



SaferRoads

Wadestown, Wilton & Northland Technical Report

July 2005

Absolutely

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ME HEKE KI PŌNEKE
WELLINGTON CITY COUNCIL

Wellington

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1. Abstract

This technical report provides details of the proposed measures to reduce crashes in Wadestown, Wilton and Northland by one third by the year 2010.

Wellington City Council along with its key safety partners is providing a method of reducing crashes through the use of traffic engineering devices, education and enforcement programs that are aimed at all road users.

The report finds that the majority of crashes in Wadestown, Wilton and Northland occur on the main routes through the suburbs. About three-quarters of the reported injury crashes since 1999 have occurred on Grosvenor Terrace, Lennel Road, Wadestown Road, Churchill Drive, Blackbridge Road, Wilton Road, Mairangi Road, Pembroke Road, Northland Road, Northland Tunnel Road, Curtis Street and Glenmore Street. Accordingly, the proposed changes, aimed at reducing injury crashes, have mainly focused on these roads as the greatest benefits can be gained here. However priority has also been given to providing appropriate measures for residential streets to make these areas safer for the people who live there.

The records show that the main types of crashes are turning across on coming traffic, loss of control, rear-end crashes and hitting parked vehicles. The crash data shows that 37% of injury accidents in Wadestown, Wilton and Northland since 1999 have involved either pedestrians or cyclists. Injury crashes accounted for 21% of all crashes in the area, which is slightly less than the 24% for Wellington City as a whole (1999-2004 excluding State Highways).

During the consultation phase useful information about the issues and concerns in the area was provided by participants at workshops. The key issues related to intersections, speed, parking, night-time, pedestrians and schools/kindergartens/creches. Participants provided their ideas about potential solutions which have been included in the design of the road safety measures proposed here.

At the completion of the consultation phase schemes were developed and concept plans prepared for each of the sites identified as needing attention. The implementation schedule and concept plans provide the framework for meeting the SaferRoads project objective of reducing injury crashes by one third by 2010.

The measures designed to meet these objectives included kerb extensions, median islands, roundabouts, speed humps, controlling intersections, identifying arterial routes and improving the road markings for all roads in Wadestown, Wilton and Northland. Education and enforcement programmes are also an important part of improving the safety and reducing injury crashes in Wadestown, Wilton and Northland. These proposed works and programmes have been estimated to cost approximately \$600,000.

2. Introduction

This technical report provides details of the SaferRoads project for the Wadestown, Wilton and Northland areas including a general description of the suburbs, details of the crash history and other information obtained as part of the data gathering exercise. The consultation process is outlined with details of the more significant issues raised by residents discussed in this report. A full copy of resident's submissions is provided in Appendix A of this report with the changes planned to address the concerns outlined in Section 9, the implementation plan.

The purpose of this report is to provide background information for the chosen measures and to outline a priority list for the road safety improvements for discussion.

Wellington City Council in conjunction with its key safety partners is providing resources to achieve the objective of reducing the number of injury crashes by one third by the year 2010. Approximately \$600,000 has been allocated for the SaferRoads project in Wadestown, Wilton and Northland to provide engineering, education and enforcement measures to achieve this objective. The bulk of these funds will be spent on physical engineering measures which will make roads safer for everybody. These funds may not be sufficient to complete all of the physical works identified in this report and the Council may need to continue the investment in future years to complete the project.

Construction for the Wadestown, Wilton and Northland SaferRoads project is expected to commence in October 2005 with the majority of works completed by the end of the year. Education and enforcement programmes are planned in conjunction with the physical works to assist road users to understand the roading changes and to modify their behaviour to provide a safer road environment for all.

3. Background

In 2003 Wellington City Council introduced a road safety project called SaferRoads that aims to reduce accident numbers in Wellington City by a third. The SaferRoads Project has been designed so Council can make a contribution to the Government's *Road Safety to 2010* strategy.

SaferRoads is modelled on successful projects carried out in the United Kingdom, Scandinavia and Australia where an area-based approach has been used to reduce road accidents. The project has been developed in conjunction with Land Transport New Zealand (LTNZ)¹, and is supported by Council's key road safety partners including Transit New Zealand, Greater Wellington and the New Zealand Police.

The Council's previous road accident reduction strategies concentrated on making changes to identified black spots and defined routes. This work is now largely complete. However, analysis of the LTNZ crash database confirms that there are still a significant number of 'scattered' accident sites that are more difficult to eliminate. A specialist traffic safety consultant was commissioned in 2001 to make recommendations on a new accident reduction strategy for the Council. The *Proposed Road Safety Action Plan for Wellington City Discussion Paper* which outlined current international research and recommendations, was developed as a result.

According to overseas research, the most effective way to reduce both concentrated and scattered accidents is by:

- managing traffic onto the right roads so that a safer distribution of traffic is achieved
- managing the speed of traffic so that it circulates more safely
- co-ordinating all work that influences road safety.

To be successful, the SaferRoads project will require the following critical elements:

- co-operative working arrangements between relevant agencies
- ongoing political support
- ongoing funding
- acceptance from local communities
- the ability to introduce measures currently outside the legislative framework.

The bullet points above outline some of the key elements that will be required to achieve the targeted crash reductions by 2010.

¹ On 1 December 2004 Land Transport New Zealand was created from the merger of the former Land Transport Safety Authority and Transfund New Zealand. Prior to that, both LTSA and Transfund NZ had been partners in the project.

4. Suburb Description

4.1 General

Figure 1 below shows the boundary of the study area, which covers the Wadestown, Wilton and Northland residential areas.

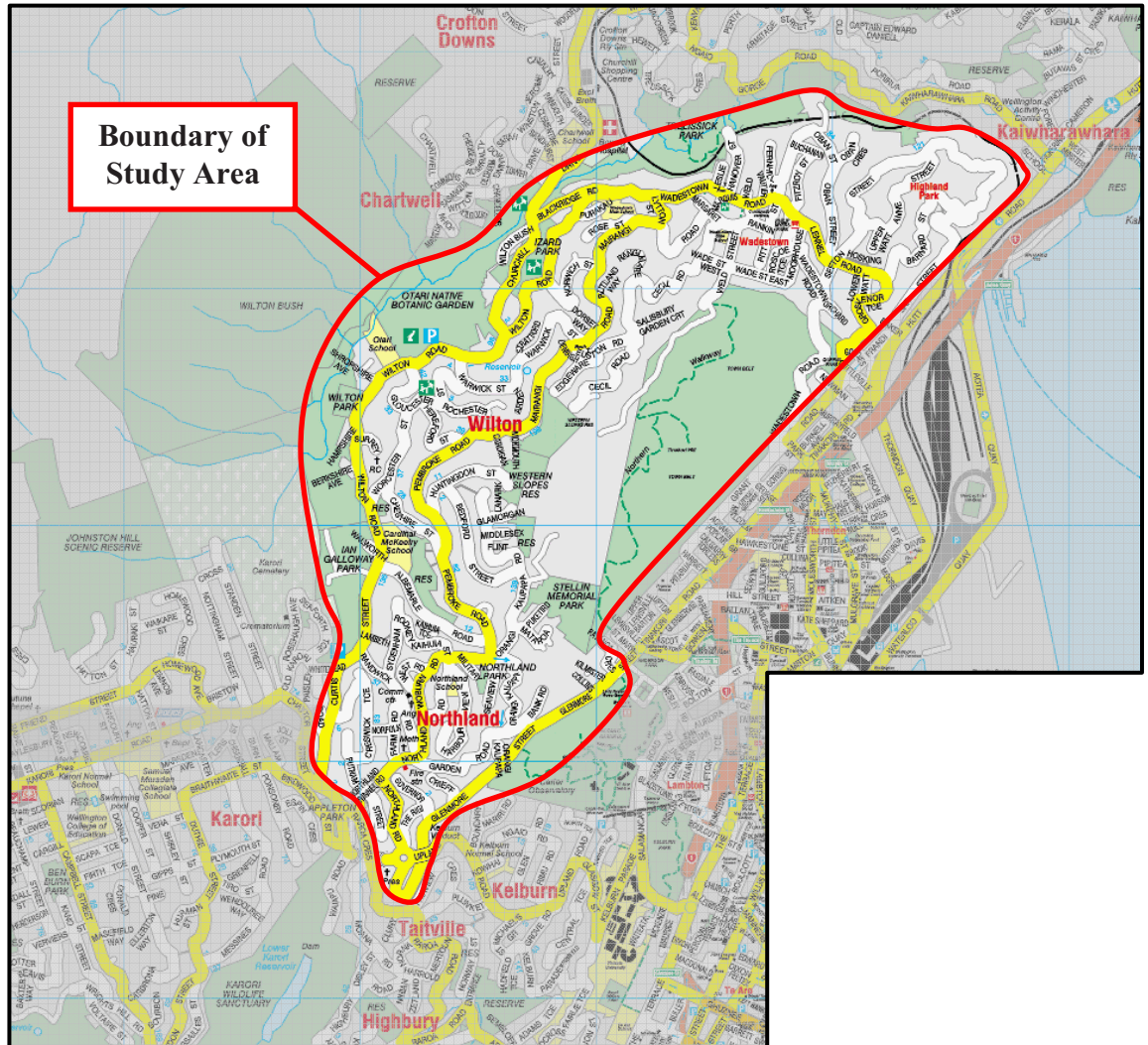


Figure 1 – Study Area

The main traffic routes (which are also all bus routes, shown in yellow in Figure 1) are generally in the northwest-southeast direction in Wadestown, in the northeast-southwest direction in Wilton and in the north-south direction in Northland.

The route along Curtis Street, Wilton Road and Churchill Drive is the main traffic route linking the western suburbs of the city from Karori to Johnsonville.

The Council's *Hierarchy of Roads* report defines Curtis Street, Wilton Road (southern part), Churchill Drive, Chaytor Street and Glenmore Street as principal roads. It also defines Northland Tunnel Road, Northland Road, Pembroke Road, Mairangi Road, Blackbridge Road, Wilton Road (northern part), Wadestown Road (western part), Lennel Road and Grosvenor Road as collector roads.

There are a number of primary schools within Wadestown, Wilton and Northland but the nearest public secondary schools are Wellington Girls' College in Thorndon and Wellington College in Mt Victoria.

4.2 Wadestown

Wadestown is a hilly, predominantly residential suburb. The principal traffic route to and from Wadestown is via Grosvenor Terrace, Lennel Road and Wadestown Road. This route bisects Wadestown's residential areas and provides the main transport spine for the suburb.

Secondary traffic routes are available to and from Wadestown, but generally have poor road geometry. Such routes include Sar Street and the southern portion of Wadestown Road, which are both generally narrow and winding, and are unsuitable for large traffic flows.

Wadestown School is the only school in Wadestown, although it is noted that it operates from two separate sites. The Main School on Rose Street accommodates children from Year 2 to Year 8, while the Side School on Weld Street provides parallel junior classes (Years 1 to 2).

4.3 Wilton

Wilton is also a hilly, predominantly residential suburb. The principal traffic routes to and from Wilton are via Wilton Road and Pembroke Road/Mairangi Road.

Secondary traffic routes within Wilton include Warwick Street, Euston Road, Gloucester Street, Worcester Street and Albemarle Road.

There are two schools in Wilton. Otari School (also known as Wilton School) is on Wilton Road, adjacent to Otari-Wilton's Bush. Cardinal McKeefry School is a private Catholic school located on Albemarle Road.

4.4 Northland

Northland is another hilly, predominantly residential suburb. The principal traffic routes to and from Northland are via Northland Road, Curtis Street and Pembroke Road/Mairangi Road.

A secondary traffic route to and from Northland is also available, via Garden Road but this is a narrow and winding route that is unsuitable for large traffic flows.

Secondary traffic routes within Northland include Randwick Road, Bedford Street and Orangi Kaupapa Road.

Northland School, which is on Harbour View Road, is the only school in Northland.

5. Crash Statistics

5.1 Crash Trends

A detailed search of the Land Transport New Zealand crash database was carried out in the initial phases of the SaferRoads project with much of the analysis done by Bullen Consultancy in June 2004.

This work has been extended to gain an understanding of the long-term crash trends for Wadestown, Wilton and Northland from 1994 to 2004.

The main objective of the SaferRoads project is to reduce the number of injury crashes and accordingly there is a need to specifically consider this data. However, the consideration of both injury and non-injury crashes provides more data from which to develop an understanding of the potential crash risk and to draw conclusions.

Table 1 below shows the reported crashes for the 11 year period.

Table 1 - Crash History for 1994 to 2004

Year	Injury plus non-injury	Injury crashes	Pedestrian and cyclists injury crashes
1994	26	12	3
1995	28	13	2
1996	44	17	5
1997	44	8	1
1998	35	8	1
1999	28	10	4
2000	37	6	3
2001	24	4	1
2002	28	2	0
2003	20	5	2
2004	27	8	3
1994 to 2004 (11 years)	335	92	26
2000 to 2004 (5 years)	136	25	9

The reported crashes for Wadestown, Wilton and Northland are trending downwards from the high years of 1996 and 1997. This is typical of the nationwide trend with safety programmes carried out in the late 1980s and 1990s clearly showing a reduction in crashes.

Importantly the number of crashes, especially injury crashes, appears to be steadying as time passes and new initiatives are required to make crashes continue on a downward trend.

For the latest five-year period from 2000 to 2004 there have been 25 reported injury crashes. There have been no fatal crashes in that time but one serious injury crash in Wadestown, one in Wilton and five in Northland (of which three occurred on Glenmore Street).

The injury crash data shows that pedestrians and cyclists accounted for 36% (9 out of 25) of the reported injury crashes between 2000 and 2004. The percentage of crashes involving injury is 18% (25 out of 136), which is less than that for Wellington city as a whole for the same period (25%).

The number of injury crashes in Wadestown, Wilton and Northland is less than half the number of injury crashes for Karori (60) for the five-year period from 1999 to 2003, possibly due to the generally slower speed environment in the hilly suburbs.

