

Attachments

Item 10:

**Queenstown Integrated Transport
Strategy**

Queenstown Integrated Transport Programme Business Case

Abley Transportation Consultants

16/06/2017

VERSION 4

Programme business case



[New Zealand Government](#)



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TABLE OF CONTENTS

Approval.....	3
Revision status*	3
Template version.....	3
Supporting documents	7
Glossary of terms.....	8
EXECUTIVE SUMMARY	9
PART A – THE STRATEGIC CASE.....	12
Investment Objective 1:	58
To improve network performance for private vehicles, public transport and cycling	58
Investment Objective 2:	58
Improved liveability and visitor experience	58
PART B – DEVELOPING THE PROGRAMME	61
PART C – DELIVERING AND MONITORING THE PROGRAMME.....	95
Appendix A – Investment logic map.....	97
Appendix B – Benefit map.....	100
Appendix C – Alignment with preceding business cases and discounted options	103
Appendix D – Thinkplace – liveability and visitor experience insights	105

Approval.....	3
Revision status*	3
Template version.....	3
Supporting documents	7
Glossary of terms.....	8
EXECUTIVE SUMMARY	9
PART A – THE STRATEGIC CASE.....	12
1. INTRODUCTION.....	12
2. PROGRAMME CONTEXT	14
2.1 Strategic context	14
2.2 Geographic and environmental context.....	15
2.3 Social context	19
2.4 Economic context.....	27
2.5 Transport context	29
3. PARTNERS AND KEY STAKEHOLDERS	42
3.1 Investment partners	42
3.2 Key stakeholders	43
4. STRATEGIC ASSESSMENTS – OUTLINING THE NEED FOR INVESTMENT	46

4.1	Problem Definition	46
4.2	The Benefits of Investment	50
5.	ALIGNMENT TO EXISTING STRATEGIES/ORGANISATIONAL GOALS	51
6.	ISSUES AND CONSTRAINTS	55
7.	SMART INVESTMENT OBJECTIVES	57
8.	ANTICIPATED STRATEGIC FIT AND EFFECTIVENESS	59
8.1	Strategic fit	59
8.2	Effectiveness	60
PART B – DEVELOPING THE PROGRAMME		61
1.	ALTERNATIVE AND OPTION GENERATION	61
1.1	Option Generation	61
2.	PROGRAMME DEVELOPMENT	62
2.1	Programme Descriptions	62
3.	PROGRAMME ASSESSMENT	67
4.	RECOMMENDED PROGRAMME	72
4.1	Programme overview	72
4.2	Programme implementation strategy and trigger points	75
4.3	Interdependencies	80
4.4	ITS and the role of technology	80
5.	RECOMMENDED PROGRAMME – ASSESSMENT	83
5.1	Programme outcomes	83
5.2	Programme risk	85
5.3	Value for money	87
5.4	Sensitivity analysis	87
6.	INVESTMENT PROFILE	88
6.1	Effectiveness	88
6.2	Customer profile benefit assessment	89
6.3	Benefit cost assessment	91
6.4	Summary	91
7.	PROGRAMME FINANCIAL CASE	92
7.1	Indicative cost	92
7.2	Affordability	92
7.3	Value capture	92
7.4	Funding arrangements	94

PART C – DELIVERING AND MONITORING THE PROGRAMME.....	95
1. PLANNING AND DELIVERY OVERVIEW	95
2. MANAGEMENT CASE.....	95
2.1 Governance.....	95
2.2 Decision making process.....	96
2.3 Stakeholder engagement and communication plan	96
2.4 Outcome monitoring.....	96
Appendix A – Investment logic map	97
Appendix B – Benefit map.....	100
Appendix C – Alignment with preceding business cases and discounted options	103
Appendix D – Thinkplace – liveability and visitor experience insights	105

SUPPORTING DOCUMENTS

Eastern Access Road (EAR) Economic Evaluation Report

Frankton Flats Strategic Business Case (QLDC, October 2015) Frankton Flats Transport Investment – Improving access and movement around and through Frankton

Kawarau Falls Bridge Alternative Location Report

Plan Change 19 (PC19) Structure Plan

QLDC Economic Network Plan for Transport (March 2015)

QLDC Frankton Flats Western End Study (December 2015)

QLDC Transport Strategy Review Strategic Case (June 2014)

QLDC Transport Strategy Review Mode Direction Statement

Queenstown Airport Master Plan 2004 (Update currently under development)

Queenstown Events Centre Development Plan

Queenstown Integrated Transport Preliminary Business Case – Liveability & Visitor Experience Insights (January 2007)

Queenstown-Lakes Proposed District Plan (August 2015)

Queenstown Town Centre Strategic Case (QLDC, November 2014) Queenstown Town Centre Transport Strategy (QLDC, December 2015)

Queenstown Town Centre Transport Programme Business Case (QLDC, January 2016)

The Current View of Queenstown's Future Story (NZTA, February 2017)

Wakatipu Basin Network Review Strategic Case (ORC, February 2016)

Wakatipu Basin Public Transport Network Programme Business Case (ORC, March 2016)

Wakatipu Trails Trust Strategic Plan – Queenstown Trails for the future 2015-2025

GLOSSARY OF TERMS

CBD	Central Business District
DBC	Detailed Business Case
EAR	Eastern Access Road
GDP	Gross Domestic Product
IAF	Investment Assessment Framework
LHE	Lake Hayes Estate
MRT	Mass Rapid Transit
NZTA	New Zealand Transport Agency
ORC	Otago Regional Council
PC50	Plan Change 50
PBC	Programme Business Case
QITPBC	Queenstown Integrated Programme Business Case
QLDC	Queenstown Lakes District Council
RTC	Remarkables Town Centre
RTI	Real Time Information
SHAMP	State Highway Activity Management Plan

EXECUTIVE SUMMARY

The Queenstown area is experiencing unprecedented levels of growth. The population increased by 65% between 2001 and 2013, with further increases since then. This is reflected in employment growth of 3.4% per annum, compared to a national rate of 1.2% since 2005. The combined effect of this has been an economic growth rate averaging 4% (double the New Zealand average). With sustained growth likely to continue, the implications for the transport network are significant.

Queenstown's importance as a domestic and international tourism gateway is compounding these issues. Queenstown's relatively remote location results in approximately 45% of visitors arriving by air and the remainder arriving by vehicle. Visitor numbers through Queenstown airport have increased by 200% since 2005 to nearly 1.8 million passengers in the year to June 2017.

The way visitors travel has also changed with a shift to free and independent travellers utilising self-driving opportunities rather than the more traditional tour coaches as their main mode. This has made Queenstown the second largest vehicle hire port in New Zealand with over 2,000 rental vehicles currently available. The impact of this trend on the transport system is significant, due to the total number of vehicle movements generated, and the expanding tourist market. A shoulder season is no longer apparent, with high visitor numbers in Queenstown all year round.

The exponential growth in Queenstown has led to significant congestion and declining travel time reliability for private and public transport on key journeys. The transport system has not been able to keep up with growth, and only limited improvements in infrastructure and services have been made since 2006. This is exemplified on State Highway 6A, between Frankton and Queenstown town centre, operating at 88% of its theoretical capacity of 28,500 vehicles per day, a figure that is expected to reach 100% by 2026. Traditional transport strategies and response to growth will no longer work in the Queenstown environment. A fundamental change in thinking and approach is required.

State Highway 6A (Frankton Road), is a critical corridor for key journeys in Queenstown for residents and visitors alike. A high level of service on this corridor is also fundamental for businesses and services that rely on road-based activities to function. Like many roads in the area, SH6A is severely constrained by the local topography including residential development along the shoreline of Lake Wakatipu to the south of the road, and Queenstown Hill to the north. Opportunities to expand the road space are very limited, and no silver bullet solutions exist meaning this corridor is a major limiting factor underpinning the programme composition.

Due to a lack of attractive alternatives and the location of employment to residential areas across Queenstown and Frankton, cars are the dominant mode. Conflicting demands for road space, along with the resultant congestion, is affecting the liveability and attractiveness of the area.

The PBC development process has confirmed the strategic case for change is still relevant. With the amalgamation of the contributing business cases, the problem statements have been refined and agreed as follows:

- Problem Statement 1: The significant growth in visitors, residents and vehicles, leads to increasing trip unreliability and worsening customer experience across the network.
 - Problem Statement 2: Car dominance and associated congestion is affecting the liveability and attractiveness of the area.
-

Trip reliability is deteriorating across the network, significantly impacting all journey types. This is evidenced in the travel time data between Lucas Place/ State Highway 6 and State Highway 6/6A intersections which can vary by approximately 10 minutes over this 700 metre road corridor.

The dominance of cars is evident with 77% of peak inbound journeys into the town centre being made by car and only 13% by public transport.

The benefits of addressing these problems have been identified through:

- Improved network performance and customer experience for all modes, and
- Improved liveability and visitor experience.

In conjunction with the stakeholders, investment objectives were determined that focus on improving mode share and people throughput, as well as the travel time reliability for both general traffic and public transport. These are also supported by targets for resident satisfaction and visitor experience.

From a long list of programme options, a short list of four preferred programmes was developed and assessed by both the stakeholders as well as through the NZ Transport Agency's assessment framework. Based on this analysis, a final, recommended programme has been identified.

The recommended programme seeks to address the problems through a mix of infrastructural, public transport and behaviour change measures. Key activities include:

- Making public transport an attractive and viable alternative to the private car through improvements to service provision, and the introduction of bus priority, park and ride and a Mass Rapid Transit corridor between Queenstown and Frankton.
- Altering cost, provision and management of parking across the area to support the goals of reducing private vehicle usage, and encouraging greater use of public transport
- Completing key infrastructure projects for vehicular and active modes, including a new town centre arterial to facilitate economic growth, better provision for public transport and access for pedestrians, and removing unnecessary vehicle movements in the most congested areas of the town centre.

The recommended programme is expected to improve the transport system through improved transport choice and level of service for all modes. Key outcomes by 2045 include:

- 30% Alternative mode share (up from 15%)
- 329 public transport passengers per hour (Frankton to Queenstown)
- 223 Fewer vehicles (7%) per hour (Frankton to Queenstown)
- 16 minute reduction in travel time (Frankton to Queenstown)
- 3 minute travel time variability during the morning peak hour.

The cost of this programme has been estimated as being between \$447 and \$647 million with a benefit-cost ratio in the range of 0.7 – 1.0. Within the programme however, there is a significant potential role for alternative funding mechanisms to ensure the timely delivery of effective transport solutions. A Mass Rapid Transit corridor provides a good opportunity to attract private investment or alternative funding arrangements, and represents 41% of the total programme cost.

While the topography and availability of land may constrain some activities, a key risk is that the reduction in private vehicle use is not achieved. Failure to achieve this goal may undermine the delivery of the programme, which will further exacerbate the pressures on Queenstown's transport system. Additionally, the scale and magnitude of the problems facing the Queenstown and Frankton area, requires the careful integration and alignment between respective agencies to ensure funding acquisition to successfully deliver the programme and investment objectives.

The programme business case development has been commissioned by the New Zealand Transport Agency, but the recommended programme and its component activities have been developed in collaboration with all investments partners, including the Otago Regional Council and Queenstown Lakes District Council, who are committed to its successful delivery.

PART A – THE STRATEGIC CASE

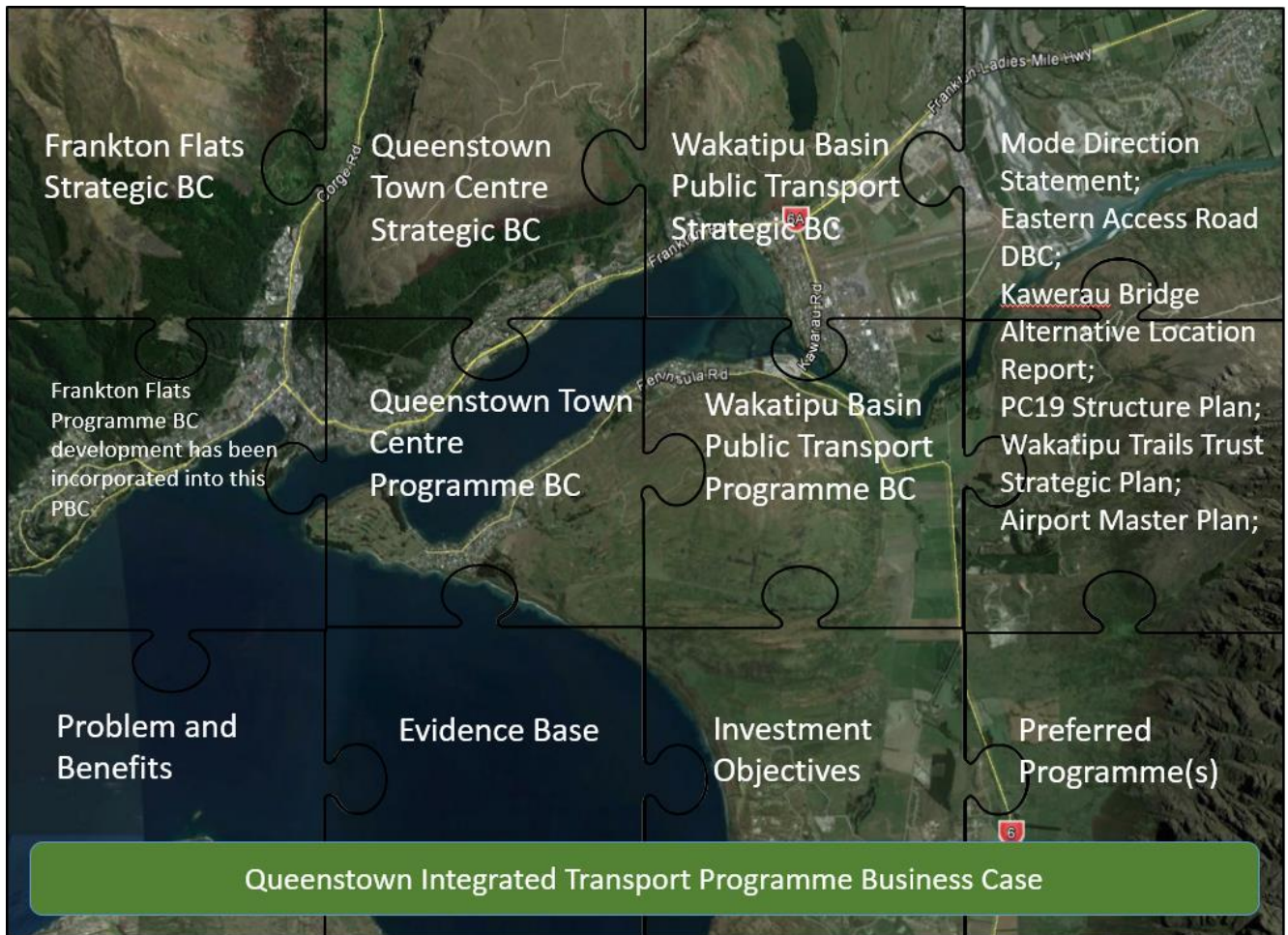
1. INTRODUCTION

The Queenstown-Lakes District is currently undergoing considerable urban transformation in response to exponential residential, commercial and visitor growth especially in the Queenstown and Frankton urban areas. With few areas of flat land available to accommodate predicted growth, Frankton Flats is the single greatest area of developable land in the Queenstown Lakes District, and is likely to come under increased pressure from development to supply the infrastructure that is required. The interdependencies between the transport system in the Frankton and Queenstown urban areas, including SH6A and SH6 being the key arterials connecting the urban areas, necessitates the development of a Programme Business Case to build upon and bring together previous Strategic and Programme Business Case work in the District.

The Frankton Flats Strategic Case (titled ‘Frankton Flats Transport Investment – Improving access and movement around and through Frankton’) document was developed by Queenstown Lakes District Council (QLDC), NZ Transport Agency and Otago Regional Council (ORC) in October 2015 to understand the context and case for change in Frankton Flats and to develop a transport system that is suitable for the area and wider Queenstown Lakes District.

This project aims to progress, and coordinate this work with the Queenstown Town Centre Programme Business Case (January 2016) and Wakatipu Basin Public Transport Network Programme Business Case (March 2016) along with several previous projects to formulate an overarching programme. This is called the “Queenstown Integrated Transport Programme Business Case” (QITPBC). Figure 1 outlines the foundation of existing work programmes for the District and how they fit together, or can leverage from a single transport programme for Queenstown.

Figure 1 Existing transport work programmes for Queenstown district



The development of the QITPBC although led by NZ Transport Agency, is a collaborative project that seeks to identify a recommended programme of options, that provide good investment opportunity to address the identified problems and deliver the benefits sought by the community. The key investment partners are Queenstown Lakes District Council, NZ Transport Agency, Otago Regional Council and Queenstown Airport Corporation.

2. PROGRAMME CONTEXT

The 2007 Wakatipu Transport Strategy sought to deliver an integrated transport system for the area however due to only partial implementation and, some have said, a slowing down of economic activity resulting from the Global Financial Crisis of 2007/08, its outcomes have not been achieved. This, together with continued exponential growth in the region has created significant issues within the transport system; acutely evident through the unpredictable journey times and localised congestion. This was also demonstrated in both the Queenstown Town Centre PBC and Wakatipu Basin Public Transport Network PBC which both recognise the integral role of public transport, and the integration of modes in addressing the transport system deficiencies in Queenstown.

With parallel but related approaches towards addressing Queenstown's issues developing on different timelines there was a need to combine and develop previous business cases further into an integrated programme of investment.

With continued high levels of growth in the number of visitors and residents in the District, many stakeholders are pressing hard for a step change to the way the transport system functions in Queenstown. There is a strong consensus forming around the need to act now, before the liveability and visitor experience deteriorates and impacts negatively on the ability of Queenstown and tourism to continue to grow. Thinkplace was commissioned to conduct qualitative research to develop insight and explore perceptions of transport issues impacting liveability and visitor experience in Queenstown. This work informs the programme development and implementation timeline to prevent negative implications of the region's sustained growth.

2.1 Strategic context

District planning currently takes place in a fragmented, often independent manner by several organisations. There is no current overarching integrated land use and transport masterplan. A number of strategic planning documents exist for different aspects of future planning as outlined in Figure 2. A gap exists in recognising the interdependencies, alignment and on-going review of these documents and the collaboration of the organisations involved with them.

Figure 2 Existing planning documents and work streams



2.2 Geographic and environmental context

The geographic study area and scope of the QITPBC includes the urban areas of Frankton and Queenstown as well as the connecting SH6A corridor and SH6 corridor east to include Lake Hayes Estate and south to include Jacks Point development. The geographic study area is depicted in Figure 3.

Figure 3 QITPBC Geographic study area



The scope of the PBC extends to acknowledging the role of, and growth in traffic linking between the study area and key destinations including ski fields, Te Anau, Milford Sound, Glenorchy and Central Otago. This is reinforced by the role of the Queenstown-Lakes Transportation Model which considers travel demand as a result of growth and infrastructure investment in these outer areas. However, these corridors outside of the study area pictured in Figure 3 do not fall within the scope of the PBC.

The study area is bounded by Lake Wakatipu and the surrounding mountainous ranges as shown in Figure 4. The Kawarau and Shotover Rivers also flow through this area. These spectacular natural attractions, alpine environment and natural amenity draw people to this region meaning Queenstown and the Wakatipu basin are experiencing significant growth in population, visitor numbers and vehicle movements. The topographical constraints of the Wakatipu Basin limit the land available for development to accommodate the predicted growth, placing pressure on Queenstown's transport system.

Figure 4 Queenstown Topography



The Queenstown road network is dually operated by NZ Transport Agency and Queenstown Lakes District Council (QLDC). State highway 6 to the south and east connects Frankton to the wider inter-regional network and intersects with State Highway 6A to link Frankton and the Queenstown town centre. Local roads feed these major arterials to form the Queenstown road network.

State Highway 6A (Frankton Road), is a critical corridor for key journeys in Queenstown for residents and visitors alike. A high level of service on this corridor is also fundamental for businesses and services that rely on road-based activities to function. Like many roads in the area, SH6A is severely constrained by the local topography. Traversing a narrow corridor between Lake Wakatipu on the southern side and steep terrain on the north, road space is very limited, restricting the opportunity for capacity improvements such as road widening. Figure 5 illustrates the topography constraints of the SH6A corridor between the two main urban areas of Queenstown and Frankton.

Figure 5 SH6A Frankton Road



Average annual daily traffic (AADT) volumes at several State Highway count locations in the study area are shown in Table 1.

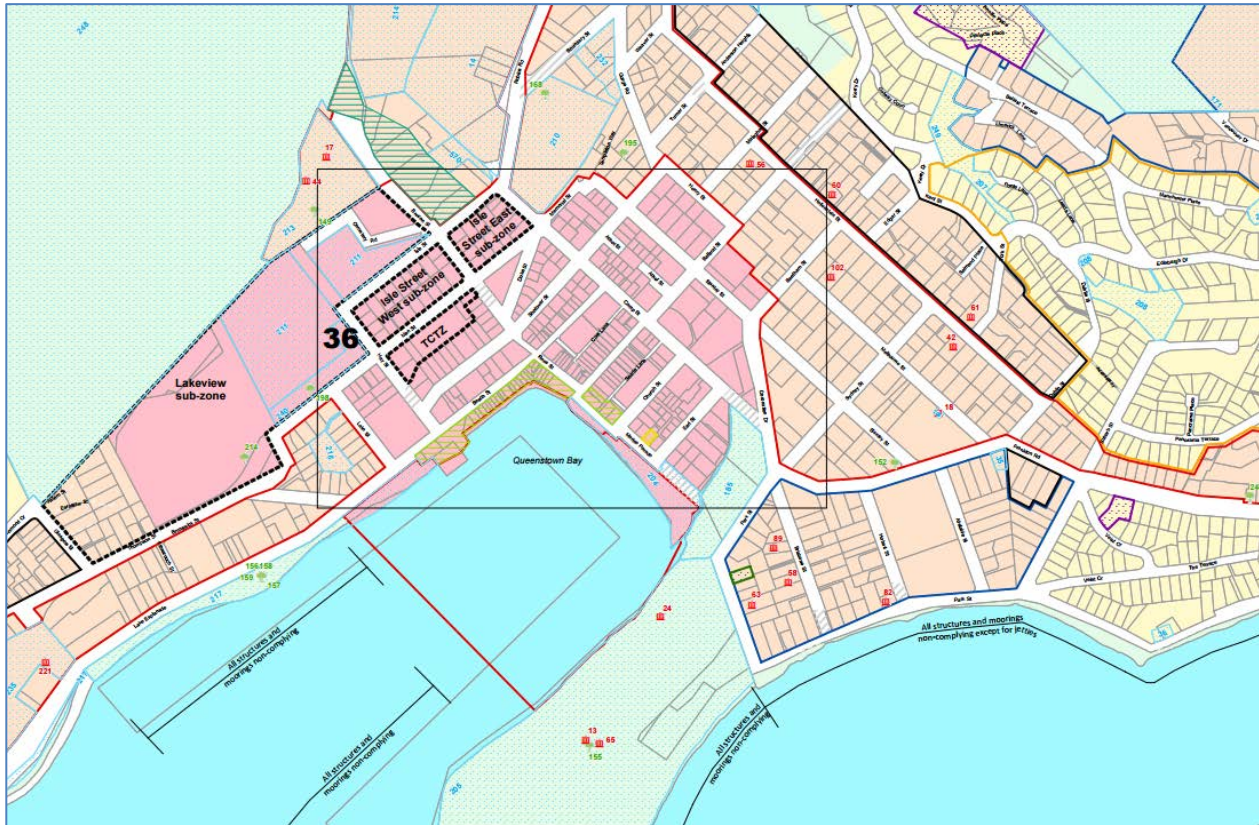
Table 1 NZ Transport Agency 2015 traffic volumes¹

Location	Site ref	2015 AADT	% Heavy
SH 6 Between SH6/6A junction and Airport	00600996	19180	4
SH6 Frankton North East of junction	00600994	19654	6
SH6A West of Frankton	06A00001	21472	5
SH6A Stanley St – Millenium Hotel	06A00006	17402	7

The Queenstown town centre has an important function as both the main tourist centre, and administrative hub of the Queenstown Lakes District. The extent of the town centre as outlined in the Queenstown Lakes District Plan is shown in Figure 6.

¹ <https://www.nzta.govt.nz/assets/resources/state-highway-traffic-volumes/docs/2011-2015-AADT-Booklet2.pdf>

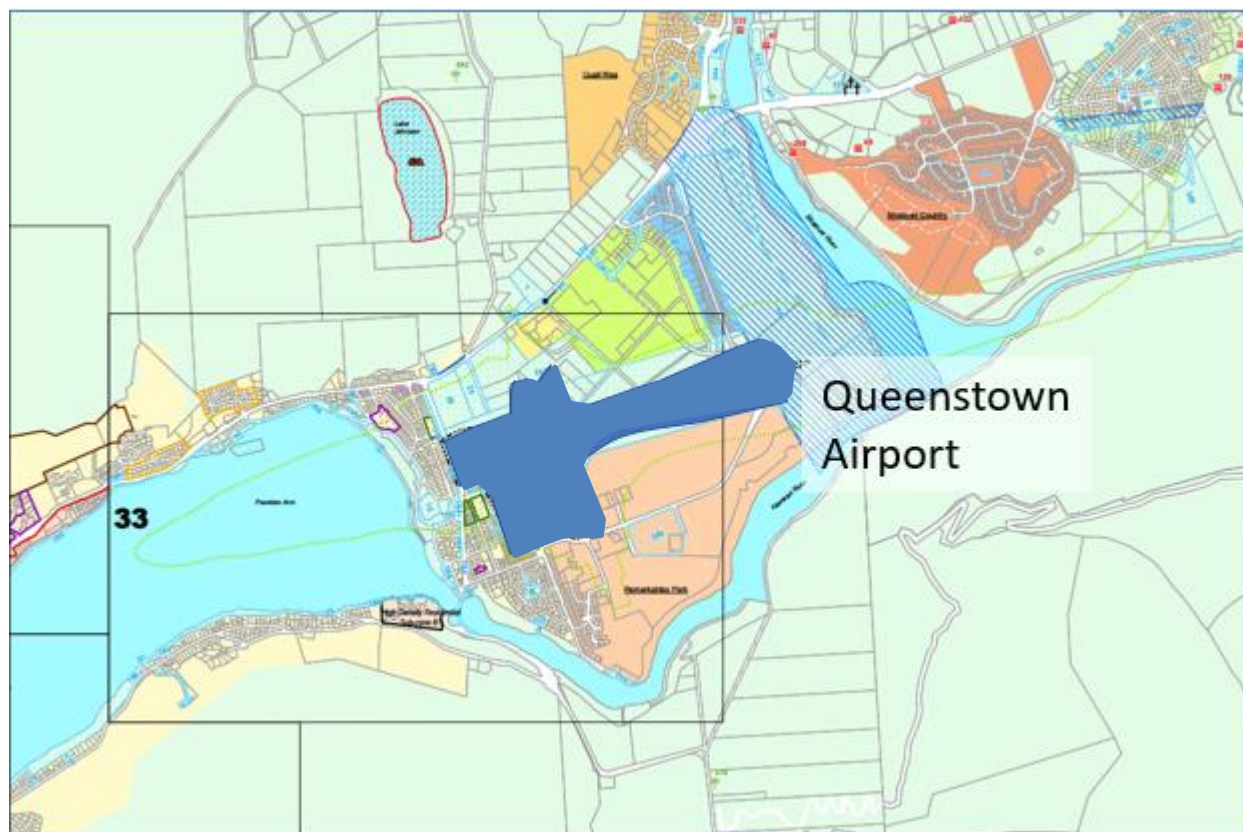
Figure 6 Geographic extent of Queenstown Town Centre



The western edge of the town centre has also been rezoned (Plan Change 50(PC50)) to expand the Queenstown town centre. PC50 became operative in July 2016, and upon completion is expected to include 950 accommodation units as well as a convention centre, hot pools and additional commercial/retail space.

Frankton Flats is currently undergoing considerable urban transformation in response to the population growth of the Queenstown area. This has included the 2014 rezoning (Plan Change 19) of the Frankton Flats special zone to provide a mixed-use area for a range of activities including light industrial, showrooms, offices, mid-size retail and above ground residential. This rezoning was necessary to achieve the efficient utilisation of one of the last remaining greenfield sites within the boundaries of the Queenstown urban area. In addition to this, the Queenstown International Airport is expanding, Remarkables Park has substantial development plans including the re-location of Wakatipu High school and mixed-use activity, and the Five Mile shopping complex is now complete. The extent of the Frankton development is shown in Figure 6.

Figure 7 Frankton and Queenstown Airport



2.3 Social context

2.3.1 Demographics

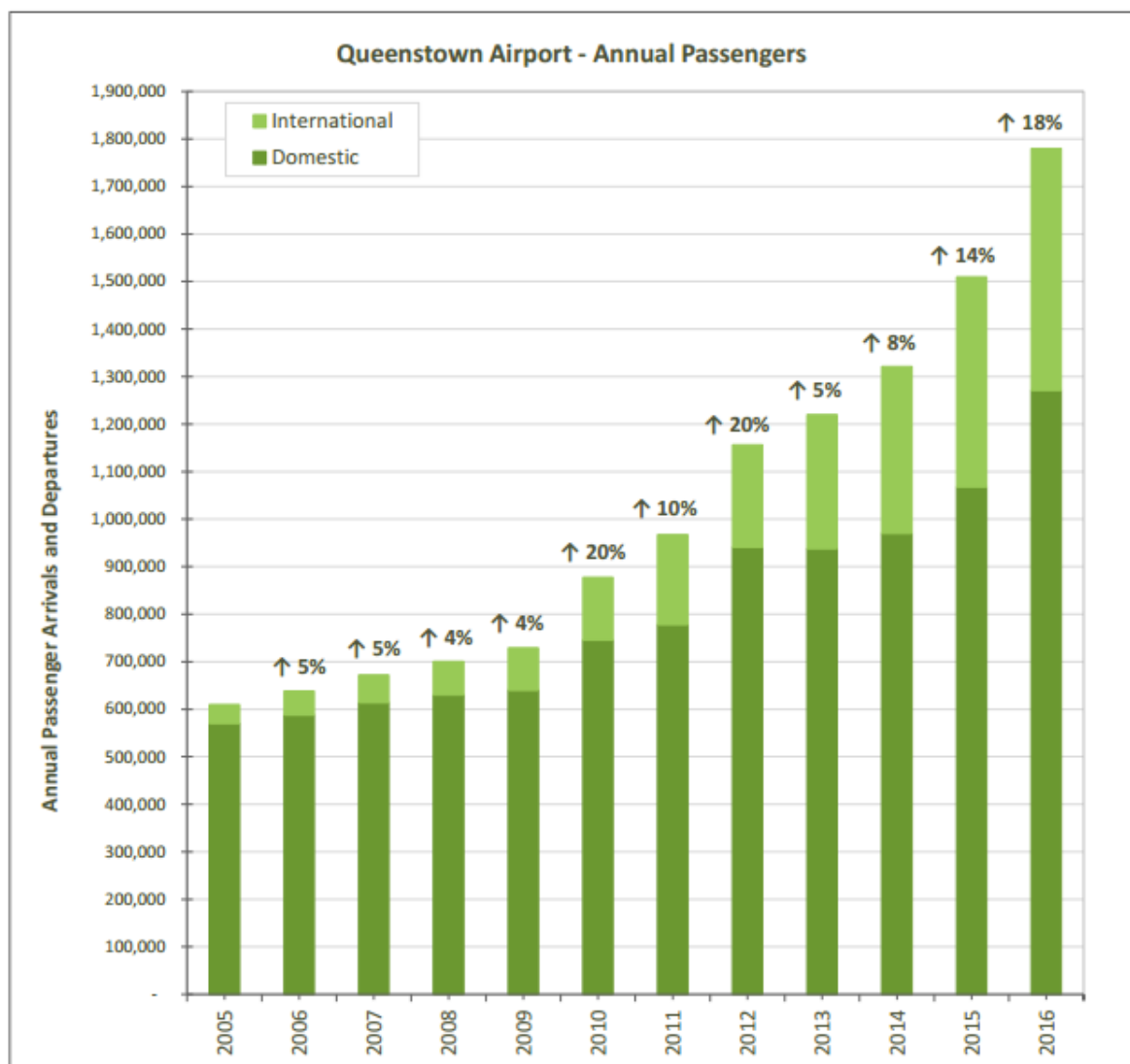
Queenstown is one of New Zealand's premier tourist destinations offering a diverse mix of commercial, civic, cultural, entertainment and sporting activities to both international and domestic visitors. Queenstown Lakes District's 2013 usual resident population was 28,224 people (less than 1% of New Zealand's population), an increase of 22.9% from 2006. Queenstown's population is boosted significantly during winter and summer holiday season by visitors to the region. Queenstown's population also fluctuates significantly as a result of activity driven demand such as Queenstown Marathon and Winter Festival. The peak population often outweighs residents by nearly four times. Passenger numbers passing through Queenstown airport in the 2016 calendar year were 1.78 million². The magnitude of growth in airport passengers is shown in Figure 8 and with the imminent expansion of services, strong growth is likely to continue.

Queenstown has a unique demographic composition with a complex mix of permanent and temporary residents, seasonal workers and tourists. The majority of employment is in hospitality and retail, reflecting Queenstown tourism focus³

² <http://www.queenstownairport.co.nz/assets/documents/ZQN-Annual-Passengers-Calendar-Year-to-2016.pdf>

³ Queenstown's story, New Zealand Transport Agency, April 2017

Figure 8 Queenstown Airport Annual passenger movements



The residential and tourism growth is placing strain on existing infrastructure, particularly housing. Although new housing has been built, such as along SH6 including Shotover Country and Lake Hayes Estate, housing affordability is a major concern in Queenstown. House prices are up 68% in the four years between July 2012 and July 2016. With an average price over \$1million in 2016, a 32% increase since 2015 alone, housing affordability is having an impact on people's travel patterns⁴. In 2013, the median income in the Queenstown Lakes District was \$35,100. Housing affordability in Queenstown is 14.8 times average earnings, significantly higher than the New Zealand average of 8.8. A high rate of unoccupied homes (roughly 40%) severely distorts the rental market⁵. With greater returns for short term rentals over peak seasons than long term tenancies, housing options for Queenstown workers servicing the tourism industry on low incomes is limited. This is forcing people to move further out of Queenstown to find affordable accommodation which increases the pressure on the transport system.

Based on the Statistics New Zealand levels of social-economic deprivation Figure 9 illustrates the varied level of deprivation in the Queenstown area. There is a small area of high deprivation (9) in the

⁴ <http://www.newshub.co.nz/home/new-zealand/2016/12/queenstown-house-prices-hit-1-million.html>

⁵ Queenstown's Story, New Zealand Transport Agency, April 2017

south west of Queenstown, while the majority of the study area has a deprivation level between 2 and 6.

