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Land Transport NZ
Ikiiki Whenua Aotearoa

road safety issues

Auckland City

Land Transport New Zealand has prepared this road safety issues report. It is based on reported 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 Auckland City.

In 2005 almost three quarters of the total social cost of crashes occurred on local roads in the city. Almost a quarter of this was recorded in the Hobson community area. The table below shows the type and number of reported local road crashes for the year 2005 for each community area.

Community area	Fatal	Serious	Minor	Non-injury
Gulf Islands		4	18	40
Eastern Bays		10	64	218
Avondale		8	56	282
Western Bays	3	9	78	297
Mount Roskill	1	16	81	369
Maungakiekie	3	18	75	443
Eden/Albert		11	118	436
Tamaki	1	14	105	633
Hobson	2	34	239	969

Major road safety issues

Auckland City

- Vulnerable road users
- Driver factors
- Town centres
- Rear-end crashes

Nationally

- Speed
- Alcohol
- Failure to give way
- Restraints

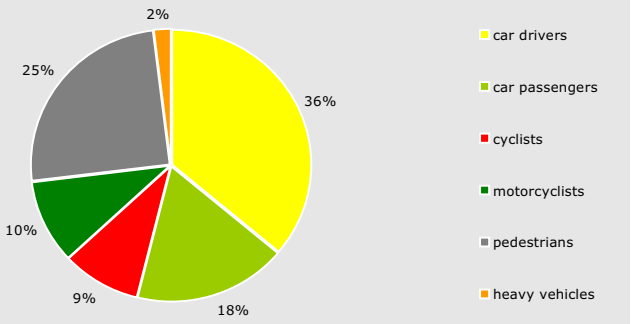
2005 road trauma for Auckland City all roads

Deaths	12
Serious casualties	154
Minor casualties	1,361

Fatal crashes	11
Serious injury crashes	140
Minor injury crashes	1,052
Non-injury crashes	4,596

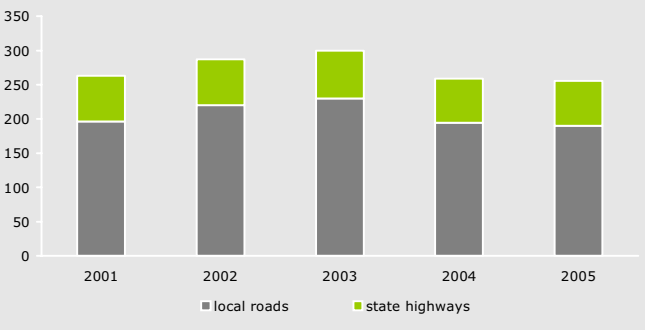
Fatal and serious casualties all roads

User type 2001–2005



Estimated social cost of crashes*

Social cost ($ million)



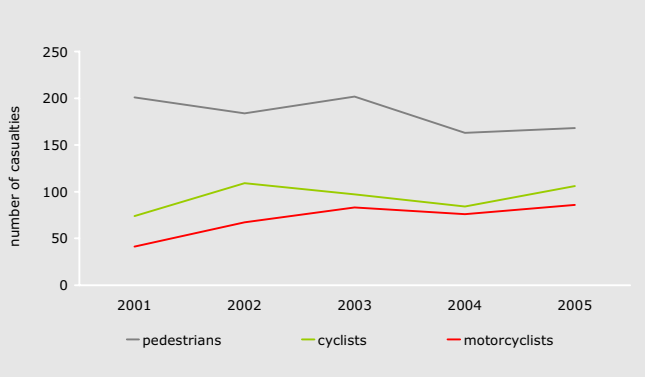
* The estimated social cost includes loss of life or life quality (estimated by the amount New Zealanders are prepared to pay to reduce their risk of fatal or non-fatal injury), loss of output due to injuries, medical and rehabilitation costs, legal and court costs, and property damage. These costs are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

Vulnerable road users (including motorcyclists)

Vulnerable road users continue to be over-represented in reported local road crashes in the city. Just over half of all fatal and serious casualties on local roads in Auckland City involve either a pedestrian, cyclist or motorcyclist.

