



SaferRoads

Newtown & Berhampore

Technical Report

May 2008

PHOTOGRAPH

Absolutely

POSITIVELY

HE HĀKE NI PŌHĀKE **Wellington**
WELLINGTON CITY COUNCIL

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1. Abstract

This technical report provides details of the proposed measures to reduce crashes in Newtown and Berhampore by at least one third.

Wellington City Council, along with its key safety partners, is providing a method of crash reduction measures such as the use of traffic engineering devices and education and enforcement programmes for all road users.

The majority of crashes in Newtown and Berhampore occur on the main routes through the suburbs. About three-quarters of the reported injury crashes since 2002 have occurred on Riddiford Street, Adelaide Road, Rintoul Street and Constable Street. For this reason, the proposed changes are 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 residents.

The records show that the main types of crashes are rear end crashes, turning across on coming traffic, loss of control and hitting parked vehicles. The number of pedestrian crashes over a five year period from January 03 to December 07 was 44.

Injury crashes accounted for 21% of all crashes in the area, which is slightly less than the 24% for Wellington City as a whole (2002-2006 excluding State Highways).

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

At the end of the consultation phase, schemes were developed and concept plans were prepared for each of the sites identified as needing attention. The implementation schedule and concept plans provide the framework for the SaferRoads programme.

The framework includes traffic signals, kerb extensions, median islands, speed humps, controlling intersections, identifying arterial routes and improving the roadmarkings for all roads in Newtown and Berhampore. Education and enforcement programmes are also an important part of improving safety and reducing injury crashes. These proposed works and programmes have an estimated cost of \$1.64 million.

2. Introduction

In 2003, Wellington City Council introduced an innovative road safety programme called SaferRoads. This programme is aimed at reducing the number of road crashes within the city by at least one third by targeting an entire suburb rather than the previous approach of treating individual 'black spot' sites.

SaferRoads integrates engineering, education and enforcement to target key road safety deficiencies in the roading network in order to achieve the target crash reductions.

While SaferRoads is tasked with reducing crashes by at least one third, associated benefits include slower traffic speeds, improved driver behaviour and generally a safer environment for all road users.

Since 2003, SaferRoads has been implemented in Tawa, Ngaio, Khandallah, Northland, Wilton, Wadestown, Thorndon and Karori. Crash statistics are showing early success in Tawa, Ngaio and Khandallah. It is too early to draw any conclusions on the other four suburbs; however feedback from the community has, on the whole, been positive.

A key part of SaferRoads is community involvement. In previous years, the Council engaged the public at a very early stage to seek their views on road safety issues in their suburbs. This community feedback was combined with extensive analysis of crash numbers, types and locations to develop a plan that would achieve SaferRoad's objectives.

In November 2005, the Newtown and Berhampore communities were invited to workshops on road safety issues. They identified speed, intersections, pedestrians, cycles, parking and general roading issues such as lighting and road width as key areas that need to be addressed. The analysis of crash numbers and types showed that intersection, parking, pedestrian and loss of control crashes are prevalent in Newtown and Berhampore, correlating with the community feedback.

The primary objective of SaferRoads is to reduce crashes by at least one third, and the best way to achieve this is to decrease vehicle speeds. By lowering vehicle speeds, the likelihood of crashes is drastically reduced and the crashes that do occur are less severe. A number of measures are proposed, including reducing the speed limit on many residential streets from 50kmh to 40kmh. Lowering the speed limit will be supported by physical traffic calming measures such as kerb extensions, speed humps and additional roadmarkings.

Other significant causes of crashes in Newtown and Berhampore are poor intersection intervisibility and traffic 'rat-running' (driving through residential streets to avoid congestion on main roads) in residential areas. To improve noticability of and visibility at intersections, kerb extensions and additional roadmarkings are proposed. The proposed lower speed limits and associated traffic calming measures will address 'rat-running'.

Extensive education programmes aimed at speeding and proper intersection use and subsequent enforcement campaigns will support the proposed physical measures.

There is also significant focus on safety concerns around schools. Local schools are taking part in the Safer Routes to Schools education programme. This programme aims to reduce road hazards and encourage more foot and bicycle trips to school by providing safer and more convenient routes.

The Council is currently developing a citywide cycle plan for the implementation of new cycle facilities. Where a cycle issue is more strategic than site specific, it will be deferred until the cycle plan is approved.

The City Council is also investigating extending the city's existing bus lane network. A number of engineering measures have been proposed along these planned bus routes, and in many cases, the two will be mutually exclusive. Careful consideration will be applied when deciding priorities and whether the proposals are compatible.

A draft implementation plan is included in this report. This plan details the proposed initiatives and has prioritised them as high, medium or low according to their importance in reducing crash numbers.

The engineering measures are estimated to cost approximately \$1.64 million. However, it is unlikely that the existing budget will be enough to successfully complete SaferRoads in Newtown and Berhampore. The work may take a few financial years to complete.

3. Suburb description

Newtown and Berhampore are multi-cultural suburbs with high density residential areas and pockets of light industry. Newtown has a vibrant and well supported shopping precinct and is also home to Wellington Hospital and Wellington Zoo. Other significant amenities in the Newtown and Berhampore area include the National Hockey Stadium, Newtown Park, Rugby League Park, Macalister Park and Berhampore Golf Course.

There are four schools within the boundaries of the Newtown and Berhampore SaferRoads programme; Newtown School, St Anne's School, South Wellington Intermediate School and Berhampore School.

