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Community and Road Safety

Recommendation

That the Board:

i) Receives this report.

Executive summary

This report provides the Board with a summary of the activities of Community and Road Safety (CRS) unit and its function.

While Auckland ranks fifth out of twelve New Zealand cities in terms of annual deaths and serious injuries (DSI), it ranks third in terms of the total number of crashes per 10,000 people. Using private transport remains one of the riskiest daily activities Aucklanders engage in. While DSI have fallen in recent years, our rates remain higher than those in similar jurisdictions.

Nationally, Auckland contributes to 21% of New Zealand's road DSI's and is over-represented in alcohol, speed, young driver, intersection, motorcycle and pedestrian DSI.

Safety is one of the key components in the transport system which both influences and responds to the region's growth in travel demands. The relationship between road safety and transport use is complex and requires close scrutiny to prevent the system drifting into safety failure.

While the majority of road trauma stems from poor road user choices on the network, Auckland's busy local roads are unforgiving of people making mistakes which results in a high number of DSI.

This has a significant impact on families, communities and the health and justice system with a corresponding high economic social cost estimated at $847 million in 2013, compared to congestion estimated at $250 million pa (NZ Transport Agency research report 489, Feb 2013) including 485 DSI.

In October 2014, Auckland Transport created the Community & Road Safety team that integrated road safety engineers and education professionals within the one business unit to realise improved benefits from combined road improvements and road safety education in high risk communities.

The Community and Road Safety unit comprises the three functional areas of Road Safety; Strategy and Performance, Community Transport and Road Safety Engineering. The business is currently reviewing its operating model to respond to the need to ensure value for money and achieve efficiencies. A number of relationship and road safety outcome risks will need to be managed.

The Community and Road Safety Team aims to demonstrate that its regional focus in both rural and urban areas can deliver road safety and modal shift savings for Auckland and brings greater consistency and expertise to the regions transport network and its customers.

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Strategic context

- Road Safety is one of the top three priorities in the Government Policy Statement (GPS), and is strategically driven through the NZ Safer Journeys Road Safety to 2020 Strategy, NZ Road Policing Programme, the Auckland Plan, Integrated Transport Plan and Auckland Region Road Safety Plan.
- The NZ Safer Journeys Road Safety Strategy is implemented through a series of national action plans which allocate responsibilities to National Road Safety Committee (NRSC) members (MoT, NZTA, NZ Police, ACC, and LGNZ). These plans set out Safe System actions in the areas of Safe Roads & Roadsides, Safe Speeds, Safe Vehicles and Safe Road Users along with expected timings and responsibility for implementation. They also detail how progress will be monitored and actions evaluated.
- The Auckland Plan sets a vision for Auckland becoming the world's most liveable city and the economic powerhouse of the nation. The Auckland Plan identifies Road Safety as a key 'liveable' transport outcome for the region, with a 2020 target of no more than 410 DSI.
- Auckland Transport's statutory purpose is to contribute to an effective, efficient, and safe Auckland land transport system in the public interest, and take all sufficient precautions for the general safety of the public and traffic and workmen employed on or near any road. This is achieved through the funding and delivery of local road safety activities and infrastructure in close collaboration with NZ Police enforcement activities and NZTA state highway activities.
- The strategic implementation of Auckland road safety is led by the RoadSafe Auckland Executive (Auckland Transport, Greg Edmonds; NZTA, Ernst Zollner; and Commissioner Allan Boreham, NZ Police) through the draft Auckland Road Safety Plan. This ensures a One Network approach is taken for delivery of an integrated programme of road safety activities via local Road Safety Action Plans.
  Note: Participants will change in this Executive group but will remain at a senior level.

Background

The Auckland transport network is a varied, complex and dynamic 24 hour system providing Aucklanders with a growing range of transport choices over a large geographic area. The road network services New Zealand's largest economic hub and fastest growing city and is subject to growth in population, transport demand, service expectations and network resilience challenges.

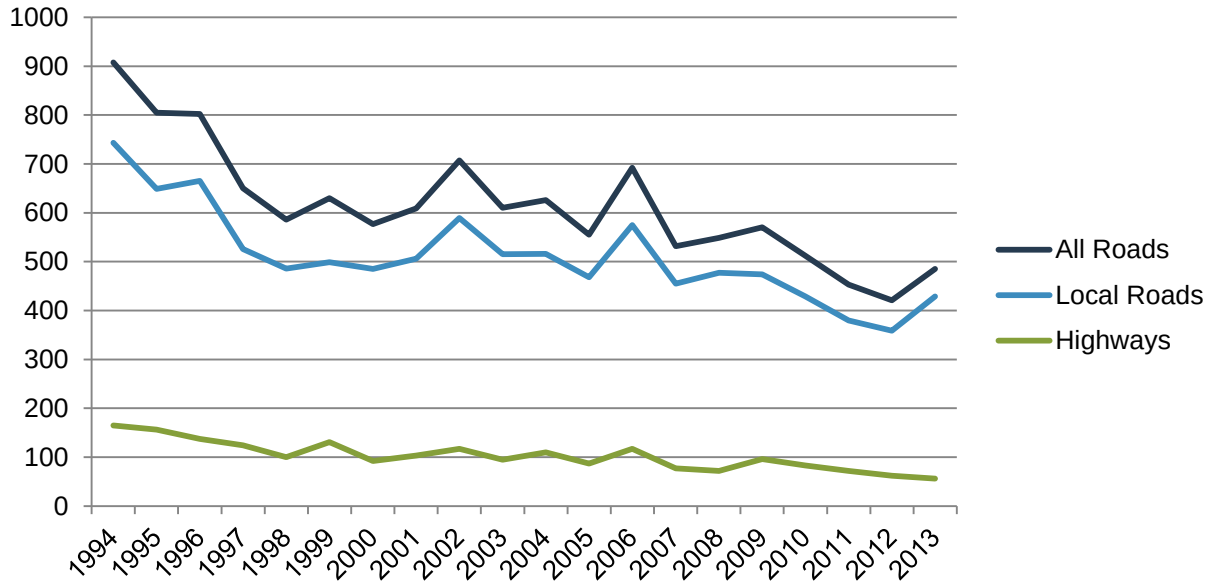
In the last twenty years Auckland Local Government, NZ Police and national Government agencies have worked collaboratively through an agreed Regional Road Safety Plan to successfully reduce Auckland DSI by 47% from 908 in 1994 to 485 in 2013. Over that same time period Local Road DSI reduced by 42% and State Highway DSI reduced by 66% (see Figure 1. Auckland DSI 1994 to 2013).

