SH1 Picton to Christchurch (Ashley River Bridge) Strategic Case

Andrew James

29 March 2016

Above: SH1 Kaikoura coastal section

Below: Weld Pass

NZ TRANSPORT AGENCY WAKA KOTAHI

New Zealand Government

Approval

PREPARED BY:	REVIEWED BY:	ENDORSED BY:	ENDORSED BY:
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DATE:	**DATE:**	**DATE:**	**DATE:**
	7 March 2016, 16 March 2016	21 March 2016, 6 April 2016	14 April 2016

EXECUTIVE SUMMARY

The New Zealand Transport Agency has undertaken the Strategic Case for State Highway 1 (SH1) between Picton and Christchurch (Ashley River, Waimakariri District) as part of work included in the 2015-18 National Land Transport Programme. SH1 from Picton to Christchurch is a national strategic route and has a critical freight task to ensure efficient supply chains between the North Island via Picton, Lyttelton Port, Christchurch International Airport, and other urban centres.

The business case has enabled agreement on the fundamental strategic problems and potential benefits to provide a platform for prioritising future network interventions.

The key partners determined that the southern end of the study should terminate at the Ashley River Bridge (approximately 25km north of Christchurch) rather than in Christchurch to better reflect the overall journey characteristics of the route. They also acknowledged SH1 south of the Ashley River Bridge is subject to separate transport strategies within the Greater Christchurch Urban Development Strategy area.

The problems identified along with their weightings (in brackets) are:-

Problem 1: **A growth in freight traffic and changing mix of vehicle types[1] is resulting in travel time delays with economic impacts (20%),**

Problem 2: **Key sections of State Highway 1 are vulnerable to closure from forces of nature and crashes, resulting in delays and economic impacts (30%),**

Problem 3: **State Highway 1 is an unforgiving route in places underestimated by time-constrained drivers, which results in fatigue, risk-taking and growing number of crashes (40%), and**

Problem 4: **Increasing traffic on State Highway 1 through urban areas is impacting local community safety (10%).**

The key partners identified the following potential benefits of successfully addressing these problems, along with their weightings (in brackets):

- **Improved predictability of travel times (30%),**
- **Reduced economic impact of road closure (20%),**
- **Improved road user safety (50%).**

Findings from the analysis of evidence support problems 1, 2 and 3. Evidence indicates that:-

1. The freight route from Picton along the east coast of the South Island is the primary freight route in the South Island.
2. The route has a high percentage and growing number of heavy commercial vehicles (HCVs) relative to total traffic volumes and a growing number of agricultural and tourist vehicles.
3. There are a number of locations on the route where commercial vehicle speeds are slow, resulting in inefficient freight transport and unreliable travel times for others (which is particularly critical for ferry traffic).
4. The high proportion of slower moving vehicles and lack of safe passing opportunities results in queues of traffic and traffic delays.
5. SH1 is particularly vulnerable to hazards resulting in temporary road closures and longer term risks to route security from coastal inundation, land slips, river processes/flooding, and snow.

[1] Vehicle types include HCVs and tourist vehicles (coaches and campervans) going to and from ferries and agricultural vehicles (from wineries etc.) that often travel slower than other vehicles.

6. Crashes, particularly truck crashes, are frequent in the elevated sections of the state highway causing temporary road closures and delays.
7. The remoteness and mountainous terrain mean there are few appropriate detour routes available when road closures occur.
8. Weld Pass (along the South Kaikoura coast), the Hundalee Hills and Cheviot Hills are particularly challenging sections of the state highway due to the steep, hilly terrain that results in a number of crashes.
9. Contrary to problem statement 3, evidence shows that crashes are down in recent years. However, the available KiwiRAP star ratings and the current crash rate suggests that there is scope for road safety improvements.

Problem 4 is only partially supported by evidence although further interrogation and analysis is recommended to help inform the next phase of the investigation: The evidence relating to problem 4 is:-

10. There have been substantial increases in urban state highway traffic growth in Blenheim and Amberley, although traffic growth in Picton, Kaikoura and Cheviot is less significant.
11. A review of recent crash severity data doesn't indicate that community safety is a significant problem at this time.

An assessment of the anticipated Strategic Fit and Effectiveness has been undertaken in accordance with the Transport Agency Investment Assessment Framework, based on problem statements 1, 2 and 3, and determined that the indicative profile is **H/M-[2].** This indicates the investigation should progress to the Programme Business Case (PBC) phase.

[2] The ranges of ratings are L (low), M (medium) and H (high). More information on the Investment Assessment Framework is available at https://www.pikb.co.nz/assessment-framework/2015-18-nltp-investment-assessment-framework-overview/ ,10 November 2015

PART A – THE STRATEGIC CASE

1. INTRODUCTION

1.1 Purpose of the Strategic Case

The purpose of this Strategic Case is to determine the need for further investment and propose the next steps in the business case process. It identifies the problems, benefits and key performance indicators determined by the Transport Agency and its key partners, examines available evidence, and considers the findings in terms of the Transport Agency's Investment Assessment Framework.

1.2 Background

The SH1 Picton to Christchurch Strategic Case covers the geographical area between Picton (RP0[3]) in Marlborough and the Ashley River Bridge (RP311) in Canterbury (see Fig 1).

This is a 300km section of SH1 with an average journey time of approximately four hours. It includes the main urban areas of Picton, Blenheim, Kaikoura and Amberley. It has steep hilly sections at Weld Pass, Seddon Hills, the Hundalee Hills and the Cheviot Hills. It also has long narrow windy sections along the Kaikoura coast. The state highway traverses four territorial local authorities (Marlborough, Kaikoura, Hurunui, and Waimakariri districts), and two regional authorities (Marlborough District Council and Environment Canterbury).

Figure 1 SH1 Picton – Christchurch (Ashley River Bridge)

SH1 is classified as a National Strategic High Volume state highway and is a high productivity motor vehicle (HPMV) route. There are important state highway connections with SH62, SH6 and SH7 that link SH1 with Nelson, Tasman and the West Coast and important tourist destinations such as in Kaikoura.

Traffic volumes range from 2,500 to 4,000 vehicles per day (vpd) for most of the route, but grows to nearly 11,000 vpd near the urban centres of Blenheim and at the southern sections nearer to Christchurch. HCVs typically range between 16 – 20% of overall traffic for the rural sections of the route.

This section of SH1 is a tourist route for motorists and cyclists and a freight route. It is also a local purpose route, with forestry and agricultural vehicles in heavy use. These include beef and sheep farming throughout the region, horticulture and viticulture around Blenheim, the Awatere Valley and the Waipara Valley, and forestry and tourism particularly in Kaikoura; almost a third of Kaikoura's employment sector depends directly or indirectly on tourism.[4]

[3] RP is the abbreviation for "Route Position" which is the location reference method for state highways

1.2.1 Previous investigations

The *draft South Island Freight Plan* recognises that the freight route along the east coast of the South Island is the prime freight route linking the North Island and the South Island via the interisland ferries at Picton. It forecasts substantial increases in road freight in the longer term. Between 2012 and 2042 the freight task for the Tasman/Nelson/Marlborough region is expected to grow by 4.7 million tonnes to 14 million tonnes. This increase in demand is equivalent to an additional 157,000 truck (44-tonne) trips per year by 2042. Over the same period in Canterbury, the freight task is expected to grow by 28.2 million tonnes to 61.2 million tonnes, 5% of which moves north along the state highway or by rail.

The future of SH1 between Picton and Clifford Bay had been subject to uncertainty in recent years because of the Clifford Bay interisland ferry proposal, which hindered potential state highway improvements. The Government announced in 2014 that this proposal would not proceed.

The *SH1 Blenheim to Ashley River Bridge Strategy (2010 – 2040)* was commissioned by the Transport Agency in recognition of the importance of the role of SH1 in the national and regional road network and the challenges faced. Implementation of this strategy is on hold pending the outcome of this SH1 business case. It provides useful data on natural hazards and road safety, which will be used to develop the Programme Business Case.

[4] Kaikoura District Plan, 2008

2. KEY PARTNERS

The key partners who have been involved in the development of this Strategic Case (SC) are:

	ILM participant	Knowledge areas – relationship to the SC
Hurunui District Council (HDC)	Vincent Daly, Councillor/CRTC Member	• SH1S runs through these territorial local authority areas • Provision and operation of local road network • District planning – plans for and manages the effects of the use and development of land
Waimakariri District Council (WDC)	John Meyer, Councillor	
Kaikoura District Council (KDC)	Derrick Millton, Councillor/ RTC Member. Gerry Essenberg, Engineer/Asset Manager	
Christchurch City Council (CCC)	Tim Scandrett, Councillor. Phil Clearwater, Councillor/CRTC Member	• Investigation's study area is adjacent to this territorial local authority's area
Environment Canterbury (ECAN)	David Bedford, Commissioner	• Strategic transport planning for the region • Regional planning authority • Civil defence emergency management
Marlborough District Council (MDC)	Terry Sloan, Councillor, RTC Chair	• Unitary authority • Investigation's study area is within this territorial local authority's area
Road Transport Association (RTA)	Tony Gill	• Association representing road transport operators and the NZ Heavy Haulage Association
Automobile Association NZ	Roy Hughes, Vice Chair, Canterbury/West Coast	• Promoting the interests of motor vehicle owners
NZ Police	Phil Newton	• Role in road safety – enforces the traffic laws. • Contributes towards Government's Safer Journeys
New Zealand Transport Agency (Transport Agency)	Jim Harland, Regional Director – Southern/CRTC Member Colin Knaggs, Frank Porter, and Peter Hookham	• Lead agency in developing this Strategic Case • Investor in land transport systems • Provider and operator of the state highway network • Regulator of access to/use of land transport system

3. STRATEGIC ASSESSMENT

3.1 Defining the transportation problem

Two Investment Logic Mapping (ILM) workshops were held with the key partners, supported by Transport Agency representatives, to determine the problems, benefits and performance indicators.