Figure 9 Level of Deprivation in Queenstown⁶



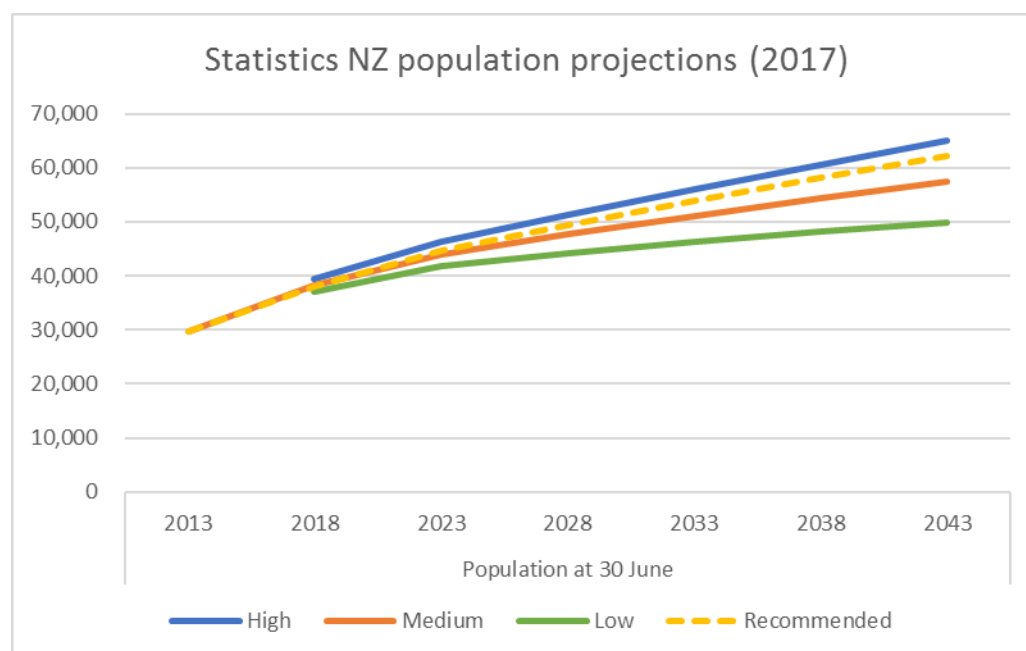
2.3.2 Population Growth

Queenstown has a growing population, largely driven by growth in tourism resulting in an increase in the number of people living, working and holidaying in the district. Queenstown's population has increased by 65% between 2001 and 2013 and a corresponding employment growth of 41% over the same period (or 3.3% per annum) compares to the national average rate of 1.2% per annum since 2005. Statistics New Zealand expect Queenstown's population to continue to grow by 2.2% per annum (compared to the national average of 0.9%) over the next 20 years⁷. Statistics NZ population projections published in 2017 project are shown in Figure 10. Using the medium projection Queenstown is forecast to have a population of 51,000 people by 2033. The Queenstown Lakes transportation model uses a population projection that sits between the Statistics NZ medium and high published 2017 projections. In 2028 the model is 45% greater than the medium projection, and at 2043 it is 62% higher.

The significant population growth will lead to increased demand for residential and commercial properties, land use and increased volumes of traffic, placing the transport system under even greater pressure.

⁶ <http://www.censusmaps.co.nz/>

⁷ <http://www.qldc.govt.nz/assets/Uploads/Council-Documents/Strategies-and-Publications/Queenstown-Lakes-Economic-Development-Strategy-Consultation-Document.pdf>

Figure 10 Queenstown Lakes District Statistics NZ population projections 2013-2043

With housing demand outstripping supply, locals and low-waged workers that drive Queenstown's tourism economy are being shut out of the market creating an urgent need for affordable workers accommodation⁸. Several worker housing complexes have been proposed over recent years but there is some anecdotal evidence to suggest that some have not progressed due to financial feasibility.

2.3.3 Liveability

Previous strategic business cases and supporting documentation have identified links between transport experience and liveability. Liveability refers to the sum of the factors that contribute to the quality of life and experience that an area affords to residents and visitors. With travel and mobility as components of liveability alongside housing, employment and recreational opportunities, specific research, undertaken by strategic design consultancy Thinkplace, was commissioned by NZ Transport Agency to inform this business case.

Qualitative, in-depth interviews were undertaken between November 2016 and January 2017 with 36 residents from across the Wakatipu Basin, and 16 domestic and/or international visitors about their experiences, and the impact that transport has on their daily activities. Table 2 lists the key transport goals and barriers that were identified.

⁸ <http://www.newshub.co.nz/home/new-zealand/2016/06/unprecedented-accommodation-demand-hits-queenstown.html>

Table 2 Identified transport goals and barriers

Transport goals	Barriers to goals
Consistent travel times, peak and off-peak	Lack of parking
Consistent 'peak' times to enable journey scheduling	Traffic delays and unpredictable peak times
Easy access to town centre	High taxi fares
Transport options that are not car dependent	High bus fares
Easy access to and from the airport	Unreliable bus schedules
	Lack of good bus system
	Narrow roads and one way bridges

Insights from the Thinkplace interviews have been incorporated where appropriate as call out bubbles to support the following sections of the report. The key findings from this research⁹ indicated that:

- Residents find it difficult to disentangle transport from the other more significant challenges of living in Queenstown, including the cost of living.
- The combination of increasing cost of living and low average incomes are forcing some people to reconsider their future in the area and consider moving away from the town.
- Residents and business operators travelling within Queenstown experience frustratingly unpredictable journey times and report that it is difficult to plan to avoid congestion.
- Residents say congestion is no longer restricted to specific times of the day.
- There seems to be an influx of people in Queenstown all year round (there is no shoulder season anymore) and this coincides with worsening driver and pedestrian behaviour but not just by tourists.
- Locals indicate that with the development of Frankton, their experience is now a tale of two centres with dualities that bring mostly convenience and some inconvenience.
- Locals say that there is a lot of talk about improving the transport network but there is a lack of action and forward thinking.
- Locals' responses reveal that the high cost of living, recent influx of people and increased tourism is fostering an 'Us versus Them' mentality in regard to locals and tourists.
- People are now making decisions about where they live and work based on the current state of the transport system.
- There is a near-universal view that the public transport network fails on many levels: buses are expensive, unreliable, infrequent (on many routes) and provide limited coverage.
- Tourists who have returned to Queenstown have changed their behaviour as a result of experiencing traffic and/or parking issues.

I get really sick of the driving and parking issues in this town. It makes it hard to get on and do my job.

(ThinkPlace Research 2017)

⁹ ThinkPlace (2017) Liveability & Visitor Experience Insights

Destination Queenstown conduct regular visitor experience research to understand the levels of visitor satisfaction with Queenstown. For the period July – September 2016 the Visitor Insights Programme summarised overall visitor experience as “the quality of activities/attractions and quality of restaurants, cafés and bars available in the region, along with the cleanliness/presentation of the town, exceed visitor expectations. Visitors are disappointed however with the availability of parking and the traffic flow around Queenstown. There are opportunities to boost visitor satisfaction with improvements to both traffic and car parking and also local transport options and services”¹⁰. This endorses that transport related issues in Queenstown are impacting on visitor experience and satisfaction.

Transport, roading and parking comments feature strongly in the 2016 Queenstown Lakes District Council’s annual Ratepayers and Residents Survey. Whilst not specifically measured on a scale of satisfaction, they are the top three themes in the ‘improvement opportunities’ section. Of the 1300 comments received, 327 of them relate to transport, roading or parking. These three categories seemed to link to a high level of concern about the region’s ability to cope with the high volume of visitors, short-term workers and residents’ needs to move around the region. A strong sense of the inadequate provision and cost of public transport was conveyed¹¹.

2.3.4 Visitor Growth

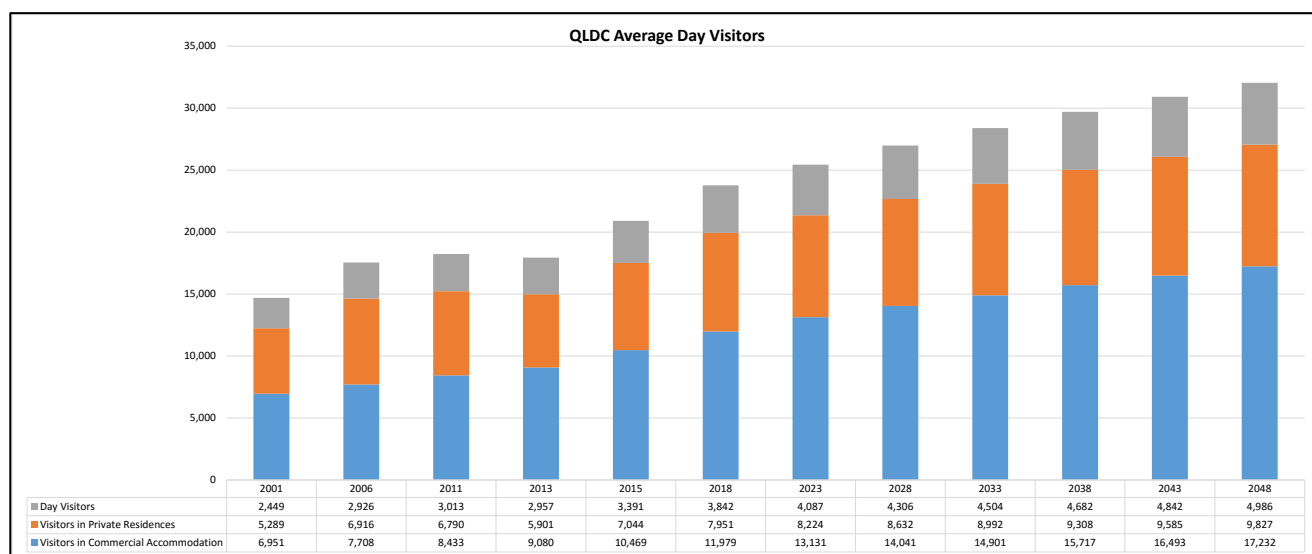
Queenstown is a world-renowned travel destination attracting around two million visitors every year. On an average day, Queenstown’s population is boosted by approximately 17,000 visitors on average per day. During peak periods and events this increases to greater than 66,000 people per day. In the future, visitors are projected to grow at 1.4% per annum on an average day, and 1.7% per annum on a peak day¹².

The Queenstown Lakes District Council average day visitor growth projections are shown in Figure 11.

¹⁰ Visitor Insights Programme, Visitor Experience Queenstown research, July – September 2016, Angus and Associates.

¹¹ Queenstown Lakes District Council, Annual residents survey, June 2016

¹² Rationale (2014), Queenstown Lakes District projections for resident population, dwellings and rating units to 2065

Figure 11 QLDC projected average day visitors¹³

Queenstown is an important domestic and international tourism gateway, with approximately 45% of visitors arriving by air and the remainder arriving by vehicle. Queenstown airport is New Zealand's fourth busiest airport with total passenger movements (arrivals and departures) increasing by 200% since 2005 to nearly 1.8 million passengers in 2016. Sustained growth is forecast, with total passenger movements projected to be 3.2 million by 2025 and 7.1 million by 2040¹⁴.

Growth in visitor numbers affects transport demand both directly (e.g. extra coaches, campervans and rental cars on the road, increased use of public transport on routes serving tourist destinations) and indirectly (e.g. an increased workforce placing extra pressure on commuter routes and travel to/from new satellite housing developments). Rental vehicles are easily accessible to tourists and visitor travel in the district is predominantly undertaken by rental car, private car, campervan or coach trips.

This is evidenced both in the growth in traffic in the area as well as the increasing number of employment vacancies occurring in the town. An analysis of vacancies in 2016¹⁵ saw a 59% increase in hospitality and tourism industry employment vacancies along with a 40% increase in construction and 35% increase in trades and services vacancies.

Population and visitor growth are drivers of growth in activity in the area. Traffic demand will continue on its current trajectory unless tourists (and locals) change transport behaviours and choices.

2.3.5 Land use

Land use activity can be classified by Statistics New Zealand's census area units (CAUs), with growth in land use activity for the Wakatipu Ward CAUs available from the QLDC growth forecasts.

The occupied dwelling forecasts published by Statistics New Zealand have been interpolated to forecast growth for 2025 and 2045, and inform the Queenstown-Lakes transportation model. The resultant household and job growth projections are shown in Figure 12, and clearly demonstrate the

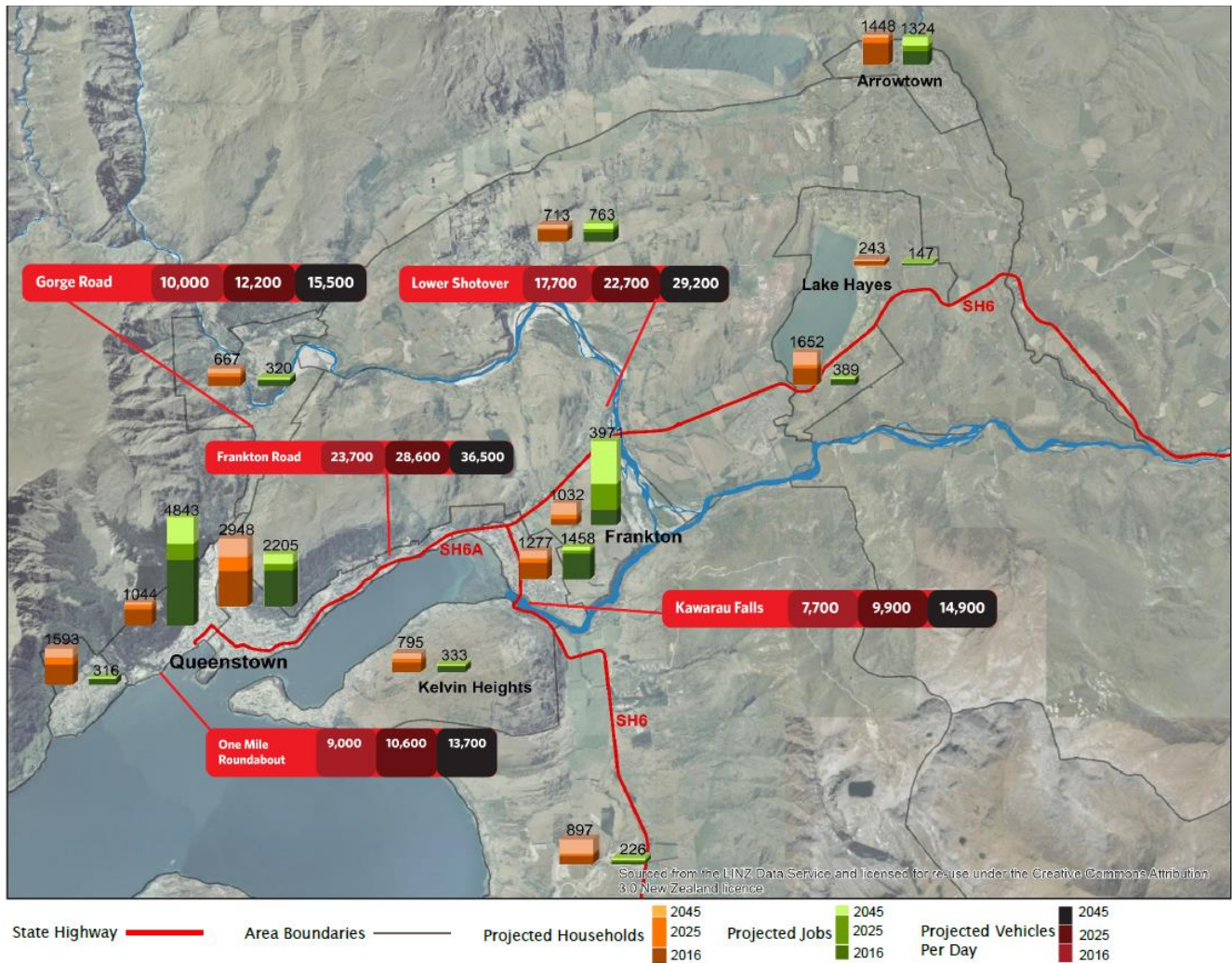
¹³ QLDC Growth Projections 2015-2065, November 2015, Rationale Ltd

¹⁴ Queenstown Airport Corporation Ltd – Queenstown Airport Masterplan (2017)

¹⁵ <http://insightsresources.seek.co.nz/seek-employment-trends-regional-spotlight-queenstown-wanaka>

significant residential and employment growth across the Wakatipu Ward.

Figure 12 Future land use and traffic projections



2.4 Economic context

Tourism is Queenstown's most significant industry and the region's main economic driver with annual tourism expenditure in 2016 exceeding \$2 billion. The strength of the visitor economy therefore largely drives the economic stability and development of the region. Queenstown attracts a range of visitor types from backpackers to high value tourists, which significantly impacts on the range of opportunities for economic development and investment in the region.

Queenstown is second only to Auckland for international visitor value and represents 13% of the national total. Table 3 illustrates Queenstown's relative importance as a national tourist destination from both a domestic and international perspective.

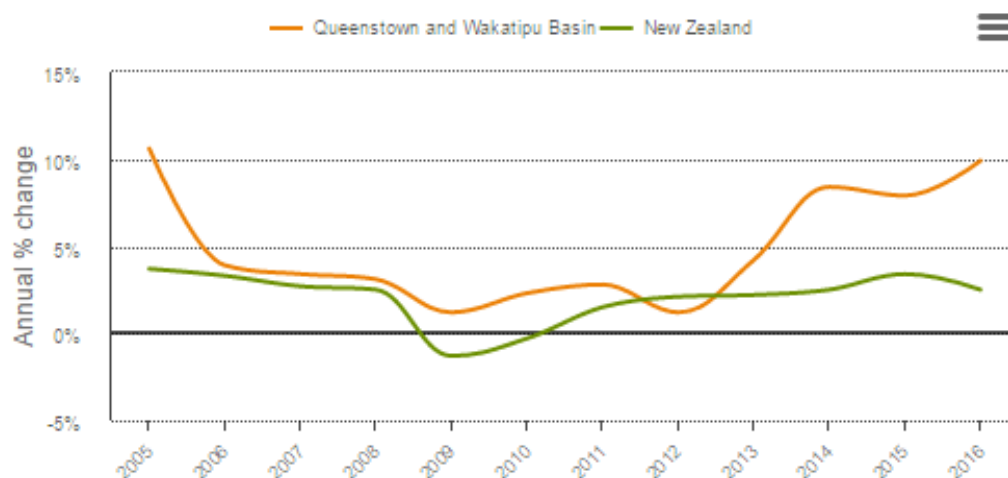
Table 3 Ministry of Business Innovation and Employment (MBIE) Regional Tourism Spend (year ending January 2017)¹⁶

RTO (\$millions)	Domestic	International	Total	Market Share
Auckland	3,498	3,987	7,485	29%
Christchurch	1,255	918	2,173	8%
Queenstown	681	1,434	2,115	8%
Wellington	1,344	692	2,026	8%
Waikato	1,060	336	1,396	5%

Economic performance measured by Gross Domestic Product (GDP) in Queenstown and Wakatipu Basin is growing at a significantly higher rate than the New Zealand average as shown in Figure 13. GDP in Queenstown and Wakatipu Basin measured \$1,299m in the year to March 2016, up 9.9% from a year earlier. New Zealand's GDP increased by 2.5% over the same period. Economic growth in Queenstown and Wakatipu Basin averaged 4.4%pa over the last 10 years compared with an average of 1.8%pa in the national economy.¹⁷ Queenstown's regional tourism spend makes up more than 20% of the Otago regional GDP and is the highest percentage in New Zealand, as shown in Figure 15.

¹⁶ <http://www.mbie.govt.nz/info-services/sectors-industries/tourism/documents-image-library/key-tourism-statistics.pdf>

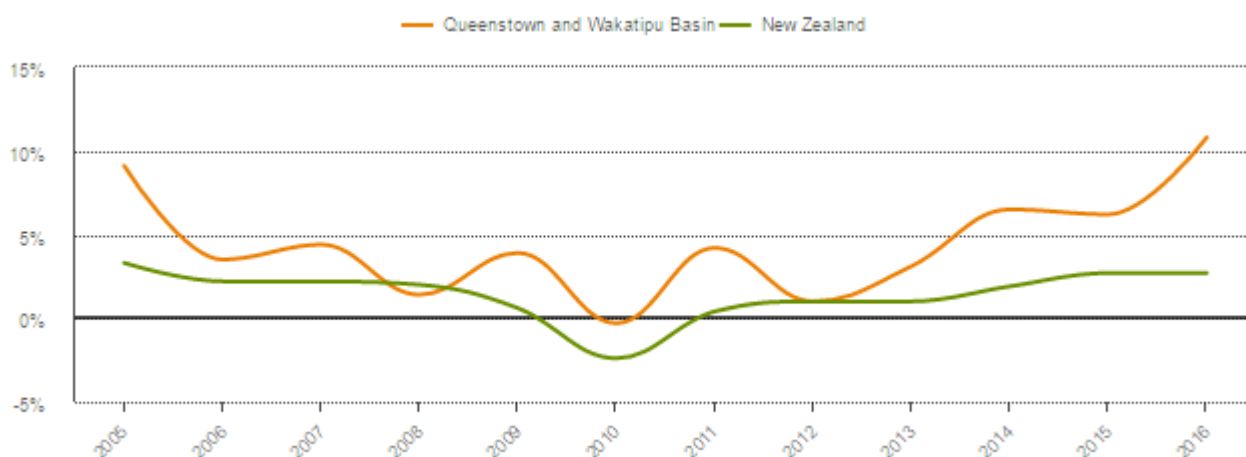
¹⁷ Infometrics 2017 <https://ecoprofile.infometrics.co.nz/Queenstown%20and%20Wakatipu%20Basin/PDFProfile>

Figure 13 GDP growth of Queenstown compared to New Zealand¹⁸

Queenstown's economic growth is providing growth in employment opportunities as shown in Figure 14. Total employment in Queenstown and Wakatipu Basin averaged 18,456 jobs in the year to March 2016, up 11% from a year earlier. This exceeds the national average growth of 2.7% over the same period. Over the last ten years, employment growth in Queenstown and Wakatipu Basin averaged 4.1% pa compared with 1.2% pa nationally¹⁹.

The impact of the tourism sector on employment can be seen in that 22% of employment in the District is in accommodation and food services compared to 6.4% for the rest of the country²⁰.

Figure 14 Annual average employment growth



An example of Queenstown's economic importance as a tourist destination is evident through international investment in Queenstown as a destination. For example, the tourism sector is expected to secure at least \$50 million worth of business from Amway China as the company will

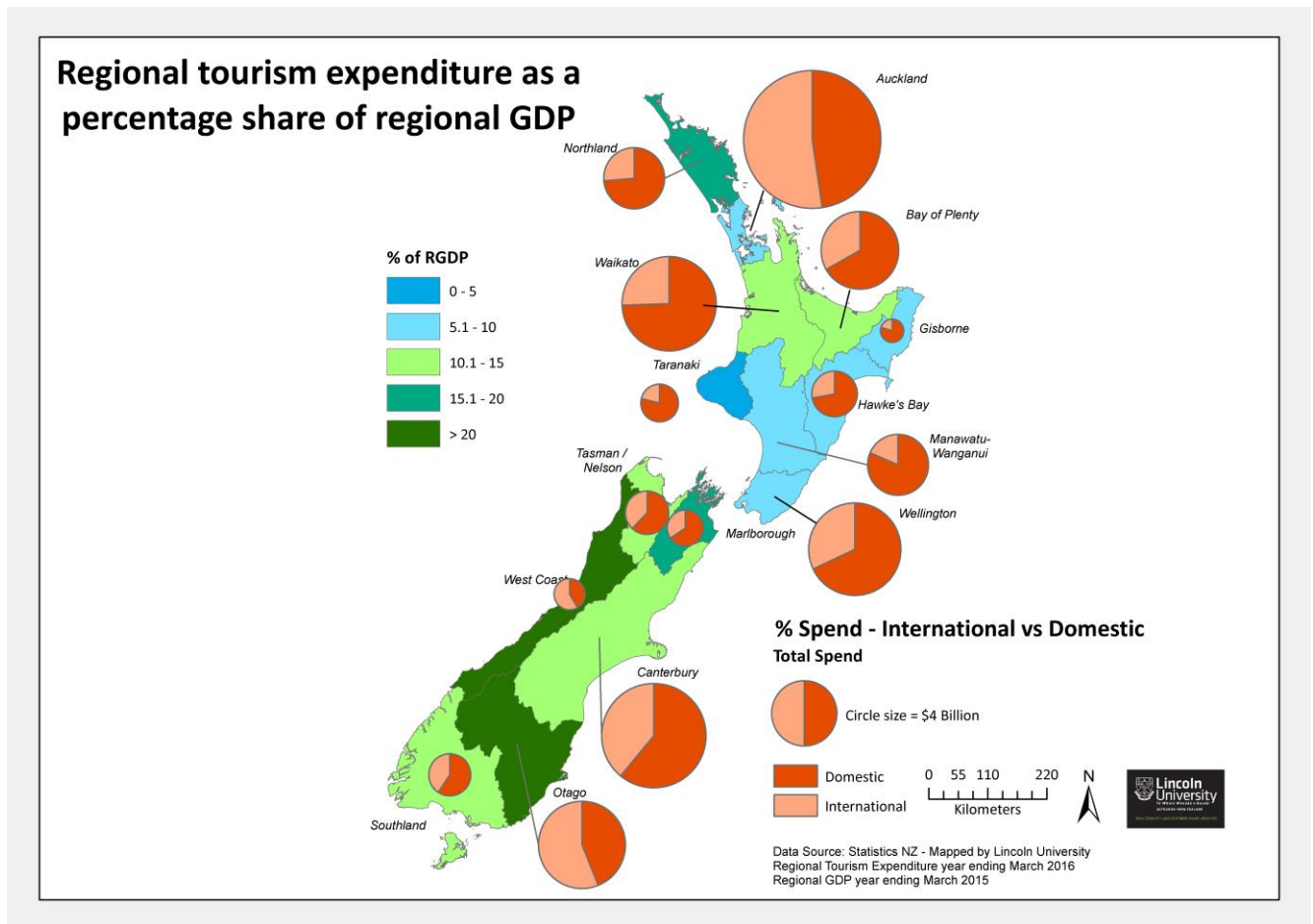
¹⁸ Infometrics 2017 <https://ecoprofile.infometrics.co.nz/Queenstown%20and%20Wakatipu%20Basin/Gdp/Growth>

¹⁹ <https://ecoprofile.infometrics.co.nz/Queenstown%20and%20Wakatipu%20Basin/PDFProfile>

²⁰ MBIE Regional Economic Report 2015

send 10,000 staff to the area in the autumn of 2018.²¹

Figure 15 Regional tourism expenditure as a percentage share of regional GDP for year ending March 2015²²



2.5 Transport context

The constraints of the Wakatipu Basin geography are challenging a region experiencing high growth as a result of growing tourism demand, population and associated economic development. This creates a complex set of needs for a transport system.

Queenstown's transport system needs to rapidly respond to its car-centric culture. Residents and visitors have distinctly different transport needs. With dispersed satellite development, residents' journeys are increasing, yet there is a desire to maintain their quality of life and ability to be able to move around efficiently to places of employment and leisure activities. The transport expectations of visitors centre more on the experience and the ability to move around independently and comfortably in a system that is unfamiliar to them. Residents tend to be more time and cost sensitive than visitors. The conflicting needs of customers in the region signal a need to shift away from traditional

²¹ Tourism New Zealand Annual Report 2015 -16

²² Tourism Industry Aotearoa <https://tia.org.nz/resources-and-tools/insight/regional-tourisms-gdp-contribution/>

transport thinking to generate the required changes in transport behaviour in response to Queenstown's growth and environmental complexities.

Queenstown Airport is a major pick up and drop off point for rental vehicles with approximately 2000 rental vehicles based there. This volume of vehicles has a major impact on the transport system during peak demand periods. State Highway 6A (Frankton Road), links Frankton to Queenstown and is a critical corridor for key journeys in Queenstown for residents and visitors alike. A high level of service on this corridor is also fundamental for all businesses and services that rely on road-based activities to function. For many visitors to Queenstown, leaving the airport and travelling through Lucas Place/SH 6 intersection, along Kawarau Road, through the intersection at SH6/6A and into Queenstown will be their first experience of transport in the Wakatipu Basin. The current level of service on this corridor is failing to meet the expectations of visitors and residents alike.

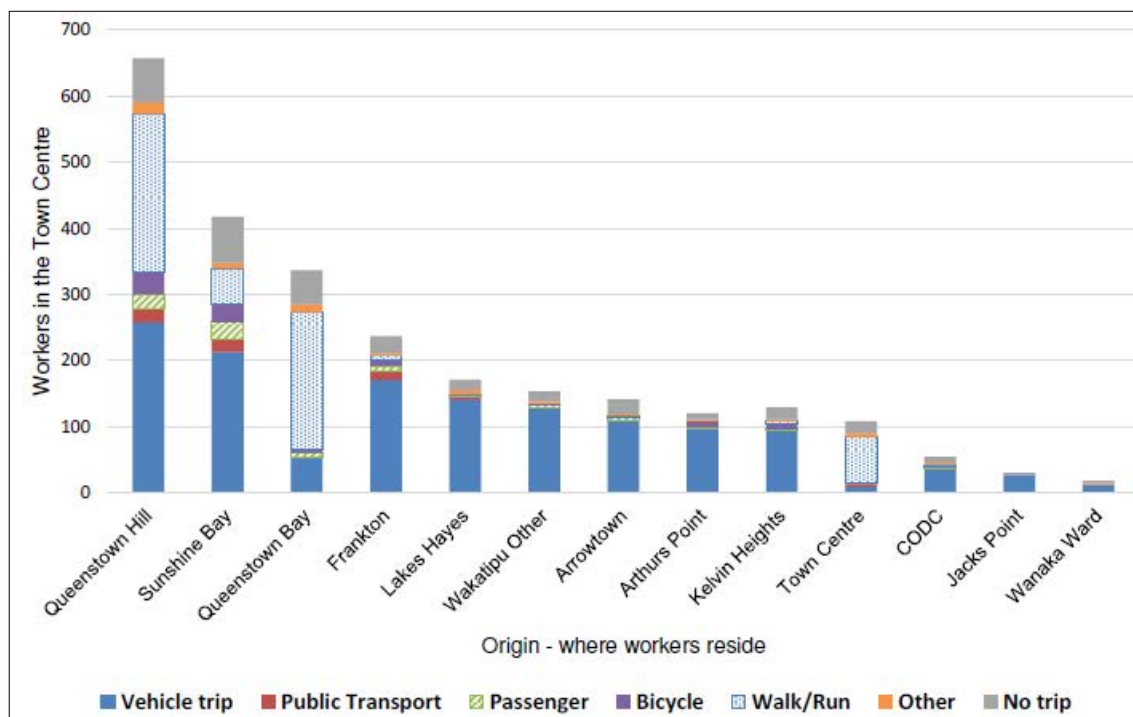
Many roads in the Wakatipu Basin area are severely constrained by the local topography, especially the key SH6 corridor. Opportunities to expand the road space are very limited, meaning this corridor is a major limiting factor for the region.

This section considers the existing transport system; the demands for all modes, key journeys, peak travel, interactions with major surrounding land uses, and connectivity between modes.

2.5.1 Modal Split

2.5.2 The uptake of transport modes is evident from several data sources. Statistics New Zealand collects information from New Zealanders as to their choice of transport mode on a typical weekday prior to census day. This information is cross tabulated against the Census Area Unit in which each worker lives and works to provide an indicator of travel patterns for commuters. The 2013 census results for Queenstown residents working in the Queenstown town centre are presented in Figure 16²³ noting that the town centre as an origin has been

Figure 16 Journey to Work Mode



isolated.

Key observations include:

- Walking trips are relatively high for the three centrally located Area Units of Queenstown Hill, Sunshine Bay and Queenstown Bay.
- Cycling and public transport modes are relatively sparsely represented with most trips from Queenstown Hill, Sunshine Bay and Frankton.
- Vehicle driver trips are the most prevalent mode especially from outlying Area Units where this is little uptake of other modes.
- Vehicle occupancy rates for commuter trips are generally low.

A more comprehensive annual survey is collected by QLDC²⁴ which captures the mode choice for all trip purposes including tourists entering the Queenstown town centre between 7am and 11am on a typical weekday. The data is collected on the three arterials leading to the town centre, namely Frankton Road, Gorge Road and Lake Esplanade. The results of the 2016 survey are presented in Table 4.

²³ Queenstown Town Centre Transport Programme Business Case, QLDC and NZTA, January 2016

²⁴ Published in Queenstown and Wanaka Traffic Surveys, MWH, May 2016

2.5.3 Table 4 Mode share for 7am-11am travel to town centre

Mode	Gorge Rd	Lake Esplanade	Frankton Rd	All travel
Car occupants	88%	67%	82%	77%
Public transport (incl coaches)	9%	15%	13%	13%
Pedestrians	2%	17%	3%	9%
Cyclists	1%	1%	1%	1%

The results demonstrate that for all three corridors into the town centre, car is the dominant mode followed by public transport which includes tourists on buses and coaches. Pedestrian trips along Lake Esplanade are relatively well represented however it is not evident to what extent this includes recreational trips along the waterfront. Elsewhere walking and cycling are not well represented in the survey.

2.5.4 Travel Time

Commercial GPS data (TomTom) is a valuable data source to monitor network performance on the Queenstown network. The data set is an aggregate of the last two years of data collected in five minute intervals for each day of the week for every road segment, and approximates the average congestion experienced between mid-2014 and mid-2016.

The data has been aggregated to be reflective of the commuter peak periods. The typical commuter period appears most between 8:00am and 9:00am during morning peak, and 4:45 and 5:45pm in the evening peak.

Table 5 and Table 6 illustrate the location and extent of congestion on the State Highway, central and local Queenstown streets, represented by the difference between free flow and peak hour speeds on a typical weekday.

Table 5 Morning Peak Average Speed Change (km/h)

Morning Peak	Free Flow	Peak
SH6 from Stalker Road to Glenda Drive	67	41
Shotover River bridge	84	59
Access to Glenda Drive	38	22
Kawarau River Bridge	36	19
Ballarat Street	32	11

Table 6 Evening Peak Average Speed Change (km/h)

Evening Peak	Free Flow	Peak
--------------	-----------	------

SH6 Tucker Beach Rd to Glenda Drive	67	55
Glenda Drive	47	32
Kawarau River Bridge	45	26
SH6/SH6A intersection approaches	42	25
Stanley Street	43	27

Evidence of travel time reliability has been analysed using TomTom data sourced from the NZ Transport Agency historical data portal. Travel time for evening peak week day trips along two key journeys in March and December 2016 are presented in Figure 17 and Figure 18.