In the last five years Auckland road safety DSI progress has seen a steady 3% annual overall reduction but a concerning five year upward trend in walking and cycling DSI has emerged as these active transport modes have expanded. Local Road DSI continues to make up 88% of all Auckland DSI, the majority of which occurs on Local Urban Arterial Roads.

Key Auckland Transport road safety achievements since its formation in 2010 include:

- Increased investment in high-risk rural road safety improvements
- Improved reporting and response to fatal crash investigations
- Improved prioritisation of interventions to high-risk roads and intersections
- Increased use of road safety technology, safety cameras and risk-mapping
- Increased regional alcohol, speed, distraction, motorcycle and intersection safety education to support NZ Police enforcement
- Increased number of Safe School Travel Plans and School Speed Zones, leading to increased walking and cycling among children and young people.
- Strengthened relationships with road safety partners regionally through the establishment of the RoadSafe Auckland Executive leadership with NZ Police and NZTA, leading to more effective delivery of road safety activities in regional and local Road Safety Action Plans.

Figure 1. Auckland Road Deaths and Serious Injuries 1994 to 2013



Community and Road Safety

The CRS business unit's purpose is to deliver road safety engineering and education programmes that reduce Auckland road trauma, increases active travel modes and contributes to reduced congestion.

Key functions of the CRS unit are:

- **Road Safety Strategy and Performance** - Provide strategic integration of national road safety strategies into the Auckland Region's strategies, risk management and analysis and delivery of road safety action plans
- **Community Transport (CT) -** Is a dedicated behavioural change team that promotes transport alternatives to private vehicle use and delivers education and training programmes to improve road safety behaviour.

The team of 41 (including 17 fixed term contracts) includes community transport and school safety advisors.

CT collaborates with both internal and external stakeholders and works closely with key partners in delivering behaviour change programmes. It delivers specific local operational activities not otherwise delivered through central Government agencies.

The two key CT programmes include:

- *Safer Communities and School transport* – to improve road safety outcomes around schools and reduce car trips by promoting active travel and public transport options through the Travelwise and walking school bus programme.
- *Road safety education* – to deliver localised and regional road safety education initiatives with at-risk customers and key partners, targeting high-risk behaviours of drink-driving, speed, intersection safety, young driver, motorcycle, pedestrian and cycling safety. Leverage and support national education and NZ Police initiatives through delivery of local road safety interventions through local Road Safety Action Plans. Provide expert advice on road user behaviour change and integration with engineering programmes.

- **Road Safety Engineering –** undertakes investigation and design of safety engineering interventions at high risk corridors and intersections, fatal crash investigations and responds to operational issues on the network including customer service requests.

Please refer to Attachment 1 for further details associated with the functions of each team

Benefit Realisation and Management Plan

Auckland road safety benefits are derived from a combination of evidence-based investment in road safety *engineering* improvements, police *enforcement* and road safety *education* to reduce DSI. This co-ordinated approach equates to an estimated annual Auckland road safety investment of $111 million in 2013/14, delivered through the following agencies:

	Community and Road Safety Funding Allocations and associated FAR 2015 (Indicative NZTA funding)		
		NZTA Auckland	NZTA National Delivery
% Death and Serious Injury (DSI) by Road Type	88% of total Auckland DSI 7300km local road network	12% of total Auckland DSI 303km state highways	
Road Safety Engineering	$22,6M Capital 50% funded NZTA 50% funded AC	$6M CAPITAL 100% funded NZTA	
Road Safety Education and Promotion	$2.77M 50% funded NZTA 50% funded AC		*$19.3M 100% funded NZTA
Road Safety Enforcement Delivered by NZ Police		$80M - Delivered by NZ Police 100% funded by NZTA	

* Annual average of $58 million (2012-15 GPS) to deliver Safer Journeys Actions Plan and national road safety promotion programme

Each investment area has a particular impact on DSI outcomes and all three are coordinated to achieve an optimal mix of value for money and impact.

Road safety interventions that have the greatest effect relative to cost are targeted to high crash-risk areas.

- *Road safety engineering improvements* are typically at higher cost with a benefit to cost ratio between 5:1 and 10:1. While they require a reasonable lead-in time and can have technical constraints, once implemented they have a long-lasting safety impact.
- *Road policing investment* (enforcement and traffic management) is of a medium cost and has a benefit to cost ratio of up to 8:1. It has a very immediate effect on safety outcomes, but requires regular intervention and has some legal constraints. This programme is 100% funded by central Government.
- *Road safety education investment* (promotions, training and education) is of a low cost and has a benefit to cost ratio of up to 8:1. It is most effective when combined with road policing and/or road improvements and also requires regular intervention.

This investment combination has contributed (along with vehicle technology) to an annual average 3% reduction in DSI in the Auckland region from 2009 to 2013 with an estimated economic social cost savings of $136 million.

