
Richmond Arterial Investigation Strategic Case

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Approval

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EXECUTIVE SUMMARY

The New Zealand Transport Agency (Transport Agency) is undertaking this Richmond Arterial Investigation Strategic Case as part of work included in the 2015–2018 National Land Transport Programme. The main drivers for this work are to address:

- Traffic growth and transportation planning pressures from land use development and planned regional growth,
- Lapsing of the Hope bypass designation in 2023; and
- The Three Roundabouts¹ Study recommendations that this investigation be carried to understand the wider network prior to proceeding with the Three Roundabouts study.

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

- Problem 1 (30%): **A change in function over time of Gladstone Road from a through-road to more place and the conflicting types of traffic has created deteriorating efficiencies, particularly at the intersections.**
- Problem 2 (25%): **The inefficient form of the state highway and the accessibility of alternative routes means that people are avoiding the state highway.**
- Problem 3 (45%): **Future land development in and around the Richmond area is likely to adversely impact the local roading network in the form of severance and safety in the future.**

The potential benefits of successfully addressing the Problems (along with their weightings in brackets) are:

- **Improved safety (20%);**
- **Efficient use of the network hierarchy (50%); and**
- **Reliable through function of state highway at peak times (30%).**

The key findings from the analysis of evidence outlined below indicates that Problem 1 is partially supported but Problems 2 and 3 are not:

1. There has been new and intensified commercial development along Gladstone Road and its side streets resulting in increased traffic generation and congestion at PM peak periods.
2. Severe southbound PM peak congestion is occurring at the western end of Whakatu Drive, which is throttling back traffic through Richmond², and preventing further congestion between McGlashen Avenue and Oxford Street in Richmond.
3. Traffic count data does not provide strong support for the problem statement that motorists are using alternative routes at the expense of the state highway.
4. Richmond is expected to experience population growth and increasing development in key locations adjacent to the state highway network. This will increase traffic and impact on the state highway and on local roads in terms of safety, however provided the transport network is planned and managed carefully to mitigate the impacts, it is not expected that there will be a significant effect on community severance.

The Hope Bypass is the long term transportation response should additional capacity be needed on the Richmond network in the future. This Strategic Case indicates that investigating ways to improve corridor efficiency in the short to medium term is the first step to better understand when the Hope Bypass will be needed. This will then enable consideration of the most appropriate method to address the upcoming expiry of the Hope Bypass designation. It is proposed that, in conjunction with Tasman District Council, a Network Operating Framework and Activity Plan be developed to understand the future transport demand, consider intervention options that make best use of the existing local and state highway network and then determine the trigger levels when investment will be warranted to implement the Hope Bypass.

¹ Location shown on Figure 1

² The 3 roundabouts study determined that, before solutions are developed to improve this, a better understanding of the operation of the overall downstream network is necessary
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PART A – THE STRATEGIC CASE

1. INTRODUCTION

1.1 Purpose

The purpose of this Strategic Case is to determine the justification for further investment and propose the next steps. It identifies the problems, benefits and key performance indicators determined by the New Zealand Transport Agency and its key partners, examines available evidence and considered the findings in terms of the Transport Agency’s Investment Assessment Framework.

1.2 Background

Tasman District has a population of nearly 50,000. The main population centres are Richmond with approximately 14,000 residents, and Motueka, with just over 7,000. The Tasman District is known for the natural beauty of the Abel Tasman, Nelson Lakes and Kahurangi National Parks. The Top of the South’s economy is driven by five export-based clusters: horticulture; forestry; seafood; pastoral farming; and tourism.

1.2.1 Previous Investigations

The Nelson North to Brightwater Strategic Study (2008) considered various options for network improvements including through the Richmond urban area.

The preferred strategy for the medium and long-term included a new route along the ‘Hope Bypass’ (shown in Figure 1 below). This is a designated, but undeveloped route alongside State Highway 6 with the designation due to lapse in 2023.

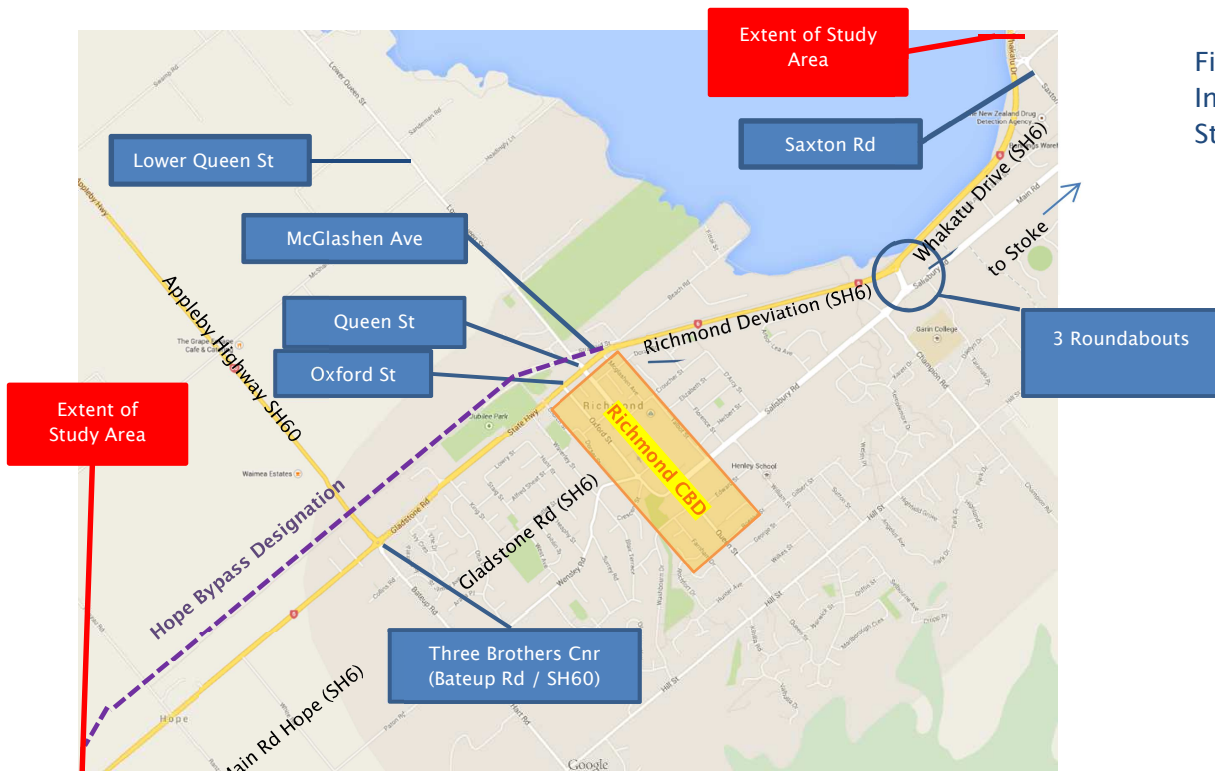


Figure 1: Investigation Study Area

2. KEY PARTNERS

The key stakeholders and partners who have been involved in this Strategic Case are:

Partners	Knowledge areas – relationship to the strategic case
Tasman District Council (TDC), represented by Councillor Michael Higgins and Councillor Judene Edgar	<ul style="list-style-type: none"> Strategic transport planning for the region Provision and operation of local road network Unitary authority – plans for and manages the effects of the use and development of land Civil Defence and Emergency Management
New Zealand Transport Agency, represented by Andrew James and Stephen Carruthers	<ul style="list-style-type: none"> Lead agency for developing this strategic case Investor in land transport system Provision and operation of the state highway network Regulator of access to and use of the land transport system
Road Transport Association NZ (RTA) represented by Derek Nees	<ul style="list-style-type: none"> Association representing road transport operators and the Heavy Haulage Association
NZ Police represented by Grant Andrews	<ul style="list-style-type: none"> Important role in roads safety – enforces the traffic laws Contributes towards the Government’s Safer Journeys Strategy and safe system approach
Automobile Association represented by Allan Kneale	<ul style="list-style-type: none"> Promoting the interests of motor vehicle owners
Nelson City Council (NCC)	<ul style="list-style-type: none"> Unitary authority (northern–most part of study area)

3. STRATEGIC ASSESSMENT – OUTLINING THE NEED FOR INVESTMENT

3.1 Defining the transportation problem / opportunity

A facilitated Investment Logic Mapping (ILM) workshop was held 9 June 2014 with the key partners³ to identify problems, causes and consequences.