5.2 Detailed Crash Analysis

Detailed analysis has been undertaken of the injury and non-injury crashes in Wadestown, Wilton and Northland for the six-year period from 1999 to 2004. A summary of these crashes and a crash printout from the Land Transport New Zealand crash database is provided in Appendix B.

As noted in Section 5.1 above, the more prevalent non-injury crashes have been included along with the injury crashes that are the target of the SaferRoads project because the larger crash data set provides greater insight into the pattern of crashes in Wadestown, Wilton and Northland.

Table 2 summarises the crashes in each area by year and injury for the six-year period from 1999 to 2004 (includes crashes along Glenmore Street and at the Northland Tunnel Road/Raroa Crescent intersection).

Table 2 - Crash History by Year and Injury for 1999 to 2004 (six years)

Year	Wadestown			Wilton			Northland			ALL
	All	Inj	Ped, Cyc	All	Inj	Ped, Cyc	All	Inj	Ped, Cyc	All
1999	9	3	1	5	1	0	14	6	3	28
2000	7	1	1	14	3	2	16	2	0	37
2001	9	0	0	6	3	1	9	1	0	24
2002	5	1	0	10	0	0	13	1	0	28
2003	3	0	0	6	2	1	11	3	1	20
2004	7	1	1	8	2	0	12	5	2	27
1999 - 2004	40	6	3	49	11	4	75	18	6	164

Of the three areas, Northland has the greatest number of crashes, largely due to the comparatively high number of crashes along Glenmore Street.

Table 3 (overleaf) summarises the crash movements for the same six-year period. The predominant crash types were loss of control crashes, hitting parked vehicles, rear-end collisions, crossing/turning crashes, and pedestrian and cycle crashes.

Table 3 - Crash History by Movement for 1999 to 2004 (six years)

Movement	Wadestown	Wilton	Northland	ALL
Bend LOC	19	16	23	58
Straight LOC	2	5	4	11
Overtaking	1	2	6	9
Rear end/object	10	9	30	49
Cross/turning	3	13	8	24
Ped vs vehicle	3	3	3	9
Miscellaneous	2	1	1	4
1999 to 2004	40	49	75	164

LOC = loss of control

For 1999-2004, 42% of crashes in Wadestown, Wilton and Northland were loss of control and 30% occurred when the road surface was wet, compared to 23% and 22% respectively for Wellington City as a whole (excluding State Highways). Wadestown had the worst percentage (53%) of loss of control crashes attributable largely to crashes on Grosvenor Terrace and Barnard Street. However the situation for these two roads appeared to have improved for 2004, which is likely due to road resurfacing during 2003.

Table 4 below summarises the light conditions when crashes occurred during the six-year period from 1999 to 2004.

Table 4 - Crash History by Light Conditions for 1999 to 2004 (six years)

Natural Light	Wadestown	Wilton	Northland	ALL
Dark	11	21	21	53
Twilight	2	2	4	8
Overcast	18	12	27	57
Bright	9	14	23	46
1999 to 2004	40	49	75	164

Almost one third (32%) of crashes occurred after dark, with Wilton having the worst percentage (43%). By comparison, one quarter (25%) of Wellington City crashes occurred after dark.

In summary the issues arising from the crash history include loss of control crashes, hitting parked vehicles, rear-end collisions, crossing/turning crashes, and pedestrian and cycle crashes. About three-quarters of all the reported injury crashes in Wadestown, Wilton and Northland occurred on Grosvenor Terrace, Lennel Road, Wadestown Road, Churchill Drive, Blackbridge Road, Wilton Road, Mairangi Road, Pembroke Road, Northland Road, Northland Tunnel Road, Curtis Street and Glenmore Street. To meet the objectives of the SaferRoads project it will be necessary to allocate most of the funds to improving the safety of these roads. However it is important to balance this against the need to enhance the safety of the residential streets in the area.

6. Consultation

6.1 General

Community participation in the SaferRoads project is critical to its implementation and success. To begin the community consultation phase, the SaferRoads team went out into the community and met with local groups to inform them about the project.

Meetings were held with stakeholders including:

- Cycle Aware Wellington
- Living Streets Aotearoa (Wellington)
- Stagecoach
- Utilities Companies (Telecom, gas and power companies)
- The Road Safety Reference Group.

6.2 Community Workshops

Publicity for two community workshops included information flyers delivered to all residents in Wadestown, Wilton and Northland. In addition, SaferRoads posters were displayed around the suburbs at shops. A media release about the SaferRoads project was circulated to local papers and public notices were placed in community newspapers.

The two community workshops were held at Otari School on Wilton Road. The workshops, which were held on 18 and 25 August 2004, were attended by a wide cross-section of the community.

6.3 Workshop One

Workshop One was held on 18 August 2004 from 7pm to 9pm at Otari School and was attended by 28 people along with the SaferRoads project team and other Council staff.

The aim of Workshop One was to inform the local community of the project objectives and to gather information about road safety issues based on people's local knowledge of the area.

A number of visual displays containing large maps of the area and local crash statistics were displayed. Participants were given a SaferRoads folder pack, which contained background information on the project and materials for the workshop exercise.

Workshop exercises were divided into four main implementation themes:

1. Engineering
2. Enforcement
3. Education
4. Streetscape

Community participants wrote down any road safety issues that they were aware of on post-it notes under these themes and stuck these onto a wall map. A separate board was provided for participants to post generic or non-local issues.

Documenting road safety issues in this way was an effective method for identifying road safety concerns, trends and issues in the area.

A full listing of all the safety issues and concerns raised by the community is provided in Appendix A.

6.4 Safety Themes

Following Workshop One, the information that had been gathered was analysed to identify common issues and sorted into safety themes to be discussed in Workshop Two. The safety themes that were identified for Wadestown, Wilton and Northland were:

- intersections
- speed
- parking
- night-time
- pedestrians
- schools/kindergartens/creches
- general roading issues.

In general the feedback from participants of Workshop One could be categorised into three of the four implementation themes, namely engineering, education and enforcement, with the bulk of the submissions relating to engineering. Very little feedback was received on streetscape issues.

6.5 Workshop Two

Workshop Two was held on 25 August 2004 from 7pm to 9pm at Otari School and was attended by 17 people along with the SaferRoads project team, ward Councillors and other council staff.

The objective of Workshop Two was to examine the safety trends and types of crashes in the area and to develop a high level framework for crash reduction based on community input.

The SaferRoads team worked alongside community participants on a group exercise which aimed to provide possible road safety solutions based on the implementation themes of engineering, education and enforcement initiatives for local roads.

A number of diverse and comprehensive solutions were noted down as part of this process and will form a useful framework for implementing measures to make the roads safer in Wadestown, Wilton and Northland. The framework for reducing crashes is outlined in the section below, based on the aforementioned identified safety themes arising from Workshop One.

6.6 Framework for Reducing Crashes

Table 5: Workshop Safety Themes framework

ENGINEERING	EDUCATION	ENFORCEMENT
Intersections		
Prohibit parking further back from intersections than the standard 6m.	Education about indicating at intersections.	Enforcement of illegal parking.
Use roundabouts to slow traffic on main roads.		Reduce the speed limit to 40 km/h.
Trim vegetation / banks to improve visibility.		Speed cameras.
Speed humps on roads with high speeds.		
Use slow zones - everyone would want one.		
Case by case basis - mirrors perhaps.		
Speed		
Use roundabouts to control speed.	Needs to be targeted on routes.	Regular speed cameras on Wilton Rd.
Speed limit 40 km/h – not on Wilton Rd, but okay for Wadestown Rd - just at school times?	Educate people at times of sports events, etc. (eg note on windscreen).	Enforcement at school time.
Cats eyes (RRPMs) - need to keep vehicles on course.	Need to remind people they are in residential zone.	Need enforcement at crash blackspots.
Ensure pedestrian safety - more footpaths.	Main issues are with cars, not trucks.	
More Stop signs eg Blackridge Rd.	Educate bus drivers (eg Gloucester St).	
Probably not speed humps.	Probably not speed humps.	
Slow points.		
Sunstrike reminders – Queensland-style solution.		
Speed is mainly an issue for arterial / semi-arterial routes (topography restricts speed on residential roads).		
Wilton Rd is too fast.		
Wadestown Rd is "poor man's Monte Carlo".		
Speed limit signs.		
More median islands.		
Lower speed limits.		
Speed limit at schools.		
Speed humps at schools and shops.		

ENGINEERING	EDUCATION	ENFORCEMENT
Parking		
Review parking eg P120 or coupon parking.	Make it a political decision to get cars off the road.	Bylaw to charge for on-street parking.
Provide assistance (financial?) to increase the number of carpools.	Parents / schools - identify safe areas to drop children off and "walk" to school.	Random / suburban enforcement by Parkwise wardens.
Use mountable kerbs to allow parking on footpath (split views about this).	Incentives to park in driveways - shared use in "down times".	Warning notices by Parkwise wardens.
Make better use of road reserve (for off-road car parks etc).	Use friendly notes to say "Do you realise..." (already done by Walk Wellington).	
Use Park 'n' Ride (buses, trains).	School newsletters.	
Night-time		
Note areas where going from bright lighting (main roads) to poorer lighting (local roads).	Let people know to contact the City Council if there are concerns and/or lights out.	
Tree trimming.		
Improve lighting, light intensity.		
Surveys of lighting level.		
Provide lights in bus shelters.		
Install numbers on streetlight poles to make it easier for people to report faults.		
Pedestrians		
Improve pedestrian safety at intersections eg Orangi Kaupapa Rd / Pembroke Rd / Northland Rd- a roundabout would improve intersection but what about pedestrians?	Educating pedestrians who wander across the road.	
Walkways coming onto road with no footpath on that side.	Building sites / tradesmen - park on footpaths.	
Shift zebra crossing on Glenmore St from Orangi Kaupapa Rd to Garden Rd?	Better "road sense" education.	
Dangerous parking around shops (Northland and Wadestown) - pedestrian implications.		
Footpaths - more of them; wide enough for pushchair and toddler. If no footpath then pedestrians are forced to walk around parked cars (eg Orangi Kaupapa Rd).		
Contiguous footpaths on main routes.		
Better positioned crossings.		

ENGINEERING	EDUCATION	ENFORCEMENT
Schools / Kindergartens / Creches		
Better warning signage / positioning (on both sides of roads).	Road safety education for parents and children (some parents inconsiderate).	Parking enforcement - the Council/ school - who is responsible?
Logical / integrated engineering solutions around educational places, taking into account needs of small children, parents and general drivers / pedestrians.	Get kids walking to school - walking school buses (eg from Bedford St / Orangi Kaupapa Rd intersection to school).	
Slower speed limits.	Speed.	
Positioning of bus stops outside schools - Northland Rd; bus stop moved south of zebra crossing – improved the visibility for cars exiting Harbour View Rd, and kids don't have to cross Harbour View Rd.	Parents and teachers should be role models and educate their children.	
No parking opposite schools.	Encourage walk to school.	
Footpaths / crossings (not right outside school gates).	Parents should drop off on the school side.	
Yellow lines outside schools.	No parking on yellow lines.	
More parking spaces.		
Colouring on road.		
Improve pedestrian safety.		
Fluoro-green warning signs.		
Widen roads and footpaths.		
Speed humps.		
Increase drop off zones.		
General Roading Issues		
Consider planting (suitable plants to not impede visibility) plants to act as traffic calming measures.	Notification of safer routes to school, to discourage car volumes at schools.	Better enforcement of repeat parking offenders.
Trimming roadside vegetation to improve visibility.		More visible police presence.
On "tight" corners or narrow winding roads, possibly restrict parking on all of one side.	Educating people who park stupidly - possibly leaflets under wipers.	Speed cameras.
Restrict parking on corners.	Marketing of advantages of public transport over private vehicle use.	
Minimum standard should be for fire and rubbish trucks.		
Improve / increase frequency of public transport.		
Use of more roundabouts.		
Planning of safe walkways.		

7. Potential Engineering Treatments

The consultation workshops provided an excellent mechanism for understanding local safety concerns and for identifying issues to be considered, the bulk of which focussed on potential engineering measures.

In addition the Council commissioned Bullen Consultancy to conduct a safety audit and compile a list of suggested treatments (Derek Bullen, *SaferRoads Wadestown, Wilton, Northland - Framework for Remedial Measures*, July 2004). Subsequently the Council engaged MWH New Zealand to review the suggested changes. Site inspections were carried out in autumn 2005.

The following tables provide a summary of the engineering solutions proposed by participants at the consultation workshops and by the Auditor, and also the Consultant's response. Separate tables are provided for each suburb, further subdivided into the main routes and residential roads.

Table 6: Wadestown – Main Roads (includes Mairangi and Highland Park)

Location	Community Concern	Response
Wadestown Rd / Hanover St	Poor visibility.	Impractical to improve visibility. Suggest extending No Parking lines 20m past the driveways on eastern side approach.
Wadestown Rd shops	Mark No Parking lines at zebra crossing.	Agree to remove the short P60 zone immediately uphill of the crossing towards city direction. Note that the lower P60 pole has been pushed over at an angle.
Wadestown Rd / Wade St (east)	Poor visibility if crossing by steps leading to Margaret St .	Difficult to improve. Suggest install convex mirror opposite to assist pedestrians.
Wadestown Rd / Lytton St	Poor visibility. No Parking lines.	Difficult to improve. Could consider making Lytton St one-way (uphill?) as it is very narrow and steep.
Wadestown Rd near Marquis St	No formal crossing by day care centre.	Signs already provided. Suggest adding coloured pavement in city direction to reinforce slow zone.
Wadestown Rd / Pitt St / Lennel Rd	Poor visibility. Possible traffic lights. Threshold treatment.	Suggest removal of corner 'garden' by relocating low retaining wall to be immediately alongside the footpath. Possibility of signals could be considered Threshold on Pitt St (north) not necessary, could be considered for Pitt St south.
Grant Rd / Grosvenor Tce by steps to Orchard St	Possible pedestrian crossing.	Inadequate site visibility. Could assist the key concern of pedestrians crossing to the bus stop (towards city) by installing convex mirror.
Lennel St / Moorhouse St	Auditor: restrict to left-in left-out for south approach.	Inadequate width to install a median. Correctly orientate the concealed exit sign.
Wadestown Rd / Weld St	Auditor: provide threshold treatment.	Agree although quite difficult to achieve with manhole cover and nearby garage.
Mairangi Rd / Margaret St	Poor visibility turning right into cul-de-sac.	Impractical to improve.
Mairangi Rd by steps from Wade St	Provide formal crossing point.	Disagree. Steps used by able-bodied persons.
Grosvenor Tce	Provide No Parking line.	Agree

Location	Community Concern	Response
Below Lower Watt St		
Grosvenor Tce & Lennel Rd	Provide No Parking lines on bends. Auditor: improve skid resistance on Lennel Rd.	Agree Agree
Lennel Rd / Barnard St	Improve visibility for right turn into Barnard. Auditor: threshold treatment.	Agree. Feasible to provide a modicum of a right turn bay by curve widening. Would need to relocate one lamp post and sump, and could provide threshold treatment.
Lennel Rd / Fitzroy St	Auditor: provide threshold treatment.	Considered impractical to achieve.
Lennel Rd / Oban St / Sefton St	Auditor: provide threshold treatment at Oban and Sefton St.	Considered impractical to achieve.
Lennel Rd / Sefton St south	Poor visibility.	Trim bank on southern side of cutting to improve right turn out from Sefton St south approach.