Mark Young (of Coverpoint Consulting) was the independent accredited facilitator.

At the first ILM workshop held on 15 September 2015, attendees identified and agreed the following key transportation problems and assigned their respective proportional weighting (in brackets) qualitatively after identifying the main problem causes and consequences. The Investment Logic Map is attached as Appendix A along with the cause and effect mind map.

Problem 1: A growth in freight traffic and changing mix of vehicle types[5] is resulting in travel time delays with economic impacts (20%)

Cause	Consequence
Increasing truck volumes, rural agriculture vehicles and tourist campervans and slow drivers are causing more queuing traffic Queuing / capacity issues due to bridge bottlenecks, narrow road widths, hilly alignments and a lack of passing opportunities	Economic impacts – reduced travel time and travel time reliability, particularly for freight and tourist traffic and those on time-critical interisland ferry connections Public relations impacts from service delivery below community expectations

Problem 2: Key sections of State Highway 1 are vulnerable to closure from forces of nature and crashes, resulting in delays and economic impacts (30%)

Cause	Consequence
SH1 has sections that are prone to closure from natural events (extreme rainfall, sea surge, earthquakes) The remoteness and mountainous terrain of some sections of the state highway is such that it is particularly vulnerable to closure from road crashes (e.g. lack of alternative routes, topography, bridge pinch points, poor alignment and narrow width, and slow response times to move larger vehicles) Lack of practical alternative routes	Adverse economic impacts for local businesses Disruptions to freight and visitor traffic Negative effects on emergency services Community severance – disruptions to telephone and other infrastructure networks leading to loss of local communications

Problem 3: State Highway 1 is an unforgiving route in places underestimated by time-constrained drivers, which results in fatigue, risk-taking and growing number of crashes (40%)

[5] Vehicle types include HCVs and tourist vehicles (coaches and campervans) going to and from ferries and agricultural vehicles (from wineries etc.) that often travel slower than other vehicles.

Cause	Consequence
Narrow width and alignment of sections of the route Poorly designed and separated intersections along the route Driver behaviour – Excessive speed, poor judgement as to expected travel times and frustration, fatigue, poor driving skills by unfamiliar drivers Lack of passing opportunities	Deaths, serious injuries, and harm to well-being of road users from crashes Other social and economic costs e.g. from vehicle damage from serious crashes and collisions Temporary road closures causing re-routing or journey stoppage A high risk route for cyclists

Problem 4: Increasing traffic on State Highway 1 through urban areas is impacting local community safety (10%)

Cause	Consequence
Increased traffic and localised congestion Design of intersections in urban areas not appropriate for traffic volumes	Side road delays for accessing and crossing the state highway Reduced safety for local urban communities, reduced amenity and community well-being Hinders the development of liveable communities

In considering the problems, the key partners determined that the southern end of the study should terminate at the Ashley River Bridge (approximately 25km north of Christchurch), rather than at the SH1 / SH74 intersection at Johns Road in Christchurch as was originally envisaged. This better reflects the overall journey characteristics of the route while acknowledging that SH1 south of the Ashley River Bridge is subject to separate transport strategies within the Greater Christchurch Urban Development Strategy area. The key partners suggested that the problem statements identified above should be taken into consideration when transport studies are undertaken in the area immediately north of Christchurch.

3.2 Status of the existing evidence base

This section provides an analytical review of the problems based on existing evidence.

Problem 1: A growth in freight traffic and changing mix of vehicle types[6] is resulting in travel time delays with economic impacts (20%)

Problem 1 has been investigated in terms of:

(a) Changes over recent years in the numbers of HCVs, tourist and agricultural vehicles, and
(b) Travel time delays and economic impacts.

[6] Vehicle types include HCVs, tourist vehicles, agricultural vehicles (including farms, wineries etc.)

3.2.1 Changes over recent years in numbers of HCVs, tourist and agricultural vehicles

Traffic count data[7] has been compiled and presented in Table 1. This shows that:-

- In general, the SH1 route has a high percentage of HCVs relative to total traffic, and
- HCV growth is considerably greater than overall traffic growth.

REGION	LOCATION/ COUNT STATION (RS)	ALL TRAFFIC		HCV		
		AADT[8] 2014	% annual growth (2010-14)	% of AADT 2014	No.	% annual growth (2010-14)
Marlborough	Picton (Waitohi Bridge: RS 0)	5,353	-0.4	5.6	299	3.3
	Opawa (Blenheim North: RS 18)	9,770	-0.8	10.6	1,037	6.0
	Park Terrace - Blenheim (opposite Repco: RS28)	10,879	1.6	n/a		
	Riverlands (Blenheim South: RS 28)	7,514	3.0	16.1	1,213	6.4
	Dashwood (Molesworth Sign: RS 43)	3,994	3.0	17.1	683	6.8
	Region 10/11 Boundary (RS 73)	2,568	0.2	20.4	525	1.3
Canterbury	Kaikoura (Beach Rd: RS 155)	7,106	0.2	7.3	521	-3.3
	Parnassus (north of Leader River: RS 195)	2,630	0.2	16.4	432	-2.0
	Cheviot Township (RS 217)	2,804	1.3	n/a		
	Hurunui River (1.5 north of Hurunui River: RS 235)	2,963	0.9	17.7	525	4.5
	Waipara (north of SH7 junction: RS 273)	3,976	2.0	17.2	683	5.1
	Amberley (south of Bank St: RS 284)	9,705	3.1	9.9	956	-1.4

Table 1 **Traffic and HCV volumes on SH1, Picton to Christchurch (red text indicates urban centres which relates to section 3.2.10)**

This evidence supports the findings of the *SH1 Blenheim to Ashley River Bridge Strategy 2010-2040*, which determined that there have been across-the-board increases in HCVs since 2007[9].

The evidence also supports the longer term view of the *draft South Island Freight Plan*,[10] which recognises that the freight route from Picton along the east coast is the primary freight route in the South Island and forecasts substantial increases in road freight in the longer term[11].

[7] NZTA State Highway Traffic Data Booklet 2014
[8] Average Annual Daily Total (AADT)
[9] SH1 Blenheim to Ashley River Strategy 2010-2014, NZTA, Table 3.2 page 14
[10] Draft South Island Freight Plan, July 2015 available at https://www.nzta.govt.nz/resources/draft-south-island-freight-plan/
[11] E.g. for Tasman/Nelson/ Marlborough an additional 1.7M truck trips in 2042, an additional 4,667 truck trips per day across the network, and for Canterbury overall freight forecast to double by 2042.

There is no specific data on the growth of agricultural and forestry vehicles and vehicles associated with wineries (harvesters, tractors, trucks delivering supplies, freight, etc), or of tourist traffic. However, with the noticeable expansion of viticulture in Marlborough (from 1,850ha in 2000 to 24,610ha in 2014)[12] and near Waipara, it is expected that there is a corresponding increase in the number of vehicles associated with that industry on the state highway.

There has also been a continuing growth in tourism in recent years, with record highs in tourism numbers in 2015[13], in the Marlborough and Canterbury regions in particular. As a result of this growth in tourism, it is expected that there has been a consequential increase in tourist traffic on SH1.

3.2.2 Travel time delays and economic impacts

Based on the March 2014 commercial vehicle speed data[14] collected for the Ministry of Transport (Fig 2) there are a number of locations on SH1 where the speeds were "very delayed," i.e. less than 80% of the open road speed limit. This delay impacts on the efficient transport of freight.

