



QUEENSTOWN BUSINESS CASE

Strategic Context

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FINAL

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PART A: THE CASE FOR THE PROJECT

1 INTRODUCTION

This is the first of seven in a suite of reports that make up the Queenstown Business Case project (the “project”), being delivered by Way to Go. It sets out the strategic context for the project.

The project originally comprised the Frankton to Queenstown (F2Q) Single Stage Business Case (SSBC) and the Queenstown Town Centre (QTC) Detailed Business Case (DBC), with Mass Rapid Transit (subsequently referred to as High Capacity Public Transport, HCPT) to be investigated to an Indicative Business Case (IBC) level. Partway through the project, Frankton and Ladies Mile were added to the scope at a SSBC/DBC level (refer Section 1.2.4) The project is effectively a ‘Detailed Programme Business Case’ due to the breadth of its scope, picking up on the recommended programme from the preceding Queenstown Integrated Transport (QIT) Programme Business Case (PBC). These relationships and the Business Case composition are shown in Figure 1.



Way to Go is a collaborative working group made up of partner organisations Waka Kotahi NZ Transport Agency, Queenstown Lakes District Council and Otago Regional Council. The partnership is responsible for delivering transport improvements for the Wakatipu Basin, including this business case.



Figure 1: Queenstown Business Case composition

1.1 Report Purpose

The purpose of this report is to:

- Document and evidence the existing and anticipated problems pertaining to Queenstown's transport network and its users.
- Re-confirm the strategic case for investment in the Queenstown transport network as established in the QIT PBC.

It forms Part A of the Queenstown Business Case (QTBC) and is intended to be read in conjunction with Part B (Developing the Programme) and Part C (Monitoring and Delivery).

1.2 How did we get here?

The well-publicised tourism boom in Queenstown has led to substantial and sustained growth in both the number of visitors and the resident population. While tourism has proved an economic boon to some areas of the community, it has also created a myriad of social and environmental issues.

Although growth has recently slowed, as a result of COVID-19 pandemic travel restrictions and the associated economic downturn, it is highly likely Queenstown will quickly recover, with QLDC predicting that growth – and its commensurate congestion and emissions - will return to previous levels by 2024. This hiatus offers the ideal opportunity to progress transport improvements so that Queenstown is well positioned for the future. Potential impacts of the COVID-19 pandemic are further discussed in Section 1.4.

A history of car-oriented development and dispersed land use has led to a lack of travel options for residents and visitors, while the ability to provide additional capacity, cost-effectively, is restricted by the area's challenging terrain. As a result, the existing transport network is beginning to show signs of strain, unable to maintain an adequate level of service for the unprecedented number of users, which is negatively impacting the liveability of the town for residents and degrading the visitor experience.

Looking into Queenstown's history gives insight into the origins of Queenstown's transport and land use challenges. As recently as 1980, Queenstown's population was 3,500 residents, most of whom lived within walking distance of the Queenstown Town Centre, with a small settlement at Frankton around the intersection of SH6 and SH6A (colloquially known as the BP Roundabout). At the time, Queenstown's visitor economy was focused around skiing in winter and being a typical kiwi holiday destination in summer.

Since then, several key developments have set off Queenstown's ongoing cycle of significant growth:

- A J Hackett launched a bungy operation from the old Kawarau Bridge in 1989, setting off Queenstown's pathway to being an adventure tourism mecca, with adventure tourism activities proliferating ever since.
- Domestic jet services began in 1989 by the then Ansett New Zealand and in 1992 by Air New Zealand. This provided non-stop flights to Queenstown from Auckland for the first time.
- International flights to Queenstown began in 1995 with Qantas flights from Sydney. Originally largely ski season services, these have evolved into increasingly frequent year-round services from Australian east coast capitals.
- Night flights to Queenstown began in 2016 which allowed the airport to better optimise its capacity within its limited footprint.

The combined effect of these were to create a much broader tourism offer in Queenstown, more attractive and more easily accessible to many more people with non-stop jet flights from the North Island and the Australian east coast capital cities.

This increase in visitor demand led to a commensurate increase in the population to service these visitors with hospitality, food and beverage and construction sectors all requiring significant workforces.

