Strategic Case

Strategic Assessment

Safer Journeys – Delivering Safe Roads & Roadsides for the State Highway Network as part of the NZ Transport Agency’s response

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<table>
<thead>
<tr>
<th>PREPARED BY:</th>
<th>REVIEWED BY:</th>
<th>ENDORSED BY:</th>
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<tbody>
<tr>
<td>Sarah Cronwright</td>
<td>Rosalie Orr</td>
<td>HNO VAC</td>
<td>NLTP Advisory Group</td>
</tr>
<tr>
<td>Colin Brodie</td>
<td>Matt Barnes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neil Cree</td>
<td></td>
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<th>P&amp;I CASE MANAGER</th>
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Executive Summary

Despite substantial progress over the last 30 years, New Zealand still lags behind many other countries in road safety. Every year, hundreds are killed on our roads and nearly 2,900 people are seriously injured crashes on our State Highways makes up a significant proportion. Approximately 13,000 New Zealanders suffer minor injuries as a result of road crashes. These numbers reflect lives lost and ruined in what are mostly preventable outcomes, but they do not show the effect of these crashes on families, the wider community and the health system. Road crashes also have an economic impact – the annual social cost of crashes is estimated to be $3.8 billion. (Safer Journeys2020)

Our roads and roadsides are unforgiving of people making mistakes which results in a high number of deaths and serious injuries. This has a significant impact on families, communities and the health system with a corresponding high social cost.

Safer Journeys, NZ’s Road Safety Strategy to 2020 was released in March 2010. Safer Journeys outlines the Safe System approach which is expected to significantly improve road safety over the long term, but requires substantial change in how we think about and manage road safety. The Safer Journey’s vision of a safe road system increasingly free of death and serious injury covers the period 2010-2020 with the goal of embedding the Safe System approach and moving a long way towards realising the vision by 2020.

The Safe System framework includes 4 elements (sometimes referred to as pillars) which are; safe roads and roadsides, safe speeds, safe vehicles and safe road use. All system designers such as planners, engineers, policy makers, enforcement officers, vehicles manufacturers and importers need to accept that that humans make mistakes and they need to share the responsibility for road safety outcomes by ensuring that crash forces are managed within the tolerances of the human body to withstand those forces.

The key activities within Safer journeys are being delivered through a series of action plans. The focus of the action plans is on those initiatives that will have the greatest impact in reducing crashes and trauma.

The NZ Transport Agency is involved in Safer Journeys at many levels including working across sector to embed the Safe System approach and many of the action plan deliverables. The Highways and Network Operations Groups (HNO) primary area of influence and responsibility in the implementation of the plan is within the safe roads and roadsides area to make these more predictable, forgiving of mistakes and encourage safe user behaviour, with an emphasis on reducing the highest risk crash types: head-on, run-off road, intersection crashes, and crashes involving pedestrians and cyclists.

The Purpose of this Strategic Business Case

Progress toward delivering against HNOs actions within the Action Plan requires improved co-ordination to achieve NZTA’s short and medium term objectives. Two of the key roads and roadsides deliverables within the first two action plans relate to high risk rural roads and high risk intersections. These are the most developed in terms of a state highway response and have the potential to make an early contribution to the Safer Journey’s 2020 vision. This Strategic National Business Case has been developed as a pragmatic approach
to focus HNO’s efforts. It will inform the programming of activities within the State Highway Asset Management Plan (SHAMP) and will assist with the coordinated implementation of activities in a manner that will target and optimise the outcomes.

