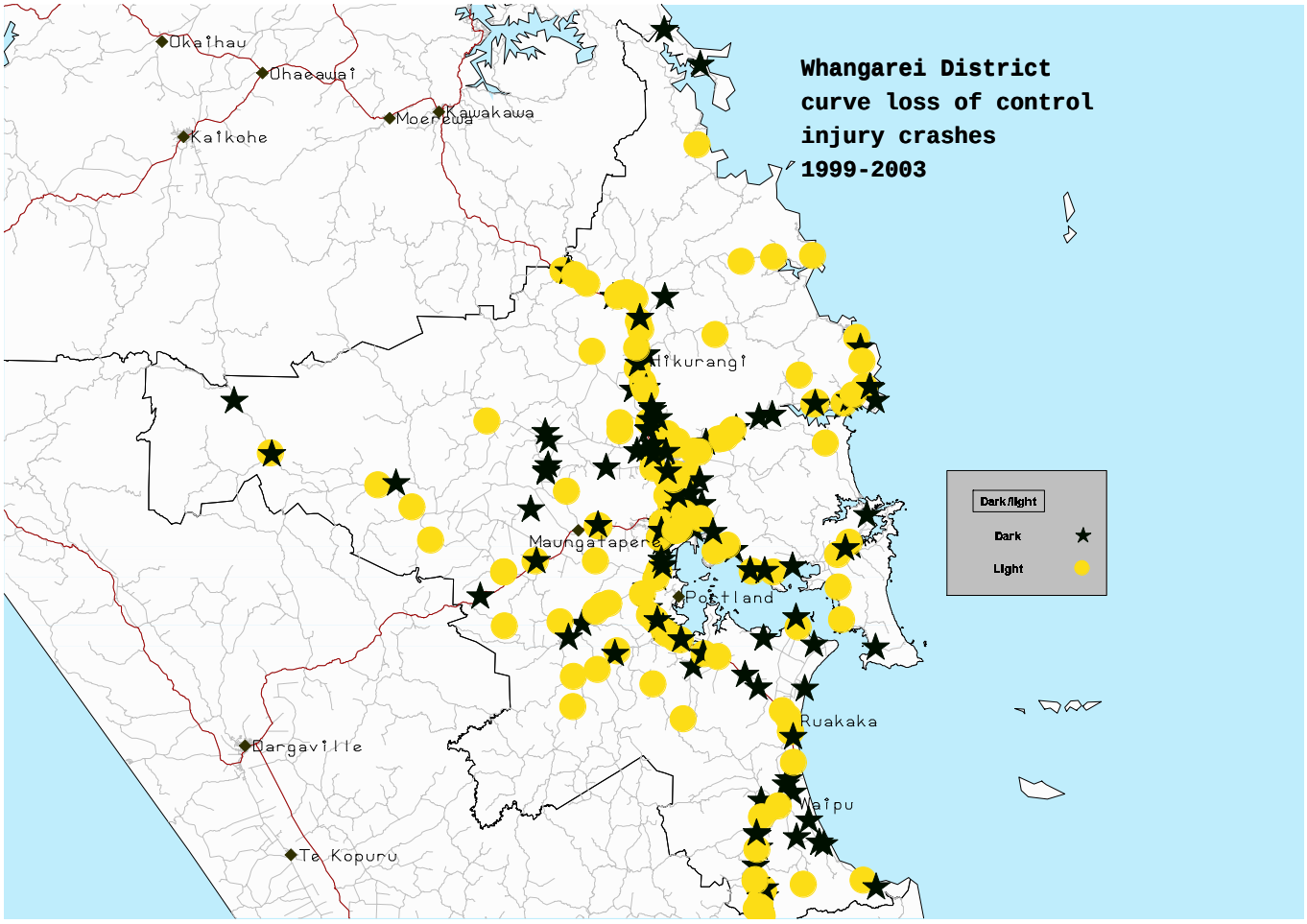


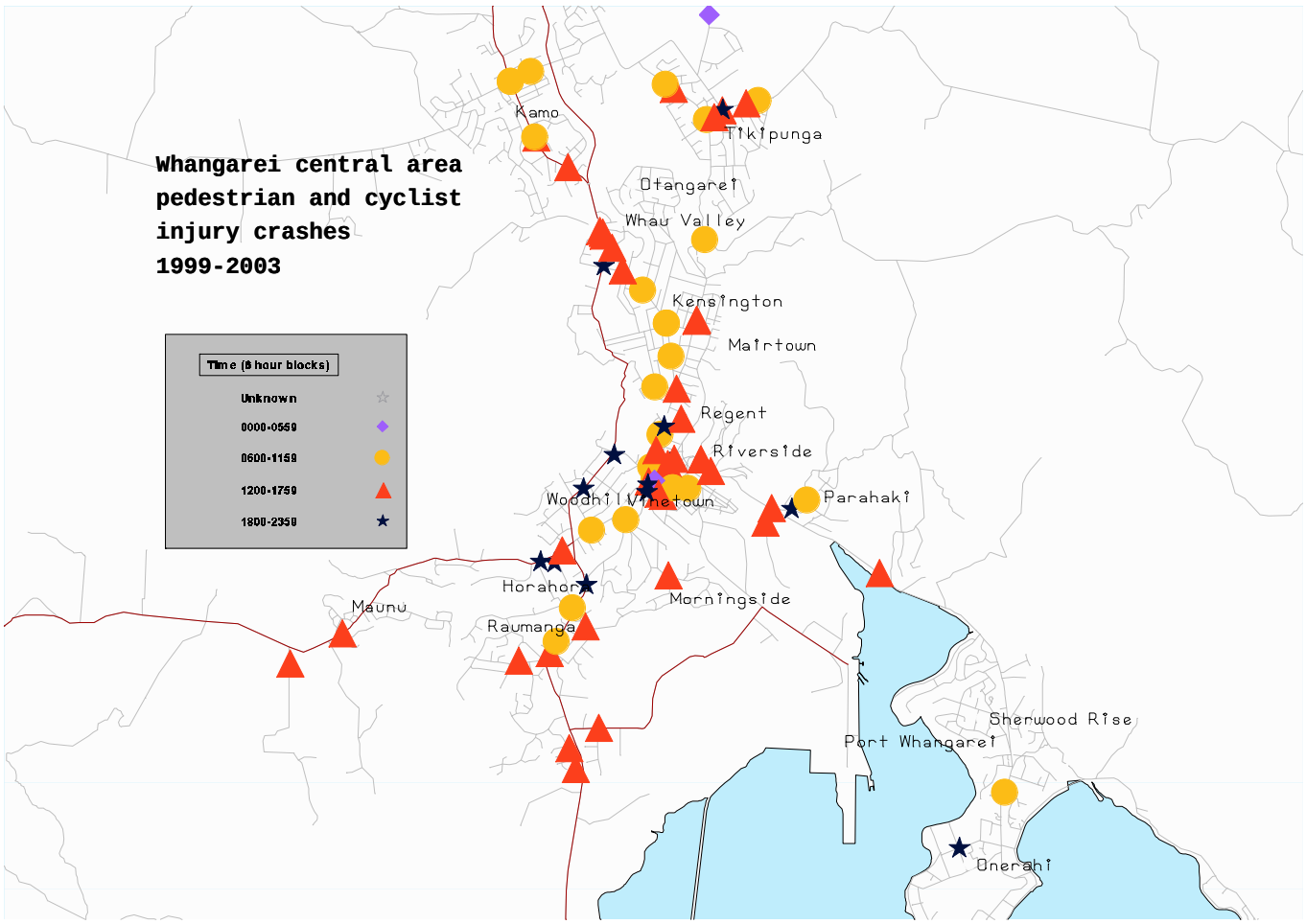
Pedestrians

Crashes involving pedestrians made up 17 percent of urban crashes in the Whangarei District. This proportion was high compared with other districts and the number has increased in recent years.

Twenty-nine percent of all pedestrian casualties were aged between 10 and 14 years.

Pedestrians were injured mainly during the day with peaks between 8 am and 9 am, and 3 pm and 4 pm. The most common days for pedestrian crashes were Wednesday to Friday and crashes occurred throughout the year, particularly in the school terms.