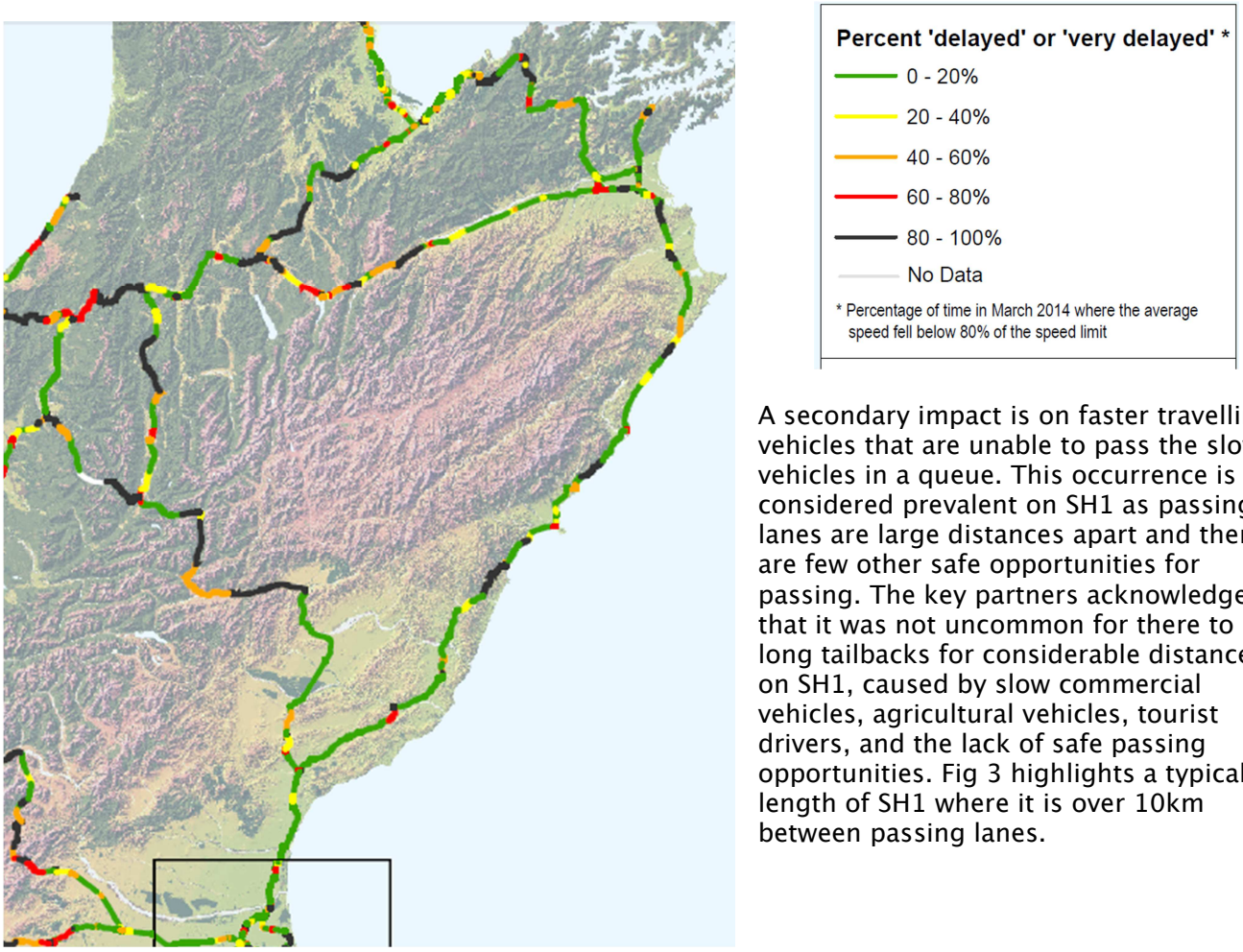


Fig 2: Commercial vehicle speed delays

A secondary impact is on faster travelling vehicles that are unable to pass the slower vehicles in a queue. This occurrence is considered prevalent on SH1 as passing lanes are large distances apart and there are few other safe opportunities for passing. The key partners acknowledged that it was not uncommon for there to be long tailbacks for considerable distances on SH1, caused by slow commercial vehicles, agricultural vehicles, tourist drivers, and the lack of safe passing opportunities. Fig 3 highlights a typical length of SH1 where it is over 10km between passing lanes.

[12] Refer Marlborough District Council data, http://www.marlborough.govt.nz/Environment/Land/Land-Cover-Land-Use/Crop-Types.aspx
[13] http://www.stats.govt.nz/browse_for_stats/industry_sectors/accommodation/AccommodationSurvey_HOTPDec15/Commentary.aspx
[14] March 2012 eRUC commercial vehicle data

The need for longer and more frequent passing opportunities is considered in detail in the *SH1 Blenheim to Ashley River Bridge Strategy (2010 – 2040).* At that time this form of infrastructure improvement was considered a priority and a long term implementation strategy was developed that states:-

> *"The national passing and overtaking strategy notes that one of the affecting factors on overtaking demand includes the proportion of HCVs, which is particularly relevant to this section of the South Island state highway network. Platooning is a perceived problem whereby HCVs cluster close to ferry arrivals/departure times along the route. This may create difficulties for general traffic to pass (possibly creating driver frustration)."*

The *SH1 Blenheim to Ashley River Bridge Strategy (2010 – 2040)* also highlights the fact that travel time delays have been increasing have a direct impact on the economy.

TomTom data provides an indicator of travel times between Picton and the Ashley River Bridge. Analysis indicates that the 15th percentile time is 4hrs 23, and the 85th percentile 3hrs 32, indicating a 55-minute variance in travel times between faster and slower moving vehicles.

The NZ Transport Agency Economic Evaluation Manual monetizes travel time benefits, effectively allocating travel time savings and economic value and applying a cost to travel time delays. These delay costs can affect the value of tourism and, along with SH1 closures, can force tourists to alter their itinerary away from the east coast of the South Island.

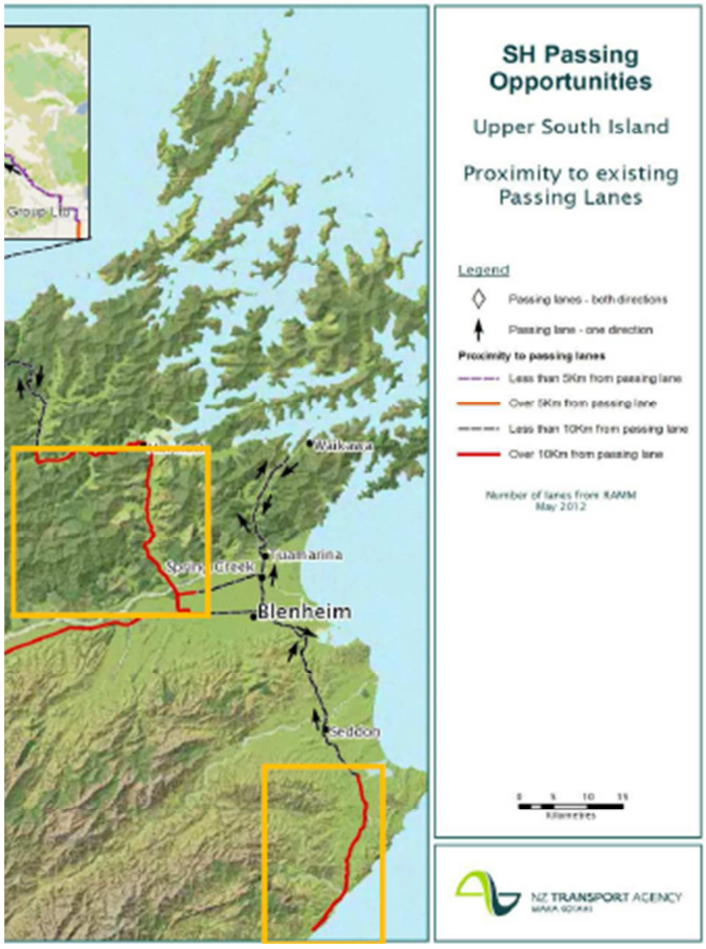


Fig 3: Proximity of passing lanes on SH1 in Marlborough[15]

Problem 1 summary:

1. The freight route from Picton along the east coast of the South Island is the primary freight route in the South Island.
2. The route has a high percentage and growing number of heavy commercial vehicles (HCVs) relative to total traffic volumes, and a growing number of agricultural and tourist vehicles.
3. There are a number of locations on the route where commercial vehicle speeds are slow, resulting in inefficient freight transport and unreliable travel times for others (which is particularly critical for ferry traffic).
4. The high proportion of slower moving vehicles and lack of safe passing opportunities results in queues of traffic and traffic delays.

[15] Nelson Tasman Marlborough passing opportunities investigation, July 2014

Problem 2: Key sections of State Highway1 are vulnerable to closure from forces of nature and crashes, resulting in delays and economic impacts (30%)

Problem 2 has been investigated in terms of:

(a) Sections of the route vulnerable to closures from natural events,
(b) Sections of the route affected by crashes, and
(c) Lack of practical alternative routes.

Delays and economic impacts are considered in 3.2.2.

3.2.3 Sections of the route that are vulnerable to closures from natural events

SH1 is exposed to four general hazard types that make the route particularly vulnerable and subject to closures. These include coastal, geotechnical (slips), river processes/flood hazards, and snow hazards.

A comprehensive study of road closures as a result of these natural events was carried out as part of the *SH1 Blenheim to Ashley River Bridge Strategy 2010-2040*. The key findings are summarised below.

(i) Coastal

The Kaikoura coast section of SH1 runs adjacent to a high energy and unstable coastline, with potential for impacts from storm events and also longer term sea level rise and tsunami risk.

The *SH1 Blenheim to Ashley River Bridge Strategy (2010 – 2040)* identifies six main 'areas of vulnerability' as: Blue and White Slips (Kaikoura coast); South of Kekerengu; Waipapa Bay – Mangamaunu Bay; South Bay Kaikoura – Kowhai River Bridge (and Okiwi Bay – Kekerengu); Kahutara River to Oaro; and Saltwater Creek.

The impacts on the state highway infrastructure include undermining of the road foundation or loss of sealed surface and sediment blocking streams near the coast, leading to temporary road closures or lane closure while remediation works are carried out. While it is known from newspaper articles and local knowledge that temporary closures have occurred the Traffic Road Event Information System (TREIS) database does not appear to have recorded many of these closures.