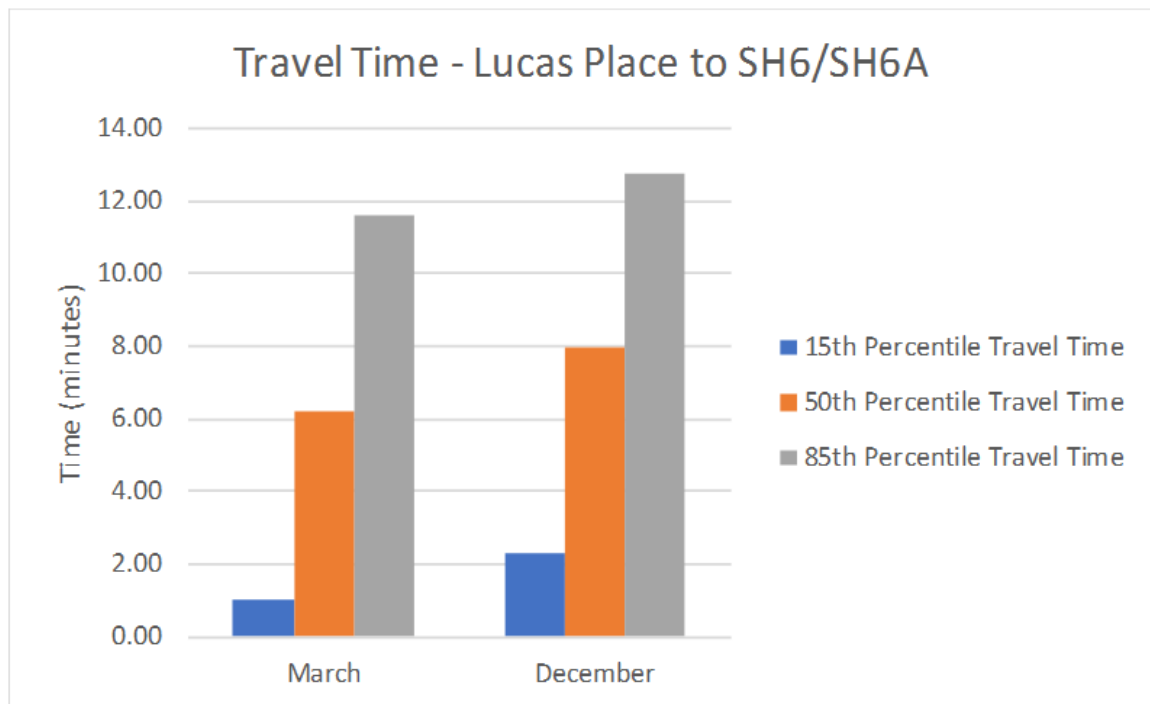
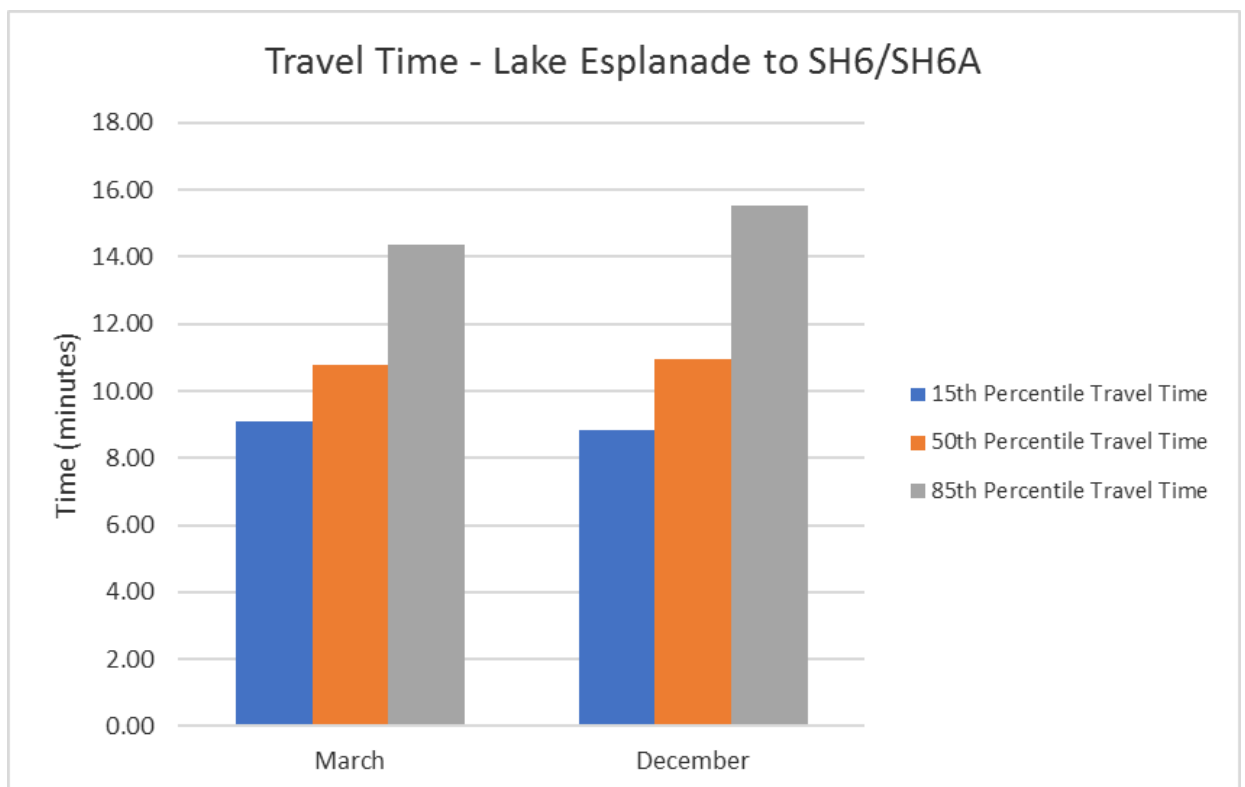
Figure 17 PM Peak travel time range Lucas Place to SH6/SH6A junction²⁵Figure 18 PM Peak travel time range Lake Esplanade to SH6/SH6A junction²⁶²⁵ Referred to by locals as the SH6 Airport roundabout to the BP roundabout²⁶ Queenstown to Frankton

Figure 17 shows that the Lucas Place to SH6A journey has a variance in travel time of approximately 10 minutes in December 2016, and the 15th, 50th and 85th percentile times have all increased between March and December 2016. Journeys from central Queenstown to Frankton in Figure 18 experience less variance in the range of travel time even though it is a significantly greater distance. The range in travel times is approximately six minutes and has increased between March and December 2016. During the interpeak the 15th through 85th percentile range of travel times on SH6A from Beach Rd to SH6/6A is 8-13 minutes and on the SH6 corridor from Lucas Place to SH6/6A is 1-2 minutes. This demonstrates that there is an element of unreliability for journeys on these key corridors outside of the peak periods also.

Saturday I went out around 11am. And I couldn't even get to the airport roundabout because the traffic was backed up to the roundabout again (ThinkPlace Research 2017)

2.5.5 Public Transport Performance

Queenstown public transport real time information data (RTI) was obtained from Trackabus with the permission of Otago Regional Council, to help understand the reliability and predictability of services operating on the Queenstown network. Trackabus retrieve and store the RTI data feeds from the scheduled bus services operating in Queenstown and provided 12 months (2015-16) of data for analysis. A variance of plus or minus five minutes between actual and scheduled journey time is the general measure of performance, and Trackabus advised that generally 70% of Queenstown services met this criterion.

The March 2016 bus data has been sourced for each route excluding weekend and public holidays and analysed to understand the range of journey times for services through the study area. The journey times are end-to-end times between each terminus and can be compared with timetabled journey time in each instance.

I will say probably expensive and limited public transport for sure. It's hard to get to places if you don't drive in Queenstown. It's not designed for people who don't drive.

(ThinkPlace Research 2017)

Three key routes have been isolated in this analysis as follows:

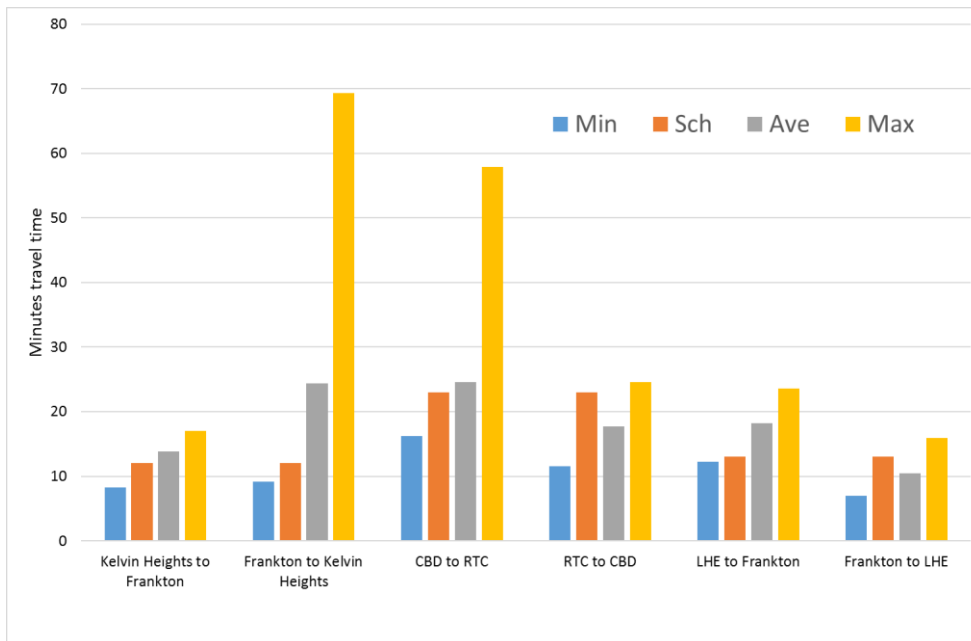
- Kelvin Heights to/from Frankton bus exchange,
- Queenstown Town Centre bus exchange to Remarkables Town Centre (RTC), and
- Lake Hayes Estate (LHE) to Frankton bus exchange.

The minimum, average, maximum and timetabled journey times for morning peak hour services scheduled to begin between 8am and 9am are included in Figure 19 and evening peak hour services scheduled to begin between 5pm and 6pm are included in Figure 20. It should be noted that the maximum travel time may reflect an incident such as an accident on the network.

I walk everywhere in Wellington despite there being hills everywhere. The buses are good, I can get from the airport to my hall, which is like 2-3 zones on the bus for like \$9, which is really cheap. Here I live 5 minutes from the centre of town and it costs me \$8 to go one way.

(ThinkPlace Research 2017)

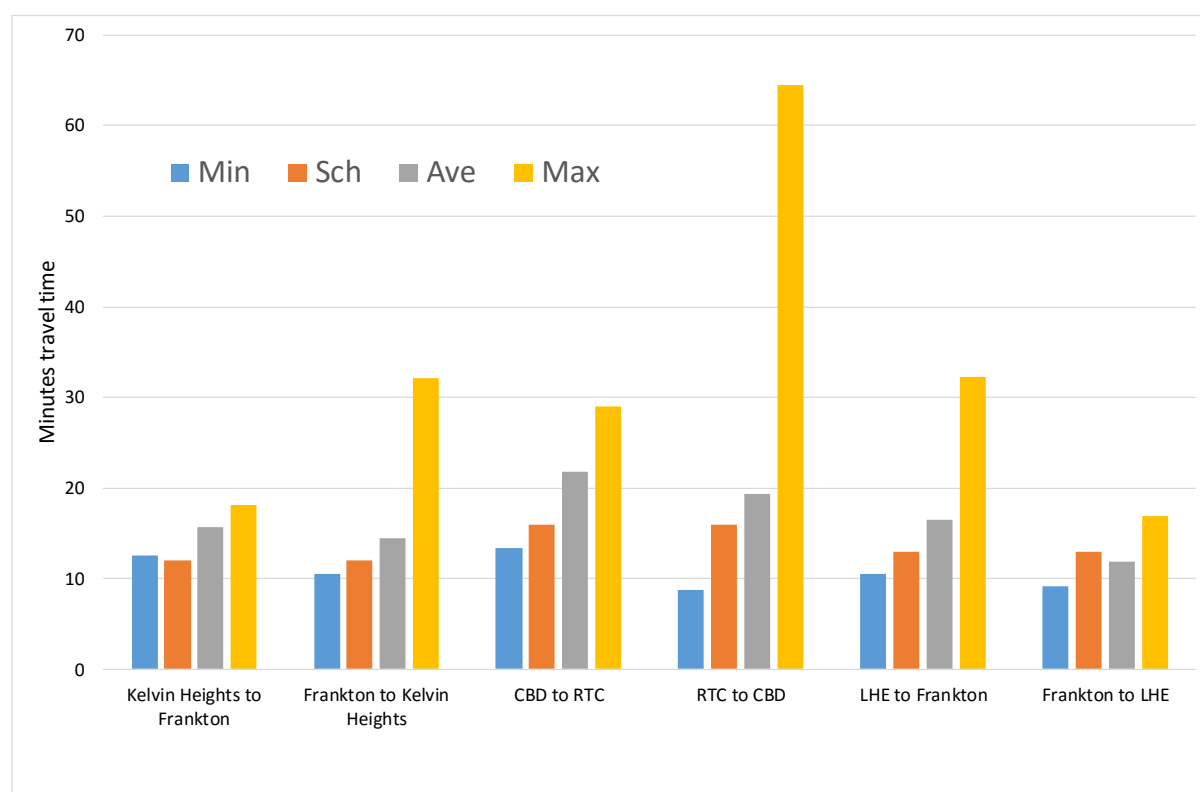
Figure 19 Actual and scheduled journey times for morning peak services



Average journey times exceed scheduled times on morning peak services from the CBD to Remarkables town centre, and for both inbound and outbound services between Frankton and Kelvin Heights. A similar pattern is evident in the evening peak with actual average journey times for all services except Frankton to Lake Hayes Estate exceeding their scheduled times. This demonstrates the extent of travel time unreliability across the public transport network, especially for the Frankton to Kelvin Heights route which will likely be affected by the existing constraint at Kawarau Falls Bridge and the poor performance of the SH6/SH6A roundabout. Similarly, the route between the Remarkables Town Centre and the town centre exhibits poor reliability in both directions.

The variability in public transport journey times highlights the congestion issues on the SH6 corridor between Frankton and both the east and south, during both commuter peak periods. Given the absence of bus priority measures on these corridors it is evident that all vehicular traffic will be experiencing the same level of congestion and poor travel time reliability on the network.

Figure 20 Actual and scheduled journey times for evening peak services



The March 2016 bus travel time data has been further analysed to understand the impact on the timing of bus services on the same key routes. The actual versus timetabled arrival times at the destination terminus were compared, and the percentage of services arriving more than five minutes behind schedule are presented in Table 7. This may not be totally representative of overall lateness as there are often opportunities for services to make up time at the ends of routes.

Table 7 Percentage of services over five minutes late

Route	7-8am	8-9am	4-5pm	5-6pm	6-7pm
Kelvin Heights to Frankton		9%	65%	77%	
Frankton to Kelvin Heights	6%	53%	44%	60%	
CBD to RTC	0%	19%	34%	33%	12%
RTC to CBD	0%	23%	51%	54%	35%
LHE to Frankton	28%	60%	40%	44%	
Frankton to LHE	0%	40%	47%	57%	

The lack of travel time reliability arising from the congested road network is affecting on-time performance of bus services in the morning peak hour with up to 60% of services running late. This extends beyond the 8-9am morning peak hour with 28% of Lake Hayes Estate to Frankton services departing between 7-8am arriving more than five minutes late.

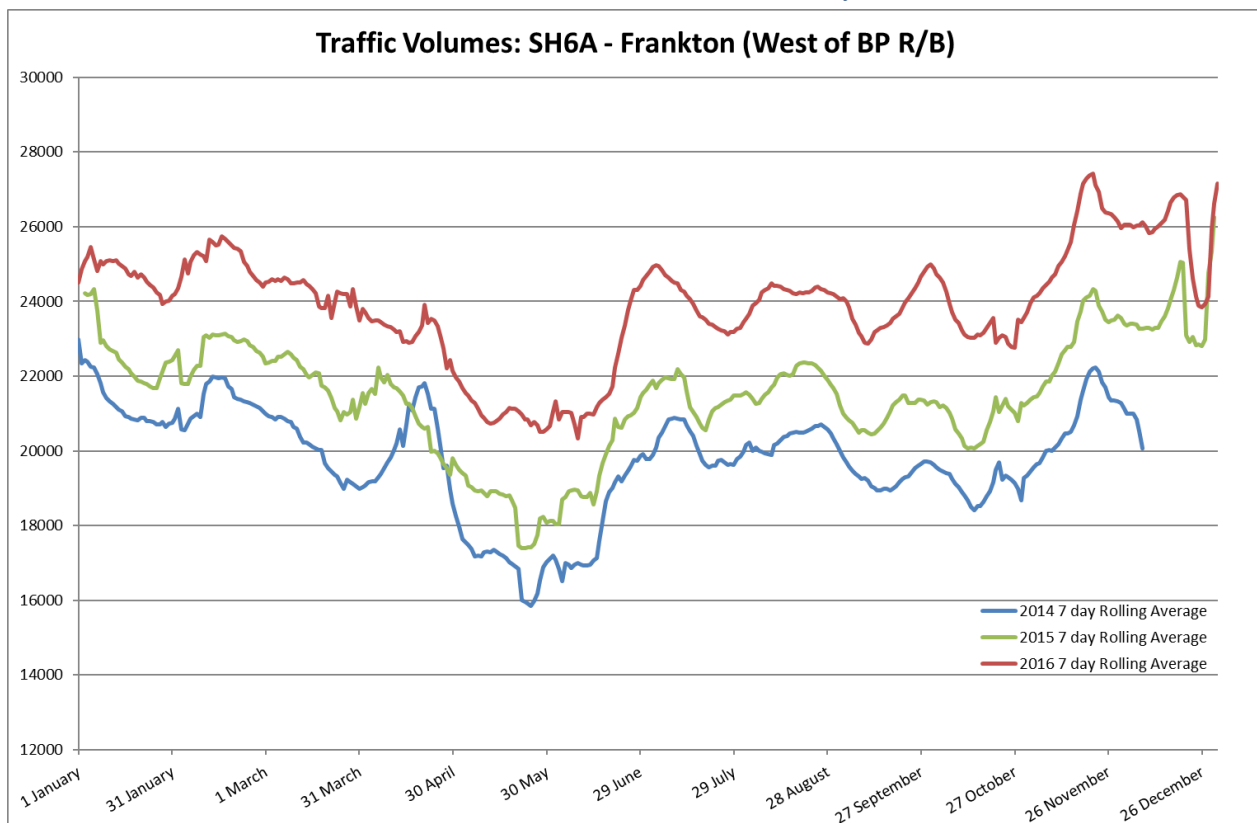
The impact of congestion during the evening peak is even more pronounced with between 34% and 65% of 4-5pm and 33% - 77% of 5-6pm services running late on the key routes in the study area. The services between Remarkables Town Centre and the CBD are also affected beyond 6pm.

2.5.6 Traffic Volumes

Figure 21 shows the change in annual traffic volumes along State Highway 6A in Frankton to the west of the BP Roundabout for a seven day rolling period from 2014 to 2016. The annual growth in traffic is shown as well as the increase in the traditional off peak season volumes. As an example, the lowest recorded traffic volume for 2016, at 20,500 vehicles per day in June, was 28% higher than the equivalent period in 2014 and only 9% below the highest recorded figure for that year.

I've had to cancel ballet lessons for my daughter out in Arrowtown. I've cancelled the children's swimming lessons in central Queenstown because it's just too chock-a-block, and I'm cutting down my work contracts and losing out on pay (ThinkPlace Research 2017)

Figure 21 Traffic Volumes: SH6A - Frankton



2.5.7 Traffic Modelling

Transportation modelling work has been undertaken for the whole of the study area to forecast future traffic flows. Table 8 shows the modelled traffic flows for key locations through to 2045. Across the sites identified, the lowest projected increase in traffic volumes under current conditions, is 52% at the One Mile Roundabout while the highest increase at 93% at the Kawarau Falls.

The modelling traffic forecasts for Frankton Road indicate an increase in traffic from 23,700 vehicles per day to 36,500 by 2045. With the theoretical capacity of Frankton Rd approximately 28,500 vehicles per day, it is forecast to exceed capacity around 2025.

Table 8 Modelled Traffic Flows

Location	2016	2025	2045	2016 - 2045 % Change
Gorge Road	10,000	12,200	15,500	55%
One Mile Roundabout	9,000	10,600	13,700	52%
Frankton Road	23,700	28,600	36,500	54%
Lower Shotover	17,700	22,700	29,200	65%
Kawarau Falls	7,700	9,900	14,900	93%

The increases in volumes across the network will also have a substantial impact on travel speeds and travel time reliability in the future.

2.5.8 Parking

Queenstown Lakes District Council undertake annual parking surveys of on-street and off-street public parking in the town centre. A survey was conducted by MWH on Wednesday 6 April 2016. Overall parking spaces were 91% occupied for the duration of the day, with demand for parking peaking at 10am. The breakdown of occupancy for on and off street are shown in Table 9. Man Street car park has the highest availability due lower occupancy of leased parking and has been shown separately in Table 9.

An optimal 'peak' parking occupancy is 85%.²⁷ When parking occupancy exceeds this level, traffic congestion increases because drivers circulate 'hunting' for a park. Other consequences include drivers parking illegally, or not completing trips as no parks are available.

Table 9 Queenstown parking occupancy survey results

2016 Parking Occupancies	Maximum Capacity	Percentage occupied (Time of day)		
		10:00am	1:00pm	4:00pm
On Street parking	594	89%	87%	77%
Off Street parking (excl Man St)	624	91%	92%	81%
Man St carpark	498	55%	53%	32%
Total	1716	80%	79%	66%

²⁷ Parking Management Strategies, Evaluation and Planning" T. Litman, Victoria Transport Policy Institute, (2012)

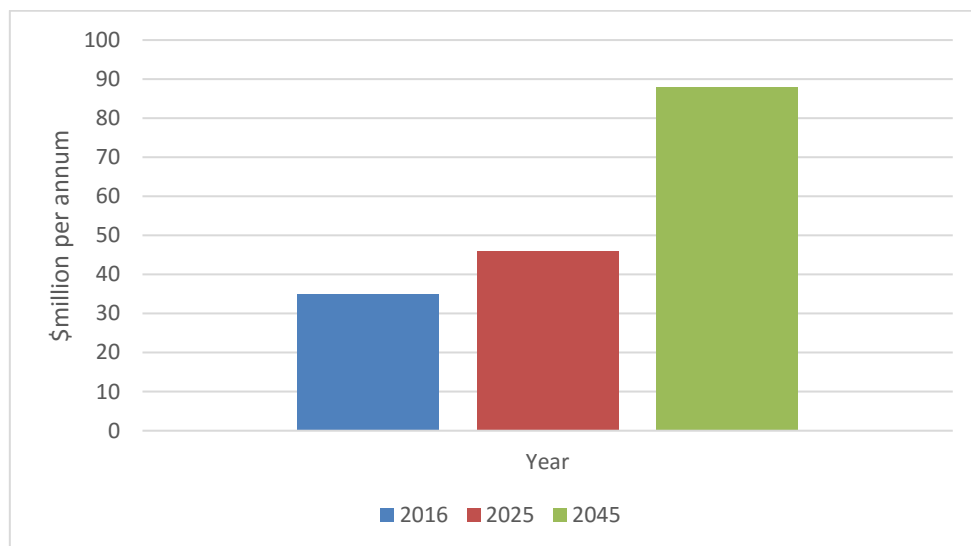
2.5.9 Economic Impact of Transport

The current economic cost of congestion in the Queenstown area has been calculated using the Queenstown-Lakes District Transportation Model. The model is representative of current summer seasonal traffic conditions around the District and includes future forecast years of 2025 and 2045.

Analysis of two key model outputs has been undertaken being vehicle operating costs and the value of time²⁸ using the NZ Transport Agency Economic Evaluation Manual procedures. Costs have been calculated by estimating the travel time and vehicle operating costs when there is no congestion present and comparing this to the base model congestion taking into account the traffic demand by time of day and network operating conditions.

The resultant annualised costs of congestion is shown in Figure 22 and demonstrates that the base year economic cost of congestion of \$35 million is expected to increase by 50% by 2025 and more than double in the next 30 years.

Figure 22 Annual Cost of Congestion



2.5.10 Transport Needs

2.5.11 The transport requirements within the study area are driven by the respective needs of three key sectors:

- Local Commuters

With approximately 2,500 people working in, and 1,600 travelling through, the town centre, there is significant commuter demand to access the central business district area. However, the growth of Frankton Flats as an employment hub and opening up of new residential areas such as the Lake Hayes Estate is leading to an overall increase in commuter movements across the wider area.

The relationship between the location of residential areas and their proximity to employment hubs influences how commuters complete their journeys. Central Queenstown has a high

²⁸ The total transportation cost of congestion is the value of travel time and vehicle operating costs over and above the minimum required to travel from A to B at free flow speed without incurring delays at intersections waiting to give way or being stopped at a signalised intersection.

proportion of people walking and cycling to work but for other areas, car travel is the predominant mode.

- Visitors (Domestic and International)

With Queenstown attracting more than two million visitors per year, visitor numbers exceed the resident population by as many as three to one.²⁹ Traditionally the visitor derived travel volumes have been quite seasonal with the highest demand being experienced in the winter months coinciding with the ski season as well as the summer holiday period. The overall growth in visitor numbers, and the shift into the previously lower demand shoulder periods, is increasing the pressure across the network all year round.

- School & Education

With 2,000 primary aged and 3,100 secondary aged students within the area, school related trips are a significant component of morning peak and afternoon travel demand. Approximately 60% of school travel is completed by car with the remainder undertaken by active modes and public transport (including Ministry of Education provided services). With the relocation of Wakatipu High School from Queenstown to Remarkables Park in 2018, there will be a change in travel patterns between Queenstown and Frankton and there is a degree of uncertainty regarding whether this will have a significant impact on commuter peaks.

²⁹ Queenstown Town Centre Programme Business Case

3. PARTNERS AND KEY STAKEHOLDERS

This section outlines the key partners to the business case who will have a responsibility for delivering on the investment, and explains the approach adopted for identifying key stakeholders who have an interest in the expected outcomes or can influence the investment proposal.

3.1 Investment partners

3.1.1 NZ Transport Agency

The NZ Transport Agency is responsible for managing, operating, planning for and improving state highways. This is fundamentally the role of the Highways and Network Operations group on behalf of the Transport Agency that are leading the development of the Queenstown Integrated Transport Programme Business Case.

As a key organisation in the development of this business case the NZ Transport Agency is fundamentally concerned with the form and future efficient operation of SH6, SH6A and integration with the wider Queenstown transport network.

3.1.2 Queenstown Lakes District Council

The Queenstown Lakes District Council formulates the strategic direction for the District including transport planning, land development and managing the effects of land use in the District. The Council is responsible for fully managing the local road network that along with the state highway, forms the land transport network serving the Queenstown Lakes District.

Management of on-street parking and publicly available off-street parking is the Council's responsibility, along with providing public transport infrastructure such as bus shelters and information panels at bus stops. QLDC also regulate the use of elements of the transport system through its parking enforcement and harbourmaster functions.

3.1.3 Otago Regional Council

Otago Regional Council are responsible for the operation of public transport services in Queenstown which relies on the land transport network for transporting locals and visitors. This close linkage means public transport improvement initiatives, parking management, and arterial road projects must align and complement each other to address existing transport inefficiencies.

ORC have commenced a public transport review, with a strategic case being completed in December 2015, followed by the Wakatipu Basin Public Transport Network PBC completed in March 2016. This work informs the alternatives and option generation process in this business case.

3.1.4 Queenstown Airport Corporation

Queenstown Airport Corporation is responsible for operating Queenstown International Airport, ensuring the regional asset is efficient and provides value for money. The airport corporation is jointly owned by Queenstown Lakes District Council and Auckland International Airport Ltd and serves the needs of 1.8 million passengers per year.

3.2 Key stakeholders

The following table lists the key stakeholders who have participated in, or been invited to attend the QITPBC workshops and development of this programme business case and summarises their involvement in preceding work streams.

Stakeholders	Focus areas	QITPBC Workshop 1		QITPBC Workshop 2		QITPBC Workshop 3		QITPBC Workshop 4	
		Invited	Attended	Invited	Attended	Invited	Attended	Invited	Attended
NZ Transport Agency	State Highway	✓	✓	✓	✓	✓	✓	✓	✓
Queenstown Lakes District Council	Local and road controlling authority	✓	✓	✓	✓	✓	✓	✓	✓
Otago Regional Council	Regional authority with responsibility for public transport	✓	✓	✓	✓	✓	✓	✓	✓
Queenstown Airport	Airport Operator	✓	✓	✓	✓	✓	✓	✓	
Destination Queenstown	Regional tourism organisation responsible for marketing Queenstown	✓		✓		✓		✓	
Downtown QT	- Guardianship of town centre vitality, growth and resilience - Public face of town centre	✓	✓	✓	✓	✓	✓	✓	✓
Chamber of Commerce	Growth, development, support and advocacy of the Queenstown business sector	✓							

Stakeholders	Focus areas	QITPBC Workshop 1		QITPBC Workshop 2		QITPBC Workshop 3		QITPBC Workshop 4	
Ritchies Connectabus	Commercial provider of transport services	✓	✓	✓	✓	✓	✓	✓	
NZ Ski	Commercial provider of transport services	✓	✓	✓	✓	✓	✓	✓	✓
Go Bus	Commercial provider of transport services	✓				✓	✓	✓	
Queenstown Water Taxis	Commercial provider of water transport services	✓		✓		✓		✓	
Queenstown Trails Trust	Development of network of public trails around Wakatipu basin.	✓		✓		✓	✓	✓	
Ngai Tahu Tourism	Provider of commercial tourism experiences that reconnect with the environment	✓		✓		✓		✓	
Real Journeys	Provider of transport and tourism experiences in region	✓		✓		✓		✓	
Northern Southland (Trojan Holdings)	Commercial provider of freight transport services	✓	✓	✓		✓		✓	

4. STRATEGIC ASSESSMENTS – OUTLINING THE NEED FOR INVESTMENT

4.1 Problem Definition

The QITPBC integrates and further develops the Frankton Flats Strategic BC, Queenstown Town Centre PBC and Wakatipu Basin Public Transport Network Review PBC. With the integration of the business cases and areas of interest, it was necessary to re-examine each problem statement with the stakeholders to confirm their validity.

At the first stakeholder meeting in October 2016, participants were familiarised with the previous problem statements. The discussion sought to test their validity, along with the evidence base, from which they had been developed. The initial Investment Logic Mapping (ILM) exercises related to the Frankton Flats and Queenstown Town Centre business cases have been included here in Appendix A and were both developed over two years earlier.

Each problem statement was discussed in relation to the specific business case that they were from, as well as how they inform the development of the problem statement(s) for the QITPBC.

The problem statements identified through the ILM associated with the Frankton Flats and Queenstown Town Centre business cases are shown in Table 10.

Table 10 Preceding Problem Statements

		Frankton Flats	Queenstown Town Centre	Wakatipu Basin Public Transport
Problem Statement	1	The transport system is not providing for growth in a timely manner resulting in increasingly inefficient movements of goods and people	Increasing volumes of vehicle and pedestrian movement creates congestion with broad effects to the quality of life.	Public transport's current inability to compete with the car is contributing to traffic congestion in the Wakatipu Basin
	2	The existing transport system favours cars at the expense of investment in and use of alternative modes which makes it difficult to encourage change	Cars are the preferred mode into and around the town centre which creates and inefficient use of road space and parking.	
	3		The tension from conflicting demands between pedestrian, cyclists and vehicles degrades the Queenstown experience.	
	ILM	2 April, 2014	28 January, 2014	25 November, 2015

Based on the existing problem and benefit statements, the stakeholders, through a facilitated discussion process, developed statements specifically for the QITPBC. The purpose of this was to identify a problem statement(s) that captured the previously undertaken work but reflected the integrated approach being taken.

Figure 23 and Figure 24 illustrate how the previously agreed statements were reformed into the QITPBC statements. An iterative approach was undertaken in the first workshop with regard to the initial drafting, and in subsequent workshops, where they were reconfirmed and refined as necessary.

Stakeholders who could not attend a workshop, were sent workshop minutes seeking further comment and feedback.

Figure 23 Problem Statement Integration 1

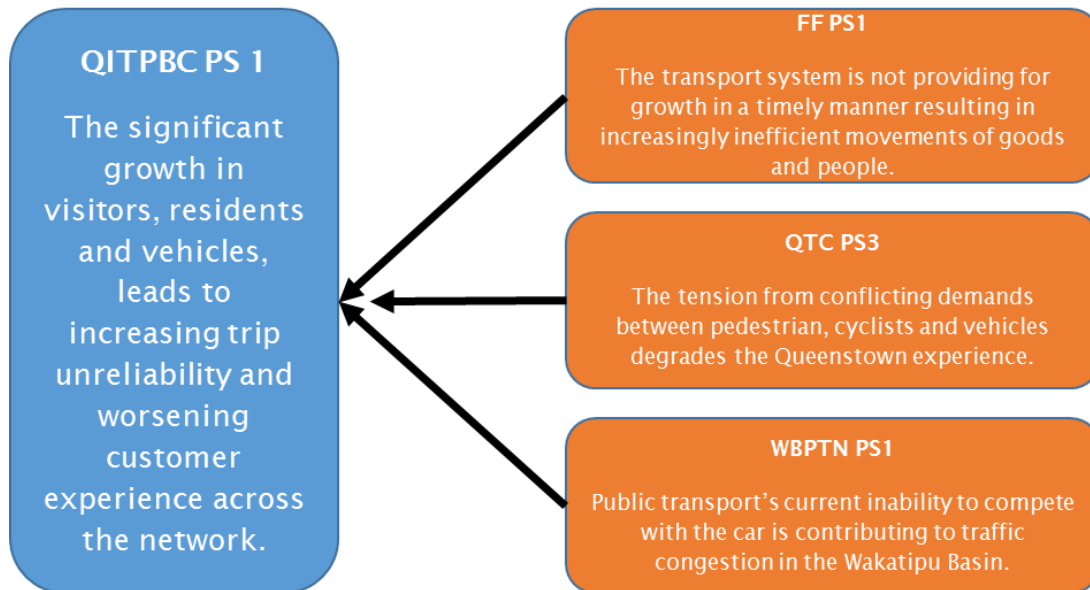
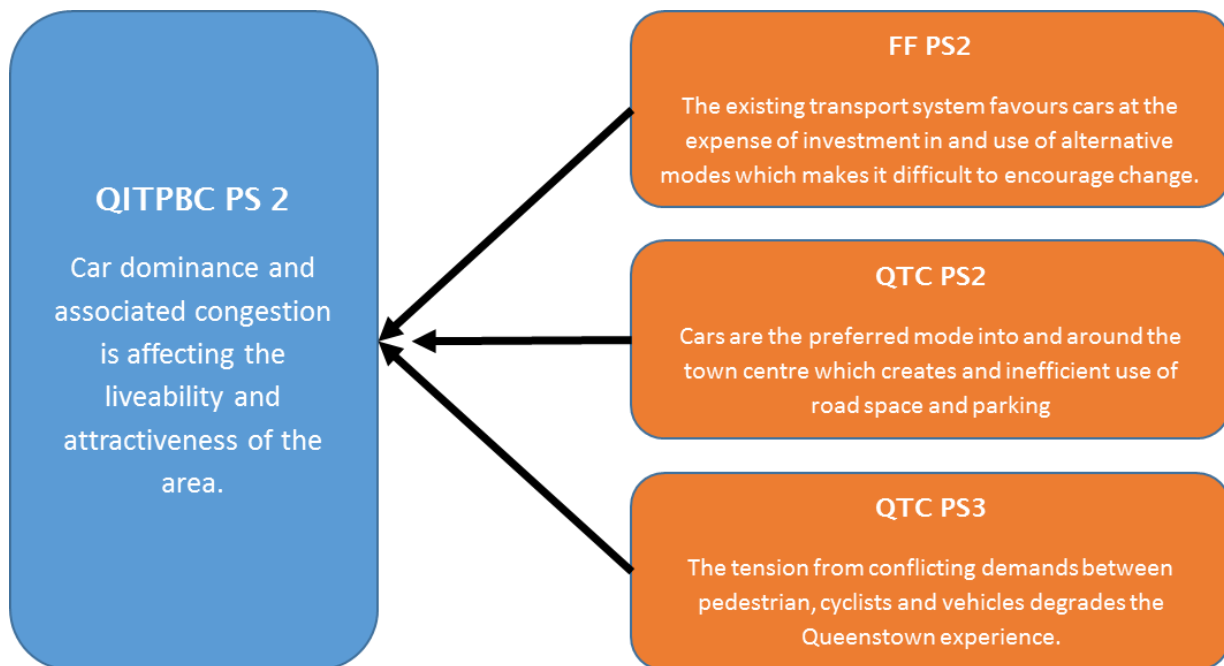


Figure 24 Problem Statement Integration 2



4.1.1 Problem Definition

Problem 1: *The significant growth in visitors, residents and vehicles, leads to increasing trip unreliability and worsening customer experience across the network.*

The problem statement is constituted of three parts:

Cause - The significant growth in visitors, residents and vehicles

Effect - increasing trip unreliability

Consequence –worsening customer experience across the network

The Queenstown area is experiencing unprecedented levels of growth. The population increased by 65% between 2001 and 2013, with further increases through to 2016. This is reflected in employment levels, with growth of 3.4% per annum compared to a national rate of 1.2% since 2005. The combined effect of this has been an economic growth rate averaging 4% (double the New Zealand average³⁰). With sustained growth likely to continue, the implications for the transport network are significant.