Matt Barnes was the appointed accredited facilitator and the TDC Councillors were supported by:

- Peter Thompson, Engineering Services Manager
- Gary Clark, Transportation Manager
- Dwayne Fletcher, Activity Planning Manager
- Sarah Downs, Activity Planning Advisor
- Steve Markham, Policy Manager

Attendees identified the following key problems, with percentages to indicate their relative scale. The percentages were arrived at qualitatively by consensus after identifying the key problem causes and consequences. The Investment Logic Map is attached as Appendix A.

³ NCC was not represented at the ILM workshops as only a small part of the study area is in Nelson City, and the Councils views had been previously passed on to the Transport Agency and were disseminated in the workshops.

Problem 1: A change in function over time of Gladstone Road from a through-road to more place and the conflicting types of traffic has created deteriorating efficiencies, particularly at the intersections (30%)

Cause	Consequence
On-going intensification of land uses and accesses along Gladstone Road	Increasing congestion
An increasing number of retail, commercial and recreational users along Gladstone Road	Delays and safety issues at intersections
Increasing volume of vehicles accessing these activities directly off the state highway	Diminishment of Gladstone Road's primary through road function

Problem 2: The inefficient form of the state highway and the accessibility of alternative routes means that people are avoiding the state highway (25%)

Cause	Consequence
Congestion on Gladstone Road and difficulties with turning at the intersections	Motorists using other routes (as shown in Figure 10) to avoid the congestion on the state highway
Rapid residential growth in the Richmond area	Community severance and amenity for residents living in those areas
Availability and efficiency of local alternative routes and local 'ring roads' ⁴	

Problem 3: Future land development in and around the Richmond area is likely to adversely impact the local roading network in the form of severance and safety in the future (45%)

Cause	Consequence
Steady population growth forecast for the Richmond area	Additional traffic from growth and new development in these areas will intensify traffic congestion particularly at peak times on Gladstone Road SH6 and its intersections with the local road network
Extensive new development areas and urban growth expected in new zoned areas and special development areas ⁵ in Tasman Resource Management Plan (TRMP)	Severance in residential neighbourhoods from increased use of local roads for through traffic
Growth in the Stoke area	Safety issues from increased traffic on local roads

⁴ Ring roads include the routes McGlashen Ave – Talbot St – Salisbury Rd – Queen St; and Oxford St – Salisbury Rd – Queen St, as shown in Figure 9.

⁵ Includes Richmond West Development Area comprising new and deferred urban zones along Lower Queen St; and Richmond South Development Area comprising medium density housing in Hill St/Wensley Rd/Bateup Rd)

3.2 The Existing Evidence Base

This section provides an analytical review of Problems 1, 2 and 3 based on existing evidence.

Problem 1 (30%): The change in function over time of Gladstone Road from throughput to more place and the conflicting types of traffic has created deteriorating efficiencies, particularly at the intersections

Problem 1 has been investigated in terms of changes in land use and the impact this has on the through-road function of Gladstone Road.

3.2.1 Changes in Land Use

Historic aerial photographs indicate that substantial growth occurred along Gladstone Road up to about 1989 following which growth subsequently slowed as land was progressively in-filled. However, since 1989 there have been some notable changes in land use along Gladstone Road (as highlighted in Figure 2), which have more recently increased traffic and the number of turning manoeuvres.

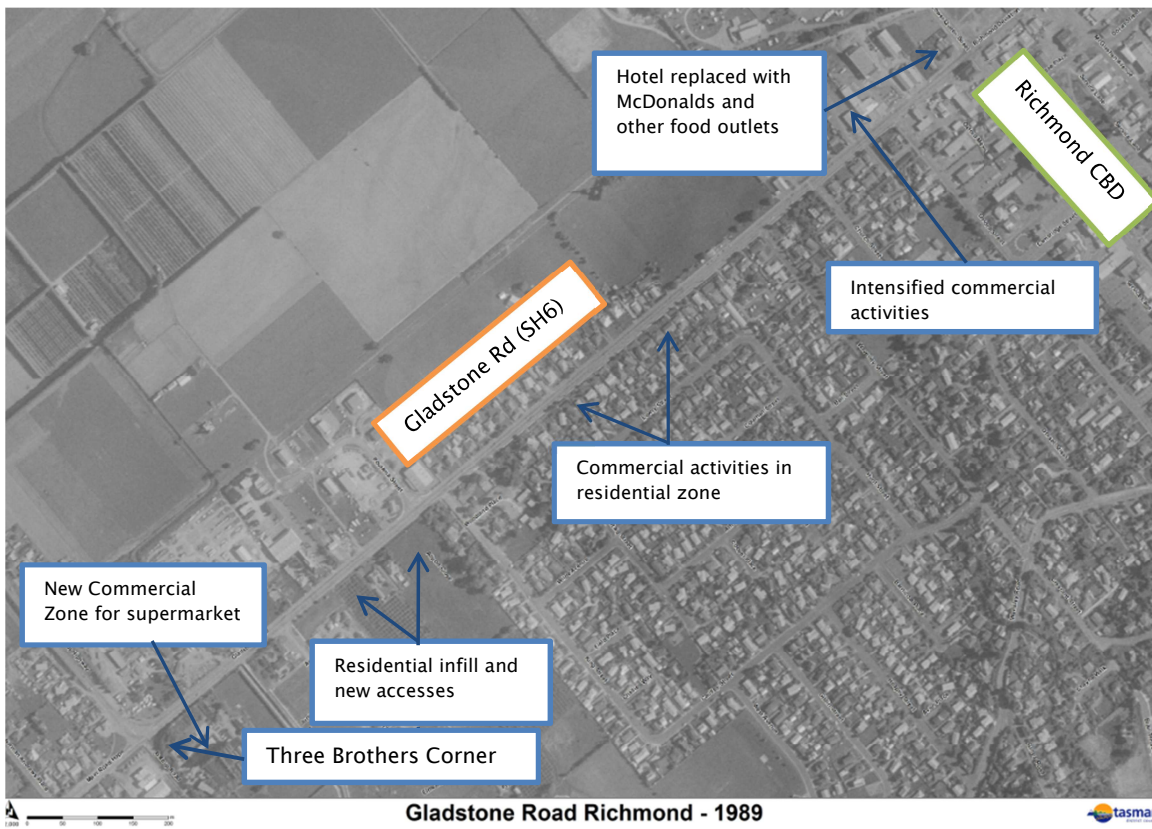


Figure 2: Summary of land use changes since 1989

For the purposes of indicating the main changes in land use Gladstone Road has been divided into three sections, from north to south, as shown on Figures 3, 4 and 5 below.

(a) McGlashen Avenue to Church Street:

This is the most intensively developed section of Gladstone Road, with a concentration of high traffic generating commercial development focused around the Gladstone Road/Queen Street signalised intersection. Queen Street is the main street of the Richmond CBD.

The section of Lower Queen Street, near to Gladstone Road, has several large commercial activities, including a long-established caravan park, restaurant and conference facility, a health centre (a recently established medical centre, specialised health services, laboratory services and a café); and a recently established group of restaurants and take-away food outlets. Lower Queen Street also provides access to industrial activities off Stratford Street.



Figure 3: McGlashen Ave to Church St

Land uses at the eastern quadrant of the intersection (as shown on Figure 3) do not have direct access to Gladstone Road, however the grouping of commercial activities on land at the southern quadrant of the intersection have access directly to Gladstone Road. Land at the northern quadrant is owned by the Agency, and is occupied by a car sales yard.

Land on the northwestern side of Gladstone Road has a number of commercial activities with individual accesses onto Gladstone Road, including a service station and retail shops opposite Oxford Street which have their own traffic signals to facilitate egress from the site. The opposite (south-west) side of Gladstone Road has commercial activities up to Oxford Street including another service station. Oxford Street is part of the internal ‘ring-road’ route into the Richmond CBD.

A range of vehicle types travel along Gladstone Road and access these commercial entities, including service vehicles. The remaining section to Church Street has mainly residential properties with individual accesses.