Additional benefits from this investment also include increased walking and cycling trips, and reduced crash-related and other congestion costs. (Attachment 2: Benefit Management Plan).

Looking to the next five year period 2015-2020, Auckland road safety challenges include increased walking and cycling DSI (including public transport connections), Mixed Use Urban Arterial DSI, semi-rural DSI on growing urban fringes and a potential increase in Older Road User DSI.

Community and Road Safety Operational (OPEX) Budget

The total 2015 operating expenditure for CRS is $9.76 million. A large proportion of the CRS Opex investment is allocated to staff time (64 staff including 17 CT fixed term contracts) with the remainder allocated to road safety engineering professional services, behaviour change programmes and other resources that enables delivery of work programmes.

The total 2015 Opex expenditure for the Community Transport part of the business is $6.53 million of which advertising and campaigns is $1.47 million with the remaining budget allocated to operational activities. This includes staff costs and other resources to support NZ Police activities, road safety and school resources (such as online tools) and events (Travelwise celebration).

The expenditure also supports staff costs in both Communications (market research and social marketing campaigns) and Marketing and Customer Experience (mainly associated with undertaking and evaluating school travel survey results).

As part of the review of the Community Transport operating model, consideration will be given to a reduction in advertising costs and opportunities for alternative funding sources (sponsorship) will be further pursued.

Programmes associated with CRS Opex are outlined in Attachment 1, including examples of projects and associated BCR's.

Nationally, Road safety promotion plays an important part of the total National Land Transport Investment Programme. (NLTP 2012-15) investment in safety, with an investment of $58 million during 2012-15 for NZTA-led activities such as the national advertising programme, and an

investment of $68 million led by Local Government for local promotion work. The draft GPS 2015-18 has allocated $103 million for road safety promotion activities, (excluding local share contribution).

NZ Police and NZTA also deliver a number of road safety related activities. NZTA national primary investment focus for the Road Safety Promotion is on national programmes and advertising while NZ Police primary focus is on enforcement – both targeting the Safer Journeys areas of high concern. Local Government's primary focus is on delivering local community based initiatives including:

- workshops, seminars or displays to raise awareness of national, regional and local land transport safety issues
- safety education in schools, driver education and information, walking and cycling safety
- advertising (e.g. billboards, radio, television, print, electronic and other media)
- delivery of education, advertising, awareness raising or public information initiatives that reinforce or complement related activities across the NLTP (e.g. integrated packages of activities)
- provision of integrated advice, information and support to community groups
- preparation and implementation of travel plans and neighbourhood accessibility plans where these address identified safety risks and are supported by infrastructure improvements

Community and Road Safety Capital (Capex) Budget

The total 2015 capital expenditure for CRS is $22.6 million, which represents approximately 4% of the total capital expenditure for AT (excluding the City Rail Link).

There are a number of programmes associated with the CRS portfolio. Further information is provided in Attachment 3 including the purpose of each programme, an example project and associated benefits. The CRS capital portfolio includes the following programmes:

- Safety Speed Management
- Safety and Minor Improvements
- Regional Safety Programme
- Safer Communities and Schools

The planned (Basic Network) forecast capital expenditure beyond 2015 is constrained and will have an impact on the ability to deliver on outcomes, operational activities and customer service, including key relationships with road safety partners NZ Police, NZTA and AA.

2015-25 capital expenditure under the Basic Network totals $182.3m - representing 4.0% of the ten year total (excluding the City Rail Link). Safety programmes have received a high ranking under the Integrated Transport Programme (ITP) prioritisation system, which supports their inclusion and the relative investment levels outlined in the Basic and Auckland Plan Transport Networks.

While the relative importance of safety programmes has been confirmed via the ITP, the constrained financial envelope underpinning Auckland Council's draft Long-term Plan results in reduced capital investment over the 2015-25 period. This is particularly relevant for the 2015-2020 period, where capital funding is most constrained. The following graph illustrates proposed capital expenditure under the Basic Network for the 2013-2020 period.

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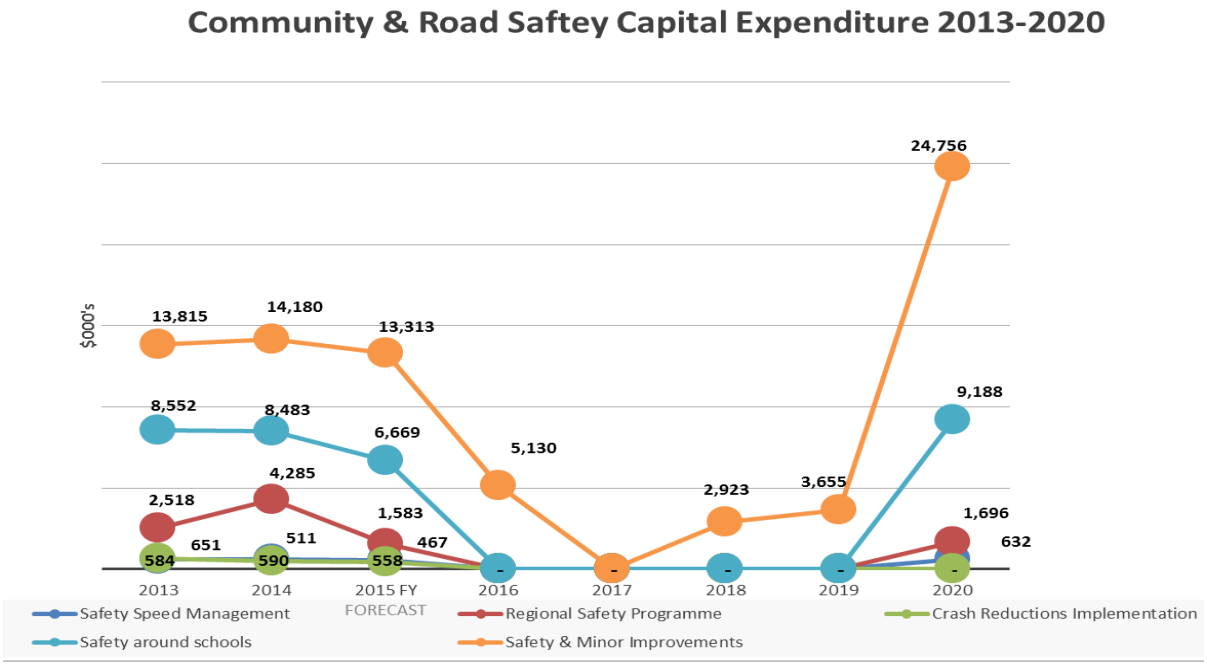
Basic Network planned Capital Expenditure (2013 – 2020) for CRS programmes