Of particular concern is the fact that injuries to cyclists and motorcyclists are showing an upward trend over the last five years.

Vulnerable road user casualties 2001–2005



Previous issues reports have not included motorcyclists in the vulnerable road user grouping. But due to the recent increase in numbers, and the fact that riders and pillion passengers are more susceptible to severe injury in a collision, they have been included.

Approximately 17 percent of local road crashes in Auckland City involve fatal or serious injury. For motorcycle crashes, the percentage is much higher at 26 percent.

The number of new and ongoing Accident Compensation Corporation (ACC) claims for pedestrians, cyclists and motorcyclists living in Auckland City has been steadily increasing over the five-year period 2001–2005. The number of registered motorcycles in the Auckland Region has also been increasing (from 9,100 in 2001 to 10,250 in 2004). This is reflected in the increasing number of claims made to ACC by motorcyclists and their passengers.

Although motorcyclists only make up two percent of the vehicle fleet, they incur approximately 18 percent of the costs in ACC's motor vehicle account. ACC has established a motorcycle safety working group to build an approach to target motorcyclists to reduce the number and severity of injuries.

There are a number of different patterns in the crash statistics for each of the three vulnerable road user groups as can be seen in the following table.

Factor	Pedestrian	Pedal cyclist	Motor cyclist
Intersection	46%	61%	60%
Darkness	16%	14.5%	25%
Weekday	75%	78%	82%
Peak hour	3 pm – 4 pm	8 am – 9 am	8 am – 9 am
Most common movement	 45%	 22%	 24%

Last year's issues report identified that both pedestrians and cyclists in the 20–39 year age group were over-represented in the city's crash statistics when compared to data for all New Zealand cities and all New Zealand.