(b) Church Street to King Street:

The major land use activity on this section is the Jubilee Park sports fields and pavilions, on the northwestern side of Gladstone Road (as shown on Figure 4). The Park is occupied and used by a rugby club, squash and badminton courts, tennis courts, rifle club, toy library and skate-park. These activities share an access from Gladstone Road to a small shared parking area, with an additional access to parking areas further to the south.

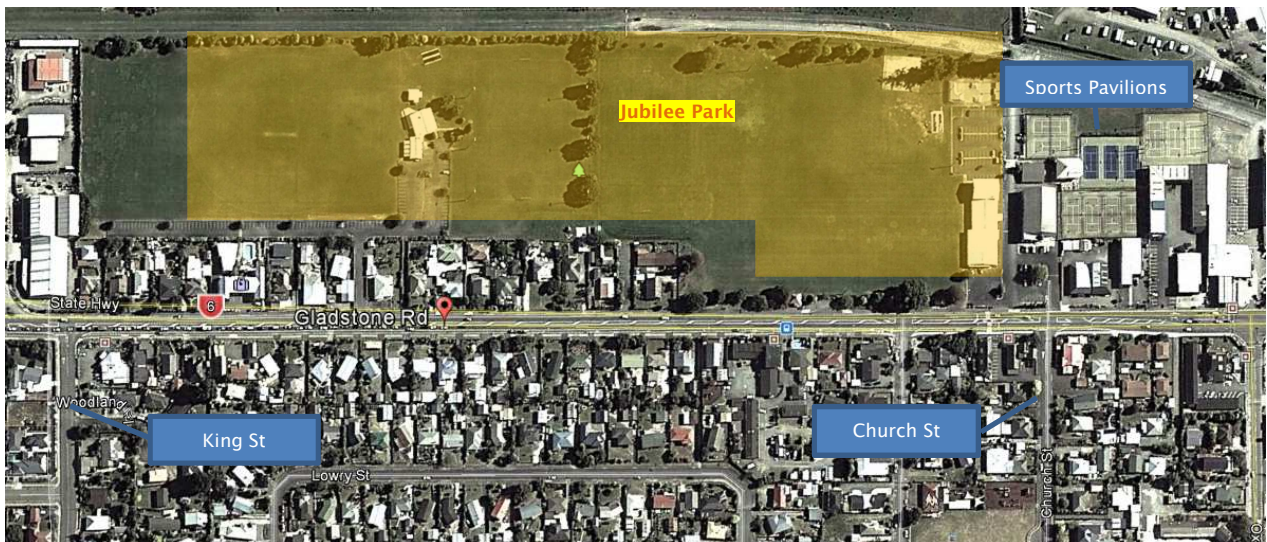


Figure 4: Church St to King St

The sports facilities generate a large amount of traffic on Saturdays and during the weekday evening peaks for training. This results in congestion within the car parking areas, and overflow parking on Gladstone Road. There is a zebra pedestrian crossing on Gladstone Road outside the sports facilities.

The opposite (southeast) side of Gladstone Road consists mainly of residential properties, but also has some commercial and office activities which were established by resource consent. The Richmond Top 10 Holiday Park is also located in this section.

(c) King Street to Bateup Rd:

In this section (shown in Figure 5), the northwestern side of Gladstone Road has a number of commercial activities including machinery and equipment suppliers, trade suppliers, car/truck sales yards and agricultural suppliers.



Figure 5: King St to Bateup Rd

The roundabout at the intersection of Gladstone Road/SH60/Bateup Road (“Three Brothers Corner”) has a concentration of commercial activities including a tyre shop, car sales yard and a general store.

Land on the southern quadrant of that intersection has recently been zoned commercial to enable a supermarket and retail uses to be established on that site. The southeastern side of Gladstone Road has experienced considerable residential infill and commercial development.

By way of conclusion, analysis confirms that new and intensifying development is occurring along Gladstone Road and its side streets.

3.2.2 Deteriorating efficiencies

The 2014 traffic volume on Gladstone Road (measured at Three Brothers Corner) is 18,455 AADT⁶. Heavy vehicles account for 7% of the traffic volume.

In overall terms the traffic volume has decreased slightly from 2002 (19,277 AADT). However, since 2011 this decline has been reversed with traffic on Gladstone Road having increased by 3.4% per annum (this is further discussed in Section 3.2.4).

The 2015 Nelson Southern Link Investigation traffic model⁷ interprets the AM and PM peak levels of service⁸ in 2013, as shown in Figures 6 and 7 below.



Figure 6: 2013 AMP LOS



Figure 7: 2013 PMP LOS

Figure 6 shows that the network is operating efficiently in the AM peaks. Figure 7 shows that, at PM peak, the western end of Whakatu Drive has Level of Service 'F' and the part of the Richmond Deviation has Level of Service 'E'. This PM peak congestion is throttling back traffic before it reaches the state highway intersections in Richmond. Without this effect, the Richmond intersections would be performing far worse. The Three Roundabouts Investigation concluded that improving efficiency at the western end of Whakatu Drive would only transfer the congestion into Richmond, which would have greater impacts for local road accessibility.

The results for 2033 are shown in Figures 8 and 9 below and show that in 2033 there will be:

- deterioration in the network AM and PM peak performance along the Richmond deviation, and that
- some key intersections along Gladstone Road will show signs of deterioration in both AM and PM peak periods.

⁶ Average annual daily traffic

⁷ Validated and calibrated for Nelson. Further data, validation, calibration and sensitivity analysis will be required to confirm the LOS data presented.

⁸ LOS scales: Yellow – C, Green – D, Blue – E, Red – F.

This information shows that current congestion on the network is isolated to peak periods and that the congestion at the western end of Whakatu Drive is throttling back traffic before it reaches the state highway intersections in Richmond.



Figure 8: 2033 AMP LOS



Figure 9: 2033 PM LOS

Problem 1 summary:

1. There has been new and intensified commercial development along Gladstone Road and its side streets resulting in increased traffic generation and congestion at PM peak periods.
2. Severe southbound PM peak congestion is occurring at the western end of Whakatu Drive, which is throttling back traffic through Richmond, and preventing further congestion between McGlashen Avenue and Oxford Street in Richmond.

Problem 2 (25%): The inefficient form of the state highway and the accessibility of alternative routes means that people are avoiding the state highway

The inefficient form of the state highway has been investigated under Problem 1 above.

Problem 2 has been investigated by considering the accessibility (use and suitability) traffic volumes and growth of the alternative along with the relative increases of traffic on Gladstone Road and the associated roading hierarchy.

3.2.3 Accessibility, traffic volumes and growth on alternative routes

The view of workshop attendees was that certain roads are being used as alternative routes by motorists to avoid the State Highway 6 route through Richmond. These alternative routes are shown in Figure 10.

The alternative routes are described below.