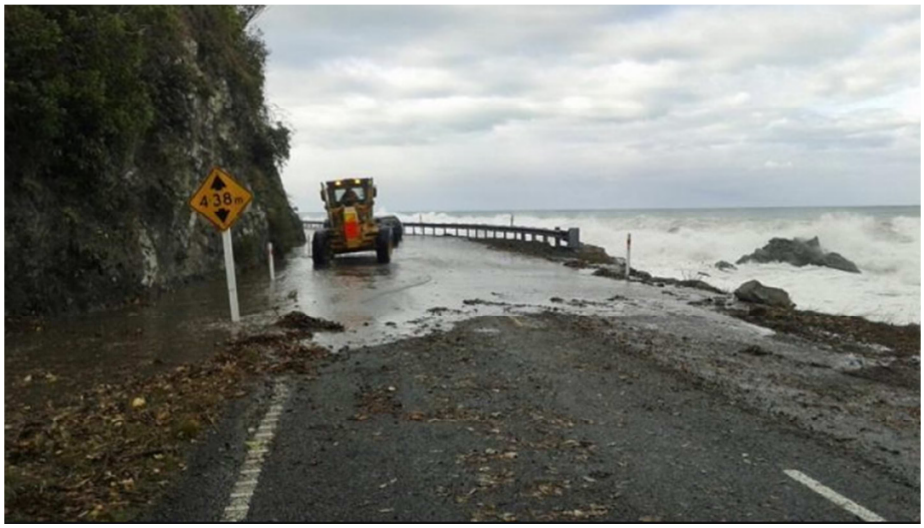


Fig 4: Sea inundation on Kaikoura coast (by northern-most tunnel (RP163/6100)

The *SH1 Blenheim to Ashley River Bridge Strategy (2010 – 2040)* Natural Hazards Index[16] lists *'undermining of the SH1 coastal margin and damage by wave action'* as a *'frequent'* occurrence, resulting in lane closures and road closures.

(ii) Geotechnical

The alignment is constrained in many places by steep hill slopes and narrow shoulders, in an area crossed by a number of active faults. As a result, slope instability, rock fall and slope movement is common. The *SH1 Blenheim to Ashley River Bridge Strategy (2010 – 2040)* Natural Hazards Index[17] lists *'slope movement, debris fall, erosion and landslide'* as *'frequent (small events) and occasional (larger events)'* resulting in both lane closures and road closures. It also categorises *'landslides… which may threaten route security'*, as 'high' risk for the Kaikoura District and Hurunui District sections of the route.

Substantial slips have resulted in road closures at Whites Slip and Blue Slip on the Kaikoura coast (both classed as *'on-going'*), at Weld Pass in the Marlborough hills, and at Ferniehurst in North Canterbury (resulting in partial closure for five days).

(iii) River processes/flood hazards

There are several major rivers and coastal streams with debris flows resulting in blocked culverts and flooding. Other flooding has occurred in low lying areas inland from the coast such as at Awatere, just south of the SH1 / Awatere Valley intersection, which was closed in June 2012 and in August 2012, each for approximately four hours.

The *SH1 Blenheim to Ashley River Bridge Strategy (2010 – 2040)* Natural Hazards Index[18] lists several river bridges as being under particular threat from river processes and flood hazards. These include bridges at Clarence River, Hapuka River, Conway River, Waima River, and Kekerengu River, Waiau River, Greta River and Saltwater Creek north of the Ashley River.

(iv) Snow

Several hill sections of the route are subject to snowfall events (e.g. Weld Pass, Hundalee Hills, and Omihi Saddle). In recent years, road closures caused by snow have occurred at;

- Omihi Saddle, July 2011, 8 hrs
- Waipara – Peketa, August 2011, 32 hrs
- Hundalee Hills, June 2012, 12 hrs
- Weld Pass, June 2013 (duration not recorded).

The evidence above supports the problem statement that sections of the route are subject to forces of nature. This is reinforced by the *National Resilience draft Programme Business Case (4 August 2014)*, which suggests potential resilience improvements.

[16] Appendix C
[17] Appendix C
[18] Appendix C

3.2.4 Sections of the route are affected by crashes

Many sections of SH1 are remote from urban areas and, as a result emergency and crash recovery services have longer response times than in more populated areas of the network. This results in longer delays, particulaly when fatal and serious injury crashes occur or where crashes occur involving trucks. Data from TREIS[19] and Crash Analysis System (CAS)[20] has been used to determine those sections of the route most affected by crashes leading to temporary road closures. The results are summarised in Table 2 below.

SECTION	SUB-SECTION	CLOSURES 2010 – 2015	
		TREIS	CAS
Picton – Blenheim	Koromiko – Tuamarina	0	2
	Tuamarina – Spring Creek	0	1
	Spring Creek – Blenheim	3	7
Blenheim – Kaikoura	Blenheim – Ward	2	12
	Ward – Clarence	0	7
	Clarence – Kaikoura	0	12
Kaikoura – Waipara	Kaikoura– Oaro	3	8
	Oaro – Cheviot	3	13
	Cheviot – Waipara	4	21
Waipara – Ashley River	Waipara – Ashley River	1	6
TOTALS		**16**	**89**

Table 2 SH1 road closures due to crashes

There have been a considerable number of crashes that have caused delays in the last five years. Further review of the data suggests that there is a greater frequency of crashes causing delays at:

- Weld Pass between Blenheim and Ward,
- the Kaikoura coast,
- the Hundallee Hills, and
- the Cheviot Hills.

In particular there are a greater number of crashes involving trucks. Analysis of crash data indicates a 12% increase in truck crashes between 2005-2009 and 2010-2014 from 207 to 234 reported incidents.

Fig 5: a recent serious injury crash and resulting traffic delays

[19] NZTA TREIS data (records instances of road closures) is considered incomplete because known closures recorded in newspapers and from local knowledge do not appear in the TREIS database.
[20] NZTA CAS data (records crashes) relates to fatal and serious injury crashes including head-on crashes, collisions with traffic signals, and damaged or overturned trucks on carriageways, which are considered likely to have resulted in road closures.

3.2.5 Lack of practical alternative routes

When closures occur along the SH1 corridor, alternate detour routes are limited as can be seen in Fig 6 below.

The *SH1 Blenheim to Ashley River Bridge Strategy (2010 – 2040)* states that: *"Consultation has recorded that during past closures, trucks have opted to wait for the route to clear instead of using the alternative route via SH6 and SH7, due to the significant detour involved."*[21]

The Inland Kaikoura route (R70) is a practical detour route in the event of a closure between Waipara and Kaikoura and is the over dimension route for larger vehicles that cannot get through some of the tunnels on SH1. However, this route is also subject to the same storm events as SH1, and has route security issues such as rock fall, landslide, and flooding. Some sections of SH1 have no detour route available at all, (i.e. Seddon to Kaikoura and just north of Ashley River Bridge). Detours around the Inland Kaikoura route add an additional 58km onto the journey and detours using SH63, SH6, SH65 and SH7 add an additonal 144km to the journey, both of which increase travel time and costs. Further south, Leader Road offers a shorter detour but the rural road is not well suited to large volumes of traffic.

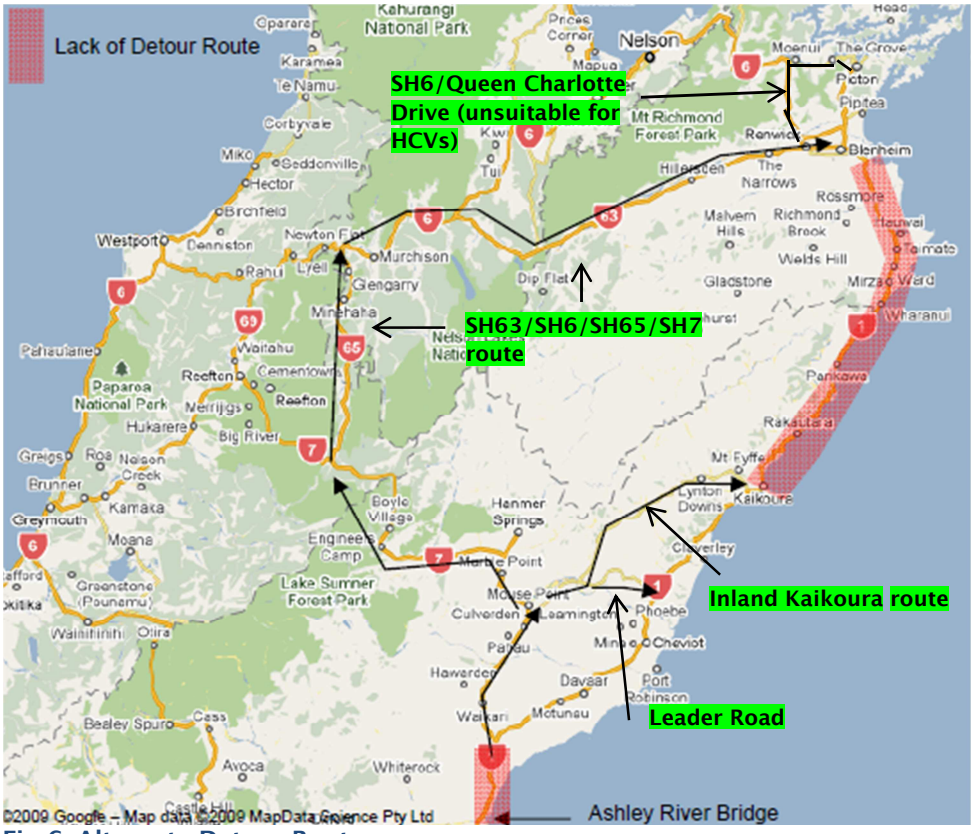


Fig 6: Alternate Detour Routes

Problem 2 summary:

5. SH1 is particularly vulnerable to coastal, geotechnical (slips), river processes/flood hazards, and snow hazards resulting in temporary road closures and longer term risks to route security.
6. Crashes and particularly truck crashes are frequent on the elevated sections of the state highway causing temporary road closures and delays.
7. The remoteness and mountainous terrain means there are few appropriate detour routes available when road closures occur.

