REPORT

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Report Number: 2016/0686
Prepared For: Otago Regional Transport Committee
Prepared By: Manager Strategic and Transport Planning
Date: 3/03/2016

Subject: **Request to vary Otago RLTP - SH88 safety improvements**

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1. Précis

NZ Transport Agency's Highway and Network Operations (HNO) has requested a new project be added to the Otago Regional Land Transport Plan 2015 – 2021 (the RLTP), to be carried out over three years, commencing this financial year. The project concerns safety improvements on SH88 between Dunedin and Port Chalmers. The committee needs to decide whether to make this variation to the RLTP. This report sets out information on this project and the RLTP variation process, in order to enable the Otago Regional Transport Committee (RTC) to consider this request.

2. RLTP variation process

Transport activities must be included in the RLTP to qualify for funding from the National Land Transport Fund. The current RLTP was adopted in April 2015. To include a new activity, such as the proposed safety improvements, a variation to the RLTP is required. The process for varying a RLTP is as follows (see s18D Land Transport Management Act 2003 (the Act)):

a. A variation request is received by the RTC, including sufficient background and information for the RTC to make a decision, and vary the RLTP.

   The RTC considers the variation request promptly:

   - Does the matter require a variation?
   - Should the activity be included in the RLTP, i.e. does good reason exist for making the variation requested?
   - Is the variation significant?

b. Consultation is undertaken if the variation is significant.

c. Generally, the same process applies as for preparing a new Regional Land Transport Plan.

d. ORC approval
   - The RTC lodges the variation with the ORC, who approves it, and forwards it to NZTA for consideration.

e. Reasons are given if the variation is not accepted.
   - If the Committee does not wish to accept the request to vary the RLTP, it should give written advice of that decision to the organisation requesting the variation and the reasons for the decision.

NZTA must consider any RTC recommendation to vary an RLTP, so the NLTP can be updated if necessary.

If it decided the project should be added to the RLTP, the RTC also needs to decide what regional priority to give to it, and should advise NZTA of that decision.

3. The application including background to the safety improvements project

HNO has supplied the following information:

Activity Class:	New and Improved Infrastructure State Highways
Title:	Dunedin to Port Chalmers Safety Improvements
Organisation:	NZ Transport Agency – Highway and Network Operations
Locality:	State Highway 88, Dunedin to Port Chalmers, specifically those 80km/h sections between Ravensbourne and Port Chalmers.
Objective:	To achieve a safer road, through implementing measures that result in safer / more forgiving roadsides.
Description:	The project is likely to involve installation of crash barrier systems to prevent errant drivers from crashing off the highway in situations where to do so, can lead to fatal and serious injury crashes.
Inclusion need:	SH88 has multiple sections where loss of control crashes can result in the vehicle entering the harbour, rail lines, or embankments. This fact is highlighted by two recent crashes: • in November last year, a vehicle having lost control came to rest on its roof in the harbour; • in February this year, a vehicle having lost control came to rest, also on its roof, on the rail tracks. The Safe Roads Alliance (an entity established under the NZ Transport Agency to deliver a nationwide portfolio of safe roads and roadsides projects) has prepared a paper presenting the route overview, strategic case overview and crash history (see attachment 3).
Value and timeframe:	The value and requested activity is $3M, which would be for completing the business case and for construction. Construction is planned for 2016/17 and 2017/18.

Attachment 1 contains details of the proposed variation for inclusion in Table Y existing RLTP. Attachment 2 contains the variation request for consideration from HNO.

4. Reasons for the variation

The RLTP states (p. 120) that NZTA advice on whether this matter requires a variation should be sought. NZTA's advice is that a variation is required in this case.

The RTC may prepare a variation to the RLTP if good reason exists for making the variation. The reasons for making this variation are to provide HNO with access to the required funding for

making some improvements to safety on the route between Dunedin and Port Chalmers, principally further crash barriers.

5. Is the variation significant?

Section 106 (2) of the Land Transport Management Act 2003 requires the RTC to adopt a policy that determines significance in respect of variations made to the RLTP. Attachment 5 contains the policy that sets out how to determine the significance of variations (p. 121 of the RLTP).

If the activity is not significant, it can be included in the RLTP without the need for public consultation.

The committee needs to decide whether they consider the variation to be significant. In this determination of significance, consideration must be given to four listed matters:

The extent to which the variation:

1. materially changes the balance of strategic investment in a programme or project;
2. impacts on the contribution to Government objectives and/or GPS objectives and priorities;
3. affects residents (variations with a moderate impact on a large number of residents, or variations with a major impact on a small number of residents will have greater significance than those of a minor impact);
4. affects the integrity of the RLTPs, including its overall affordability.

Some Regional Advisory Group (RAG) members have expressed concern about the potential for inclusion of this activity in the RLTP to off-set the priority, timing, or funding of other state highway improvement activities in the RLTP, especially given the time it is taking to complete business cases for other state highway projects in the RLTP. The RTC may wish to seek assurance from NZTA that inclusion of this project in the RLTP would not off-set the priority, timing, or funding of the other state highway improvement activities in the RLTP, and that these are going to proceed in a timely manner

Whether or not further consultation is desirable is relevant to determining whether a variation is significant. Note that some consultation was undertaken on this project recently (Attachment 4). This was, in staff view, nominal.

The RTC's significance policy requires it to give consideration not just to the extent to which, and manner in which, the matter has already been consulted on but also to:

- the balance between the need for public input/consultation on the variation, and the likely costs of a consultative process (including any time delays or cost from running a consultative process, and likely impacts on public safety and economic, social, cultural and environmental wellbeing).

7. Recommendations

That the Committee:

1. Determines whether the requested variation is significant in terms of its RLTP significance policy in Attachment 3.
2. If it considers the requested variation to be non-significant,
   a. agrees to vary the Regional Land Transport Plan 2015-21 by adding to Table Y the proposed activity set out in Attachment 1,
   b. decides on its regional priority, and
   c. recommends this variation to the Regional Council for its consideration.

3. Alternatively, if the requested variation is considered significant, undertakes public consultation on the variation before making a decision to vary the RLTP.