Newtown is based around a strong grid patterned street network which suits its relatively gentle topography. Berhampore, on the slightly steeper western landscape, has a slightly less regular street layout.

Adelaide Road is the principal road serving Newtown and Berhampore and connects these two suburbs with Island Bay to the south and the city centre to the north. Riddiford Street, Russell Terrace, Rintoul Street, Luxford Street, Britomart Street and Constable Street all form an important part of the roading network within Newtown and Berhampore by distributing local traffic onto Adelaide Road away from residential areas.

Due to the proximity of Newtown and Berhampore to the city centre, there are a relatively high number of pedestrians and cyclists in these suburbs.

Housing in Newtown is predominantly made up of high density, mostly Victorian-style residences sited close together, at or very near the front boundary. Berhampore is a mix of Victorian housing with 1920's and 1930's infill. In both suburbs there are areas of multi-story Council flats.

Residential properties in both suburbs generally have small front gardens which, in most streets, have been complemented with specimen trees in the road reserve. Berhampore has a number of green, open spaces around walkways that link residential streets. In the 1980's the Council installed brick paving, kerbing and planters in Riddiford, Constable, Coromandel, Mein, Daniell and Owen Streets. The brick kerbing and planter theme was extended along Riddiford Street in 2005 and 2006. Street trees have also been planted beside speed humps on selected residential streets.

Any proposed safety measures will need to complement the existing streetscape and sense of place rather than introduce new elements which may detract from the local landscape. Street plantings proposed in conjunction with the safety measures will need to be in keeping with the existing street character and be considerate of pedestrian desire lines, but must not restrict the visibility of vehicles or pedestrians.

Riddiford Street between Mein Street and John Street is excluded from the SaferRoads programme as this section of road is being widened for the Wellington Hospital redevelopment. Due to its complex layout, the John Street, Riddiford Street, and Adelaide Road intersection is to be considered as a standalone project, separate to SaferRoads.

4.0 Technical data

4.1 Overview

This section describes the data that was collected and used to develop the proposed measures. This information can also help to measure the effectiveness of the SaferRoads programme over time. The key information needed to properly consider the crash issues and provide sensible measures are speed, traffic volumes and crash statistics. This information was complemented with travel surveys from three local schools.

4.2 Speed surveys

In May and June 2006, speed surveys were carried out at 45 different sites on a mix of arterial, principal and collector roads as well as residential streets. The data derived from these 'before' surveys will be used to determine the success of the proposed measures in reducing traffic speeds.

The following table shows the 85th percentile speed recorded at a selection of the sites surveyed.

Table 4.2.1 – 85th Percentile Speed

Street	Location	85 th Percentile Speed
Adelaide Road	South of Colombo Street	55kmh
Constable Street	North of Coromandel Street	51kmh
Riddiford Street	Between Green Street and Wilson Street	43kmh
Rintoul Street	Outside South Wellington Intermediate School	52kmh
Russell Terrace	Between Edinburgh Terrace	59kmh
Mein Street	Between Daniell Street and Owen Street	43kmh
Coromandel Street	Between Mein Street and Picton Street	43kmh
Owen Street	Between Regent Street and Lawrence Street	44kmh
Lavaud Street	Between Russell Terrace and Rintoul Street	45kmh
Rhodes Street	Between Riddiford Street and Daniell Street	41kmh

Speeds in residential areas are generally between 40kmh to 45kmh. SaferRoads proposes to reinforce these low speeds by reducing the legal speed limit from 50kmh to 40kmh. The recorded speeds on the arterial and collector roads vary between 43kmh to 59kmh. While the speeds at the higher end of this range may not be considered excessive in some areas of Wellington City, they are inappropriate on the narrow and congested roads in Newtown and Berhampore. Therefore, appropriate education, enforcement and

engineering measures along with hard and soft landscaping measures need to be introduced.

4.3 Traffic volumes

One of the key issues identified at the community workshops was that of ‘rat-running’ where vehicles use back streets, usually residential streets, to avoid travelling on the more congested main roads. Traffic volume counts have been carried out to identify streets where this may be happening so that measures can be provided to manage this traffic back onto preferred through routes.

The traffic volumes recorded before the implementation of the proposed measures will be compared to volumes measured afterwards to determine whether they have reduced in the residential areas.

The table below shows a selection of sites where traffic volumes were recorded between May and June 2006.

Table 4.3.1 – Average Daily Traffic

Street	Location	Average Daily Traffic (vehicles)
Adelaide Road	South of Colombo Street	10,555
Constable Street	North of Coromandel Street	16,483
Riddiford Street	Between Green Street and Wilson Street	17,333
Rintoul Street	Outside South Wellington Intermediate School	3,443
Russell Terrace	Between Edinburgh Terrace	3,692
Mein Street	Between Daniell Street and Owen Street	4,895
Coromandel Street	Between Mein Street and Picton Street	3,254
Owen Street	Between Regent Street and Lawrence Street	1,045
Lavaud Street	Between Russell Terrace and Rintoul Street	1,169
Rhodes Street	Between Riddiford Street and Daniell Street	1,245

As expected, high traffic volumes are evident on the arterial and collector roads with lower volumes on local, residential streets. The exceptions to this are Mein Street and the eastern leg of Coromandel Street. The comparatively higher volumes on these particular local streets support the community opinion that ‘rat-running’ is an issue.