Table 7: Wadestown – Minor Roads (includes Mairangi and Highland Park)

Location	Community Concern	Response
Oban St by Wadestown Kindergarten	Signage. Better footpath access. Parking facilities. Auditor: signage and parking. Auditor: school zone. Auditor: coloured road surfacing.	Signs already provided. Opposite footpath in good condition (2m), impractical to provide nearside footpath. Could provide kerb ramps opposite where footprints are, and reinstate nearside edgeline in line with new No Parking lines. Alternatively could consider European-style local narrowing (one-lane passage).
Wadestown Rd / Sefton St / Orchard St	Auditor: widen on east side to provide right turn bay into Sefton St (south).	Essentially agree. Suggest initially realign the continuity lines, move across the double yellow lines and move centreline of Sefton St towards Orchard St with Stop control for the latter.
Bends along Cecil Rd	Auditor: provide double yellow lines.	Disagree. Continuous centreline already provided on narrow bends.
Moorhouse St	Provide footpath on library side.	Council annual planning process matter.
Pitt St by Community Centre	Provide additional parking.	Council annual planning process matter. Road too narrow.
Cecil Rd / Weld St	Provide formalised pedestrian/school crossing point.	Recently provided east of Weld St.
Cecil Rd / Wade St west	Poor visibility, trim vegetation.	Agree. Trim bushes by 61 Cecil Rd and remove the agapanthus bush below recent embankment 'plastering'.
Roscoe St/ Wade St east	No footpath at cutting. Possible one-way treatment of Roscoe St.	Footpath through cutting along Wade St east provided recently. Agree that Roscoe St should be considered for one-way treatment.
Cecil Rd / Euston	Auditor: provide centreline	Centreline recently provided but remark faded

Location	Community Concern	Response
Rd	through intersection and No Parking lines to improve visibility	portion on Euston Rd approach and extend No Parking lines 6m south side of Euston Rd.
Pitt St / Buchanan St	Auditor: provide continuity line.	Agree. Provide continuity line across both parts of Buchanan Rd.
Fernhill Tce	Auditor: provide chevron sign.	Agree. Can place chevron on sight rail downhill direction.
Hanover St	No footpath at lower end. Auditor: replace timber fence with guardrail. Auditor: reinforce (PW-43.2) road narrows sign.	Hanover St is a No Exit street (install sign at Wadestown Rd). Annual Plan matter. Impractical from cost perspective to install guard rail here - higher priority sites must exist. Consider adding a supplementary "SLOW" plate (NB: non-standard).
Lytton St	Provide parking for the church.	Lytton St is very steep and narrow. Could provide space for three vehicles along Wadestown Rd opposite the bank below the church.
Sar St	New footpath needed.	Council annual planning process matter, which Council is presently discussing with residents.
Sar St by bend end of straight	No Parking lines.	Already provided on inside of bend.
Sar St / Barnard St	Extend No Parking lines.	Agree. Mark 30m of No Parking lines from Stop line to the nearest garage.
Anne St	Provide footpath in cutting by Sefton St.	Costly to achieve. High banks for 35m with 6m roadway.

Table 8: Wilton – Main Roads

Location	Community Concern	Response
Wilton Rd / Purakau Ave	Pedestrian crossing.	Agree to install a (7.2m) zebra crossing.
Wilton Rd by Iazard Park	Provide car park.	Council annual planning process matter. Potentially could asphalt part of the park in order to provide off-street parking.
Wilton Rd / Norwich St	Wide intersection often cluttered and dangerous.	Remind Stagecoach bus drivers to wait at the bus stop not on western side. Extend No Parking lines on western side. Consider channelisation.
Wilton Rd by Wilton Bowling Club	Extend footpath (assume Warwick St to Churchill Dr).	Council annual planning process matter. Existing crossing with refuge at Churchill Dr, and zebra crossing by school - Warwick St.
Wilton Rd / Gloucester St	Small roundabout. Poor visibility.	Disagree – impractical. Remove daisy bush as it obstructs even when trimmed.
Wilton Rd by Otari school	Speed along Wilton Rd. Auditor: School Zone.	Modify the zebra school crossing. Could install median island or relocate east as a raised zebra crossing. Essentially agree.

Location	Community Concern	Response
Wilton Rd by Wilton Park	Illegal parking when park is in use	Noted - enforcement issue.
Wilton Rd by Hampshire Ave	Pedestrian crossing.	Agree. Can provide (raised) zebra crossing about 22m north from centre of Hampshire Ave.
Wilton Rd by Cardinal McKeefry School	Auditor: School Zone.	Essentially agree
Wilton Rd / Albemarle Rd	<i>noted during site visit</i>	Re-mark Give Way markings.
Mairangi Rd / Warwick St	Auditor: centreline and continuity lines. Auditor: provide Give Way. Auditor: No Parking lines.	Already provided. Agree need to provide.
Pembroke Rd / Hereford St	Auditor: improve intersection. Layout.	Agree (strongly).
Pembroke Rd / Huntingdon St	<i>noted during site visit</i>	Extend No Parking lines 10m opposite Pembroke Motors.
Pembroke Rd / Cheshire St	Auditor: continuity line, Tear Drop (flush splitter island).	Agree and also provide Give Way.
Pembroke Rd bend by 61A	Road narrows with on-street parking.	Restrict on-street parking. Could do so on eastern side (~ 45m) and shift centreline eastwards, or restrict on inside of bend.
Pembroke Rd	Pedestrian link to Bedford St / Upper Orangi Kaupapa Rd.	Council annual planning process matter.
Pembroke Rd / Albemarle Rd	Visibility and parking Auditor: Give Way control.	Move continuity line ½m closer to centreline and shift Give Way 1m forward. Mark No Parking lines.
Blackridge Rd / Churchill Dr	Difficulty crossing.	Modify layout to provide clearer crossing with refuge. Relocate bus stop into lay-by. Trim tree on inside of bend.
Blackridge Rd / Wilton Rd	Motorists not giving way when turning left from Blackridge Rd.	Noted – enforcement issue.

Table 9: Wilton – Minor Roads

Location	Community Concern	Response
Hereford St	Speed of vehicles downhill. Poor visibility top curve.	Noted – enforcement issue. Could provide a vibrational edgeline “New” footpath – visibility okay but add No Parking lines to outside of the bend.
Gloucester St / Hereford St	Poor visibility. Auditor: Give Way.	Trim vegetation obscuring the Concealed Exit sign on Gloucester east approach. Install Hereford St streetname sign opposite the intersection to reinforce presence of intersection for Gloucester St east approach. Agree. Trim flax bush at intersection.

Location	Community Concern	Response
Gloucester St / Worcester St	Auditor: Continue centreline through intersection.	Provide Give Way for Worcester St. Extend footpath by 10m from bus stop, trimming vegetation and moving bus stop sign to back of footpath.
Gloucester St	Improve lighting. Buses speeding. Congestion before / at start of school.	Council annual planning process matter – did appear poor especially near Wilton Rd. Noted – enforcement/education issue. Noted – enforcement/education issue.
Worcester St / Cheshire St	Provide formalised pedestrian / school crossing point.	Noted
Norwich St (upper)	Road narrows Parking both sides.	Narrowing hardly noticeable. Provide Give Way and No Parking lines at Mairangi Rd.
Albemarle Rd by Northland Kindergarten and Childspace day care centre	Signage. Parking/road widening. Auditor: pick up/drop off parking.	Kindergarten signs already provided. Council annual planning process matter (the issue has been previously raised). The local widening could be extended 30m downhill, and a P5 zone installed.
Huntingdon St, Bedford St, upper Orangi Kaipapa Rd	Auditor: mark centreline. No Parking at crests. Continuity lines. Chevrons.	Agree Agree, plus around bend Bedford St east. Already at Huntingdon St / Bedford St. Agree at Orangi Kaipapa Rd.
Gloucester St / Warwick St	<i>noted during site visit</i>	Add Give Way control by playground.

Table 10: Northland – Main Roads

Location	Community Concern	Response
Pembroke Rd / Orangi Kaipapa Rd / Seaview Tce	Dangerous for pedestrians. Auditor: roundabout(s).	Roundabout a good idea, with measures for pedestrian refuges. In the interim relocate Bus Stop towards school, remark faded centreline and mark continuity line, install Stop sign for upper Orangi Kaipapa Rd, cut-down crossings for Seaview Tce.
Northland Rd / Kaihuia St / Woburn Rd	<i>noted during site visit</i>	Move continuity line inwards and remark centreline with vibraline. Install Give Way for Kaihuia St and Stop for Woburn Rd.
Pembroke Rd / Harbour View Rd	Visibility blocked by school bus (and parents) parking Parking by Harbour View Rd entrance. Auditor: Give Way sign.	Relocate bus stop to a recessed lay-by on other side of intersection just before the zebra crossing and mark No Parking lines. Enforcement issue. Agree to install Give Way sign.
Northland Rd by pedestrian crossing near Harbour View	School patrols have difficulty seeing the marked diamonds Auditor: provide School Zone.	Noted – visibility outside of school opening/closing seems okay. Agree should be considered (see also above).
Northland Rd / Woburn Rd south	Auditor: Give Way control.	Agree plus mark continuity line.
Northland Rd /	Angled parking.	Parallel parking opposite the right turn with

Location	Community Concern	Response
Garden Rd	Dangerous intersection. Difficulty turning right from Garden Rd.	former bus stop relocated. Trim the throat island to facilitate right out, and also the right in, and replace the No Entry sign with a Keep Left RG-17A sign. Remark the "Give" onto the asphalt 5m nearer Northland Rd. Possibly install a mirror for the left turn into Garden Rd, and relocate Garden Rd streetname sign onto the corner wooden post. Trim the hebe bush by number 56 obstructing the Garden Rd footpath. Replace one and a half car, parking bay by number 65 as a loading bay.
Northland Rd / Farm Rd	Auditor: provide Give Way sign.	Agree. Also mark 25m No Parking lines both sides of Farm Rd.
Northland Rd (Viaduct–shops)	Too many parked cars.	Noted. Could provide some additional No Parking lines.
Northland Rd / Northland Tunnel	Poor visibility for right turn from Northland Rd.	Consider making this portion of Northland Rd one way towards viaduct (ie downhill)
Raroa Cres / Northland Tunnel Rd	Encourage use of Northland Tunnel Rd for traffic from Glenmore St. Reverse priority at intersection	Could make Northland Rd one way towards viaduct (see also 13-C). Currently Stop on the Northland Tunnel Rd approaches. Could consider a roundabout or reversing the priority.
Curtis St	Parking Auditor: consistency of treatment with Wilton Road.	Mark No Parking lines on bends from Whitehead St to beyond the steps from the pedestrian pathway. Agree that a standard consistent (eg lighting) with Wilton Rd should be provided.
Curtis St / Randwick Rd	<i>noted during site visit</i>	Trim shrub and toi toi bush on the eastern corner.

Table 11: Northland – Minor Roads

Location	Community Concern	Response
Farm Rd	Auditor: continuity line at Norfolk St. Auditor: Chevron at bend near Randwick Rd.	Agree plus install Give Way sign. Agree.
The Rigi	Auditor: reinforce One Way signage (at Governor Rd).	Install Give Way and No Left Turn signs (can remove the No Entry sign on the lamp post). Remark chevron with rumble strip. Replace sight rail (hit and broken in two places – since repaired with extended guard rail).
Woburn Rd by creche	Minimise parking restriction by number 7 and number 9. Signage.	No Parking lines already minimised (probably marked recently). Signs already provided.
Lower Orangi Kaupapa Rd	Improve signage of steps to Garden Rd. Pedestrian safety. Auditor: No Parking lines on bends.	Noted – Council annual plan matter. Suggest edgeline on downhill side. Agree.