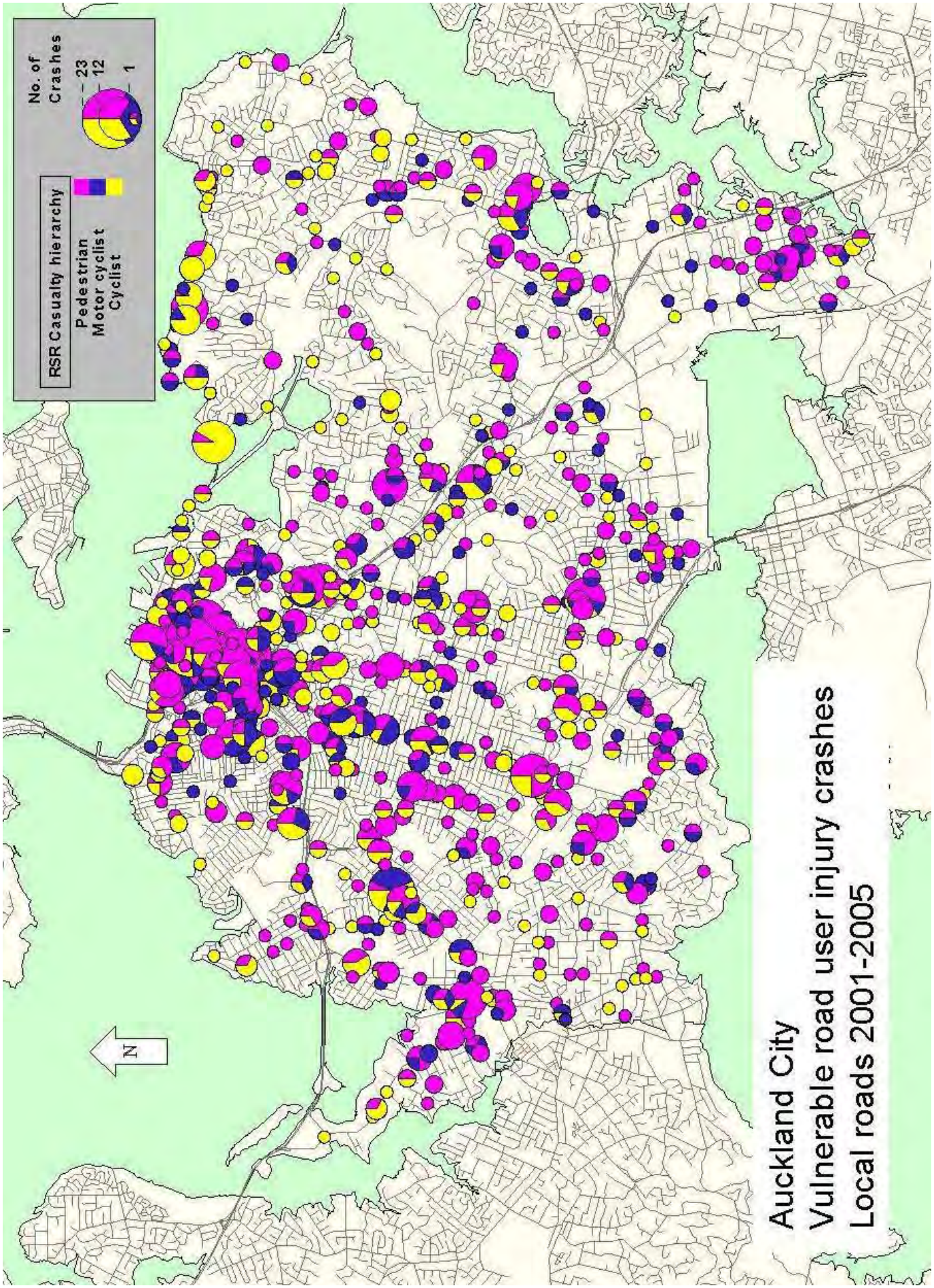
Analysis of the ages of motorcyclists also shows that this age group is over-represented. The following graph shows the age of vulnerable road users involved in local road injury crashes for the city and the comparative groups

Vulnerable road user ages 2001–2005

Auckland City currently has a number of road safety projects and programmes aimed at young and old pedestrians and cyclists. The challenge is to ensure that additional projects are developed to target the clearly over represented age group of 20 to 39 year olds.

Greater emphasis will also need to focus on the growing incidence of motorcyclist casualties.

The following map highlights the location of vulnerable road user crashes on local roads in Auckland City for the period 2001–2005.


No. of Crashes
23
12
1
RSR Casualty hierarchy
Pedestrian
Motor cyclist
Cyclist
N
Auckland City
Vulnerable road user injury crashes
Local roads 2001-2005

Driver factors

Any driver factor contributing to an injury crash reported by the New Zealand Police is recorded in the national crash database. These factors can be grouped together and analysed to identify trends. The crash data for Auckland City indicates that crashes involving poor observation, poor handling and incorrect lane position or following distance have been increasing over several years. Over half of all local road injury crashes in the city (57 percent) include one or more of these factor groups.

The graph below shows the number of times these factor groups have been reported in the city on local roads over the last five years.

Driver factors in injury crashes 2001–2005

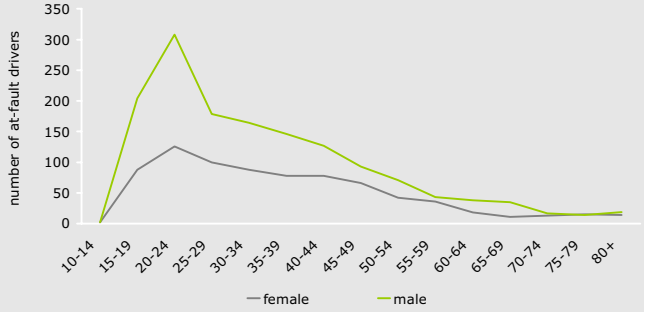
More than one factor can be attributed to the same crash and crashes can involve other factors to those in the three groups listed. A considerable number of driver factors are grouped together to make up the three factor groups. The most commonly quoted factors are listed in the table below.