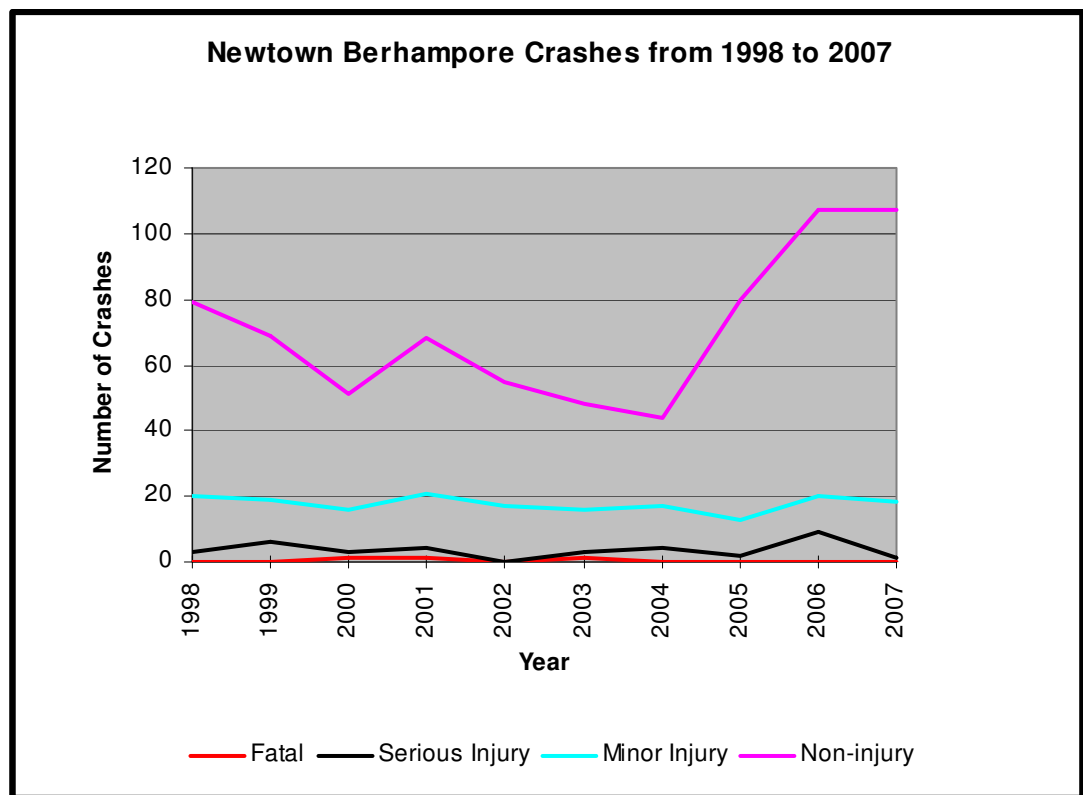
It is proposed to undertake further traffic counts to substantiate ‘rat-running’ concerns in other areas of Newtown and Berhampore.

4.4 Crash data

Significant analysis on crashes occurring in Newtown and Berhampore has been undertaken by Bullen Consultancy and the results of that work are presented in their report entitled “*Wellington City Council SaferRoads Project, Island Bay, Newtown and Berhampore including Adelaide Road, Framework for Remedial Measures - February 2006*”.

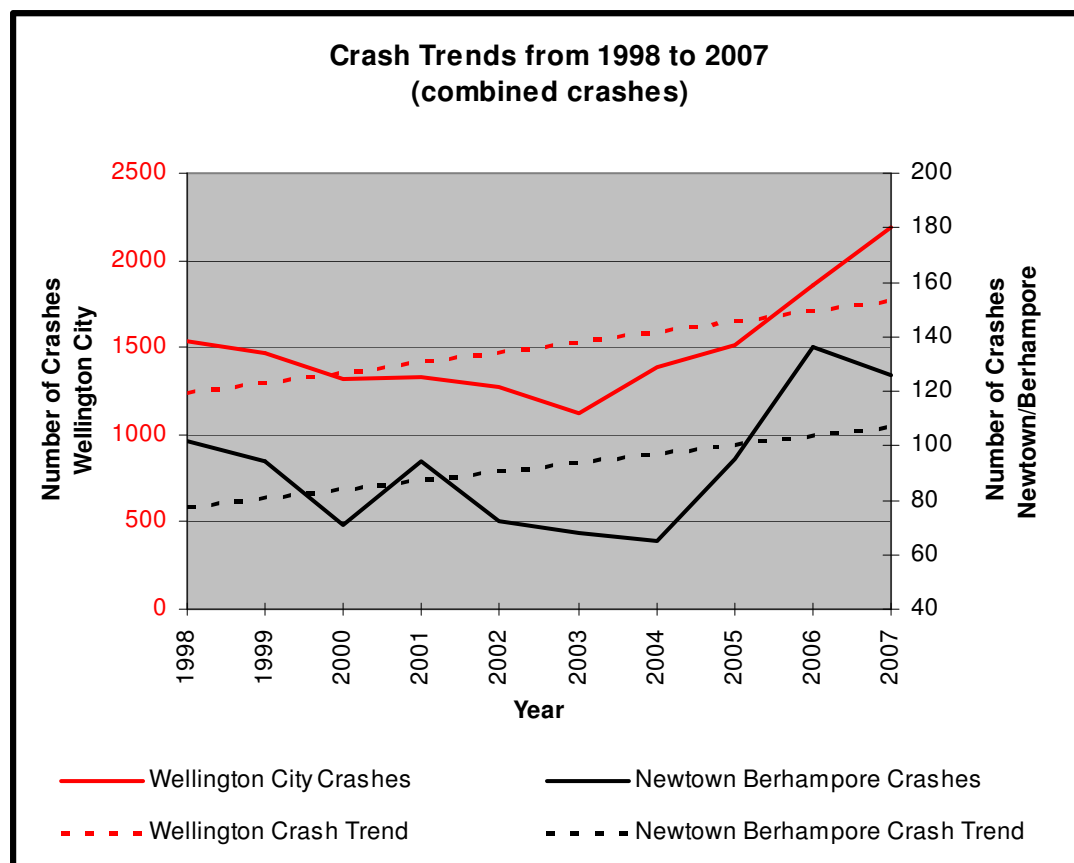
Their report found that intersection, parking, pedestrian and loss of control crashes are prevalent in Newtown and Berhampore and this is reflected in feedback from the community workshops. This also compares with Land Transport New Zealand’s *Briefing Notes – Road Safety Issues 2007* which identifies vulnerable road users, rear end/obstruction, loss of control and intersection crashes as Wellington’s major road safety issues. A copy of the LTNZ briefing notes is included in Appendix D.