Location	Community Concern	Response
	Auditor: guard railing at steep drop offs (100m).	Agree – given the cost would need to investigate.
Harbour View Rd	Auditor: guard railing (100m).	Agree to 30m guard railing or sight rail along the dropout at the top (from number 29 to 31A).
Creswick Tce	Auditor: chevrons on bends. Auditor: mark edgelines and centrelines.	Agree. Agree plus mark No Parking lines on inside of bend. Consider making lower portion of Creswick Tce one-way uphill.
Creswick Tce / Norfolk St	<i>noted during site visit</i>	Extend continuity line across the Give Way.
Putnam St	Improve chevron at U bend. Auditor: mark edgelines. Auditor: mark centreline.	Agree. Add chrebron at start of sight rail – replace with guard rail. Agree for steep downhill portion. Agree. Remark very faded centreline and continuity line at Creswick Tce.
Randwick Rd	Auditor: improve street lighting Auditor: centreline. Auditor: No Parking lines.	Agree. Agree extend up from Sydenham St. Agree. Also provide Give Way for Sydneham St.
Sydenham St - Rodney St - Kaihuia St	Auditor: improve street lighting and/or edgelines. Auditor: centreline. Auditor: No Parking lines.	Agree. Agree for all three streets. Agree for Rodney St in particular. Also provide continuity line across No Exit portion of Sydenham St and put back up Rodney St. numbers 12,14,16 street sign.
Garden Rd	Parking. Not enough passing spaces. Discourage through traffic (eg humps). Auditor: Give Way at Glenmore St.	Council annual planning process matter. Providing more passing opportunities could encourage more traffic. Already restricted so extra speed humps unlikely to be effective. Agree. In addition realign kerb by the bus stop.
Glenmore St	<i>noted during site visit</i>	Provide parking marking (edgeline and No Parking lines). Skid resistant treatment on approaches to zebra crossings by Karori Tunnel and Botanic Garden.

The potential engineering changes and associated concept plans were first considered by Council officers. Further comments were received from members of the Council's SaferRoads Technical Review Committee following a presentation to the Committee by MWH New Zealand on 3 June 2005.

8. Design Elements

8.1 General

It is estimated that about 30% of injury accidents occur on residential streets. While the likelihood of an accident at any one location on a residential street is low because of the total length of such streets, accident risk can be considerably reduced by modifying traffic behaviour through educational and enforcement programmes or by modifying the street layout itself.

The overriding principle in local street design is ensuring that motorists understand that they are using a space which has not been solely designed for motor traffic. The objectives of any traffic calming scheme must include improvements to pedestrian and cycle safety and amenities, improvement of vehicular safety, improvements to the safety of the street network and a reduction of dangers perceived by parents who allow their children to walk or cycle to schools in the area.

Small reductions in the impact speed of cars involved in hitting pedestrians make a big difference to the severity of the pedestrian's injury. Impact speed depends on the original travelling speed of the vehicle.

Accordingly the design elements used for the Wadestown, Wilton and Northland SaferRoads project have focused on reducing speeds in areas where vehicle speeds are an issue and addressing other concerns raised by residents at the consultation workshops and in correspondence with the SaferRoads team. As noted in Section 6.3 above, the safety themes that were identified were:

- intersections
- speed
- parking
- night-time
- pedestrians
- schools/kindergartens/creches
- general roading issues.

The three key areas of engineering, education and enforcement are being targeted to achieve the reduction in crashes set in the objectives for the SaferRoads project.

8.2 Education

The education component of SaferRoads aims to provide support and guidance for schools in the area through the development of the *Safer Routes to School* programme and having regular meetings with the interested schools to discuss their concerns. The walking buses initiative is one of the special programmes to encourage safe ways for children to get to and from school.

Another facet of the education component is the use of the media to provide targeted themes such as “Don’t burst my bubble” and “Be Safe, Be Seen”.

The final facet of the education component is the use of “Your Speed Is...” fixed units or trailers at locations or on routes where speeds are an issue.

8.3 Enforcement

Enforcement in Wadestown, Wilton and Northland will target unsafe parking practices, excessive speed and intersection offences. Enforcement will be provided by the Council's parking services contractor and the New Zealand Police.

The SaferRoads project has a dedicated parking warden who will target unsafe parking practices, particularly in the vicinity of schools and shopping areas. The key focus of the dedicated SaferRoads parking warden will be safety so they will not generally enforce parking time restrictions.

The New Zealand Police will deliver targeted enforcement of speed restrictions and intersection offences such as failing to give way as well as random checks to encourage better driver behaviour.

8.4 Engineering

Engineering measures will require the most resources and funds to construct devices designed to improve safety and reduce speeds. A number of design elements have been used to achieve the objective of reducing injury crashes on Wellington roads and include kerb extensions, road markings, signage, roundabouts, traffic signals and the introduction of 40 km/h speed limits on residential streets.

The implementation plan set out in Section 9 shows the different measures planned for roads in Wadestown, Wilton and Northland. The majority of the available funds are planned to be spent on the main routes through the area since these involved the majority of crashes. Other measures are planned for different roads and parts of Wadestown, Wilton and Northland to address specific concerns such as inappropriate speed, intersection safety, non-residential traffic using residential streets and identifying main routes.

The introduction of 40 km/h zones in residential areas is important for developing safe streets for residents. Overseas research shows that reducing the speed in these environments reduces the number of crashes and the severity of crashes that do occur. Generally however, due to the hilly topography, speeds on residential streets in Wadestown, Wilton and Northland are not as high as occur in other suburbs.

9. Proposed Implementation Plan

This section provides details of the education, enforcement and engineering measures designed to reduce crashes in Wadestown, Wilton and Northland by one third by 2010. The proposed implementation schedule identifies each of the proposed road safety initiatives, along with its priority and rough-order-of-cost estimate (and where relevant, it also provides a reference number to a concept plan in Appendix C of this report).

9.1 Education

Table 12: Education proposals

LOCATION	EDUCATION TREATMENT	PRIORITY	ESTIMATE
Schools in Wadestown, Wilton and Northland	<i>Safer Routes to School</i> programme	High	\$30,000
Lennel Rd, Wilton Rd, Northland Rd and Glenmore St	Use of "Your Speed is ..." fixed unit	High	\$26,000
Wadestown, Wilton and Northland	Use of "Your Speed is ..." speed trailer	High	\$5000
Wadestown, Wilton and Northland	Illegal parking campaign	High	\$5000
City wide	Pedestrian awareness campaign	High	\$1000
City wide	Cycle awareness campaign	High	\$1000
Education total		High	\$68,000

9.2 Enforcement

Table 13: Enforcement proposals

LOCATION	ENFORCEMENT TREATMENT	PRIORITY	ESTIMATE
Glenmore Street and Wilton Road	Targeted policing of speeds	High	N/A
Wadestown Road and Wilton Road	Targeted policing of speeds before and after school	High	N/A
City wide	Targeted enforcement of intersection and other offences	High	N/A
City wide	Additional parking enforcement staff	High	\$52,000
Enforcement total		High	\$52,000

Note that the cost for additional parking enforcement staff will be shared over the whole of Wellington City.

9.3 Engineering

Table 14: Engineering proposals: Wadestown

LOCATION	ENGINEERING TREATMENT	CONCEPT PLAN	PRIORITY	ESTIMATE
WADESTOWN				
Blackbridge Rd / Churchill Dr Option 1	Option A: pedestrian ramps, islands, Option B: bus lay-by and shelter relocation	WDSR100	High	\$20,000 \$40,000
Wilton Rd / Norwich St	Roundabout	WDSR101	Medium	\$66,000
Wilton Rd / Purakau St	Pedestrian ramps, roadmarkings, footpath extension	WDSR102	High	\$9500
Mairangi Rd / Norwich St	Give Way control, coloured road surfacing	WDSR103	High	\$4500
Cecil Rd / Euston Rd	Roadmarking	WDSR104	High	\$500
Wadestown Rd / Lytton St	Bus stop relocation, roadmarking	WDSR105	High	\$5000
Wadestown Rd / Hanover St	Coloured road surfacing, Stop control	WDSR106	High	\$8500
Wadestown Rd / Weld St	Coloured road surfacing; Stop control, roadmarking	WDSR107	High	\$4500
Wadestown Rd / Pitt St / Lennel Rd	Coloured road surfacing ; retaining wall; Give Way control	WDSR108	High	\$14,000
Pitt St / Buchanan St and Pitt St / Fitzroy St	Give Way controls	WDSR109	Medium	\$1000
Sar St / Barnard St	Roadmarking	WDSR110	Medium	\$1000
Oban St / Sefton St / Lennel Rd	Coloured road surfacing, trim bank	WDSR111	High	\$13,000
Lennel Rd / Barnard St	Right turn bay, footpath, splitter island, kerb extension; coloured road surfacing	WDSR112	Medium	\$64,000
Orchard St / Sefton St / Wadestown Rd	Stop control and right turn bay, Give Way	WDSR113	High	\$5000
Grosvenor Tce	No Parking lines (700m)	Key Plan	High	\$1000
Roscoe Tce	One way	Key Plan	Medium	\$3000
Grosvenor Tce	Skid resistance treatment (600m)	Key Plan	Medium	\$20,000
Wadestown sub-total			High	\$105,500
			Medium	\$155,000

Table 15: Engineering proposals: Wilton

LOCATION	ENGINEERING TREATMENT	CONCEPT PLAN	PRIORITY	ESTIMATE
WILTON				
Mairangi Rd / Warwick St	Give Way control, coloured road surfacing, roadmarking	WTSR200	High	\$4500
Wilton Rd: Otari School by Gloucester St	School crossing point, coloured road surfacing, roadmarking	WTSR201	High	\$34,000
Gloucester St / Warwick St	Option A: Give Way control Option B: reverse priority	WTSR202	High	\$1500 \$1500
Gloucester St / Hereford St	Give Way ; street name sign; trim vegetation	WTSR203	High	\$1000
Gloucester St / Worcester St	Give Way control, kerb and footpath extension	WTSR204	Medium	\$12,500
Wilton Rd / Hampshire Ave	Pedestrian crossing	WTSR205	High	\$1000
Pembroke Rd / Hereford St	Option 1: roundabout Option 2: channelisation	WTSR206	Medium	\$74,000 \$61,000
Pembroke Rd / Huntingdon St	Coloured road surfacing, roadmarking	WTSR207	High	\$4500
Wilton Rd: Cardinal McKeefry School	Coloured road surfacing, roadmarking	WTSR208	Medium	\$12,500
Pembroke Rd: number 61	Roadmarking	WTSR209	High	\$500
Albemarle Rd: Northland Kindergarten	Road widening, footpath, retaining wall, P5 parking	WTSR210	Medium	\$30,000
Pembroke Rd / Albemarle Rd	Give Way control, coloured road surfacing	WTSR211	High	\$4500
Huntingdon St	Centreline	Key Plan	High	\$2000
Bedford St and Hereford St	No Parking lines	Key Plan	High	\$3000
Gloucester St	Improve street lighting			
Wilton sub-total			High Medium	\$56,500 \$129,000

Table 16: Engineering proposals: Northland

LOCATION	ENGINEERING TREATMENT	CONCEPT PLAN	PRIORITY	ESTIMATE
NORTHLAND				
Northland Rd / Kaihuia St / Woburn Rd	Give Way control, Stop control; splitter island, coloured road surfacing , road marking	NSR300	High	\$17,000
Pembroke Rd / Seaview Tce / Orangi Kaupapa Rd	Option A: oval roundabout Option B: roundabout Option C: roundabout with Orangi Kaupapa Rd lower portion entirely one-way	NSR301	High	\$55,000 \$55,000 \$55,000
Northland Rd / Harbour View Rd	Bus lay-by, Give Way control, coloured road surfacing	NSR302	High	\$20,500
Putnam St / Creswick Tce	Give Way control, roadmarking	NSR303	High	\$500
Northland Rd / Garden Rd	Splitter island adjustments, coloured road surfacing, raised zebra crossing, roadmarking	NSR304	High	\$16,500
Northland Rd / Farm Rd	Give Way control, coloured road surfacing, road marking	NSR305	High	\$5000
Northland Tunnel Rd / Northland Rd	Northland Rd one-way downhill; kerb extension and realignment, coloured road surfacing, roadmarking	NSR306	Medium	\$21,500
Glenmore St / Northland Rd	Northland Rd one-way downhill; kerb extension raised pedestrian crossing, roadmarking	NSR307	Medium	\$17,000
Governor Rd /The Rigi	Guard railing; kerb extension, Give Way control (x2)	NSR308	High	\$15,500
Putnam St	Chevron signage, guard railing	NSR309	Medium	\$20,500
Harbour View Rd	Sight railing	NSR310	High	\$1500
Glenmore St / Crieff St	Stop control, coloured road surfacing	NSR311	High	\$7500
Glenmore St / Orangi Kaupapa Rd (numbers 1-10)	Give Way control, coloured road surfacing , raise existing crossing	NSR312	High	\$10,500
Glenmore St / Garden Rd	Give Way control, coloured road surfacing, kerb realignment	NSR313	High	\$12,000
Orangi Kaupapa Rd	No Parking lines, guard railing, edgeline	Key Plan	Medium	\$57,000
Randwick Rd / Sydenham St / Rodney St / Kaihuia St	Centreline, No Parking lines	Key Plan	High	\$2500
Creswick Tce - Putnam St	Centreline, No Parking lines, edgeline, chevrons	Key Plan	High	\$7500

Curtis St	No Parking lines	Key Plan	High	\$500
Farm Rd	Chevron	Key Plan	High	\$1000
Garden Rd and Glenmore Street	Parking marking	Key Plan	High	\$1000
Glenmore St	Skid resistance treatment	Key Plan	High	\$56,000
Northland sub-total			High	\$218,000
			Medium	\$116,000
Engineering total			High	\$380,000
			Medium	\$400,000

9.4 Suburb Wide Engineering Initiatives

It is proposed that aside from the main routes that all residential roads in Wadestown, Wilton and Northland should be posted at 40 km/h. The two shopping centres at Wadestown and Northland are proposed to be a 40 km/h zone (the Council is proposing likewise for Ngaio).