Driver factor	Percentage of crashes
Did not see/look when required to give way to traffic from another direction	26%
Failed to give way when turning to non-turning traffic	16%
Did not see/look behind when changing lanes, position or direction	9%
Failure to notice a car slowing	9%
Failure to give way at stop sign	7%
Following too closely	7%
Failure to give way at a give way sign	6%
Did not see/look when visibility obstructed by other vehicles	6%
Loss of control when turning	6%

Note: In this table the number of factors has been divided by the total number of crashes.

Male drivers, especially those in the 20 to 24 year old age group, feature predominately in the crash statistics for crashes involving these three factor groups. This is clearly shown in the following graph which plots the age and gender of at-fault or partly at-fault drivers.

Selected factors by age and gender 2001–2005



Most of the 2,373 crashes involving these three factor groups were either crossing or turning movements or rear-end collisions. Over half of the crashes occur at or near intersections where vehicle conflicts commonly occur and drivers need to be fully alert and aware of the dangers.

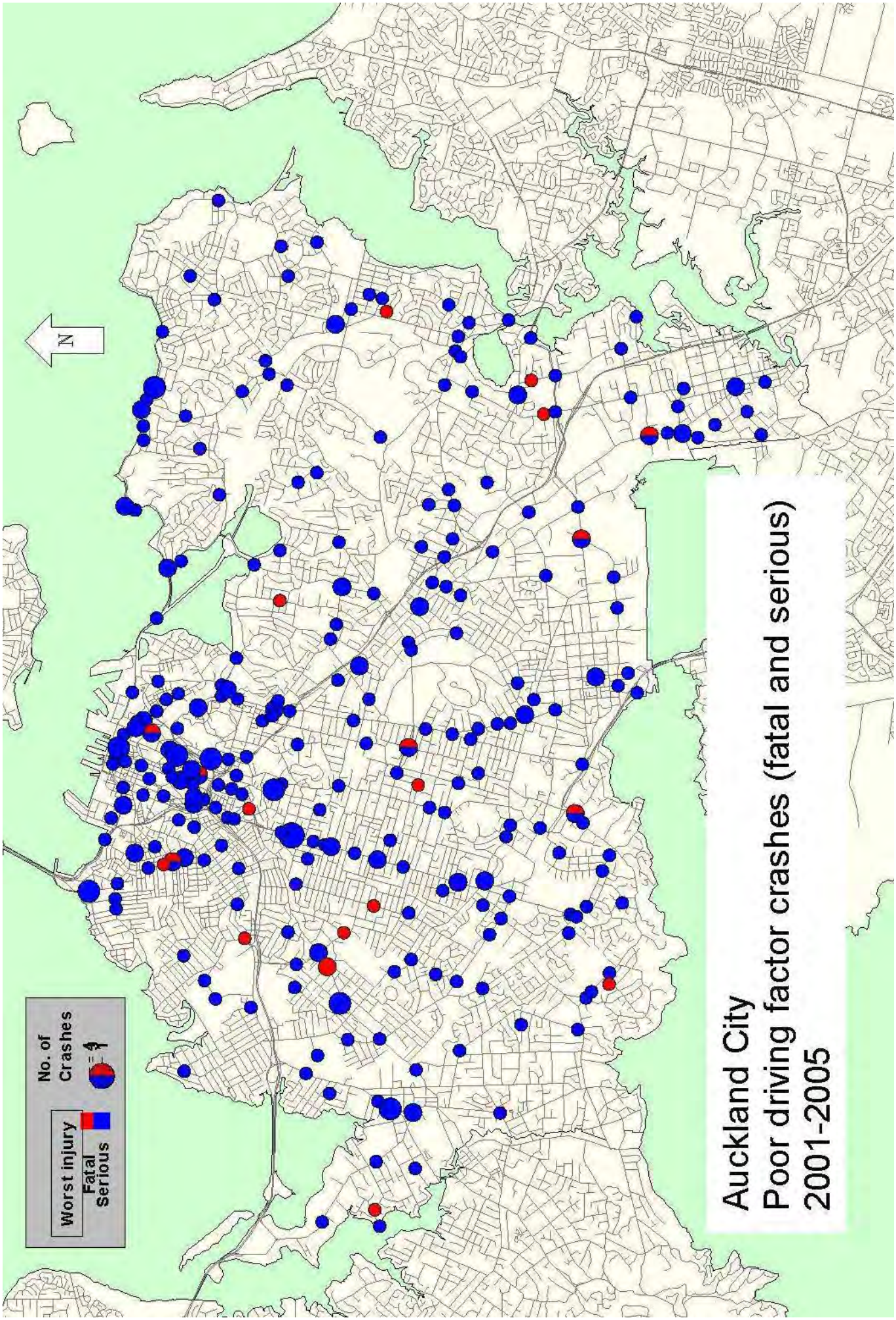
The following table shows the junction type where these local road crashes occurred for the period 2001–2005. The majority occurred at a T or Y junction.