Graph 4.4.1 – Newtown and Berhampore crashes from 1998 – 2007



Graph 4.4.1 summarises all reported crashes in Newtown and Berhampore between 1998 and 2007 and shows that prior to 2000, there was a significant reduction in crashes. This notable reduction may be evidence of the Council’s efforts during the 1990’s in targeting ‘black spots’ on the roading network. However, since 2004, there has been an increase in crashes, mostly in non-injury crashes. This highlights the need for further work to turn this increase in crashes into a reduction.

Graph 4.4.2 – Crash trends 1998 – 2007



Graph 4.4.2 combines fatal, serious, minor injury, and non-injury crashes and shows the comparison of these crashes in Newtown and Berhampore with Wellington City. The graph also shows that crashes are trending upwards for both Wellington City and Newtown and Berhampore over the 10 year period from 1998 to 2007. Over a more recent five year period between 2003 and 2007 the upward crash trend is significantly steeper and confirms that some form of intervention is urgently required.

Table 4.4.3 – Crash Type

Crash type	Percentage of crashes
Crashes 2003 - 2007	
Rear end/obstruction	49
Crossing/turning	21
Loss of control/head on	16
Pedestrians	9
Overtaking	5

As shown in Table 4.4.3, rear end/obstruction crashes are the most significant crash type in Newtown and Berhampore with a high proportion (30%) of these crashes involving parked vehicles. This statistic is reinforced by feedback from the community.

The second most prevalent crash type is crossing/turning and this supports the fact that intersection crashes are a significant problem in Newtown and Berhampore.

4.5 School surveys

As part of Council's general road safety initiatives, local schools are invited to participate in the Safer Routes to Schools programme which encourages them to take an active role in identifying road hazards and problems that children may face on the way to school. This programme aims to reduce road hazards and encourage more foot and bicycle trips to school by providing safer and more convenient routes to school.

Newtown, St Anne's and South Wellington Intermediate Schools have all been working with the Council to identify road safety issues within their catchment areas.

Each school also surveyed their pupils about their travel patterns to and from school and asked those that did not walk or cycle what discouraged them from doing so. The results of these surveys are shown below.

Newtown School – Summary of travel patterns

Modes of transport to and from school			
	Junior school	Senior school	Whole school
Walk	51%	51%	51%
Car/walk	3%	5%	4%
Bus	9%	8%	8%
Car	32%	31%	32%

(The absentee rate makes up the balance to 100%)

School entrances used:

- 49% of the time students use the Daniell Street entrance
- 15% of the time students use the Emmett Street entrance
- 4% of the time students use the Green Street entrance
- 23% of the time students use the Mein Street entrance.

Reasons given for not walking to school include:

- Road safety issues 23%
- Distance 21%
- Personal safety 18%
- Wet weather 17%
- Age of the children 16%
- Time factor 15%
- Going out anyway 5%
- After school activities 3%
- Difficulties with younger siblings 3%
- Health issues 3%
- Topography 2%

St Anne's School – Summary of travel patterns

Modes of transport to and from school			
	Junior school	Senior school	Whole school
Walk	25%	37%	31%
Car/walk	5%	3%	4%
Bus	2%	13%	8%
Car	54%	35%	44%

School entrances used:

- 33% of the time students use the Daniell Street entrance
- 28% of the time students use the Emmett Street entrance
- 8% of the time students use the Green Street entrance
- 1% of the time students use the Minerva Street entrance.

Reasons given for not walking to school include:

- Wet weather 26%
- Road safety issues 21%
- Distance 21%
- Personal safety 21%
- Age of the children 18%
- Time factor 13%
- Going out anyway 13%
- After school activities 10%
- Difficulties with younger siblings 8%
- Topography 3%
- Health issues 3%

South Wellington Intermediate Girls School (SWIS) – Summary of travel Patterns

Modes of transport to and from school	
Whole school	
Walk	40%
Car/walk	4%
Bus	25%
Car	19%

School entrances used:

- 19% use the Russell Terrace entrance
- 31% use the Waripori Street entrance
- 46% use the Rintoul Street entrance.

Reasons given for not walking to school include:

- Distance 30%
- Time factor 18%
- Wet weather 17%
- Going out anyway 14%
- After school activities 10%
- Personal safety 4%
- Road safety issues 3%
- Age of the children 16%
- Health issues 2%

5. Consultation

5.1 Overview

At the inception of SaferRoads, the Council met with stakeholders to inform them of the philosophy behind SaferRoads and to invite their comment and ideas as to how this programme could be successfully implemented. These stakeholder groups included:

- Stagecoach
- Cycle Aware Wellington
- Living Streets Aotearoa (Wellington)
- Utility companies (telecommunication, power and gas companies)
- Newtown Residents Association
- Council's Road Safety Reference Group.