This came up against the constraint of limited flat easily developable land close to Queenstown Town Centre and the conversion of an increasing proportion of centrally located housing stock to visitor accommodation, including AirB&B.

The flat land that was available was either in Frankton, or east of the Shotover River or south of the Kawarau River. The housing developments from the 1990s onwards were largely residential suburbs with few local amenities, meaning that the vast majority of trips required leaving the community by car. While this housing was relatively affordable by Queenstown standards, it imposed increased transport costs on its residents in the absence of good non-car travel choices.

The consequence of this was an increased number of trips by an increased number of people on trips of increasing length. This put increasing pressure on State Highway 6 and its bridges across the Shotover River (built in 1975 when the context was completely rural) and the then single-lane bridge across the Kawarau River.

The two branches of State Highway 6 meet at the BP Roundabout with State Highway 6A leading to Queenstown Town Centre where the ability of the roading network to accommodate growth is limited by the capacity of the roundabout at the Frankton end and the capacity of the town centre to absorb arriving traffic at the other end. The consequence of these two pinch points is severe congestion over significant parts of the day throughout the year on all of State Highway 6A, State Highway 6 East and State Highway 6 South with no ability to accommodate further growth in the current system (evidence in Evidence Base section).

Queenstown's stunning physical setting; extremely broad tourism offer and easy accessibility from large markets (for example, Sydney and Melbourne each have 5 million residents within around 3 hours flying time from Queenstown) means that Queenstown has continued to grow, even during the COVID-19 pandemic. In July 2020, the median house price once again breached the \$1 million mark, driven by returning kiwis (the so-called 'brain gain').¹

While the Queenstown roading network has limited ability to accommodate future growth, land use and tourism changes mean that peak hour demand to travel between Frankton and Queenstown is predicted to more than double by 2048. In fact, the increase in demand is expected to be so large that conventional transport models often freeze up and present infinite travel times when trying to model this demand. In this situation, the only way to address issues sustainably is through mode shift, travel demand management, trip retiming, trip suppression or trip chaining (in the order of 40% of trips by non-car modes by 2028, rising to 60% by 2048).

Unlike typical urban contexts, visitors have a choice about where and when they travel. Tourism market research already shows that satisfaction with travel and parking is lower than for other metrics, while other tourism-oriented communities such as Wānaka and Te Anau have low or no levels of congestion. Those destinations are actively positioning themselves to be more attractive destinations in their own right. When insatiable desirability comes face to face with insatiable traffic congestion, the risk is that visitors will choose to spend time in place where they don't spend significant time stuck in traffic jams. The opportunity cost to the Queenstown economy from failing to meet latent demand has been estimated at \$750 million (with a further \$150 million cost to the national economy) (refer to economic analysis in Technical Note 26: Effect of Transport Constraints on Tourism -see Appendix D02).

Announced investments by central government such as the NZ Upgrade programme bus priority investments provide a platform for addressing transport challenges by facilitating more sustainable travel choices. But these investments do not provide the public transport services to make use of the investment.

1.2.1 Key Challenges

Driving the transport-specific problems laid out later in this document, there is a complicated broader context that has ultimately led to the need for this project, as summarised in Figure 2. Transport Problems, opportunities and constraints are explored in more detail later in this strategic context.

¹ <https://www.odt.co.nz/business/property/otago-median-house-prices-record-high> accessed on 7th October 2020

					
Uncertain growth	Challenging construction terrain, Outstanding Natural Landscape	Increasing demand and conflict between modes	Land use, transport system interaction	Large visitor numbers, low ratepayer base	Constrained funding environment, NLTF uncertainty

Figure 2: Key challenges

1.2.2 The Three Pillars

Continuing the theme from the QIT PBC, the Queenstown Business Case is founded on an integrated transport approach comprising three pillars of investment (Figure 3). As documented in Changes Since the PBC, **Infrastructure** alone will not address Queenstown's transport problems.

The Future PT Demand Model (refer Section 4.3.4) identified that significant **PT service** upgrades would be required for the infrastructure upgrades to provide any benefit (that is, a bus lane cannot transport any people without buses).

