

briefing notes - road safety issues

Otago Central State Highways

New Zealand Transport Agency has prepared this road safety issues report. It is based on reported crash data and trends for the 2004–2008 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 on State highways in the Otago Central State Network Management Areas.

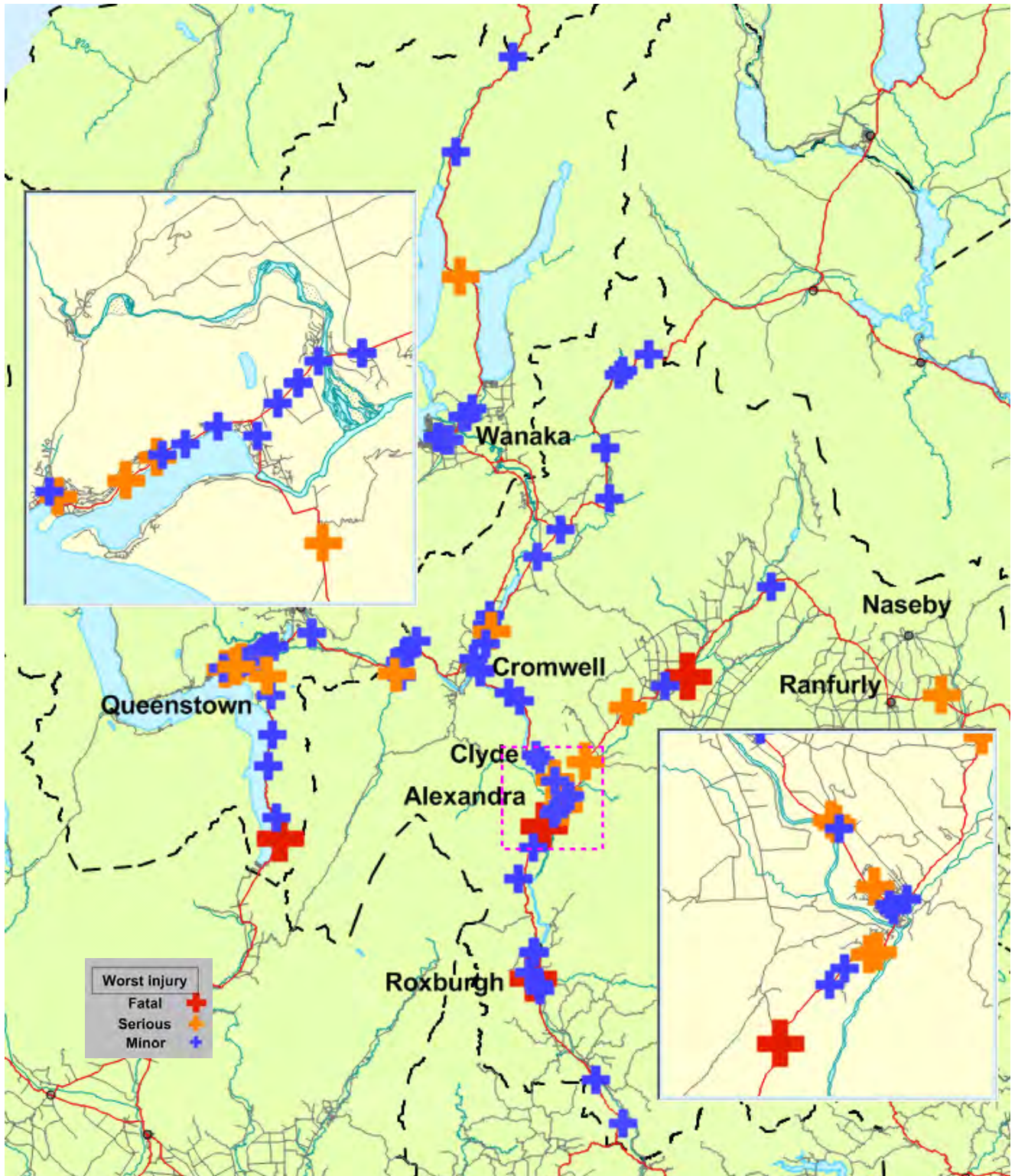
The issues chosen for this report are drawn from either the most common crash types, those that appear over-represented or those with high social cost (high numbers of fatal and serious crashes mainly).

We have included a brief overview of crashes on State highways in the network management area.