We acknowledge that the focus of this Business Case is a component of a wider suite of interventions within the transport system. It is not intended to include responses from local government, police or other stakeholders to the Safe roads and roadsides Action Plans. However, during the process of developing the Sub-Programme Business Cases we will engage with partner agencies to ensure the programme options are complementary and align with the wider suite of initiatives, provide the most effective response and the best value for money. Programme options/activities considered as part of the business case process will be subject to alignment with the NZTA’s Strategic Framework, the Investment and Revenue Strategy and the investment assessment and prioritisation framework. As we move to a more transport system based approach and our understanding of the significance and consequence of intervention options develops we expect that other business cases will be developed such as high risk motorcycle routes, mixed use arterials and speed management.
1 Introduction

This strategic assessment outlines the strategic context for the investment proposal and the case for change. It seeks approval to develop a programme business case to deliver against the NZTA’s commitments to Safer Roads and Roadsides as partner to the Safer Journeys Strategy 2010-2020. This strategy aims to contribute towards reducing the number of road users that are killed and seriously injured on our state highways annually to minimise the social harm and economic impact of road crashes. A formal Investment Logic Mapping process as part of the Strategic Case has not been undertaken as the problems/benefits and strategic drivers for the investment have been considered and developed, as part of the Safer Journeys strategy, over a substantial period and are already well advanced and formally supported by the NZTA.

2 Partners and Key Stakeholders

The National Road Safety Committee (NRSC) is a group of government agencies with responsibilities for road safety. These members are: the Ministry of Transport, the New Zealand Transport Agency, the New Zealand Police, the Accident Compensation Corporation and Local Government New Zealand.

The NRSC is the principal public sector forum for communicating, co-ordinating and agreeing upon top level strategy between agencies on road safety issues. The NRSC developed and is responsible for implementing New Zealand’s Road Safety Strategy, Safer Journeys and the Safer Journeys action plans.

The organisations that make up the NRSC work with many organisations (public and private sector) with an interest in road safety.

3 Strategic Assessment - Outlining the Need for Investment

3.1 Defining the Problem

Our state highway roads and roadsides are unforgiving of people making mistakes which results in a high number of deaths and serious injuries. This has a significant impact on families, communities and the health system with a corresponding high social cost.

Despite substantial progress over the last 30 years, New Zealand still lags behind many other countries in road safety. Every year, hundreds are killed on our roads and nearly 2,900 people are seriously injured crashes on our State Highways makes up a significant proportion. Approximately 13,000 New Zealanders suffer minor injuries as a result of road crashes. These numbers reflect lives lost and ruined in what are mostly preventable outcomes, but they do not show the effect of these crashes on families, the wider community and the health system. Road crashes can also have an economic impact – the
annual social cost of crashes on the state highway network is estimated to be around $1 billion per annum.

3.2 The Benefits of Investment

*Improving our state highways by focusing safety improvements on high risk rural roads and high risk urban intersections will lead to a reduction of deaths and serious injuries.*

Launched in 2010, Safer Journeys is a strategy designed to guide New Zealand's efforts to improve road safety from 2010–2020. Its vision is for:

“A safe road system increasingly free of death and serious injury”

Social wellbeing is enhanced as people are able to use a safer transport system; and the social cost of crashes on the economy is reduced.

3.3 The Key Performance Indicators

It is important that the potential benefits of successfully investing are able to be assessed and measured in order to demonstrate optimum programme development and activity/option selection. It is also important in order to evaluate the success of addressing the issues or opportunities once an investment has been implemented. Whilst specific targets will be developed in the Programme Business Case the KPIs below are proposed to be adopted and developed.

- Collective Risk: Total State Highway Deaths and Serious injuries
- % State Highway network by KiwiRAP rating bands by State Highway classification

3.4 Status of the Evidence Base

Whilst over the last three years, the safety resources in HNO have been targeted towards high risk sites in accordance with Safe Journeys, in reality very few corridors or intersections have seen a step change in how forgiving they are. This can be evidenced through an almost static rate of deaths and serious injuries on the state highway network over the last 3 years. On average over the last 3 years (2010-2012), we still had approx 970 reported deaths and serious injuries (DSIs) on the state highway network with a total social cost of $1.04 Billion pa. Of these 970 DSIs around 820 (85%) occurred on the rural state highway network and 840 (87%) were from head-on, run-off road, and intersection crashes.