As evidenced in section 2, congestion is widespread and travel time reliability for private and public transport on key journeys is poor during peak periods. The transport system has not been able to keep up with the growth that has been experienced and only limited improvements in infrastructure and services have been made since 2006. State Highway 6A (Frankton Road) has a theoretical capacity of 28,500 vehicles per day, and this corridor will have reached its capacity limit by 2025.

The 2007 Wakatipu Transport Strategy proposed a range of improvements, including an enhanced public transport system, to address these issues, however due to a range of factors including the sensitivity of the local economy to the Global Financial Crisis, the desired outcomes have not been achieved.

While it has long been identified that public transport could provide a significant contribution to reducing traffic congestion in the Queenstown area and particularly along State Highway 6A, limited progress has been made. For public transport to be a viable modal choice, overall journey travel time as well as travel time reliability are essential for service improvements to be successful. The performance on both of these measures is currently poor and the public transport services are therefore unable to attract or retain a greater share of the commuter traffic movements.

Improvements to the transport network have also been constrained by funding approaches which require land use changes and development growth prior to building the necessary infrastructure. This was demonstrated with Plan Change 19 (PC19). PC 19 provided a development framework for the Frankton Flats area from “rural general” zoning to commercial and industrial and included the specification and implementation of an arterial and collector road network. Although the plan change was first notified in 2007, it did not become operative until 2014. This resulted in necessary improvements to the road network being deferred until sufficient demand was experienced in the network. Additionally, funding mechanisms at the time did not account for growth scenarios which anticipated the demand and allowed the instigation of the necessary infrastructure.

Further compounding these local pressures is the growth in tourism with visitor numbers through Queenstown Airport increasing by 250% since 2005 to 1.8 million passengers in the year ending June 2017³¹. Queenstown is the second largest vehicle hire port in New Zealand with over 2,000 rental vehicles currently available. The impact on the transport network is significant, due to the total number of vehicle movements that may be generated, and the length of the peak tourist seasons. With the expansion of the tourist market into new countries, such as China in addition to the

³⁰ <http://www.qldc.govt.nz/assets/Uploads/Council-Documents/Strategies-and-Publications/Queenstown-Lakes-Economic-Development-Strategy-Consultation-Document.pdf> & Statistics New Zealand; Infometrics regional database

³¹ <http://www.queenstownairport.co.nz/corporate/airport-statistics> accessed 15th June 2017

traditional North American and European markets, as well as encouraging 'off peak' visits, the tourist season has lengthened exacerbating existing congestion issues.

For visitors using commercial coach services, increasing traffic congestion is impacting on their journey time and leading to poorer customer experiences. As an example, NZ Ski, a leading operator of services in the area, is required to introduce additional drivers and vehicles to mitigate the impacts of congestion on their business. Compared to 2012, the company has seen their drivers and support staff having to do an extra hour per day to maintain their levels of service and mitigate negative impacts on customer experience. This has increased their operating costs by over \$25,000 per season.

Problem 2: *Car dominance and associated congestion is affecting the liveability and attractiveness of the area*

Cause - Car dominance

Effect - associated congestion

Consequence - affecting the liveability and attractiveness of the area.

Due to both a lack of attractive alternatives and the overall proximity of employment locations to residential areas across the QITPBC study area, a high proportion of travel is undertaken by private motor vehicle. The 2013 census data shows that 76% of Frankton residents and 60% of Queenstown residents drive to work with the difference attributable to the higher proportion of journey to work trips made by walking and cycling (21%) in Queenstown when compared to Frankton (10%).

For school-based travel, 60% of children travel to school by car. With the pending relocation of Wakatipu High School from Queenstown to Frankton Flats, this figure is expected to rise as fewer students will live near the school compared to its current location.

Queenstown's relatively remote location results in approximately 45% of visitors arriving by air and the remainder arriving by vehicle. As Queenstown is also a key terminal point for visitors travelling through the wider Otago, Southland and West Coast regions, there is substantial demand for mobility services. While traditionally a large proportion of this mobility requirement has been met through organised bus tours, this has now evolved with Tourism New Zealand figures demonstrating an increasing number of tourists opting out of group bus tours. The proportion of Chinese visitors travelling independently has almost doubled between 2013 and 2015 from 17% to 31%.

While the public transport service is seen as effective for tourists, staying within Queenstown, there has been no significant change in ridership mode share. Research undertaken by ORC into public transport usage in the District in 2015 found that there was support for public transport with 66% stating they would use it if it was reliable or if it helped to relieve traffic congestion.

Without measures to address the significant challenges facing the transport system within the Queenstown – Frankton area, the level of service experienced through the network will continue to decline until congestion is widespread.

4.2 The Benefits of Investment

The benefits of investing to address these problems were identified in the stakeholder workshops. The respective stakeholder panels identified and agreed the following benefits for each problem statement.

QITPBC Benefits	
1	Improved network performance and customer experience for all modes
2	Improved liveability and visitor experience

Benefit One: Improved network performance and customer experience for all modes

The stakeholder opinion clearly identified that the benefit from addressing problem statement 1 should accrue to all modes, without prioritising one over another. It was also recognised that this did not mean that all modes had to be treated equally to realise the benefit. Improving the travel experience and attractiveness for active modes could be done without any negative impact on private vehicle usage.

Benefit Two: Improved liveability and visitor experience

While the problems affecting the transport network were most visible in relation to congestion or increasing journey times, the stakeholders recognised that the impacts from this were much wider. The ease with which residents and visitors can travel can have a bearing on the overall attractiveness and desirability of an area. If the experience is poor, or stressful, residents are less likely to travel about and engage with their community, while visitors are likely to leave with a negative impression.

Further analysis of these problems and the development of SMART investment objectives is explored further in sections 5-7 below. The investment logic maps and associated benefit maps are attached as Appendix A and Appendix B respectively.

5. ALIGNMENT TO EXISTING STRATEGIES/ORGANISATIONAL GOALS

The following table illustrates and details how the business case aligns with the relevant national, regional and local strategies:

Figure 25 Alignment with Strategic Context

Strategic Context	
National and Regional Strategies (that all investment partners give regard to)	• Connecting New Zealand • Government Policy Statement on Land Transport Funding • Safer Journeys • NZ Infrastructure Plan Establishing economic growth & productivity, road safety and value for money are the three key tenets of strategic directions for transport.
Alignment with Problem Statements	Existing congestion and trip unreliability adversely affect the customer experience for tourists and residents. By addressing these issues, the QITPBC aligns with Government policy establishing economic growth and productivity. The QITPBC focuses on managing travel demand by addressing car dominance in Queenstown and thereby optimising the existing transport infrastructure. The business case is focused on delivering value for money.
Assessment Summary	Good alignment of problems / benefits with national / regional directions (economic growth & productivity, and value for money).

Figure 26 Alignment with NZ Transport Agency

Alignment with NZ Transport Agency
• NZ Transport Agency Statement of Intent • State Highway Activity Management Plan (SHAMP)

Applicable medium term objectives as indicated in the NZ Transport Agency Statement of Intent

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. Incentivise and shape safe and efficient travel choices using a customer-focused approach.
4. Deliver consistent levels of customer service that meet current expectations and anticipate future demand.
5. Provide significant transport infrastructure.
6. Align investment to agreed national, regional and local outcomes and improve value for money in all we invest in and deliver.
7. Ensure effective and efficient co-investment with our partners.

Priorities of the New Zealand Transport Agency include,

1. Predictable journeys for urban customers
2. Make urban cycling a safer and more attractive transport choice

SHAMP highlights the projected significant traffic growth in Queenstown and thereby the importance of Queenstown in terms of transportation.

Alignment with Problem Statements	The QITPBC addresses existing issues on the transport network in the Queenstown area including Frankton Flats and its connectivity to Queenstown. This is consistent with NZTA's medium term objectives that focus on integrating national and local transport networks and the integration of transport network to shape demand at regional and local levels. Problems and benefits identified in this business case are aligned with NZTA's objectives addressing the need for efficient transport choices, predictable urban journeys, consistent customer levels of service and the need to anticipate future demand. The Agency's priorities address the congestion and over-reliance on private vehicle use that have been highlighted by the problem statements.
Assessment Summary	NZ Transport Agency's strategic framework and SHAMP provide a case for investment in the transport programme

Figure 27 Alignment with Otago Regional Council

Alignment with Otago Regional Council
• Otago Public Transport Plan • ORC Long Term Plan

- Otago Regional Land Transport Plan

The Public Transport Plan proposes fundamental changes to the operations of the bus network improving efficiency and journey time reliability of PT services. Furthermore, the importance of public transport in the Wakatipu Basin is emphasised by the statement *“Public transport has a role in managing congestion and deferring the need for some expensive road building projects by carrying passengers that would otherwise be in private vehicles”*

The Long Term Plan states its long-term objective regarding PT is to ensure a viable, affordable, quality service that will attract patronage growth that will assist in reducing the reliance on public subsidy over the long term. The overall vision of the Otago Regional Council is stated as “A prosperous and sustainable future for Otago”

The Regional Land Transport Plan follows national strategic directions which sets four priorities for the next 10 years:

- The right transport service and infrastructure delivered to the right level at best cost
- The network is reliable and resilient, helping community resilience
- Transport services and infrastructure support economic productivity and growth, and

Being able to access the network, no matter what the mode, in a manner that is convenient and affordable to funders and users.

Alignment with Problem Statements	Business case benefits focused on improved network performance, liveability and visitor experience aligns with the ORC’s overall vision of providing “A Prosperous and Sustainable future for Otago”. Car dominance in problem statement two shows the alignment of the business case with the strategic direction of both the Otago Public Transport Plan and ORC Long Term Plan which emphasise the importance of reliable, efficient and affordable PT. The focus on car dominance and identifying improved network performance as a benefit ensures that this business case aligns with the ORC Land Transport Plan priority of improving network access for all modes and establishing a reliable and resilient network.
Assessment Summary	ORC’s framework provides the case for transport investment in public transport improvements as part of a wider transport programme

Figure 28 Alignment with Queenstown Lakes District Council

Alignment with Queenstown Lakes District Council

- Queenstown Lakes District Council (QLDC) Long Term Plan
- Queenstown Town Centre Transport Strategy
- A Growth Management Strategy for the Queenstown Lake District (2007)
- Shaping our Future

The QLDC Long Term Plan provides long term community and council outcomes. The Council's desired outcomes are:

- High performing infrastructure and services that:
 - o Meet current and future needs and are fit for purpose
 - o Are cost-effectively & efficiently managed on a full life-cycle basis
 - o Are affordable for the district
- The District's natural and built environment is high quality and makes the District a place of choice to live, work and visit.
- The District has a resilient and diverse economy.

Queenstown Town Centre Transport Strategy states its strategic direction as "Preserve and improve resident and visitor enjoyment of the Town Centre by reducing congestion and leading a necessary shift away from reliance on private cars."

The Principles of the Growth Management Strategy for the District include:

Principle 1: Growth is located in the right places

Principle 6: Integrated planning

Alignment with Problem Statements	Benefit two considers improved liveability and visitor experience and is closely aligned with Council outcomes. The focus on travel demand management aligns with the council outcome of developing cost-effective, efficient and affordable infrastructure and services. Both benefit statements are closely aligned with the strategic direction stated in the Queenstown Town Centre Transport Strategy. The QITPBC problems and benefits are based on the wider Queenstown area including Frankton. This aligns with the QLDC Growth Management Strategy principle of establishing integrated planning.
Assessment Summary	QLDC framework provides a strong case for transport investment.

6. ISSUES AND CONSTRAINTS

An analysis of the key issues and constraints that may affect the successful delivery of the QITPBC outcomes and outputs has been undertaken.

‘Issues’ are uncertainties that are external to the business case and any recommendations that may impact its delivery. These uncertainties are framed in terms of their potential impact on demand, supply or cost and classified according to the NZTA PBC guidelines:

- **Near Certain:** The outcome will happen or there is a high probability that it will happen e.g. Policy or funding approved, tenders let or under construction,
- **More than likely:** The outcome is likely to happen but there is some uncertainty e.g. Submission of planning consent application imminent, adopted plans
- **Reasonably foreseeable:** The outcome may happen, but there is significant uncertainty e.g. Adopted plans, draft plans, development conditional upon interventions going ahead
- **Hypothetical:** There is considerable uncertainty whether the outcome will ever happen e.g. A policy aspiration

The Uncertainty Log in Figure 29 details the factors that may affect demand, supply or cost.

Figure 29 Uncertainty Log

Factor	Time	Uncertainty	Impact on programme	Comments
Changes to land uses differ from those considered in the Programme development	Ongoing	More than likely	High	Any changes to the quantum and timing of future land use development can change travel demands on the transport network. The assumptions on future land uses may vary from those assumed in the PBC. This includes the soon-to-be-vacated Wakatipu High School site.
Expansion and/or intensification of flight movements into Queenstown airport	Ongoing	Reasonably foreseeable	Medium	Night flights are expected to be introduced to Queenstown Airport along with a potential increase in day flights. These changes may increase both peak and off-peak movements in the traffic network.
Growth and development outside district boundaries	Ongoing	More than likely	Medium	Displacement of residential growth outside Queenstown due to high land prices and housing costs e.g., to Cromwell, is projected to increase. Likely to be further increase in commuter trip demand.
Variability of visitor travel requirements	Ongoing	Reasonably foreseeable	High	International tourist demands vary significantly and are linked in economic factors, creating uncertainty over future visitor numbers and travel patterns.
Land Acquisition	Ongoing	More than likely	High	Some infrastructure projects in the programme may require land acquisition, however particulars are yet unknown. Escalating property prices in the district will place significant pressure on the affordability of the programme.

7. SMART INVESTMENT OBJECTIVES

Within the stakeholder workshops, discussions were held with the stakeholders regarding the development of the investment objectives and key performance measures that address the problem and benefit statements. Table 11 shows the agreed investment objectives and key performance measures including baseline measures for each investment objective.

Table 11 Investment Objectives

Criteria	Investment Objective 1:	Investment Objective 2:
	To improve network performance for private vehicles, public transport and cycling	Improved liveability and visitor experience
Benefit	Improved network performance and customer experience for all modes	Improved liveability and visitor experience
Measure 1	Reduce the proportion of single occupant vehicles into the Queenstown Town Centre by 20% by 2025/2045 <i>BASELINE: In 2016, between 7-11am 54% of trips into the town centre were made by private vehicle drivers (source MWH May 2016 survey).</i>	Improve/maintain residents liveability with at least 75% satisfied with their transport experience in Queenstown by 2025/2045 <i>BASELINE: Over 90% of respondents consider roading, parking and transport as services that need to be improved (source QLDC Rate Payers and Residents survey 2016).</i>
Measure 2	Increase the number of people moved (aggregated for all modes) along the State Highway 6 and 6a corridors by 30% by 2025/2045 <i>BASELINE: In 2016, between 7-11am 4729 persons entered the town centre via SH6A (source MWH May 2016 survey).</i>	Improve/maintain visitor experience with at least 75% satisfied with their transport experience in Queenstown by 2025/2045 <i>BASELINE: .46% and 33% of respondents' availability of parking and traffic flow experience (respectively) were worse or much worse than expected (source: 2016 Visitor Insights Programme)</i>
Measure 3	Improve the travel time reliability for general traffic by 2025/2045 with 15 th to 85 th percentile PM peak travel time being no worse than 5 minutes for key journeys on State Highway 6 and 6a. <i>BASELINE: PM peak 15thile to 85thile travel time range in December 2016 is 7 minutes in SH6 (Beach St to SH6A) and 13 minutes (Lucas Place to SH6) (source: Tomtom GPS data).</i>	
Measure 4	Improve travel time reliability for public transport with at least 80% of peak period bus services in the Wakatipu Basin operating within 5 minutes of scheduled departure times by 2025. <i>BASELINE: In 2016, 77% of morning peak and 46% of evening peak services between CBD and the Remarkables Town Centre are within 5 minutes of scheduled departure times (source: ORC 2016).</i>	

8. ANTICIPATED STRATEGIC FIT AND EFFECTIVENESS

An assessment of the strategic fit and effectiveness of transport-related problems and opportunities for Queenstown has been undertaken in accordance with the NZ Transport Agency Investment Assessment Framework (IAF). It is acknowledged that a draft IAF for the 2019-2021 National Land Transport Programme was issued on 10 March 2017. The strategic fit and effectiveness assessment also considers the proposed changes under the draft IAF.

8.1 Strategic fit

An assessment of the relevance and significance of Queenstown's current transport-related problems with the Government Policy Statement's land transport objectives indicate a high alignment and strong case for investment. Queenstown's transport network is struggling to meet current demand, with poor travel time reliability on key corridors. Congestion compromises the ability of public and private enterprises, (that rely on the road network to function) to operate efficiently. With high population and visitor growth forecasts, the function of the network will be not able to meet expected demand. This inability to meet future traffic demands could have significant effects on the local environment and constrain the economic development of the region.

There is a high reliance on private vehicles as public transport is perceived as too expensive, unreliable, infrequent on many routes and does not provide the coverage and accessibility to meet the needs of the community. Alternative mode share is relatively low. Constrained by topography and existing land use, the ability to provide additional road space is limited, placing a high importance on the need for Queenstown to be able to offer appropriate transport choices.

Under the assessment criteria for public transport improvement activities, a medium strategic fit rating may be given if, in the short to medium term, the problem, issue or opportunity is:

- a service provision that does not meet forecast demand, including in and to main urban areas, within a region; OR
- access to social and economic opportunities, particularly for those with limited access to a private vehicle; OR
- a deficiency in reliability, or resilience in the transport system

The current network in Queenstown is not able to meet the forecast demand in the short or medium terms on SH6A and public transport will not be able to meet this demand.

A high strategic fit rating may be given if, in addition to meeting the criteria for a medium rating, in the short to medium term, the problem, issue or opportunity is:

- a service provision does not meet forecast demand on networks and corridors in a major urban area;
- a deficiency in journey time reliability in major urban areas; OR
- provides access to housing development in high growth urban areas

The Queenstown Lakes area is a high growth urban area with its combined resident and visitor population exceeding 30,000. The assessment profile meets both the medium and high investment criteria resulting in a HIGH strategic fit rating.

Under the draft IAF, the Queenstown study area has a very high rating for results alignment (previously referred to as strategic fit) relating to providing transport access for housing development. There are a number of Housing Infrastructure Fund (HIF) or Special Housing Area (SHA) proposals within the study area which require improvements to transport access.

8.2 Effectiveness

Through the workshop process, the stakeholder partners have determined the recommended programme of works to have a Medium effectiveness rating as shown in Table 12. The development of the programme is documented in Part B of the QITPBC

Table 12 Effectiveness assessment

Component	Rating and Assessment
Outcomes focused	High Will achieve tangible outcomes such as reduced congestion, increased mode choice, improved trip reliability and customer experience.
Integrated	High Opportunities align with current and future land use planning strategies and developments in the Wakatipu basin. It supports all modes, while recognising that public transport, walking and cycling provide the greatest opportunity for improvement.
Correctly scoped	High Extensive stakeholder involvement has ensured robust problem identification and a robust set of options developed and considered for addressing opportunities in the programme development. The inter-relationship between options, and alignment and appropriateness of the response has also been considered.
Affordable	Medium The problems facing Queenstown are severe and exacerbated by a small resident population that is dealing with a significant number of visitors. All investment stakeholders are committed to ensuring funding does not limit the implementation of the appropriate solutions.
Timely	High Urgent action is required to address the districts problems, and an initial increased investment in public transport service enhancement will yield immediate benefits. Enduring benefits will continue to grow as new activities are implemented over the programme timeframe.
Provides confidence	Medium Current and future risks have been identified and documented to support positive outcomes in addresses Queenstown's growth and tourist importance to the national economy.

The overall effectiveness rating has been assessed as medium as there are still some elements of the programme to be developed which gives a medium rating. It is noted that under the draft IAF, the effectiveness criterion disappears.

PART B – DEVELOPING THE PROGRAMME

Part B of the programme business case maps the path from identifying a broad range of alternatives and options through to considering a range of programmes (combinations of alternatives and options) to identifying a recommended programme.

1. ALTERNATIVE AND OPTION GENERATION

1.1 Option Generation

As part of stakeholder workshop 2, participants were asked to identify different options and approaches that could be implemented to address the identified problem statements. As part of the framing process, they were also asked to consider the options under the following categories:

- Demand: options that will *Change* demand
- Productivity: options that *Improve* or optimise the productivity of existing activities.
- Supply: options which may *Increase* infrastructure

Approximately 100 options were identified by stakeholders encompassing pricing, parking, active travel, infrastructure, public transport enhancements, land use, behavioural and planning policy changes through to 'blue sky' suggestions such as a heliport. The broad range of suggestions was reflective of a brainstorming process and no options were discounted at this stage.

Following the workshop, the options were evaluated and assessed. This process helped rationalise the list as duplicate suggestions were combined and conceptual approaches, such as requiring hotels to provide airport shuttles, were refined into specific approaches i.e., District Plan and consenting changes. Some options were also further defined to give greater clarity of understanding, e.g. *Four laning from Kawarau Bridge to BP Roundabout* became *Increase capacity from Grant Road to Kawarau Bridge including 6/6A intersections with consideration of alternative modes*.

Twenty options were also discounted as part of a 'fatal flaw' assessment. This included suggestions for bed taxes or visitor levies which were deemed to be outside of the scope of programme, new infrastructure that was not feasible due to topographical constraints and the heliport in Queenstown Gardens which was considered unlikely to be a commercially viable option.

An additional stage of analysis was undertaken to ensure that the options also captured those that had been identified in the Queenstown Town Centre and Wakatipu Basin Public Transport Network PBC's. Appendix C details the final options list and addressed the extent to which they align with the previous business cases.

A final list of 45 options was then developed, including further definitions where appropriate to enhance clarity and understanding.

2. PROGRAMME DEVELOPMENT

The particularly complex nature of the QITPBC was evident from the range of options developed and how they might affect the productivity, demand and supply factors in the Queenstown and Frankton areas.

Nine programmes, including a *Do Minimum* were initially developed that represented the different approaches and combination of options that would address the problem statements.

2.1 Programme Descriptions

- 1) **Do Minimum:** No significant changes over what is currently planned. Key aspects of the do minimum included the Eastern Access Road, Interim SH6/6A upgrade, Public Transport improvements as a result of the network review, and Kawarau Falls bridge replacement.
- 2) **Optimisation** focuses on improving the use of the existing network. Public transport interventions are core to these improvements and include the introduction of bus priority along the SH6A corridor, the introduction of public transport hubs and park and ride services.
- 3) **Demand Management** focus on demand and usage patterns to relieve network pressure, through improvements to the productivity and demand aspects of the network. Key aspects would include the pedestrianisation of the town centre, increased parking charges and public transport improvements. There would be no change to infrastructure provision.
- 4) **Infrastructure:** Supply side measures focus on 'building' infrastructure to address the constraints currently being faced in the network. The investments would encompass increasing network capacity for all modes, and new parking facilities.
- 5) **Balanced:** This programme includes a mix of productivity, demand and supply options, including the pedestrianisation of the town centre, supported by public transport improvements and increasing the capacity of the road network through selective road widening and parking facilities.
- 6) **Travel Demand Management:** This looks to change behaviour through increasing the provision for alternative modes e.g., improving cycle lanes as well as discouraging private car use through road user pricing.
- 7) **Quick Wins** focuses on investments that can be implemented within a two-year period. These are generally less capital intensive and do not require infrastructure investments. This includes the lighting and sealing of existing cycle trails rather than new links, and reducing public transport fares rather than the implementation of new services.
- 8) **Mobility as a Service** concentrates on those options which will provide a transport solution for consumers independent of privately owned vehicles. This includes a greater focus on public transport, cycling, car sharing and 'on-demand' services.
- 9) **Do Maximum** includes all initiatives for all alternative modes where practicable.

2.1.1 Long List Assessment and Evaluation

The programmes were then assessed against the investment objectives and strategic benefits as a primary evaluation filter. The results are showing in Table 13.

Table 13 Programme Assessment Against Investment Objectives

	Increase alternative mode share	Increase People Throughput	Improve Travel Time Reliability (General Traffic)	Improve Travel Time Reliability (Public Transport)	Improve Residents Liveability	Improve Visitor Experience
Do Minimum	1	1	-1	-1	1	0
Optimisation	1	1	0	1	1	0
Demand Management	1	1	0	0	1	1
Infrastructure	-1	1	1	1	1	0
Balanced 1	1	1	1	2	2	2
TDM	2	2	0	2	1	-1
Quick Wins	1	1	-1	0	1	0
Mobility as a Service	1	1	0	1	1	1
Do Maximum	2	3	2	3	3	2

The long list of programmes was then assessed by the stakeholders in workshop 3.

Through a process of small and large group work, the stakeholders evaluated the programmes and identified Balanced 1 as a preferred programme caveated with the addition of certain elements from the Do Maximum programme. Additionally, stakeholders also identified the options as essential, desirable or optional.

2.1.2 Short List Assessment

While there was an overall high level of consensus regarding the Balanced 1 programme, the stakeholder discussion had identified variations in the timing and magnitude of investment regarding different options. As part of the short-listing process, the Balanced 1 programme was then refined into four variants for further stakeholder consideration.

Table 14 illustrates these variants and their different emphases and levels of investment:

- Balanced Infrastructure Focus: provision of tidal flow lanes along SH6a.
- Balanced Active Modes Focus: active transport link from Jacks Point to Kelvin Heights and higher level of investment in provision for active modes.
- Balanced PT Focus: fully separated and Mass Rapid Transit with an integrated transport hub for rental cars and higher level of investment in public transport.
- Balanced PT and Active Modes Focus: active transport link from Jacks Point to Kelvin Heights, fully separated and Mass Rapid Transit with an integrated transport hub for rental cars, and higher level of investment in public transport and provision for active modes.

Table 14 Short List Programmes

	Option	Description	Monetised Benefits	Costs (\$m)			
				Balanced Infrastructure Focus	Balanced Active Modes Focus	Balanced PT Focus	Balanced PT & Active Modes Focus
Committed	Eastern Access Road (Hawthorne Drive)	New arterial road in Frankton connecting Remarkables town centre to SH6/Glenda Drive (under construction)		Committed			
	SH6 Kawarau Falls Bridge	New two lane bridge to replace current Kawarau Falls Bridge (under construction)		Committed			
	Grant Rd to Kawarau Falls Bridge Stage One	Upgrade to SH6/6A roundabout to include a second eastbound through lane (under construction)		Committed			
	PT Improvements Stage One	Increases in frequency and coverage. \$2 flat fare. Plus supporting minor infrastructure and increased parking revenue to support PT investment and encourage mode shift. Improve luggage carriage on buses.		Committed			
	Mobility as a Service - Stage One	Journey planning using real-time travel information accessible through mobile app.		Committed			
Public Transport	PT Improvements Stage Two - Service/fleet improvements	Further increases in frequency and coverage. Plus minor supporting infrastructure and fleet renewal to EV.	\$	14.0	14.0	14.0	14.0
	PT Improvements Stage Two - PT Hubs	In Town centre and Frankton (Frankton delivered under Grant Rd to KFB Stage 2)	\$	10.0	10.0	20.0	20.0
	Park and ride public transport services	The provision of parking facilities at appropriate locations (such as Frankton, Ladies Mile, Jacks Point, Arrowtown/Arrow Jn) to enable greater use of public transport. The Frankton park and ride may provide an opportunity to develop a rental car park and ride facility.	\$	7.8	7.8	13.4	13.4
	Water taxi/ferry network	Staged implementation commencing with subsidy of water taxi service, increasing to a larger ferry network potentially servicing Airport, Jacks Point, QT Bay, Sunshine, Harley, tracks on Lake Wakatipu (perhaps with Park & Ride) as required. Includes development of infrastructure at four locations.	\$	5.0	5.0	5.0	5.0
	MRT corridor	Mass rapid transit corridor (e.g. Gondola, light rail etc) from Frankton to town centre.	\$\$\$			160.0	160.0
	Provide tidal flow lanes along SH6A (Frankton Road)	Introduction of enabling features to provide additional peak direction road capacity for buses and high occupancy vehicles	\$	25.2			

LEGEND:

Minimal level of benefit	\$	Base level of investment	
Moderate level of benefit	\$	Moderate level of investment	
Significant level of benefit	\$\$\$	High level of investment	

Table 15 Short List Programmes (cont.)

	Option	Description	Monetised Benefits	Costs (\$m)			
				Balanced Infrastructure Focus	Balanced Active Modes Focus	Balanced PT Focus	Balanced PT & Active Modes Focus
Infrastructure	SH6A Corridor Improvements	Bus priority which may include bus borders, widening, intersection upgrades with signal priority	\$\$	15.0	15.0	15.0	15.0
	Ladies Mile Corridor Improvements	SH6 corridor and access improvements for residential traffic from Howards Drive, Stalker Road, Lower Shotover Road and Tucker Beach Rd.	\$	1.5	1.5	1.5	1.5
	Queenstown town centre arterial	Investigate and construct a new arterial enabling expansion of the town centre including PC50, development of the lake front and development of town centre PT hub.	\$\$	72.0	72.0	72.0	72.0
	Quail Rise to Hansen Road link road	An alternative to SH6 as an access road to enable additional housing supply to the north of SH6 at Frankton.	\$	23.0	23.0	23.0	23.0
	Grant Rd to Kawarau Falls Bridge - Stage Two	Improves active mode safety, address parking concerns along corridor. Includes PT hub and Park & Ride at Frankton. Provides more road space incl SH6/6A upgrade..	\$\$\$	20.0	20.0	20.0	20.0
	Shotover River Bridge (Arthurs Point) Duplication	Additional one lane crossing in vicinity of Edith Cavell Bridge for all modes.	\$	4.4	4.4	4.4	4.4
Active	Wakatipu active travel network	Identifying and implementing an on road and off road connected pedestrian cycle network for Queenstown. Includes additional active mode crossing of Shotover River. Improve high level bicycle link to Fernhill. Provide cycle hire scheme. Include marketing, promotion and education. Provide cycle storage facilities, lockers and showers at location throughout the Queenstown and Frankton areas e.g., Fernhill and Gorge Rd. Incl Jack's Point to Queenstown link.	\$	21.0	26.8	21.0	26.8
	Frankton Track improvements	Upgrade Frankton track including sealing and lighting existing path	\$	2.4	4.8	2.4	4.8
	Pedestrianise town centre	Restrict vehicle access by time and/or location, including delivery restrictions on freight. Include circulation of buses around the town centre. Assumed to include portions of Shotover, Camp, Ballarat and Church Streets.	\$	9.0	17.9	9.0	17.9
Behaviour/Planning	Mobility as a Service - Stage Two	Ongoing enhancements to integrated journey/travel planning and booking/payment systems via mobile app.	-	0.5	0.5	0.5	0.5
	Develop and implement a parking strategy	Management of parking cost, supply and time restrictions as a mechanism to encourage mode shift, manage travel demand and use of infrastructure in the town centre and Frankton. May include additional parking facilities and rationalisation between on street and off street supply. The strategy will include the P & R activities but this has been separated out in the QITPBC Programme as a PT item.	\$\$	0.1	0.1	0.1	0.1
	Queenstown workplace travel plans	Work with major businesses to provide incentives for smart travel	-	0.1	0.1	0.1	0.1
	Growth management strategy	Review of the Growth Management Strategy 2007	-	-	-	-	-
	Integrated land use and transport masterplan	Development of an overarching integrated land use and transport plan by Queenstown Lakes District Council, NZ Transport Agency, Otago Regional Council and Queenstown Airport Corporation.	-	-	-	-	-

LEGEND:

Minimal level of benefit	\$	Base level of investment	
Moderate level of benefit	\$\$	Moderate level of investment	
Significant level of benefit	\$\$\$	High level of investment	

2.1.3 Planning Regulations

A range of planning related interventions were also identified that have been treated as common to all of the programmes. As these require a specific statutory process for implementation, they have not been specifically included in the programmes listed. These elements include:

- Enabling further mixed use developments
- Reducing the district plan requirements for parking to compliment a parking strategy
- Increasing the density of land use in the urban area
- Enabling sustainable travel orientated development

Each of the above can be addressed by taking a more integrated approach to the strategic planning of transport and land use. This could be achieved through the development of an overarching integrated land use and transport masterplan for the Queenstown region in the recommended programme. This plan would set a high-level frame work to encompass existing main land use strategies, location specific land use plans, as well as transport programme and activity level plans. A collaborative approach would need to be taken to the development of an integrated land use and transport masterplan with key stakeholders; Queenstown Lakes District Council, NZ Transport Agency, Otago Regional Council and Queenstown Airport Corporation.

Two further non-planning related elements are also considered:

- Development of a Network Operating Framework
- The creation of a single transport entity for the Wakatipu Basin (as recommended by 'Shaping Our Future').

2.1.4 Do-minimum option

The substantial growth within the Queenstown – Frankton area is placing significant pressure on the transport network in the region. Within the existing investment programme, the NZTA, regional and local authorities are in the process of, or will soon implement, six key interventions which, with the existing provision, constitute the do-minimum option.

- | | |
|--|---|
| • Eastern Access Rd | • Public Transport improvements (stage one) |
| • State Highway 6 Kawarau Falls Bridge | • Mobility as a Service (stage one) |
| • Grant Road to Kawarau Falls Bridge (stage one) | |

The infrastructure items included in the do-minimum programme reflect the projects that have committed funding under the 2015 – 2018 National Land Transport Programme or 2015 – 2021 Regional Land Transport Plan. There are further projects that are identified in the 2018 – 2021 period within the RLTP, but these have been excluded from the do-minimum as these may, or may not be, contained in the recommended programme. The Otago Regional Council is committed to a number of improvements to public transport services in the area affecting routes, frequency as well as moving to a \$2 flat fare (with card or \$5 cash fare).

3. PROGRAMME ASSESSMENT

A full assessment of the four short-listed programmes has been undertaken according to the NZ Transport Agency Programme Business Case Assessment template in the following tables. The benefit cost calculations have been generated through an indicative BCR assessment using high level costs. Cost estimation has not involved any site visits or consideration of specific topography or land ownership.

An allowance of 15% for project development, consenting and land acquisition has been added to each total programme cost. The exception to this is the new town centre arterial (Inner Links) costing that includes these elements as part of a detailed cost estimate supplied by QLDC.