We encourage Network Managers and operational staff to use their access to the Ministry of Transport's Crash Analysis System (CAS) to delve deeper into the highlighted issues. Also the NZTA Christchurch Performance Information team is available to provide further information if required. All data and maps in this note are from CAS.

Major road safety issues		2008 road trauma	
Otago Central State Highways		Casualties	Otago Central State Highways
Bend - loss of control or head-on		Deaths	4
Intersections		Serious casualties	17
Road factors including roadside hazards		Minor casualties	109
Overseas drivers			
Nationally		Crashes	Otago Central State Highways
Speed		Fatal crashes	4
Alcohol		Serious injury crashes	15
Failure to give way		Minor injury crashes	70
Restraints		Non-injury crashes	119

Fatal and injury crashes
Otago Central State Highways
2008



Overview

In 2008 on State highways in Otago Central there were 89 injury crashes and 119 reported non-injury crashes.

The table below shows the number of injuries resulting from the 89 injury crashes by rural or urban areas for Otago Central State highways (rural is defined as an area with a speed limit of 80km/h or more).

Casualties by urban / rural 2008				
	Fatalities	Serious injuries	Minor injuries	Total
Rural	4	12	91	107
Urban	0	5	18	23
Total	4	17	109	130

All fatalities, seven of every ten serious casualties and over eight of every ten minor casualties from crashes on Otago Central State Highways were from crashes on rural highways.

The number of reported crashes on State highways in the Otago Central area climbed to a high of 102 in 2005. Since 2005 the number dropped by about 15 percent.

Crash trends in Otago Central State Highways				
Year	Fatal Crashes	Serious Crashes	Minor Crashes	Total Crashes
1999	5	15	22	42
2000	5	20	30	55
2001	5	18	52	75
2002	1	34	52	87
2003	2	32	54	88
2004	2	28	66	96
2005	4	31	67	102
2006	1	23	72	96
2007	5	12	69	86
2008	4	15	70	89

Injury crashes 2004 to 2008

Crash type or contributory cause 2004 to 2008	Percentage of all injury crashes
Alcohol	8
Too fast	12
At bends	45
At intersections	21
Road factors	22

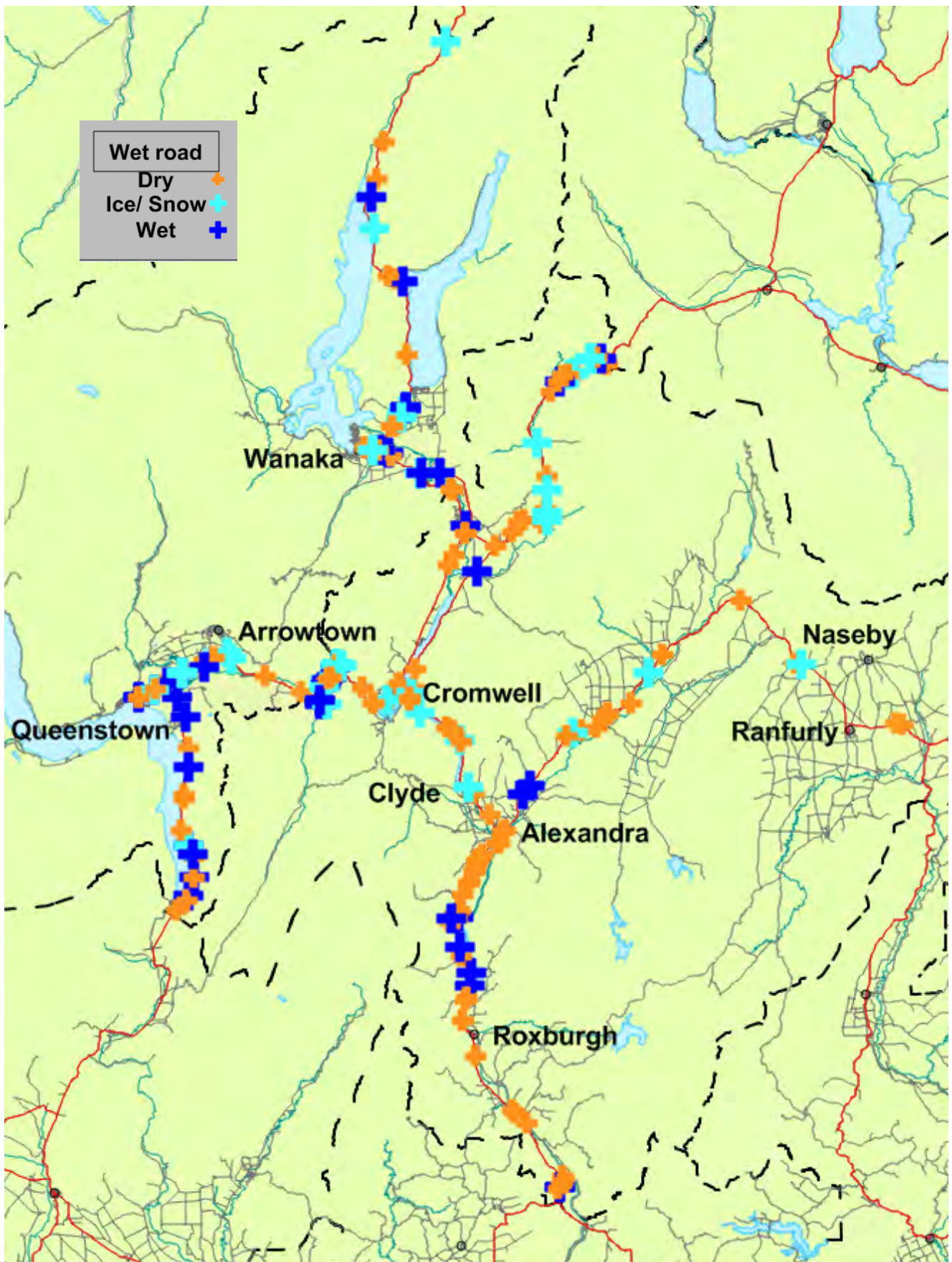
Social cost by State Highway Injury crashes 2004 to 2008