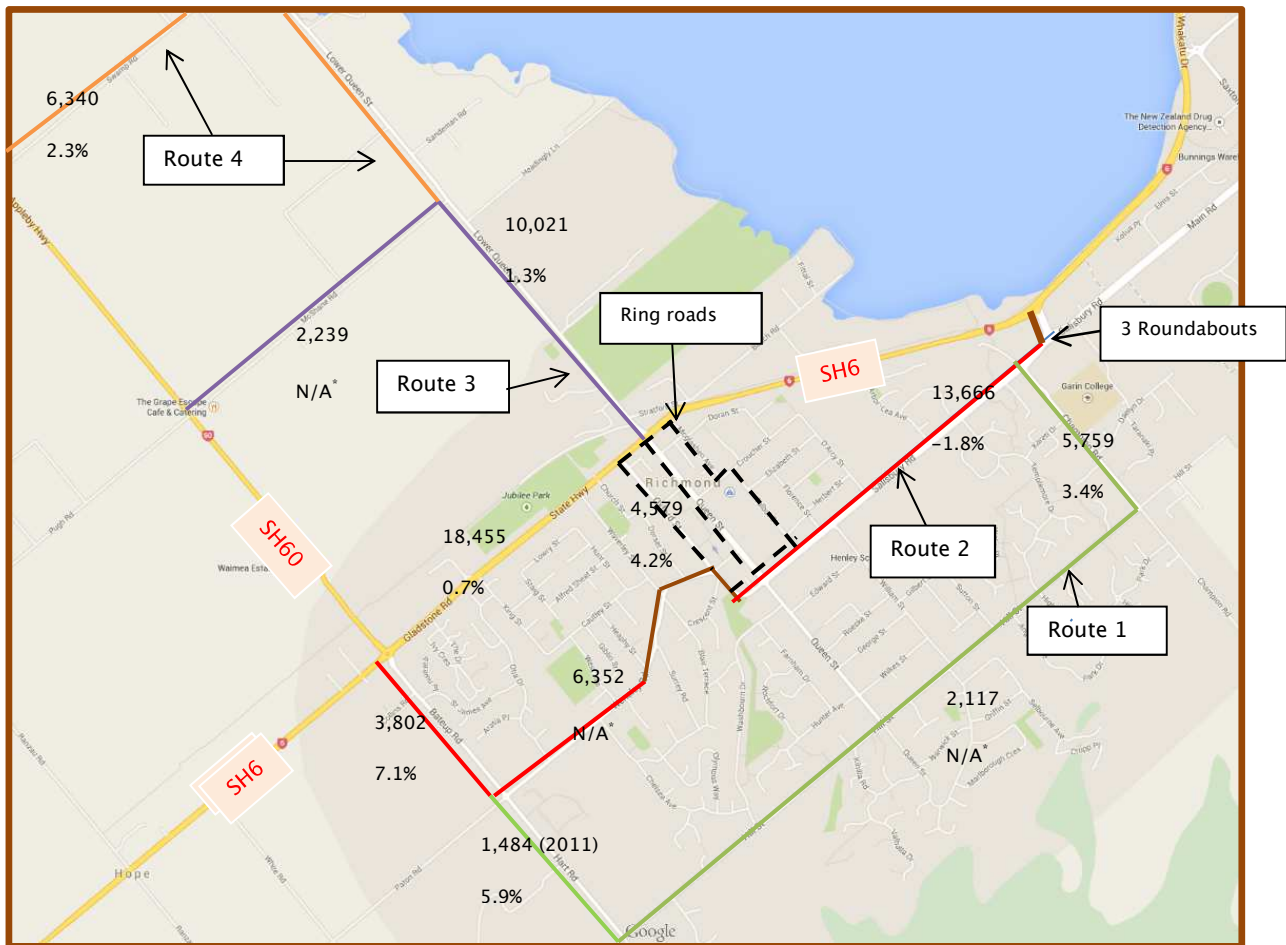
- (a) Route 1: Three Roundabouts to SH60 (Three Brothers Corner) via Champion Road, Hill Street and Bateup Road

The ILM study for the Three Roundabouts identified considerable ‘weaving’ of traffic between the local road network and the state highway at the Three Roundabouts. Traffic is thought to be using Alternative Routes 1 and 2 as a means to avoid traffic congestion further down the network at the Richmond deviation and the Queen Street/Gladstone Road traffic signals. This

route is a reasonably free-flowing traffic route through residential areas. Traffic capacity is managed by recent and proposed roading improvements⁹.

The latest available data from 2014 shows traffic volumes are 5,759 on Champion Road and 3,831 on Bateup Road. Traffic growth on those roads has averaged between 3.4% and 7.1% per year respectively over the last four years (i.e. from 2010 - 2014). No data on traffic growth for that period is available for Hill Street.

The increase in traffic is most likely due to the extensive residential growth in Richmond South area, rather than by motorists avoiding the state highway, although origin/destination surveys would be required to understand this better.



* Available data is inconclusive

Figure 10: Alternative routes (with 2014 AADT and average growth per year between 2010 and 2014¹⁰)

(b) Route 2: Three Roundabouts to SH60 (Three Bros Corner) via Salisbury Street, Wensley Road and Bateup Road

This is an alternative route through Richmond used mainly by cars at non-peak times.

⁹ Such as Salisbury/Champion Rd roundabout lane re-allocation, a new roundabout at Champion Road/Hill Street and planned widening of Bateup Rd in 2017/18.

¹⁰ Traffic count data provided by TDC (Note: Between 2010 and 2011 traffic volumes dropped from 17947 to 16750)

A number of TDC road improvements have been made to improve capacity along this route including new traffic lights at two intersections on Salisbury Road, a new roundabout at Hart Road/Wensley Road/Bateup Road, and widening on Bateup Road.

This former state highway route has 13,666 AADT on Salisbury Road. However whilst traffic on Bateup Road (at the south end of the route where there is extensive residential growth) has increased on average by 7.1% per years, traffic on Salisbury Road (at the northern end) has decreased on average –1.8% per year over the last four years. No current traffic count data is available for Wensley Road to test traffic growth for that central section of the route. The reduction in traffic volumes on Salisbury Road would indicate that the route is not generally being used as an alternate route to SH6.

(c) Route 3: SH6 to SH60 via Lower Queen Street and McShanes Road

This is a known heavy vehicle route. It is used by log trucks and freight trucks accessing Nelson Pine Industries on Lower Queen Street, the industrial area to the north off Lower Queen Street (on Stratford Street/Beach Road) and Port Nelson. Traffic count data for McShanes Road over the last three years shows the percentage of heavy vehicles is typically between 10 – 11% of total traffic.

Traffic count data for McShanes Road is inconclusive as regards traffic growth. Traffic along Lower Queen Street (10,021 AADT) has grown at 1.3% per year for that same period, which is likely to be a result of new development in that area.

The Transport Agency has in the last few years carried out a safety upgrade of the intersection at SH60/McShanes Road, and TDC has programmed for the widening of Lower Queen Street and McShanes Road in advance of extensive new growth expected in the Richmond West area (as discussed in Problem 3 below). This is likely to increase the attractiveness of this route to freight.

(d) Route 4: SH6 to S60 via Lower Queen Street and Lansdowne Road

This route is a long-established alternative to the state highway route for vehicles travelling between Nelson and the northern parts of Richmond to Mapua, Motueka and beyond. It is characterised by higher speed limits and fewer property accesses compared to the state highway route via Three Brothers Corner. As for Route 3, heavy vehicles make up a relatively high percentage of vehicles (approximately 10%).

TDC has programmed for construction the widening of Lower Queen Street, and future improvements are proposed for the Lower Queen Street/Lansdowne Road intersection.

Traffic growth along Lansdowne Road has been approximately 2.3% per year over the last four years. As noted above for Route 3, this amount of traffic data is likely to be a result of development and growth in the Richmond West area.

The programmed roading improvements are designed to provide for extensive new growth in the Richmond West area although it can be expected that until that growth is realised the route will still be an attractive alternative to the state highway.

3.2.4 Relative Increases in traffic on Gladstone Road

The increases in traffic on Gladstone Road and on the alternative routes are shown in Figure 11 which shows:

- (a) overall growth on the local roads (and in particular on the alternative routes described in 3.2.3 above); and
- (b) a recent increase in growth on Gladstone Road since 2011 (which reverses the historic decrease in traffic on Gladstone Road from 2002 – 2011).

As represented on Figure 11, the growth on Gladstone Road is much greater, averaging 3.4% over the last three years (i.e. from 16,750 in 2011 to 18,455 in 2014). This rate of growth on the state highway is not dissimilar to that on the alternative routes, with the exception of the southern-most parts of Routes 1 and 2 which have extensive residential development.