[21] Page 12

Problem 3: State Highway 1 is an unforgiving route in places underestimated by time-constrained drivers, which results in fatigue, risk-taking and growing number of crashes (40%)

Problem 3 has been investigated in terms of:

(a) KiwiRAP star rating,
(b) Brief analysis of crash trends,
(c) Time-constrained, fatigued and risk-taking drivers, and
(d) Planned NZ national cycle trails.

3.2.6 KiwiRAP star rating

The KiwiRAP star rating[22] is an internationally recognised method of scoring the relative safety of the road. In determining the rating safety, engineers consider the road's safety features (i.e. lane width, shoulder width, provision of safety barriers, etc.) and the environment (i.e. frequency of intersections, alignment and terrain, frequency of roadside trees/power poles, etc.). The KiwiRAP star rating therefore provides a useful tool for assessing how unforgiving the road is to driver error. The KiwiRAP star ratings are provided in column 2 of Table 3 below. The lower quality sections (star rating 2) are at Weld Pass, along the South Kaikoura coast, the Hundalee Hills and Cheviot Hills, which reinforces the statement that these sections are unforgiving when drivers make errors.

SECTION	Kiwi RAP Star Ratings[23]		SAFETY TRENDS			
	% of section	Comments on 2- Star sections[24]	Road Risk Categories (change from 2002 - 2006 → 2007 - 2011) (most recent assessments)	Crash Data[25]		
				2005 - 2009	2010 - 2015	% change
Picton to Blenheim (28km)	SR 1: 0 SR 2: 69 SR 3: 31 SR 4: 0 SR 5: 0	The percentages require updating since the $2M Picton to Blenheim section improvements project was completed in 2014 The single-lane Opawa Bridge is planned for replacement	Collective Risk Medium-High → Medium-High[26] (constant) Individual Risk Medium → Medium (constant)	42	24	-43
Blenheim to Kaikoura (128km)	SR 1: 0 SR 2: 35 SR 3: 61 SR 4: 4 SR 5: 0	Weld Pass - steep windy sections, narrow shoulders Seddon Hills - steep windy sections, narrow shoulders	Collective Risk Medium → Low-Medium (improving) Individual Risk Medium-High → Medium (improving)	46	34	-27
Kaikoura to Waipara (123km)		South Kaikoura coast - poor alignment and narrow shoulders Hundalee Hills - steep windy sections, narrow shoulders Cheviot Hills - hilly section	Collective Risk Medium → Medium (constant) Individual Risk Medium-High → Medium-High (constant)	65	38	-42
Waipara		Undivided 2-lane high	Collective Risk	12	8	-33

[22] http://www.kiwirap.org.nz/star_ratings.html
[23] Star ratings from 2012, denote road conditions and deficiencies in road features from 1 (poor) to 5 (excellent).
[24] 2 - Star rating is defined as *"Typically undivided roads with major deficiencies in road features …"*
[25] All injury crashes on open road sections, from NZTA's CAS database
[26] Likely to reduce when next assessed

to Ashley River Bridge (28km)		traffic route	Medium-High → Medium-High (constant) Individual Risk Low-Medium → Low-Medium (constant)			

Table 3 KiwiRAP ratings and safety trends by route sections

3.2.7 Brief analysis of crash trends

A comparison of road risk between 2002-2006 and 2007-2011 is provided in the safety trends columns of Table 3 above. This indicates that collective and individual risk remained constant or improved between 2002-2006 and 2007-2011, and has not deteriorated, as was the view from the 2015 ILM workshops. A review of the open road crashes in these periods also supports this view and indicates that there has been a significant reduction in the number of injury crashes on this section of the network, ranging from 43% to 27%. Further analysis shows:

- Fatal crashes have decreased by 13%,
- Serious injury crashes have decreased by 33%, and
- Minor injury crashes have decreased by 33%.

The current crash rate suggests there is scope for improvement and that investigation of specific lengths of the state highway may reveal concentrations of crashes above national averages.

3.2.8 Time-constrained, fatigued and risk-taking drivers

Understanding driving characteristics particular to the routes requires indepth study. This has not been undertaken at the Strategic Case stage in the investigation so there is no evidence to support or reject this aspect of the problem statement at this time. The key partners highlighted these characteristics in recognition of:-

- the long distance between urban centres and rest areas,
- the set ferry departure times at the Picton terminal, and
- the high proportion of slower moving vehicles and lack of safe passing opportunities.

3.2.9 Planned NZ national cycle trails

Workshop attendees referenced the high risk to cyclists on the state highway. No interrogation of cycle safety has been undertaken for this Strategic Case but it should be acknowledged that nationally there is a desire to improve cycle safety and promote cycling as a tourism activity. Appendix D indicates the proposed routes for the National cycle trail network (Feb 2015). This indicates:-

- Between Picton and Blenheim – cyclists use existing SH1 corridor (although from Spring Creek north there are no cycle lanes, no off-road facilities and narrow shoulders),
- Between Blenheim and Kaikoura – cyclists are recommended to use a public transport link,
- Between Kaikoura and Waipara – highlighted as a potential route,
- Between Waipara and Christchurch – highlighted as a potential route.

There is an opportunity to improve cycling on this corridor in conjunction with the National cycle trail network.

Problem 3 summary:

8. Weld Pass, along the South Kaikoura coast, the Hundalee Hills and Cheviot Hills are particularly challenging sections of the state highway due to the steep, hilly terrain that results in a number of crashes.
9. Contrary to problem statement 3, evidence shows that crashes have reduced in recent years. However, the available KiwiRAP star ratings and the current crash rate suggests that there is scope for road safety improvements.

Problem 4: Increasing traffic on State Highway 1 through urban areas is impacting local community safety (10%)

Problem 4 has been investigated in terms of:

(a) Volumes of traffic on SH1 through urban areas along the route, and
(b) Serious injury crash on SH1 in urban areas.

3.2.10 Volumes of traffic on SH1 through urban areas along the route

The total traffic using AADT data for the main urban areas is provided in red text in section 3.2.1, Table 1. It shows substantial increases in traffic growth over the last five years in Blenheim and Amberley, which is likely resulting in more difficulty accessing or crossing the state highway and an increased crash risk. Traffic growth through Picton, Kaikoura and Cheviot is less significant.

3.2.11 Serious injury crashes on SH1 in urban areas

SH1 urban serious injury crashes[27] between 2010 and 2014 (inclusive) is summarised in Table 4 below by mode.

Urban Area & (urban population[28])	Vehicle	Pedestrian	Cyclist	Total
Picton (4,053)	0	0	0	**0**
Blenheim (24,183)	1	1	0	**2**
Kaikoura (1,974)	0	1	0	**1**
Cheviot (369)	0	0	0	**0**
Amberley (1,578)	1	0	0	**1**

Table 4 Injury crashes in urban areas on SH1 by mode

This table shows a very low number of injury crashes on the state highway in the urban areas, suggesting that the impact of traffic on community safety is not supported by crash evidence.

Problem 4 summary:

10. There have been substantial increases in urban state highway traffic growth in Blenheim and Amberley, although traffic growth in Picton, Kaikoura and Cheviot is less significant.

11. A review of recent crash severity data doesn't indicate that community safety is a significant problem at this time.

3.3 The potential benefits of investment

[27] There have been no fatalities recorded in the urban areas in the last 5 years
[28] Population from Stats NZ 2013 Census data

At the second ILM workshop held on 22 September 2015, the key partners identified and agreed to the potential benefits of successfully investing to address the problems. The potential benefits with respective proportional weighting (in brackets) are in Table 5.

BENEFIT	DESCRIPTION
Improved predictability of travel times (30%)	This benefit captures the potential to increase trip time reliability by reducing travel time variability.
Reduced economic impact of road closure (20%)	This benefit captures the economic potential of increasing availability and access by reducing the number and duration of road closure events and regional delays caused by road closure
Improved road user safety (50%)	This benefit captures the potential to reduce the crash rate of deaths and serious injuries by improving the road assessment rating.

Table 5 Potential benefits

The benefits map is attached as Appendix B. The first benefit in Table 5 relates to problem statements 1 and 2, although resolving problem statement 1 would benefit travel time as well as travel time reliability. The benefit statements will be reviewed at the start of the Programme Business Case.

3.4 The key performance attributes and measures

The key performance measures identified and assessed during the ILM workshops with key partners, are identified in Table 6 below.