Indicatively 40 km/h signs are required at the following locations:

Table 17: Engineering proposals: 40 km/h and coloured road surfacing (coloured pavement treatment)

40 km/h posted speed limit signs location		(CPT) coloured road surfacing (coloured pavement treatment) for side road
Main road	On/by side road	
Wadestown Rd (lower)	By Grant Rd	(CPT on Wadestown Rd)
Lennel Rd	Barnard St	Y (refer concept plan)
Lennel Rd	Sefton St (south)	Y (refer concept plan)
Lennel Rd	Sefton St (north)	Y (refer concept plan)
Lennel Rd	Moorhouse St	Y
Lennel Rd	Fitzroy St	Y
Lennel Rd	By Pitt St	(CPT on Lennel Rd)
Wadestown Rd	By Leslie St	(CPT on Wadestown Rd)
Wadestown Rd	Lytton St	Y (refer concept plan)
Mairangi Rd	By Margaret St	(CPT on Margaret St)
Mairangi Rd	Rose St	Y
Mairangi Rd	Norwich St	Y
Mairangi Rd	Warwick St	Y (refer concept plan)
Wilton Rd	Norwich St	N (roundabout proposed where bus turns around)
Wilton Rd	Warwick St	Y
Wilton Rd	Gloucester St	Tbc (bus route)
Wilton Rd	Shropshire Ave	Tbc
Wilton Rd	Walworth Rd	Tbc
Wilton Rd	Worcester St	Y
Wilton Rd	Albemarle Rd	Y (refer concept plan)
Pembroke Rd	Euston Rd	Y
Pembroke Rd	Hereford St	N (roundabout proposed)
Pembroke Rd	Huntingdon St	Y (refer concept plan)
Pembroke Rd	Cheshire St	Y
Pembroke Rd	Albemarle Rd	Y (refer concept plan)
Pembroke Rd	Orangi Kaupapa Rd	N (roundabout proposed)
Northland Rd	Military Rd	Y

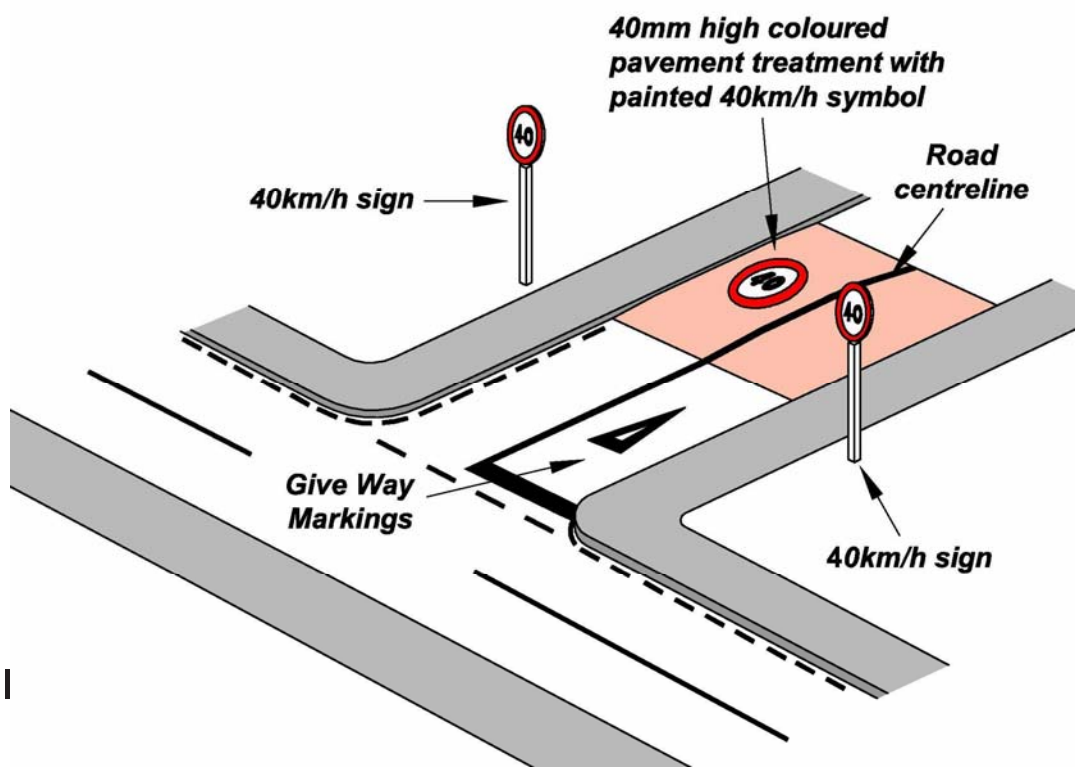
40 km/h posted speed limit signs location		(CPT) coloured road surfacing (coloured pavement treatment) for side road
Main road	On/by side road	
Northland Rd	Kaihuia St	Y (refer concept plan)
Northland Rd	Harbour View Rd	Y (refer concept plan)
Northland Rd	Woburn Rd (south)	Y
Northland Rd	Randwick Rd	Y (refer concept plan)
Northland Rd	By Randwick Rd	(CPT on Northland Rd)
Northland Rd	By Farm Rd	(CPT on Northland Rd)
Northland Rd	Northland Rd (south)	Y (refer concept plan)
Northland Rd (south)	By Glenmore St	N (crossing treatment proposed in conjunction with oneway downhill)
Curtis St	Ian Galloway Park	<i>Tbc</i>
Curtis St	Randwick Rd	Y
Curtis St	Whitehead Rd	N (existing right turn bay)
Curtis St	Creswick Tce	Y
Curtis St	Old Karori Rd	Y
Glenmore St	The Rigi (top end)	N (raised zebra crossing recently installed)
Glenmore St	Governor Rd	Y
Glenmore St	Crieff St	Y (refer concept plan)
Glenmore St	Orangi Kaupapa Rd	Y (refer concept plan)
Glenmore St	Garden Rd	Y (refer concept plan)

Tbc = to be confirmed

It is not proposed to formally designate as 40 km/h any of the private ways off Mairangi and Pembroke Roads, nor some of the shorter public streets. The latter include Purakau Avenue, Hampshire Avenue, Berkshire Avenue and Surrey Street off Wilton Road; and Collins Terrace, Kilmister Avenue and Patanga Crescent off Glenmore Street.

Note also that since the southern end of Northland Road is proposed to be one-way downhill there is no need for signposting as 40 km/h at Glenmore Street. However, 50 km/h signs will be required for traffic turning from Northland Road onto Glenmore Street towards the Karori Tunnel or Kelburn Viaduct.

In most cases it is proposed that the 40 km/h signage will be posted in conjunction with coloured road surfacing (coloured pavement treatment - CPT) on the side road as illustrated below.



The typical cost of this low profile (40mm) road surfacing is unable to be quantified until low cost coloured asphalt becomes available later this year. However at this stage an indicative cost is in the order of \$4000-\$5000 per treatment including the signs and markings.

It is also proposed that all intersections that are presently uncontrolled will be provided with standard Give Way or Stop controls, which will include continuity lines and centreline marking if necessary. Typically this will be in the order of \$600 per control.

In addition to the GiveWay control and coloured road surfacing costed in Tables 14-16, there are an additional around 15 side roads proposed for Give Way controls and coloured road surfacing as noted in Table 17. These are indicatively costed at \$70,000.

A further allowance of \$30,000 is suggested in order to provide Give Way controls at other uncontrolled intersections not on the main routes as listed above.

9.5 Concept Drawings

Appendix C provides the concept details for the different engineering treatments proposed for Wadestown, Wilton and Northland. Each of the drawings has a reference number that is identified in the implementation plan in Section 9.3 above.

The key plans provide a summary of the proposed engineering changes, with the reference numbers for each of the concept designs to enable particular sites to be easily located.

These are concept drawings and the final designs are to be completed after the public consultation phase and approval from the SaferRoads steering committee.

9.6 Summary of Proposed Treatment Initiatives

Table 18: Summary of Proposed Initiatives

	INITIATIVES	PRIORITY	ESTIMATE	REMARK
1	Education	High	\$68,000	
2	Enforcement	High	\$52,000	Cost of an additional parking staff to be shared
3	Engineering	High Medium	\$380,000 \$400,000	Refer Concept Plans and Key Plan(s)
4	40 km/h and CPT	High	\$70,000	Indicative estimate only
5	Give Way control	High	\$30,000	Indicative estimate only
	ALL	High Medium	\$600,000 \$400,000	

10. Conclusions

The proposed road safety changes for Wadestown, Wilton and Northland concentrate on reducing vehicle speeds and conflicts along the main roads in the study area where the majority of crashes occur. However, priority has also been given to providing appropriate measures for residential streets to make these areas safer for the people who live there.

The improvement measures will use engineering, education and enforcement initiatives including:

- lowering the speed limit to 40 km/h on residential streets
- using intersection control, traffic calming devices and parking restrictions to reduce vehicle speeds and conflicts
- increasing speed education and enforcement including using “Your Speed Is...” fixed units and trailers and targeted road policing
- increasing parking enforcement, especially around schools and shopping villages
- running school and community education campaigns about road safety and the dangers of excessive speed.

A key part of the development of the SaferRoads project in Wadestown, Wilton and Northland will be the installation of physical constraints including traffic calming ramps, speed humps, priority controls and kerb extensions.

This technical report has been reviewed by the SaferRoads technical review group and representatives from Land Transport New Zealand, New Zealand Police, Transit New Zealand, Greater Wellington and Council officers, and their consultants.

The proposal has also been approved by the SaferRoads Steering Committee and both groups endorse the project proceeding to consultation.

The consultation period runs from 11 July until 8 August 2005. During this time the Council is asking for submissions from the public.

Following consultation, submissions will be analysed and the implementation plan will be reviewed and refined to reflect feedback from the public and key road safety partners. The *SaferRoads for Wadestown, Wilton and Northland Report and Implementation Plan* will provide a summary of the outcome.

Funding for the implementation of this work has been approved in the Annual Plan for the 2005-2006 financial years. Detailed design will commence following the outcome of the SaferRoads consultation process. Before designs are finalised, directly affected residents will have a chance to comment on the proposal. Construction of the approved measures is likely to start in October 2005 and be completed early next year. Following completion of the physical works, surveys of vehicle speeds will be undertaken before a proposal to reduce the speed limit is put forward.

The proposal to have the speed limit in most residential streets reduced will be subject to a separate consultation process and will need to be formally approved by the Council.

Appendix A: Issues Raised by the Community

Issue	Location
Intersections	
Traffic approaching this intersection from up the hill (travelling from Aro St / Kelburn) turning left into Northland Tunnel Rd needs to swing out and cross the centreline into the path of traffic coming up.	Northland Rd / Raroa Cres intersection
Redesign so that traffic to/from Northland has right of way. Reason - approximately 70 buses pass the intersection daily and should not be delayed by (usually) single occupant cars on Raroa Cres.	Northland Rd / Raroa Cres intersection
Very tight turning from Garden Rd around towards school.	Northland Rd / Garden Rd intersection
Intersection very confusing; issues with children crossing the road; traffic from many directions.	Northland Rd / Pembroke Rd / Orangi Kaupapa Rd / Seaview Tce intersection
Enforcement - parents turning in intersection.	Northland Rd / Harbour View Rd intersection
Some vehicles coming down Cheshire fail to give way to vehicles coming up Worcester St. Have had a close call (uncertain who gives way).	Worcester St / Cheshire St intersection
Improve visibility for uphill traffic turning right into Barnard St.	Lennel Rd / Barnard St intersection
Buses stop at intersection - also many turning cars with poor visibility.	Sefton St / Lennel Rd intersection
Vehicles are failing to give way at intersection as they merge from Blackbridge Rd.	Blackbridge Rd / Wilton Rd intersection
A roundabout at the Wilton Rd / Gloucester St intersection would make the corner safer as well as slowing the traffic.	Wilton Rd / Gloucester St intersection
The intersection at Gloucester St and Wilton Rd is dangerous; limited visibility especially turning right into Wilton Rd; maybe a mirror; roundabout to reduce speed.	Wilton Rd / Gloucester St intersection
Bottom of Gloucester intersecting with Wilton Rd needs attention; could be extended out or main road slowed.	Wilton Rd / Gloucester St intersection
Many close calls turning from Gloucester St into Wilton Rd.	Wilton Rd / Gloucester St intersection
Wilton Rd and Gloucester St is a blind corner; small roundabout to reduce speed along Wilton Rd.	Wilton Rd / Gloucester St intersection
At least five crashes – two injury; busy area; church, church hall, Plunket rooms, kids park; very bad / impossible to see approaching traffic when exiting Hanover St.	Wadestown Rd / Hanover St intersection
Coming out from the library, can't see traffic coming up Lennel Rd.	Lennel Rd / Moorhouse St intersection
Library corner needs a community centre to improve traffic access.	Lennel Rd / Moorhouse St intersection

Issue	Location
Intersections (Continued)	
Many near misses for cars turning out of Pitt St at stop sign.	Pitt St/ Lennel Rd / Wadestown Rd int
Traffic lights needed.	Pitt St / Lennel Rd / Wadestown Rd intersection
Poor visibility; lots of growth on Cecil Rd on left bank; narrow road.	Wade St / Cecil Rd intersection
Tricky corner to cross - low visibility; constricted road with parked cars much of the time; cars regularly damaged.	Lytton St / Wadestown Rd intersection
Blind corner turning into Margaret St cul-de-sac.	Mairangi Rd / Margaret St intersection
Turning right at top of hill on Northland Rd - visibility not clear into the tunnel (have to pull out into the middle of Northland Rd to see).	Northland Rd / Northland Tunnel intersection
Could possibly improve visibility of cars and pedestrians crossing from Hereford St into Gloucester St. Can't see cars coming along Gloucester St from right.	Gloucester St / Hereford St intersection
The Wilton Rd / Norwich St intersection is often cluttered and dangerous.	Wilton Rd / Norwich St int
Speed	
We completely support a 40km/h speed limit, particularly past the school(s) and through the shopping centres.	
Speed Camera Area signs should be abandoned and speed cameras used anywhere it suits the Police.	
Install brick "gateways" on Northland Rd at Harbour View Dairy and at mobile library stop to slow cars; enforce parking regulations; 40 km/h speed limit.	Northland shops
Speed down hill.	Orangi Kaupapa Rd (top end)
High speeds downhill on Lennel Rd through cutting.	
Speed on Wilton Rd to be reduced - 50km/h would be alright if it was 50km/h and anyone doing over this could be ticketed. At the moment tickets are set at 60km/h. If it needs to have the 10km/h difference then use 40km/h speed limit.	Wilton Rd (near Otari School)
Traffic travels too fast along Wilton Rd, especially approaching the pedestrian crossing by Otari School.	Wilton Rd (near Otari School)
Buses speeding down Gloucester St through s-bends.	
Lots of visitors at high speed delivering kids to Scout Hall.	
Reliable percentage of drivers speed; late night "boy racers"; 40% of drivers cut corners to some degree; sunstrike risk in morning.	
My main concerns on the road issues in Wadestown are the lack of footpaths and safe walking areas and the speed limit. Many cars use Roscoe Tce, Wade St and Cecil Rd as a way to short-cut through to Wilton; they roar up the Wade St hill and there are 19 children living in the street - it is only time before an accident with a child or pet occurs. I would think that a series of one-way streets would be practical.	Wade St (also Roscoe Tce and Cecil Rd)