Junction type	Percentage of crashes
T or Y junction	35%
Crossroad or multi-road junction	20%
Not at a junction	30%
Driveway	13%
Roundabout	3%

The traffic control at the time of the crash is shown in the table below. Approximately 15 percent of crashes occurred at an uncontrolled X, T or Y junction.

Traffic control	Percentage of crashes
No formal control	56%
Traffic signal control	16%
Give way control	14%
Stop control	13%

Education, advertising and enforcement campaigns carried out in the city can focus on the identified poor driver behaviours and target drivers in the over-represented age and gender groups.


N
No. of Crashes
= 4
Worst injury
Fatal
Serious
Auckland City
Poor driving factor crashes (fatal and serious)
2001-2005

Town centres

The areas around a selection of town centres in the Auckland Region have been defined in the national crash database by the Auckland Regional Transport Authority to help with future transportation planning. The areas are all based on a 800 metre radius around each town centre. There are 20 such town centres defined in Auckland City.

The city can also use these town centres to help it determine areas that could benefit form further investigation and help prioritise investment in infrastructure improvements.

Social cost

The following table ranks the town centres in order of the social cost of local road injury crashes for the period 2001–2005.

Town centre	Social cost ($m)
Auckland CBD	63.9
Avondale	19.0
Stoddard	17.9
Mount Roskill	17.1
Otahuhu	16.6
Onehunga	16.5
Mount Wellington	16.5
Sandringham	13.5
Middlemore	13.0
Newmarket	11.2
Ellerslie	10.7
Royal Oak	10.0
Mount Albert	9.6
Panmure	9.2
Balmoral	8.3
Remuera	8.2
Point Chevalier	8.1
Glen Innes	7.7
Grey Lynn	2.3
Quarry	1.3

The map on the next page shows the currently defined town centre areas in Auckland City.

Crash types and factors

The following table ranks the twenty town centres by the number of injury crashes and lists the percentage of pedestrian, cyclist, intersection and night time crashes in each area.