4 Strategic Context

4.1 Safer Journeys Overview & Progress to Date

Safer Journeys, NZ’s Road Safety Strategy to 2020 was released in March 2010. It introduced the concept of the Safe System approach. The Safe System approach has at its core the recognition that humans do and will continue to make errors while using the road system.
Safer Journeys is being implemented through a series of action plans which allocate responsibilities to NRSC members. These plans set out the actions we will take and the expected timings and responsibility for implementation. They also detail how progress will be monitored and actions evaluated.

Some very good road safety gains have been made over the last 8 years with much of these being on the state highway network. However, despite the NZTAs commitment to Safer Journeys the work which has been undertaken, or is currently in process, within HNO to deliver on the Safe Roads and Roadsides element of the Action Plans has been fragmented and not as coherent, directed or resourced as it could be to achieve the strategic direction given by the NZTA Board. This has led to reduced effectiveness of our capability to deliver on Safer Journeys vision.

To assist in identifying the most effective improvements three guides have been developed to date. The High Risk Rural Roads Guide, Safer Journeys for Motorcycling Guide, and the High Risk Intersection Guide all strengthen our approach to targeting high-risk roads and roadsides. They provide robust tools to guide investment and improvements. Many of the initiatives identified will be opportunities and actions for improvement on the State highway network and are, therefore, the responsibility of HNO to implement changes.

The State highway network involves over 11,000 kilometres (12% of the nations road network), carries approx. 49% of all traffic and accounts for over half of all road fatalities. In terms of outcomes, progress has been mixed. The rate of fatal or serious injuries has decreased most on the state highway network with less progress on local roads. However, we still have 970 deaths and serious injuries on the State Highway network each year from head-on, run-off road and intersection crashes, which indicates opportunities for improvement. Whilst local authorities are also expected to target improvements within their networks the focus of this Strategic Case relates to the State Highway network but does not preclude other parties meeting their Safer Journeys obligations. Engagement with our Safer Journeys partners will ensure a “one network” approach is taken when identifying sub-programme options. We anticipate that local authorities will similarly be working toward delivering improvements as indicated within the Safer Journey Safe Roads and Roadsides Action Plans.

4.2 2013-2015 Action Plan
The 2013-2015 Action Plan aims to make long-term gains from actions that will:

- advance the Safe System approach
- address speed as a cause of road death and serious injury
- improve roads and roadsides
- improve the safety of the New Zealand vehicle fleet
- reduce crashes caused by impaired road users

The Safer Journeys Action Plan contains milestones set by the NRSC.

By 2016 partners have agreed to identify the intersections and roads with the greatest collective risk, and safety improvements made or programmed. Partners have also committed to paying particular attention to other road types associated with high-risk crashes, such as mixed-use urban arterials.

As a party to the Safer Journey Strategy there are a number of key actions that the NZTA has signed up to as part of the wider strategy:
- Identify and improve high-risk intersections
- Improve high-risk rural and local roads
- Reduce risk on high-risk motorcycling routes
- Ensuring optimal road safety benefits by prioritising investment in operations and maintenance.

4.2.1 Identify and improve high-risk intersections

The Action Plan commits the NZTA to using the High Risk Intersection Guide to identify and target the 100 highest-risk intersections (including local roads) to develop solutions for 30 by Sept 2014 and improve 20 by June 2015. It requires a programme to be developed to improve at least 8 state highway intersections in the course of the 2013-2015 plan as approx 40% of the highest risk intersections are on the SH network. Intersection crashes account for 230 (24%) of the state highway deaths and serious injuries. In addition to the Top 100 intersection list, there are many other state highway intersections classified as high risk by the high risk intersection guide. These will also be identified where appropriate and considered when formulating the programme.