Fraser McRae
Director Policy, Planning and Resource Management

List of Attachments

Attachment 1 Details of the proposed variation for inclusion in Table Y of the Otago RLTP

Attachment 2 Request for variation from HNO

Attachment 3 Policy on the significance of variations to the RLTP

Attachment 4 Memorandum from SH88 Safe Roads Alliance, setting out the route overview, crash history and related matters

Attachment 5 Record of consultation workshop

ATTACHMENT 1

Activity Class 13 - New and Improved Infrastructure State Highways														
Item No	Organisation Name	Project Name	Project Description and Objective	Phase Type	Main RLTP Objective	Cost 2015/16	Cost 2016/17	Cost 2017/18	Cost 2018/19	Cost 2019/20	Cost 2020/21	Total Cost For 3 Years	Total Cost For 6 Years	Regional Priority
72	NZTA	Dunedin - Port Chalmers Safety Improvements	Safer roadsides through combination of improved delineation (eg ATP markings); wire rope barrier, guardrail barrier. Nominally focus in areas of 80km/h speed limit between Ravensbourne and Port Chalmers, and to protect from loss of control impact from entry into harbour, onto rail lines, into/over steep embankments. Extent of treatment would be tailored to justifiable budget – nominally $3M	Detailed Business Case	Ensuring safety	$80,000	$0	$0	$0	$0	$0	$80,000	$80,000	
				Pre-implementation		$20,000	$120,000	$0	$0	$0	$0	$140,000	$140,000	
				Implementation		$0	$1,900,000	$850,000	$0	$0	$0	$2,780,000	$2,780,000	

ATTACHMENT TWO
Request for variation from HNO

2 March 2016

Otago Regional Council
70 Stafford St
Private Bag 1954
Dunedin 9054

Attention: Jane Turnbull

Dear Jane

Regional Land Transport Planning for inclusion of: Dunedin to Port Chalmers Safety Improvements

I would like to promote for consideration of the Regional Transport Committee, their endorsement of a new or supplementary activity to the Regional Land Transport Plans [2015-2021] for Otago and Southland. Particulars of that activity are:

Activity Class: New and Improved Infrastructure State Highways

Title: Dunedin to Port Chalmers Safety Improvements

Organisation: NZ Transport Agency – Highway & Network Operations

Locality: Generally, State Highway 88, Dunedin to Port Chalmers;
and more specifically those 80km/h sections between Ravensbourne and Port Chalmers.

Objective: To achieve a safer road, through implementing measures to which result in safer / more forgiving roadsides.

Description: Nominally, this is likely to involve installation of crash barrier systems to prevent errant drivers from crashing off the highway in situations where to do so, can lead to fatal and serious injury crashes. SH88 has multiple sections where loss of control crashes can result in the vehicle entering the harbour, rail lines, or embankments. This fact is highlighted by two very recent crashes:

- in November last year, a vehicle having lost control came to rest on its roof in the harbour;
- in February this year, a vehicle having lost control came to rest, also on its roof, on the rail tracks.

A paper prepared by the Safe Roads Alliance *(an entity established under the NZ Transport Agency to deliver a nationwide portfolio of safe roads and roadsides projects)* presents the route overview, strategic case overview, crash history, and other highway use metrics.

Related projects:

SH88 Shared Path. In terms of locality, this project overlaps with the shared path project; in terms of development and planning however, the two projects are quite separate, as the SH 88 Shared Path is managed through the 'walking and cycling' activity class. Notwithstanding this, those persons involved in the planning and design of both projects have a high level of awareness of each. If anything, it would be advantageous if this safer roadsides project is able to be implemented in advance, or at the same time, as the SH88 Shared Path project. This is because, any crash barriers implemented through the safer roadsides project, will provide a high level of safety for users of the shared path – where directly alongside the highway.

Dunedin-Fairfield Safety Improvements. This Dunedin to Port Chalmers Safety Improvements project, is directly equivalent to that of the Dunedin – Fairfield Safety Improvements project in terms of objectives and general scope of works, in respect of achieving safer roads and roadsides. The two projects are complementary to one another, both forming part of the overall programme of works being delivered by the Safe Roads Alliance.

Status: The Transport Agency's Highways & Networks Operations group are in the process of developing a business case for this project. It is recognised however, that this activity is not presently included in the Regional Land Transport Programme (and thus also not included in the National Land Transport Programme), and that inclusion of the project in these two programmes is necessary for the project to progress through to implementation.

The project is not presently set-up in TIO – Transport Investment Online; but will be pending the Regional Transport Committees view as to inclusion in the RLTP. *[Note, set-up of the project in TIO is a recognised process step for inclusion in the NLTP].*

Consultation: As part of the problem definition, a stakeholder workshop was undertaken in November last year. This included representatives from: the Chalmers Community Board, the Otago Regional Council (Gerard Collings), Dunedin City Council, as well as the Safe Roads Alliance and the Transport Agency.

And as a prelude to this submission to the Regional Transport Committee, a further stakeholder meeting was held late February this year, where the purpose of the meeting was to:

> *"To consult with stakeholders on the proposed safety improvements on SH88 and to seek support to request this project be included in the 2015-21 RLTP as variation."*

Stakeholders presented at that meeting included the same organisations as attending the November workshop, with the addition of the: Road Transport Association, Kai Tahu Ki Otago; Automobile Association; Ritchies Transport. A minuted record of that meeting is attached, with the last point in section 3 being that most pertinent:

> *"Attendees were in general agreement of the project being included in the RLTP"*

Significance Policy

For the 2015-2021 Regional Transport Plan, the 'significance' policy – in relation to variations to that plan, is set out in the Appendix H. This policy then projveds guidance as to the 'general determination of significance', which requires cognisance of affect to:

- *balance of the strategic investment in a programme or project;*
- *Government objectives and/or GPS priorities;*
- *Residents;*
- *Overall affordability and integrity of the RLTP.*

This activity is not contrary to, or otherwise raises any concern, in relation to these matters.

The project itself, forms part of a nationwide programme of safer roads and roadsides works, programmed (by the Transport Agency) to be completed by the Safe Roads Alliance. For the Alliance, it is not practical to deliver the programme entirely on a priority basis, as some projects are far more complex than others to develop. This has created opportunity for this project to be progressed sooner, rather than later.