Programme		Balanced 1 Infrastructure Focus			
Estimated Total Public Sector Funding Requirement			Lower		Upper
	Programme Cost (\$m)		\$241,000,000		\$337,000,000
	Present value cost to Government (\$m)		\$176,000,000		\$246,000,000
Estimated BCR range			0.6 – 0.9		
Timing of need	Optimal	10 years		Likely	10 years
Investment Assessment Framework	Strategic Fit		High		
	Effectiveness		Medium		
Investment Objective		Performance against investment objective			
Reduce proportion of private vehicle trips		Low Increases capacity in overall road network/supply. Low level of investment to support alternative modes meaning the proportion of private vehicle trips is unlikely to change significantly.			
Increase people throughput		Low			
Improve travel time reliability (general traffic)		Medium			
Improve travel time reliability (public transport)		Medium			
Improve residents liveability		Medium			
Improve visitor experience		Medium			
Implementability Appraisal of Option					
Feasibility		High			
Affordability		High			
Public/ Stakeholders		Medium			
Multi-criteria assessment of programme					
Safety		Medium benefit	Improving capacity of SH6A (Frankton Rd) which experiences high traffic volumes on a limited space corridor could improve traffic flow. Crashes reported along this corridor relate to overtaking manoeuvres and rear-end/obstruction accidents. Increased capacity may reduce overtaking manoeuvres and improve safety outcomes.		
Economy		Medium benefit	Improving capacity and traffic flow through tidal flow lanes will yield travel time benefits and ease congestion. This will have a positive impact on travel time reliability, enhancing efficiency and productivity.		
Environmental and Social		Low benefit			

Programme	Balanced Active Modes Focus			
Estimated Total Public Sector Funding Requirement		Lower		Upper
	Programme Cost (\$m)	\$241,000,000		\$338,000,000
	Present value cost to Government (\$m)	\$176,000,000		\$247,000,000
Estimated BCR range		0.9 – 1.3		
Timing of need	Optimal	10 years		Likely 10 years
Investment Assessment Framework	Strategic Fit		High	
	Effectiveness		Medium	
Investment Objective		Performance against investment objective		
Reduce proportion of private vehicle trips		Medium High active mode investment but with only Medium investment in public transport overall benefits are diluted.		
Increase people throughput		Low Active mode share trips are a small percentage of total trips,		
Improve travel time reliability (general traffic)		Medium		
Improve travel time reliability (public transport)		Medium		
Improve residents liveability		Medium		
Improve visitor experience		Medium		
Implementability Appraisal of Option				
Feasibility		High		
Affordability		High		
Public/ Stakeholders		Medium		
Multi-criteria assessment of programme				
Safety		Medium benefit	The high level of investment in active mode initiatives should encourage mode shift, reducing private vehicle use and so reduce the risk of vehicle crashes. Removal of traffic from the town centre will increase personal safety risk through mode separation and reduction of conflict points	
Economy		Medium benefit	Town centre traffic management and the new arterial will allow for town centre expansion, increased jobs and business growth.	
Environmental and Social		Medium benefit	Greater community cohesion through increase use of active modes and pedestrianisation. Increased uptake of active mode trips have significant health and environment benefits	

Programme	Balanced Public Transport Focus				
Estimated Total Public Sector Funding Requirement		Lower		Upper	
	Programme Cost (\$m)		\$417,000,000	\$601,000,000	
	Present value cost to Government (\$m)		\$279,000,000	\$400,000,000	
Estimated BCR range		0.7 – 1.1			
Timing of need	Optimal	10 years		Likely	10 – 15 years
Investment Assessment Framework	Strategic Fit		High		
	Effectiveness		Medium		
Investment Objective		Performance against investment objective			
Reduce proportion of private vehicle trips		High Significant increase in PT services, reduction in fares and supporting strategies provide attractive alternative options.			
Increase people throughput		High			
Improve travel time reliability (general traffic)		High			
Improve travel time reliability (public transport)		Medium			
Improve residents liveability		Medium			
Improve visitor experience		Medium			
Implementability Appraisal of Option					
Feasibility		Medium - due to Mass Rapid Transit corridor			
Affordability		Low/Medium – high willingness to find private investor to fund capital expenditure			
Public/ Stakeholders		Medium			
Multi-criteria assessment of programme					
Safety		High benefit	Provision of a completely segregated mode with no potential conflict with other modes would improve safety levels for all users and reduce traffic on SH6 corridor.		
Economy		Medium benefit	A higher uptake of public transport will remove private vehicle trips from the network reducing congestion, improving travel time reliability and accommodate future growth. The Mass Rapid Transit corridor (e.g. gondola) provides opportunity for alternative funding mechanisms.		
Environmental and Social		Medium benefit	Environmental benefits through reduced vehicle trips.		

Programme		Balanced Public Transport and Active Modes Focus			
Estimated Total Public Sector Funding Requirement			Lower		Upper
	Programme Cost (\$m)		\$447,000,000		\$647,000,000
	Present value cost to Government (\$m)		\$303,000,000		\$436,000,000
Estimated BCR range			0.7 – 1.0		
Timing of need	Optimal	10 years		Likely	10 – 15 years
Investment Assessment Framework	Strategic Fit		High		
	Effectiveness		Medium		
Investment Objectives		Performance against investment objective			
Reduce proportion of private vehicle trips		High Significant and timely investment in PT infrastructure and supporting strategies. High integration with active modes.			
Increase people throughput		High Mass Rapid Transit corridor (gondola) provides ability to move high volumes of people			
Improve travel time reliability (general traffic)		High			
Improve travel time reliability (public transport)		High			
Improve residents liveability		High – Improved facilities for all modes, reducing negative impacts of congestion on the network.			
Improve visitor experience		Medium			
Implementability Appraisal of Option					
Feasibility		Medium - due to Mass Rapid Transit corridor			
Affordability		Medium – high willingness for private sector investment			
Public/ Stakeholders		High			
Multi-criteria assessment of programme					
Safety		High benefit	The provision of a completely segregated mode with no potential conflict with other modes would improve safety levels for all users. Adjacent road alternatives would provide options to disperse traffic.		
Economy		Medium benefit	A higher uptake of public transport, complemented with improved walking and cycling facilities will remove private vehicle trips from the network reducing congestion, improving travel time reliability and accommodate future growth. The Mass Rapid Transit corridor (gondola) provides opportunity for alternative funding mechanisms.		
Environmental and Social		Medium benefit	Environmental benefits through reduced vehicle trips.		

4. RECOMMENDED PROGRAMME

4.1 Programme overview

During the final workshop, stakeholders were tasked with confirming the actions, developing an initial implementation timeline and optimal level of investment. The Balanced Public Transport and Active Modes Focus programme was selected as the Recommended Programme.

The core elements of the recommended programme include:

Supply Aspects

- Completion of existing planned infrastructure upgrades such as the SH6 Kawarau Falls Bridge and SH6/6A interim upgrade to address current network constraints. New roading linkages are also proposed where they support new areas and/or remove severance enabling the expansion of key locations such as the town centre.
- Increased public transport reliability and choice through addition of bus priority on SH6A corridor, a Mass Rapid Transit (gondola) and an extensive water taxi network.
- A significant investment in active travel which will improve service levels and amenity for pedestrians and cyclists through the sealing and lighting of tracks as well as the extension of the active travel network including an additional crossing of the Shotover River.

Productivity Aspects

- Significantly improved public transport services including routes, frequency and fares to make public transport an attractive and viable choice for all travellers. These would be combined with improved infrastructure to provide customers a step change in service experience.
- Application of technology to improve network productivity through the introduction of Mobility as a Service and workplace travel plans.

Demand Aspects

- A comprehensive parking strategy that will manage the number and location of spaces within the urban area to support uptake of sustainable alternative modes. Key aspects of this approach will include the setting and enforcement of maximum parking durations in and around the central business district, parking consolidation to improve ease of access while mitigating against unnecessary traffic circulation and addressing resident parking issues.
- Pedestrianisation of the town centre, including the relocation of parking, to increase the attractiveness and amenity of the area and discourage private vehicle usage.

In addition to the above, there are a number of activities that, while sitting outside of the formal programme, will be undertaken by QLDC as part of their normal activities that will further support the recommended programme. These activities include:

- Reviewing the District Plan to encourage mixed used and sustainable travel oriented development,
- Increasing urban density within the town centre
- Development of a Network Operating Framework,

- Develop an Integrated land use and transport masterplan,
- Review the Growth Management Strategy 2007, and
- The creation of a single transport entity for Wakatipu Basin to support integrated transport delivery.

The Recommended Programme provides a well-balanced approach to tackling Queenstown's transport issues as shown in Table 16. With a BCR range of 0.7 to 1.0 the Recommended Programme provides viable investment opportunity.

Table 16 Recommended Programme

Recommended Programme Contents		
	Option	Description
Committed	Eastern Access Road (Hawthorne Drive)	New arterial road in Frankton connecting Remarkables town centre to SH6/Glenda Drive (under construction)
	SH6 Kawarau Falls Bridge	New two lane bridge to replace current Kawarau Falls Bridge (under construction)
	Grant Rd to Kawarau Falls Bridge Stage One	Upgrade to SH6/6A roundabout to include a second eastbound through lane (under construction)
	PT Improvements Stage One	Increases in frequency and coverage. \$2 flat fare. Plus supporting minor infrastructure and increased parking revenue to support PT investment and encourage mode shift. Improve luggage carriage on buses.
	Mobility as a Service - Stage One	Journey planning using real-time travel information accessible through mobile app.
Public Transport	PT Improvements Stage Two - Service/fleet improvements	Further increases in frequency and coverage. Plus minor supporting infrastructure and fleet renewal to EV.
	PT Improvements Stage Two - Hubs	In Town centre and Frankton (Frankton delivered under Grant Rd to KFB Stage 2)
	Park and ride public transport services	The provision of parking facilities at appropriate locations (such as Frankton, Ladies Mile, Jacks Point, Arrowtown/Arrow Jn) to enable greater use of public transport. The Frankton park and ride may provide an opportunity to develop a rental car park and ride facility.
	Water taxi service /ferry network	Staged implementation commencing with subsidy of water taxi service, increasing to a larger ferry network potentially servicing Airport, Jacks Point, QT Bay, Sunshine, Harley, tracks on Lake Wakatipu (perhaps with Park & Ride) as required. Includes development of infrastructure at four locations.
	MRT corridor	Mass rapid transit corridor (e.g. Gondola, light rail etc) from Frankton to town centre.
Infrastructure	SH6A Corridor Improvements	Bus priority which may include bus borders, widening, intersection upgrades with signal priority
	Ladies Mile Corridor Improvements	SH6 corridor and access improvements for residential traffic from Howards Drive, Stalker Road, Lower Shotover Road and Tucker Beach Rd.
	Queenstown town centre arterial	Investigate and construct a new arterial enabling expansion of the town centre including PC50, development of the lake front and development of town centre PT hub.
	Quail Rise to Hansen Road link road	An alternative to SH6 as an access road to enable additional housing supply to the north of SH6 at Frankton.
	Grant Rd to Kawarau Falls Bridge - Stage Two	Improves active mode safety, address parking concerns along corridor. Includes PT hub and Park & Ride at Frankton. Provides more road space incl SH6/6A upgrade..
	Shotover River Bridge (Arthurs Point) Duplication	Additional one lane crossing in vicinity of Edith Cavell Bridge for all modes.
Active	Wakatipu active travel network	Identifying and implementing an on road and off road connected pedestrian cycle network for Queenstown. Includes additional active mode crossing of Shotover River. Improve high level bicycle link to Fernhill. Provide cycle hire scheme. Include marketing, promotion and education. Provide cycle storage facilities, lockers and showers at location throughout the Queenstown and Frankton areas e.g., Fernhill and Gorge Rd. Incl Jack's Point to Queenstown link.
	Frankton Track improvements	Upgrade Frankton track including sealing and lighting existing path
	Pedestrianise town centre	Restrict vehicle access by time and/or location, including delivery restrictions on freight. Include circulation of buses around the town centre. Assumed to include portions of Shotover, Camp, Ballarat and Church Streets.
Behaviour/Planning	Mobility as a Service - Stage Two	Ongoing enhancements to integrated journey/travel planning and booking/payment systems via mobile app.
	Develop and implement a parking strategy	Management of parking cost, supply and time restrictions as a mechanism to encourage mode shift, manage travel demand and use of infrastructure in the town centre and Frankton. May include additional parking facilities and rationalisation between on street and off street supply. The strategy will include the P & R activities but this has been separated out in the QITPBC Programme as a PT item.
	Queenstown workplace travel plans	Work with major businesses to provide incentives for smart travel
	Growth management strategy	Review of the Growth Management Strategy 2007
	Integrated land use and transport masterplan	Development of an overarching integrated land use and transport plan by Queenstown Lakes District Council, NZ Transport Agency, Otago Regional Council and Queenstown Airport Corporation.

4.2 Programme implementation strategy and trigger points

Figure 33 provides an indicative programme implementation timeline that was developed in collaboration with stakeholders. Additionally, the programme activities and timing are shown spatially in Figure 34. ITS has not been specifically outlined as an activity, but will be a fundamental aspect of the major infrastructure and behaviour change activities.

The programme recognises that the completion of pending infrastructure improvements and the introduction of significant changes to the public transport network and fare structure, will mitigate some of the transport problems currently being faced. Assessing the full impact of these will take several years, particularly in relation to public transport changes, as customers change travel behaviour to benefit from the new services being offered.

In the short term, activities will include the development of a parking management strategy, changes to parking pricing, supply and controls in addition to the implementation of Grant Road to Kawarau Falls Bridge stage two infrastructure works. These activities are supported by the upgrading of Frankton Track to improve the level of service and customer experience for pedestrians and cyclists.

The combination of public transport improvements, infrastructure upgrades and travel demand management measures (including changes to the provision and distribution of parking) along with improved active mode facilities are expected to improve travel time reliability within the network.

However, due to the high growth forecast, the impact of this is likely to be limited. The impact of programme implementation on mode share for committed activities (by 2018), in the short term (by 2022), medium term (by 2026) and long term (post 2027) is shown graphically in Figure 30 which focuses on SH6A people movements towards Queenstown between 7am and 11am on a typical weekday. This demonstrates that total car occupants are held relatively constant though the delivery of activities that encourage the use of alternative modes.

Figure 30 Mode share through programme implementation staging

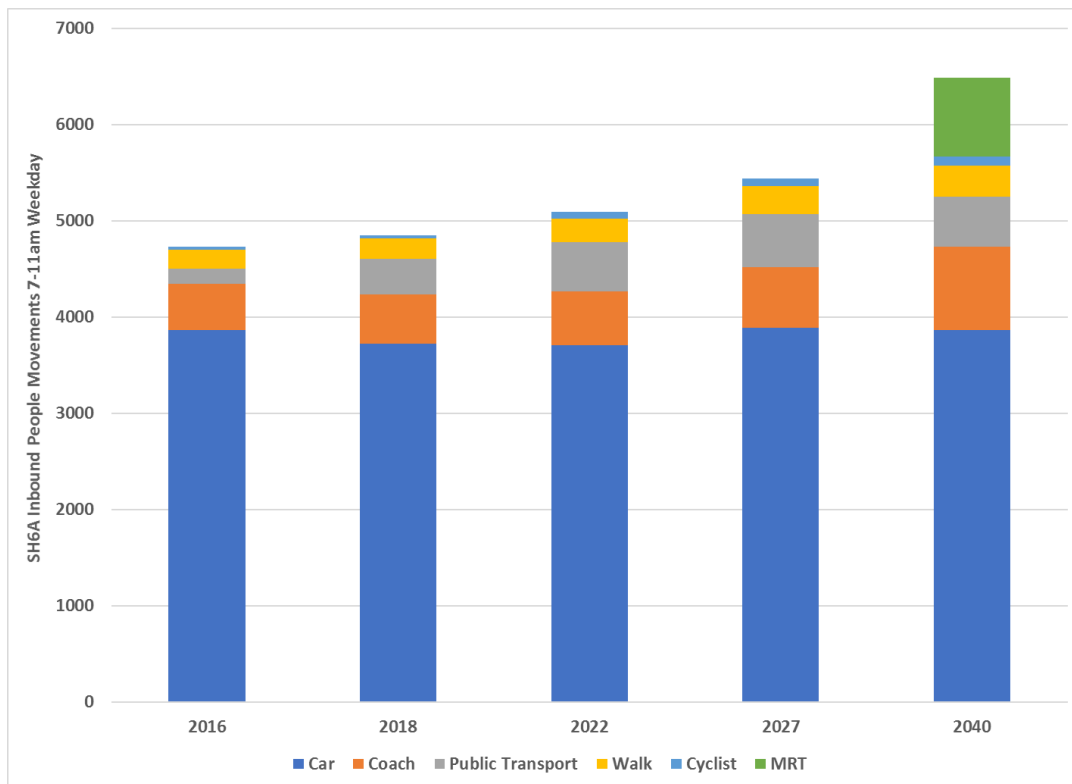


Figure 31 shows the expected evening peak hour person trip demand for SH6A (travelling towards Queenstown) and the impact that the programme activities have on increasing total person movement capacity. The analysis focuses on private and public transport movements but does not included for coaches or active travel.

Figure 31 Impact of Public Transport and other improvements

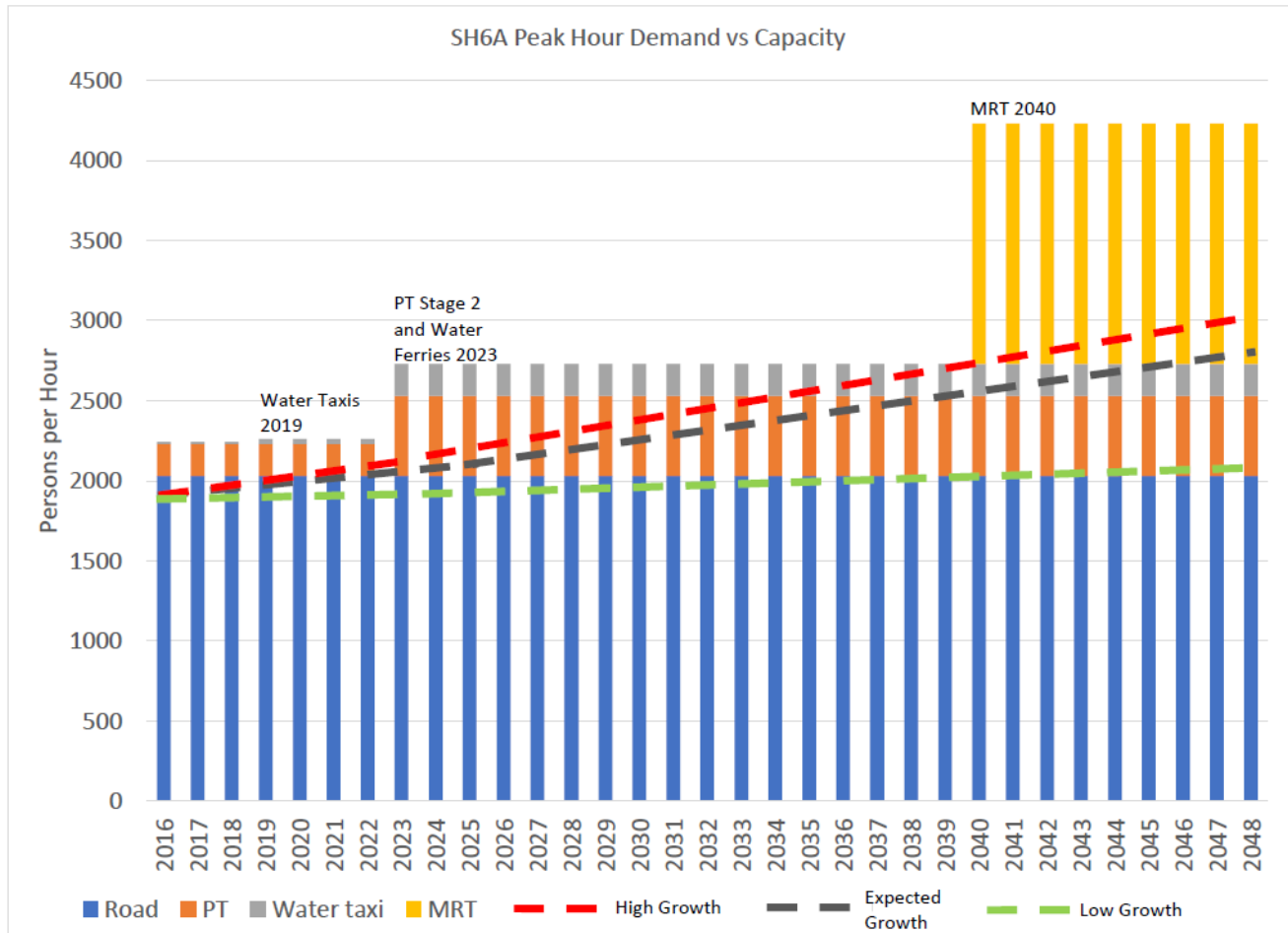


Figure 31 demonstrates that the incremental public transport improvements at 2019 provide sufficient capacity to exceed demand under high growth, low growth and expected growth projections. By 2040 high growth estimates meet total capacity and the expected growth estimates reaches over 90% of the capacity. This suggests that at 2040 additional person movement capacity is required on SH6A and this can be delivered in the form of MRT. Note that currently (2017) SH6A is operating at approx. 90% of road capacity and 15% of public transport capacity in the evening peak hour.

A careful monitoring programme will be implemented which will track the outputs and outcomes from these interventions. If traffic volumes continue to increase, further interventions will be required. The most notable of these, is the introduction of a Mass Rapid Transit corridor. The full implementation strategy needs to be managed and overseen by the governance input with ongoing technical input. This will consider associated trigger points which will be developed as part of the detailed and indicative business case process, and be supported by assessing the outcomes from the activities against the SMART investment objectives to assess their effectiveness or otherwise.

Outcomes and trigger points are highly dependent on population growth in the District. Figure 32 provides a graphical representation of the likely timing requirements for each set of activities based

on the varying population projections.

Figure 32 Population projections and the effect on outcome timings

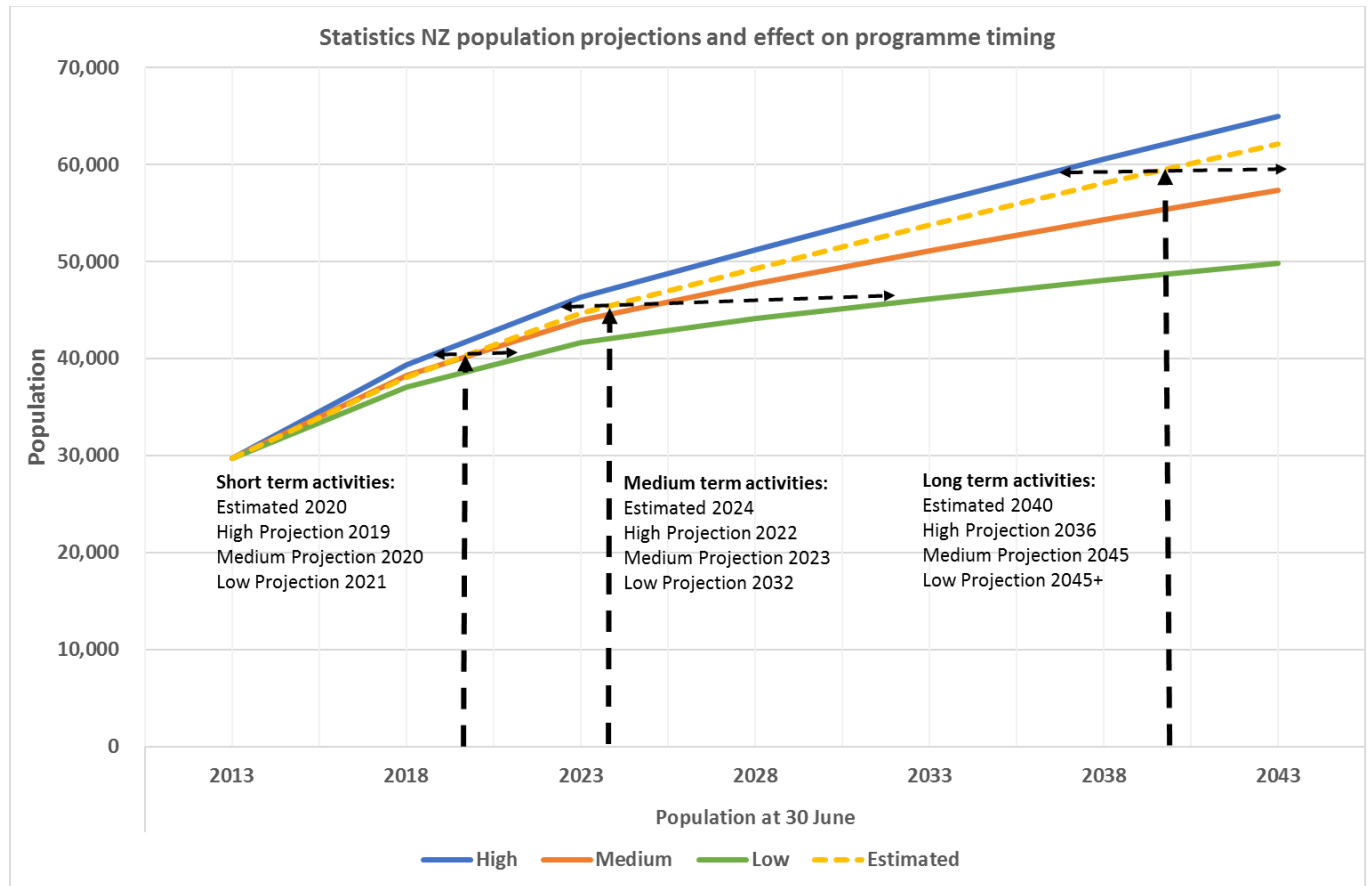


Figure 33 Recommended Programme Implementation staging timeline

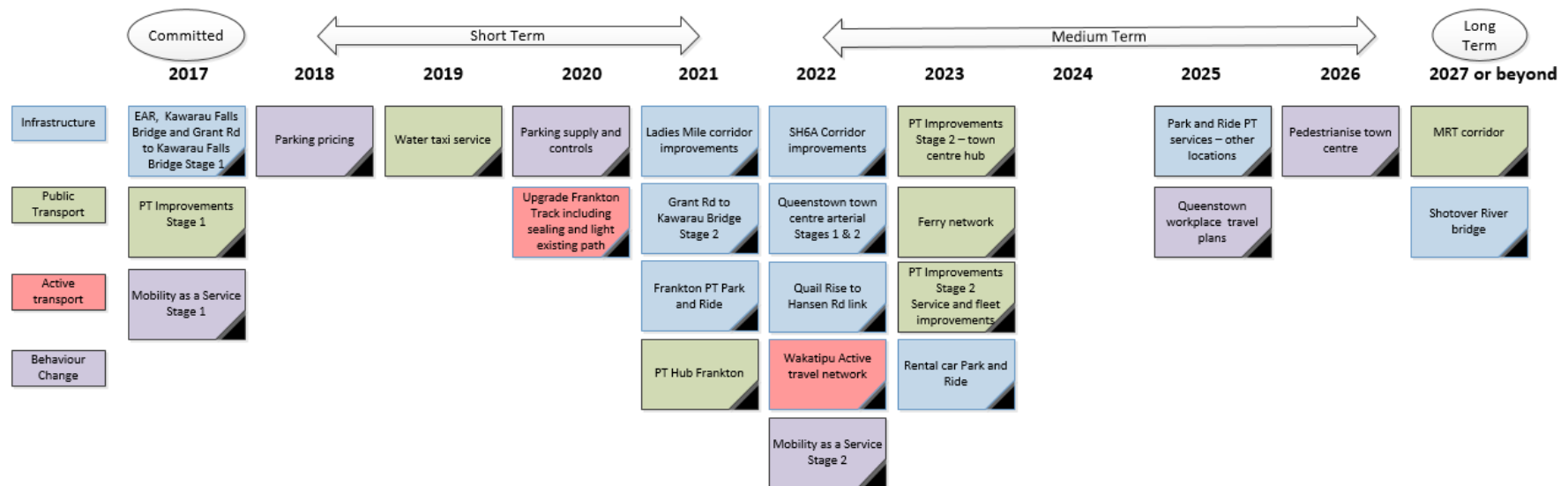
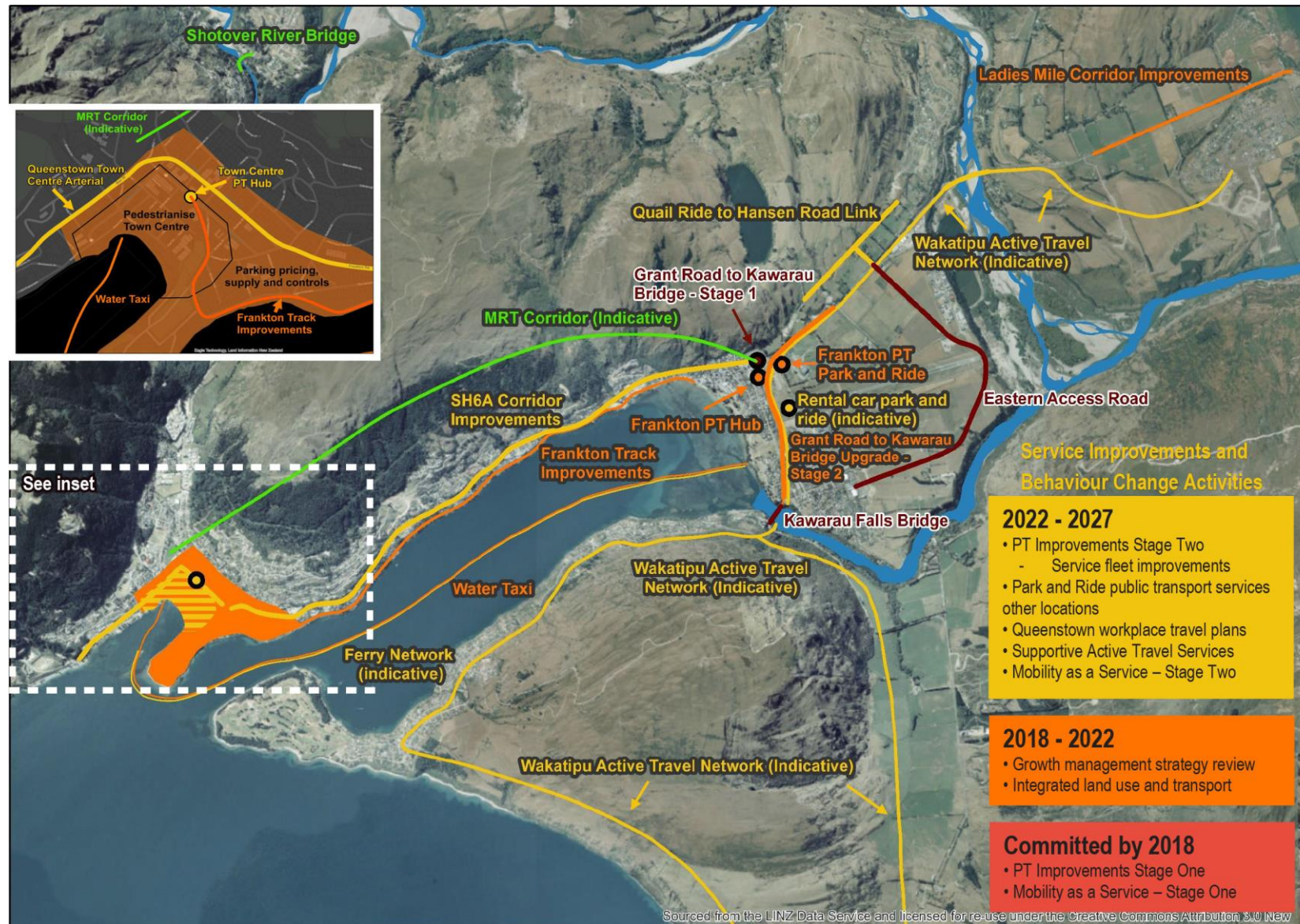


Figure 34 Recommended programme to be delivered by 2040



4.3 Interdependencies

There are a number of interdependencies between activities in the Recommended Programme and the timings of implementation of the activities, as follows:

Queenstown Town Centre

- Parking -pricing, supply and controls
- Queenstown town centre arterial – Stages 1 and 2
- SH6A corridor improvements including the provision for bus priority
- Town Centre PT Hub
- PT improvements- Stage 2 service and fleet improvements
- Pedestrianisation of town centre

The current limited capacity of the Camp Street bus hub in the Queenstown town centre means that it will be unable to cope with the increased provision for public transport demand proposed within the Recommended Programme. The most likely location for a new bus hub which is being explored through the Queenstown Town Centre Masterplan Business Case work (being developed at the time of writing) is on Stanley Street between Camp Street and Shotover Street. There is an interdependency between developing the Stanley Street bus hub and several town centre activities within the Recommended Programme including new town centre arterials, the development and implementation of a parking strategy, and the pedestrianisation of the town centre. These four activities will require careful consideration and coordination between stakeholders.

There are further interdependencies between the development of the Wakatipu active travel network and the Frankton Track improvements to provide for a fully connected and integrated cycle network. The active transport network will also require coordination with the town centre transport hub and additional cycling infrastructure programme activities

Frankton

- Grant Road to Kawarau Bridge Stage 2
- Frankton PT hub
- Frankton park and ride
- Ladies Mile corridor improvements
- Rental car park and ride

Careful planning, management and alignment of the above activities in the Frankton area will be required by stakeholders to manage the interdependencies of each of these projects.

4.4 ITS and the role of technology

The Ministry of Transport's Statement of intent envisages that Intelligent Transport Systems (ITS) are revolutionising transport globally, and these technologies offer some of the best prospects for improvements in safety, efficiency and environmental outcomes. By advising the government on the ITS Technology Action Plan, the Ministry of Transport expects that decisions can be made on how

new technology can be applied in the New Zealand context.

The NZ Transport Agency's statutory objective under the Land Transport Management Act 2003 is to 'undertake its functions in a way that contributes to an effective, efficient and safe land transport system in the public interest'. To achieve this, the Transport Agency aims to 'shape smart, efficient, safe and responsible transport choices' and to 'deliver efficient safe, responsible, and resilient highway solutions for customers'.

The Transport Agency Position Statement on Intelligent Transport Systems identifies specific investment areas for ITS. High priority ITS investment areas include:

- mechanisms for collecting quality data about the use of the network
- better-quality data to drive better operations, planning and investment
- more active network management
- mechanisms that enable the delivery of accurate information to travellers to promote smarter transport choices.

The Transport Agency has embarked on a 'Connected Journeys' initiative whereby they are creating an environment that embraces the transport revolution through its digitalisation. The 'Connected Journeys' team are responsible for transport related technology and systems including Intelligent Transport Systems (ITS), Mobility as a Service, and Innovation.

Future potential ITS applications in Queenstown are likely to include the continued roll out of Mobility as a Service (MaaS), the emergence of Autonomous Vehicles (AVs), real-time variable messaging signs (VMS) to provide traveller information, and parking management technologies and applications. The first two of these technologies are discussed further below.

4.4.1 Mobility as a Service (MaaS)

Mobility as a Service (MaaS) is the integration of different forms of transport services from public and private providers into a single mobility service application that creates and manages the trip. It provides a platform to shift away from personally owned modes of transportation towards mobility solutions based on travellers needs and are consumed as a service.

In 2017/2018 a proof of concept for a Mobility Marketplace will be tested in Queenstown. This will provide a platform for customers, service providers and operators to converge to offer, use and manage transport options.

The Transport Agency is currently reviewing tender submissions for the building of the customer facing app. This app will be a generic app with the following functionalities:

- Ability to view and book journey options
- Multi-lingual
- Customized pro-active notifications set up with customer preferences
- able to be quickly adapted and scaled to suit any regional council.

~~Stakeholder engagement will involve meeting with private transport operators (car hire, ride share,~~

shuttle services, e-bikes), as well as ski fields, airport, and local businesses. Discussions are underway with Saltalabs, who have offered to put 50 e-bikes in Queenstown to be part of the MaaS ecosystem.³²

Customer insights, additional data feeds and payment portals will be integrated in Stage 2 development.

4.4.2 Autonomous vehicles (AVs)

NZ Transport Agency's Technology Action Plan states that "it is the use of fully autonomous or driverless vehicles that may have the greatest potential, in the long term, to revolutionise the concept of transport. Such vehicles could have profound implications for road safety and provide new opportunities for people to travel who currently are not able to (for example because of age or disability). Demographic changes in the future, with an increasing number of elderly people, will make this particularly important. They could also further increase the efficiency of the road network and reduce emissions by being programmed to drive in a highly efficient way."

In the context of the Queenstown study area AVs are likely to have a role in first mile/last mile public transport trips especially for parts of the network which may be difficult to service such as the hill suburbs. The integration of AV and public transport is already emerging through trials elsewhere in New Zealand and internationally.

Potential applications for AV trials with relation to the activities in the Recommended Programme include servicing hotels or other key destinations from the:

- Mass Rapid Transit hub
- Frankton ferry terminal
- Airport (including connection to park and ride)

³² Queenstown Governance Group (April 17)

5. RECOMMENDED PROGRAMME – ASSESSMENT

The assessment of the recommended programme identifies all the significant impacts of the programme, and the ability for it to demonstrate value for investment and wider transport benefits.