Whangarei District
curve loss of control
injury crashes
1999-2003
Dark/light
Dark
Light
Okaihau
Whaeawai
Kawakawa
Moerewa
Kaikohe
Hikurangi
Maungatapere
Portland
Ruakaka
Waipu
Dargaville
Te Kopuru

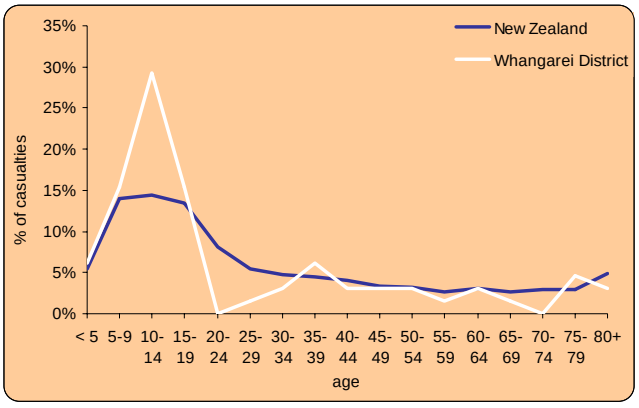

Whangarei central area
pedestrian and cyclist
injury crashes
1999-2003
Time (6 hour blocks)
Unknown
0000-0559
0600-1159
1200-1759
1800-2359
Kamo
Tikipunga
Otangarei
Whau Valley
Kensington
Mairtown
Regent
Riverside
Woodhill/Whetotown
Parahaki
Horahora
Morningside
Maunu
Raumanga
Sherwood Rise
Port Whangarei
Onerahi

Areas where pedestrians were injured included the central shopping area of Whangarei, particularly along Bank Street, Rathbone Street and Walton Street. They also occurred in Kamo (on Kamo Road), and in Tikipunga, Kensington (both on State Highway 1 and Kamo Road), Bank Street, Regent Street, State Highway 1 at Otaika and Riverside Drive.

Whangarei has a number of busy routes running through residential areas and also past schools. The needs of local road users can be in conflict with those of through traffic. Pedestrians often have difficulty crossing busy arterial roads, especially if they are young, elderly or disabled. Many children walk or take a school bus to school and may have to cross some of these busy roads.

If vehicles are not travelling at a constant speed it becomes difficult to judge appropriate gaps. If they are travelling over the speed limit then the injury consequences for pedestrians, if hit, can be extreme.

Age of pedestrian casualties



80 Speed

Travelling at a speed too fast for the conditions is a factor in many crashes. Excessive speed can be the reason a driver loses control of their vehicle or the reason that other road users misjudge gaps in the traffic.

The vehicle speed at the time of a crash will affect the severity of injuries suffered by occupants of the vehicle, of those in other vehicles or by vulnerable road users such as pedestrians, cyclists or motorcyclists.

If excessive speed is combined with alcohol, then the potential for error is even higher.

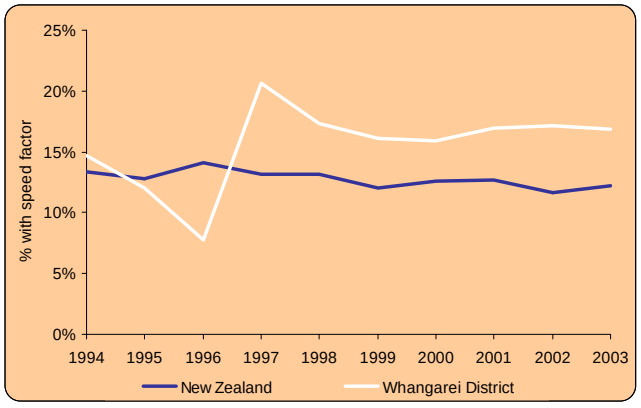
In past years, travelling too fast for the conditions was identified as a key factor in Northland Region crashes. Data analysis in 2001 and 2002 showed that enforcement was increasing on rural roads, particularly on open road state highways, with a corresponding reduction in crashes, but enforcement in urban areas was not as tight or as well targeted. This has changed in 2003 with a significant increase in speed enforcement on urban streets.

However, crashes in urban areas of the Whangarei District that involve one or more drivers travelling too fast for the conditions still make up 17 percent of injury crashes, compared with similar authorities where the figure is around 12 percent. In the Northland Region five percent of drivers exceed 110 km/h on the open road but 17 percent exceed 60 km/h in urban areas. The high rate and severity of loss of control crashes and pedestrian casualties in urban areas could be lowered if urban speeds were to reduce.

The Police will be targeting high-risk areas and speed enforcement will be a significant part of their focus.

Although drink-driving is becoming an unacceptable practice within the community, there is still tolerance towards speeding. Community recognition that speed is a major contributor to the high social cost in the district will result in lower average speeds and make the speeding drivers more obvious.