The 80km/h sections of SH88 – which are those likely to receive treatment, are largely resident/access free. The roadside hazards, indeed relate to the adjacent harbour, rail line, or steep embankments. Notwithstanding this, the project design will be taking account of bus-stops and points of access to the existing and planned sections of the SH88 shared path, as well as any other points where there is a need for controlled access to and from the highway.

Further, the significance policy provides a number of contexts where variations would not generally be significant, these include:

- *Activities are in the urgent interest of public safety*
- *The addition …….. of an activity budgeted to cost less than $3M for the whole project.*

In regard to public safety, those two crashes referred to above having occurred in the last four months (whilst the Safe Roads Alliance have been investigating this project) are illustrative of the risk to public safety.

In regard to overall project budget – to some extent this is an unknown, as the extent of project development has been focused on problem definition and need. Indeed, this request is part of the programme and funding journey required to enable a detailed business case to be undertaken. None-the-less, it is very likely that the cost of this activity will be less than $3M, and the complementary cash-flow table is prepared on this basis. Should the Regional Transport Committee require certainty in relation to the project cost, then a condition to any endorsement in this regard may be appropriate.

Supplementary information:

Provided with this letter is:

- Safe Roads Alliance memorandum: additional information to support SH88 Dunedin to Port Chalmers - Workshop 1

- Stakeholder consultation: minutes of meeting 26 February 2016
- Graphic: in harbour car crash – November 2015

The Transport Agency – Highways & Network Operations team in Dunedin, therefore ask the Regional Transport Committee to endorse this activity, as a new activity within the Regional Land Transport Programme.

Yours sincerely

Simon Underwood
Project Team Leader

ATTACHMENT THREE

RLTP Appendix H: Significance Policy

A Purpose of this policy

This policy sets out how to determine significance with regard to the RLTPs. It is required by Section 106(2) of the Land Transport Management Act 2003. It gives guidance to the RTC in creating the RLTPs, and in considering variations to the RLTPs.

B Significant transport activities

Application of this policy

The RTC must assess the significance of activities and expenditure to meet certain requirements under section 16 of the Act:

- identify significant activities (so they can be prioritised - Section 16(3)(d) of the Act);
- identify activities that have inter-regional significance (Section 16(2)(d) of the Act);
- identify regionally significant expenditure to be funded from sources other than the National Land Transport Fund (Section 16(2)(c) of the Act).

Significant activities

Significant transport activities are typically high-cost, large, new projects that require significant funding and have a larger impact on the local, regional and interregional transport networks.

They are not regular, day-to-day activities or 'business as usual' (projects such as maintenance, operations and renewals).

Note: *Approved Organisations can choose to bundle activities into a package - a related set of activities that, when delivered in a coordinated manner, produce synergies. Only activities need to be assessed for significance, not packages. A package is not in itself significant, even if the sum of its parts appears significant. However, an individual activity within a package could be significant.*

Inter-regional Significance

The following activities are likely to have inter-regional significance:

- activities of national significance are considered to also be of inter-regional significance;
- those that have implications for connectivity with other regions, especially relating to key freight, tourism, and lifeline links;
- activities for which a high level of cooperation with other regions is required.

There may be other activities falling outside the above categories that the RTC considers are inter-regionally significant.

Significant expenditure from other sources

The identification of significant expenditure from other sources will include any expenditure not from the NLTF, which is greater than $5 million on individual transport activities (whether the unsubsidised activities are included in the RLTPs or not), including any from:

- financial expenditure by Approved Organisations;
- in-kind donations of goods and/or services;
- third party contributions;
- public private partnership projects.

C Variations to the RLTPs

Application of this policy

The RLTPs can be varied at any time. Consultation will be required in accordance with section 18 of the Land Transport Management Act 2003, unless the variation is not significant. Therefore, the RTC must determine whether a variation is significant.

When considering variations, it is necessary to ask whether:

- the matter requires variation;
- the variation is significant.

Is a variation required?

To decide whether a variation is required, the advice of the NZTA Planning and Investment Manager should be sought. Sections 18D and 18E of the Act are relevant.

There are a number of changes and amendments that do not require a formal RLTP variation. These include:

- requests to vary the NLTP allocation amounts;
- requests for emergency works;
- changes to the following Approved Organisations' activities:
  - public transport existing services programmes;
  - local road maintenance, operations and renewals programmes;
  - preventive maintenance activities;
  - local road minor capital works;
- variations to timing, cash flow or total cost for improvement projects or community programmes;
- delegated transfers of funds between activities within groups;
- supplementary allocations;
- end of year carryover of allocations;
- road policing and NZTA national programmes;
- adjustments to the scope of projects that do not change the objective of the project (for example, similar type of work undertaken in a different location, possibly with increased costs).

General determination of significance

Where a variation to the RLTPs are required, the significance of that variation will always be determined on a case by case basis. The variation will be considered in relation to its impact on the RLTPs as a whole, rather than as a standalone change.

When determining the significance of a variation to the RLTPs, consideration must be given to the extent to which the variation would:

- materially change the balance of strategic investment in a programme or project;
- impact on the contribution to Government objectives and/or GPS objectives and priorities;
- affect residents (variations with a moderate impact on a large number of residents, or variations with a major impact on a small number of residents will have greater significance than those of a minor impact);
- affect the integrity of the RLTPs, including its overall affordability.

Whether or not further consultation is desirable is also relevant to determining whether a variation is significant. Therefore consideration must also be given to the following matters:

- the balance between the need for public input/consultation on the variation, and the likely costs of a consultative process (including any time delays or cost from running a consultative process, and likely impacts on public safety and economic, social, cultural and environmental wellbeing);
- the extent to which, and manner in which, the matter has already been consulted on.