The constrained funding impact for each programme is outlined below:

- **Speed Management Programme** - Inability to continue to service proactive and reactive customer service requests relating to speed limit changes at high risk locations, areas of growth and to support developments. This also includes requests for delivery of improved speed management outside schools (200 requests for service per annum - excluding support to other AT projects and NZ Police), as well as NZ Police requests for road policing behaviour change support.

  By way of example, the Local Board and the Silverdale Business Association advocate for reduced speed limit on Hibiscus Coast Highway (HCH) and the signalisation of the intersection of Silverdale Road and HCH. While the signalisation of the intersection could not be justified at the time, a reduction of speed limit was investigated together with a rigorous consultation process and implemented with a successful outcome.

- **Safety and Minor Improvements -** Inability to deliver on low cost capital evidence-based improvements that supports traffic operations and safety (less than $300,000 per project). Our ability to be responsive to customer service requests (average of 7000 per year) is diminished, where infrastructure associated with these requests are warranted for delivery.

  By way of example, a customer requests a pedestrian facility, this is investigated and the number of pedestrians, traffic conditions and potential risks mean the project should be planned for delivery. This could include a new crossing facility to cater for increased connections to passenger transport facilities, address identified road safety risks and the need for a footpath. The programme delivers around 150 minor improvements in both rural and urban environments per annum.

- **Regional Safety Programme -** Inability to deliver on high risk intersections and corridors that support key initiatives outlined within the Governments Safer Journeys action plan. Risks are associated with increased crashes at identified locations, not otherwise addressed by major capital projects.

- **Crash Reduction Implementation –** Reduction in delivery on operational reactive work that addresses issues arising from fatal crash investigations. Investigations result in agreed immediate actions between NZ Police and AT following fatal crashes on our network, and are reported to the Coroner.
- **Safer Communities and Schools -** Considering that it is estimated that school travel makes up 20% of the travel journey times during the morning peak and that younger pedestrians and cyclists are identified as having a poor safety record, changes in the funding envelope will have an impact.

  There is a risk associated with the safety improvements provided for the Travelwise programme i.e. to progress improvements at 130 identified high risk urban and rural schools. Customer satisfaction as well as safety and congestion benefits will diminish. A number of schools across the region are expecting delivery of infrastructure in coming years to support, for example, a pedestrian facility on the journey to and from school to support a walking school bus. The Travelwise programme is also one of the Mayors initiatives.

Continuous Business Improvement

The recently established CRS business unit provides opportunity to deliver an integrated road safety portfolio, provide value for money and drive a more effective quality versus quantity approach.

The business is currently reviewing its operating model to identify further efficiencies and sees a number of relationship and safety risks that needs to be managed. This review is expected to be completed by the end of February 2015.

Attachment 1 outlines functions of the business units and programmes associated with the Opex programme for 2015 with examples of projects undertaken in this area, similarly Attachment 3 summarises the Capex Programme with a number of key projects being undertaken through the Minor Safety Programme, Regional Safety Programme and Safer Communities and Schools Programme.

Attachment

Number	Description
1	Operating Expenditure – Programme functions, benefit realisation and example
2	Benefit Management Plan
3.	Capital Expenditure – Programme functions, benefit realisation and example

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Document ownership

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Glossary

Acronym	Description	Business Unit
AT	Auckland Transport	
CRS	Community and Road Safety Unit	
CT	Community Transport	
DSI	Deaths and Serious Injuries	
GPS	Government Policy Statement	

Operating Expenditure

The table below outlines the Operating Cost for CRS and the indicative benefit cost ratio (BCR) against NZTA funding applications. A large proportion of the costs are associated with staff time.

Operating Expenditure 2014/15			
Asset Type or Activity	**Work Activity**	**2015-2019 BCR**	**Full Year Forecast 2015 ($000)**
Road Safety Strategy & Performance			
	Strategy & Performance		680
Total Road Safety Strategy & Performance			**680**
Community Transport			
Road Safety Education			
	Road Safety General		142
	Road Safety Alcohol	20	934
	Road Safety Motorcycling	7.9	243
	Road Safety Speed	6.5	704
	Road Safety - Safe Roads and Roadsides	27	749
Total Road Safety Education			*2,773*
Safer Communities & Schools			
	Young Drivers	75	650
	Travel Wise		2,776
	Walking School Bus	13.3	331
Total Communities & Schools			*3,757*
Total Community Transport			**6,530**
Road Safety Engineering			
	Crash Reduction Studies		300
	Regional safety program investigations		816
	Safety around schools investigations		1,438
Total Road Safety Engineering			**2,554**
Total Community Transport & Road Safety			$ 9,764.54

It is important to note that Community Transport Education initiatives have a high BCR, given that large benefits are derived relative to cost.