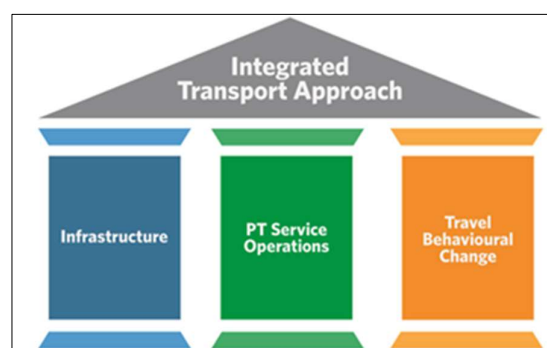


Figure 3: Three Pillars of Investment

Forecasts from the Future PT Demand Model also highlighted that, even with substantial public transport improvements and associated mode shift, the road network would not be able to accommodate anticipated demands as car travel would remain attractive thanks to low-cost and unrestricted parking. Additional **travel behavioural change** measures would be required to maintain a functioning network.

1.2.3 Project Extents

The project originally comprised the F2Q SSBC and the QTC DBC, with the objective of developing investment cases for each geographic area. Through the course of the project, it was recognised that a connected network-wide response would be required to avoid misalignment between packages and to maximise benefits. The geographic extents of the project were therefore expanded to include Frankton and Ladies Mile, as shown in Figure 4, building on a previous business case for the section of Frankton around the SH6/SH6A intersection, the Grant Road to Kawarau Falls Bridge SSBC. No previous business case exists for Ladies Mile, though Waka Kotahi are familiar with the area through the Ladies Mile Housing Infrastructure Fund (HIF) Integrated Transport Assessment and business case.



Figure 4: Project Extents

1.2.4 Frankton Scope Expansion

The need to incorporate Frankton and Ladies Mile into the project study area was identified during optioneering and transport modelling for SH6A. It was determined that the level of service along the corridor, for public transport in particular, is highly dependent on the amount of traffic able to move in to and out of Frankton. The original scope, restricted to the SH6/ SH6A intersection, was at risk of resulting in an incomplete programme of interventions that did not address knock-on impacts elsewhere in the network.

The scope expansion enabled the project team to integrate the proposed solutions for Frankton to Queenstown and Queenstown Town Centre, with work done previously for the Grant Road to Kawarau Falls (GR2KF) SSBC (see section 1.3.3 below). Weaving the projects together was dependent on the compatibility of strategic cases, both of which identify rapid growth and car dependency as the crux of transport problems in the area. As a result, options developed for the GR2KF SSBC were easily absorbed by the project, with some changes to accommodate the updated approach.

1.3 Past Business Case Stages

The QIT PBC, endorsed by the Waka Kotahi board, is the overarching strategic transport document that recommends a programme of investments for the overall Queenstown network.

The F2Q component of this project is a continuation of the process from 'Programme' to 'Indicative' and 'Detailed' (now Single Stage), providing detail for the preferred option for that section of the network. The QTC component has been through intermediate steps as part of the Queenstown Town Centre Masterplan, which included a transport PBC and several transport IBCs.

1.3.1 Queenstown Integrated Transport Programme Business Case (2017)

The QIT PBC identified two key problems:

- Significant growth in visitors, residents and vehicles, leads to increasing trip unreliability and worsening customer experience across the network
- Car dominance and associated congestion is affecting the liveability and attractiveness of the area.

Mode neutrality was a key theme of the business case as it was identified that road capacity alone would only partially address the identified problems. This did not necessarily mean equal investment for all modes as, for

example, improving active travel could help reduce congestion without the need for specific investment in road infrastructure.

The QIT PBC recommended programme of activities is shown in Figure 5.