Variations generally not significant

Subject to the general determination of significance, the following variations to either of the the RLTPs will usually be considered not significant:

- replacement of activities within an approved programme (e.g. maintenance programme) or group, with activities of the same type and general priority;
- addition of an activity that has previously been consulted on in accordance with sections 18 and 18A of the Act. e.g. the addition of a new phase of a project where the project has already been consulted on in the RLTPs;
- a scope change to an activity that does not materially change the project description, objective(s) and proposed outcomes of the activity;
- on its own, a cost change to an activity;
- activities that are in the urgent interests of public safety;
- on its own, a change of responsibility for implementing an approved activity from one agency to another;
- a change to the duration and/or order of priority of the activity or activities that the Regional Transport Committee decides to include in the programme, which does not substantially alter the balance of the magnitude and timing of the activities included in the programme, provided that the change does not entail a delay of more than 18 months in the introduction of a walking, cycling, public transport or road safety promotion activity;
- the addition, deletion or delay of an activity budgeted to cost less than $3 million for whole project.

MEMORANDUM			
To:	SH88 Safe Roads Alliance Workshop 1stakeholder attendees (see full list below)	**Date:**	07 Jan 16
From:	Safe Roads Alliance Project Managers (Josh von Pein)		
Topic:	Additional Information to support SH88 Dunedin to Port Chalmers Workshop 1		

Memo Overview

This document presents additional information to support the decision making process to invest in safety improvements along the SH88 corridor (highway route position 088-0000/5.18 through to 088-0008/3.9).

A stakeholder workshop was held on the 27th November 2015 in Dunedin to discuss the case for investment. This workshop concluded that further information is required before a conclusive decision can be made for investment (or not).

STAKEHOLDERS

The following stakeholders were present at the workshop:

- Tony Sizemore (NZ Transport Agency)
- Marcos Santana (NZ Transport Agency)
- Steve Walker (Chalmers Community Board Chair / Cycling Advocates Network (CAN))
- Roy Johnston (NZ Transport Agency)
- Gerard Collings (Otago Regional Council)
- Simon Underwood (NZ Transport Agency)
- Matt Barnes (NZ Transport Agency)
- Graham Rose (NZ Transport Agency)
- Mike Harrison (Dunedin City Council)

ADDITIONAL INFORMATION REQUESTED

Additional information was requested by the workshop stakeholders for these areas:

- Port freight
- Traffic volumes - AADT
- Cruise ship tourism

- Residential growth
- Bus services
- Cycling and Pedestrians

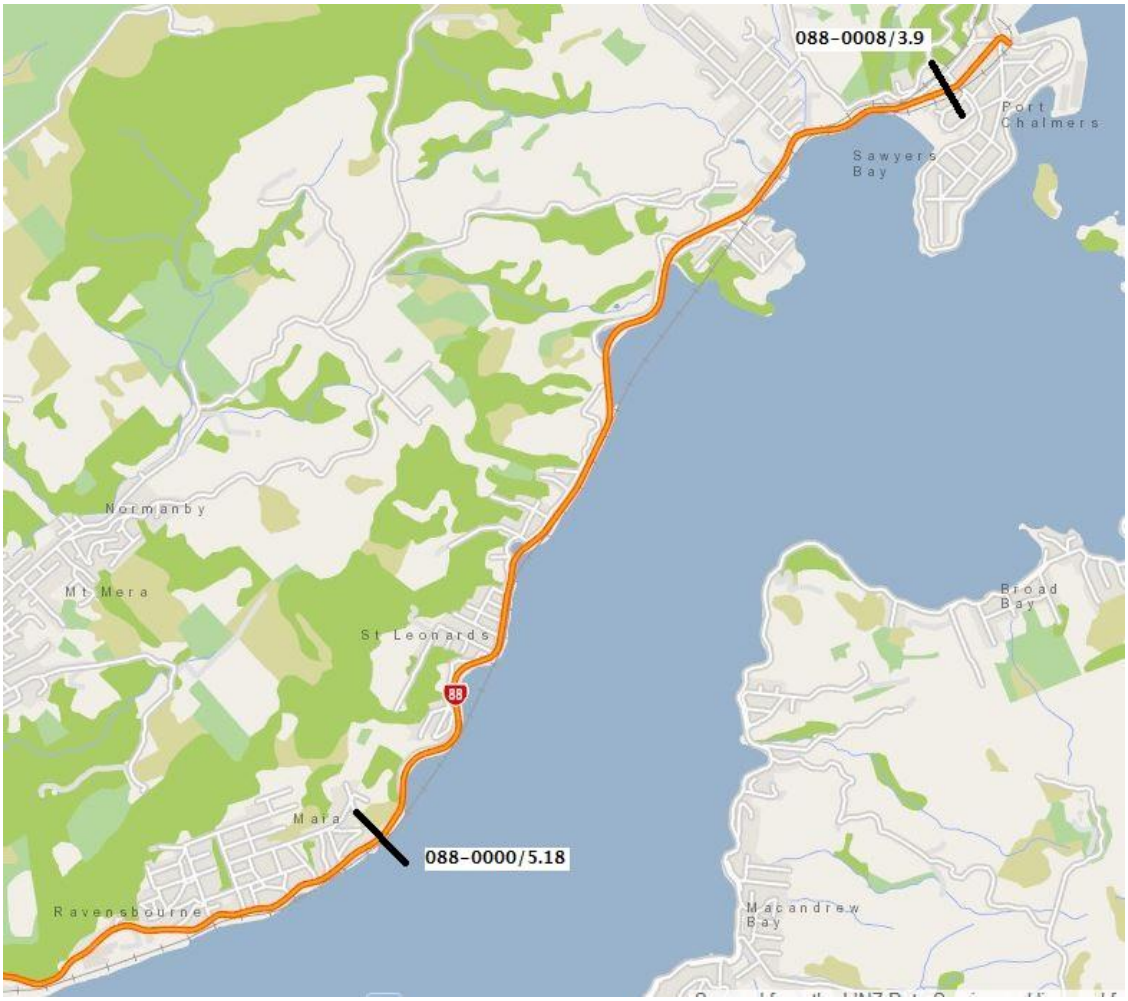
Information has been collated from readily accessible documentation and publications, with reference links provided.

Route Overview

The SH88 Dunedin to Port Chalmers route is classified as a **National Strategic** route with traffic volumes between 4800-5500AADT and has an 80km/h speed limit within a predominantly rural road environment of 7km in length. The route serves a mixed purpose of providing access to the Port and also to a number of residential communities.

