
TAIP Re-evaluation: SH29 Western Corridor

NZ TRANSPORT AGENCY

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Table of Contents

Table of Contents	2
Executive Summary	1
Re-evaluation purpose and approach	2
Re-evaluation purpose	2
Re-evaluation approach	2
SH29, Western corridor – Project context	5
Review of problem and benefits statements	7
Problem and benefits statements.....	7
Rationale for supporting growth.....	7
The case for safety	9
Conclusion from the review of problem statements	10
Review of the strategic context	11
Findings of the review of the strategic context.....	11
Reviewing and updating the uncertainty log.....	11
Review of the investment objectives	13
Investment objectives	13
Commentary on investment objectives.....	14
Conclusion & recommendations	15
Appendix 1 - Uncertainty log	16

Executive Summary

This technical report presents the findings of the re-evaluation of SH29 Western Corridor (Tauriko West network connection) project.

Overview

The work on SH29 Western Corridor is currently in the process of being progressed as a detailed business case following NZTA Board support of the programme business case in October 2017.

The Tauranga City and Western Bay of Plenty sub-region is experiencing high population growth with a forecast dwelling shortfall of 20,000-28,000 in the next 50 years. The suburb of Tauriko is located in the Western Corridor of Tauranga and is expected to provide up to 18,500 dwellings in SmartGrowth's long term horizon with 350 hectares of industrial land and 44,000m² net leasable retail area.

Structure planning has commenced which requires an integrated approach to land use and transport planning to ensure that the transport system can support future development of the growth area. The SmartGrowth partners have an ongoing collaborative approach to enable joint consultation and statutory processes.

The investment objectives for the programme business case were:

- To maintain a freight travel time of 10 minutes on SH29 from SH2 to Omanawa Road with a variability of 3 minute (AM Peak) by 2030
- Maintain a people travel time of 6 minutes on SH36 from Merrick Rd to Tauriko by 2030 (AM Peak) and maintain a people travel time of 5 minutes on SH29A from Tauriko to Oropi by 2030 (PM)
- Limit the number of local trips generated from the Tauriko Growth Area that require access to the SH network
- To reduce deaths and serious injuries along SH29 from Omanawa Road to Oropi Road Roundabout by 50% by 2030.

Re-evaluation findings

A review of the problems, benefits and investment outcomes as part of the re-evaluation processes has been undertaken and concluded that supporting growth within the Western Corridor and addressing safety are higher priorities than improved freight access. Further, there is little specific evidence that congestion or increased unreliability on this section of SH29 within the context of a whole journey would have a tangible economic impact on freight, although as a national (high volume) route a reliable level of service should be maintained, albeit with a lower order priority.

Due to the early stage of the business case development, the approach taken has been revised to be multi-modal and collaborative and the objectives have been refocussed to support growth. Therefore the findings of re-evaluation are for the continuation of the single stage business base with an ongoing focus on access, people movement and safety.

Re-evaluation purpose and approach

Through the development of the 2018 Transport Agency Investment Proposal, sixteen state highway improvement proposals were identified as needing to be re-evaluated and more comprehensively assessed against the 2018 Investment Assessment Framework. The re-evaluation is to help ensure that the 2018-21 National Land Transport Programme (NLTP) delivers on the 2018-28 Government Policy Statement on Land Transport Funding (GPS). The State Highway 29 Western Corridor is one of the sixteen projects.

The projects were identified because they have strong elements of efficiency, are of a significant cost, and were initially assessed, using the draft IAF, as having a low investment priority. The re-evaluation is an opportunity to review the projects and test whether the initial IAF assessment is accurate.

Re-evaluation purpose

Re-evaluation is a first principles review to ensure the nominated investment proposals give effect to the GPS and provide value for money, prior to inclusion in the NLTP. An outcome of the re-evaluation may be that some of the investment proposals being re-evaluated are rescope or potentially not included in the 2018-28 NLTP.