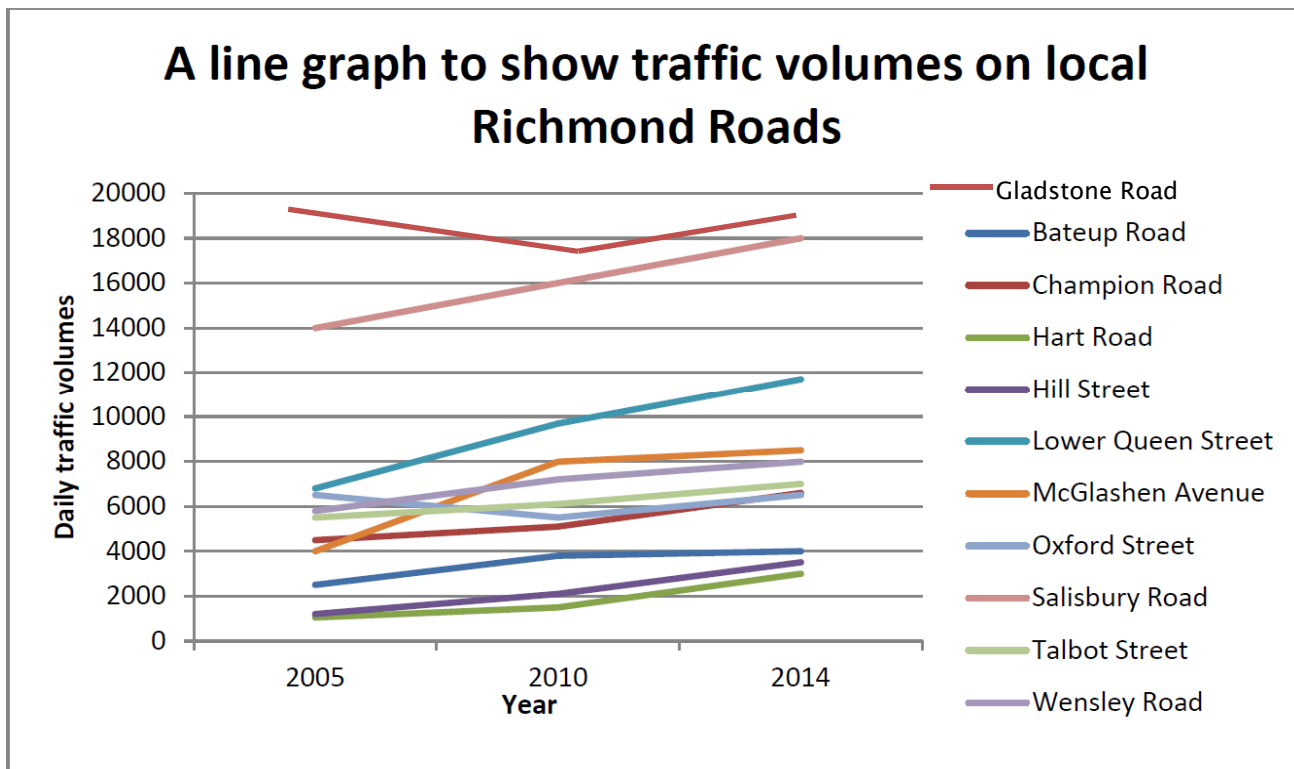


Figure 11: Traffic volumes on Gladstone Rd and Local Roads (from draft RLTS)

3.2.5 Conclusions

The following conclusions may be drawn from the analysis of available evidence.

- Overall traffic on Gladstone Road has decreased over the last 10 years, but in the last four years has increased by 3.4% per annum.
- Traffic growth on the alternative route along Salisbury Road (Route 2) has been more modest, with traffic growth along Lower Queen Street and McShanes Road and Landsdowne Road (Routes 3 and 4) at similar levels to the recent increases on Gladstone Road.
- Traffic growth on Route 1 (Three roundabouts to SH60 (Three Brothers Corner) via Champion Road, Hill Street and Bateup Road) is marginally higher than on the state highway, which is thought to be mainly attributable to substantial residential development occurring in Richmond South.

Problem 2 summary:

- Traffic count data does not provide strong support for the problem statement that motorists are using alternative routes at the expense of the state highway.

Problem 3 (45%): Future land development in and around the Richmond area is likely to adversely impact the local roading network in the form of severance and safety in the future.

Problem 3 has been investigated in terms of areas of planned development, severance and safety.

3.2.6 Areas of Planned Development

Richmond is experiencing steady growth in population, and this is expected to continue. The population has increased by 1,834 people since the 2006 NZ census (1.9% average annual growth) and is expected to grow from 13,606 in 2013 to 14,839 in 2023¹¹ (0.9% per year).

TDC, through its own extensive investigation and analysis of economic demand since 2006, has identified two main areas for future residential and mixed business development. Two further areas have been identified by private developers through private plan changes. These areas are shown in Figure 12 and are described below.

(a) Three Brothers Corner Commercial Zone

A new 'site specific' Commercial zone of 1.7 hectares, located at the intersection of Gladstone Road and Bateup Road, has recently been established by private plan change. It provides for a supermarket, along with other smaller scale retail activities.

(b) Richmond South Development Area (RSDA)

The Richmond South and Richmond West Development Areas are large areas identified on the Planning Maps to cater for future residential and business growth to 2026.

The RSDA affects a large area of land to the east of Gladstone Road extending up to the foothills. It provides for more intensive (infill) residential development, including compact density developments. Development is already underway in this area. This includes two large residential subdivisions, another subdivision on adjacent land in Nelson City, and a large retirement lifestyle village. Considerable more development is expected to occur in these areas, including vacant 'greenfields' land at Hill Street/Bateup Road and additional adjacent greenfield land in Nelson City.

(c) Richmond West Development Area (RWDA)

The RWDA is the main area set aside for the future expansion of the Richmond urban area towards the west. It includes extensive areas for new business, commercial and residential development provided through new and deferred zoning along Lower Queen Street on both sides of the road down to Swamp Road.

It also includes business zoning on Gladstone Road (and along the designated Hope Bypass route) south-west of the existing commercial zone from Lower Queen Street to the northern end of Jubilee Park. This would allow for future new development and more intensive redevelopment of existing uses adjacent to Hope Bypass and Gladstone Road.

(d) Proposed Richmond North Commercial Zone

An application has been lodged by a private developer to re-zone land at the Salisbury Road/Champion Road intersection (near Three Roundabouts) to commercial for development of a supermarket, retail shops and community activities. Plans are also imminent for a service station in this locality. This is further evidence of a growing population and expanding urban area.

¹¹ Source: *draft Tasman Regional Land Transport Plan 2015 – 2021*.
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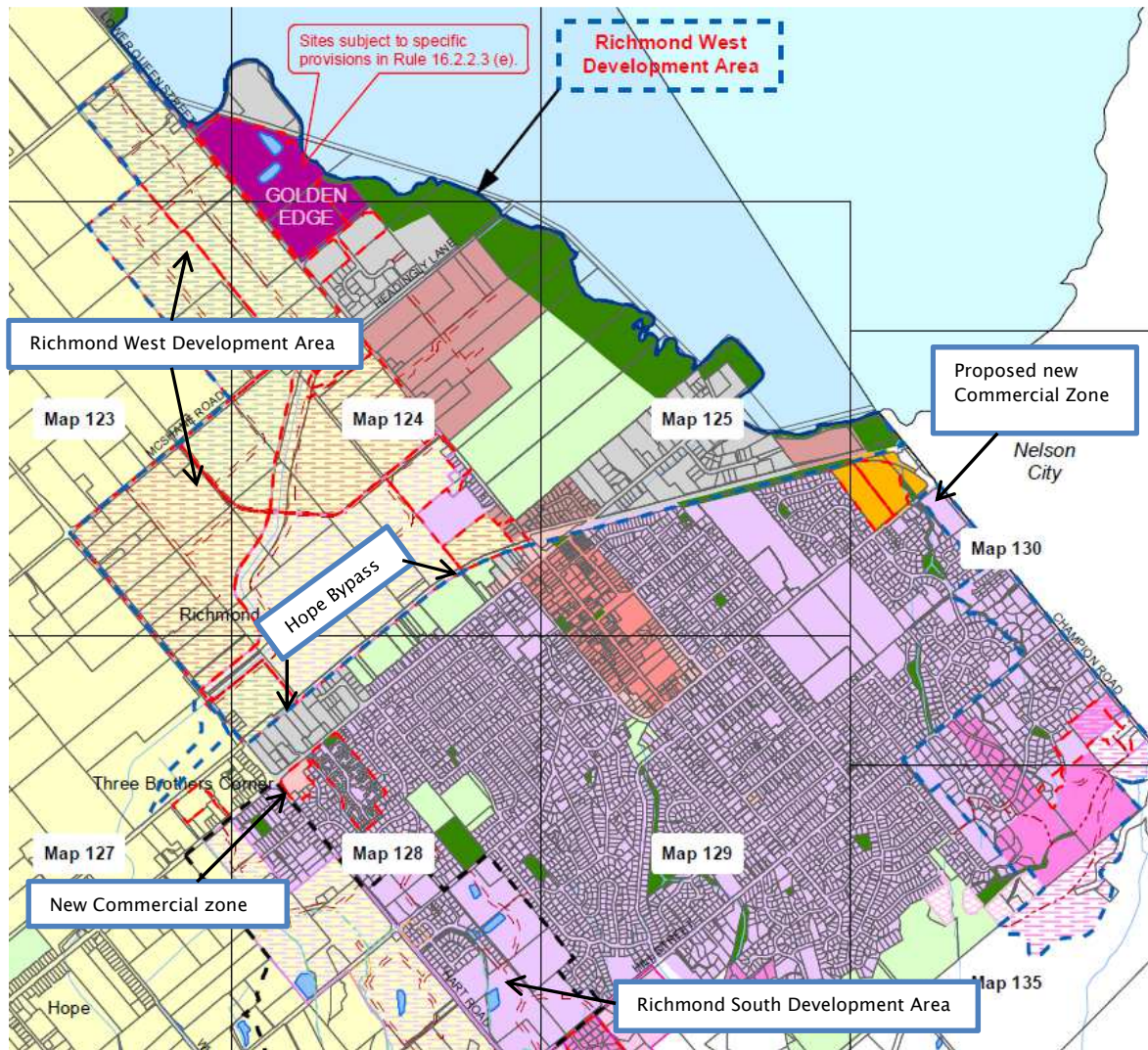


Figure 12: Planning maps - Zones and Development Areas

3.2.7 Severance

Community severance is a potential issue as traffic on the local network increases, particularly as development increases.