The following provides an overview of each of the activities and an example project associated with the CRS Operational expenditure.

Road Safety Strategy and Performance

The Road Safety Strategy and Performance team:

- Provide expert strategic integration of national road safety strategies with Auckland's strategies, plans and policies
- Provide the direction for road safety interventions through analysis, road safety risk management and research. Support AT and NZ Police crash data analysis.
- Develop road safety action plans that incorporate road safety actions associated with engineering, enforcement and education initiatives in partnership NZTA, NZ Police and monitor progress
- Develop business cases and funding applications

- Performance monitoring, evaluation of projects and reporting
- Speed management policy and investigation
- Lead and participate in national road safety policy, standards and guidelines
- Undertake submissions on behalf of Auckland Transport, on specific road safety initiatives e.g. review of the blood alcohol limit in partnership with Auckland Council and NZ Police
- Support the Roadsafe Auckland executive

The majority of the Opex cost is associated with staff costs with around $100,000 allocated for professionals services associated with speed management investigations.

Project example – Urban KiwiRAP

Auckland Transport is developing the Safer Journeys demonstration Urban KiwiRAP road assessment risk management tool for local roads as part of a national demonstration project led by the national KiwiRAP Committee.

KiwiRAP is part of an international family of Road Assessment Programmes (RAP) under the umbrella of the International Road Assessment Programme (iRAP).

Road Assessment Programmes consist of three protocols.

- **Risk Mapping** – using historical traffic and crash data to produce colour-coded maps to illustrate the relative level of risk on sections of the road network. This model is based on two fundamental protocols including:
  - *Collective Risk* is measured as the total number of fatal and serious crashes or DSI per intersection in a crash period
  - *Personal Risk* is the risk of DSI to each road user or vehicle using a particular intersection or corridor
- **Star Rating** – road inspections to look at the engineering features of a road (such as lane and shoulder width and fit for purpose for its function (identified through Network Operating Plans). Between 1 and 5 stars are awarded to road links depending on the level of safety which is 'built-in' to the road.
- **Performance Tracking** – involving a comparison of crash rates over time to establish whether fewer or more people are being killed or injured and determine if countermeasures have been effective.

This project has completed the first stage of *risk-mapping* and identified 9% of Auckland Local Roads where 53% of the DSI occur. This includes 83 Corridors (*158 km*) assessed as having High Collective crash-risk.

In addition, 46 urban intersections and 30 rural intersections assessed as having High Collective crash-risk according to the High-risk Intersection Guide (HRIG). These intersections represent 1% of all urban intersections and 4% of all rural intersections respectively.

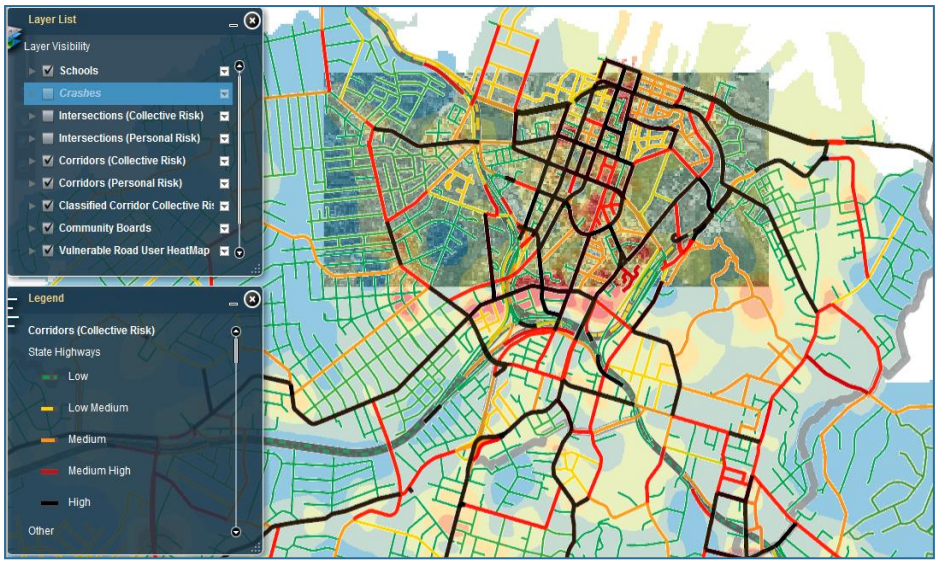


Figure 1: Risk map of the CBD. It is noted that the area has a number of high risk corridors and heat maps demonstrate the road safety issues associated with pedestrians and cyclists

Community Transport (CT)

CT purpose is to deliver transport options to customers to encourage alternatives to using their cars and deliver education and training programmes that improve road safety by:

- Providing strong links to local communities to address local issues. The team provides expert advice, for example, into outline plan of works around schools to ensure travel demand outcomes can be achieved.
- Provide support to engineering teams, for example, dealing with operational issues in conjunction with engineering interventions or addressing maintenance issues with respective AT teams. Two areas of focus are:

Safer Communities and Schools

According to Ministry of Education there are more than 760,000 students in Auckland schools, of which approximately 58% of students are driven to school, (2013 Ministry of Transport Household Travel Survey). It is estimated that 20% reduction in journey times are achieved during school holidays.

The purpose of this programme is therefore, to increase road safety around schools and to reduce car trips by promoting travel options through the Travelwise programme. The BCR of 13.3 includes both road safety and travel demand benefits.

Part of this process involves the development of Safe School Travel Plans and walking school buses. This plan includes a vision and practical interventions that will improve road safety, and increase walking, cycling, scootering, PT use and car-pooling.