Re-evaluation approach

A eight-step re-evaluation process has been developed by the NZ Transport Agency as shown in the figure below. It is based on the business case principals of:



- Investing for benefits

Investments are made to obtain organisational benefits. An investment should: contribute to the organisation's strategic outcomes, represent value for money, and deliver benefits for customers.



- Clarity of intent

The intention driving an investment must be clear. Simple concepts and plain language will provide a clear understanding of the problems and benefits.



- Fit-for-purpose effort

The level of effort required must be proportionate to the complexity and risk of the problem and the proposed investment.

TAIP re-evaluation process



To achieve the Government's strategic priorities for the land transport system, the Transport Agency and therefore the re-evaluation has also been guided by the three themes in GPS 2018 which set out how the Government intends its priorities will be delivered. The re-evaluation has explored how the sixteen projects have, where appropriate:

- applied a mode neutral approach to transport system investment;
- used technology and innovation to achieve improved performance; and
- integrated land use and transport planning and delivery activities.

As the SH29 Western Corridor DBC is in its early stages of development the re-evaluation has focussed on an assessment of whether the DBC has a strategic context that is reflective of the current national and regional policy settings and that the problems, benefits and investment objectives are sufficiently robust. This includes a clear demonstration that the issues being explored are real and a priority for partner organisations to address. Also, the review has considered the degree to which problem statements or investment objectives have facilitated a mode neutral approach to options identification and development.

SH29, Western corridor – Project context

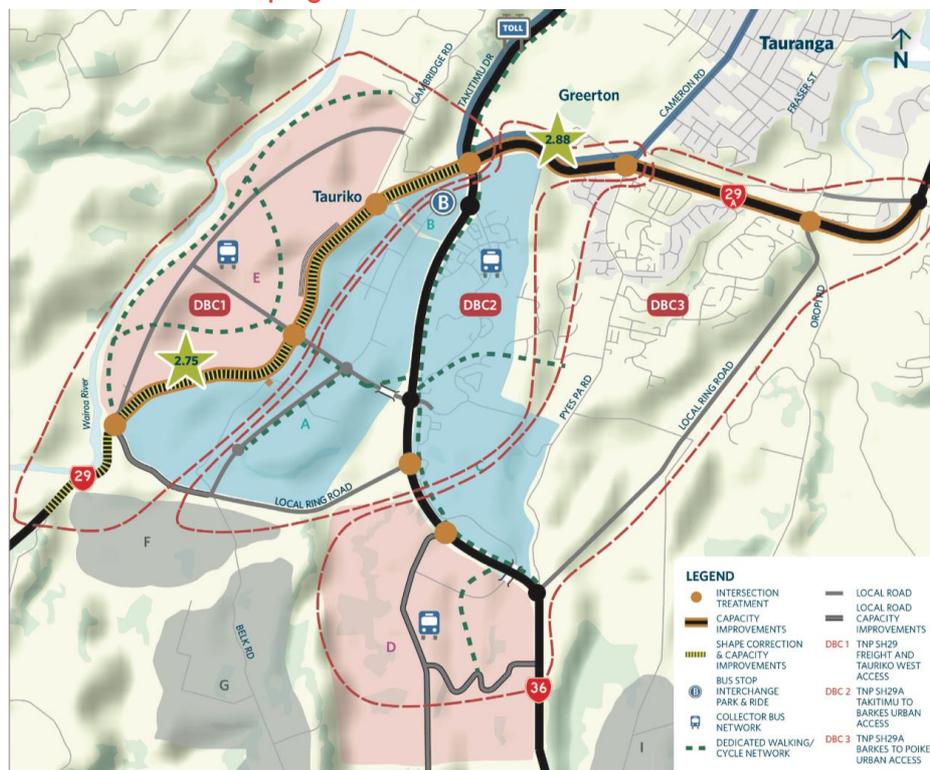
State Highway 29 (SH29) is a key freight route that connects the Bay of Plenty region with Waikato, Auckland and the wider North Island. This route supports the economic success of the Western Bay of Plenty and the NZ Transport Agency, with partners, is leading the transport plan to ensure that the transport system for Tauriko is safe, supports local growth, and provides alternative travel choices for the community.