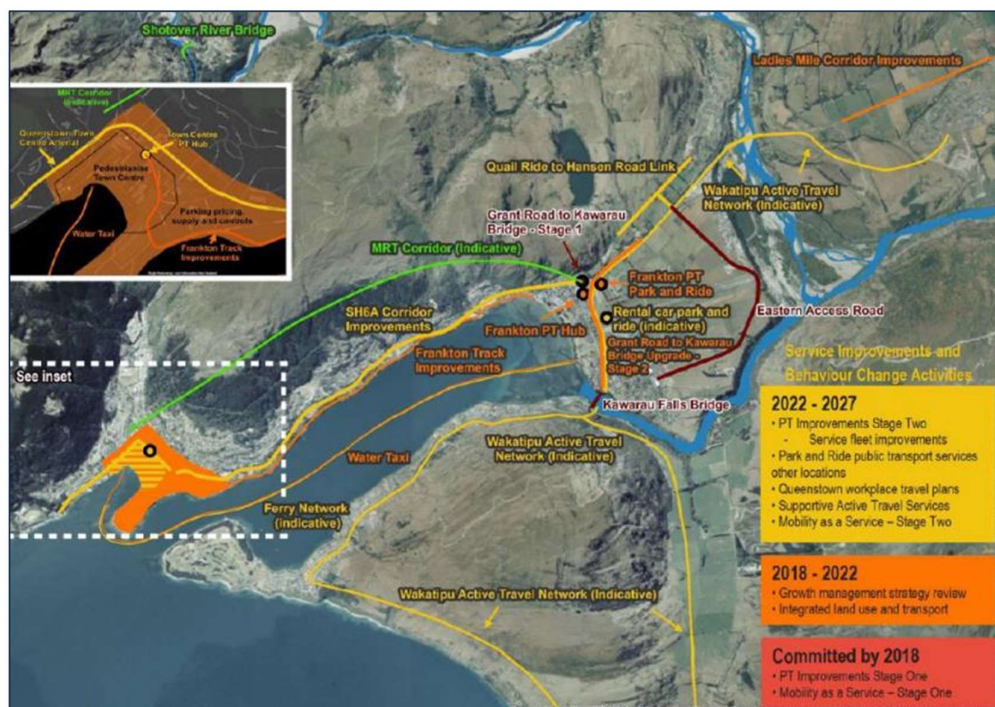


Figure 5: QIT PBC Recommended Programme (2040)

The recommended programme was intended to promote a modal shift to more sustainable transport modes and includes a combination of the three pillars - infrastructure, service and Travel Demand Management (TDM) measures.

The priority projects were:

- Public transport improvements – increased service frequencies, bus priority, Park and Ride, and a Mass Rapid Transit (MRT) corridor between Queenstown and Frankton (Figure 5 indicates a gondola over Queenstown Hill as a MRT option, though bus rapid transit and light rail are also suggested).
- Parking – changes to cost, provision, and management of parking.
- Town Centre Arterials – upgrades and connections to existing road corridors to provide a new route around the edge of the town centre, enabling the removal of traffic from Stanley Street, Shotover Street, and the historic core.

The estimated programme cost was \$447 to \$647 million, with a benefit-cost-ratio (BCR) in the range of 0.7-1.0.

By 2045, the programme is intended to achieve:

- 30% non-car mode share (up from 15%).
- 7% fewer vehicles per hour (F2Q).
- 16-minute faster travel time during peaks for journeys between Frankton and Queenstown.
- 3-minute travel time variability during peaks for journeys between Frankton and Queenstown.

1.3.2 Queenstown Town Centre Masterplan Programme Business Case (2017)

As part of the Queenstown Town Centre Masterplan, a transport PBC was undertaken to develop the investment case for the transport elements of the programme. Detail on the broader masterplan is provided in Related Projects (see section 1.9 below). The programme is summarised in Figure 6.



Figure 6: Queenstown Town Centre Masterplan - Preferred Programme

The preferred programme (#6) identified in the QTC Masterplan included an amalgamation of the preferred options from individual projects and included:

- New town centre arterials from Melbourne Street to One Mile Roundabout
- Improved parking supply and management
- A new 6-8 bay public transport hub on Stanley Street
- Development of wharf facilities to support waterborne transport
- A programme of public realm improvements, such as the 'Gardens to Gondola' route, that aim to enhance the visitor and local experience in the town centre through enhancing streets and lanes, improving connections between attractions and celebrating Queenstown's unique heritage and culture
- Introduction of technology to better manage and connect people with public transport and parking options
- Improved walking and cycling routes and facilities in the town centre, supporting the uptake of active transport and integrating with wider networks
- Marketing communications campaigns to better educate people on transport options.

The programme cost was estimated to be \$385 million and achieved an indicative BCR of 1.7. When assessed against the 2018-2021 Waka Kotahi Investment Assessment Framework, the programme performed strongly against both the criteria for the "High" and "Very High" results alignment requirements.