The significance of severance as a problem should also be viewed in the context of:

- Improvements TDC is making to its arterial and distributor roads which will facilitate safe and efficient traffic growth into the suburban area, and
- The roading hierarchy in the Tasman Resource Management Plan which encourages through traffic along Salisbury Road and Lower Queen Street as they are 'arterial' roads, and therefore have the same classification as Gladstone Road (SH6).

Currently there is no the evidence to support Problem 3 that community severance is a significant problem that needs addressing, although as growth occurs careful planning will be required to ensure severance issues don't arise.

3.2.8 Safety

In the period 2009 – 2013, the Gladstone Road/Richmond Deviation route has experienced one ‘serious’ injury accident, 13 ‘minor’ injury accidents and 91 non-injury accidents, as shown in Figures 13 and 14 below.

This number of injury accidents is not considered significant.

Data is not available concerning injury rates on local roads, and this needs to be investigated further if a comparison to injuries on the state highway is thought relevant should the investigation proceed.

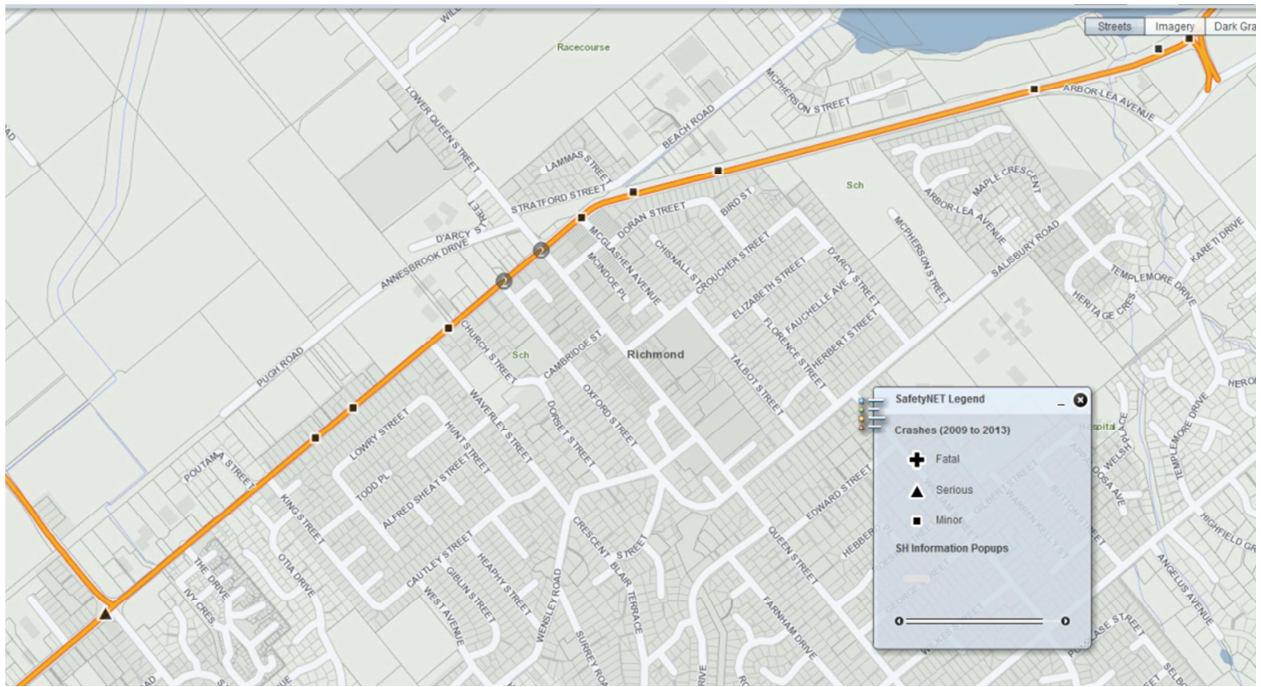


Figure 13: Injury crashes 2009–2013 (source: Safety Net)

SECTION	TURNING	MERGING/ QUEUEING	OTHER ¹²	TOTAL
Main Rd Stoke Slip-Lane	2	7	6	15
Three Roundabouts – Richmond Deviation	4	7	5	16
McGlashen St/Lower Queen St/Gladstone Rd intersection	6	17	3	26
Gladstone Road	7	10	2	19
Three Brothers Roundabout	3	9	3	15
TOTAL	22	50	19	91

Figure 14: Non-Injury crashes 2009–2013

¹² Other includes extreme road conditions, serious medical factors, influence of alcohol, pedestrians, etc.
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The crash data shows that:

- the main types of accidents (injury and non-injury) occur with merging and queuing manoeuvres on the multi-laned sections of the state highway; and
- a significant number of crashes occur as a result of turning in and out of side streets and property entrances along Gladstone Road, and near the McGlashen Street/Lower Queen Street intersection.

Problem 3 summary:

- Richmond is expected to experience population growth and increasing development in key locations adjacent to the state highway network. This will increase traffic and impact on the state highway and on local roads in terms of safety, however provided the transport network is planned and managed carefully to mitigate the impacts, it is not expected that there will be a significant effect on community severance.

3.3 The potential benefits of investment

An investment logic mapping workshop was held on 9 June 2014 to identify the potential benefits of successfully investing to address the Problems. The potential benefits with proportional weightings are shown in Figure 15 below.

BENEFIT	DESCRIPTION
Improved safety (20%)	The safety of users of the corridor was considered to support Problem 1 by 5%, Problem 2 by 5% and Problem 3 by 10%.
Efficient use of the network hierarchy (50%)	This relates to the decisions made by users of the corridor to use the preferred option for certain journeys, and was considered to contribute to Problem 1 (10%), Problem 2 (5%) and Problem 3 (35%).
Reliable through function of state highway at peak times (30%)	This relates to the Level of Service and efficiency provided by the corridor. It recognises how Problem 1 (15%) and Problem 2 (15%) are impacting on the reliable through function of the state highway at peak times.

Figure 15: Link between problems and benefits

The benefit map is attached in Appendix B.

3.4 The Key Performance Attributes and Measures

Key performance measures have been identified and assessed from the workshop with key partners, in Figure 16 as follows:

PRIMARY BENEFIT	KEY PERFORMANCE INDICATOR	INVESTMENT OBJECTIVE	DESCRIPTION
Improved safety (20%)	Crashes	No increase on current	Number of crashes, by mode
	Emergency services call outs	No increase on current	Number of call outs/ hospitalisations
Efficient use of the network hierarchy (50%)	Vehicle kilometres travelled on hierarchy	No % change to current (vs growth)	% of change on the network
	Pedestrians and cyclists	Decrease in volumes from local network to SH	Number of peds and cyclists
Reliable through function of state highway at peak times (30%)	Traffic volume	Improvement on current	AADT by vehicle class as appropriate
	Travel time	Improvement on current	Minutes travel time
	Intersection performance	Improvement on current	Level of service

Figure 16: Key performance attributes

The key performance measures relating to each benefit, and the baseline and target indicators for the KPIs were not completed in the ILM workshops.

4. ANTICIPATED STRATEGIC FIT & EFFECTIVENESS

An assessment of the anticipated Strategic Fit and Effectiveness was undertaken in accordance with the Transport Agency Investment Assessment Framework, and determined that the indicative profile would be L/L/-¹³.