PRIMARY BENEFIT	KEY PERFORMANCE INDICATOR	DESCRIPTION
Improved predictability of travel times (30%)	Increase trip time reliability	Travel time variability
Reduced economic impact of road closure (20%)	Increase throughput	Additional vehicle hours due to closure
	Increase availability and access	Number and duration of road closure events in region
		Number of hours accessible to the region (%)
Improved road user safety (50%)	Reduce deaths and serious injuries	Number of deaths and serious injuries by mode
	Reduce crash rate	Number of crashes by mode
	Increase road assessment rating	KiwiRAP road assessment star rating

Table 6 Relevant Key Performance indicators

The baseline and target indicators for the KPIs were not completed in the ILM workshops. These will be developed further in the next phase.

4. ANTICIPATED STRATEGIC FIT AND EFFECTIVENESS

An assessment of the anticipated Strategic Fit and Effectiveness was undertaken in accordance with the Transport Agency Investment Assessment Framework based on problem statements 1,2 and part of 3, and determined that the indicative profile would be **M/M/-**[29]**.**

STRATEGIC FIT ASSESSMENT[30]

Criteria	Assessment
A medium rating for strategic fit may be given where the activity applies best practice planning and processes including adopting a coordinated approach with relevant stakeholders; AND	• The investigation will be undertaken in accordance with the Transport Agency's business case approach. • This Strategic Case ILM process involved representatives from the Transport Agency's key partners including territorial local and regional authorities, the Automobile Association, Environment Canterbury, Road Transport Association and NZ Police, and the Transport Agency. **Rating**: *Medium*
is focused on significant change in actual or predicted transport demand or performance, and its drivers such as changes in industry, population, technology, energy and climate, where these changes are not accounted for in existing strategies and plans; AND	• The investigation has not evidenced any significant contextual, planning, legislative or climate change impacts along the SH1 corridor, although further consideration of sea level rise along the Kaikoura coast may be warranted. • The investigation has found evidence to support that sections of the route are vulnerable to closure from natural events and crashes, and significantly, that there has been, and is forecast, a significant increase in freight traffic. **Rating***: Medium*
ensures:- • Integration of modes, transport and land use planning and other infrastructure planning • Making better use of existing transport capacity, including services and infrastructure • Managing adverse environmental effects from land transport; AND	• The investigation will consider all options. • The investigation will consider options to optimise the existing network, including programmes that consider the adjacent Picton to Christchurch rail corridor. • The investigation will consider options that manage and mitigate the adverse environmental effects from land transport. **Rating:** *Medium*
considers: • wider transport network performance and capability • safety • value for money. • environmental and public health	• The main transport network performance issues relate to crashes, and mountainous sections of the state highway, queued traffic delays, road closures, the potential threat from natural hazards, and a lack of viable detour routes. • The evidence in this Strategic Case is that the road risk categories have not changed for the worse, and overall the numbers of

[30] https://www.pikb.co.nz/assessment-framework/strategic-fit-3/strategic-fit-for-investment-management/, last updated 10/11/2015

outcomes.	crashes have decreased at a fairly significant rate, although truck crashes are still prevalent and the Star ratings indicate there is room for safety improvements. **Rating**: *Medium*
A high rating for strategic fit must only be given where the activity meets the requirements for a medium rating; AND • makes improvements to whole-of-network, long-term local, regional and national planning in response to significant changes in actual or predicted transport demand or performance, and their drivers such as changes in industry, population, technology, energy and climate; AND	• The PBC will consider programmes that consider the whole corridor over the longer term to inform national planning in response to significant changes in predicted tourist and HCV demand and industry and climate change drivers. **Rating**: *High*
addresses one or more of the following: • easing of severe congestion • optimised levels of service, operation and management of networks • journey time reliability • reduction in deaths and serious injuries in areas identified as being of high crash risk.	• The PBC will consider localised congestion, optimising levels of service, network operation and management, journey time reliability and safety improvements. **Rating**: *High*

EFFECTIVENESS ASSESSMENT[31]

Under the NZTA Investment Assessment Framework, the assessment of effectiveness considers the contribution the investment programme would make to achieve the potential identified in the Strategic Fit assessment.

Six criteria are used for assessing National Land Transport Programme (NLTP) funding of the business case as shown in Table 7 below in accordance with the Investment Assessment Framework. The overall assessment is based on the lowest rating against the component criteria.

[31] https://www.pikb.co.nz/assessment-framework/effectiveness-2/, last updated 1/10/2015

Component	Explanation	Assessment
Outcomes focused	• The degree to which the problem, issue or opportunity, supported by evidence, is significant enough to warrant further development. • Consistency with levels of service in an appropriate classification system.	• Problem statements 1, 2 and 3 are supported by evidence to warrant further investigation. • The desired level of service for the state highway wasn't identified and will be determined as part of the PBC taking into consideration the SH! network classifications. It would be expected that an improvement in the KiwiRAP rating would be desirable **Rating:** *Medium*
Integrated	• Consistency with the current network and future network plans. • Consistency with other current and future activities. • Consistency with current and future land use planning. • Accommodates different needs across modes. • Involvement of, or consultation with, appropriate stakeholders in developing the Strategic Case.	• As the investigation proceeds it will:- (i) consider current and future activities and land use plans, (ii) consider options incorporating all modes, including rail, and • The key partners have collaborated in the development of this Strategic Case. **Rating**: *Default Medium*
Correctly Scoped	• The degree of fit as part of an agreed strategy or business case. • Is of an appropriate scale in relation to the issue/opportunity. • Covers and/or manages the spatial impact (upstream and downstream, network impacts). • Mitigates any adverse impacts on other results. • Funding application is tailored to relative size, impacts and complexity, and confirms the problem.	• The problem statements, benefits, KPIs and evidence gathered to date provides good guidance to scope the next phase of the investigation. **Rating:** *High*
Affordable	• Is affordable through the lifecycle for all parties. • Has understood and traded off the best whole-of-life cost approach. • Has understood the benefits and costs between transport users and other parties and sought contributions as possible.	• The PBC options will consider and identify lifecycle costs for the Transport Agency and local authorities and practicable contribution combinations available for the options from available funding sources. • The preferred programme will, after appropriate consultation and a review of the Strategic Case problems, benefits and KPIs, consider the study area transport network whole-of-life costs. **Rating:** *Default Medium*
Timely	• Delivers enduring benefits over the	• Relevant time-bound KPIs will be specified in the

	timeframe identified in the justified strategy or business case. • Provides the benefits in a timely manner. • There is a demonstrated urgency in the need to provide a solution to the problem, issue or opportunity.	investigation. • The investigation will consider the need and timing of that need. **Rating:** *Default Medium*
Provides confidence	• Manages current and future risk for results/outcomes. • Manages data deficiency risks and identifies information gaps that will need to be addressed in the next business case.	• Gaps in supporting evidence database (e.g. travel time variations, delays) would need to be further investigated as part of the development of the PBC. **Rating:** *Default Medium*
Overall	Assessment based on lowest rating of all components.	**Rating:** *Medium*

Table 7 Anticipated Effectiveness Assessment Summary

5. KEY TRANSPORTATION FINDINGS, CONCLUSIONS, AND NEXT STEPS

This Strategic Case reflects the direction provided by the ILM workshop attendees. This transportation review of evidence supports problem statements 1 and 2, partially supports problem 3 and does not support problem 4. Overall, this Strategic Case results in an indicative assessment profile of **H/M–** which means the investigation should progress to the PBC phase. Table 8 below summarises the key findings of the Strategic Case.

Problems Identified in the ILM	Key Findings in the Strategic Case	Considerations for next steps
Problem 1 **A growth in freight traffic and changing mix of vehicle types[32] is resulting in travel time delays with economic impacts** (20%)	1. The freight route from Picton along the east coast of the South Island is the primary freight route in the South Island. 2. The route has a high percentage and growing number of HCVs relative to total traffic volumes, and a growing number of agricultural and tourist vehicles. 3. There are a number of locations on the route where commercial vehicle speeds are slow, resulting in inefficient freight transport and unreliable travel times for others (which is particularly critical for ferry traffic). 4. The high proportion of slower moving vehicles and lack of safe passing opportunities results in queues of traffic and traffic delays.	Review methods to achieve travel time savings. Assess the anticipated general and freight traffic growth volumes with low, high and medium growth forecasts and determine how the corridor will function over the longer term.
Problem 2 **Key sections of SH1 are vulnerable to closure from forces of nature and crashes resulting in delays and economic impacts** (30%)	5. SH1 is particularly vulnerable to coastal, geotechnical (slips), river processes/flood hazards, and snow hazards resulting in temporary road closures and longer term risks to route security. 6. Crashes and particularly truck crashes are frequent on the elevated sections of the state highway causing temporary road closures and delays. 7. The remoteness and mountainous terrain means there are few appropriate detour routes available when road closures occur.	Explore methods to improve network resilience. Explore ways to reduce fatal and serious injury crashes and truck crashes, particularly at:– • Weld Pass between Blenheim and Ward, • the Kaikoura coast, • the Hundalee Hills, and • the Cheviot Hills. Improve procedures to ensure a robust recording system for state highway road closures.
Problem 3 **SH1 is an unforgiving route in places underestimated by time-constrained drivers, which results in fatigue, risk-taking and growing number of crashes** (40%)	8. Weld Pass, along the South Kaikoura coast, the Hundalee Hills and Cheviot Hills are particularly challenging sections of the state highway due to the steep, hilly terrain that results in a number of crashes. 9. Contrary to problem statement 3, evidence shows that crashes have reduced in recent years. However, the available KiwiRAP star ratings and current crash rate suggests that there is scope for road safety improvements.	Consider performance levels of service, particularly in terms of KiwiRAP ratings, identified by the One Network Road Classification (ONRC).