State Highway	Number of injury crashes	Social cost (m)
SH 6	204	\$71.8
SH 6A	43	\$8.6
SH 8	163	\$70.9
SH 84	16	\$2.5
SH 85	33	\$11.0
SH 8A	3	\$0.8
SH 8B	7	\$1.6

Further information about 2004 to 2008 injury crashes on Otago Central State Highways :

- Worst month December
- Worst day Sunday
- 27 percent on wet or icy roads
- 29 percent at night
- 377 roadside objects struck
- Social cost of crashes in 2008 \$33.6 m

Injury Bend- loss of control or head on crashes
Otago Central State Highways
2004 - 2008



Bend - loss of control or head on

Between 2004 and 2008 forty-five percent of all injury crashes on Otago Central State Highways were bend - loss of control or head crashes. These 211 crashes resulted in 8 fatalities, 54 serious injuries and 252 minor injuries.

Injury bend - loss of control or head on crashes 2004 to 2008				
Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2004	0	9	31	40
2005	1	14	22	37
2006	1	11	33	45
2007	3	5	35	43
2008	3	8	35	46
Total	8	47	156	211

After drivers lose control their vehicles often crash into roadside hazards such as ditches, banks, poles or trees. Hitting these objects can result in a relatively minor off-road event turning into something far more serious.

The most common roadside hazards struck in injury loss of control or head on crashes on bends on Otago Central State Highways were cliffs or banks (76), ditch (33), fences (31), posts or poles (31) and over bank (30) from a total of 240 objects struck.

Main characteristics of injury bend - loss of control or head on crashes	
Crash characteristic	Percentage of crashes
Single vehicle	90
Alcohol	13
Too fast	24
Road factors	35
Poor handling	46
Rural road	95
Wet or icy road	41
Night time	38