The transport plan aims to:

- provide more buses and improved walking and cycling connectivity to local amenities such as schools, businesses, recreation areas and culturally significant places
- improve road safety and reduce deaths and serious injuries
- maintain efficient freight access to the Port of Tauranga
- ensure the right vehicles are using the right roads, with short local trips using local roads and longer distance trips using the State highway network.

The work on SH29 Western Corridor is in the early stages of development of a detailed business case following Board support of the programme business case¹ (PBC) in October 2017. The PBC recommended programme (local ring road, public transport with State highway improvements) aims to support growth in the Western Corridor and protect the function of the national freight corridor with implementation requiring staged and multi-party investment in local roads, state highway, walking and cycling and public transport.

Western Corridor PBC recommended programme



¹ <https://www.nzta.govt.nz/assets/About-us/docs/oia-2017/Tauriko-Network-programme-business-case.pdf>

The transport system DBC is part of a wider planning project to enable growth in the Western Corridor. The Tauriko for Tomorrow project is a collaboration between SmartGrowth partners Western Bay of Plenty District Council, Bay of Plenty Regional Council, Tauranga City Council, and the NZ Transport Agency. Together they are implementing the vision of SmartGrowth for Tauriko West.

In addition, to the transport planning objectives, a wider land-use integration approach has been adopted which seeks broader outcomes including:

- providing infrastructure and communities that are resilient to natural hazards (especially flood risk)
- land use that respects the landscape and cultural values of the Wairoa River
- Providing travel choice and opportunities for trip containment by providing accessible local services and facilities including retail (at Tauranga Crossing), employment opportunities (Tauriko Business Estate), education medical and community facilities including reserves, sports fields, indoor courts, aquatic, library and a community centre
- Multi-modal travel outcomes, aligned to the Tauranga Transport Programme goal of achieving 20% of journeys to work by public transport and active modes by 2031 against a current baseline of 9%.

The project is in the early phases. Building a community at Tauriko West requires changes to the Regional Policy Statement, and City Plan as part of the Resource Management process. It also involves a boundary change between Tauranga City and Western Bay of Plenty District Council.

Tauranga City Council's main role in Tauriko West is to deliver a structure plan for the new urban growth area and associated City Plan changes. Structure planning has commenced which requires an integrated approach to land use and transport planning to ensure that the transport system can support future development of the growth area.

Review of problem and benefits statements

This section addresses the following key re-evaluation questions:

- To what extent has the priority given to the original problems changed as a result of the new strategic context?
- Has the magnitude of the originally identified problems changed due to external factors?
- Are there additional problems that have much greater significance as a result of the change in strategic context?
- Given any change to the identity of the problems, and their relative priority, what is the impact on the benefits of addressing the revised problems?
- Is the evidence sufficient to comprehensively support the cause and effect of the problem/opportunity statements?
- Is additional evidence needed to re-evaluate the problems?

Problem and benefits statements

The PBC problems and benefits statements have been revisited and reviewed a number of times through the business case process in response to a shift in the strategic context, particularly with regard to Government direction set out in the 2018 GPS and also intensifying growth pressures.

The first stakeholder review of the PBC problems and benefits statements was undertaken in January 2017 and these were further modified by the project partners in May 2018 to reflect current priorities and strategic impacts.

The business case has two problem statements:

1. If not appropriately integrated into the transport system, planned land use development and growth in the Western Corridor is unlikely to proceed due to the scale of impacts on access, safety and liveability (70%).
2. Poor geometry and negotiation of major intersections on State Highway 29/29A through the Western Corridor leads to injury crashes and high severity outcomes (30%).

The above problems represent a shift away from an initial bias towards providing levels of service for state highway traffic to one which recognising that integrating land use and transport together is essential if critical housing demands are to be met in the Bay of Plenty.

Rationale for supporting growth

Tauranga City is projected to grow by approximately 78,500 residents from 2013 to 2063; and has had a population increase of approximately 59% over the last 20 years.