This approach supports and encourages schools to incorporate road safety and transport options into their school culture, governance and long-term planning. Travelwise offers additional opportunities such as participation in regional activities and campaigns and teacher development, cycle training, and resources such as online tools.

The evaluation of 2014 Travelwise programme is underway and is yet to be independently audited. Early indications are that conservatively, a reduction in daily morning peak car trips associated with school travel is more than 17,000 compared to the 2013 baseline of 12,736.

In 2013 financial year the programme:

- Saved 2,596,000kms in car travel, $20.35 million a year on congestion, and 150,000 litres of fuel savings.
- Reduced CO2 emissions by 735 tonnes.
- Improved safety around Auckland schools – crashes involving pedestrians and cyclists aged 5 to 13 have reduced by 58% at active schools (Over a five year period)

Project example – Silverdale Primary

There has been extensive growth in the area leading to an increase in the number of children attending the schools with road safety issues raised by the local community.

A Safe School Travel Plan was developed and AT worked with the Local Board and the Board of Trustees to seek solutions to address key road safety issues in an integrated way by:

- Signalising the intersection of Millwater Parkway, Longmore Lane and Bankside Drive and a 40km speed zone was also installed. This speed zone is actively enforced by the NZ Police.
- Travelwise students and AT led education initiatives that promote transport choices such as walking, cycling or using public transport and safety. Park and walk trials have been introduced to improve safety around each school gate. Finally a walking school bus is being trialled at Silverdale School leading to an increase in walking to school.

Road Safety Education

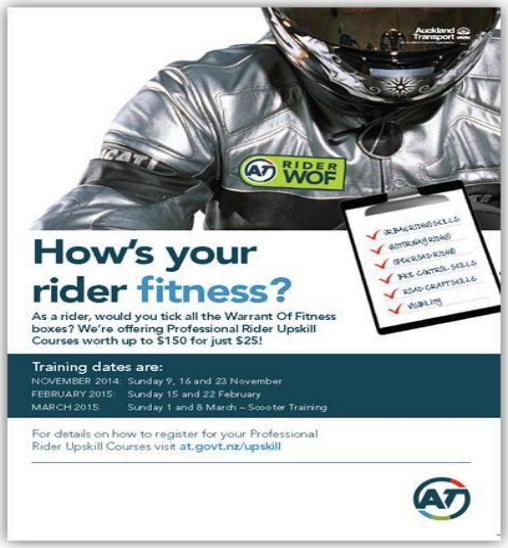
The road safety education team:

- Provides an integrated approach (NZ Police, engineering initiatives and other partners) in delivery of local and regional road safety education initiatives.
- The team works in partnership with NZ Police, for example, compulsory breath testing operations or works closely with ATOC and NZ Police at the NRL nines to deliver sober driving related operational activities.

Education campaigns such as the Safer Motorcycling campaign, requires intensive work with various stakeholders and on the ground community engagement initiatives. The advertising component is supported by Communications and Marketing, with the CT's being the specifier for the delivery of outcomes.

Project example – Motorcycling demonstration project

- Increasing the safety of motorcyclists is a high strategic priority identified in Safer Journeys. In Auckland from 2009-2013 motorcycle crashes accounted for 18% of all DSI crashes at an economic social cost of $414 million.
- The three year Regional Motorcycle campaign has been running since 2013 and targets both riders and other motorists to increase awareness of motorcycle safety. This campaign is a collaborative approach with key partners including NZTA, ACC, NZ Police and The Motorcycle Advisory Council with a benefit cost ratio project.
- Interventions include promoting safe riding, skills training, targeted enforcement and education with NZ Police and the identification of high risk motorcycle routes to promote safety improvements
- As part of the 2014/15 campaign the 'Ride smart. Never be surprised' safe riding video was released in October 2014. This video has since had over 67,000 views and has achieved the highest click through rate of any Auckland Transport campaign to date.



Road Safety Engineering (RSE)

Key activities associated with RSE include

- *Road Safety Expertise*

  The team provides operational and specialist advice into high safety risk resource consents, review and approvals of safety audits (required by NZTA for any capital project) across AT, customer and operational response to issues on the network. They are the specifier for road safety for AT.

- *Fatal crash investigation*

  On average 40 fatal crash investigations are carried out annually of which 60% result in safety engineering improvements. These reports provide expert advice to the Coroner.

- *Investigation and scheme assessment*

  The focus is investigating road safety issues at high-risk locations including high risk schools. Crash reduction studies are investigated in partnership with NZTA, NZ Police and CT. A programme of safety engineering improvements is generated for implementation that will provide reductions in DSI (Average 28% reduction at sites treated BCR of 5:1 to10:1).

The operating expense associated with the programme covers staff costs and investigation of both proactive and reactive work that enables delivery of strategic outcomes.

Project example – Railway Safety Crown Road

Heavy commercial vehicles using Crown Road and exiting onto SH22, Paerata (Pukekohe), are blocking the level railway crossing creating a significant safety risk. The railway crossing does not provide sufficient length for trucks to clear the level crossing when exiting onto SH22.

With the increase in passenger train travel to Pukekohe (as well as freight and longer haul passenger services), KiwiRail has raised concerns about the possible harm that may result if these vehicles continue to block the level crossing.

Road safety engineers investigated alternative routes more appropriate for use until a longer term solution could be implemented by NZTA. Substantial engagement with local businesses (Fonterra), NZTA and KiwiRail required in delivery of short term, low cost improvements.