SH88 is categorised as a High Risk Rural Road based on the High Risk Rural Roads Guide and corresponding to this also has a low published KiwiRAP Star rating of just 2 Stars. This is reflected in the unforgiving road and roadside which is tightly constrained by the harbour on one side and steep terrain on the other side. This elevates the risk of roadside runoff into water and head-on collisions.

State Highway 88 project extent



Safety Case Overview

HIGH RISK RURAL ROADS ASSESSMENT

SH88 is categorised as a High Risk Rural Road based on meeting the requirements of;

- Having a medium-high collective risk and;
- Having an actual crash record of 3 or more fatal and serious crashes over 5 years or;
- 5 or more fatal and serious crashes over 10 years or;
- a similar number of predicted high-severity crashes using KiwiRAP star rating and RPS

KIWIRAP RISK ASSESSMENT & PREDICTIVE CRASH DATA

The KiwiRAP Road Assessment Programme has been undertaken on all NZ State Highways with the objective of reducing deaths and injuries. KiwiRAP does this by:

- Understanding the actual historic crash data by mapping the risk relative to other sections of the State Highway network
- Performance tracking of crash rates to establish whether fewer or more people are being killed or seriously injured
- Star rating of the road – which includes the assessment of the inherent risk features on a corridor comprised from risk road protection scores (RPS).

While it is acknowledged that the crash record can be an indicator of a specific underlying issue, the random nature of crash occurrence, and in particular the less common fatal and serious crashes, means that prior Fatal and Serious crash locations are not a reliable indicator of the future crash occurrence. Use of the crash record alone can lead to chasing random crashes around a network.

KiwiRAP correlates the actual reported crash rate with the Star rating and traffic volume of the road. This information allows us to determine a more reliable prediction of crashes over time which can be assigned to a route. Therefore future benefits can be more reliably assessed.

The NZ Transport Agency Investment Assessment Framework's (IAF) current settings put emphasis on levels of deaths and serious injuries over the last 5 years. This approach fosters evaluation from a crash reduction or 'black spot' type analysis. This does not fully align with Safe System assessment methodology.

Use of predictive methodologies is accepted by the Agency (e.g. in the HRRRG) and is an underpinning for evaluation under the Safe System approach. Precedent exists for Business Case acceptance by the Agency that are framed up primarily through use of the predictive methodology, supported by consideration of actual DSIs.

In the case of SH88 evaluation focussed on the predictive assessment methodology indicates the SH88 corridor has:

- a KiwiRAP Star Rating of 2.4, with
- a medium-high collective risk and
- a medium personal risk.

As such it is rated as a high risk rural road in the NZ Transport Agency criteria set out in the HRRRG. The Star rating is below the desirable 3+ rating for a high speed road.

Using the typical predicted crash rates identified in KiwiRAP for a road of 2.4 star rating with a traffic volume of 5100 AADT (average) we can expect approximately 48 injury crashes and 14 FSi crashes in any given 10 year period. **This is predicted to result in 18 DSi.**

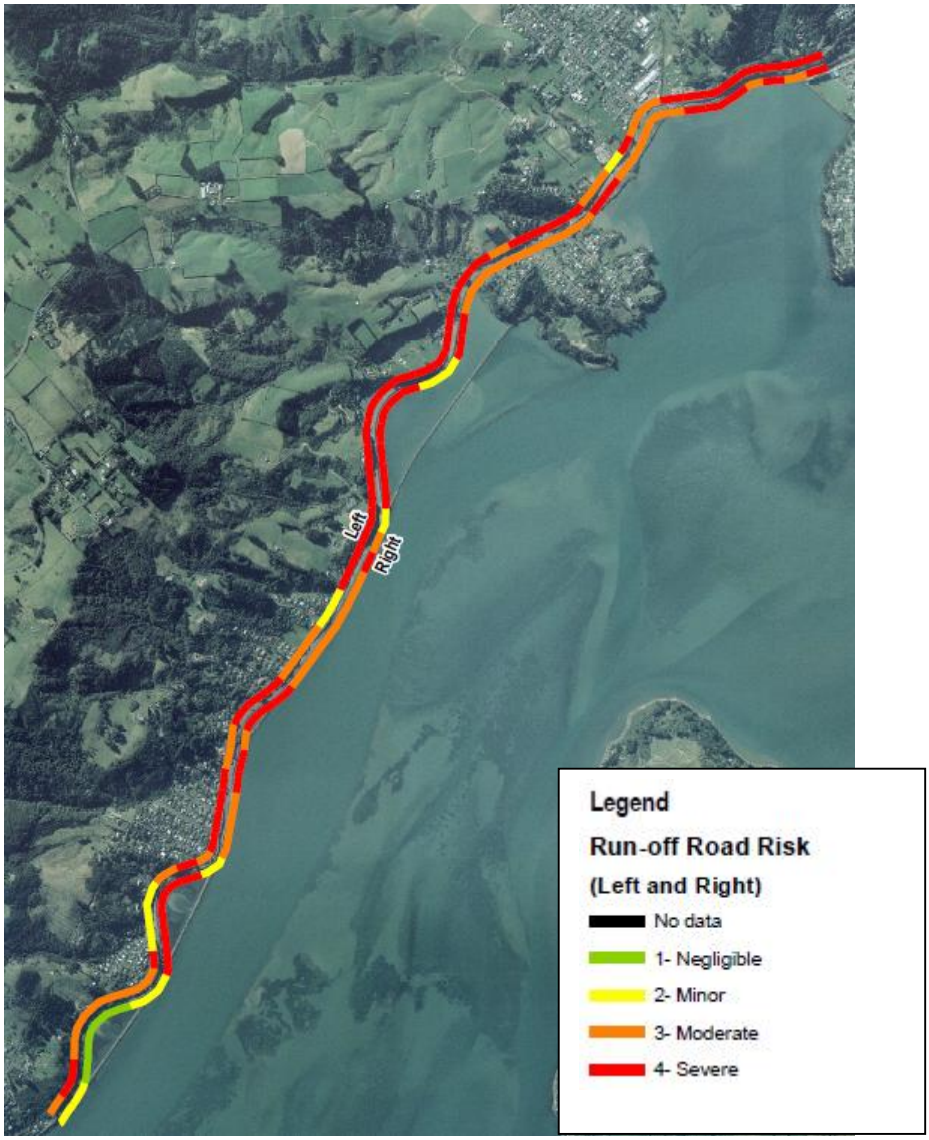
This 2.4 Star rating is reflected in the unforgiving roadside environment. The segment-by-segment Star ratings are illustrated in the figure below. It demonstrates that, whilst the corridor has an average Star rating of 2.4, a significant portion of the route is rated at just 2 Stars and below.