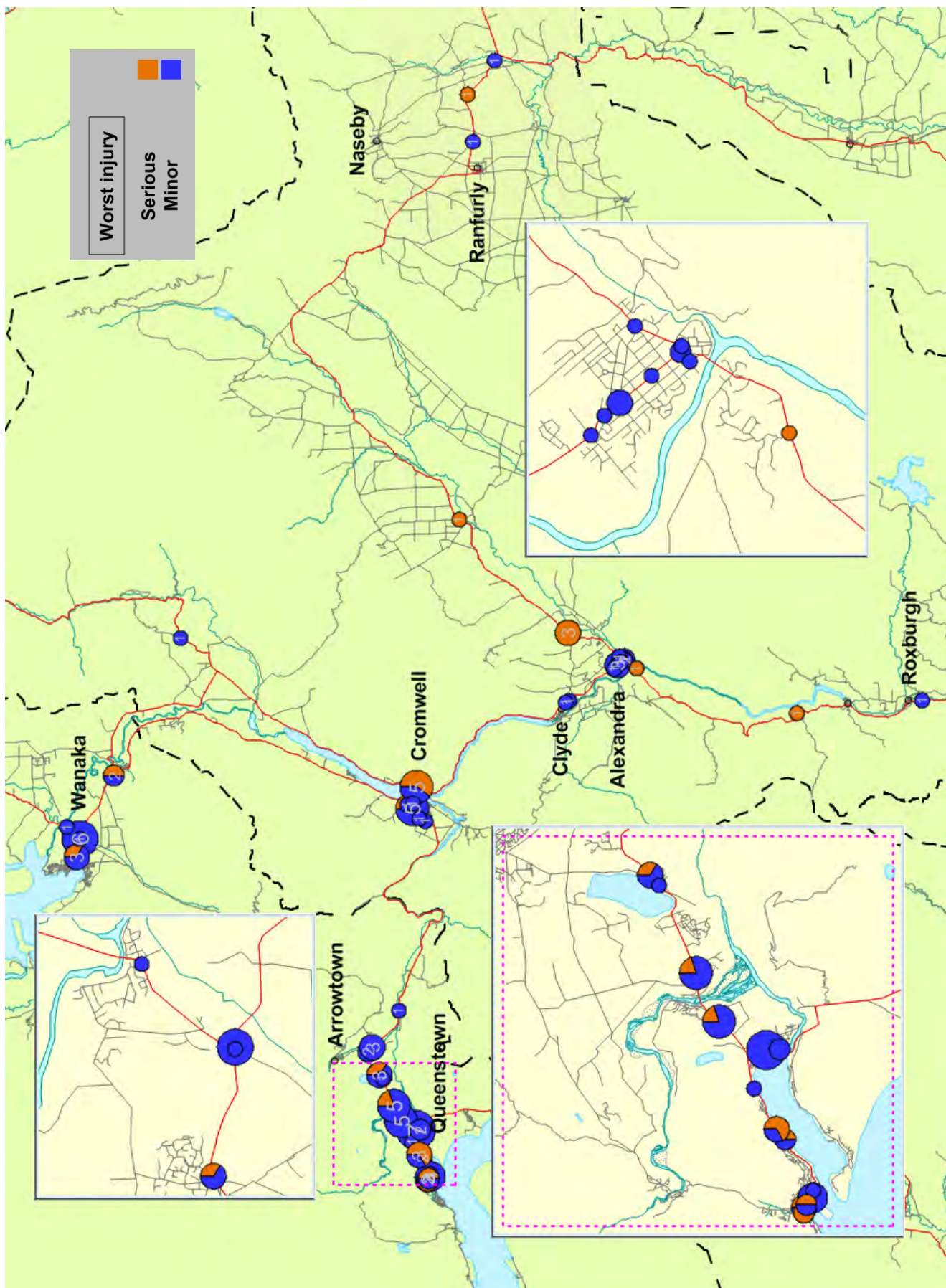
Injury bend - loss of control or head on crashes 2004 to 2008

	2004	2005	2006	2007	2008
SH 6	18	21	18	21	17
SH 6A	0	1	4	3	1
SH 8	18	11	18	14	20
SH 84	0	0	1	1	2
SH 85	3	3	3	4	6
SH 8A	0	0	1	0	0
SH 8B	1	1	0	0	0

Further information about the injury bend - loss of control or head on crashes on State Highways in Otago Central 2004 to 2008:

- 62 percent of at fault drivers were male
- Most common at fault driver age group 20 to 24 years (25 percent of at fault drivers)
- Worst month June
- Worst day Friday
- Worst time period 6 am to 9 am

Injury crashes at Intersections Otago Central State Highways 2004 - 2008



Intersections

During the five year period 2004 to 2008 on Otago Central State Highways, there were a total of 98 injury crashes at intersections.

Injury crashes at Intersections 2004 to 2008

	Serious crashes	Minor crashes
SH 6	6	33
SH 6A	7	11
SH 8	4	13
SH 84	1	9
SH 85	5	6
SH 8B	1	2

Injury crashes at Intersections Speed limit and traffic control 2004 to 2008

	50	70	80	100
Give Way	28	2	11	34
Stop	1	1	6	6
Nil	0	0	1	8

Locations with five or more injury crashes 2004 to 2008

Intersection name	2004 to 2007	2008
SH 6 / Airport Road	7	0
SH 6 / SH 84	5	1
SH 6 / Lower Shotover Road	5	1
SH 8 / SH 8B	5	0
SH 6 / SH 8B	5	0
SH 6 / Glenda drive	3	2

The most common crash type at intersections is when a driver turns right and is hit by a vehicle approaching from the right. The second common type of crash is when a vehicle turns right across the path of a vehicle approaching from the opposite direction.