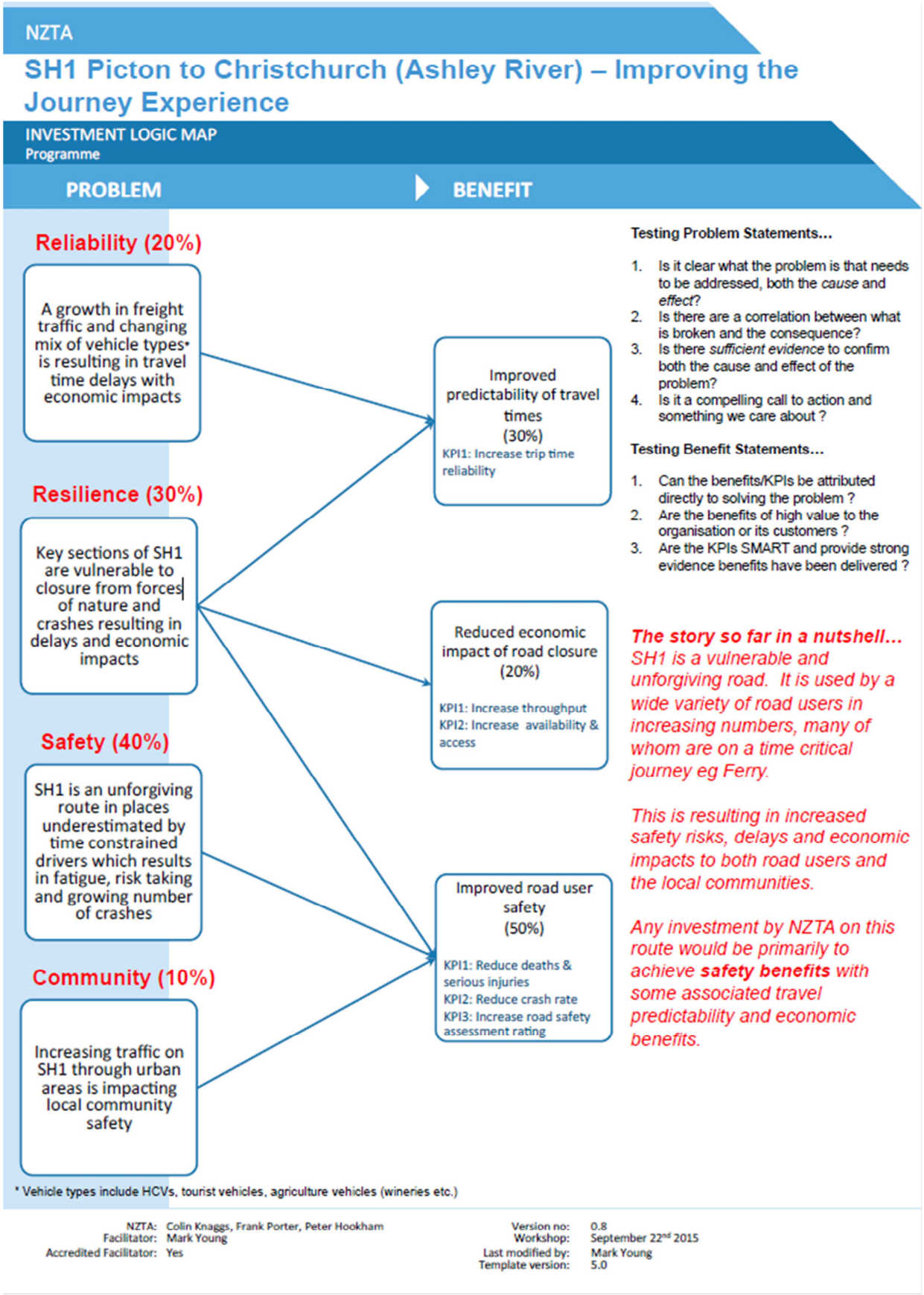
[32] Vehicle types include HCVs, tourist vehicles, agricultural vehicles (wineries etc.)

Problem 4 **Increasing traffic on SH1 through urban areas is impacting local community safety** (10%)	10. There have been substantial increases in urban state highway traffic growth in Blenheim and Amberley, although traffic growth in Picton, Kaikoura and Cheviot is less significant. 11. A review of recent crash severity data doesn't indicate that community safety is a significant problem at this time.	Investigate further safety and severance issues in urban areas to better understand the significance of the issues.

Table 8 Summary of key findings

It is apparent that the scale of problems will differ along the corridor depending on traffic volumes, traffic composition and the environment. In progressing the PBC it will be necessary to assess smaller segments of the state highway corridor to gain a more detailed understanding of the scale of the problems. This will highlight those areas that are most urgent for intervention.

APPENDIX A – INVESTMENT LOGIC MAP



SH1 Picton to Christchurch – Improving the journey experience

INVESTMENT LOGIC MAP
Programme

Workshop Part One (Roundtable Brainstorm)

Issues Brainstorm

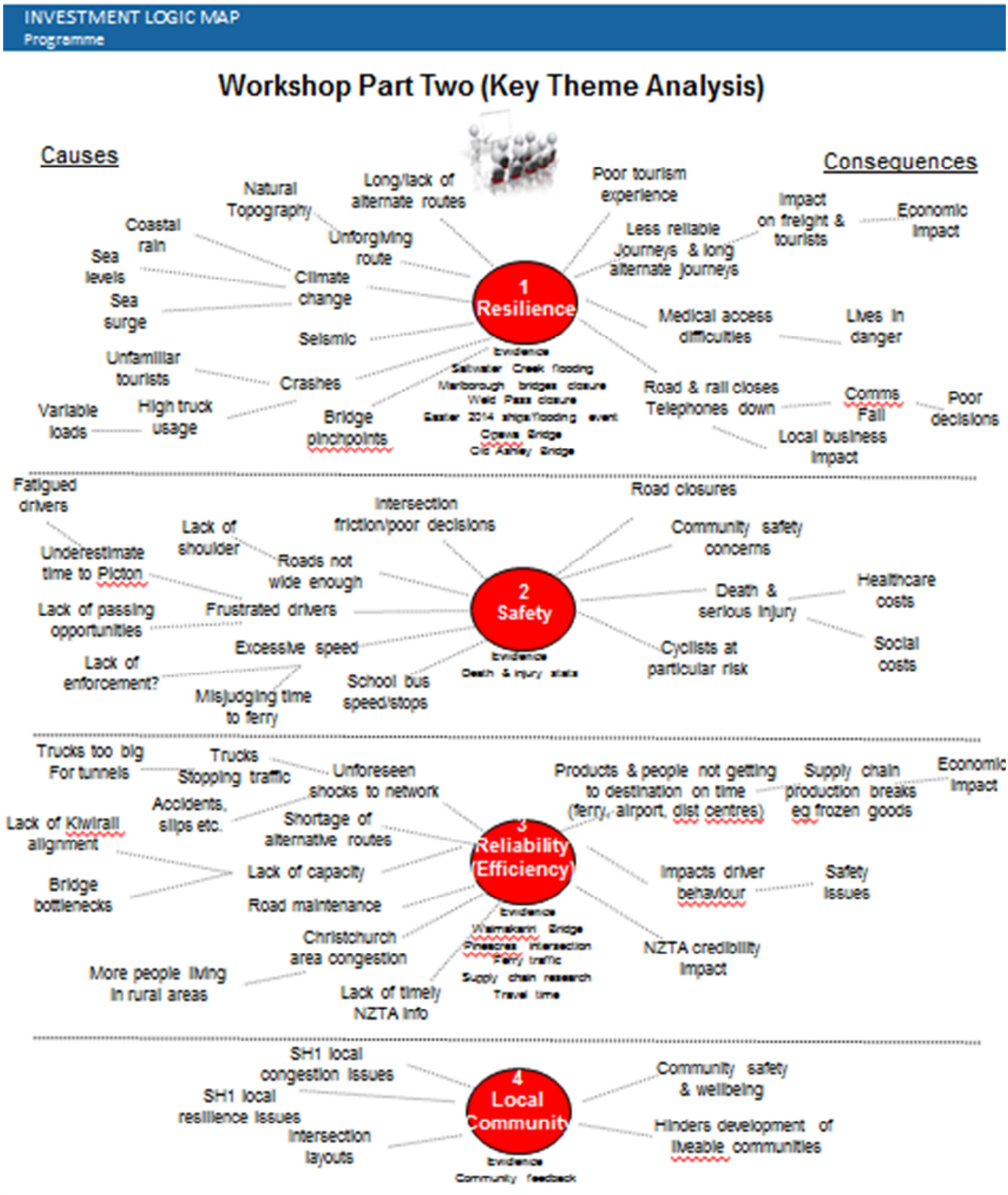
- Proximity to sea
- Width of road & adjacent railway
- Waimakariri Bridge – congestion & shoulder width
- Pineacres intersection
- Woodend bypass
- Rangiora Woodend/SH1 intersection
- Reliability- vulnerable road
- SH1 closed due to bridges eg Saltwater Creek
- Increased ferry traffic – larger volumes on road
- Greater peaks & platoons of traffic
- Lack of passing opportunities
- Opawa Bridge – 1932 design & increased vehicle width
- Lack of pullover space (tourists, trucks breakdowns)
- Kaikoura - Increase heavy trucks – impact on locals
- Kaikoura (north & south) – truck accidents close roads
- Over dimension vehicles need to use other roads due to tunnel constraint
- Risk of highway closure due to bad events
- Bigger ferries means more trucks
- New ferries have no rail capability
- Increased freight weight impacting wear & tear
- Old Ashley Bridge bottleneck
- Hurunui District – high accident rate
- Intersection safety issues (SH1)
- Alternative routes – not maintained for heavy trucks
- Weather damage – SH1 hillsides
- Landslides/rockfall debris…no where to dump spoil
- Weld Pass – very tight to drive
- Waimakariri Bridge – shoulder width
- Hurunui Bridge – one way – closed by river (once)
- SH1 very difficult route for 330+ KMs
- Fatigue issues which lead to safety issues
- Safety issues for all road users (tourists, cyclists, truckies, school buses, locals)
- Climate change issues – sea levels etc.
- 'Race' from Christchurch to Picton to get ferries
- Uncontrolled crossings along the route
- Need to align with Council Policy plans
- Need to align with South Island freight plan
- Need to align with Canterbury Regional Economic Development Strategy
- High diversity of traffic along the route