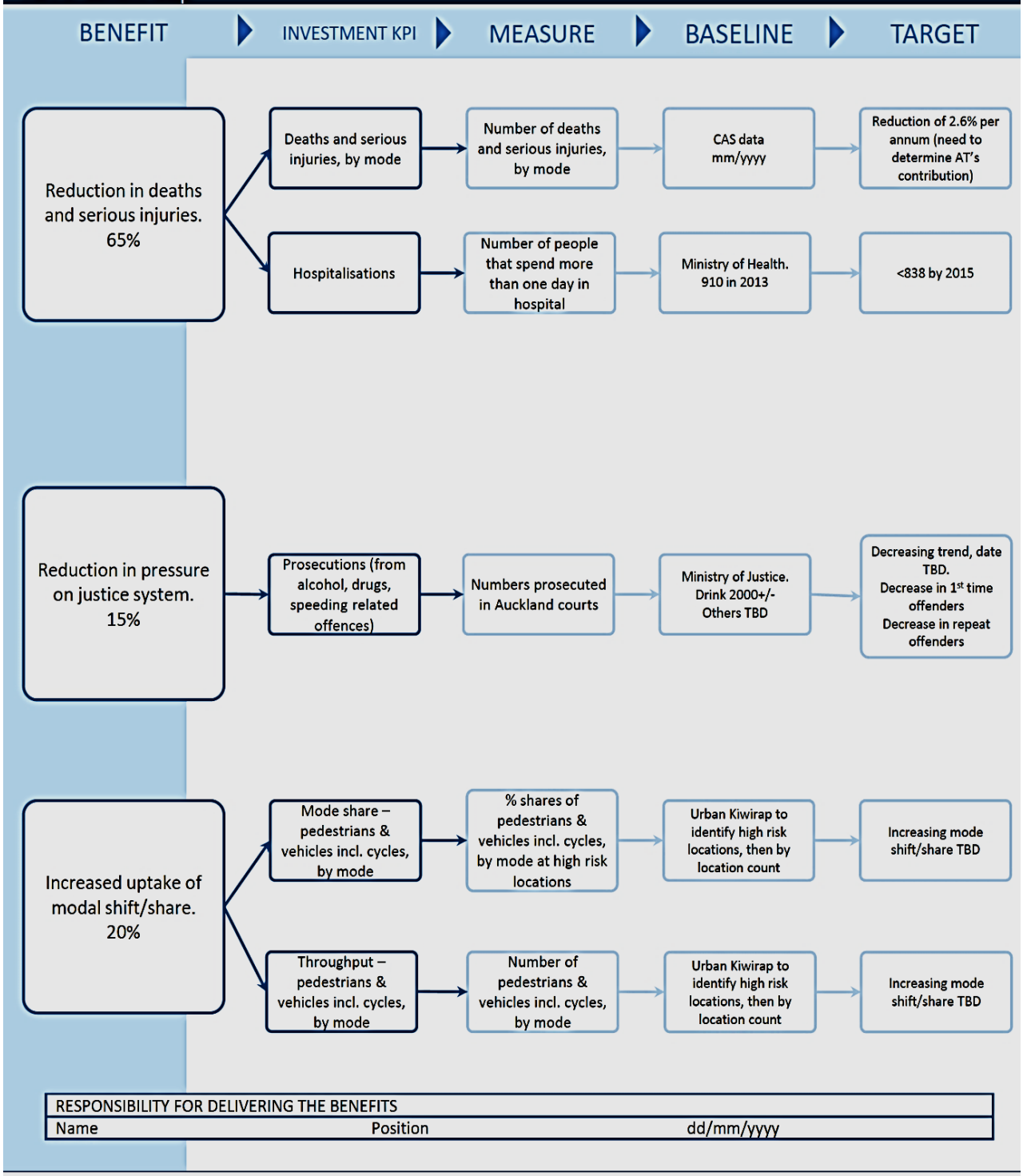
Benefit Management Plan

Auckland Transport

Auckland Transport Regional Land Transport Plan

Understanding the key safety issues across the Auckland Region

BENEFIT MANAGEMENT PLAN
Part 1: Benefit Map



RESPONSIBILITY FOR DELIVERING THE BENEFITS		
Name	Position	dd/mm/yyyy

Investor: Andrew Bell
Facilitator: Matt Barnes
Accredited Facilitator: No

Version no: 0.2
Initial Workshop: 25/09/2014
Last modified by: Matt Barnes 29/09/2014
Template version: 5.0

Capital Expenditure

The table below outlines the capital cost associated with safer infrastructure.

Capital Expenditure 2014/15			
Asset Type or Activity	**Work Activity**	**2015-19 BCR**	**Full Year Forecast ($000)**
Speed Management			
		5	558
Total Speed Management			**558**
Road Safety Engineering Interventions			
	Safety & Minor Improvements	*5	13,313
	Regional Safety Programme	7.9	1,583
	Crash Reductions Implementation	5.8	467
Total Road Safety Engineering Interventions			**15,363**
Safer Communities and Schools			
	Safer Communities and Schools	5	6,669
Total Safer Communities and Schools			**6,669**
Total Community Transport & Road Safety			22,590
* Conservative BCR - post evaluation of selected projects delivered indicated an overall BCR of 15:1			

A summary of the purpose of each programme is outlined below. In some instances example projects relating to the programme are provided**.** Across all the capital programmes, there are currently 295 projects with an estimated value of $58 million to be programmed for delivery from 2016.

Safety Speed Management

The Speed management programme targeted to proactive and reactive requests for service relating to speed limit changes at high risk locations, areas of growth or to support developments. This also includes requests for delivery of improved speed management outside schools (200 requests annually) - excluding support to other AT projects and NZ Police.