SaferRoads will impact on the way the Newtown and Berhampore communities use their roads so it is important that they are involved from the programme's outset. The community's acceptance and ownership of the SaferRoads programme is vital to its successful implementation. One of the key objectives for this programme is community participation.

Local schools were also invited to participate in the SaferRoads programme to identify road safety issues specific to their school. Each school was also given the opportunity to take part in the Council's Safer Routes to School programme. Newtown, St Anne's and South Wellington Intermediate Schools have accepted the Council's invitation and have been working with them to identify safety issues in their areas.

5.2 Community workshops

Publicity for the community workshops included a postcard mailed to all residences and businesses in Newtown and Berhampore. In addition, SaferRoads posters were displayed around the area including shopping and community centres. A media release about the SaferRoads programme was circulated to local newspapers and public notices were placed in community papers and on the "Our Wellington Page" in the Dominion Post.

Two community workshops were held in Newtown in November 2005 and were attended by a wide cross-section of the community.

5.3 Workshop one

Workshop one was held on 1 November 2005 between 7pm and 9pm at St Anne's Parish Hall on Emmett Street. 17 people attended along with the SaferRoads team, councillors and Council officers.

The aim of workshop one was to inform the local community of the programme's objectives and to gather information about road safety issues based on local people's 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 containing background information on the programme, statistical crash data on Wellington City and the Newtown/Berhampore area, and materials for the workshop exercise.

The workshop exercises were divided into four main themes:

- Engineering
- Enforcement
- Education
- Streetscape

Community participants wrote down road safety issues on post-it notes under these themes and fixed them onto the wall maps. A separate board was provided for participants to post general issues that fell outside of the four themes.



Photograph 4.1.1 - Workshop one participants

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

A full listing of safety issues and concerns raised by the community is provided in Appendix A along with the consultant's responses.

5.4 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 Newtown and Berhampore were:

- Intersections
- Speed
- Parking
- Pedestrians
- Cycling
- 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.

5.5 Workshop two

Workshop two was held on 8 November 2005 between 7pm and 9pm at St Anne's Parish Hall on Emmett Street and was attended by twenty people along with the SaferRoads team, Councillors and other Council staff.

The objective of workshop two was to examine the issues identified in workshop one along with the trends and types of crashes. This was to develop a high level framework for crash reduction measures based on community input.



Photograph 4.2.1 - Workshop two participants

The SaferRoads team worked alongside community participants on a group exercise. This was to provide possible road safety solutions based on engineering, education and enforcement initiatives for local roads.

A range of comprehensive solutions were noted down as part of this process and form a useful framework to make the roads safer in Newtown and Berhampore. The framework for reducing crashes is outlined in the section below, based on the themes from workshop one.

6. Framework for reducing crashes

Workshop Safety Themes Framework

Engineering	Education	Enforcement
Intersections		
Redesign Luxford Street/Adelaide Road intersection. Set light changes to fit with road rules.	Educate about intersection behaviour. Especially how to use a roundabout.	
Adjust gradient or raise the crossing on Mein Street at the Riddiford Street lights for pedestrians.	Educate drivers about: driver behaviour, driver/vehicle factors and other road safety issues to help reduce road crashes/accidents etc.	
Traffic calming on Mein Street at the Minerva Street intersection.		
Raised crossings into residential streets and better lighting at all intersections.		
Head start boxes for cyclists at all major intersections.		
Signalise Constable and Owen Streets intersection.		
Signalise Constable and Coromandel Streets intersection.		

Speed		
Include islands and trees on wider streets where flush medians have been painted as this reduces the speed of cars eg Roy Street.	Educate to overcome perceptions.	40kmh in residential streets.
Better and more visible reminders of the current speed limit.		30kmh school zones.
Speed humps and chicanes suggested for traffic calming.		More police presence.
Block streets in the middle so they can not be used as through ways.		More driver feedback signs.
Speed hump at the north end of Daniell Street is hard to see from the south, road narrows sharply. Currently no roadmarking.		

Engineering	Education	Enforcement
Parking		
Paint specific car parking bays so that people can't take up two car parks by accident.		Better enforcement of no parking on footpaths.
Widen roads as they are too narrow. Wing mirrors are being broken.		Residential parking only should be considered in some areas.
One-way roading system as done for the Newtown Festival suggested to manage parking and driving into street.		Infill housing and flat rental developments have no controls or limits related to on street parking.
		Lower cost of parking in the city as it is forcing people to park in the suburbs.
		Enforcement of no parking on yellow lines and no parking on footpaths.

Pedestrians		
Having a narrow footpath is better than not having one at all.	Encourage pedestrians to wear more visible clothing.	Low speed on high pedestrian areas.
Footpaths on both sides of roads, especially Adelaide Road.	Encourage bright coloured cars.	
Improve pedestrian crossings with kerb extensions, extended no parking zones to improve visibility around them, street lighting, traffic light phasing – clash of left turn on green man.	Educate drivers as to what the diamond symbolises.	
Raise pedestrian crossings.	Compulsory safe/defensive driving courses for licensing.	
Better defined signs for pedestrian routes.		