4.2.2 Improve high-risk rural roads

Head-on and run-off rural road casualties, which result in approx 520 DSI's pa on the state highway network will be identified and targeted using the methods and treatments outlined in the High Risk Rural Roads Guide (HRRRG). With KiwiRAP and our SafetyNET tool we have identified that 60% of these deaths and serious injuries occur on 40% of the state highway network that carries 77% of the state highway traffic. These are primarily national and regional strategic corridors. Within these are a subset of approx 2000km of roads deemed to be high collective risk in terms of the IRS and HRRRG. These are the corridors where the efforts will be targeted.

4.2.3 Reduce risk on high-risk motorcycling routes

Addressing high-risk rural roads and high-risk intersections will include using the Safer Journeys for Motorcycling Guide and working with the Motorcycle Safety Advisory Council to devise solutions to reduce motorcycle deaths and serious injuries. The Coromandel Motorcycle Safe System demonstration project is being developed to improve our understanding of the effectiveness and costs of treatments and this will be extended to other corridors over time. Whilst not specifically covered by this business case, there is likely to be some overlap with high risk rural roads and high risk motorcycling routes, an example is SH2 over the Rimutaka’s, where the interventions will take account of the motorcycle issues and risks and ensure optimal road safety benefits by prioritising investment in operations and maintenance.
4.3 NRSC Milestones

The NZTA has, as a party to the NRSC signed up to the following milestones:

- In accordance with the action plans, work will continue on targeting our effort to high risk rural roads with interventions that will provide the greatest reductions in run-off road and head-on risks,
- In 2013 a high-risk intersection programme will be developed and launched (100 highest risk intersections identified and communicated).
- Over 2014/15 the following will be delivered:
  - By September 2014 solutions will be developed for at least 30 high-risk intersections.
  - By June 2015 at least 20 high-risk intersections will be improved as per agreed solutions.

The current Government Policy Statement on Land Transport Funding (GPS) and the NZ Transport Agency Investment and Revenue Strategy, investment in operations and maintenance prioritises safety outcomes. We expect this to continue in the next GPS.

4.4 Organisational Outcomes, Impacts and Objectives

Focusing on our Safer Roads and Roadsides commitments, and identifying the high and medium collective risk corridors and intersections and developing a more coherent programme, will ensure NZTA meets its Safer Journeys obligations.

Whilst the Safer Roads and Roadsides Strategic Case and subsequent National Programme Business Case will provide the basis for focusing our efforts on addressing safety as a primary objective we need to be mindful of wider organisational objectives which we will seek to leverage opportunities that align with other NZTA strategic priorities (such as High...
Productivity Motor Vehicle Routes) and local network connections where applicable. These will be identified in sub-programmes once the National direction has been established and confirmed.

4.5 Alignment to NZTA’s strategy, long term goals and short term priorities

As outlined above, there is an extensive strategic background to this business case, being the Safer Journeys and Safe System approach. This Strategic case is directly aligned with the NZTA’s desired outcome of a:

“safe and responsible transport sector which reduces the harms from transport”

4.5.1 NZTA Organisational Goals and Statement of Intent (SOI)

At a high level, two of the NZTA’s long term goals are to “shape smart transport choices” and “deliver highway solutions for customers”. Within these goals the organisation has identified a medium-term objective to “Embed the Safe System approach to create a forgiving land transport system that accommodates human error and vulnerability”.

Objective 4 of the SOI is to “Implement the Safe System approach to create a forgiving land transport system that accommodates human error and vulnerability......we will continue to embed the Safe System approach into our business and across the sector to ensure our decision making frameworks, partnerships with stakeholders and the public deliver safe speeds, safe roads and roadsides, safe vehicles and safe people.”