Given population growth, Tauranga City will require around 50,000 additional dwellings over the next 25 years. Within the current City boundaries, Tauranga City Council does not have the development capacity to meet the proposed requirements of the National Policy Statement on Urban Development Capacity² (NPS-UDC) in the medium term (3-10 years) and the long term (10-30 years).

²

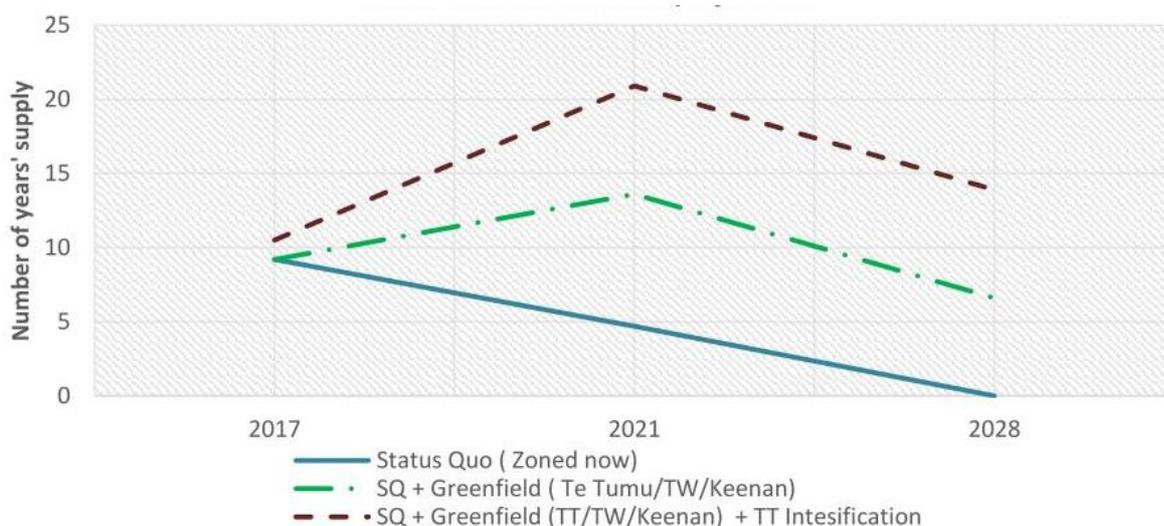
http://www.mfe.govt.nz/sites/default/files/media/Towns%20and%20cities/National_Policy_Statement_on_Urban_Development_Capacity_2016-final.pdf

As at June 2013:

- there remained an estimated greenfield residential land supply for 13,200 dwellings in zoned greenfield areas;
- additional infill capacity of 5,150 dwellings;
- and potential for intensification to provide a further 2,100 dwellings.

This leaves a shortfall of 27,450 total dwellings. To address this shortfall, various scenarios have been identified, in particular, the SmartGrowth projections (shown below) that with Business as usual, supply will be exhausted by 2028. Providing intensified development in Te Tumu, Keenan Road and Tauriko West is projected to provide housing for the next 10 years and will leave approximately 15 years supply until 2043.

SmartGrowth household projections



To comply with medium term NPS-UDC over the next 10 years, the delivery of Te Tumu and Tauriko West are critical.