Cycling		
Ramps over kerb extensions especially on Adelaide Road by Macalister Park.	Better signage on bus lanes to educate bus drivers.	
Cycle line around kerb extensions.	Education on appropriate lane behaviour for both cyclists and motorists.	
More sensitive light change at Berhampore intersection, Luxford Street/Adelaide Road as it does not currently turn green for cyclists.	All drivers to be given a road code regularly and sit licence every two years as well as a defensive driving course.	
Mark alternative cyclist routes as well as engineering these routes to make them rideable.	Educate drivers on giving space to cyclists to look for cyclists before opening car doors.	

Engineering	Education	Enforcement
General Roding Issues		
Provide bus parking lay-by to reduce congestion and also centre line crossing.		
Vibraline marking for centre lines.		
Improve street lighting in high pedestrian and cycling areas.		
Rumble strips to identify different road areas eg change from 50kmh to 40kmh zone.		
Discourage 'rat running' through residential streets.		

7. Design Elements

7.1 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 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 as well as improvement of vehicular safety. They must also include improvements to the safety of the street network and a reduction of dangers perceived by parents whose children walk or cycle to schools in the area.

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

Therefore, the design elements used for the Newtown and Berhampore SaferRoads programme 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 in Section 5.4, the safety themes that were identified were:

- Intersections
- Speed
- Parking
- Pedestrians
- Cycling
- 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 programme.

8. Education

Considerable effort has been focused on schools within Wellington City. The Safer Routes to Schools programme has been taken up by all four of the local schools and helps them identify road hazards and problems that children encounter on the way to and from school. Preliminary recommendations from the Safer Routes to Schools programme have been included in the SaferRoads proposals. As further recommendations are provided they will be incorporated into the programme.

In addition to the Safer Routes to Schools programme a range of education campaigns aimed at the general public are proposed to reduce crashes in Newtown and Berhampore. These include raising the awareness of cyclists, using intersections correctly and the dangers of inappropriate speeds.

9. Enforcement

Enforcement will focus on inappropriate speeds, intersection use and illegal parking.

Inappropriate speeds will be actively enforced through targeted policing and also passively with the use of driver feedback signs. Where speeds exceed preset limits, the driver feedback signs display “Slow Now” to the approaching driver. These signs have been installed in previous SaferRoads suburbs and have proven to be a great way to help reduce speeds.



Photograph 5.2.1 – Driver feedback sign, Glenmore Street

An increased presence of parking enforcement officers will target poor and illegal parking practices such as parking across driveways, on footpaths and in no-parking areas. This increased enforcement will be focussed in school areas before and after school, and extend to shopping areas at other times.

10. Engineering

Engineering will require the most resources and funds to construct devices designed to improve safety and reduce speeds.

Speed is a significant contributing factor in road crashes and higher speeds always lead to more frequent crashes and more severe injuries. It is assumed by some that by lowering the speed limit, lower vehicle speeds will automatically result. Unfortunately, this is not always the case. For speeds to be successfully lowered, more stringent enforcement and a roading environment that is also appropriately engineered are also important. Traffic calming measures such as kerb extensions, islands, roadmarkings, signage and traffic signals are therefore proposed to match the roading environment and reduce traffic speeds.

Wellington City has a high incidence of intersection crashes with these accounting for 40% of all crashes. Newtown and Berhampore's are consistent with the city with 41% of all crashes occurring at intersections. One major contributing factor in these crashes appears to be poor intervisibility.

The poor intersection visibility in Newtown and Berhampore can be attributed to pressure on the road space for on street parking, which in turn results from high intensity housing in these suburbs. This pressure has caused parking to occur close to intersections. When combined with the narrowness of many of the roads in these suburbs, sight lines available to traffic exiting side streets are severely restricted. To improve visibility at key intersections kerb extensions are proposed to physically restrict parking and provide improved sight lines for exiting vehicles. In addition, all intersections are to be provided with some form of control, being either 'give way' signs, 'stop' signs or traffic signals.

It is proposed that all streets in the area be reviewed with a means of improving the night time safety either by improving the level of street lighting or by making improvements to roadmarkings and reflective pavement markers. There are a number of zebra crossings that do not provide a level of safety that the Council or residents are happy with. It is proposed to replace a number of zebra crossings with traffic signals as these provide a higher level of safety.

The implementation plan set out in section 13 shows the different measures planned for Newtown and Berhampore.

During construction, and possibly for a short time following until the community adjust to the changes, the proposed measures will provide some disruption to road users. However, the expected crash reductions and ultimately the safer roading environment will outweigh any short-term inconvenience.



Photograph 5.3.1 - Example of a speed hump with tree and tree protector

11. Speed limits

Inappropriate speeds are a concern in any road network, but particularly more so around schools, residential areas and areas with high pedestrian numbers. In selected areas, SaferRoads proposes to introduce 40kmh speed limits with physical reinforcement from traffic calming devices such as speed humps and speed cushions.

When the SaferRoads programme was first introduced in Tawa it was proposed to reduce the speed limit in all areas other than the main road to 40kmh. However, as a result of consultation with the community, the Council chose not to pursue a lower speed limit and is instead investigating a proposal to install advisory 40kmh speed signs.

Speed surveys show that many motorists are already travelling at a speed that would not require them to travel any slower than they currently do through both Newtown and Berhampore. However, evidence suggests that faster drivers who cause more serious crashes are also influenced by slower speed signs and do reduce their maximum speed. This may mean that instead of travelling at 65kmh in a 50kmh zone, they may reduce their speed to less than 60kmh if it is recommended that the area should be travelled at 40kmh.