SafetyNET 100m Star Rating Map[1]

[1] As illustrated in http://nzta.ably.com/SafetyNET/

The roadside hazards are reflected in the KiwiRAP run off road RPS data where severe and moderate hazards are present on the majority of the route.

KiwiRAP Run Off Road RPS Data Map[2]



The One Network Road Classification guidelines[3] defines a Customer Level of Service for Safety on a **National** road category as "A high KiwiRAP 3 or 4-star standard, or equivalent, with consistent and predictable alignment. User hazards mostly mitigated. Active road users (if present) are mostly provided with separate space or are physically separated.

[2] Safe Roads Alliance Mapping of KiwiRAP data

[3] https://www.nzta.govt.nz/assets/Road-Efficiency-Group-2/docs/onrc-guidelines.pdf

Some lower standards and/or winding sections may require lower speeds and extra care. High level of road user safety guidance provided."

HISTORIC CRASH RECORD

During the 10 year period 2005-2014 there have been a total of 35 Injury crashes on this section of SH88. Of these there were 9 FSi crashes resulting in 10 DSi (casualties).

Of the FSi the predominant crash types were:

- Lost Control / Off Road (44%)
- Head On (33%)
- Crossing/Turning (11%)
- Overtaking (11%)

Of the 35 recorded injury crashes, 21 (60%) involved a vehicle leaving the road and striking a roadside object. Of these:

- 5 (24%) vehicles ended up in water
- 10 (47%) vehicles hit a bank

A recent crash example is illustrated in the Otago Daily Times article below. This crash occurred on the 18th November 2015.[4]

Lucky escape for pair whose car ends up in harbour

[4] See also http://www.odt.co.nz/news/dunedin/363734/lucky-escape-pair-whose-car-ends-harbour

ROAD SAFETY SUMMARY

The route is identified by the HRRRG as having an elevated number of DSi when compared with other State Highways. KiwiRAP also rates this route at just 2.4 Stars which is well below the desirable 3.5 Star rating for a National Strategic Route. While there have been 10 DSi recorded in the last 10 years, KiwiRAP predicts this to be much higher at 18 DSi. This is indicative of a much higher risk than the crash record alone implies. The crash record shows us that 60% of crashes on the route involved striking a roadside hazard and KiwiRAP RPS confirm the roadside risk as severe and moderate throughout most of the route. The vast majority of the hazards struck were cliff banks and water, of particular concern is the water hazard which generally includes a steep drop off which can result in serious impact and rollover as well as the secondary risk of drowning.

Port Freight

SH88 is the key link between Port Otago and the wider state highway network.

Freight is moved to and from Port Otago using both road transport and rail networks.

EXISTING

The following tables illustrate the existing total Export and Import volumes (tonnes) from Port Otago:[5]

Total exports by port, gross weight (tonnes), June year

	2010/2011	2011/2012	2012/13	2013/14	2014/15
Port Chalmers	1,801,641	1,567,995	1,767,678	1,716,717	1,747,679
Total Seaports	31,356,282	32,477,133	35,543,841	38,320,218	36,603,238
% of Total Seaports	6%	5%	5%	4%	5%

Total imports by port, gross weight (tonnes), June year

	2010/2011	2011/2012	2012/13	2013/14	2014/15
Port Chalmers (sea)	339,395	251,138	294,673	235,393	282,714
Total Seaports	18,457,320	18,827,681	19,712,268	20,800,891	21,812,814
% of Total Seaports	2%	1%	1%	1%	1%

[5] Sourced from http://www.transport.govt.nz/ourwork/tmif/freighttransportindustry/ft010/

FUTURE

Port Otago has announced "…the commencement of a two-year, $30 million capital works programme that will position the southern port for the next generation"[6].These works are in part to support larger container and cruise ships.

Ministry of Transport Future Freight Scenarios (2015) identifies that a trend to larger ships is likely to create bottlenecks on the road.[7] This study considers the impact of the concentration of cargo on fewer hub ports and the increase of vessel sizes on the transport network, and notes that would be insufficient capacity on the road network accessing Port Otago.[8]

The Ministry of Transport National Freight Demand Study (2014) indicates a rise in freight movement to and from Otago over the period through to 2042.

The Dunedin City Integrated Transport Strategy (2013) Section 9.4 *Focus on Freight* notes "Freight movement is central to exporting" and "[t]he safe and efficient movement of freight is a key part of this". The study furthermore states "Under the 'principle of homogenous use' …, large heavy vehicles, such as trucks used for moving freight, cannot mix safely with vulnerable road users."

Traffic Volumes – AADT

Existing traffic count statistics are illustrated below[9]. Traffic counts have been stable for the previous 5 years.

AADT 2014

SH	RS	RP	Direction	Description	AADT (2014)	% Heavy	% change 2010-2014
88	8	1.37	Both	St Leonards	5570	8.2	2%
88	8	3.38	Both	Sawyers Bay	4824	7.8	-2%

[6] http://www.nextgenerationportotago.nz/overview/

[7] http://www.transport.govt.nz/research/future-freight-scenarios-study/

[8] http://www.transport.govt.nz/assets/Uploads/Research/Documents/Future-Freight-Scenarios-Study.pdf (pg 15)

[9] https://www.nzta.govt.nz/resources/state-highway-traffic-volumes/

Cruise Ship Tourism

Port Chalmers is the primary South Island port for the cruise ship industry[10].

Cruise ship visits are seasonal – October through to April is the peak period.

Cruise ships berth at Port Chalmers and access Dunedin City and beyond through travel along SH88. Passengers travel primarily to Dunedin City using coaches along SH88. An anecdotal observation made at the stakeholder workshop was that passengers have been observed to walk from the port to the city alongside the highway.