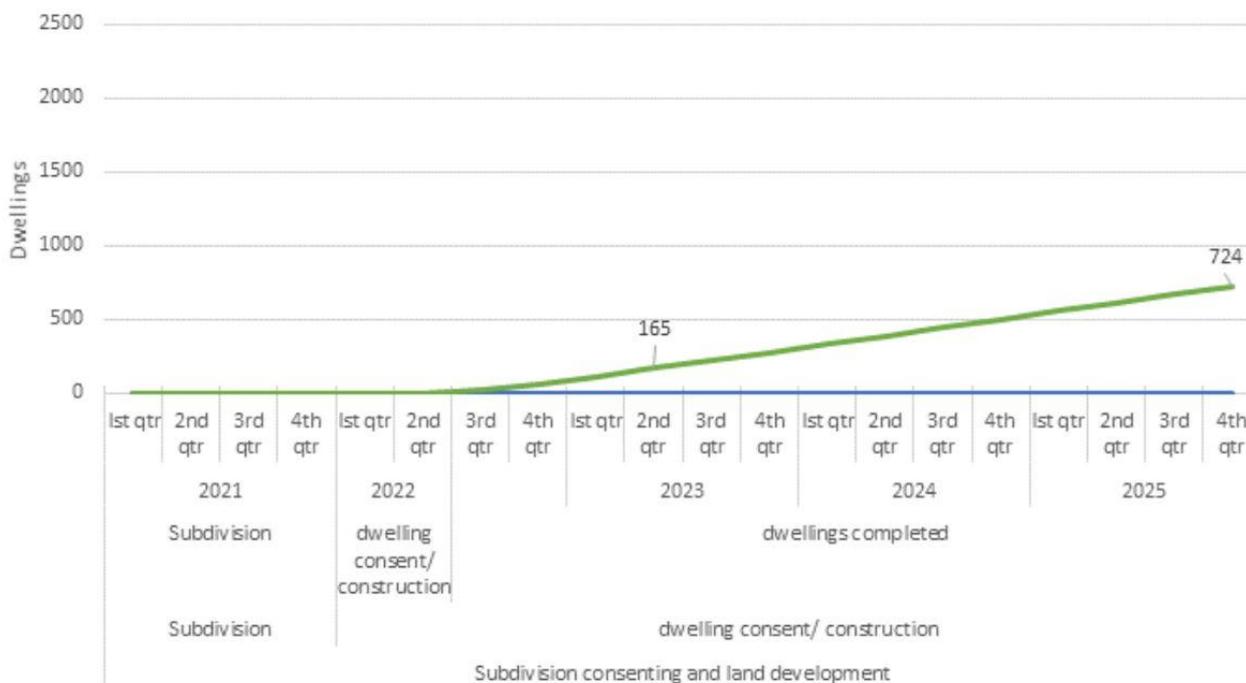
However, due to the long lead in times, structure planning and delivery these are still at least 3 years away and in 2021 the projections show that if nothing happens there will be less than 5 years supply.

Through the SmartGrowth Western Corridor Study, Tauriko West was adopted as the next proposed urban development to support the western Bay of Plenty region's population growth. The benefits of Tauriko West include:

- the ability to deliver up to 3,000 new dwellings from 2023 in close proximity to the Tauriko Business Estate and Tauranga Crossing
- it has significant benefits for greenfield capacity, which include:
 - it is adjacent to already existing commercial, industrial and residential areas (Tauranga Crossing/Tauriko Business Estate and The Lakes residential development);
 - it is relatively easy to service with infrastructure (proximity to the existing city-wide infrastructure); and
 - the land is owned by a limited number of landowners (i.e. not fragmented into many titles) and the majority of whom support urban development.

Tauranga City Council have commenced the structure planning for Tauriko West in collaboration with the NZ Transport Agency and other local/regional authority partners. As part of this structure planning, the Council have identified the time lag between subdivision consent issue and land development, to dwelling consent issue and construction to dwelling completion as shown below.

Tauriko West – Assumed Development Timing



Projected dwelling uptake will occur gradually from 2023, when it is assumed that 165 dwellings will be completed, with land development assumed to commence from the first quarter of 2021. The majority of uptake is expected within the 2023 to 2033 period, with a further 700 dwellings to be delivered post 2033, mainly in the 2033 to 2038 period.