Issue	Location
Speed (Continued)	
Speed of cars coming down Hereford Street is too high. The top curve is not great on visibility – I am worried for my own safety and other children.	Hereford St
Parking	
Education of cars parking in such a way as not to be illegal, but causing hazards (ie parking on both sides of the road) especially on bus routes.	
Enforcement of cars parking in such a way as not to be illegal, but causing hazards (ie parking on both sides of the road) especially on bus routes.	
Parking enforcement must be intensified in the suburbs, day and night.	
Council should use road reserve to solve parking problems, not as a revenue generator. The Council charges us \$185 per year to park our car on road reserve. That should be a free use.	
Better conditions for off-road parking on road reserve - positive incentives for off-road parking.	
Often has two cars parked almost on it and blocking the pavement (belonging to a local resident I think). There are no yellow lines – could you ask whether that is an oversight or are they parking illegally. It's really dangerous because small children cross at that point and I've seen a few near misses where cars coming up the hill don't see the kids until they're almost on it.	Wadestown shops (zebra crossing near Pitt St)
Very narrow. Car parking - becomes one lane. Lots of traffic uses this route to and from the city.	Garden Rd
Too many parked cars; too many blind spots; not enough passing spaces.	Garden Rd
Increasing number of parked cars.	Orangi Kaupapa Rd (above Garden Rd)
Too many parked cars make the road one lane only. Lots of cars use this to access the city or Kelburn.	Northland Rd (Kelburn end)
Too many parked cars.	Northland Rd (viaduct - shops)
Cars parking dangerously at Northland shops (pizza cars?) cause hazards and road safety concern.	Northland shops
Current layout is much better than previous but increasing pressure with takeaways truck deliveries and even more flats / townhouses with no parking.	Northland Village
Restrict parking to side with houses, then buses won't have to stop to let cars through.	Northland Rd (Woburn Rd to Randwick Rd)
Difficult to see left when coming up Abelmarle Rd because of parked cars.	Abelmarle Rd / Pembroke Rd intersection
Parking for drop off and collection of children can be difficult outside Northland Kindergarten. Widening of the road may be helpful to provide angle parking?	Abelmarle Rd
Reduce the restricted parking areas outside 7 and 9 Woburn Rd to a minimum.	Woburn Rd

Issue	Location
Parking (Continued)	
Restricted view into Northland Rd - school bus parking; Harbour View Rd by school is very narrow - problems with parents parking at 8:55am and 3pm.	Northland Rd / Harbour View Rd intersection
Enforcement - parents stopping (pick-up and drop-off) outside Harbour View Rd school gate - blocking access to right of way beside school gate.	Harbour View Rd
Cars turning quickly into Harbour View Rd from Northland Rd; cars parked on yellow lines.	Harbour View Rd
Road often constricted by parked cars.	Curtis Street
Road narrow, cars parking by road side.	Sar St (bend at north end of long straight)
Provide No Parking lines further back from this intersection.	Sar St / Barnard St int
Provide No Parking line in Grosvenor Tce below Lower Watt St int (near a blind corner).	Grosvenor Tce
Provide No Parking lines on western side of road, which is narrow and winding.	Wadestown Rd (Orchard - Grant)
Yellow lines up all the right hand side by bus stop in Gloucester St.	Wilton Rd / Gloucester St
Parking of cars when Wilton Park is used across private accessways and double parking also on footpaths.	Wilton Rd (near Wilton Park)
Parents delivering or collecting children from Otari School park on the footpath outside Otari-Wilton's Bush, blocking the entrance.	Wilton Rd (at Otari School)
Needs lots more parking for community centre.	Pitt St
No visibility; remove parking on left hand side going towards city.	Wadestown Rd (above library)
Inadequate parking for church goers - leads to traffic hazard.	Lytton St
Intersection at top of Garden Rd is dangerous; so many take-aways cars parked at odd angles; often need to do a three-point turn in the middle of Northland Rd.	Northland Rd / Garden Rd intersection
Increased subdivision / infill will continue to create more car parking. Can the Council identify off-street parking areas?	
Yellow lines on both sides of blind and/or sharp corners.	Garden Rd
A car park is needed in Wilton Rd for Iazard Park patrons.	Wilton Rd (at Iazard Park)
Narrow but needs lots of parking for community facilities (playgroups, playground, Plunket, church and hall). It has footpaths on two sides but a braver person than me suggested removing one.	Hanover St
Night-Time	
Street lighting could be much improved on bus route along Gloucester and Warwick Streets.	
More street lighting to illuminate footpaths on bus route through lower Gloucester St.	Gloucester St
Poor street lighting in Gloucester St from Wilton Rd.	Gloucester St
Bad lighting in Gloucester St; trees need trimming right back.	Gloucester St
Need extra street lights on old Wadestown Rd - very dark if walking home after dark.	Wadestown Rd

Issue	Location
Night-Time (Continued)	
Lights needed in old historic bus shelters.	Sefton St / Lennel Rd and Grosvenor Tce
Pedestrians	
Kerb extensions at pedestrian crossings are excellent.	
New footpaths are excellent for (1) pedestrians; and (2) traffic calming.	
Roscoe Tce needs footpath along whole road.	
Pedestrian path surfaces could be improved on bus route along Gloucester and Warwick Streets.	
Bottom of steps and right of ways where they meet busy roads but have to cross to get to footpath - need safe pedestrian / walking routes throughout area into city.	
A new footpath down Moorhouse St (Lennel Rd to Wadestown Rd) on library side - needs to stay on the work plan. This one was going to be done earlier this year - but was delayed due to consideration of the new community centre - which would also need new parking slots on Moorhouse St.	Moorhouse St
Improve pedestrian safety on one-way down part of Orangi Kaupapa Rd and improve signage of steps down to Garden Rd (so less pedestrians use lower part).	Orangi Kaupapa Rd (above Garden Rd)
Lots of pedestrians use this intersection - walking to town; major bus stop; from top of hill to school.	Northland Rd / Pembroke Rd / Orangi Kaupapa Rd / Seaview Tce intersection
Very dangerous for pedestrians - stops children from top of Orangi Kaupapa Rd / Bedford St, etc walking to school; poor visibility, no safe way across; also dangerous for cars especially coming down from Orangi Kaupapa Rd.	Northland Rd / Pembroke Rd / Orangi Kaupapa Rd / Seaview Tce intersection
Construction of stairs between Pembroke Road and top end of Orangi Kaupapa Road and/or Bedford Street would help people to access the bus route on Pembroke Road.	Pembroke Road
Provide footpath in cutting at (north) end of Anne St.	Anne St
Needs footpath in Sar St.	Sar St
Provide footpath in Sar St. Dangerous for pedestrians at present.	Sar St
Bottom of steps where it meets Grant Rd - could there be a pedestrian crossing.	Orchard St
Blind crossing from Wade St extension across Wadestown Rd (dangerous for pedestrians).	Wade St / Wadestown Rd
Need a footpath down to Grant Road intersection.	Wadestown Rd (Orchard - Grant)
Very difficult crossing for children going to / from Onslow College bus etc, also for walkers accessing Otari-Wilton's Bush.	Blackbridge Rd / Churchill Dr intersection
No footpath; narrow road.	Hanover St (lower end)
Needs a pedestrian crossing; school crossing improvements.	Weld St / Cecil Rd intersection
No footpath for school kids - leads to traffic hazard.	Lytton St

Issue	Location
Pedestrians (Continued)	
No crossing for kids from Hanover St etc; they often dash across and I have seen several screeching halts over the years.	Marquis St / Wadestown Rd intersection
Blind crossing; fast traffic coming down Wadestown Rd; needs slower speed limit.	Wadestown Rd (at Margaret St steps)
Continuation of footpath opposite Wilton Bowling Club.	Wilton Rd (opposite bowling club)
Need a pedestrian crossing across Wilton Road at or near Hampshire St.	Wilton Rd (at Hampshire St)
Schools / Kindergartens / Creches	
Crossing at bottom of Purakau Ave for kids and school patrols.	
Education on safe routes for walking to school.	
Signage for schools. I have seen School signs in neon green which stands out better than standard yellow signs. I would also support a 40 km/h speed limit and/or signs that operate at times of risk ie before and after school.	All locations; Comment also said to apply to Wadestown Kindergarten, Oban St
There are no signs indicating or alerting people to the fact that there is a kindergarten on Abelmarle Rd. ie needs yellow Council sign labelling the kindergarten or beware sign.	Abelmarle Rd; Comment also said to apply to Wadestown Kindergarten, Oban St
There are no signs indicating or alerting people that there is a creche / children on Woburn Rd ie yellow diamond sign or similar. (We think there are no signs).	Woburn Rd
Pedestrian crossing by school - diamonds not always visible owing to parked cars. School patrols have difficulty with sight lines.	Northland Rd
No safe means out for children walking to/from school; congested with parents dropping off children.	Wilton Rd / Purakau Ave intersection
Crossing at Purakau Ave for children.	Wilton Rd / Purakau Ave intersection
Congestion in Gloucester St before school starts, between 8 and 9 am.	
Parents delivering or collecting children from Otari School create a hazard for both pedestrians and other motorists.	Wilton Rd (at Otari School)
Minor arterial route from Wilton to city but very small kids from side school must cross here.	Weld St / Cecil Rd intersection
Bottom of zig-zag meeting Mairangi Rd; many parents won't let children walk to school as seems dangerous.	Mairangi Road (at Wade St zig-zag)
General Roding Issues	
Reduce traffic coming into the city by not installing the "bypass" in Te Aro area.	
Fewer four-wheel-drives taking kids to Wadestown school and collecting them - great congestion.	
Education about how much safer it is to travel by bus will help to reduce crashes.	

Issue	Location
General Roding Issues (Continued)	
Wadestown is full of huge four- wheel-drives especially in the morning dropping off kids at, you guessed it, Wadestown School. They are totally unsuitable for the narrow hilly roads and visibility is limited. I propose we ban them altogether, imprison the owners and slash their tyres.	
Enforcement of need to have both headlights on cars working would increase safety.	
Planting (of locally sourced, ecologically appropriate native plants) on median strips, roundabouts and on sides of roads acts as traffic calming.	
Improve public transport by introducing more "on-demand" services on smaller, non main routes and up hills.	
Narrow - whole length.	Garden Rd
People treat as a through road (very few houses) but has a kindy, creche and Cardinal McKeefry School.	Abelmarle Rd
Although a side road is a busy road with the kindergarten, mothers putting their children in the cars from the road side, not the footpath. Also parking facing the wrong way.	Abelmarle Rd
Road narrows on either side of this bend. It's hard to see what's coming. Pembroke Rd is a bus route - it is difficult if not impossible for two buses to pass on this corner so buses can end up having to back to get past each other and also the buses are a further hazard to other traffic approaching the corner. Speed is a factor.	Pembroke Rd (bend by number 61A)
Tight corners, cars parked on road, busy road with buses and commercial traffic. Near misses are frequent.	Grosvenor Tce and Lennel Rd
Problem: No footpath at cutting. Solution 1: reduce traffic flows by making it a feeder road only to lower Wade St - Wade St ceases as a through road at its cutting and is cut off at Weld St. Solution 2: could be a one way uphill road - up hill would give more control to motorists to avoid pedestrians if they are in the cutting.	Roscoe Tce
Blind / tight corners on Cecil Rd.	Cecil Rd (south of Wade St)
Upper Norwich St road narrows, cars park both sides, buses stopping and turning in Mairangi Rd.	Norwich St
Install toll gates for cars passing Wadestown shops to reduce number of cars.	Wadestown shops

Appendix B: Crash Data

Crash Data from 1999 to 2004

	1999	2000-2003	2004	1999-2004
Wadestown				
Grosvenor Tce; Lennel Rd; Wadestown Rd (north part)	5	13	4	22
Other roads	4	11	3	18
Wilton				
Blackbridge Rd; Churchill Dr; Mairangi Rd; Pembroke Rd; Wilton Rd	4	29	5	38
Other roads	0	8	3	11
Northland				
Northland Rd; Curtis St	4	19	2	25
Northland Tunnel Rd / Raroa Cres	2	3	2	7
Glenmore St	6	15	7	28
Other roads	4	10	1	15
Wadestown, Wilton and Northland				
Main routes excluding Glenmore St	15	64	13	92
Other roads excluding Glenmore St	8	29	7	44
ALL roads excluding Glenmore St	23	93	20	136
ALL roads including Glenmore St	29	108	27	164
% on Main routes including Glenmore St	72%	73%	74%	73%
Injury crashes excluding Glenmore St	7	12	4	23
All injury crashes	10	17	8	35
All ped/cycle injury crashes	3	7	3	13

Coded listings for each reported crash follow, along with summary by suburb for selected crash types. Namely crash severity; movement; natural light; road surface wetness; and injury crashes involving pedestrians/cyclists.