Town centre	Injury crashes	Percentage			
		pedes-trians	cyclists	inter-sections	night
Auckland CBD	465	39	10	59	40
Newmarket	191	15	10	41	25
Ellerslie	137	9	9	37	37
Otahuhu	108	26	1	56	31
Avondale	94	32	6	49	33
Onehunga	85	15	6	69	16
Mt Albert	82	13	18	49	26
Mt Roskill	82	27	12	54	24
Balmoral	79	10	5	70	41
Pt Chevalier	77	13	4	39	36
Panmure	60	25	10	53	28
Royal Oak	55	29	18	47	24
Stoddard	55	20	4	44	35
Mt Wgtn	54	19	6	39	30
Remuera	54	39	4	59	28
Sandringham	52	29	6	63	37
Glen Innes	34	21	9	50	12
Middlemore	34	24	3	26	32
Grey Lynn	21	29	14	38	38
Quarry	7	0	0	0	71

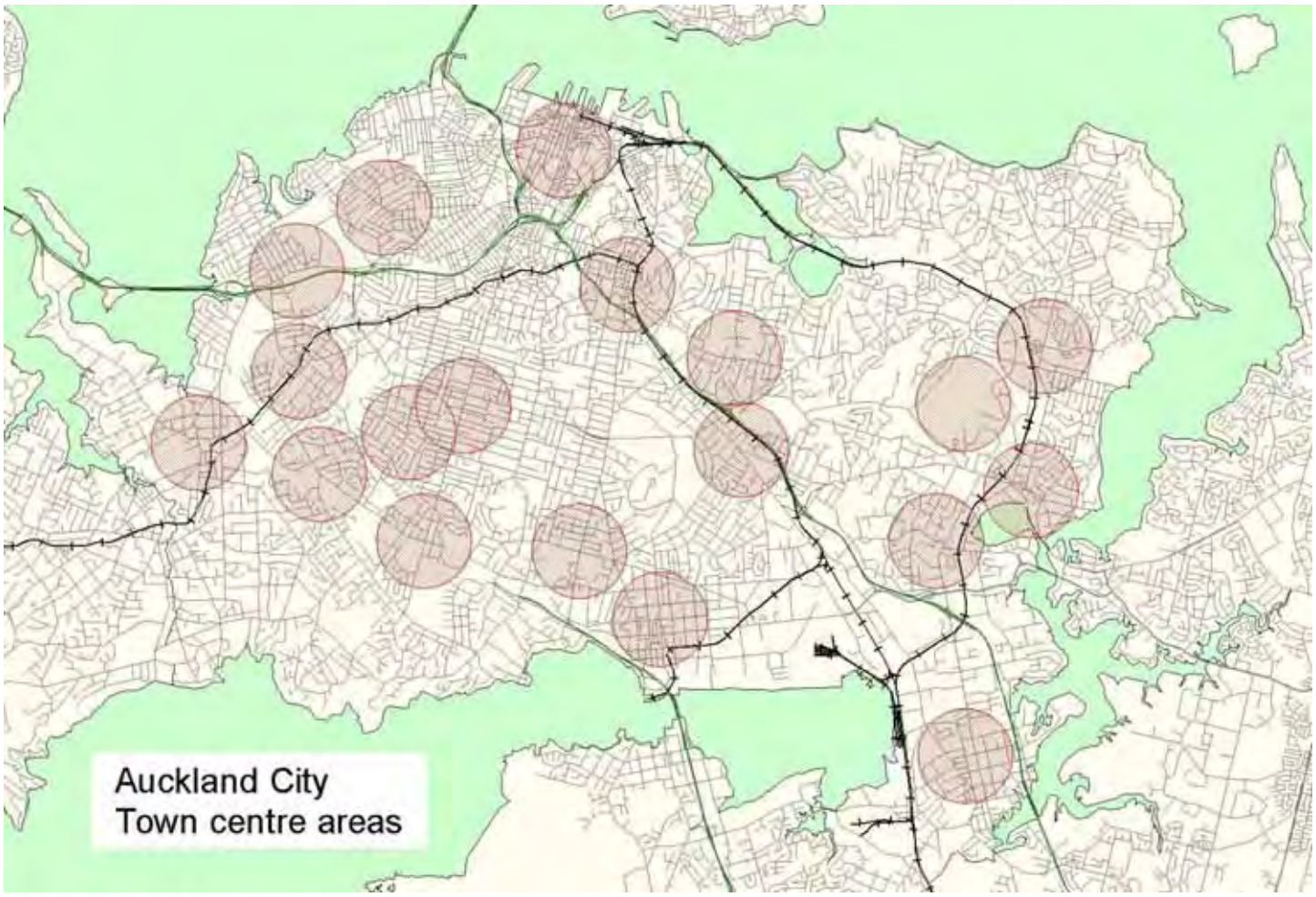
Note: This table includes any motorway crashes covered by the area defining the town centre.