STRATEGIC FIT ASSESSMENT¹⁴

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	<ul style="list-style-type: none"> The investigation will be undertaken in accordance with the Transport Agency's Business Case Approach. The Strategic Case has been undertaken with a 'one network' approach with contribution and input from NZ Transport Agency, TDC, AA, RTA and Police. <p>Rating: <i>Medium</i></p>
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	<ul style="list-style-type: none"> The investigation has not evidenced any significant contextual, planning, legislative or climate change along the SH1 corridor. The investigation has found evidence to support some deterioration in efficiency over the next 20 years. The plan to retain the option for an alternative arterial route through Richmond aligns with the evidence presented in this strategic case. <p>Rating: <i>Low</i></p>
Ensures:- <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Any further investigations into the study area will require consideration of the integration of transport modes, the optimisation of the current transport network and land use planning and growth in conjunction with TDC to determine the appropriate time to progress the Hope Bypass route. <p>Rating: <i>Default Low</i></p>
considers: <ul style="list-style-type: none"> wider transport network performance and capability safety value for money environmental and public health outcomes. 	<ul style="list-style-type: none"> This Strategic Case is addressing the problems on Gladstone Road (SH6) in Richmond, but through the modelling data takes into account the wider network performance and capability of the Nelson Tasman region. Any further investigations will need to consider a number of criteria, including safety, value for money and environmental and public health outcomes. <p>Rating: <i>Default Low</i></p>

¹³ 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/>

¹⁴ <https://www.pikb.co.nz/assessment-framework/strategic-fit-3/strategic-fit-for-investment-management/>, last updated 10/11/2015

EFFECTIVENESS ASSESSMENT¹⁵

Component	Explanation	Assessment	Rating
Outcomes focused	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> The problem statements are not all supported by evidence (particularly relating to alternative routes being used in preference to the state highway, and the effects of community severance) at this particular point in time. However the identified problems relating to expected growth and development (and the lack of a co-ordinated transportation response), have been shown to be significant and warranting further investigation. 	<ul style="list-style-type: none"> Indicative Low
Integrated	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Retention of the Hope Bypass corridor has effectively determined the future network plan. How and when the future transportation corridor is developed from the current network is a key part of the next phase of any investigation into this area. The investigation will model current and future activities and land use plans. 	<ul style="list-style-type: none"> Indicative Medium
Correctly Scoped	<p>The degree of fit as part of an agreed strategy or business case</p> <p>Is of an appropriate scale in relation to the issue/opportunity</p> <p>Covers and/or manages the spatial impact (upstream and downstream, network impacts)</p> <p>Mitigates any adverse impacts on other results</p> <p>Funding application is tailored to relative size, impacts and complexity, and confirms the problem</p>	<ul style="list-style-type: none"> Part B of this Strategic Case will determine terms for the next phase of the investigation. This will ensure the investigations 'degree of fit' is agreed by key stakeholders. Given the future network plan is effectively determined by the Hope Bypass designation the scope of the next phase of the investigation can be tailored accordingly. 	<ul style="list-style-type: none"> Indicative Medium
Affordable	<p>Is affordable through the lifecycle for all parties</p> <p>Has understood and traded off the best whole of life cost approach</p> <p>Has understood the benefits and costs between transport users and other parties</p>	<ul style="list-style-type: none"> The next phase will consider and identify lifecycle costs for the Agency and TDC and practicable contribution combinations available for the options from available funding sources. 	<ul style="list-style-type: none"> Indicative Medium

¹⁵ <https://www.pikb.co.nz/assessment-framework/effectiveness-2/>, last updated 1/10/2015
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	and sought contributions as possible		
Timely	<p>Delivers enduring benefits over the timeframe identified in the justified strategy or business case</p> <p>Provides the benefits in a timely manner</p> <p>There is a demonstrated urgency in the need to provide a solution to the problem, issue or opportunity</p>	<ul style="list-style-type: none"> • Relevant time bound KPIs are specified in this Strategic Case. These KPIs will be subject to public consultation to ensure that they are as well supported by the community as possible to optimise their longevity. • The next phase will consider the need for, and timing of the retention and development of the Hope Bypass to enable a determination on the designation prior to 2023. 	• Indicative Low
Confidence	<p>Manages current and future risk for results/outcomes</p> <p>Manages data deficiency risks and identifies information gaps that will need to be addressed in the next business case</p>	<ul style="list-style-type: none"> • Gaps in supporting evidence database will be determined and further sought as part of the next phase. 	• Indicative Medium
Overall	Assessment based on lowest rating of all components		• Indicative Low

5. KEY FINDINGS/CONCLUSIONS AND NEXT STEPS

This Strategic Case reflects the direction provided by the ILM workshop attendees. This transportation review of evidence determines that the problem statements are not substantially urgent, or the future outcomes uncertain given the availability of the Hope Bypass corridor resulting in an indicative assessment profile of L/L. Figure 17 below summarises the key findings of the Strategic Case.

Problems Identified in the ILM	Key Findings in the Strategic Case	Considerations for next steps
<p>Problem 1 A change in function over time of Gladstone Road from throughput to more place and the conflicting types of traffic has created deteriorating efficiencies, particularly at the intersections</p>	<p>There has been new and intensified commercial development along Gladstone Road and its side streets resulting in increased traffic generation and congestion at PM peak periods.</p> <p>Severe southbound PM peak congestion is occurring at the western end of Whakatu Drive, which is throttling back traffic through Richmond¹⁶, and preventing further congestion between McGlashen Ave and Oxford St in Richmond.</p>	<p>Interrogate travel time Bluetooth data.</p> <p>Calibrate and validate the Nelson to Brightwater transportation model for Richmond</p> <p>Agree with TDC the transitional steps and trigger levels between the current transport network and the planned (and designated) future network.</p>
<p>Problem 2 The inefficient form of the state highway and the accessibility of alternative routes means that people are avoiding the state highway</p>	<p>Traffic count data does not provide strong support for the problem statement that motorists are using alternative routes at the expense of the state highway.</p>	<p>Gather data at defined points to determine the current attractiveness of the alternative routes and consider the desirability or otherwise in conjunction with TDC.</p> <p>Explore the medium to long term roading hierarchy around the CBD with TDC.</p>
<p>Problem 3 Future Land development in and around the Richmond area is likely to adversely impact the local roading network in the form of severance and safety in the future.</p>	<p>Richmond is expected to experience population growth and increasing development in key locations adjacent to the state highway network. This will increase traffic and impact on the state highway and on local roads in terms of safety, however provided the transport network is planned and managed carefully to mitigate the impacts, it is not expected that there will be a significant effect on community severance.</p>	<p>Consider future local and SH transport network requirements taking into account future development planning.</p>

Figure 17: Summary of Problems, Key Findings, Next Steps

The Hope Bypass is the long-term transportation response should additional capacity be needed on the Richmond network in the future. This Strategic Case indicates that investigating ways to improve corridor efficiency in the short to medium-term is the first step to better understand when the Hope