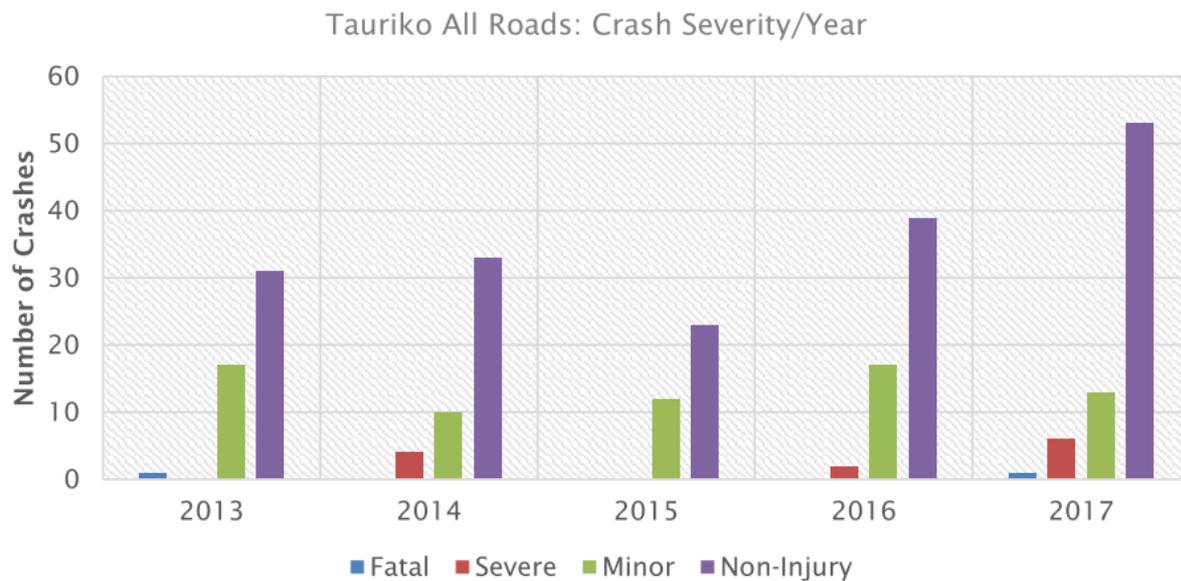
The delivery of the Tauriko West urban growth area is critical to medium term housing. However there will be significant challenges in respect to providing connections to the transport network and managing traffic growth to maintain a safe and efficient transport system. The combined current and future trips generated by Tauriko West, The Lakes and Keenan Road urban growth areas could be around 50,000 trips per day on the network by 2043 which is eight times the current traffic levels as at 2016.

As an integrated DBC planning for this growth is essential to ensure timely provision of choices for travelling and working are available.

The case for safety

There have been 262 crashes in the Western Corridor over the past 5 years, including 2 fatal, 12 serious, 69 minor and 179 non-injury crashes, resulting in 14 DSIs. In terms of high severity crashes, 8 out of the 14 crashes were located on the state highway, resulting in 8 of the 14 total DSIs in the Tauriko Network. Most common movement crash types in the Tauriko Network are crossing/turning, bend-lost control/head-on and rear end/obstructions. This is consistent with the second problem statement – related to poor geometry (horizontal and vertical deficiencies) and negotiation of major intersections.

Summary of crash type by year



Due to the actual number of high severity crashes along the State Highway 29 corridor, there are several high-risk intersections and locations including:

- Belk Road
- Cambridge Road
- Takitimu Road
- Barkes Corner; and
- Route from Omanawa to Takitimu Drive

The corridor falls well short of the anticipated safety level of service for a national high-volume route. The current star-rating is 2.7 as compared to the recommended star rating of 4 as defined by the One Network Road Classification. As a consequence, in part, this has contributed to increased crash risk through geometric deficiencies and inadequate sight distances on the approach into Tauriko which can be linked to the actual and the predicted road safety problem.

Conclusion from the review of problem statements

The development of the problem statements for the DBC has taken cognisance of changing strategic priorities at a regional and national level. The DBC has set out to be multi-modal and integrated with land-use from the outset with close collaboration between project partners.

The magnitude and focus of the initial problem statements has adapted to changes in emphasis as evidence and priorities have emerged. In particular, greater weight has been put on supporting timely and appropriate growth with safe travel choices over freight efficiency, whilst recognising that corridor reliability is important for customers so that journeys are predictable.