The main causes contributing to crashes described in Police reports were:

- Not checking properly
- Failure to stop and give way
- Errors of judgement

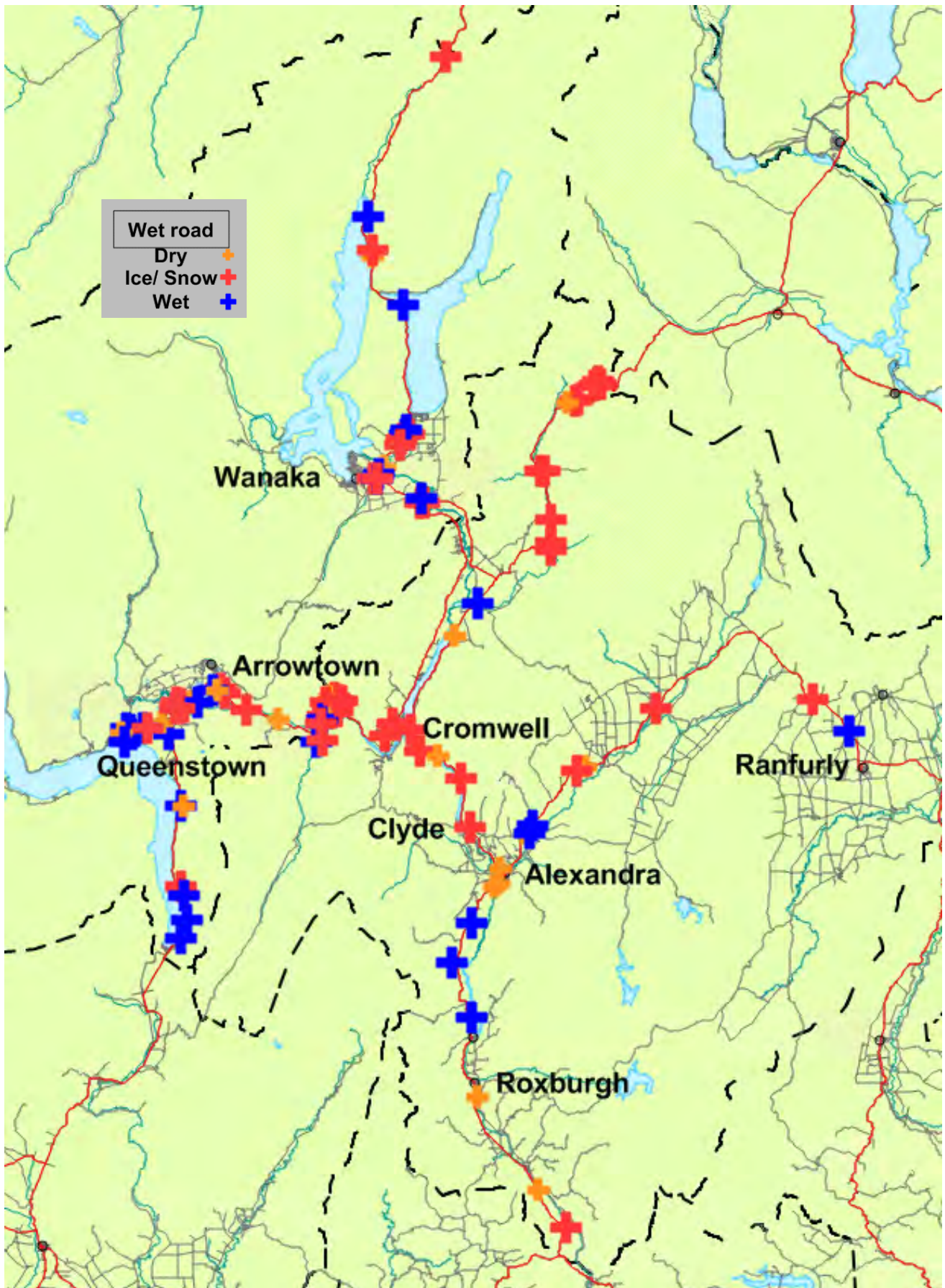
Junction type Injury and Non-injury crashes