This section assesses the performance of the recommended programme against three key criteria:

- Programme outcomes;
- Programme risks; and
- Value for money.

5.1 Programme outcomes

The desired outcomes of the programme are to improve network performance and travel experience and attractiveness for all modes, and improve liveability and visitor experience in Queenstown.

The recommended programme is expected to achieve this through the addition of network capacity and improved transport choice. The following initiatives facilitate additional network capacity and improved transport choice:

- Completion of existing planned infrastructure upgrades such as the SH6 Kawarau Falls Bridge and SH6/6A interim upgrade to address current network constraints.
- New roading links between Quail Rise and Hansen Road
- A new town centre arterial will improve connectivity and/or remove severance enabling PC50, town centre growth, public transport improvements on Stanley Street and the pedestrianisation of parts of the town centre.
- Addition of bus priority on SH6A corridor, a Mass Rapid Transit (gondola) and an extensive water taxi network.
- Extension of the active travel network including an additional crossing of Shotover River
- Significantly improved public transport services including routes, frequency and fares that make public transport attractive and a step change in service experience, supported by integrated ticketing options, improved luggage facilities, park and ride and cycle hubs.

These measures are likely to improve travel time reliability for general traffic by reducing the variability of trips. By 2045 morning peak travel along SH6A between Queenstown and Frankton is likely to have a variation of three minutes and five minutes in evening peak. This in turn will improve the reliability of public transport services. The increased provision of public transport offerings, and investments in extensive active transport infrastructure delivers a genuine mode choice. This is estimated to result in an alternative mode share of 30% by 2045 for vehicles entering the town centre between 7am and 11am on a typical weekday.

The functionality of the Queenstown town centre is reliant on the management of parking and access to the town centre by locals and visitors. The recommended programme aims to improve visitor experience, and enable economic growth and expansion of the town through the:

- Development of a comprehensive parking management strategy. This will control the number and location of spaces within the urban area, set and enforce maximum parking durations, consolidate parking to improve ease of access, mitigate traffic circulation and address resident parking issues.

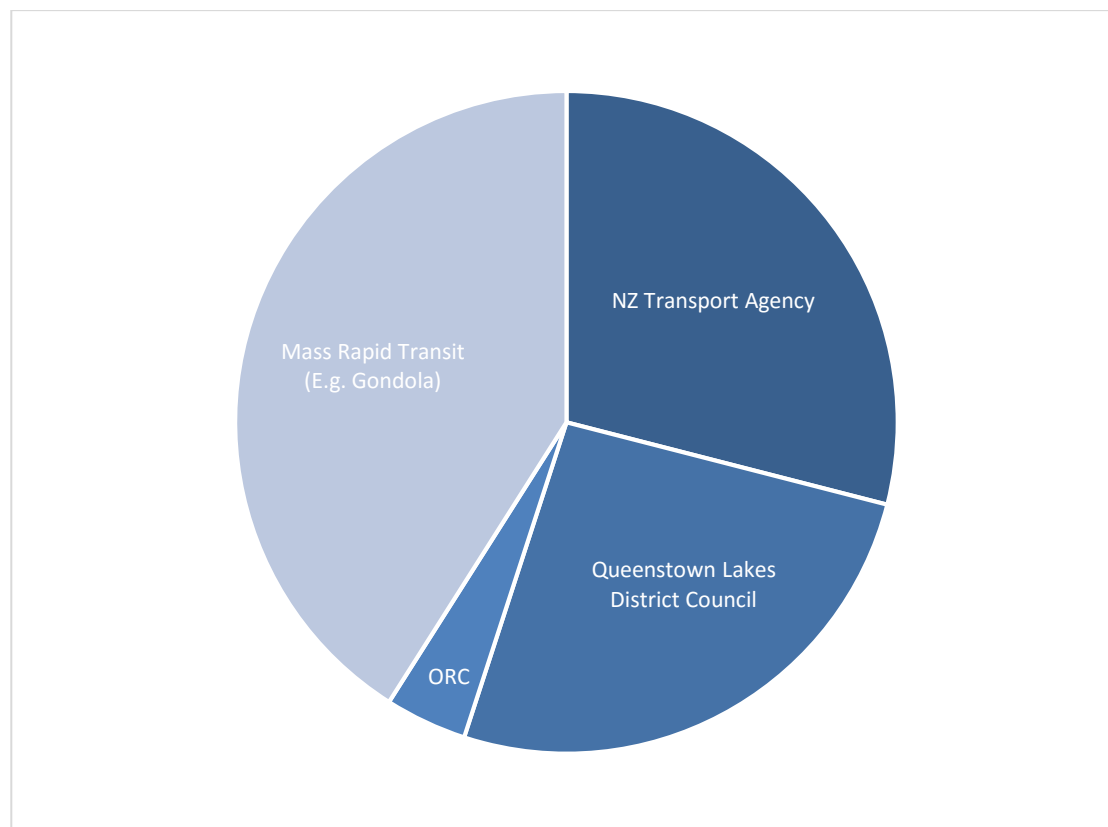
- Pedestrianisation of the town centre, including the relocation of parking to increase the attractiveness and amenity of the area, discourage private vehicle usage and support efficient modal choice.

Improving the functionality of the road network and resolving existing parking issues will improve liveability currently being experienced by locals. Improving public transport options and costs for low income workers in the District will impact on the cost of living and decision of whether to continue to live and work in Queenstown.

Stakeholders accountable for the delivery of programme outputs include, the NZ Transport Agency, Queenstown Lakes District Council, and Otago Regional Council. The largest responsibility to deliver the Recommended Programme outcomes lies with the NZ Transport Agency as the key funding partner fundamentally concerned with the form and future operation of SH6, SH6A and the integral part these highways have on the function of Queenstown and the wider transport network. NZ Transport Agency also provides substantial investment in Public Transport services and infrastructure, and cycling. There may also be opportunities for other Crown funding for cycling initiatives.

In order to see the Programme outcomes achieved, a collaborative approach must be taken. Queenstown-Lakes District will be co-investors and lead the management of parking and public transport infrastructure in the town centre, and Otago Regional Council will be the primary investor and implementation driver of public transport improvements. All partners will be critical to the successful planning and delivery of the programme. Stakeholders conveyed a strong message that funding should not constrain tackling transport issues in Queenstown. Alternative funding mechanisms are also likely to be available, for example Private Public Partnerships, developer and third party financial contributions and crown funding. The Mass Rapid Transit corridor and water taxis/ferries provide good opportunities for private investment and represents 41% of the total programme cost as shown in Figure 35.

Figure 35 Implementation partners funding share



5.2 Programme risk

This section considers the risks associated with the programme.

5.2.1 Technical

A major risk to the technical delivery of the Recommended Programme is the constraints imposed by the challenging Queenstown topography and available land for key and supporting infrastructure projects. Specific requirements are not yet known, however Queenstown's proximity to Lake Wakatipu and surrounding mountainous terrain may limit project feasibility, scale and scope. The traffic management during implementation must be carefully considered on an already confined and congested network.

5.2.2 Operational

Whilst not just being an operational risk, as there are financial and broader economic implications, the risk of not achieving a significant reduction in vehicle use can undermine the delivery of the programme and continue to place pressure on the network capacity and performance.

Queenstown's rapidly growing tourist industry and the increase in the number of free independent travellers visiting Queenstown could place pressure on the mode shift goals of the PBC. There are potential conflicting outcomes between developing infrastructure and encouraging the use of alternative modes. There is a fine balance between managing these two aspects of the programme.

5.2.3 Financial

A key financial risk is the affordability of the required land for infrastructure projects. Specific requirements are not yet known, however escalating property prices in the District may place significant pressure on the affordability of programme delivery. This may be mitigated to some extent by exploring alternative funding (that is alternate to the NLTF and rate payers) means from the private sector and the Crown.

Increasing public transport uptake is a fundamental aspect of delivering the desired programme outcomes. There is a risk that behaviour change to shift motorists onto public transport is lower than expected. This will result in a lower than expected fare box recovery and return on investment. Not all factors that drive the use of public transport are able to be controlled by investors, however the provision of timely, reliable and affordable public transport options offered in the programme, is more likely to achieve mode shift targets.

5.2.4 Stakeholders/Public

Stakeholders have shown a strong willingness to tackle the transport issues challenging Queenstown, however there is a risk that private entities or the public will not support some of the programme projects. The perceived risks are:

- Land acquisition (public and private land) relating to the location and form of major infrastructure projects
- Negativity towards the removal of parking, restricted vehicle access to the town centre and increased charges for parking
- The increase in public transport coverage and service provision does not meet the accessibility needs of some areas of the community

5.2.5 Environmental and social responsibility;

Queenstown is a location which is well known for its aesthetic appeal. There is a risk that any infrastructure projects that threaten the aesthetics of Queenstown will not be supported by the community or meet the principles of the Resource Management Act (RMA). Transport infrastructure projects need to consider the experience of visitors and locals and showcase what makes Queenstown unique.

5.2.6 Economy

The rate of growth and economic development in the District is an economic risk. The exponential growth and development of the area and surrounding districts may cause displacement of residential growth outside of Queenstown due to high land prices and housing costs. This growth in activity both inside and outside of the District will increase both the peak and off-peak movements on the transport network.

There is a risk that changes to the quantum and timing of future land use development differ from those considered in the Recommended Programme development. This could change the anticipated travel demands on the network. There are also some unknown land use developments, most notably the soon-to-be-vacated Wakatipu High school site in Gorge Road.

International visitor numbers and demands are linked to economic factors both internationally and domestically. A high level of uncertainty over the future of visitor numbers and travel patterns will impact on the future network requirements and economic drivers in the region.

5.3 Value for money

An economic analysis of the recommended programme has been undertaken and an indicative benefit cost analysis is summarised in Table 17. The analysis applies the NZ Transport Agency Economic Evaluation Manual procedures, with a 40-year benefit stream and 6% discount factor.

Table 17 Recommended Programme Indicative BCR assessment

Cost/Benefit	Value
Total NPV Lower costs	\$303,000,000
Benefit Cost Ratio	1.0
Total NPV Upper costs	\$436,000,000
Benefit Cost Ratio	0.7

5.4 Sensitivity analysis

The forecasting of future costs and benefits at the programme level involves a degree of uncertainty and the economic analysis presented in this PBC will be sensitive to the assumptions or predictions inherent in the analysis.

There is uncertainty relating to the size or extent of costs or benefits, including variations in construction, maintenance or operating costs. This level of uncertainty has been reflected by presenting a BCR range for each programme which at the lower end is the expected cost and at the upper end is the 95%ile cost.

There is also a level of uncertainty regarding whether the predicted traffic flows eventuate as this will be sensitive to a number of assumptions and external influences including (but not necessarily limited to):

- The underlying residential, commercial and visitor growth rates, which in turn are influenced by economic aspects such as the supply and demand of the housing market and the state of the local, national and global economy,
- The mode shift achieved within the recommended programme,
- Any funding constraints and / or changes in investment strategies, and
- Uptake of new technologies which may influence travel demand.

Whilst it is difficult to enumerate these levels of uncertainties, a sensitivity test has been undertaken whereby the range of benefits delivered by the recommended programme may vary by as much as + / - 30%. Based on the low cost the resultant BCR range is 0.8 – 1.3, and based on the upper cost the resultant BCR range is 0.5 – 0.9.

6. INVESTMENT PROFILE

An assessment profile of **HML** has been determined using the Transport Agency's Investment Assessment Framework as detailed below:

Strategic fit

Under the assessment criteria for public transport improvement activities, a medium strategic fit rating may be given if, in the short to medium term, the problem, issue or opportunity is:

- a service provision that does not meet forecast demand, including in and to main urban areas, within a region; OR
- access to social and economic opportunities, particularly for those with limited access to a private vehicle; OR
- a deficiency in reliability, or resilience in the transport system

The current network in Queenstown is not able to meet the forecast demand in the short or medium terms on SH6A and public transport will not be able to meet this demand.

For a high strategic fit rating may be given if, in addition to meeting the criteria for a medium rating, in the short to medium term, the problem, issue or opportunity is:

- a service provision does not meet forecast demand on networks or corridors in a major urban area;
- a deficiency in journey time reliability in major urban areas; OR
- provides access to housing development in high growth urban areas

The Queenstown Lakes area is a high growth urban area with its combined resident and visitor population exceeding 30,000. The assessment profile meets both the medium and high investment criteria resulting in a **HIGH** strategic fit rating.

6.1 Effectiveness

The effectiveness of the recommended programmes has been assessed against the NZ Transport Agency's six criteria for effectiveness as specified in the Investment Assessment Framework. For the Programme Business Case stage, this assessment is indicative and will be confirmed in the next stages of the Business Case process.

Component	Explanation	Rating and Assessment
Outcomes Focused	Will it provide a tangible change in performance to results/outcomes identified in the strategic fit assessment? Is it consistency with levels of service in a classification system?	High The recommended programme will reduce congestion, improving trip reliability and customer experience. The level of service for all modes will improve.

Component	Explanation	Rating and Assessment
Integrated	Is it consistent with the current and future network transport plans, activities and land use developments? Does it accommodate different needs across modes? Is there agreement across partners?	High The programme and its activities are aligned and consistent with all current strategies while also being responsive to further developments in the Wakatipu basin. It supports all modes, while recognising that public transport, walking and cycling provide the greatest opportunity for improvement. The recommended programme has been developed by, and agreed with, the investment partners.
Correctly scoped	The degree of fit as part of a justified strategy or business case? Has it followed the intervention hierarchy to consider alternatives and options including low cost alternatives and options? Is it of an appropriate scale in relation to the issue/ opportunity? Whether it covers and/or manages the spatial impact (with the wider environment)? Does it mitigate any adverse impacts on the results?	High The programme was developed with extensive stakeholder engagement and has ensured that it addresses the problems being experienced in the area. All options were considered as part of the programme development, including any dependencies and synergies, to ensure alignment and appropriateness of the response.
Affordable	Is it affordable through the lifecycle for all parties? Does it represent the best whole-of-life cost approach? Are the benefits and costs between transport users and other parties properly apportioned?	Medium The problems facing Queenstown are severe and exacerbated by a small resident population that is dealing with a significant number of visitors. All investment stakeholders are committed to ensuring funding does not limit the implementation of the programme.
Timely	Does it deliver enduring benefits over the timeframe identified in the business case? Does it provide the benefits in a timely manner?	High The phasing of investments, particularly with regard to public transport, will see the benefits continue to grow as new activities are implemented over the programme timeframe.
Provides confidence	Does it manage current and future risk for results/outcomes? Does it manage current and future risk for costs?	Medium The success of the programme will depend upon the uptake of alternative modes and the implementation of the associated improvements.

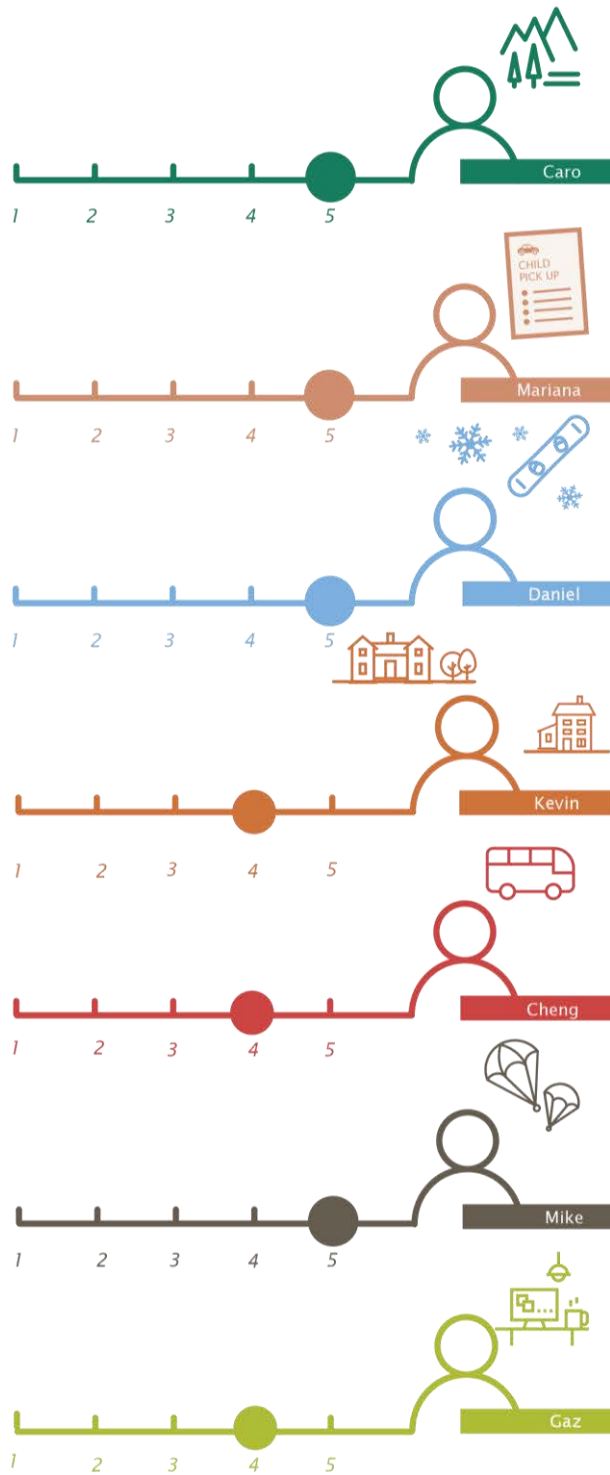
The overall effectiveness assessment is reported as the lowest rating for any criterion, i.e an overall Medium rating will be given when all criteria and parts have either a Medium or High rating. The effectiveness of the recommended programme is **Medium**.

6.2 Customer profile benefit assessment

Using the Thinkplace developed customer profiles a qualitative assessment of the level of benefit the fully implemented programme will deliver for each customer has been completed. The perceived

level of benefit for each customer are shown in Figure 36. Details of each customer type can be found in Appendix D.

Figure 36 Customer levels of benefit



6.3 Benefit cost assessment

The benefit cost appraisal has found the programme to have a BCR of 0.7 – 1.0, this equates to a **Low** benefit cost rating.

6.4 Summary

The Investment Profile has been assessed as **High/Medium/Low**.

7. PROGRAMME FINANCIAL CASE

This section highlights the affordability of the programme, and what elements are to be funded by the partnering organisations.

7.1 Indicative cost

The cost of the recommended programme is estimated between **\$447million and \$647million**. An allowance of 15% for project development, consenting and land acquisition has been added to each total programme cost.

Some infrastructure projects in the programme may require land acquisition, however particulars are yet unknown. Escalating property prices in the District will place significant pressure on the affordability of the programme.

The costs identified in Figure 37 have been estimated based on the scale and scope of the specified activities. Further refinement will occur in the IBC/DBC stages and as such, these are to be treated as indicative only.

7.2 Affordability

The NZ Transport Agency is a key funding partner for the delivery of this programme, and is fundamentally concerned with the form and future operation of SH6, SH6A and the integral part these highways have on the function of Queenstown and the wider transport network. There may also be other opportunities for Crown funding for cycling initiatives (Urban Cycleway Fund). Queenstown-Lakes District will be co-investors and lead the management of parking and public transport infrastructure, and Otago Regional Council will be an investor and implementation driver of public transport improvements.

All partners will be critical to the successful planning and delivery of the programme. Stakeholders conveyed a strong message that funding should not constrain tackling transport issues in Queenstown, indicating there is a potential role of alternative funding mechanisms to ensuring the timely delivery of effective transport solutions for Queenstown. The Mass Rapid Transit corridor provides a good opportunity for alternative funding mechanisms and represents 41% of the total programme cost.

7.3 Value capture

Internationally, there is a trend towards transport infrastructure being funded by those that directly benefit from the infrastructure³³. Two types of value capture mechanisms include charges on land owners (long-term investors) or developers (shorter-term investors), and direct user charges (eg tolls, fares), and these are alternative funding mechanisms that may have a role in the delivery of the Recommended Programme. Value capture mechanisms aim to 'capture' part of the incremental increase in land value that results from transport investment by aligning the recovery of costs associated with providing infrastructure with the beneficiaries of those costs.

Several mechanisms are available to Queenstown Lakes District Council for charging landowners and/or developers for transport infrastructure costs associated with the recommended programme.

³³ NZ Transport Agency research report 511(2013)

Namely :

- development contributions (under the Local Government Act 2002) - focus on recovering growth-related costs from developers who benefit from infrastructure through higher sale prices
- financial contributions (under the Resource Management Act 1991) - focus on recovering environmental costs (eg those associated with mitigating, avoiding or remedying negative environmental consequences) from developers who benefit from infrastructure through higher sale prices.
- targeted rates (under the Local Government (Rating) Act 2002) – focus on recovering funds from a ‘targeted’ group of individuals that may directly benefit The improved public transport network coverage may provide an opportunity for this type o

Value capture mechanisms should be considered as part of a funding proposal for a given project. This will aid in the identification of beneficiaries and consider the proportion of the costs that should be appropriately recovered from these charges. City-wide benefits that ensue from a proposed transport infrastructure project, including wider benefits through increased developer competition impacting on city-wide house prices and rents should also be considered.

7.4 Funding arrangements

Figure 37 Cost estimates and funding arrangements

	Option	Expected Estimate	95%ile Estimate	Funding Requirements by Investment Partner			Notes regarding funding allocation
				NZTA (HNO)	ORC	QLDC	
Committed	Eastern Access Road (Hawthorne Drive)			Committed			
	SH6 Kawarau Falls Bridge			Committed			
	Grant Rd to Kawarau Falls Bridge Stage One			Committed			
	PT Improvements Stage One			Committed			
	Mobility as a Service - Stage One			Committed			
Public Transport	PT Improvements Stage Two (service/fleet improvements)	\$ 14,000,000	\$ 18,000,000	\$ -	\$ 14,000,000	\$ -	1.4m pa over 10 years
	PT Improvements Stage Two - PT Hubs	\$ 20,000,000	\$ 30,000,000	\$ 15,000,000	\$ 1,000,000	\$ 4,000,000	Assume Frankton hub is on State Highway so 100% HNO and Queenstown hub is on Stanley St which may not be State Highway in future so 50/50 with 5% ORC contribution
	Park and ride public transport services	\$ 13,400,000	\$ 20,100,000	\$ 11,725,000	\$ -	\$ 1,675,000	Assume 3 on State Highway with 700 of 800 parks. Arrowtown not on SH has 100 of 800 parks.
	Water taxi/ferry network (services and supporting infrastructure)	\$ 5,000,000	\$ 7,500,000	\$ -	\$ 1,000,000	\$ 4,000,000	This figure came up at meeting but largely unknown as to how appropriate this is.
	MRT corridor	\$ 160,000,000	\$ 240,000,000	\$ 160,000,000	\$ -	\$ -	
Infrastructure	SH6A Corridor Improvements	\$ 15,000,000	\$ 20,000,000	\$ 15,000,000	\$ -		
	Ladies Mile Corridor Improvements	\$ 1,500,000	\$ 2,250,000	\$ 1,500,000			
	Queenstown town centre arterial	\$ 72,000,000	\$ 90,000,000	\$ 36,000,000	\$ -	\$ 36,000,000	Costs based on 2014 Inner Links Stages 1-3 received from QLDC. Assume costs shared as may be State Highway.
	Quail Rise to Hansen Road link road	\$ 23,000,000	\$ 34,500,000	\$ -	\$ -	\$ 23,000,000	
	Grant Rd to Kawarau Falls Bridge - Stage Two	\$ 20,000,000	\$ 30,000,000	\$ 20,000,000	\$ -	\$ -	
	Shotover River Bridge (Arthurs Point) Duplication	\$ 4,400,000	\$ 6,600,000	\$ -	\$ -	\$ 4,400,000	
Active	Wakatipu active travel network	\$ 26,800,000	\$ 40,200,000	\$ 12,800,000	\$ -	\$ 14,000,000	Bike hub and cycle scheme QLDC, Shotover River bridge and Jacke Point HNO, other infrastructure costs shared.
	Frankton Track improvements	\$ 4,800,000	\$ 7,200,000	\$ 4,800,000	\$ -	\$ -	
	Queenstown town centre pedestrianisation	\$ 17,900,000	\$ 26,850,000	\$ -	\$ -	\$ 17,900,000	
Behaviour	Mobility as a Service - Stage Two	\$ 500,000	\$ 700,000	\$ 150,000	\$ 200,000	\$ 150,000	
	Queenstown parking strategy	\$ 100,000	\$ 200,000	\$ -	\$ -	\$ 100,000	
	Queenstown workplace travel plans	\$ 100,000	\$ 150,000	\$ -	\$ -	\$ 100,000	
	15% cost adjustment for project development, consenting, land acquisition (not * already included)	\$ 48,975,000	\$ 72,637,500	\$ 36,146,250	\$ 2,430,000	\$ 10,398,750	
	Totals	\$ 447,475,000	\$ 646,887,500	\$ 313,121,250	\$ 18,630,000	\$ 115,723,750	
	Percentage share by investment partner			70%	4%	26%	

PART C – DELIVERING AND MONITORING THE PROGRAMME

1. PLANNING AND DELIVERY OVERVIEW

A number of the activities in the Recommended Programme are recommended for early development through the development of Detailed Business Cases (DBC)s and/or progression of pre-implementation and implementation plans. These are included with proposed timing for each activity in the table below.

Table 18 Detailed business cases to be progressed

ACTIVITY	PROPOSED TIMING - DBC	PROPOSED TIMING - IMPLEMENTATION	RESPONSIBLE AGENCY
Grant Road to Kawarau Falls Bridge - Stage Two Includes 4 laning, intersection upgrade and Frankton PT Hub	2017/18	2020/21	NZTA/QLDC
SH6A Corridor Improvements	2017/18	2020/21	NZTA
Water taxi/ferry network	2017/18	Staged commencing 2018	ORC/NZTA
Wakatipu active travel network	2017/18	2020/22	NZTA, QLDC
Queenstown town centre and PT Hub	2017/18	2022/23	NZTA

Some of the DBCs will cover several activities in the recommended programme to recognise the independencies between the various activities. Specifically, the Queenstown Town Centre and PT Hub DBC will include, Queenstown town centre arterial, parking strategy, pedestrianisation, town centre PT hub and PT Improvements Stage Two activities, whose proposed development and timings will need to be considered carefully.

2. MANAGEMENT CASE

2.1 Governance

The three main investment partners are the NZ Transport Agency, Queenstown Lakes District Council and Otago Regional Council. While the NZTA is the project sponsor, the development and delivery of the programme will be overseen by the Wakatipu Transport Governance Group which has representatives from each partner organisation. Ongoing discussions will be held between these

three partner organisations as to the structure for the design and delivery of the activities within the recommended programme in a streamlined way. The details of the design and delivery will be finalised when these ongoing discussions have concluded.

2.2 Decision making process

While decision-making is reserved for the respective responsible agency, the Wakatipu Transport Governance Group has an oversight role to ensure that programme actions are integrated and aligned where appropriate.

2.3 Stakeholder engagement and communication plan

Following approval of the QITPBC, a stakeholder engagement and communication plan will be developed involving all of the investment partners. This will be a critical component towards the identification of the preferred options for implementation.

2.4 Outcome monitoring

The six investment objectives can be measured and monitored as follows:

MEASURE	DESCRIPTION AND DATA SOURCE	MONITORING INTERVAL	RESPONSIBLE AGENCY
Mode share	Percentage of pedestrians, cyclists, and vehicles by vehicle class for corridors into Queenstown town centre.	Annually	QLDC, NZTA
People throughput	Number of pedestrians, cyclists, public transport boardings and vehicle occupants for the corridors into Queenstown town centre.	Annually	QLDC, NZTA
Travel time reliability – motor vehicles	Variation of travel time for the State Highway 6 and 6A corridors, sourced from TomTom historical data portal licensed to NZ Transport Agency.	Annually	NZTA
Punctuality – Public Transport	% of scheduled trips between 1 minute before and 5 minutes after scheduled departure time at selected points	Annually	ORC
Residents Satisfaction	% of residents reporting they are satisfied (or better) with their transport experience in Queenstown.	Annually	QLDC
Visitor Satisfaction	% of visitors reporting they are satisfied (or better) with their transport experience in Queenstown.	Annually	QLDC

APPENDIX A – INVESTMENT LOGIC MAP

Figure 38 ILM from Queenstown Town Centre PBC

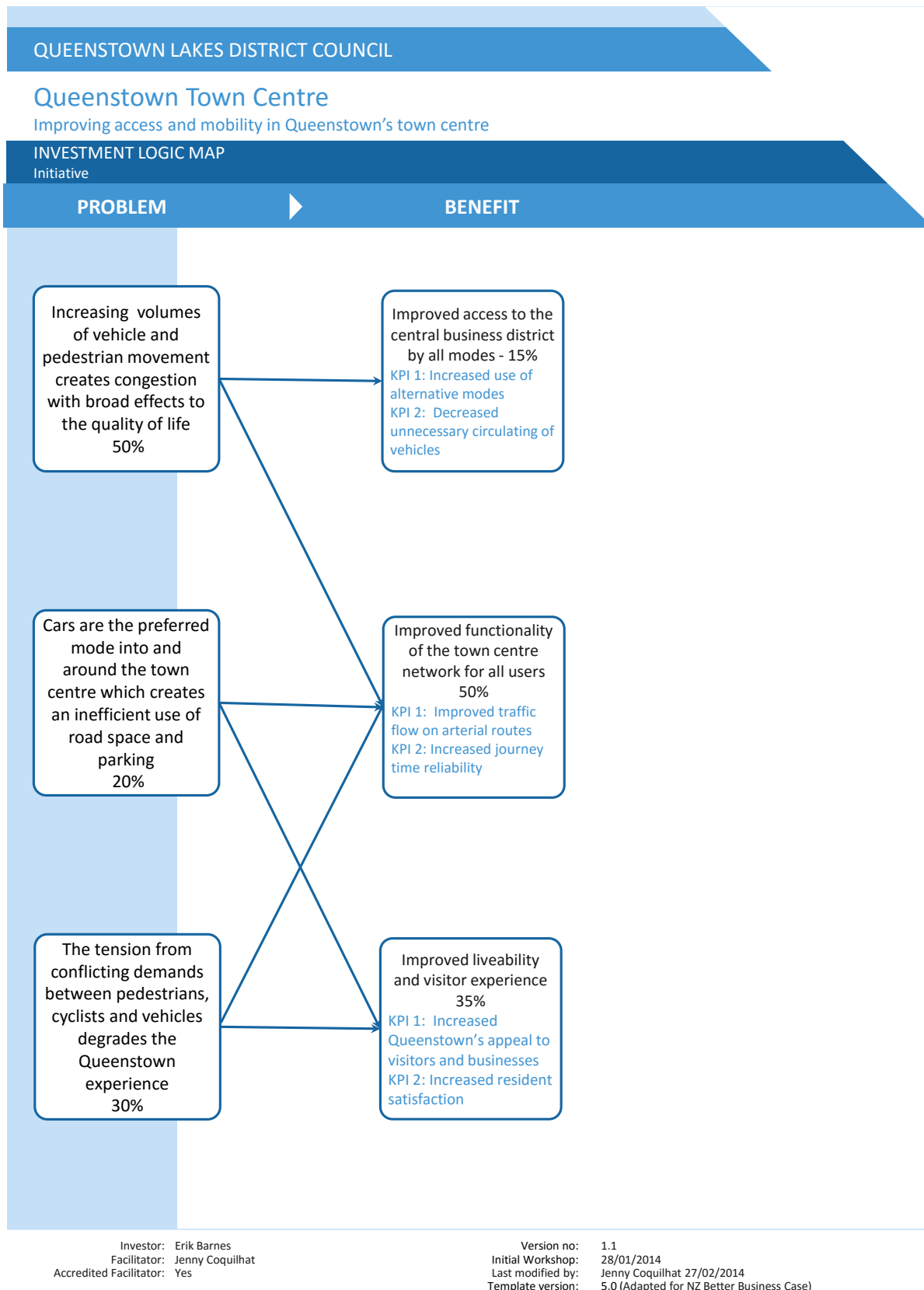


Figure 39 ILM from Frankton Flats Strategic BC

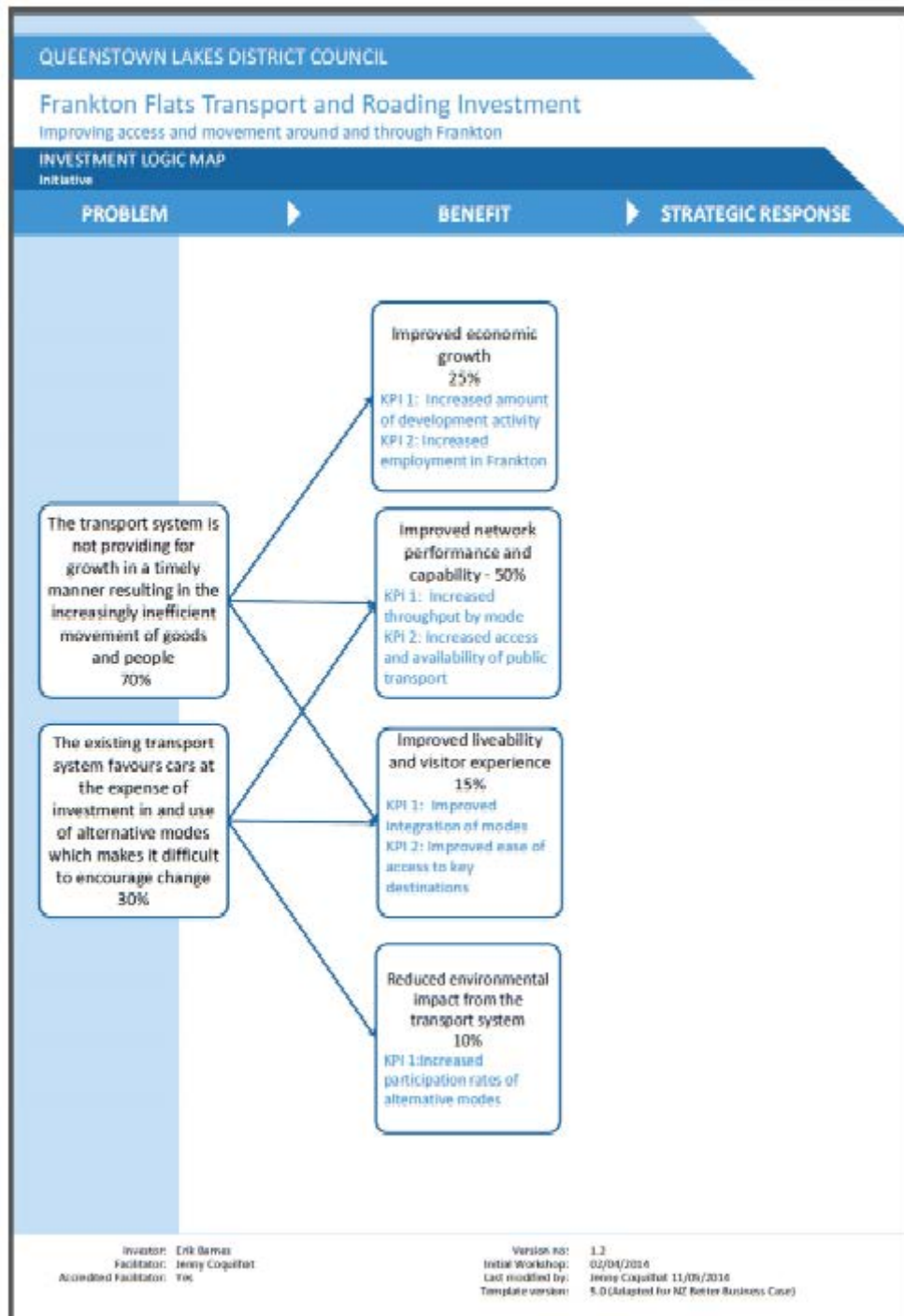
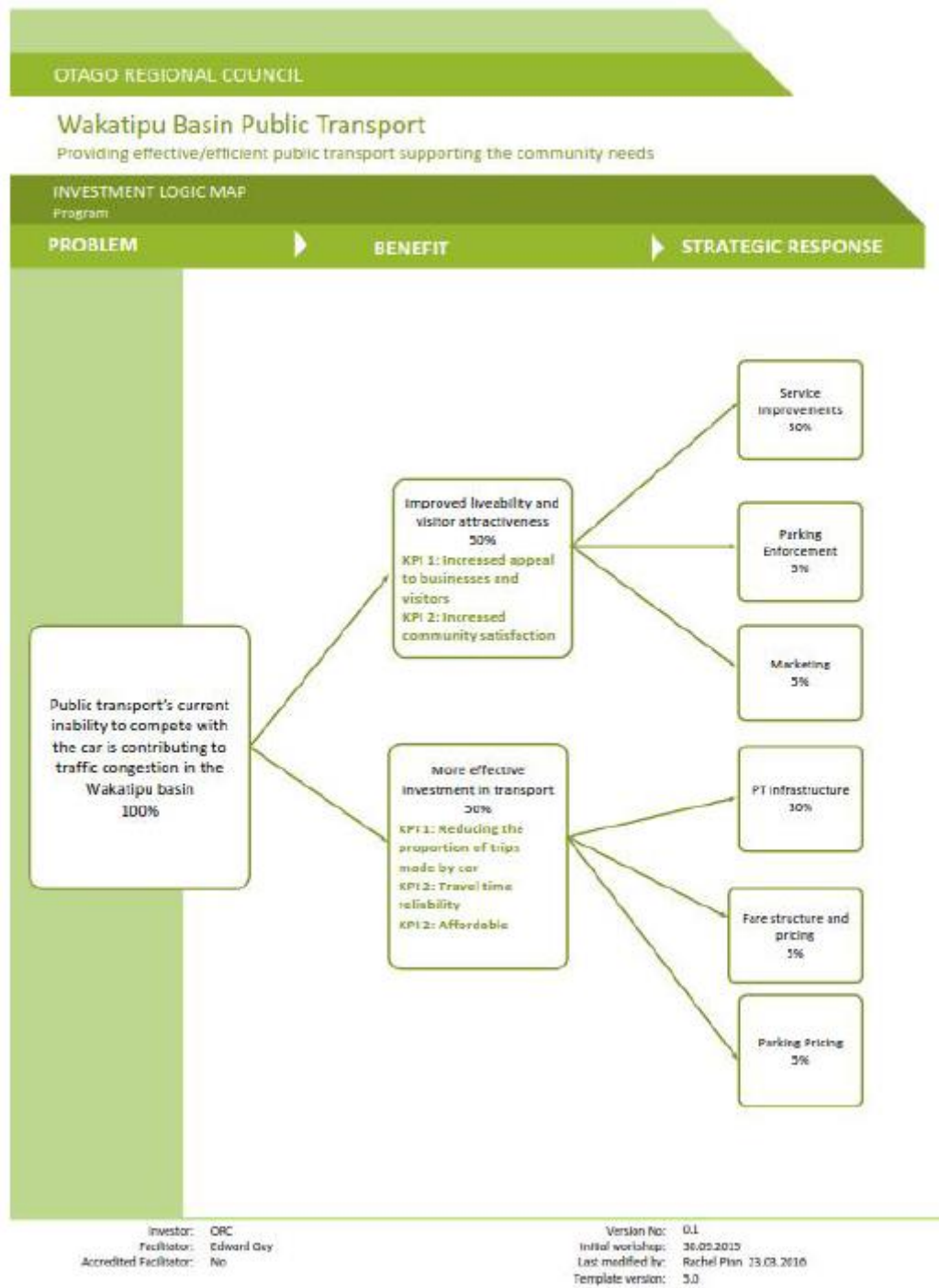