The Dunedin Cruise Action Group has identified through the Cruise Action Plan (2015-2018) that SH88 is an important link in connecting the port with city attractions for cruise ship visitors through its guiding principle "Develop and co-ordinate transportation and infrastructure".[11]

The NZ Transport Agency is identified by the Dunedin Cruise Action Group in the Cruise Action Plan as a Key Cruise Industry partner with areas of responsibility of:

- Enabling key SH88 access
- Safer Journey mandate
- Monitoring operator compliance12

EXISTING

Cruise ship visitors (passengers and crew) numbers to Dunedin have increased from 117,429 in 2009/2010 to 183,800 in 2014/2015.[13]

72 cruise ships are scheduled to visit in the 6 months from November 2015 to April 2016, with a potential of 136,908 passenger visitors[14]. Dunedin City figures report expected cruise ship visitors for the 2015/2017 season at 144,000 passengers and 61,000 crew.[15]

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[10] https://www.portotago.co.nz/marine-and-shipping/cruise-ships/

[11] http://www.dunedin.govt.nz/__data/assets/pdf_file/0003/219396/Dunedin-Cruise-Action-Plan-2015-2018.pdf (pg 9)

[12] Ibid, (pg 13)

[13] Ibid

[14] Sourced from https://www.portotago.co.nz/assets/Uploads/Cruise-Ship-Calendar-15-16.pdf

[15] http://www.dunedin.govt.nz/services/business-support/support-for-industries-and-across-otago/cruise-ships

FUTURE

In the "…2016-17 season … 91 ships [are expected] to dock, and about 250,000 passengers and crew likely to visit."[16] This increase in ship numbers and passengers is expected to put pressure on Dunedin infrastructure.

Residential Growth

SH88 is used to access the following communities (suburbs):

- Port Chalmers
- Ravensbourne/Maia
- St Leonards
- Roseneath
- Sawyers Bay

EXISTING

The combined population of these suburbs (2013 census) is 4587 with the breakdown illustrated below[17]:

Usually Resident Population (2013)

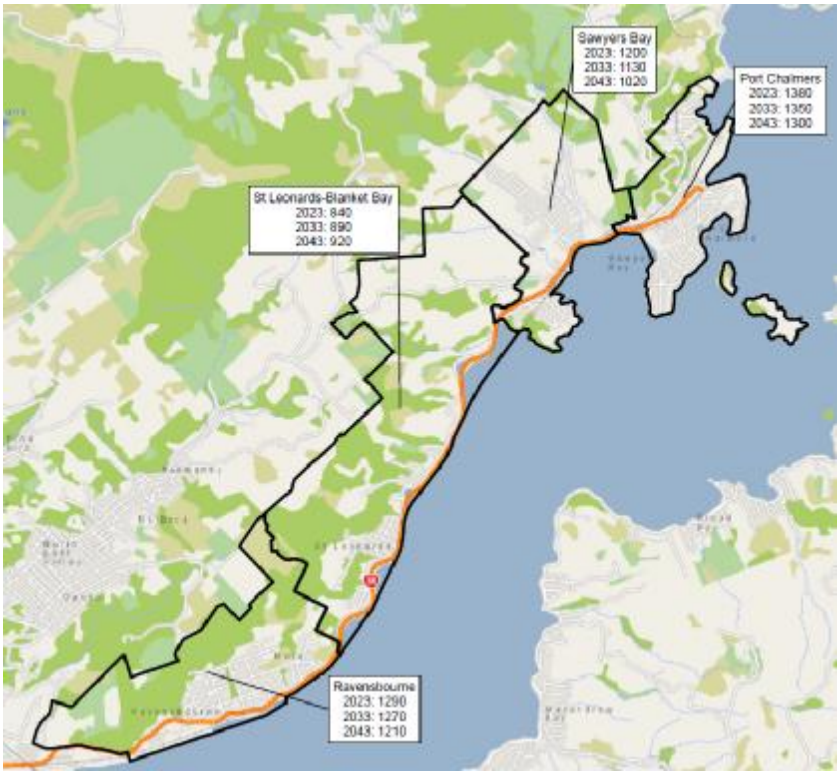
[16] http://www.odt.co.nz/news/dunedin/354030/cruise-numbers-test-dunedin

[17] Population statistics reported at census Area Unit level. Sourced from Statistics NZ http://www.stats.govt.nz/Census/2013-census/data-tables/meshblock-dataset.aspx

FUTURE

The projected populations for the same census Area Units for 2023, 2033 and 2043 are illustrated below[18]. The populations of these areas is projected to remain stable over this 30 year period.

Population Projections (2023, 2033, 2043)



Bus services

EXISTING

Two public bus services travel along SH88, with some bus stops on the side of the state highway:

- Route 13 (Port Chalmers to the city)
- Route 14 (city to Port Chalmers)

The frequency of these services are defined as "irregular"[19].

[18] Projected population statistics sourced from Statistics NZ. http://nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE7523#

[19] http://www.orc.govt.nz/Documents/Publications/Transport/RPTP%202014%20KERRY.pdf (page 107)

School buses also use SH88 to transport students to and from the communities along SH88, including those provided by School Support[20] and Go Bus[21].

FUTURE

The Otago Regional Council Regional Public Transport Plan (2014) proposes a "regular" public bus service along SH88 connecting Port Chalmers and the city named Route 10, with an initial (from 2015) weekday frequency of 30 minutes peak and 60 minutes off peak, progressing to a 30 minutes frequency by 2021[22].

Cycling and Pedestrians

EXISTING

CYCLING

No cycle lanes are provided on SH88[23].

"…the current on-road provision is not adequate to allow safe sharing of the road by heavy vehicles and cyclists"[24].

PEDESTRIANS

"Typically footpaths are only on one side of the road, and provide continuous connections provided between Maia and Dunedin City, as well as between Roseneath and Port Chalmers. Limited footpaths are provided in St Leonards as part of connections to bus stops. The footpaths are generally located within 0.9m of the traffic lane edgeline, and have a width of 1.2m to 2.4m."[25]

"The footpath network on SH88 is incomplete, and long distance walking trips are not provided for within the rural sections of the highway"[26].