ROAD	DIST	FRO INT/SIDE	IDNO	DATE	DYWK	TIME	IVMT	VEHS	CSCD	ENVT	OBJS	CURV	SURF	LITE	WTH JNT	TRAF	MAR	SPDL	FAT	SER	IMIN	PED	CYCA
WADESTOWN: MAJOR																							
1 GROSVENOR TERRACE	25 W		2155028	10/10/2001	Wed	1920	BF	CS1CC	111A 135A	801	M	M	wet	TO	L	N	C	50	0	0	0	0	
2 GROSVENOR TERRACE	50 E		2055598	30/11/2000	Thu	837	FE	VW1CC	351A			M	dry	B	F	N	C	50	0	0	0	0	
3 GROSVENOR TERRACE	90 N		9956130	12/11/1999	Fri	1930	DA	CS1	135A 632A	806		M	wet	O	L	N	C	50	0	0	0	0	
4 GROSVENOR TERRACE	50 N		2256192	8/12/2002	Sun	1042	DA	CS1	111A	801	EF	S	wet	O	L	N	C	50	0	0	0	0	
5 GROSVENOR TERRACE	100 N		2053073	30/05/2000	Tue	1550	LB	VS1C	303A	831 929	P	M	wet	O	L	D	N	C	50	0	0	0	
6 GROSVENOR TERRACE	150 S		2255329	6/10/2002	Sun	1157	DA	CS1C	132A	801	MP	M	wet	O	L	N	C	50	0	0	0	0	
7 GROSVENOR TERRACE	100 S		9956140	18/11/1999	Thu	1420	BF	CS1C	111A	801		M	wet	O	L	N	L	50	0	0	0	0	
8 GROSVENOR TERRACE	50 S		2456692	18/01/2004	Sun	1833	BF	CS1C	111A 131A			E	wet	O	L	N	C	50	0	0	0	0	
9 GROSVENOR TERRACE	20 S		2053982	1/08/2000	Tue	1030	QD	VS1C	428A		M	R	dry	O	F	N	C	50	0	0	0	0	
10 LENNEL ROAD		I	9951829	30/03/1999	Tue	910	FB	BE1CT	181A 303C			M	dry	O	FS	T	N	L	50	0	0	0	
11 LENNEL ROAD	50 W		2052307	5/06/2000	Mon	130	CB	CE1	112A 132A		P	R	wet	DO	F		C	50	0	0	0		
12 LENNEL ROAD		I	2012745	24/10/2000	Tue	809	NA	SE1E	306A			E	dry	B	F	X	G	X	50	0	0	2	11 27
13 LENNEL ROAD	10 W		2154889	13/11/2001	Tue	845	FC	CE1C	331A		R	R	wet	O	L	X	S	X	50	0	0	0	
14 LENNEL ROAD	20 N		2456538	14/12/2004	Tue	1745	BC	CS1V	121A 350A		E	R	wet	B	F	N	C	50	0	0	0	0	
15 LENNEL ROAD	30 W		2411754	25/03/2004	Thu	1600	NA	VW1E	306A 359A		E	dry	B	F	N	X	N	X	50	0	1	0 38	
16 LENNEL ROAD	60 E		2151755	7/04/2001	Sat	1230	DA	CN1	137A	817	F	E	dry	O	F	N	C	50	0	0	0	0	
17 PITT ST		I	2356123	18/12/2003	Thu	1130	JA	CW1C	303B 309B	853		E	dry	B	F	X	S	C	50	0	0	0	
18 WADESTOWN ROAD		I	2212684	30/07/2002	Tue	1530	LB	MW1T	382B	832		M	dry	O	F	X	S	C	50	0	0	1	
19 WADESTOWN ROAD		I	2355312	22/10/2003	Wed	1416	FB	VE1CC	181A 331A		M	R	dry	B	F	T	N	C	50	0	0	0	
20 WADESTOWN ROAD	25 W		2451844	14/04/2004	Wed	2200	EA	CE1C	129A		M	R	dry	DO	F	N	C	50	0	0	0	0	
21 WADESTOWN ROAD		I	9912884	9/10/1999	Sat	2150	NB	CW1E	711B 712B			M	dry	DO	F	T	N	C	50	0	0	1 15	
22 WADESTOWN ROAD	30 W		9912366	14/07/1999	Wed	2200	AB	CE1C	120A 358A	818		M	dry	DO	F	N	C	50	0	0	0	1	
WADESTOWN: MINOR																							
1 BARNARD ST	370 N		2455352	22/10/2004	Fri	916	MO	TS1C	371A	929	M	R	dry	B	F	D	N	N	50	0	0	0	
2 BARNARD ST	50 N		2452667	4/06/2004	Fri	1531	DA	VS1	111A 135A 402A	801	FK	M	wet	O	L	N	L	50	0	0	0	0	
3 BARNARD ST	50 S		2253394	16/06/2002	Sun	230	DB	CN1	103A		P	M	wet	DO	L	N	L	50	0	0	0	0	
4 BARNARD ST	150 S		2151884	21/04/2001	Sat	945	DB	CS1	191A	806	F	S	wet	O	L	N	C	50	0	0	0	0	
5 BARNARD ST	300 E		2052270	24/04/2000	Mon	200	EA	CW1C	331A		M	dry	DN	F	N	N	C	50	0	0	0	0	
6 BARNARD ST	40 N		2052965	26/06/2000	Mon	1440	DA	CN1	131A		C	M	wet	O	M	N	C	50	0	0	0	0	
7 BARNARD ST	40 N		9954773	3/09/1999	Fri	1955	DB	CS1	103A 111A 197A	818	C	M	dry	DO	F	N	N	50	0	0	0	0	
8 CECIL ROAD	100 E		2250599	13/01/2002	Sun	204	BC	CE1V	103A 121A			M	wet	DN	L	N	C	50	0	0	0	0	
9 CECIL ROAD	40 S		2154217	20/09/2001	Thu	1815	BB	CS1C	123A			S	dry	TO	F	N	C	50	0	0	0	0	
10 CECIL ROAD	30 S		2154328	12/08/2001	Sun	40	BC	CS1C	101A			E	wet	B	F	N	N	50	0	0	0	0	
11 CECIL ROAD	20 E		2153758	11/08/2001	Sat	2300	EA	CN1C	101A		M	M	dry	DO	F	N	N	50	0	0	0	0	
12 EDGEWARE ROAD	50 S		2152305	17/05/2001	Thu	2200	DA	VS1C	132A		M	E	dry	DO	F	N	N	50	0	0	0	0	
13 LYTTON ST	70 S		9956187	24/11/1999	Wed	805	BD	CS1C	123A 121B	818		M	dry	O	F	N	N	50	0	0	0	0	
14 MOORHOUSE ST	5 N		2156373	27/12/2001	Thu	2330	QD	CN1V	510A		M	R	dry	O	F	X	N	N	50	0	0	0	
15 PITT ST	40 S		2455883	10/11/2004	Wed	1310	EA	CN1CC	111A 129A		MM	R	dry	O	F	N	N	50	0	0	0	0	
16 ROSCOE TERRACE	100 S		9911993	21/05/1999	Fri	855	BB	VS1V	123A			M	dry	B	F	N	N	50	0	0	0	1	
17 SAR ST	60 N		2352114	2/05/2003	Fri	500	CA	CN1VC	103A 514A 512B		C	R	dry	DO	F	N	C	50	0	0	0	0	
18 WELD ST	300 S		9952492	1/05/1999	Sat	1000	MO	CS1	386A		E	R	wet	O	L	N	N	50	0	0	0	0	

ROAD	DIST	FRO	INTSIDE	IDNO	DATE	DYWK	TIME	MVMT	VEHS	CSCD	ENVT	OBJS	CURV	SURFLITE	WTHJNT	TRAF	MAR	SPDL	NFAT	SER	MIN	PED	CYCA
WILTON: MAJOR																							
1 CHURCHILL DRIVE	50 S		BLACKBRIDGE ROAD	2413082	8/11/2004	Mon	1220	BF	CN1C	130A 501A			M	dry	B	F	N	C	50	0	0	1	
2 CHURCHILL DRIVE		I	BLACKBRIDGE ROAD	2452138	27/04/2004	Tue	900	JA	VS1C	302B 382B			E	wet	O	L	T	G	P	50	0	0	
3 CHURCHILL DRIVE		I	BLACKBRIDGE ROAD	2254077	6/04/2004	Sat	1630	JA	CS1C	302A 375A			E	dry	O	F	T	G	P	50	0	0	
4 CHURCHILL DRIVE		I	BLACKBRIDGE ROAD	2151536	12/03/2001	Mon	855	JA	CS1C	110A 302B			E	dry	B	F	T	G	R	50	0	0	
5 CHURCHILL DRIVE		I	BLACKBRIDGE ROAD	2152374	20/05/2001	Sun	1205	JA	CS1C	302B	834		E	dry	B	F	T	G	R	50	0	0	
6 CHURCHILL DRIVE	30 W		WILTON ROAD	9956054	14/11/1999	Sun	1115	DB	CS1	501A		P	M	dry	B	FS	N	C	50	0	0	0	
7 CHURCHILL DRIVE	100 N		WILTON ROAD	2012471	15/08/2000	Tue	1250	CB	CS1	501A		C	R	dry	B	F	N	C	50	0	1	0	
8 MAIRANGI ROAD		I	WARWICK ST	2156299	13/07/2001	Fri	2245	GE	VW1X	103A 160A		E	dry	DO	F	T	N	C	50	0	0	0	
9 MAIRANGI ROAD	20 S		EUSTON ROAD	9950957	2/02/1999	Tue	1520	MG	CS1X	372B		M	dry	B	F	F	N	C	50	0	0	0	
10 MAIRANGI ROAD	500 S		NORWICH ST	2055316	28/10/2000	Sat	2138	QD	CE1	611A		F	R	dry	DO	F	N	C	50	0	0	0	
11 PEMBROKE ROAD		A	MAIRANGI ROAD	2052234	4/04/2000	Tue	1900	MB	CS1C	110A 132A		M	dry	DO	F	M	N	C	50	0	0	0	
12 PEMBROKE ROAD		I	ALBEMARLE ROAD	2012942	11/12/2000	Mon	1801	LB	SN1C	303B	929		E	wet	O	H	T	G	C	50	0	1	
13 PEMBROKE ROAD	50 N		ALBEMARLE ROAD	2256174	8/12/2002	Sun	2045	GB	CN1C	158A	922		M	wet	DO	L	D	N	C	50	0	0	
14 PEMBROKE ROAD	80 N		ALBEMARLE ROAD	2055400	12/10/2000	Thu	1428	JA	CN1C	308B		E	wet	O	LS	D	N	N	C	50	0	0	
15 PEMBROKE ROAD	70 N		HEREFORD ST	2350077	12/01/2003	Sun	400	DA	CN1	101A 133A		P	M	dry	DO	F	N	C	50	0	0	0	
16 PEMBROKE ROAD	80 S		CHESHIRE ST	2454255	20/08/2004	Fri	2115	EA	CN1	111A 123A		M	E	dry	DO	F	N	C	50	0	0	0	
17 PEMBROKE ROAD	40 N		CHESHIRE ST	2354704	14/09/2003	Sun	2300	EA	CN1C	102A 129A	801		M	E	wet	DO	L	N	C	50	0	0	
18 PEMBROKE ROAD	30 N		CHESHIRE ST	9955552	16/10/1999	Sat	210	CC	CS1	103A 112A		FH	R	wet	DO	L	N	C	50	0	0		
19 PEMBROKE ROAD		I	CHESHIRE ST	2252703	12/05/2002	Sun	330	EA	VN1C	101A 129A 386A		M	R	dry	DO	F	T	N	C	50	0	0	
20 WILTON ROAD		I	PURAKAU AVENUE	2055011	10/06/2000	Sat	1645	JA	CS1T	303A		M	wet	TO	F	Y	N	C	50	0	0	0	
21 WILTON ROAD	200 N		NORWICH ST	2053018	10/07/2000	Mon	300	DB	CN1	111A		M	dry	DO	F	N	C	50	0	0	0	0	
22 WILTON ROAD	200 N		NORWICH ST	9955526	29/10/1999	Fri	2330	DB	CS1	111A 400A		K	M	dry	DO	F	N	C	50	0	0	0	
23 WILTON ROAD		I	CHURCHILL DRIVE	2052333	2/06/2000	Fri	1810	LB	CS1C	303B		E	wet	DO	F	T	G	R	50	0	0	0	
24 WILTON ROAD	200 S		CHURCHILL DRIVE	9913182	22/12/1999	Wed	1705	BF	CW1C	414A		C	M	dry	B	F	N	C	50	0	0	1	
25 WILTON ROAD		I	WARWICK ST	2111303	22/02/2001	Thu	2300	LB	CW1C	103B 303B		S	E	dry	DO	F	T	S	L	50	0	1	
26 WILTON ROAD	50 W		WARWICK ST	2253124	14/06/2002	Fri	1720	LB	MW1C	303B 377B		M	wet	DO	L	D	N	L	50	0	0	0	
27 WILTON ROAD	80 W		WARWICK ST	2254383	28/08/2002	Wed	949	DA	VW1	131A 358A 414A	801	FST	M	wet	O	L	N	C	50	0	0	0	
28 WILTON ROAD	100 W		WARWICK ST	2052268	23/04/2000	Sun	530	CC	CW1	102A 410A		P	R	dry	DO	F	N	C	50	0	0	0	
29 WILTON ROAD	130 E		GLOUCESTER ST	2050951	5/03/2000	Sun	2300	DA	VN1CCC	131A		M	dry	DN	M	N	C	50	0	0	0	0	
30 WILTON ROAD	40 N		GLOUCESTER ST	2313340	24/11/2003	Mon	1505	NA	CN1E	713B		M	dry	B	F	N	C	50	0	0	1	7	
31 WILTON ROAD		I	GLOUCESTER ST	2456508	22/11/2004	Mon	1515	JA	VE1C	301B 375B		M	dry	B	F	T	S	C	50	0	0	0	
32 WILTON ROAD		I	GLOUCESTER ST	2252704	12/05/2002	Sun	335	DC	VN2	101A 335A		R	dry	DO	F	T	G	C	50	0	0	0	
33 WILTON ROAD		I	GLOUCESTER ST	2253140	12/07/2002	Fri	1310	DA	CN1	111A 132A 514A			E	wet	O	L	T	G	C	50	0	0	
34 WILTON ROAD		I	GLOUCESTER ST	2052254	3/05/2000	Wed	830	LB	CW1V	303B		CS	E	wet	O	L	T	G	C	50	0	0	
35 WILTON ROAD	15 S		GLOUCESTER ST	2111308	15/11/2001	Thu	1520	NA	CS1E	717B		R	dry	B	F	N	X	50	0	0	1	11	
36 WILTON ROAD		I	SHROPSHIRE AVENUE	2151417	3/03/2001	Sat	1240	LB	CN1CC	382A 181C		E	dry	O	F	T	G	C	50	0	0	0	
37 WILTON ROAD	50 S		BERKSHIRE AVENUE	2311049	12/01/2003	Sun	1530	DA	CS1	129A 332A		CK	E	wet	O	L	N	C	50	0	0	1	
38 WILTON ROAD		I	SURREY ST	2412699	2/09/2004	Thu	810	GD	BN1CC	331A 352A		R	dry	B	F	T	N	C	50	0	0	1	
WILTON: MINOR																							
1 ALBEMARLE ROAD	170 E		WILTON ROAD	2350285	24/01/2003	Fri	2108	CC	CW1C	130A		EFM	R	wet	TF	L	N	C	50	0	0	0	
2 BEDFORD ST	30 W		ORANGI KAUPAPA ROAD	2453101	12/06/2004	Sat	530	EA	CE1C	129A		M	E	wet	DO	F	N	N	50	0	0	0	
3 BEDFORD ST	200 S		HUNTINGDON ST	2451751	6/04/2004	Tue	1237	DB	CN1C	123A 351A		Q	E	wet	O	L	N	N	50	0	0	0	
4 BEDFORD ST	140 N		ORANGI KAUPAPA ROAD	2354271	26/04/2003	Sat	1020	DA	CN1	111A 402A 423A		FH	E	dry	O	F	N	N	50	0	0	0	
5 BEDFORD ST	320 S		HUNTINGDON ST	2255206	19/10/2002	Sat	1000	ED	CN1	350A 645A		X	E	dry	B	F	N	N	50	0	0	0	
6 CARDIGAN WAY	30 N		PEMBROKE ROAD	2254199	14/08/2002	Wed	1300	BC	CW1C	370A 375A	818 831 929	S	E	wet	O	H	N	C	50	0	0	0	
7 NORWICH ST	200 E		WILTON ROAD	2256386	5/12/2002	Thu	1015	BB	BW1C	123A		S	dry	BF	F	N	C	50	0	0	0	0	
8 ORANGI KAUPAPA ROAD	100 S		BEDFORD ST	2111712	9/05/2001	Wed	2000	DA	CS1	111A 423A		BP	M	wet	DO	M	N	N	50	0	0	1	
9 ORANGI KAUPAPA ROAD	100 N		BEDFORD ST	2051175	24/03/2000	Fri	2200	EA	CS1C	101A	817	GM	M	dry	DO	F	N	N	50	0	0	0	
10 ORANGI KAUPAPA ROAD	40 N		GLAMORGAN ST	2012681	13/10/2000	Fri	1410	PD	CS1E	383A 722B		R	dry	B	F	N	N	50	0	0	1	16	
11 WILTON BUSH ROAD	20 S		CHURCHILL DRIVE	2453192	5/07/2004	Mon	1655	BA	CS1V	514A 517A		T	R	dry	DO	F	N	N	50	0	0	0	