The introduction of 40kmh zones in residential streets is important for developing safe streets for residents. Overseas research shows that reducing the speed in these environments reduces crashes and the severity of crashes that do occur. Physical works will reinforce the introduction of 40kmh speed zones.

12. Streetscape

Careful consideration needs to be given to how the safety measures will fit into the existing streetscape. The form the proposed measures take will need to follow the surrounding street context. For example, Newtown has a very strong, linear form with the streets laid out in a grid pattern, so the introduction of new kerb extensions and traffic islands should follow this theme where practical. In addition, parts of Newtown and Berhampore have brick, bull nose kerbing and where appropriate and practicle, any new adjoining work should be of the same materials.

Generally, the private residences in Newtown and Berhampore have small gardens which are complemented with areas of street trees and gardens in the road reserve. The new safety measures should also include planting to further enhance the existing streetscape. However, careful and detailed thought will be applied to the selection of plant species so that they are appropriate to each location.

13. Implementation plan

This draft implementation plan identifies the proposed safety initiatives along with indicative priorities, cost estimates and concept drawing reference numbers (where applicable). The final implementation plan will be agreed after public consultation and approval from the Strategy and Policy Committee.

Cycle issues were a significant feature in the public’s feedback at the two community workshops. The Council is currently developing a citywide cycle strategy to provide guidance and direction for the implementation of new cycle facilities. Therefore, where a cycle issue is more strategic than site specific it will be deferred until the cycle strategy is approved.

Wellington City Council is currently investigating extending the city’s existing bus lane network. Newtown and Berhampore roads that are subject of this investigation are:

- Adelaide Road from John Street to The Parade
- Riddiford Street from John Street to Constable Street
- Constable Street from Riddiford Street to Crawford Road
- Rintoul Street from Riddiford Street to Luxford Street
- Luxford Street from Rintoul Street to Adelaide Road

A number of engineering measures have been proposed on these planned bus routes and in many cases the two will be mutually exclusive. Careful consideration will be applied when deciding priorities and whether proposals are compatible.

Concept drawings for many of the engineering measures are shown in Appendix I.

Education			
Location	Treatment	Priority	Estimate
Newtown and Berhampore	Speed limit awareness campaign	High	\$ 1000
Citywide	Intersection use campaign	High	\$ 1000
Citywide	Pedestrian awareness campaign	High	\$ 1000
Citywide	Cycle awareness campaign	Medium	\$ 1000
Newtown School, St Anne’s School, SWIS and Berhampore School	Continuing Safer Routes to Schools programme	High	\$300,000

Enforcement

Location	Treatment	Priority	Estimate
Adelaide Road, Britomart Street, Constable Street, Mein Street, Riddiford Street, Rintoul Street and Russell Terrace	Driver Feedback signs (four signs)	High	\$ 60,000
All Newtown and Berhampore roads	Targeted speed enforcement	High	N/A
All Newtown and Berhampore roads	Increased parking enforcement	High	N/A

Engineering

Location	Treatment	Ref No.	Priority Estimates (\$)		
			High	Medium	Low
Adelaide Road between Wakefield Park and Britomart Street	Remove parking, new cycle lane	NSR1			10,500
Dawson/Chatham/Blythe Streets	Broken yellow lines, traffic calming ramp	NSR2, NSR11 & NSR12		30,000	
Adelaide Road pedestrian crossing near Chilka Street	Broken yellow lines	NSR3	400		
Morton Street/Stanley Street intersection	Give way control and central island	NSR4		5,000	
Britomart Street/Stanley Street intersection (option 1)	Central islands and kerb extensions	NSR5/1			22,000
Britomart Street/Stanley Street intersection (option 2)	Central islands and roundabout	NSR5/2	34,000		
Britomart Street pedestrian crossing	School Kea crossing	NSR6		3,000	
Adelaide Road/Torquay Terrace intersection	Kerb extension and give way control	NSR8		11,500	
Adelaide Road north of Torquay Terrace	Crossing point	NSR8		11,500	
Adelaide Road/Stoke Street intersection	Kerb extensions and give way control	NSR9	23,000		

Engineering

Location	Treatment	Ref No.	Priority Estimates (\$)		
			High	Medium	Low
Adelaide Road/Colombo Street intersection (option 1)	Kerb extension and remove parking in front of numbers 288-290	NSR10/1			11,500
Adelaide Road/Colombo Street intersection (option 2)	No exit from Colombo Street onto Adelaide Road and left turn only from Adelaide Road onto Colombo Street	NSR10/2		10,000	
Adelaide Road/Hall Street intersection	Install LED lanterns, alter phasing and trim vegetation	-	6,000		
Rintoul Street/Luxford Street/Milton Street intersection	Kerb extensions	NSR13	25,000		
Luxford Street	Crossing point, kerb extensions and central refuge island	NSR14	19,000		
Rintoul Street/Waripori Street intersection	Signalise intersection including pedestrian crosswalks	NSR15		180,000	
Waripori Street - outside SWIS	Crossing point with kerb extensions	NSR16/1			18,000
Waripori Street - outside SWIS	School crossing point with kerb extensions	NSR16/2	25,000		
Rintoul Street - outside SWIS	Signalised crosswalk	NSR17		90,000	
Rintoul Street/Stoke Street intersection	Relocate bus stop, kerb extension and new pedestrian crossing	NSR18		18,000	