Safety and Minor Improvements- $6.4 million (50% allocated to Traffic Operations)

The Minor Improvement Programme includes a number of projects (intersections, pedestrian and minor cycling or motorcycling improvements (costs to be no greater than $250,000) that contributes to road safety and operational improvements at high risk intersections, roads and roadsides and targeted interventions to improve accessibility and safety for vulnerable road users.

Road Safety projects are targeted to where issues have been identified as having a *high-medium* collective risk as identified in the Urban KiwiRap model, *not* otherwise addressed by major projects.

Indicative allocation of project costs are outlined below:

	% Budget
High Risk Intersection Improvements	**30%**
High Risk Rural Road Improvements	**35%**
Other	**5%**
Walking and Cycling Improvements	**10%**
Loss of Control Crash Improvements	**10%**
Fatal Crash Investigations & Recommendations (Medium to Long Term)	**5%**
Speed Management Treatments	**5%**

Project example – Great North and Kiwi Road

Great North Road and Kiwi Road was identified as a high risk pedestrian site with four pedestrian related crashes (1 death, 2 minor injury and 1 non-injury) between 2008 and 2012 inclusive. In 2013 another pedestrian fatality occurred. The fatal crash investigation showed a significant increase in pedestrian demand given increased growth and development in the area.

Whilst previously a pedestrian refuge island existed, it was no longer appropriate. The investigation determined that a signalised pedestrian crossing be implemented. Given this key PT and vehicle corridor, integration within operational plans to optimise traffic flows was also implemented simultaneously. Cost of the signalised intersection was $170,000 with a BCR of 9:1.

Regional Safety Programme

The Regional Road Safety Programme is targeted to high risk intersections and corridors that support key initiatives outlined within the governments Safer Journeys action plan greater than $300,000.

Project example- East Coast Road between Torbay and Silverdale – (1.5million, BCR 5.2)

Treatment philosophy (why we did the project)

- High Risk Rural Roads are a key target area of the “Safer Journeys” document
- Shift from reactive to proactive approach - Risk reduction
- Hierarchy based approach (Arterial network – Higher risk arterials require higher investment compared to lower risk rural roads where low cost mass action treatments may be appropriate)
- Consideration of all road users and transport modes

Site selection (why we treated this road)

- East Coast Road was ranked by NZTA / AT in 2011 as having the third highest Risk in the Auckland Region
- The focus of this route treatment was the Rural / Urban fringe where higher speeds and more severe injuries were occurring
- Treatments aimed to address identified safety issues but also support traffic growth due to developments like Long Bay, Silverdale North and Weiti Station
- It is also a key school bus route

Rationale (How we did the project)

- Route treatment – Six crash cluster sites + route consistency in one combined project
- Guided by the Corridor Management Plan as well as road safety issues and local community concerns
- The aim was to focus on reduce crash numbers, reduce severity of injury and provide separation for different transport modes where possible
- Considerations for cyclists, school children and protection of roadside hazards

Treatments (site specific information)

- *Speed management* – reduced speed = reduced harm (speed limit changes, additional speed limit repeaters, driver feedback signs, slow pads, enforcement areas for mobile speed cameras)
- *Black spot treatments* – Gated curve warning signage, chevron boards, improved skid resistance
- *Intersection improvements* (Right turning bays at key intersections, advanced intersection warning signage, flag lighting, use of higher specification paint for intersection controls)
- *Cross section improvements* – narrow lanes to reduce speeds and provide wider shoulders, future proof for cycle lanes, backfill deep drains where possible
- *Hazard removal or protection* (tree removal, backfill deep drains, use of guardrails)
- *Separation of transport modes* (Bus stops, Bus shelters, footpaths for school children alighting from buses and broken yellow lines to improve sight distances)
- *Road marking and delineation* (tactile road marking, no overtaking lines, 150mm wide edge lines, long life paint for edge lines and red raised pavement markers through crash black spots, wide centreline markings.

Typical treatments – Regional Safety Programme

Before photo – wooden rail impacted by vehicle providing inadequate protection

After photo – Intersection warning sign, Slow pad and guardrail installation

Before photo – non recoverable slope near Okura River Road where vehicles have left the road

After photo – installation of guardrail near Okura River Road to protect non recoverable slope

Crash Reduction implementation

The programme delivers on minor unplanned reactive work associated with fatal crash investigation (in partnership with the NZ Police, Serious Crash Unit) where road environment factors identified require urgent. The costs for any maintenance/renewal activities are borne by Road Corridor maintenance teams.

Fatal crash investigations reports are written on each occasion and provided to NZ Police. These are incorporated with the NZ Police reported to the Coroner's office. Follow up actions are also reported.

Where maintenance issues are identified, these are remedied by the Road Corridor Maintenance team, with new works delivered through capital programmes. In some instances the programme type and outcome will result in the project being delivered through other capital programme, depending on nature and cost of the particular project.

Project example – Crash reduction implementation

Glenbrook Road and Kingseat Road Intersection was identified a high risk intersection with 30 reported crashes over a five year period. Following a double fatality at the intersection, road safety engineers undertook a fatal crash investigation with NZ Police. Concerns were also raised by the Local Board and local residents regarding safety at this intersection.

Short term recommendations were implemented including reducing the speed limit using a trial variable rural intersection warning sign – as part of a national trial, a first in New Zealand, which has demonstrated benefit in reducing crashes at these locations. A roundabout was subsequently installed and the signs assigned to another high risk rural intersection.

The Community Transport team and NZ Police also undertook local community engagement and education to support this engineering intervention.

Safer Communities and Schools

The purpose of this programme is to provide infrastructure improvements that support improved road safety and reduce car trips by promoting travel options through the Travelwise programme. Benefits of the programme are outlined within the Community Transport section (Attachment 1) of this report.