Figure 40 ILM from Wakatipu Basin Public Transport PBC



APPENDIX B – BENEFIT MAP

Figure 41 Benefit map from Queenstown Centre PBC

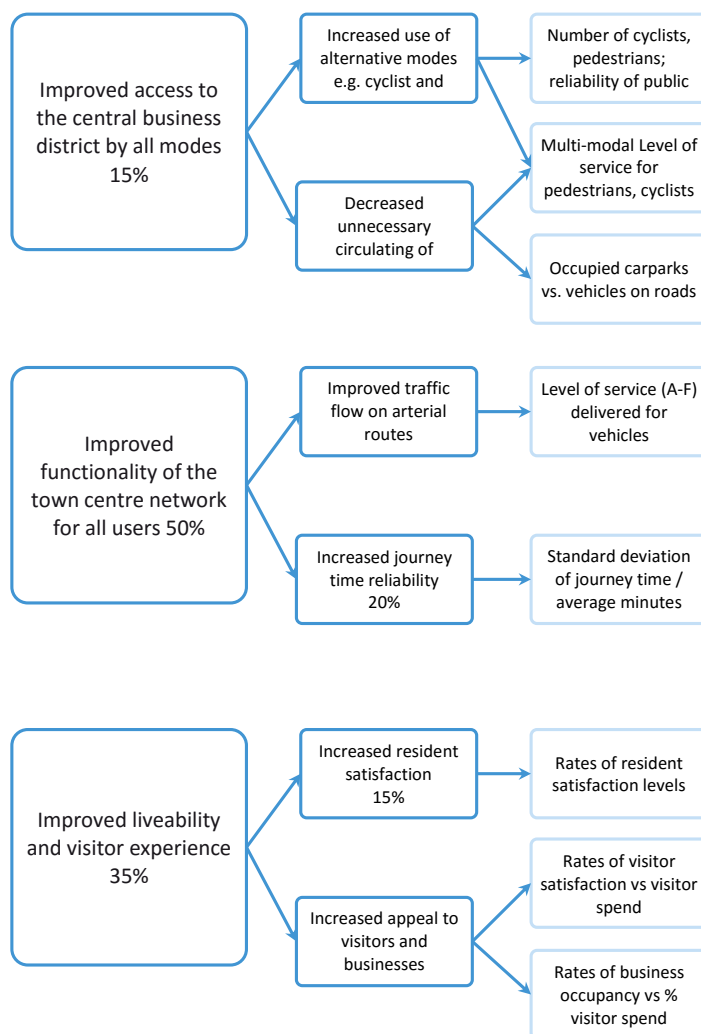
QUEENSTOWN LAKES DISTRICT COUNCIL

Queenstown Central Transport

Improving access and mobility in Queenstown's town centre

BENEFIT MANAGEMENT PLAN

Part 1: Benefit Map



RESPONSIBILITY FOR DELIVERING THE BENEFITS		
Name	Position	dd/mm/yyyy

Erik Barnes
Jenny Coquilhat
Yes

1.0
05/02/2014
Jenny Coquilhat 27/02/2014
5.0

Figure 42 Benefit map from Frankton Flats Strategic Business Case

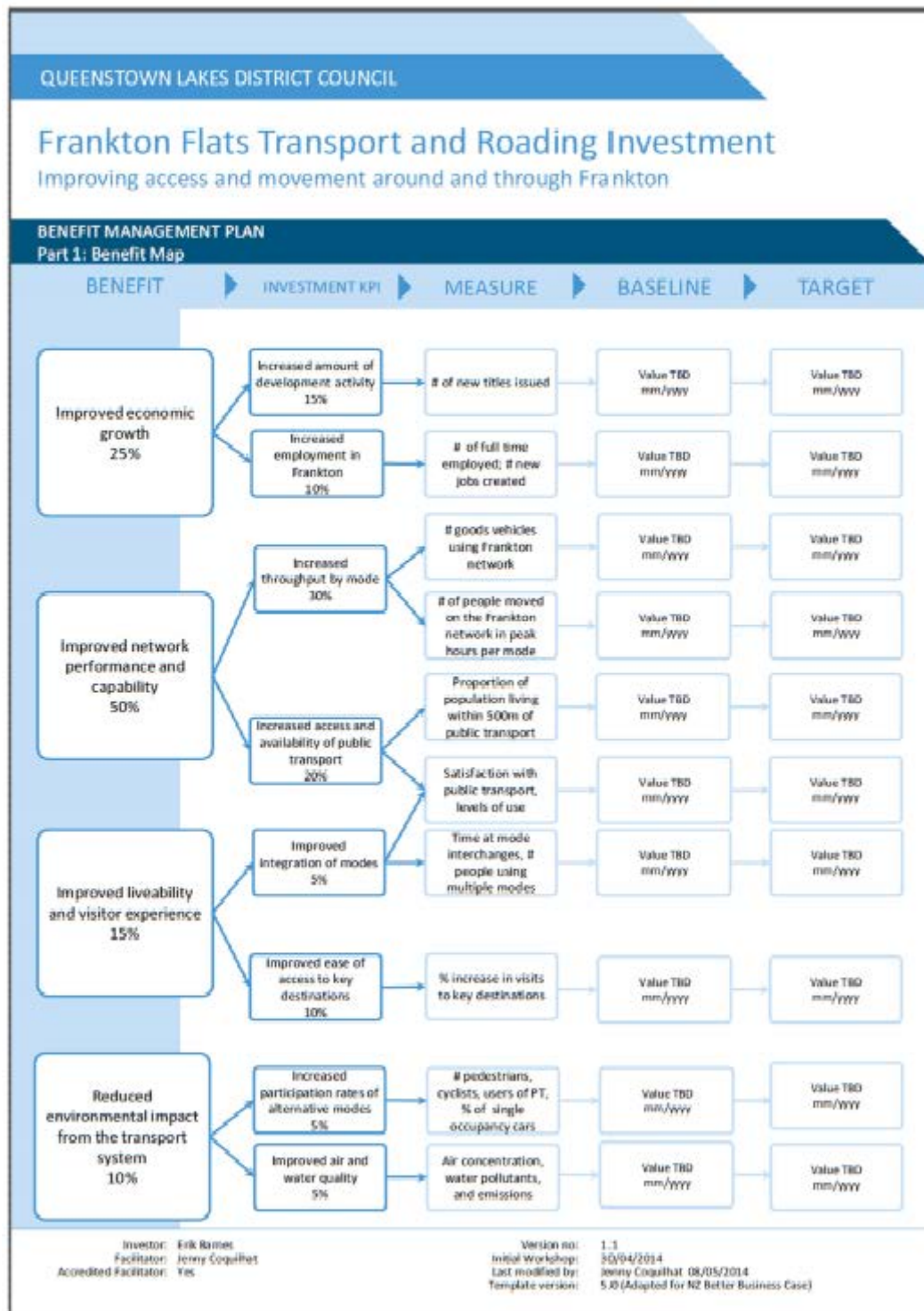
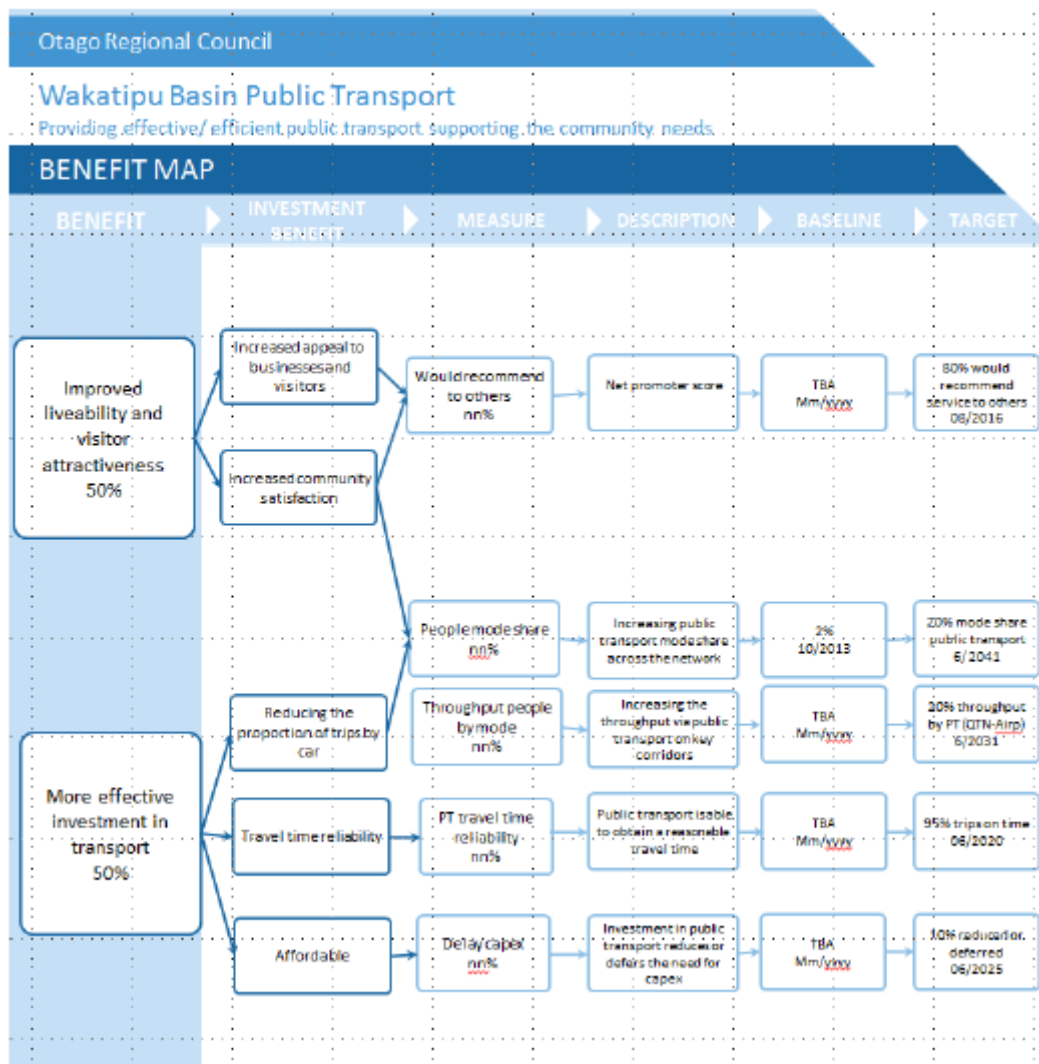


Figure 43 Benefit map from Wakatipu Basin Public Transport PBC



APPENDIX C – ALIGNMENT WITH PRECEDING BUSINESS CASES AND DISCOUNTED OPTIONS

QITPBC Recommended Programme Activity	Options identified/supported in Queenstown Town Centre PBC	Options identified/supported Wakatipu Basin Network Review Options
Eastern Access Road		
SH6 Kawarau Falls Bridge		
SH6/6A Interim Upgrade		
Significant operational improvements to PT services	Bus stop information panels and service signage consisting of timetables, routes, fares etc. Wayfinding systems particularly for pedestrians. Establish consistency across all the transport information provided by different agencies. Airport to town centre journey (4.3) Skifields to town centre journey (4.4)	Public Transport Service Improvements – Enhanced transfers, increased frequency, different/ more routes, improved service quality
Integrate transport ticketing options	Skifields to town centre journey (4.4)	Marketing of multi-modal options to access Queenstown (QT) and its services Establish an integrated and flexible payment system across operators.
Improve luggage carriage on buses	Install bike racks on buses (4.1)	Services designed to meet the needs of tourists including skiers
Reduce public transport fares		Integrated and flexible payment system across operators
Upgrade existing cycle paths	Arterial route study: Bus / cycle / pedestrian facilities on major arterials. (2.1) Walking & cycling audit of roads & pathways (2.2)	Improve cycling facilities and links with transport hubs
Bus priority on SH6A corridor		
Provide cycle hire scheme		Marketing of multi-modal options to access Queenstown (QT) and its services
Active travel network	Park St / Thompson Street to town centre cycling connections (2.8)	Improve cycling facilities and links with transport hubs
Provide park and ride public transport services		Park and ride
Mobility as a Service		Improving accessibility of public transport (PT)
Implement a parking strategy	On and Off-street parking - Operational review of charges and time restrictions (1.1) Ballarat St off-street carparks	Parking enforcement Parking time limits and zones
Increase parking charges	Transport Improvements Fund (1.10)	Parking Pricing
Bike hubs and cycle priority		Improve cycling facilities and links with transport hubs
Workplace travel plans		
Pedestrianise town centre	Shared space improvements (2.10)	Controlling rental vehicles in Queenstown's CBD
New town centre arterial	Inner Links (2.9)	
Major public transport hub(s)	Camp St bus stops facility/ amenity improvements (1.7) Tourist Services Stops (1.8)	
Provide a water taxi/ferry network	Airport to town centre journey (4.3) Arterial route study: Bus / cycle / pedestrian facilities on major arterials. (2.1)	Marketing of multi-modal options to access Queenstown (QT) and its services Improving accessibility of public transport (PT)
Increase capacity on SH6 from Grant Rd to Kawarau Bridge	Airport to town centre journey (4.3)	
Additional crossing of Shotover River at Arthurs Point		
Provide additional capacity to cross Kawarau River		
Fully separated and dedicated PT corridor	Airport to town centre journey (4.3) Arterial route study: Bus / cycle / pedestrian facilities on major arterials. (2.1)	Infrastructure – Bus Priority (Travel Time Reliability (Bus), Timetable)
Provide tidal flow lanes along SH6A (Frankton Road)	Airport to town centre journey (4.3)	Infrastructure – Bus Priority (Travel Time Reliability (Bus), Timetable)
Active transport link from Jack's Point to CBD		Marketing of multi-modal options to access Queenstown (QT) and its services
Establish transport hub for rental cars	Airport to town centre journey (4.3)	

DISCOUNTED OPTIONS

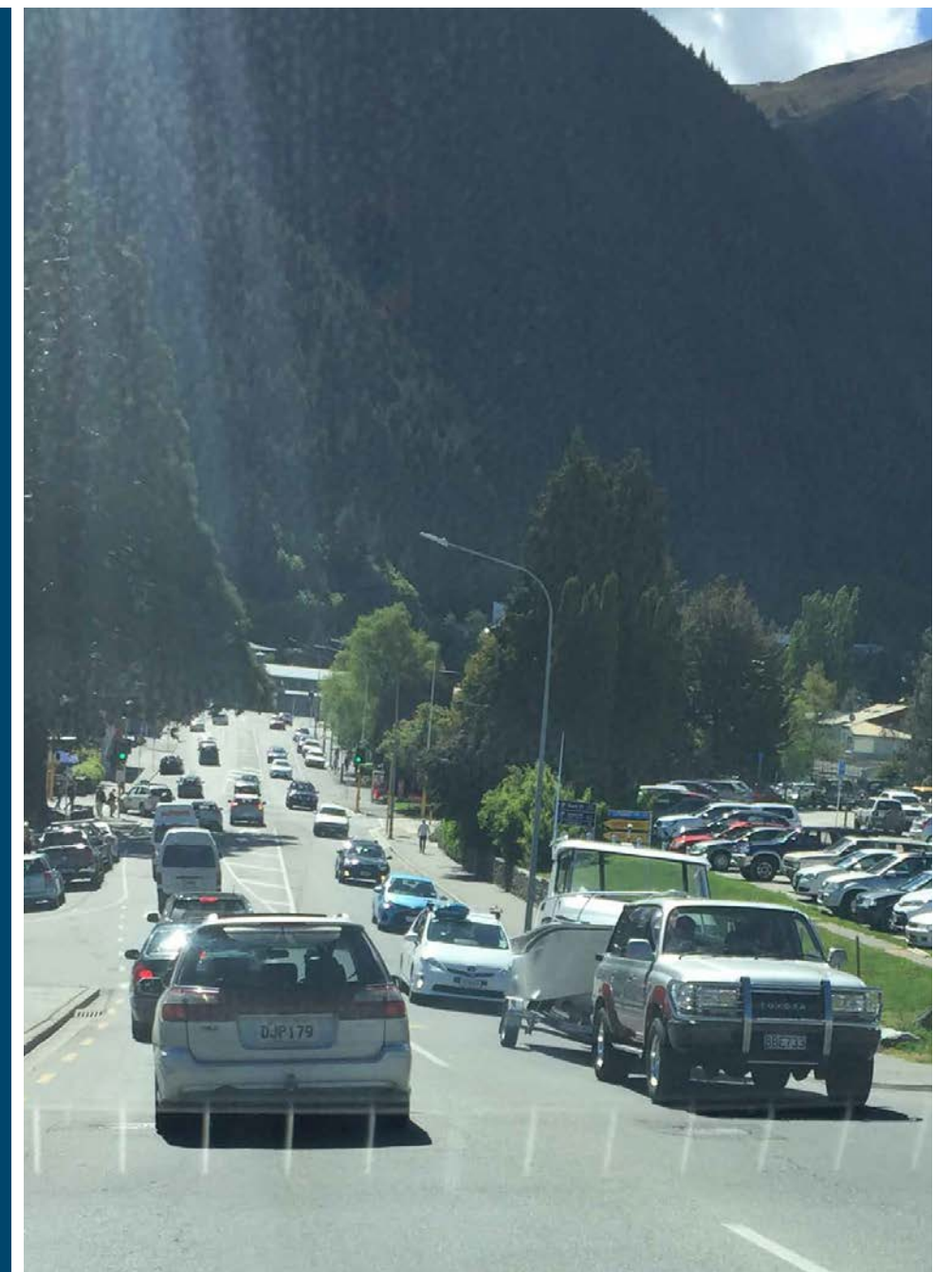
Option Description	Notes	Reason for Discounting option
Build carparks at base of skifields		Does not contribute to outcomes sought as would encourage private travel rather than encourage alternative modes.
Introduce one way ring route	For example One way system Ladies Mile-Frankton Flats-CBD-Arthurs Point-Frankton Flats	Topography constraints limit engineering options that would be required to cater for traffic volumes. Not feasible to implement.
Introduce one way link on Domain/Littles/Shotover Road corridor		Topography constraints limit engineering options that would be required to cater for all traffic volumes. Not feasible to implement.
Restricting right turn movements on SH6A where feasible		Not feasible due to lack of other turning options. Does not contribute to transport outcomes.
Upgrade Queenstown Hill roads to reduce gradient for buses		Not feasible due to land take requirements.
New road from Oregon Drive (Kelvin Heights) to Peninsula Rd near Willow Pl intersection		Does not contribute to outcomes sought.
New road from Preserve Dr (Jacks Point) to Peninsula Rd (Kelvin Heights golf course)		Useful for active modes only but not for general traffic.
Introduce more direct routes		Addressed under existing Network Review.
Allow Milford Tunnel buses to condense passengers to avoid congested return trips		Does not contribute to traffic problems in study area and Milford coach movements are before and after peak.
Ensure bus schedules for day trips to Milford are mindful of driver time limits		Operational matter for companies, outside of scope.
Heliport between Kelvin Heights and Queenstown Gardens		Safety of landing options and noise impacts makes option unfeasible. No transport outcomes
Breakwater at entrance to Frankton Arm		Scale of intervention and costs would outweigh level of benefits. No transport outcomes
Allow housing development on waterfront between Sunshine Bay and Town Centre and north side of Frankton Arm		Consentability and implementability issues (RMA)
Incentives to develop vacant and consented lots (17000 held by 5 land owners)		Address housing provision and affordability not necessarily transport issues. Outside of scope.
Developer charges		Development contributions already exist
Bed tax/ visitor levy - reduce visitors		Not a demand restraint but a funding revenue option
Restrict residential and commercial growth		Not feasible nor related to transport outcomes.
Restrict visitor growth	For example through pricing, limiting offshore travel packages and/or limiting air traffic	Not feasible nor related to transport outcomes. Approach to be passed onto QLDC/ORC for further consideration within wider planning framework.
Introduce carless days		Impractical to achieve goal without functional alternatives
Change main delivery routes	For example Kingston to CBD	6A only viable route and trans-shipping uneconomic for volume processed.

APPENDIX D – THINKPLACE – LIVEABILITY AND VISITOR EXPERIENCE INSIGHTS

QUEENSTOWN INTEGRATED TRANSPORT PRELIMINARY BUSINESS CASE

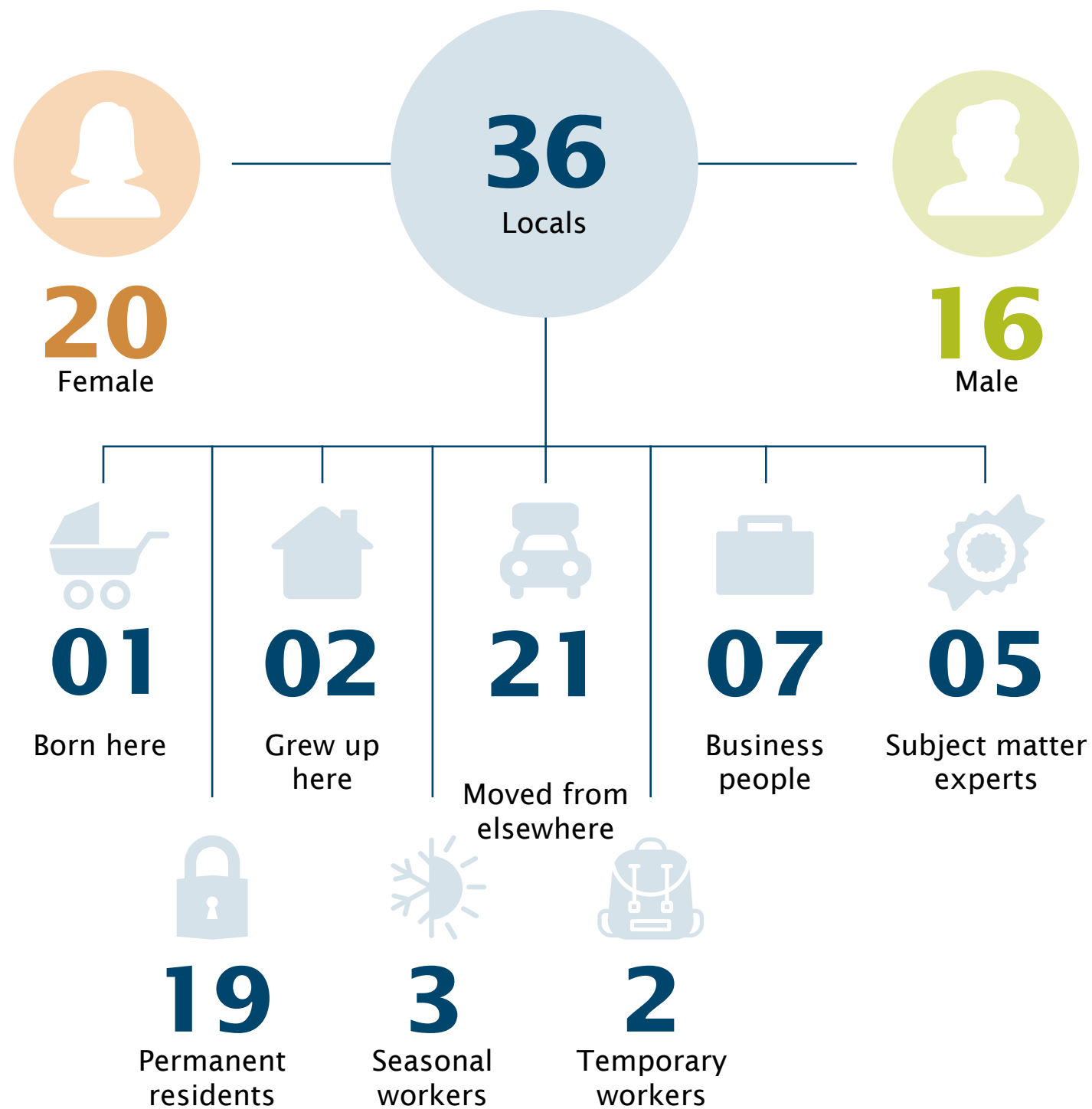
LIVEABILITY & VISITOR EXPERIENCE INSIGHTS

November 2016 – January 2017



WHO WE MET

WE SPOKE WITH 24 RESIDENTS, 7 BUSINESS OPERATORS, 5 SUBJECT MATTER EXPERTS AND 16 TOURISTS.



1 uses public transport and walks - but she's getting a car soon.



7 use a car primarily, but also other modes of transport.



15 drive / carpool exclusively.



3 are actively considering leaving the Queenstown region.

WHO WE MET

WE SPOKE WITH 24 RESIDENTS FROM ACROSS THE REGION.

"I'm going to try cycling to work this summer."

"I think I might move to Invercargill in the next couple of years."

"I've had too many close shaves at roundabouts to take my motorbike into Frankton anymore."

"When people come to stay I tell them not to use the bus. It's just too expensive."



CONVERSATION OVERVIEW

INTERVIEW METHOD



WE EXPLORED THESE HIGH-LEVEL QUESTIONS:

- Why do you live/work in Queenstown?
- What are the positives and negatives?
- What journeys do you typically make and when?
- What is the experience of getting around?
- Modes of transport
- Workarounds employed
- Journey planning
- Their ideal journey and aspirations for the transport network and for Queenstown in general



BUSINESSES

What's it like running a business in the region?



TOURISTS

We asked what was easy and/or difficult about their journeys in the region, their preferred modes, and whether the transport network impacted upon their holiday



LENGTH OF INTERVIEWS



Business and residents lasted from 45 minutes to just over one hour



Tourist interviews were shorter and sharper, given the nature of conducting 'intercept' interviews on the street.



INTERVIEW CAPTURE



The in-depth interviews were audio recorded and then transcribed verbatim



Field notes were taken, observations were recorded

THEMES FROM CONVERSATIONS



Locals cite what they see as the best of Queenstown: its natural beauty and great outdoors, the safe environment it offers families to raise children, and its great sense of community.

"We love this area. It's a really safe place with the kids, and we've got the park just around the corner that we go to all the time. The kids have got lots of friends here. It's very family-oriented; there's families everywhere and they're all around the same age."



Residents find it difficult to disentangle transport from the other more significant challenge of living in Queenstown, namely the cost of living.

"It's very expensive to live here. You know people are paying for a room \$300, \$250. And the salaries are super low. It is really hard. And if you have children, it's even harder because I mean like the money they have to make to pay for day-care."



For some wanting to live in this environment, this is coming at a very high cost where their low income and/or the cost of living forces decisions that do compromise their lives. Some are at a tipping point.

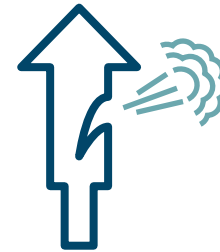
"Queenstown has changed so much since we got here, that I have to be honest every single day we discuss can we afford to stay? Queenstown is changing so much that it's squeezing us out, it's just getting uncomfortable. It's a mini city now, and rentals are huge and going up all the time."

THEMES FROM CONVERSATIONS



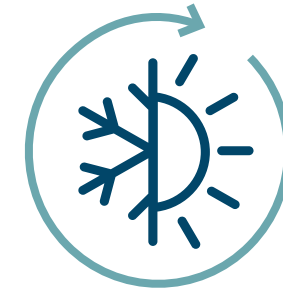
Peoples' views of the transport network are highly contextual; they talk about their transport experience elsewhere and compare this to their experience in Queenstown.

"I walk everywhere in Wellington despite there being hills everywhere. The buses are good, I can get from the airport to my hall, which is like 2-3 zones on the bus for like \$9, which is really cheap. Here I live 5 minutes from the centre of town and it costs me \$8 to go one way."



Residents and business operators travelling within Queenstown experience frustratingly unpredictable journey times and it is difficult to plan to avoid congestion as this is no longer restricted to specific times of the day (i.e. peak times).

"Saturday I went out, around 11am. And I couldn't even get out to the airport roundabout because the traffic was backed up to the roundabout again."



Residents say that there is no shoulder season anymore; there seems to be an influx of people in Queenstown all year round and this coincides with worsening driver and pedestrian behaviour (but not just by tourists).

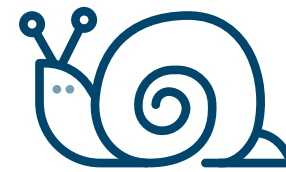
"The first year or so we were here, winter was definitely busier. It was really noticeable the difference in the winter to the summer, and there was a dip in the shoulder seasons as well, whereas now winter and summer are becoming about the same and the shoulder seasons don't seem to be as quiet."

THEMES FROM CONVERSATIONS



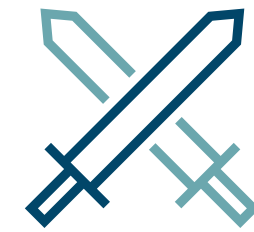
Locals indicate that with the development of Frankton, their experience is now a tale of two centres with dualities that bring mostly convenience and some inconvenience.

"We tend to stay around the Frankton area most of the time. Quite often if we can meet friends and go for coffee, or have walks around this area we tend to do it round here a little bit more, and avoid the town centre, and I think it would be good for those services, and for more to be out this way."



Locals say that there is a lot of talk about improving the transport network but that the action to back up this talk is dragging and there is a lack of forward thinking.

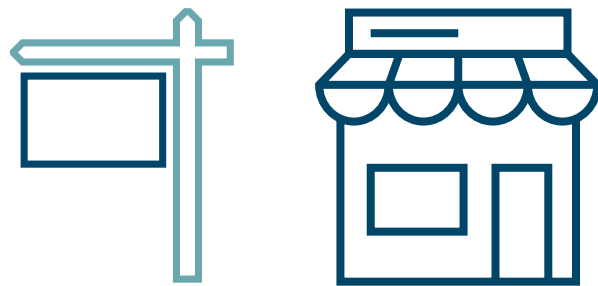
"Quail Rise, Tucker Beach Road, getting on to that road is really dangerous. The traffic's moving fast and you have this great big hill down the other side. And in the winter time when there's grit and ice it's not good. Someone came up with a really good idea a while ago and it was take [the road] under that bridge and bring it up there which meant the traffic could just flow."



Locals' responses reveal that the high cost of living, recent influx of people and increased tourism is fostering an 'Us versus Them' mentality in regard to locals and tourists.

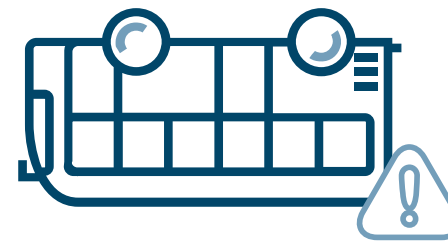
"We've seen people passing on blind corners, yellow lines. In town you see tourists just drive straight through a roundabout without checking what's coming or understanding the rules."

THEMES FROM CONVERSATIONS



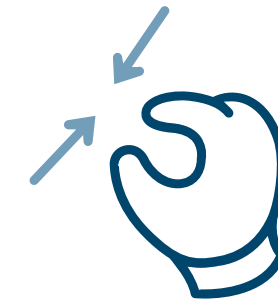
People are now making decisions about where they live and work and get around based on the current state of the transport network.

"I've had to cancel ballet lessons for my daughter out in Arrowtown. I've cancelled the children's swimming lessons in central Queenstown because it's just too chockablock, and I'm cutting down my work contracts and losing out on pay."



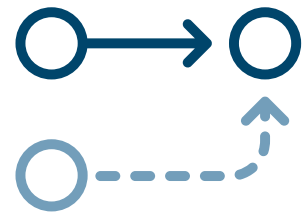
Locals have a near-universal view that the public transport network fails on many levels: buses are expensive, unreliable, infrequent on many routes and limited in the places they can get residents to.

"Yeah I will say probably expensive and limited public transport for sure. It's hard to get to places if you don't drive in Queenstown. It's not designed for people who don't drive."

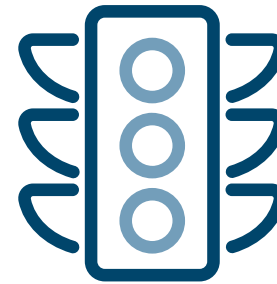


Tourists talk about traffic and parking pressures but these are very insignificant compared to other places they've visited and when put into the perspective of their total experience.