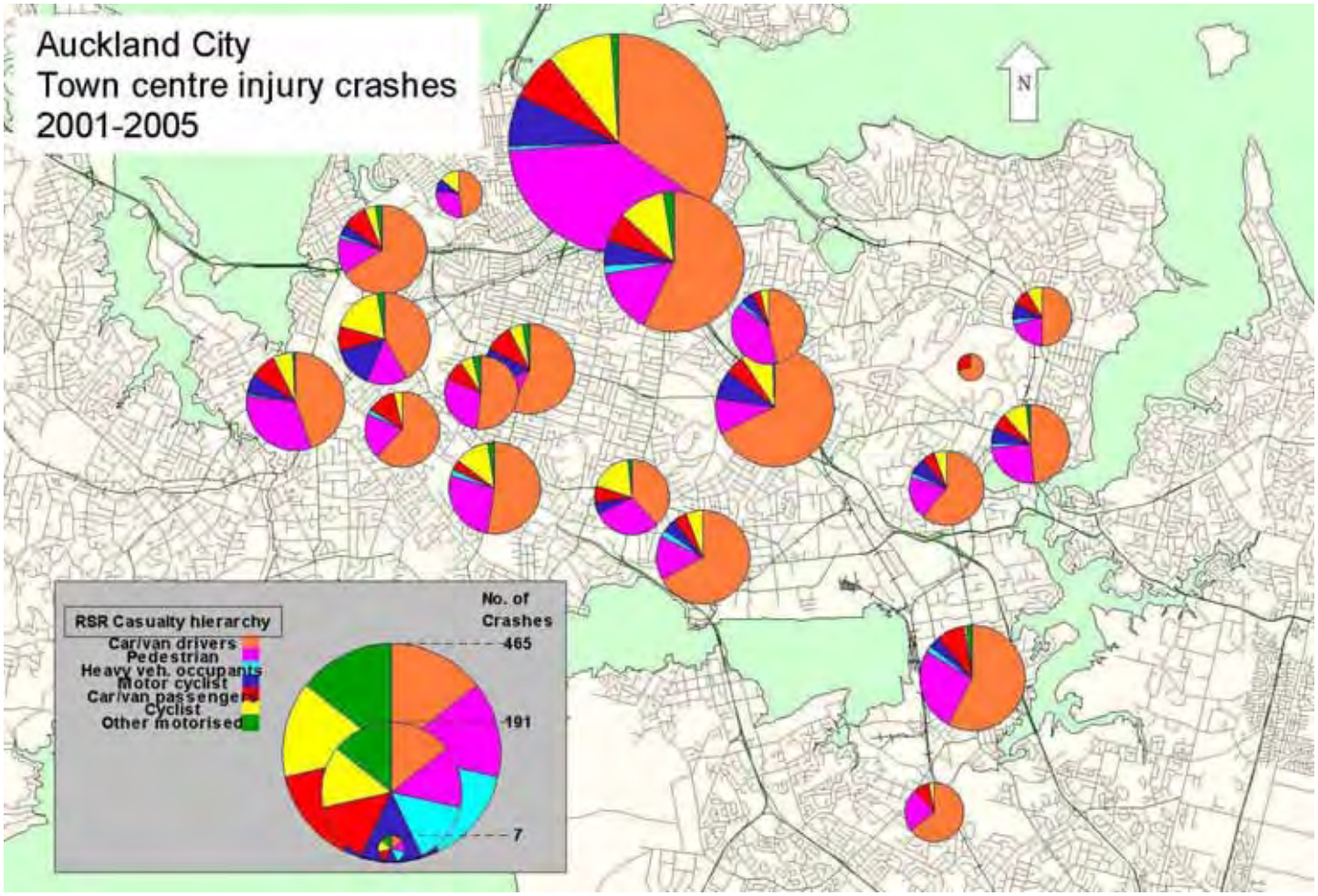
This information can be used to identify particular issues in each area, for example, both the central business district and Remuera have very high percentages of intersection and pedestrian crashes. Mount Albert and Royal Oak have the highest percentage of cyclist related crashes in the city. This is a useful method of identifying those areas that would benefit the most from area wide improvements to such things as walking and cycling facilities, street lighting, local area traffic management and traffic control at junctions.