Junction Type	Rural	Urban
Roundabout	0	7
Tee and Y	64	18
Cross (X)	1	7
Other (includes driveways)	1	0

Further information about the 98 injury crashes at intersections on Otago Central State Highways 2004 to 2008:

- no deaths, 27 serious injuries and 123 minor injuries
- 12 percent wet or icy roads
- 23 percent night time
- 65 percent of at fault drivers were male
- 53 percent of at fault drivers held a full licence
- 67 percent of crashes occurred at rural intersections
- Worst month April
- Worst day Thursday
- Worst period 3 pm till 6 pm

Injury crashes involving Road Factors
Otago Central State Highways
2004 - 2008



Road Factors - including roadside hazards

A safe road environment includes appropriate geometric design standards, good delineation, adequate surface skid resistance and a roadside free of unforgiving hazards.

From 2004 to 2008 on State highways in the Otago Central network area, "road factors" were a contributing factor in 22 percent of fatal and injury crashes. These 104 crashes resulted in 2 deaths, 21 people with serious injury and 145 with minor injury.

Additionally on State highways in the Otago Central network area between 2004 and 2008 fifty-seven percent of all fatal and injury crashes involved a roadside hazard being struck.

Road factor related injury crashes					
Road type	2004	2005	2006	2007	2008
Rural	15	16	22	24	17
Urban	2	0	5	1	2
Total	17	16	27	25	19

Roadside hazards normally contribute to the overall crash outcome by increasing injury severity but can in themselves be a contributory factor in a crash. For example occupants in an errant vehicle striking a large tree close to the road edge are likely to sustain worse injuries than if the tree was not present. If the same tree had low branches and was located at an intersection it could also contribute to a lack of visibility.

In the 266 injury crashes on State Highways in Otago Central network area where a roadside hazard was struck 8 people died, 76 received serious injuries and 316 minor injuries.

Most common types of hazard struck (Injury crashes on Otago Central State Highways 2004 - 2008)

Type of hazard	Number of times hazard struck
Cliff or bank	105
Fence	55
Ditch	55
Over bank	42
Tree	30

Types of road factors in injury crashes

CAS factors 2004 to 2008	Number of occasions reported
Slippery (Rain) *	25
Slippery (Ice, frost)	49
Slippery (Snow, hail)	6
Slippery (Other)	16
Road surface in poor condition	1
Under construction or maintenance	2
Road obstructed	3
Visibility limited	9
Signs or signals (needed or faulty)	1
Street lighting	2

* Note: NZTA does not assume that a road that is "wet" is necessarily "slippery". This factor is only added to CAS if the attending Police Officer specifically mentions a "slippery road".