Engineering

Location	Treatment	Ref No.	Priority Estimates (\$)		
			High	Medium	Low
Rintoul Street/Millward Street intersection	Kerb extension and give way control	NSR19		6,000	
Rintoul Street/Colombo Street intersection	Kerb extension, give way control and yellow hatching	NSR20		11,500	
Mt. Albert Road	Curve speed advisory signs, chevrons and advance warning signs	NSR21	3,500		
Lavaud Street	Speed cushions and parking bays	NSR22	5,000		
Herald Street - between Rintoul Street and Russell Terrace	Kerb extensions and flush median with raised islands	NSR23		40,000	
Russell Terrace/Waripori Street intersection	Flush island and remove parking	NSR24	3,000		
Russell Terrace/Riddiford Street/ Rhodes Street/Mansfield Street intersection	Speed cushions, replace island planting and improve intersection signage	NSR25			10,000
Rhodes Street	Speed humps with plantings	NSR26			22,000
Daniell Street/Lawrence Street/Princess Street intersection	Kerb extensions and give way controls	NSR27			19,000
Princess Street	Traffic platform	NSR28			5,500
Daniell Street/Rhodes Street intersection	Flush island and give way control	NSR29			1,000
Daniell Street/Donald McLean Street intersection	Flush island and give way control	NSR29			1,000
Daniell Street/Normanby Street intersection	Kerb extension, flush island and give way control	NSR29			9,000

Engineering

Location	Treatment	Ref No.	Priority Estimates (\$)		
			High	Medium	Low
Daniell Street/Harper Street intersection	Kerb extension, flush island and give way control	NSR29			6,000
Daniell Street/Newtown Avenue intersection	Kerb extension, flush island and give way control	NSR29			9,000
Daniell Street	Roadmarkings and speed humps	NSR29			36,300
Owen Street	Speed humps	NSR30			22,000
Lawrence Street/Owen Street intersection	Intersection control and speed humps	NSR30			24,200
Daniell Street/Constable Street intersection	Lanterns on arms LED lanterns to all approaches and reduce kerb extension	NSR31	125,000		
Constable Street/Owen Street intersection	Traffic signals with crossing	NSR32	200,000		
Constable Street/Coromandel Street intersection	Traffic signals with crossing	NSR33	200,000		
Constable Street/Alexandra Road intersection	Crossing with central refuge islands	NSR34	5,000		
Constable Street/Hiropi Street intersection	Kerb extensions, give way control and angle parking	NSR35	25,000		
Daniell Street/Wilson Street intersection (option 1)	Kerb extensions	NSR36/1			35,000
Daniell Street/Wilson Street intersection (option 2)	Reduce width of Wilson Street at intersection	NSR36/2	25,000		

Engineering

Location	Treatment	Ref No.	Priority Estimates (\$)		
			High	Medium	Low
Mein Street/Minerva Street intersection	Kerb extensions, pedestrian platform and give way control	NSR37	16,000		
Daniell Street/Mein Street intersection (option 1)	Ease existing kerb extension, crossing point, roadmarkings and remove Mein Street parking	NSR38/1	13,000		
Daniell Street/Mein Street intersection	Reconstruct existing kerb extension	NSR38/2			13,000
Mein Street - opposite number 60	Crossing point, kerb extension and central refuge island	NSR39	8,000		
Mansfield Street/Roy Street intersection	Kerb extensions and give way control	NSR40		34,000	
Normanby Street	Kerb extension and speed humps	NSR42			30,000
Riddiford Street/Constable Street intersection	New lanterns, extend lane lines, repeat lane arrows and construct small island	NSR44	7,000		
Adelaide Road opposite Macalister Park	Pedestrian ramp	NSR45		4,500	
Rintoul Street near Blythe Street	Speed cushions	NSR46	10,000		
Adelaide Road	Roadmarkings	-	3,000		
Rintoul Street	Roadmarkings	-	2,500		

Engineering

Location	Treatment	Ref No.	Priority Estimates (\$)		
			High	Medium	Low
All proposed 40kmh streets adjoining 50kmh streets (38 sites)	Speed limit signs and threshold treatment	NSR47	106,500		
All minor streets adjoining main roads (64 sites)	Give way or stop controls	-	50,000		
Totals			939,900	455,000	305,000

14. Conclusion

The education, enforcement and engineering interventions proposed in this report aim to reduce crashes within Newtown and Berhampore by at least one third. The key interventions include:

- Lowering the speed limit on most residential streets to 40kmh
- Improving intersection intervisibility
- Providing a consistent theme appropriate to the road hierarchy
- Traffic calming residential areas to discourage 'rat-running'
- Improving walking and cycling routes to and from schools
- Increasing speed enforcement
- Increasing parking enforcement
- Education programmes aimed at excessive and inappropriate speeding, and the importance of giving way at intersections.

A key part of the development of the Newtown and Berhampore SaferRoads programme is better definition of arterial routes and discouraging motorists from using residential streets as through routes. This will be achieved by installing physical constraints on popular through routes such as traffic calming ramps, speed humps, priority controls and kerb extensions. All intersections in Newtown and Berhampore will be controlled with 'give way', 'stop' signs or traffic signals.

This technical report has been reviewed and endorsed by the SaferRoads technical review group and is now ready to proceed to consultation.

The consultation period runs from 16 June 2008 to 14 July 2008. 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. This will ensure that the programme's overall objective of reducing crashes by at least one third is met.

The *SaferRoads Newtown and Berhampore Consultation Feedback and Implementation Plan* will provide a summary of the outcomes and will be sent out to all members of the public who make a submission on the proposal.

Subject to funding approval in the Annual Plan, detailed design is planned to start in August 2008, following public consultation. Construction of the approved measures will begin in January 2009.