THEMES FROM CONVERSATIONS



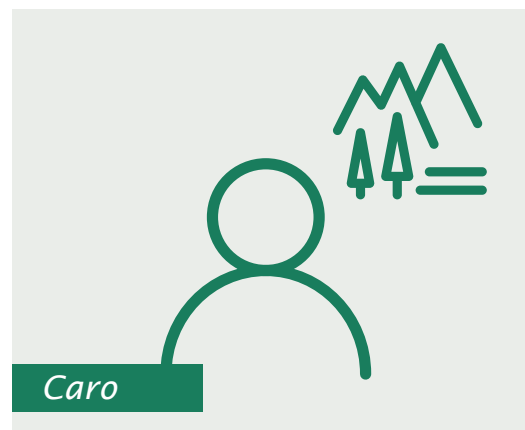
Business operators talk about some quite specific congestion points affecting their business; beyond these though they, like everyone else, have adjusted their behaviours to work around problem areas.



Tourists who have been to Queenstown frequently cite how they have changed their behaviours as a result of experiencing traffic and/or parking issues.

"So we've seen our staff engagement and staff quality of life drop quite a lot, you know that extra hour a day in the traffic, when it's every single day that becomes quite a big deal for us."

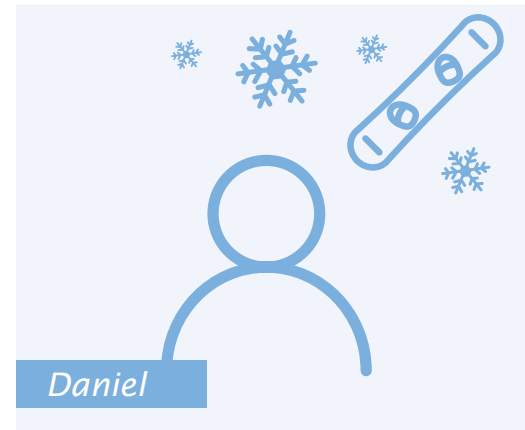
PORTRAITS



A local who is considering leaving Queenstown for a different lifestyle



An in-home childcare provider, who spends a lot of time shuttling kids around Queenstown

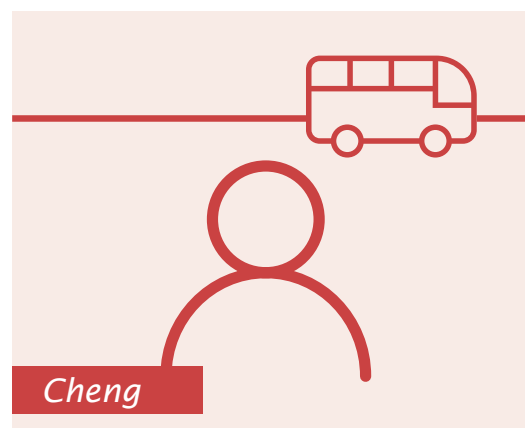


A young seasonal resident who is making the most of the environment and doesn't worry too much about how he will get around

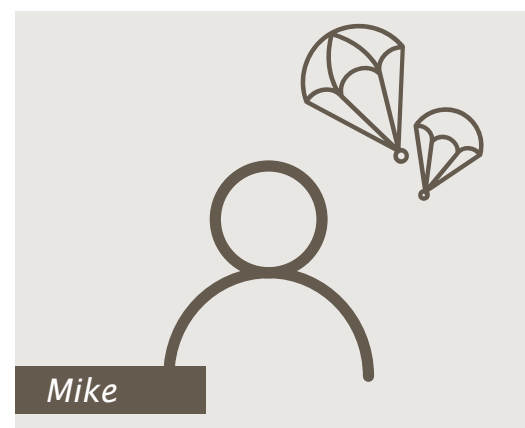


A real estate agent who relies on efficient driving and good parking in order to do his job

RESIDENTS

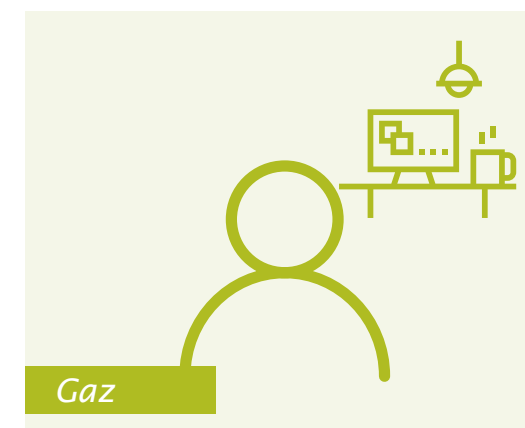


A first-time tourist from overseas who prefers to relax and get around via a tour bus



A repeat Queenstown visitor who has developed transport workarounds to make things easier

TOURISTS



A local business owner who wants to encourage tourists to Queenstown

BUSINESS OWNER AND RESIDENT



A local who is considering leaving Queenstown for a different lifestyle

"We don't see our friends as much as we used to because we don't want to compete with the tourists in town or get stuck in traffic visiting each others' homes"

BACKGROUND

Caro is a local who moved from Auckland 8 years ago because she loved the quaintness of the town.

She works as an office manager in downtown Queenstown and parks her car in a building for \$5.00 a day.

She lives in Frankton with her partner and their dog.

She used to have a really tight-knit group of friends but some of them have moved to Invercargill because the housing prices got too high. She visits them every few weeks.

She loves Queenstown, but she moved here for solitude and a relaxed outdoor lifestyle. The growth of the town, the traffic issues and the high cost of living are slowly eroding her feelings about the town.

TRANSPORT GOALS

- A consistent travel time to and from work each day
- Knows the peak times for traffic so she can plan her errands around them like supermarket shopping
- Easy access to the vibrancy of the town centre

"This place used to feel much smaller, and more homely"

LIFESTYLE GOALS

- Easily connect with her friends and enjoy a meal regularly in town
- She wants to retain the quaint small-town feeling that Queenstown had when she first moved here 8 years ago
- Her rent to stay stable so she can keep the same quality of living
- Retain the same access to the outdoors and the walks/hikes that she and her partner love

BARRIERS TO GOALS

- Friends leaving the area
- Lack of parking in the CBD

IMPACT OF TRANSPORT NETWORK: MEDIUM

Why?

Although she knows it's not as bad as Auckland's traffic issues, the transport delays have meant she doesn't get out as much socially.

Other livability factors:

- High housing costs
- Friends moving away
- Growing population
- + Outdoors



An in-home childcare provider, who spends a lot of time shuttling kids around Queenstown

"I'm really at my wit's end with the traffic. It has a huge impact on our quality of life. We're always considering whether we can continue to stay here"

BACKGROUND

Mariana and her husband have two young boys and they live in Kelvin Heights. She is an in-home child care professional who picks children up and returns them at the end of the day.

This requires being in the car during peak times. This can be a real struggle – she must get her boys up early and into

the car. On the return trip, the children tend to fall asleep on the drive home, thus disrupting sleep patterns. Mariana is under pressure to get the kids to their homes on time for activities their parents may take them to, such as swimming lessons.

To help avoid the peak driving times, Mariana has had to

cut down her contracted work hours, which means less income for the family. Mariana loves living in Queenstown – she's near her family, there is a great community feel, and it's a safe, wonderful place for children. But the high cost of housing, coupled with the traffic headaches, is driving them to think about leaving Queenstown.

TRANSPORT GOALS

- A seamless car trip to pick up and drop off the children from her in-home child care business
- A journey that is enjoyable for the children
- A predictable journey

LIFESTYLE GOALS

- To buy a house, maybe in Lake Hayes Estate or Arrowtown
- To earn more money

BARRIERS TO GOALS

- Intense traffic issues and roadworks
- Traffic delays and unpredictable peak times
- High house prices

IMPACT OF TRANSPORT NETWORK: VERY HIGH

Why?

The traffic congestion has contributed to lower earning potential and a reduced quality of life for Marianna, her family and her clients.

Other livability factors:

- High housing costs
- + Great community
- + Good for kids



A young seasonal resident who is making the most of the environment and doesn't worry too much about how he will get around

"I rely on my friends to drive me around"

BACKGROUND

Daniel lives in Palmerston North where he goes to Massey University, but heads to Queenstown in the summers and term breaks for casual work at the Skyline. He would love to live permanently in the region once he's finished his studies

Daniel has a strong social network so he finds jobs easily. He either lives with friends or family because he can't afford a place of his own.

Currently he's staying with a mate's family in Arrowtown, but the week before that he was in Arthurs Point.

He manages to get to work either driving in with someone or hitch hiking from strangers. He's usually not staying close enough to town to walk or cycle. He has tried the bus but it's too expensive and unreliable.

He loves Queenstown in the winter for snowboarding and in the summer for the outdoors

and partying lifestyle. His friends will pick him up to get into town, but they sometimes get a taxi home if they've had too much to drink – this is very expensive depending on how far out he's living.

TRANSPORT GOALS

- An easy way to get to work without owning a car

LIFESTYLE GOALS

- To have fun, make a bit of money and ultimately move into the region permanently

BARRIERS TO GOALS

- When friends aren't around to give him a ride
- High taxi fares
- High bus fare and an unreliable bus schedule
- Hitch hiking is not always successful in getting him to work on time

IMPACT OF TRANSPORT NETWORK: MEDIUM

Why?

He manages to get around by relying on his friends and others. It only works due to the short season he's there.

Other livability factors:

- High housing costs
- + Family and friends
- + Outdoors
- + Great lifestyle



A real estate agent who relies on efficient driving and good parking in order to do his job

"I get really sick of the driving and parking issues in this town. It makes it hard to get on and do my job"

BACKGROUND

Kevin drives everywhere and needs access to both short and longer term parking in town to do business. This is a constant battle and he is particularly frustrated that most of the library car parks have been allocated to camper vans.

Because he is on the road all day for work, small delays with traffic build up making it impossible to keep to a schedule. He thinks there used to be peak seasons, but now the traffic is bad all year and even unpredictable hour to hour, day to day.

He is annoyed with driver behaviour and thinks tourists shouldn't be allowed to drive in Queenstown at all.

He lives in Fernhill with his wife and one school-aged daughter. His wife walks to school with their daughter on her way to work, except on days when the weather is bad when Kevin has to drop them off. He picks them both up on his way back home so they don't have to walk up the hill. Because of traffic congestion, he is often late to pick them up though, which is

hard for the family. They can't afford a second car just yet since they're saving for a house.

Kevin likes living near town, and he loves the fact that their daughter can walk to school and his wife can walk to work. However, they are thinking about moving to Lake Hayes to get the sun throughout the year and a newer house once they can afford it.

TRANSPORT GOALS

- Getting to business appointments and meetings easily and on time
- Good driver behaviour

LIFESTYLE GOALS

- Family life in Lake Hayes Estate

BARRIERS TO GOALS

- Not enough parking
- Can't predict/or avoid peak traffic times

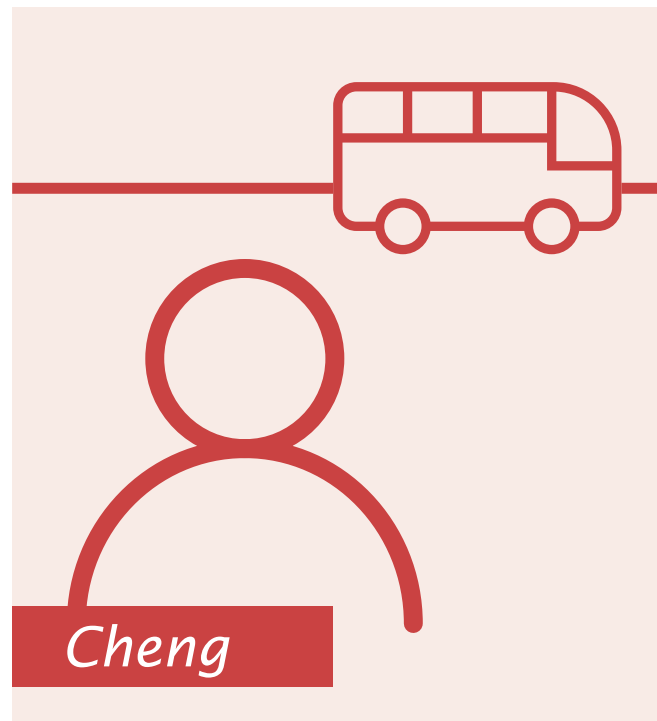
IMPACT OF TRANSPORT NETWORK: MEDIUM

Why?

His level of frustration builds up easily because he deals with traffic and parking problems all the time

Other livability factors:

- + Small town feel
- + Wife and child can walk to work/school



A first-time tourist from overseas who prefers to relax and get around via a tour bus

"The tour bus moved a little slow at some points maybe, but it's nothing compared to what it's like back in the hustle and bustle of China or other places I've travelled to"

BACKGROUND

Cheng is a first-time visitor from China. She is a retiree who enjoys a lot of financial freedom

She travelled to Queenstown with a Chinese tour group and loves that everything is pre-planned for her

She feels safe exploring the city both independently and with a couple of her friends on the tour. She finds it very easy to get around because of the hop-on hop-off nature of the tour bus. Cheng was drawn to Queenstown by the rave

reviews on Weibo. She enjoys Queenstown's natural beauty, quality food and clean air.

TRANSPORT GOALS

- Have a fun and relaxing trip
- Get to the different activities the tour bus has planned for the day easily and on time both in Queenstown and the wider region
- Have a seamless transition in and out to the airport

LIFESTYLE GOALS

- Take great photos of the landscape
- Buy nice high-quality gifts for family and friends back home
- Take in the natural beauty and breathe the fresh air

BARRIERS TO GOALS

- Congestion on the roads
- Bad weather conditions

"This is freedom – everything is sorted out for me. My friends and I just hop on the bus in the morning and take in the sights and activities"

IMPACT OF TRANSPORT NETWORK: VERY LOW

Why?

As a bus tourist she's able to do everything she needs to do easily and comfortably. Someone else is managing the transport for her.



A repeat Queenstown visitor who has developed transport workarounds to make things easier

“Parking was such a nightmare last time we stayed downtown – we left the car back at the hotel most days. We won’t be making the same mistake this time by having a car in town”

BACKGROUND

Mike has travelled with his fiancée Lily from Brisbane to attend a friend’s wedding. This is their second time here. They are excited to explore the town again and take advantage of the adventure activities they missed out on the first time around.

They have hired a car for the first few days of the trip to make getting around the

wider region easier, especially the wineries in Wanaka and the Nevis bungee. Mike and Lily purposely chose to stay in Arrowtown while they have the car to make parking easier because it was such a hassle last time they stayed downtown. Parking and dangerous driver behaviour downtown made them apprehensive to drive their hired car in the area.

They plan to stay downtown on the flat along the lake front for the rest of the trip and will return the hire car beforehand.

Mike and Lily considered using the local bus system for the entire duration of their trip, but thought there were too many bus changes needed and it would have cost them more in the long run.

TRANSPORT GOALS

Explore the wider region and move between the different activities they have planned reliably and with ease

LIFESTYLE GOALS

- Have fun
- Get around easily
- Enjoy the adrenaline-inducing activities available

BARRIERS TO GOALS

- Lack of parking space in the town centre
- The winding and hilly roads
- The narrow roads, especially when cars are parked on either side
- One-way bridges
- Lack of good bus system

“The roads here are quite different to what I’m used to back home. They’re much curvier here and the angles of the hills are really scary to drive”

IMPACT OF TRANSPORT NETWORK: LOW – MED

Why?

Because they have managed to adapt their visit to the transportation network challenges using prior knowledge



A local business owner who wants to encourage tourists to Queenstown

“The tourists are what makes this place tick, and Queenstown wouldn’t be the same without them”

BACKGROUND

Gaz lives in a lovely home that he and his wife built on the Lower Shotover on a section overlooking the river. They plan to live there through retirement. Gaz owns a lucrative tourist business that he and his business partner have built up over the past 8 years. Gaz and his wife have two teenage kids. The whole family loves the outdoors.

They ski and snowboard in the winter and mountain bike in the summer.

Gaz’s work takes him to meetings across the district, but his office is in the town centre where he has his own car park onsite. He doesn’t see the traffic as a big problem and just tries to avoid peak times. He heads into the office early to avoid the morning rush.

Gaz has a laid-back attitude and thinks people should stop complaining about Queenstown transport issues. He thinks tourists are great, and he believes their driving isn’t any worse than that of the locals. He always tells people how bad it is in Auckland, where people don’t have Queenstown’s mountain views to help pass the time while they’re in the car.

TRANSPORT GOALS

- Get to work easily
- Get to regional meetings when required

LIFESTYLE GOALS

- Enjoy the outdoors in Queenstown and retire in style

BARRIERS TO GOALS

- Traffic problems
- Not enough tourists to support business

IMPACT OF TRANSPORT NETWORK: LOW

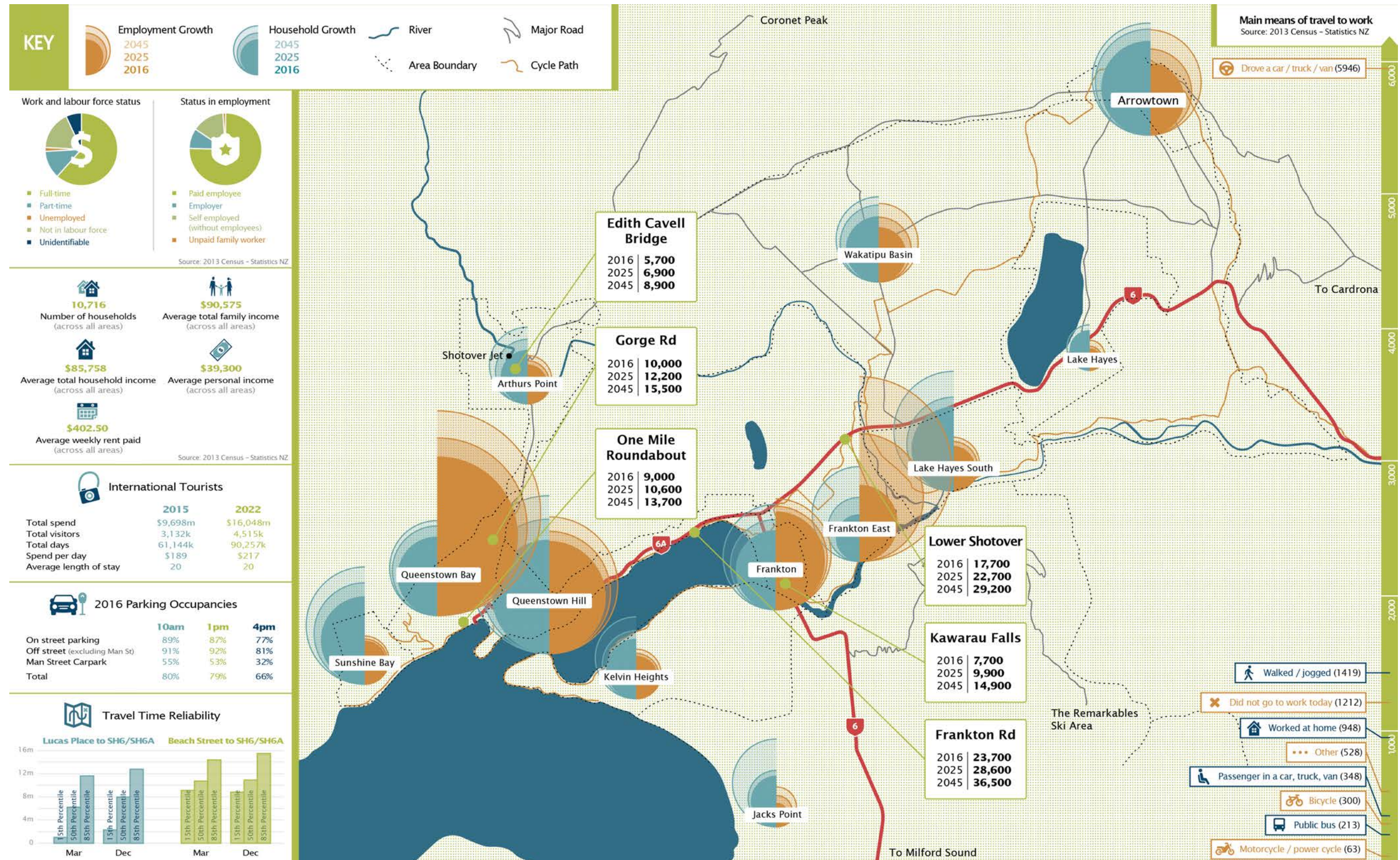
Why?

Because he takes the transport issues in stride and believes that it is so much better than in Auckland

Other livability factors:

- + Outdoors
- + Winter sports
- + Great lifestyle

DATA MAP



Much of NZ's future growth is expected to come from **holidaymakers**. There will be a spreading of holiday seasons by **targeted infilling of the shoulders**.

Free Independent Travellers (hiring rental cars) will increase in proportion to bus tours.

More from new **FTT markets like India & Indonesia**; Continued growth from **Australia**; More from **China**.

No change in ratio of **cars to campervans** (85:15).

As of March 2014, **between 7am – 11am over 5,000 cars** enter the town centre.

Around **2,500 people** travel to work in the town centre, and **1,600 people** travel through the town centre to work.

Approximately **1,000 cars** park all day in the town centre and periphery.

Approximately **80% of the 458 on-street short stay car parks** (within the town centre) are **occupied during the day**.

Most on and off-street parking is **91% occupied during the day**, including Man St carpark.

Visitor surveys indicate **40% – 50% of visitors arrive in Queenstown Lakes District by air** and growing.

CHALLENGE STATEMENTS

HOW MIGHT WE...

Make it easier for a person on low income to live and work in Queenstown?

Improve known network congestion points?

Make public transport a viable option for locals and visitors alike?

Ensure that both locals and tourists can access central attractions and businesses when needed?

Enhance a visitor's experience of Queenstown through the transport network?

PROGRAM ASSESSMENT TOOL

P7: Quick Wins

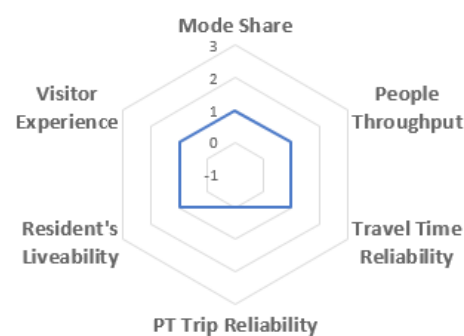


OPTION	
4	Increased parking charges within the town centre
8	Implement a parking strategy
17	Active travel network
19	Seal and light existing cycle tracks along SH6A - Frankton Rd
26	Provide cycle hire scheme
44	Bus priority on SH6A corridor
46	Integrated alternative ticketing options
47	Reduce public transport fares
54	Mobility as a Service
55	Introduce bikes, ski and luggage storage on buses
82	Workplace travel plans for significant businesses/developments
48a	Improve timetables, quality, operating hours, frequency including addition of express services
A	Eastern Access Road
B	SH6 Kawarau Falls Bridge
C	SH6/6A Interim Upgrade

* All locations mapped are indicative only



P7: Quick Wins



Programme Purpose

Quick Wins focuses on investments that can be implemented within a two-year period. This programme is more weighted to those activities which are less capital intensive and do not require infrastructural investments. For example, this would include the lighting and sealing of existing cycle trails rather than the introduction of new links or reducing public transport fares rather than the implementation of new services.

IAF Effectiveness	IAF Efficiency	Feasibility	Benefits	Costs
1	1	2	\$	-



Assessment

QUEENSTOWN VISION

To enhance the quality of life for all people within the District.

(QLDC Mission)

To position Queenstown as the Southern Hemisphere's premier four season lake and alpine resort... sustainable, year round, visitor growth...

(Destination Queenstown Vision & Mission FY15/16)

The Queenstown Lakes District has a functional, integrated, multi-modal and sustainable transport system that supports a thriving, healthy community and enhances the visitor experience.

(Shaping Our Future Transport Taskforce Vision 2046)



LIVABILITY & VISITOR EXPERIENCE CHALLENGES

Make it easier for a person on low income to live and work in Queenstown?



Improve known network congestion points?



Make public transport a viable option for locals and visitors alike?



Ensure that locals and tourists can access central attractions and businesses when needed?



Enhance a visitor's experience of Queenstown through the transport network?

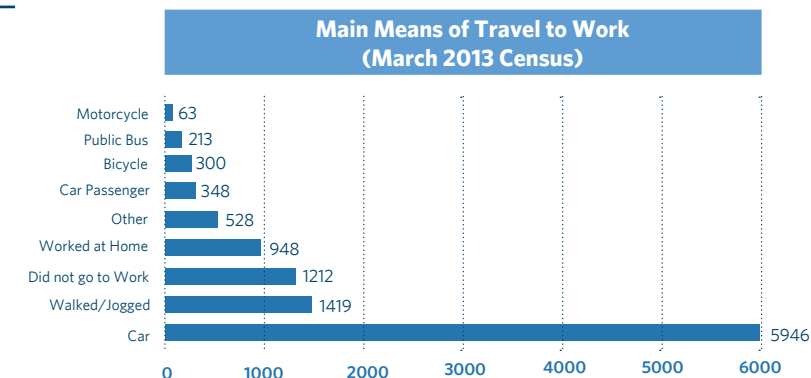


CUSTOMER GOALS

Mariana An in-home childcare provider, who spends a lot of time shuttling kids around Queenstown "I'm really at my wit's end with the traffic. It has a huge impact on our quality of life. We're always considering whether we can continue to stay here"	Caro A local who is considering leaving Queenstown for a different lifestyle "We don't see our friends as much as we used to because we don't want to compete with the tourists in town or get stuck in traffic visiting each others' homes"	Kevin A real estate agent who relies on efficient driving and good parking in order to do his job "I get really sick of the driving and parking issues in this town. It makes it hard to get on and do my job"	Daniel A young seasonal resident who is making the most of the environment and doesn't worry too much about how he will get around "I rely on my friends to drive me around"	Gaz A local business owner who wants to encourage tourists to Queenstown "The tourists are what makes this place tick, and Queenstown wouldn't be the same without them"	Mike A repeat Queenstown visitor who has developed transport workarounds to make things easier "Parking was such a nightmare last time we stayed downtown - we left the car back at the hotel most days. We won't be making the same mistake this time by having a car in town"	Cheng A first-time tourist from overseas who prefers to relax and get around via a tour bus "The tour bus moved a little slow at some points maybe, but it's nothing compared to what it's like back in the hustle and bustle of China or other places I've travelled to"
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*Used in stakeholder workshop to assess multiple programs

Car dominance and associated congestion is affecting the liveability and attractiveness of the area (33%).



- Locals say that there is a lot of talk about improving the transport network but there is a lack of action and forward thinking.
- People are now making decisions about where they live and work based on the current state of the transport network.
- There is a near-universal view that the public transport network fails on many levels: buses are expensive, unreliable and infrequent on many routes, with limited coverage.

QUEENSTOWN

The Queenstown area is experiencing unprecedented levels of growth. The population increased by 65% between 2001 and 2013, with further increases since then. This is reflected in employment growth of 3.4% per annum, compared to a national rate of 1.2% since 2005. The combined effect of this has been an economic growth rate averaging 4% (double the New Zealand average). With sustained growth likely to continue, the implications for the transport network are significant.

Queenstown's importance as a domestic and international tourism gateway is compounding these issues. Queenstown's relatively remote location results in approximately 45% of visitors arriving by air and the remainder arriving by vehicle. Visitor numbers through Queenstown airport have increased by 200% since 2005 to nearly 1.8 million passengers in the year to June 2017.

The way visitors travel has also changed with a shift to free and independent travellers utilising self-driving opportunities rather than the more traditional tour coaches as their main mode. This has made Queenstown the second largest vehicle hire port in New Zealand with over 2,000 rental vehicles currently available. The impact of this trend on the transport system is significant, due to the total number of vehicle movements generated, and the expanding tourist market. A shoulder season is no longer apparent, with high visitor numbers in Queenstown all year round.

The exponential growth in Queenstown has led to significant congestion and declining travel time reliability for private and public transport on key journeys. The transport system has not been able to keep up with growth, and only limited improvements in infrastructure and services have been made since 2006. This is exemplified on State Highway 6A, between Frankton and Queenstown town centre, operating at 88% of its theoretical capacity of 28,500 vehicles per day, a figure that is expected to reach 100% by 2026. Traditional transport strategies and response to growth will no longer work in the Queenstown environment. A fundamental change in thinking and approach is required.

State Highway 6A (Frankton Road), is a critical corridor for key journeys in Queenstown for residents and visitors alike. A high level of service on this corridor is also fundamental for businesses and services that rely on road-based activities to function. Like many roads in the area, SH6A is severely constrained by the local topography including residential development along the shoreline of Lake Wakatipu to the south of the road, and Queenstown Hill to the north. Opportunities to expand the road space are very limited, and no silver bullet solutions exist meaning this corridor is a major limiting factor underpinning the programme composition.

Due to a lack of attractive alternatives and the location of employment to residential areas across Queenstown and Frankton, cars are the dominant mode. Conflicting demands for road space, along with the resultant congestion, is affecting the liveability and attractiveness of the area.

The recommended programme seeks to address these problems through a mix of infrastructural, public transport and behaviour change measures.

Key activities include:

- Making public transport an attractive and viable alternative to the private car through improvements to service provision, and the introduction of bus priority, park and ride and a Mass Rapid Transit corridor between Queenstown and Frankton.
- Altering cost, provision and management of parking across the area to support the goals of reducing private vehicle usage, and encouraging greater use of public transport
- Completing key infrastructure projects for vehicular and active modes, including a new town centre arterial to facilitate economic growth, better provision for public transport and access for pedestrians, and removing unnecessary vehicle movements in the most congested areas of the town centre.

The scale and magnitude of the problems facing the Queenstown and Frankton area, requires the careful integration and alignment between respective agencies to ensure funding acquisition to successfully deliver the programme and investment objectives.

PROGRAMME MULTI-CRITERIA ASSESSMENT

PROGRAMME MULTI-CRITERIA ASSESSMENT		128											
		Programme 1 Do Minimum	Programme 2 Optimisation	Programme 3 Demand Management	Programme 4 Infrastructure	Programme 5 Balanced Infrastructure Focus	Programme 6 Balanced Active Modes Focus	Programme 7 Balanced PT Focus	Programme 8 Balanced PT and Active Modes Focus	Programme 9 TDM	Programme 10 Quick Wins	Programme 11 Mobility as a Service	Programme 12 Do Maximum
INVESTMENT OBJECTIVE													
Increase mode share of alternative modes Reduce the proportion of single occupancy commuter trips into the Queenstown Town Centre. (Estimated % of alternate mode share by 2045)		15-20%	+	+	-	15-20%	20-25%	25-30%	25-30%	++	+	+	++
Increase people throughout Increase the number of people moved by mode along the State Highway 6 and 6a corridors.		<20%	+	+	+	20-50%	<20%	>50%	>50%	++	+	+	+++
Improve travel time reliability (general traffic) Improve the travel time reliability for general traffic using State Highway 6 and 6a. (Estimated travel time variation in 2045)		7 min AM >60 min PM	0	0	+	6 min AM 19 min PM	6 min AM 16 min PM	3 min AM 5 min PM	3 min AM 5 min PM	0	-	0	++
Improve public tranport punctuality Improve travel time reliability for public transport for services in the Wakatipu Basin.		<50%AM <50%PM	+	0	+	50-80%AM <50%PM	50-80%AM <50%PM	>80%AM 50-80%PM	>80%AM 50-80%PM	++	0	+	+++
Improve residents satisfaction with the transport system in Queenstown		+	+	+	+	++	++	++	+++	+	+	+	+++
Improve visitors satisfaction with the transport system in Queenstown		0	0	+	0	++	++	++	+++	-	0	+	++
IMPLEMENTABILITY													
Implementability Risk		Low	Low	Low	High	Medium	Medium	High	High	Low	Low	Low	High
Feasibility		H	H	H	H	H	M	M	M	M	H	H	L
Stakeholder Acceptance		L	L	L	M	M	M	M	H	L	L	L	H
Environmental		0	0	++	-	+	++	++	++	++	+	+	++
ECONOMICS	Costs (incl land and project development)		\$59-\$86m	\$55-\$78m	\$435 - \$631m	\$241 - \$338m	\$241 - \$338m	\$417 - \$601m	\$447 - \$647m	\$294 - \$434m	\$81 - \$115m	\$282 - \$417m	\$647 - \$949m
	Benefit Cost Ratio	-	-	-	-	0.6 - 0.9	0.9 - 1.3	0.7 - 1.1	0.7 - 1.0	-	-	-	-
		Recommended programme											

MCA used where metrics not available

Stakeholders selected Balanced PT and Active Modes Focus as the recommended programme on the basis that:

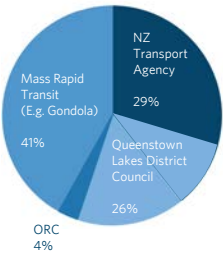
- The programme provides a good balance of infrastructure, public transport and active mode initiatives to meet the investment objectives to a high degree.
- There was support and buy in from the investment partners and stakeholders.
- Based on the customer insight outcomes it is expected to improve resident and visitor satisfaction, providing an appropriate response to the District’s transport and liveability concerns.

STAKEHOLDERS INVOLVED IN PBC

- NZ Transport Agency
 - Queenstown Lakes District Council
 - Otago Regional Council
 - Queenstown Airport Corporation
- Destination Queenstown
 - Downtown QT
 - Chamber of Commerce
 - Ritchies Connectabus
 - NZ Ski
- Go Bus
 - Queenstown Water Taxis
 - Queenstown Trails Trust
 - Ngai Tahu Tourism
 - Real Journeys
- Northern Southland (Trojan Holdings)

IMPLEMENTATION PARTNERS

The NZ Transport Agency is a key funding partner for the delivery of this programme, and is fundamentally concerned with the form and future operation of SH6, SH6A and the integral part these highways have on the function of Queenstown and the wider transport network. There may also be other opportunities for Crown funding for cycling initiatives. Queenstown-Lakes District will be co-investors and lead the management of parking and public transport infrastructure, and Otago Regional Council will be the primary investor and implementation driver of public transport improvements. All partners will be critical to the successful planning and delivery of the programme. Stakeholders conveyed a strong message that funding should not constrain tackling transport issues in Queenstown, indicating there is a potential role of alternative funding mechanisms to ensuring the timely delivery of effective transport solutions for Queenstown. The Mass Rapid Transit corridor (gondola) provides a good opportunity for private investment and represents 41% of the total programme cost.



RISKS AND UNCERTAINTIES

Risk/Uncertainty	Time	Certainty	Impact	Comments
Changes to land uses differ from those considered in the programme development	Ongoing	More than likely	High	Any changes to the quantum and timing of future land use development can change travel demands on the transport network. The assumptions on future land uses may vary from those assumed in the PBC. This includes the soon-to-be-vacated Wakatipu High School site.
Expansion and/or intensification of flight movements into Queenstown airport	Ongoing	Reasonably foreseeable	Medium	Night flights are expected to be introduced to Queenstown Airport along with a potential increase in day flights. These changes may increase both peak and off-peak movements in the traffic network.
Growth and development outside district boundaries	Ongoing	More than likely	Medium	Displacement of residential growth outside Queenstown due to high land prices and housing costs e.g., to Cromwell, is projected to increase. Likely to lead to an increase in long-distance commuter movements.
Variability of visitor travel requirements	Ongoing	Reasonably foreseeable	High	International tourist demands are unpredictable and influenced by global economic factors, creating uncertainty over future visitor numbers and travel patterns.
Land acquisition	Ongoing	More than likely	High	Some infrastructure projects in the programme may require land acquisition, however particulars are yet unknown. Escalating property prices in the district will place significant pressure on the affordability of the programme.