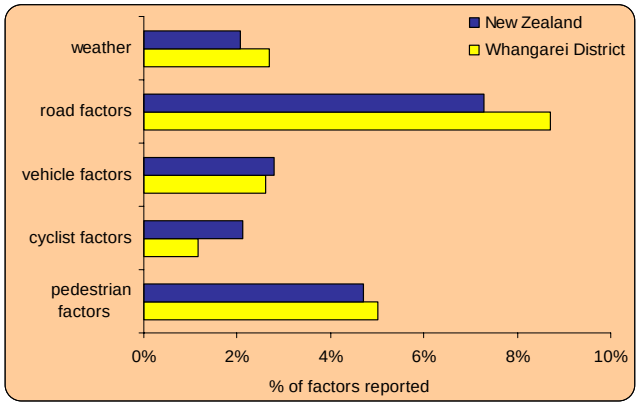
Urban speed-related crashes



Road and environmental factors

Road and environmental factors contributed to over 16 percent of crashes in the Whangarei District, particularly on the open road. Although less of a factor in urban areas, they are still high in urban areas of Whangarei compared with other districts.

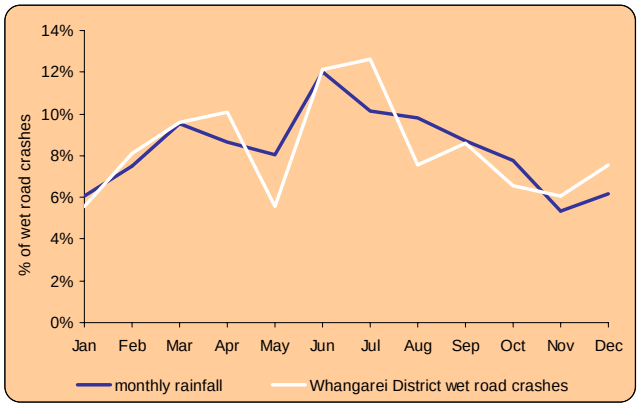
Factors in road and environment-related crashes



The most common environmental factors are a slippery road surface and restricted visibility. A slippery surface can be due to loose material on the sealed road surface, an unsealed road surface, a worn or polished road surface, or mud, oil or other contaminants on the road. These factors usually become evident during wet weather and are often more pronounced when wet weather follows a long dry spell when stone chips become polished and contaminants have built up on the surface without being regularly washed away.

The proportion of crashes on wet roads has increased on urban roads in the Whangarei District in the past few years. Wet road crashes peak in June/July corresponding with the high rainfall months.

Month for wet road crashes



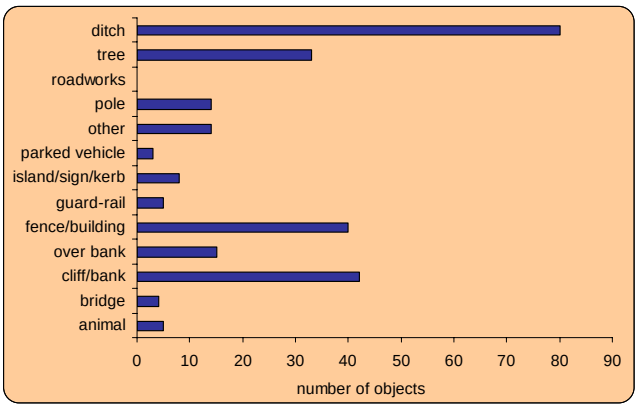
Roadwork sites are also common places where the road is unsealed or slippery. It is important that roadwork sites are signposted to warn of the presence of a specific hazard. It is also important that roadworks are only signposted when there are hazards present. If not, the signs and associated speed limits will soon lose credibility with motorists.

Traffic management plans of roadwork sites and temporary speed limits must be submitted to the local council (or, for state highways, Transit New Zealand) for approval before the job is commenced.

Visibility restrictions are often due to a curve or crest in the road or a vehicle parked close to a side road that limits visibility from the side road.

Another issue related to the road environment is an object on the roadside that can be struck after a crash. The most common objects struck in Whangarei District crashes are roadside ditches.

Objects hit in rural crashes



Transfund New Zealand has allocated a significant increase in their funding contribution for minor safety projects that will allow increased spending by the Whangarei District Council and Transit New Zealand on roading safety projects in the future. This should result in fewer road and environment related crashes and contribute to the regional crash reduction targets.

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 50 percent in the Whangarei District (55 percent at state highway sites and 47 percent at local road sites).

Recommendations from 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 crashes and severity.

Where to get more information

For more specific information relating to road crashes in the Whangarei District, 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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