4 Key Themes were identified around ***Resilience, Reliability, Safety & Community Impact***

NZTA: Colin Knagge, Frank Porter, Peter Hookham
Facilitator: Mark Yeoh

Version no: 0.4
Workshop: September 15th 2015

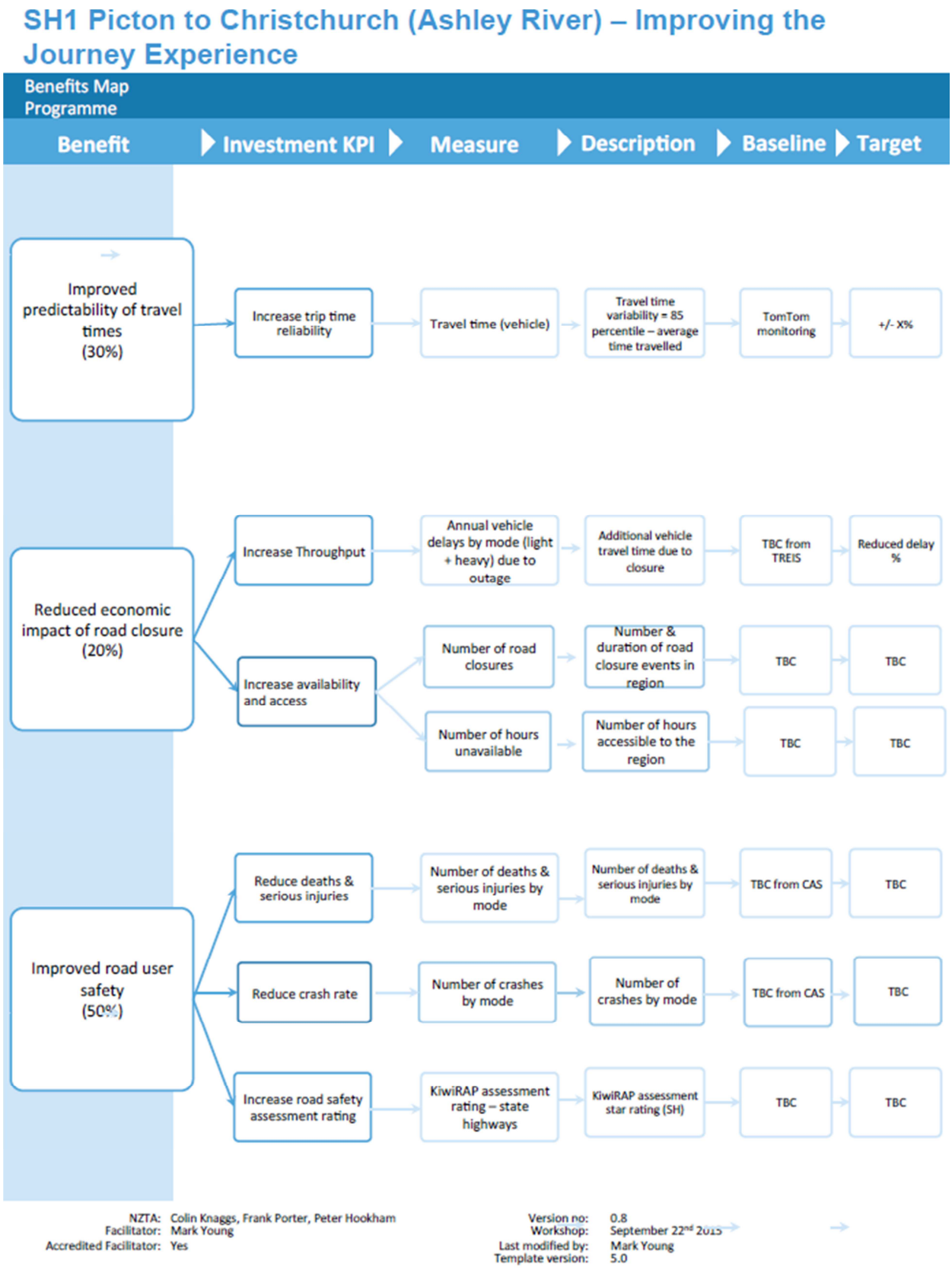
INVESTMENT LOGIC MAP
Programme



NZTA: Colin Knaggs, Frank Porter, Peter Hookham
Facilitator: Mark Young
Accredited Facilitator: Yes

Version no: 0.4
Workshop: September 15th 2015
Last modified by: Mark Young
Template version: 5.0

APPENDIX B – BENEFITS MAP



APPENDIX C – ALIGNMENT TO EXISTING ORGANISATIONAL STRATEGIES

Table 9 below identifies the high level organisational strategies of the Government, the NZ Transport Agency and the unitary and territorial local authorities that relate to this investigation project.

Organisation	Organisational Strategies
Government	Government Policy Statement on Land Transport 2015/16-2024/25
NZ Transport Agency	Statement of Intent, South Island Freight Plan, National Business Cases, National Infrastructure Plan, National Land Transport Plan
Marlborough District Council (unitary authority)	Regional Land Transport Plan (RLTP), Regional Land Transport Strategy (RLTS), Long Term Plan (LTP), Asset Management Plan (AMP), Regional Policy Statement and Resource Management Plan (under review as the "Marlborough Resource Management Plan")
Kaikoura District Council Hurunui District Council Waimakariri District Council Christchurch City Council Environment Canterbury	Canterbury Regional Economic Development Strategy (CREDS), Regional Land Transport Plan (RLTP), Regional Land Transport Strategy (RLTS)

Table 9 Relevant organisational strategies and plans

The Government Policy Statement[33] expects the Transport Agency to take a lead role in securing integrated land transport planning that contributes to the Government's overarching goal of "growing the New Zealand economy to deliver greater prosperity, security and opportunities for all New Zealanders."

The Transport Agency's purpose is to "create transport solutions for a thriving New Zealand." The desired outcomes are:-

- Effective – Move people and freight where they need to go in a timely manner,
- Efficient – Deliver the right infrastructure and services to the right level at the best cost,
- Safe and Responsible – Reduce the harms from transport,
- Resilient – Meet future needs and endure shocks.

The Transport Agency's role includes promoting integrated land use and multi-modal transport planning with resource planners and local government, for an increasingly optimised transport network that runs well and reliably. The Transport Agency needs to negotiate the right balance between transport outcomes and other social, community and economic outcomes.

The Transport Agency's Statement of Intent articulates that its goal for the transport network involves integrating land uses, transport networks, and the various modes, services and systems to deliver a seamless and safe 'one network'. Consequently, it is important when considering any state highway

[33] Government Policy Statement on Land Transport 2015/16-2024/25

transport network that the regional policy objectives are addressed. The long term organisation goals and medium term objectives that relate to this Strategic Case are identified in Table 10 below.

Long-term Goals (2013-32)	Medium-term Objectives (2013-2022)
Integrate one **effective and resilient** network for customers	Integrate land uses and transport networks to shape demand at national, regional and local levels.
	Integrate national and local transport networks to support strategic connections and travel choices.
	Improve freight supply chain efficiency.
Shape **smart**, **efficient, safe and responsible** transport choices	Implement the Safe System approach to create a forgiving land transport system that accommodates human error and vulnerability.
	Incentivise and shape safe and efficient travel choices using a customer-focused approach.
Deliver **efficient, safe, responsible and resilient** highway solutions for customers	Greater resilience of the state highway network.
	Deliver consistent levels of customer service that meet current expectations and anticipate future demand.
	Provide significant transport infrastructure.
Maximise **effective, efficient and strategic** returns for New Zealand	Align investment to agreed national, regional and local outcomes and improve value for money in all we invest in and deliver.

Table 10 Transport Agency Long-term Goals (2013-32) and Medium-term Objectives (2013-2022)

APPENDIX D – NZ CYCLETRAIL NETWORK