ROAD	DIST	FRO	INTSIDE	IDNO	DATE	DYWK	TIME	MVMT	VEHS	CSCD	ENVT	OBJS	CURV	SURF	LITE	WTH	INT	TRAFF	MARS	PDL	NFAT	SER	MIN	IPED	CYCA	
NORTHLAND: MAJOR																										
1	Z	CPK	IAN GALLOWAY PARK	2253625	29/08/2002	Thu	2046	MO	CW1	386A		F	R	dry	DN	F						N	N	50	0	0
2	CURTIS	ST	RANDWICK ROAD	2252386	26/04/2002	Fri	720	EA	CN1CV	129A 370A	904	MM	E	wet	O	M						N	L	50	0	0
3	CURTIS	ST	LAMBETH ROAD	2356135	20/11/2003	Thu	1130	GD	CS1C	181A 333A	929		R	dry	B	F	D	N	C			G	C	50	0	0
4	CURTIS	ST	RANDWICK ROAD	2453627	29/07/2004	Thu	1000	GD	CN1C	112A 135A 333A	801		E	wet	O	H	T	G	C			G	C	50	0	0
5	CURTIS	ST	WHITEHEAD ROAD	2151204	6/03/2001	Tue	1640	EA	VN1C	370A 440B		Q	M	dry	B	F	T	G	C			G	C	50	0	0
6	CURTIS	ST	RANDWICK ROAD	2250763	23/01/2002	Wed	650	FO	CS1C	191A	818		E	dry	O	M						N	C	50	0	0
7	CURTIS	ST	CHAYTOR ST	2050479	2/02/2000	Wed	2110	DB	CN1	111A 135A 402A	801	F	M	wet	DO	L	N	S	C			R	C	50	0	0
8	PEMBROKE	ROAD	NORTHLAND ROAD	2355989	28/11/2003	Fri	2130	HA	XE1C	301A 375A			E	dry	DO	F	X	S	C			R	C	50	0	0
9	NORTHLAND	ROAD	KAIHUIA ST	2155926	29/12/2001	Sat	2020	BB	CS1B	123A 129B			M	dry	B	F	X	N	C			C	50	0	0	
10	NORTHLAND	ROAD	WOBUEN ST	2054256	17/09/2000	Sun	1505	MA	CE1C	110A 373B			S	dry	B	F						N	R	50	0	0
11	NORTHLAND	ROAD	WOBUEN ROAD	2054315	8/09/2000	Fri	1700	DA	CN1V	614A	800	M	M	wet	O	L	N	C				N	C	50	0	0
12	NORTHLAND	ROAD	HARBOUR VIEW ROAD	9950949	22/02/1999	Mon	1125	EA	CN1C	385A		M	E	dry	B	F	N	C				C	50	0	0	
13	NORTHLAND	ROAD	WOBUEN ROAD	2052080	17/04/2000	Mon	1430	EA	CN1CC	501A		MM	M	dry	B	F	N	C				C	50	0	0	
14	NORTHLAND	ROAD	WOBUEN ROAD	2050458	6/02/2000	Sun	216	EA	CN1C	352A		M	R	dry	DO	F	N	C				N	C	50	0	0
15	NORTHLAND	ROAD	GARDEN ROAD	2211010	24/01/2002	Thu	1140	MO	CW1C	403A 423A 507A		Q	R	dry	B	F	N	C				N	C	50	0	1
16	NORTHLAND	ROAD	RANDWICK ROAD	2254163	7/08/2002	Wed	2120	JA	CE1C	111A 301A	831		M	dry	DO	F	T	S	C			C	50	0	0	
17	NORTHLAND	ROAD	GARDEN ROAD	2155053	6/10/2001	Sat	1945	MO	CS1C	512A		MF	E	dry	DO	F	N	C				N	C	50	0	0
18	NORTHLAND	ROAD	FARM ROAD	2253533	12/07/2002	Fri	1405	MO	VS1B	373A 373B		H	M	dry	DO	FS	N	C				N	C	50	0	0
19	NORTHLAND	ROAD	FARM ROAD	2050535	22/01/2000	Sat	5	MO	CN1	103A 385A				M	dry	DO	F	N	C			N	C	50	0	0
20	NORTHLAND	ROAD	NORTHLAND TUNNEL	2253664	16/07/2002	Tue	850	BB	CS1C	124A	817		M	dry	B	F	N	C				N	C	50	0	0
21	NORTHLAND	ROAD	GARDEN ROAD	2051999	12/05/2000	Fri	715	GB	CS1C	387A 175B			E	dry	O	F	Y	N	C			R	C	50	0	0
22	NORTHLAND	ROAD	GARDEN ROAD	2055299	22/11/2000	Wed	1758	GB	CS1C	158A			R	dry	B	F	Y	N	C			R	C	50	0	0
23	NORTHLAND	ROAD	GARDEN ROAD	9952504	19/05/1999	Wed	830	GB	CW1C	175B			E	dry	B	FF	Y	N	C			N	C	50	0	0
24	NORTHLAND	ROAD	NORTHLAND TUNNEL	2152238	8/06/2001	Fri	2240	JA	CS1X	302A			R	dry	DO	F	T	G	C			C	50	0	0	
25	NORTHLAND	ROAD	GLENMORE ST	2456714	5/12/2004	Sun	1420	BF	CS1C	135A	801		M	wet	O	L	N	C				N	C	50	0	0
NORTHLAND: GLENMORE																										
1	GLENMORE	ST	KARORI TUNNEL	2052054	25/03/2000	Sat	2230	DB	CE1CC	111A 402A		M	M	dry	DO	F	N	C				N	C	50	0	0
2	GLENMORE	ST	KARORI TUNNEL	2311298	1/03/2003	Sat	1445	NA	CN1E	370A 712B 713B			E	dry	B	F	N	C				N	C	50	0	1
3	GLENMORE	ST	NORTHLAND ROAD	2351450	26/03/2003	Wed	40	DA	CS1V	111A		M	M	dry	DO	F	N	C				R	C	50	0	0
4	GLENMORE	ST	KARORI TUNNEL	2454538	3/09/2004	Fri	140	DB	VS1C	111A 131A 410A		M	M	wet	DO	FS	N	L			N	L	50	0	0	
5	GLENMORE	ST	THE RIGI	2454356	3/09/2004	Fri	940	DA	TS1	111A 682A		CX	S	dry	O	FS	N	C				N	C	50	0	0
6	GLENMORE	ST	KELBURN VIADUCT	9911347	15/01/1999	Fri	1650	FA	CS1	135A 337A	806		S	wet	OF	L	N	X				L	50	0	1	
7	GLENMORE	ST	NORTHLAND ROAD	2454680	28/09/2004	Tue	1633	FC	CN1C	331A		R	R	wet	O	H	N	X				N	C	50	0	0
8	GLENMORE	ST	KELBURN VIADUCT	2355970	25/11/2003	Tue	1715	MC	CS1C	372B			E	dry	O	F	N	P				N	P	50	0	0
9	GLENMORE	ST	NORTHLAND ROAD	2352013	10/04/2003	Thu	930	EA	VS1B	331A 443B		Q	E	dry	B	F	N	P				N	P	50	0	0
10	GLENMORE	ST	KELBURN VIADUCT	2154216	20/09/2001	Thu	1600	FB	CN1C	387A			M	dry	TF	F	R	G				P	50	0	0	
11	GLENMORE	ST	THE RIGI	2256189	17/12/2002	Tue	1520	DB	CS1	195A		CS	E	dry	O	F	N	C				C	50	0	0	
12	GLENMORE	ST	GOVERNOR ROAD	9950812	14/01/1999	Thu	2320	EA	VS1C	131A 385A		M	E	wet	DO	L	N	C				C	50	0	0	
13	GLENMORE	ST	THE RIGI	9954213	17/08/1999	Tue	2240	DA	CN1	135A	803 905	CJ	E	icy	DO	HF	N	C				C	50	0	0	
14	GLENMORE	ST	THE RIGI	2413487	30/12/2004	Thu	655	BC	SE1C	111A 122A			R	wet	O	F	T	G	C			N	C	50	0	1
15	GLENMORE	ST	THE RIGI	2255457	2/11/2002	Sat	1530	EA	VS1V	129A 330A		M	R	dry	B	F	T	N	C			C	50	0	0	
16	GLENMORE	ST	CRIEFF ST	2413081	19/10/2004	Tue	1758	LB	SN1C	303B 375B			R	dry	O	F	T	N	C			C	50	0	1	
17	GLENMORE	ST	CRIEFF ST	2353137	20/06/2003	Fri	1900	EA	CW1CC	108A 129A 504A		M	R	dry	DO	F	T	N	C			C	50	0	0	
18	GLENMORE	ST	CRIEFF ST	2013086	17/12/2000	Sun	225	CC	CS1C	103A		M	R	dry	DO	F	N	C				N	C	50	0	1
19	GLENMORE	ST	ORANGI KAUPAPA ROAD	2153324	5/07/2001	Thu	600	CA	VN1CC	135A	802	M	R	icy	DO	FF	N	C				N	C	50	0	0
20	GLENMORE	ST	ORANGI KAUPAPA ROAD	2413107	19/10/2004	Tue	803	FC	CN1CC	331A 359A			R	dry	B	F	T	N	C			N	C	50	0	1
21	GLENMORE	ST	ORANGI KAUPAPA ROAD	9911117	7/05/1999	Fri	1750	NB	CN1E	306A 376A			R	dry	TO	F	T	N	X			N	C	50	0	1
22	GLENMORE	ST	ORANGI KAUPAPA ROAD	9911111	20/01/1999	Wed	1312	NA	VN1E	726B			R	dry	B	F	N	C				N	C	50	0	1
23	GLENMORE	ST	GARDEN ROAD	2155995	15/12/2001	Sat	1220	DB	CN1CC	103A 111A 121A		MP	E	dry	DO	F	N	C				N	C	50	0	0
24	GLENMORE	ST	KILMISTER AVENUE	2011145	24/01/2000	Mon	1300	FD	CS1C	181A			R	dry	B	F	N	C				N	C	50	0	1
25	GLENMORE	ST	KOLLINS TERRACE	2313109	26/10/2003	Sat	440	EA	XN1V	129A 410A		M	R	dry	DO	F	N	C				N	C	50	0	1
26	GLENMORE	ST	KILMISTER AVENUE	9954733	2/10/1999	Sun	1540	CB	CS1	197A 614A	927	P	R	dry	O	F	N	X				N	C	50	0	0
27	GLENMORE	ST	KILMISTER AVENUE	2411968	7/05/2004	Fri	1345	MC	BN1C	372B			E	dry	O	F	T	N	C			N	C	50	0	1
28	GLENMORE	ST	KILMISTER AVENUE	2311480	31/01/2003	Fri	1250	GD	VN1C		927		R	dry	O	F	D	N	C			N	C	50	0	1