Objective 5 of the SOI specifically states “at least 20 high-risk intersections are improved as per agreed solutions (Note: this is a shared desired result with local government)”. Our Statement of Intent also identifies a series of short term result areas including:

- By 2013/14 – The remaining actions from the 2011/12 Safer Journeys Action Plans are progressed.
- By 2016 – The seven ‘cross-sector enabler’ actions in the Safer Journeys Action Plan 2013-15 are successfully implemented

4.5.2 The National Land Transport Programme & Investment Priority

The National Land Transport Programme (NLTP) 2012-15 includes a number of programmed actions to improve high-risk roads, particularly on state highways, using the interventions from the High Risk Rural Roads Guide (which covers all non-urban roads). Other initiatives such as Safe System Signature Projects may also include actions to improve roads and roadsides. A high risk motorcycle demonstration project is also being developed in the Coromandel Peninsula and KiwiRAP is being trialled on urban corridors to assist with risk targeting and understanding vulnerable road user risks.

A review and alignment of funding arrangements within the GPS, NZ Transport Agency and Territorial Local Authority funding procedures is underway to ensure sufficient ongoing investment priority for essential operational and maintenance costs associated with safety improvements. The review is important because Safe System improvements such as improved skid resistance, electronic curve warning signs, audio-tactile markings, variable speed signs and safety barriers carry increased operational and maintenance costs.

The programme identified from this Business Case will inform the development of the State Highway Activity Management Plan (SHAMP) and HNO’s programme for submission to the 2015-18 Regional Land Transport Programme process.
The NZTAs Investment and Revenue Strategy is the investment prioritisation tool that is used to ensure we invest in activities that collectively achieve the impacts set out in the GPS. The Programme Business Case developed as part of this Business Case will be assessed by the NZ Transport Agency’s Planning and Investment Group using its Investment Framework and taking into account the wider range of interventions to ensure any investment will achieve the desired outcome.

5 Summary and Anticipated Strategic Fit

5.1 Summary

The indicative Strategic Fit is assessed as High because it aligns with Safer Journeys government strategy which aims to avoid death and serious injuries. This Strategy is reflected in sector direction and NZTA priorities articulated in its Statement of Intent 2013.

The National Programme Business Case is anticipated to include an optimal mix of corridor and intersection improvements that will focus on the highest priority problem areas and where the greatest outcomes can be achieved. At the sub-programme level, once the National Programme is supported it is expected that an optimal mix of alternatives and options will be developed with our stakeholder partners. The sub-programmes will consider a broad mix of activities that will contribute toward the Safer Journey’s vision of “A safe road system increasingly free of death and serious injury” and will include consideration of wider corridor goals.

This National Business Case is being developed specifically to give impetus to delivering on the Safer Journeys outcomes sought in the Roads and Roadsides space. As such, the activities are anticipated to be primarily infrastructure based albeit they may be supported by activities from within the other pillars if and where appropriate.

5.2 Indicative Assessment Profile

An assessment of the indicative Strategic Fit has been undertaken in accordance with the NZTA Investment and Revenue Strategy. In discussion with P&I partners to this Strategic Case it is proposed that the indicative Strategic Fit would be High because it aligns directly with Safer Journeys strategy and NZTA’s Statement of Intent and has potential to significantly reduce the actual crash risk or predicted crash risk involving deaths and serious injuries:

- it will be a key component of an NZTA supported strategy.
- it will be part of a whole of network approach.
- it will improve integration where appropriate to the activity.
- it will provide a solution that successfully integrates land transport, land use, other infrastructure and activities, where appropriate to the activity.
- it will support networks from a national perspective, where appropriate to the activity.
it will provide a solution that significantly contributes to the safety expectation within the GPS.

the role of freight, public transport, walking and cycling and local access will be considered to ensure multiple transport outcomes and objectives are optimised.

it will identify the priority areas where the greatest change and contribution towards the outcomes sought can be achieved.

improvements identified within the sub-programme (subject to supporting evidence) will have the potential for a significant reduction in the actual crash risk or predicted crash risk involving deaths and serious injuries in accordance with the Safer Journeys strategy and deliver wider corridor outcomes identified at the sub-programme level.

a number of identified improvements are on high risk rural roads and high risk intersections. It is expected that a programme of the most worthy treatments/projects will be selected to cumulatively deliver on the programme outcomes of a reduction in deaths and serious injury.