Review of the strategic context

This section addresses the following key re-evaluation questions:

- What are the key strategic context documents that are most relevant to the investment proposal?
- How has the strategic context changed since the original Business Case?
- How will this strategic context changed the assumptions made in the original Business Case?

Findings of the review of the strategic context

The Strategic Context (Part A) of the DBC has only recently been drafted and is still to be finalised by the project team. The DBC is therefore being guided by the current GPS and the NZ Transport Agency's current Statement of Intent.

At the regional level the DBC is being framed within the context of the 2018 Regional Land Transport Plan as well as the 2018 Tauranga Transport Plan which aims to prioritise:

- Providing people with better transport choices (including leading an increase in public transport, walking and cycling use)
- Reliable journey times for people and freight
- Improving safety on our roads
- Creating well-connected communities and local services
- Creating a transport network that enhances the attractiveness and liveability of our urban environment

These goals are directly aligned to the problems, benefits and investment objectives of the DBC.

Reviewing and updating the uncertainty log

It is important to review, and where necessary update, the uncertainty log as a project develops. The uncertainty log contains important information particularly in regards to land use planning and other assumptions that help ensure transport outcomes are connected with wider community and government outcomes.

The projects current uncertainty log, included in Appendix 1, is dominated by land-use assumptions which are driving the need for investment and whose timing will ultimately impact on the delivery of transport investment.

The sequencing of the future development areas is important in delivering a staged and sustainable land use supply.

SmartGrowth future development areas



The DBC has approached land-use uncertainty by identifying the most appropriate long term transport system but with staging as an important consideration in the multi-criteria assessment. As the DBC is developed and a recommended programme proposed it will be critical that land-use triggers and a delivery programme are clearly defined.

There remain a number of uncertainties which could have a material impact on the outcomes sought, particularly with regard to place making and broader community outcomes. Examples include the location of schools. Whilst the partners are engaging with the Ministry of Education on future education needs, there remains a significant risk if on-going efforts to integrate the needs of education, transport and communities are not followed through. In this regard it is recommended that the uncertainty log be reviewed for wider placemaking factors necessary to ensure the place making outcomes for Tauriko West are attainable.

Review of the investment objectives

This section addresses the following key re-evaluation questions:

- How has the new strategic context influenced the existing investment objectives?
- If there has been any change to a problem or benefit, how will this impact on the relevant investment objective?
- Should new investment objectives be considered?
- How do any revised investment objectives reflect the IAF priorities of safety, access, environment and value for money?
- How do the investment objective relate to the problem statements and benefits?
- How do the investment objectives encourage the widest consideration of alternatives?
- Is It clear that investment objectives are not "self-serving" - by being framed in a way that only leads to consideration and selection of certain types of option?

Investment objectives

Eight project investment objectives have been developed by project partners for the Detailed Business Case:

1. The Western Corridor is better connected and accessible through a multi-modal transport system which supports timely delivery and sustainable growth by having >10% public transport/active modes (walking/cycling) journey to work trips during peak periods to/from/within the Western Corridor by 2030.
2. The Western Corridor is better connected and accessible through multi-modal transport system which supports timely delivery and sustainable growth by having 80% of the population within a walking distance of 600m to walking, cycling and public transport facilities in Tauriko West by 2030.
3. The Western Corridor is better connected and accessible through multi-modal transport system which supports timely delivery and sustainable growth by having >250K annual public transport boarding's in the Western Corridor by 2030.
4. The Western Corridor is better connected and accessible through multi-modal transport system which supports timely delivery and sustainable growth by proving public transport (peak) travel times better than driving baseline from Tauriko to Cameron Road or Takitimu Drive by 2030.
5. The Western Corridor is better connected and accessible through multi-modal transport system which supports timely delivery and sustainable growth by rezoning of Tauriko West, the Tauriko Business Estate extension and the Keenan Road growth area adopted by TCC
6. Improve safety within the Western Corridor by reducing injury crashes by mode on all transport networks in the Western Corridor (including both state highway and local road) by 30% on opening for 5 years; and
7. Improve safety within the Western Corridor by reducing DSI on transport networks in the Western Corridor (State Highway and local road) by 50% on opening for 5 years.
8. Provide reliable and safe access to international and domestic markets on the State Highway 29 national strategic freight route to the Port of Tauranga by providing a predictable freight travel time of 10 mins (with 5 mins variability) on State Highway 29 and Takitimu Drive from Omanawa Road to State Highway 2 during the AM and PM peak periods by 2030.