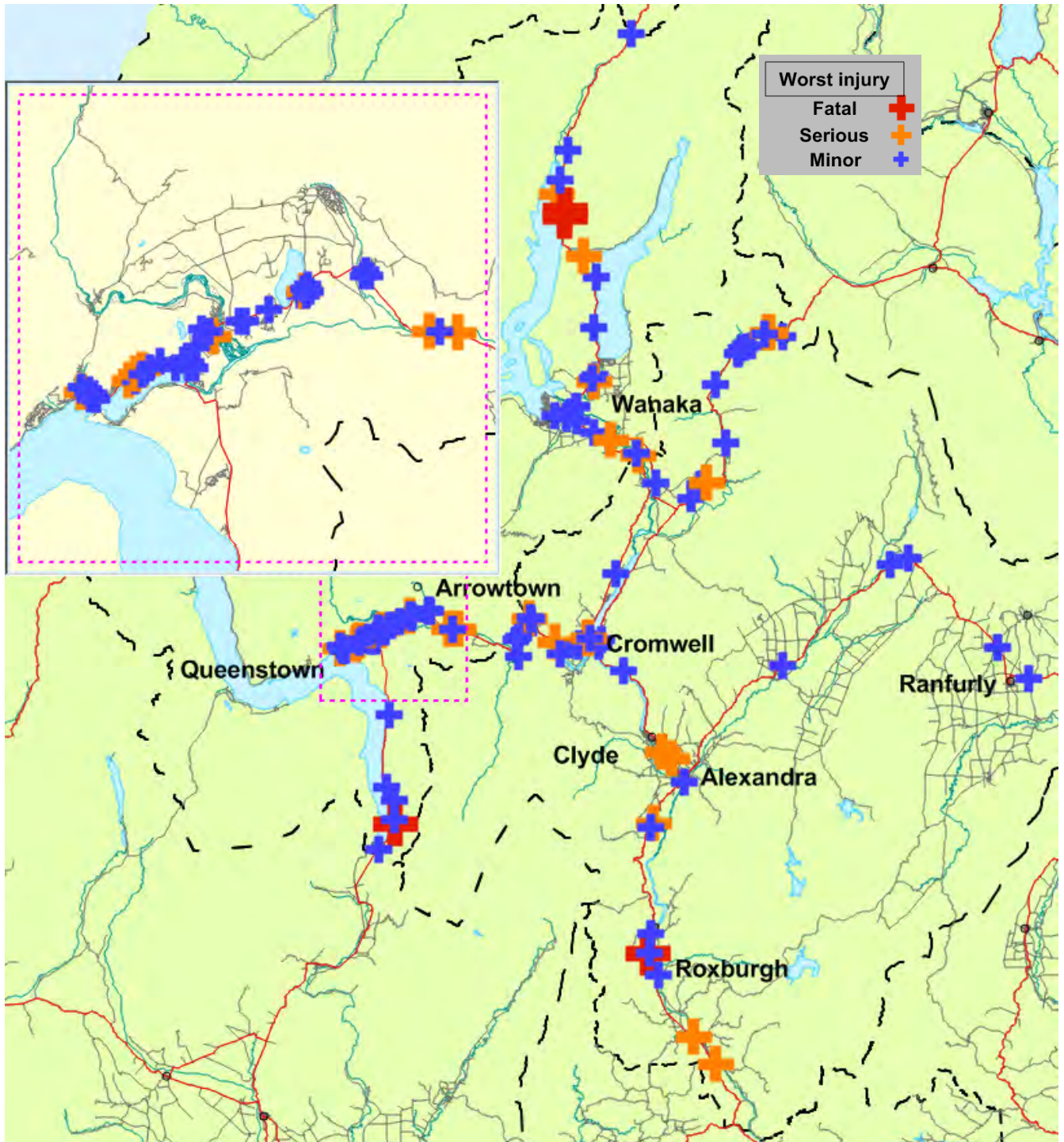
Object and road factor crashes by State Highway number 2004 to 2008

Highway number	Number of road factor crashes	Number of objects hit
SH 6	57	156
SH 6A	9	27
SH 8	28	155
SH 84	2	7
SH 85	8	27
SH 8A	0	2
SH 8B	0	6

Further information about the 104 road factor related injury crashes on Otago Central State Highways (2004 to 2008):

- Most common crash type, bend - loss of control or head on
- 8 percent at intersections
- 80 percent wet or icy road
- 37 percent night time
- Worst month June
- Worst day, Friday
- Worst time 6 am to 9 am
- Most common at fault driver age 20 to 24 (24 percent of at fault drivers)

Injury crashes involving Overseas Drivers
Otago Central State Highways
2004 - 2008



Overseas drivers

On State highways in the Otago Central network area between 2004 and 2008 twenty seven percent of injury crashes involved overseas drivers. These 125 crashes resulted in 4 deaths, 30 serious injuries and 190 minor injuries. These drivers may include both tourists and New Zealand residents driving on an overseas licence.

Casualties from crashes in Otago Central area, involving overseas drivers

	2004	2005	2006	2007	2008
Fatal	2	0	1	1	0
Serious	6	7	10	4	3
Minor	44	32	30	48	36
Total	52	39	41	53	39

The number of casualties from crashes involving overseas drivers has fluctuated between a high of 53 in 2007 and a low of 39 in 2005 and 2008. There is no apparent long term trend.

Injury crashes involving Overseas drivers 2004 to 2008

Highway number	Number of crashes	Social cost of crashes (m)
SH 6	70	\$26.1
SH 6A	17	\$3.5
SH 8	29	\$11.1
SH 84	2	\$0.2
SH 85	5	\$0.5
SH 8A	1	\$0.1
SH 8B	1	\$0.1

Almost nine in every ten crashes that involved an overseas driver on State highways in the area were on rural highways.

On State highways in the Otago Central network area, 35 percent of all crashes involving overseas drivers were Bend - loss of control or head-on crashes. Straight road - loss of control or head on crashes accounted a further 16 percent of injury crashes, and crossing turning crashes represented 22 percent of crashes.