Targeting of traffic and travel demand management and travel behaviour change projects could also be assisted by analysing crash data from the town centres, especially if compared to population and traffic data for each area. Traffic enforcement campaigns could also be prioritised using analysis of the data.

Auckland City could also consider defining and analysing additional town centre areas to the 20 listed, or developing more detailed areas that could more accurately represent the diverse urban environments in the city.

The following map shows the types of road users involved in injury crashes in the 20 town centres defined in the city for the period 2001–2005.

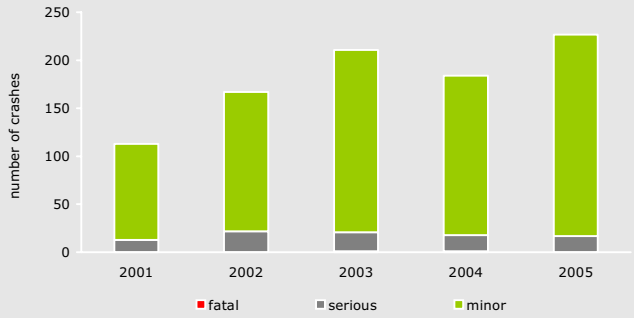

Auckland City
Town centre areas


Auckland City
Town centre injury crashes
2001-2005
N
RSR Casualty hierarchy
Car/van drivers
Pedestrian
Heavy veh. occupants
Motor cyclist
Car/van passenger
Cyclist
Other motorised
No. of Crashes
465
191
7

Rear-end crashes

Rear-end and obstruction type crashes on the local roading network are the second most common crash type in Auckland City representing 22 percent of the injury crashes. If reported non-injury crashes are included, they represent 39 percent of crashes. Of particular concern is the fact that the number of these crashes has been increasing over the last five years.

Rear end/obstruction crashes 2001–2005



The five most common crashes in this category are:

- collision with the end of a queue of traffic
- collision with a U turning vehicle (turning from the left)
- collision with a parked vehicle
- collision with a vehicle stopped at traffic signals
- collision with a vehicle waiting to make a right hand turn.

When examining the times that these crashes occur it can be seen that the weekday morning and evening school peak hours are the most hazardous (8 am – 9 am and 3 pm – 4 pm). The weekend peak hour occurs between 6 pm and 7 pm.

Driver factors play a significant part in crashes of this type. The number of crashes involving poor observation, which includes drivers failing to notice other traffic slowing, has increased in recent years. Unsafe following distance is also commonly recorded as a contributing factor and increased in 2005.

These crashes were grouped together to identify any obvious problem spots. Four of the top 15 sites (locations with five or more injury crashes in five years) occurred at or near junctions along Dominion Road. New North Road and Symonds Street had two locations each.

Rear-end and obstruction crashes can more commonly be a route rather than a site specific problem. It is recommended that Auckland City staff study a map of all local road crashes of this type to identify routes or areas that would benefit from further detailed investigation. A combination of education, enforcement and engineering interventions can be used to address this increasing trend.

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