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[20] http://www.schoolsupport.co.nz/school-transport

[21] http://www.gobus.co.nz/school/

[22] http://www.orc.govt.nz/Documents/Publications/Transport/RPTP%202014%20KERRY.pdf (page 58)

[23] http://www.orc.govt.nz/Documents/Content/Information%20Services/Resource%20Consent/Port%20Otago/21%20SH88%20Transport%20Review%20(TDG%202009)%20(vA275980).pdf (pg 7)

[24] Ibid, (pg 29)

[25] Ibid, (pg 11)

[26] Ibid, (pg 26)

FUTURE

The SH88 Dunedin to Port Chalmers walking & cycling path project in under development.

The 2008 Port Otago review notes the "…lack of road width in several areas poses a significant safety risk to pedestrians and cyclists, especially when you factor in the large number of heavy vehicles utilising this route. Limited pedestrian and cycling facilities along SH 88 mean cyclists and pedestrians are forced to use the often narrow sealed road shoulder.

In order to make SH 88 safer for all road users, including cyclists and pedestrians, the Transport Agency started work a few years ago on extending the existing path from Dunedin to Ravensbourne through to St Leonards, with the long term aim of continuing it on to Port Chalmers."[27]

The projects purpose is to "Complete the remaining 5.2km section of the State Highway 88 shared walking and cycling path. Once finished, it will provide a safe yet direct route away from the highway for walking and cycling commuters between Port Chalmers and Dunedin." [28]

The project benefits include:

- Help[ing] caters for the growing demand for safe cycling infrastructure in Dunedin
- Offer[ing] a safe and direct route for walking and cycling commuters living between Port Chalmers and Dunedin29

"The design work for the remaining section of the shared path from St Leonards to Port Chalmers is expected to be completed by the end of 2015. However, there is some uncertainty around the exact length of time it will take to secure the resource consents, mainly for reclamation work."[30]

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[27] https://www.nzta.govt.nz/assets/projects/sh88-dunedin-to-port-chalmers-walking-and-cycling-path-project/201506-sh88-shared-path-information-sheet.pdf

[28] https://www.nzta.govt.nz/projects/sh88-dunedin-to-port-chalmers-walking-and-cycling-path-project/

[29] Ibid

[30] Ibid

Summary and Conclusion

SUMMARY

- SH88 is the key link between Port Otago and the wider state highway network.
- SH88 is National Strategic route and is rated at 2.4 Stars which is below the desirable 3.5 Star rating for a road of this significance
- SH88 is defined as a High Risk Rural Road and this is reflected in both the elevated number of actual and predicted DSi crashes
- The roadside is unforgiving increasing the risk of severe crashes
- Approx. 8% of traffic is HCV and this is anticipated to increase with further activity at the port. It is expected that there will be elevations in the volume of cargo and an increase in cruise ship visitors over the next few years. This will increase the volume and HCV proportion on route increasing pressure on the existing road infrastructure and in turn increase the risk of crashes occurring on this route in the future.

CONCLUSION

It can be seen that the DSi crash record is currently elevated and has consistently been at this level during the last 10 years. Furthermore the risk of DSi crashes based on KiwiRAP is also high and based on anticipated traffic to the port this risk will increase. Without safety intervention this crash risk will continue and increase over time.

Minutes of Meeting

Dunedin to Port Chalmers Stakeholder Meeting Minutes 26-02-2016

Held 26 February 2016 at 10:00

at Beca Dunedin Office

Present:

Josh von Pein (Safe Roads)
Allan Cooper (RTA)
Tania Richardson (KTKO)
Mike Harrison (DCC)
Allan Race (AA)
Hayley Annear (Beca)
Malcolm Budd (Ritchies Transport Holdings Limited)
Julian Phillips (ORC)
Tony Sizemore (NZ Transport Agency)
Roy Johnston (NZ Transport Agency)
Simon Underwood (NZ Transport Agency)
Steve Walker (Chalmers Community Board)

Apologies:

Jason Forbes (NZ Transport Agency)
John Jarvis (NZ Transport Agency)
Tania Baron (NZ Police)
Graeme Evans (NZ Police)

Distribution:
All attendees of the meeting

Item	Action
1 Purpose of Meeting ■ To consult with stakeholders on the proposed safety improvements on SH88 and to seek support to request this project be included in the 2015-21 RLTP as a variation. ■ Discuss additional information requested from previous workshop (held 25 November 2015) ■ Discuss stakeholders' views/preferences	
2 Items Discussed ■ Procedure for the project to obtain funding ■ Project specific information ■ The relationship between this project and the proposed SH88 Shared Path St Leonards to Port Chalmers project ■ Design considerations and proposed issues	
3 Viewpoints ■ Tania - generally supportive of the project. Less supportive of the proposed adjacent cycleway. ■ Steve Walker- generally supportive of the safety improvements. Believes that local PR will be required to correctly inform the public of the project. ■ Mike Harrison – generally supportive.	

Is concerned with aspects of the indicative design whereby guard rail is installed on both sides of SH88. This may cause vehicle owners to drive closer to the centre line increasing the chance of head-on collisions. In addition, despite the proposed shared cycle path there will still be cyclists who will use the State Highway. ■ Simon Underwood – Supportive of the project. Acknowledges that cyclists will be required to have access points to cross the road. The overall point of the project is to improve the road and not to make it more hazardous than it is currently. The project is not to put in barriers where there are current bus stops. ■ Malcolm Budd – Generally supportive of the project. ■ Roy Johnston – Supportive of the project. More design considerations needed in regards to type of barrier design and location. ■ Julian Philips – Supportive of the project. Provisions will need to be in place so that the works do not impede on the weigh bridge and associated St Leonard's bus stop along the route (future projects). ■ Allan Cooper – Generally supportive of the project ■ Josh von Pein – Supportive of the project. ■ Tony Sizemore – Supportive of the project. ■ All acknowledge that the construction works will need to be carefully thought out and understood in regards to timeframe, weather and community activities. Will need to take into account the cruise ship schedule. ■ Attendees were in general agreement of the project being included in the RLTP.	
4 Required Actions ■ Present the stakeholders views at the RTC meeting on the 8th of March ■ Compile minutes and circulate to attendees	**TS** **HA**

Minuted by: Hayley E. Annear