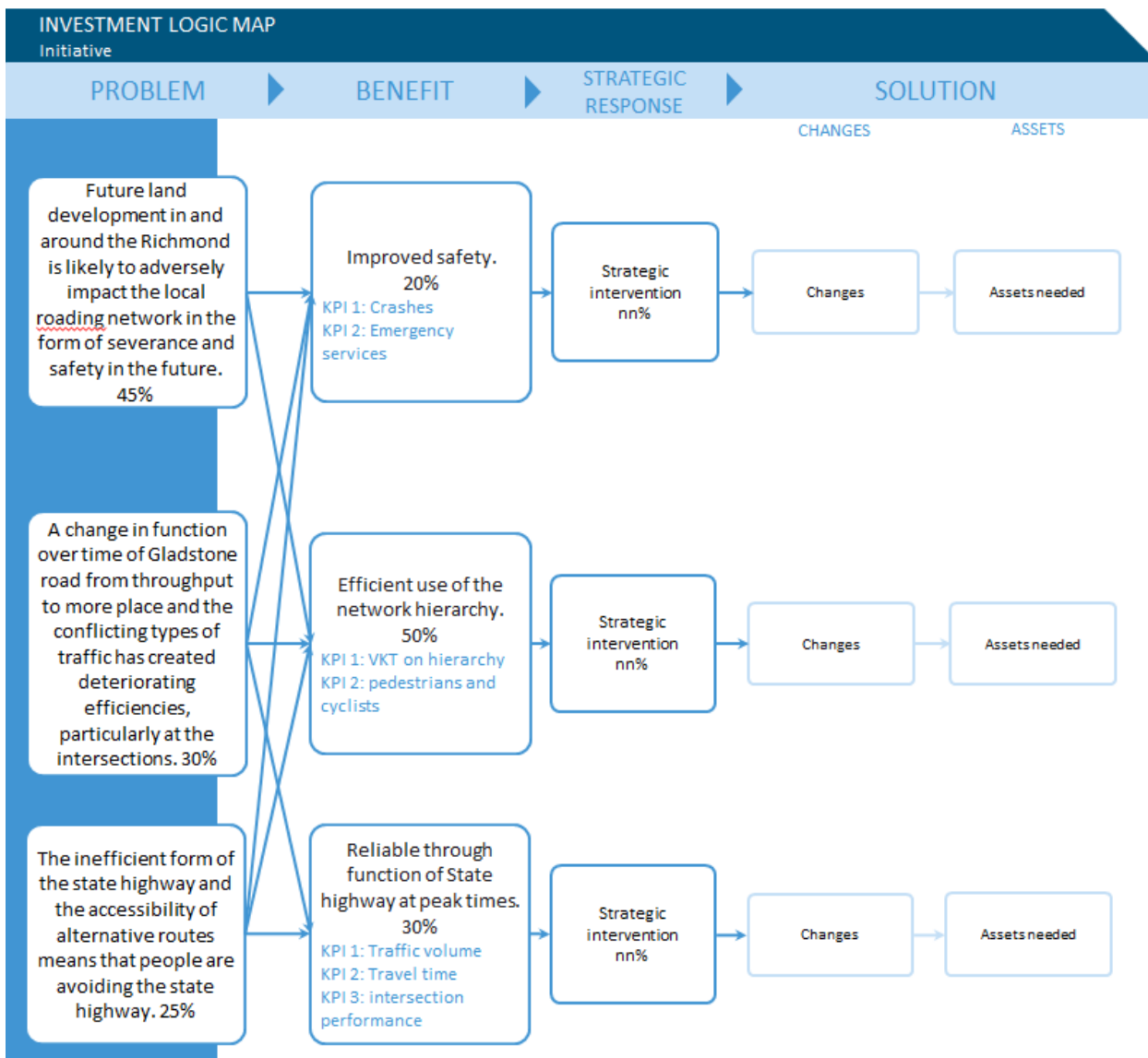
¹⁶ Before solutions are developed to improve this, a better understanding of the operation of the overall downstream network is necessary.

Bypass will be needed. This will then enable consideration of the most appropriate method to address the upcoming expiry of the Hope Bypass designation. It is proposed that, in conjunction with Tasman District Council, a Network Operating Framework and Activity Plan be developed to firstly understand the future transport demand, consider intervention options to make best use of the existing local and state highway network and then determine the trigger levels when investment will be warranted to implement the Hope Bypass.

APPENDIX A – INVESTMENT LOGIC MAP

Richmond’s future transport Projects

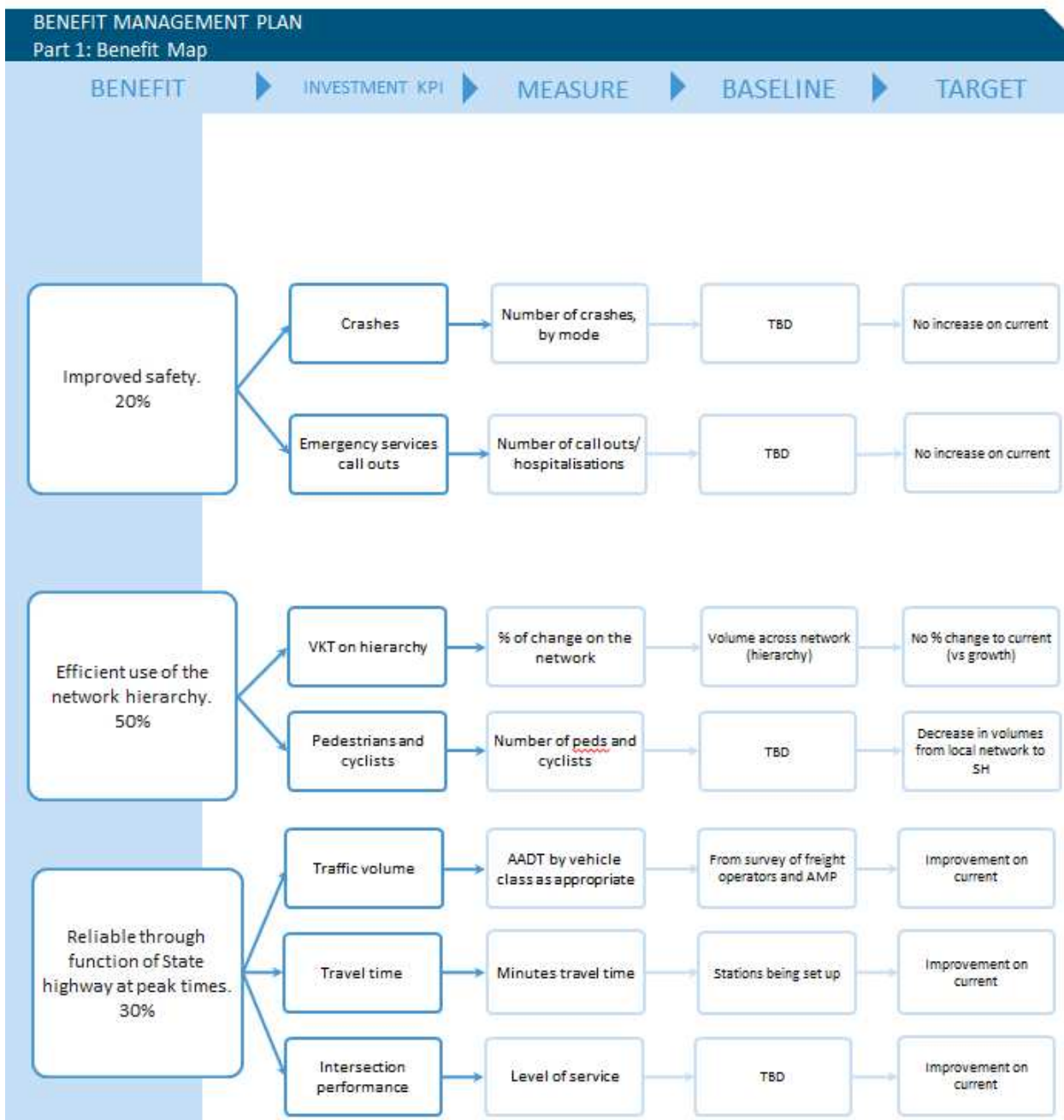
Understanding the type and scale of problems for State Highway 6 and the local network



APPENDIX B – BENEFITS MAP

Richmond's future transport Projects

Understanding the type and scale of problems for State Highway 6 and the local network



APPENDIX C – ALIGNMENT TO EXISTING ORGANISATIONAL STRATEGIES

Table 18 below identifies the high level organisational strategies of the Government, the NZ Transport Agency and Tasman District Council that relate to this investigation project.

Organisation	Organisational Strategies
Government	Government Accelerated Regional Roading Package, 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
Tasman District Council	RLTP; RLTS; LTP; AMPs

Table 18 Relevant organisational strategies and plans

The Transport Agency’s Statement of Intent articulates that our 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 transport network that the regional policy objectives are addressed.

In particular the following Medium Term Objectives are considered relevant:

1. Integrate land uses and transport networks to shape demand at national, regional and local levels.
2. Integrate national and local transport networks to support strategic connections and travel choices.
3. Improve freight supply chain efficiency.
4. Implement the Safe System approach to create a forgiving land transport system that accommodates human error and vulnerability.
7. Greater resilience of the state highway network.
8. Deliver consistent levels of customer service that meet current expectations and anticipate future demand.
9. Provide significant transport infrastructure.
10. Align investment to agreed national, regional and local outcomes and improve value for money in all we invest in and deliver.
11. Ensure effective and efficient co-investment with our partners.