Commentary on investment objectives

The investment objectives developed are, in the main, SMART, that is Specific, Measureable, Atainable, Relevant and Timed. Eight is at the upper end of investment objectives where 3-4 might be more traditional. In this instance eight is considered acceptable as it reflects the complex nature of delivering a broad range of multi-modal outcomes across a suite of investments/interventions delivered by different partners.

Targets have been informed by the Tauranga Transport Plan and preliminary modelling. It is anticipated that these will be refined further as the DBC evolves.

Whilst the problem statements were relatively broad the investment objectives have been developed to be relatively prescriptive in the type of outcome desired, particularly in relation to influencing the consideration of choice and multi-modal solutions. On the one-hand this could be considered as leading. However, given the significant place-making and system thinking required for an integrated system to be effective, all elements that influence choice, captured by the investment objectives, need to be covered to be successful. It is therefore appropriate to incorporate these within the context of a multi-modal system DBC.

Conclusion & recommendations

The current Detailed Business Case (DBC) is in the early stages of development and consists of developing more detailed multi-modal investment proposals which includes public transport, walking and cycling and travel demand management activities in addition to state highway investment. The approach taken has been collaborative with partners with a particular focus for investment on addressing safety and provide appropriate access to support growth. The project is an important element of a collaborative partnership essential to meet Tauranga's obligations under the NPS-UDC.

Whilst the SH29 Tauriko West Programme Business Case was initially skewed towards a focus on SH infrastructure the DBC has, prior to re-evaluation, evolved and refocused to take a system approach. As such the investment objectives are broad and cover a wide range of outcomes.

The DBC, in taking a multi-modal system approach which is endeavouring to integrate transport with land-use to provide a sustainable transport system, would be rated highly against the NZ Transport Agency's Investment Assessment Framework. This is principally because Tauriko West is a key regional growth area which will support wider government goals around urban development but there is also strong alignment to safety goals through treatment of a high risk corridor (SH29).

Going forward, a broad consideration of interventions will be needed if the suite of investment objectives are to be met. Whilst the optioneering process had not commenced prior to re-evaluation, discussion with the project team suggests that there will be a robust consideration of alternatives including travel demand management and public transport as well as exploring the role of technology at a sub-regional level.

It is recommended that the DBC continue to be developed with the long-listing to short listing process being the next critical milestone. To provide assurance that a multi-modal system approach has been adopted the project should have a hold point to test the short list with the NZ Transport Agency prior to public consultation.

Appendix 1 - Uncertainty log

Factors Affecting Demand	Indicative Timeframe	Uncertainty	Impact on project	Comments
Tauriko Business Estate and The Lakes residential development	2018-2061	Near Certain	High	Residential and commercial areas likely to be completed within xx years. Industrial active capacity for xx years.
Keenan Road and Tauriko West	2021-2046	More than likely	High	Residential 'greenfield' development to provide housing supply for up to 25 years, dependant on demand.
Merrick, Upper Joyce and Upper Belk Roads	2031-2061	Likely	Low	Further 'greenfield' land to provide for residential development.
State Highway 2 - Tauranga Northern Link	TBC - under re-evaluation	Possible	Low	Change of Government Policy Statement direction and National Land Transport Programme.
2% Traffic Growth		Likely	High	Based on historic crash rate
Improvements to State Highway 29		Possible	High	Change of GPS and priorities may address some safety issues, but capacity improvements may be delayed
Public Transport uptake	2023	More than likely	High	As part of the SH29 upgrades, dedicated public transport links will be provided to encourage increased uptake
Active Mode uptake	2023	More than likely	High	As part of the SH29 upgrades, dedicated cycling links will be provided to encourage increased uptake