Male drivers of all ages made up two thirds of at-fault drivers.

Ages of drivers at fault in crashes involving overseas drivers

Ages *	Male	Female	Total
15 to 19	6	2	8
20 to 24	19	13	32
25 to 29	12	8	20
30 to 39	11	13	24
40 to 49	12	4	16
50 to 59	12	4	16
60 to 69	8	0	8
70 +	6	0	6

* Note: Age group ranges are not all the same.

The common home locations of the overseas drivers were:

Europe	20
United Kingdom	18
Australia-	16
Asia	13
North America	10
South America	2

Further information about the 125 injury crashes involving overseas drivers on State highways in Otago Central network area 2004 to 2008:

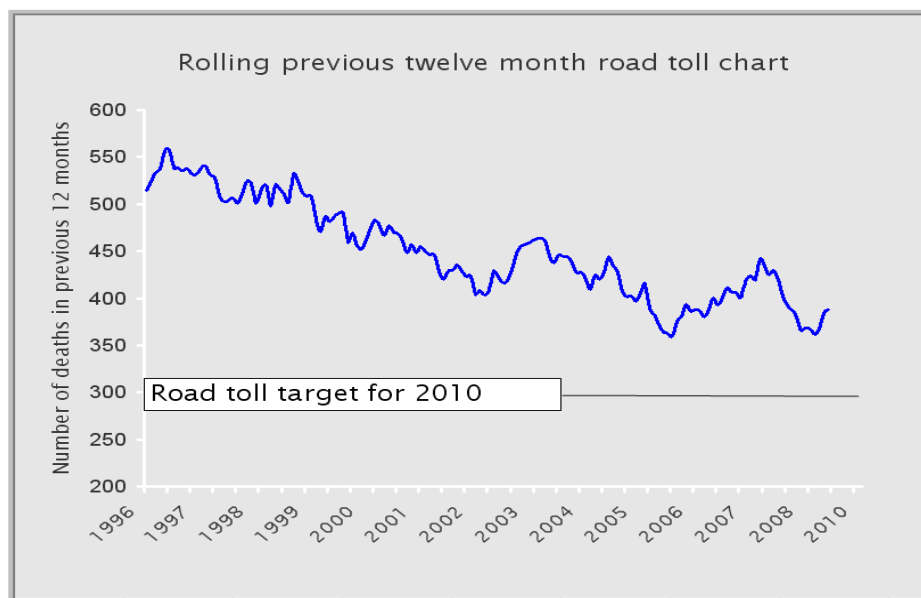
- Most common crash factors were:- Poor observation, Poor handling, Failure to give way or stop, Poor judgement and incorrect lane or position.
- 29 percent of crashes were at intersections
- 15 percent of crashes at night
- 30 percent in of crashes in wet or icy conditions
- Worst months January, February
- Worst day of week Sunday
- Worst times midday - 3 pm and 3 pm - 6 pm

The next ten years—moving beyond Road Safety 2010

In August this year the Ministry of Transport (MoT) will embark on a nationwide road safety consultation programme as it moves to formulate priorities for the next ten years.

The chart on the right illustrates the progress made during the life of the Road Safety 2010 strategy and while progress has been made it would seem unlikely that the target of 300 or fewer fatalities will be met.

Information will be published on the Ministry of Transport web site and we would encourage any person or group with an interest in road safety to watch the site carefully for developments.



Follow this link: <http://www.transport.govt.nz/ourwork/Land/landsafety/SaferJourneys-RoadSafetyStrategyto2020/>

Restraints

The Ministry of Transport conducts surveys of restraint use. Results are available for front, rear and child restraints although not all at a local authority level. The results of these surveys are available at the MoT website: <http://www.transport.govt.nz/research/safetybeltstatistics/>

Contacts

New Zealand Transport Agency

Performance Information Manager (Southern)
Geoff Holland
PO Box 13364
Christchurch
Phone 03 964 2845

Regional Communications Advisor
Bob Nettleton
PO Box 9058
Dunedin
Phone 03 951 3005

Traffic and Safety Engineer
Roy Johnston
PO Box 5245
Moray Place
Dunedin 9058
Phone 03 951 3009

www.nzta.govt.nz

New Zealand Police

Andrew Burns
Road Policing Manager
New Zealand Police
Private Bag 1924
Dunedin
Phone 03 471 4838

www.police.govt.nz