1.3.3 Grant Road to Kawarau Falls SSBC (paused in 2018)

Undertaking the GR2KF SSBC was a recommended activity from the Queenstown Integrated PBC. It investigated the need for investment in the key section of the network around the 'BP roundabout' (SH6/SH6A intersection). The project was absorbed into the Queenstown Business Case when the scope was expanded to Frankton and Ladies Mile.

Problem statements adopted for the project were:

- Problem 1. The transport system is not providing for growth in a timely manner resulting in the increasingly inefficient movements of goods and people (70%)
- Problem 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 (30%)

In addressing these problems, the intent of the GR2KF SSBC was to increase the throughput of vehicles at the SH6/SH6A intersection during peak periods and improve access to key destinations in and around Frankton.

That business case was carried out in two stages, with Stage 1 identifying the need for immediate capacity improvements at the BP roundabout. The project was paused during Stage 2 when it was recognised that the project would be ineffective in isolation and a broader understanding of adjoining areas and future public transport demand would be needed to develop an integrated solution.

Much of the GR2KF SSBC, including problem statements and investment objectives, was directly relevant to the Queenstown Business Case (more detail on integration of problem statements is provided in Defining the Problems). Options developed for the GR2KF SSBC including intersection improvements, HOV lanes, active mode connections and the critical SH6/SH6A intersection, were consulted on with stakeholders and the community, and have been reviewed and updated to integrate with the expanded scope of this project.

1.4 COVID-19 Impacts

The local economy has been severely impacted by the COVID-19 pandemic. QLDC estimates that over 60% of the district's population is directly or indirectly employed by the tourism industry², which has been devastated by the drop in visitor numbers caused by travel restrictions. This has seen unemployment rise to 11% with almost 20,000 welfare requests received by 12 June 2020.

Using airport passenger movements (Figure 7) as a proxy for the health of the tourism industry in Queenstown, the impacts of COVID-19 are evident. Despite a busy school holiday period³, movements in June 2020 were down 75% from the previous year, including a complete cessation of international travel. It is unlikely that international visitors will return in the short term, and the domestic market is largely restricted to school holidays.

In terms of impacts on the transport network, general demand for travel around the district has reduced. In addition to lower visitor travel, the pandemic has caused unemployment to rise, meaning fewer work trips are made on the road. Traffic volumes have reduced to approximately 2016/2017 levels (except for school holidays), and anecdotally, bus patronage has reduced substantially.

The Queenstown Business Case uses population and visitor growth projections endorsed by QLDC⁴ that forecast growth returning to pre-COVID levels in 3-5 years. However, substantial uncertainty remains around future demand for travel in the district. Growth rates are sensitivity tested throughout the business case.

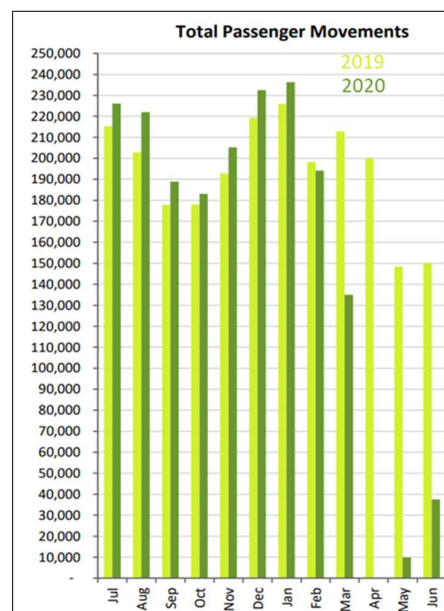


Figure 7: Queenstown Airport Passenger Movements Year to July 2020

² [Queenstown Lakes District Council COVID-19 Intelligence Report](#) (June 2020)

³ [Skiers in record numbers at Queenstown resorts, but overall visitors down](#), NZ Herald (July 2020)

⁴ [Queenstown Lakes District Population Projections Post-COVID](#) (September 2020)

Waka Kotahi's strategic Arataki document highlights the following potential COVID-19 impacts on Queenstown's land transport system:

- Pressure on transport revenues, including road user charges, fuel excises and public transport fares, from reduced travel demand
- Increased importance of providing access to employment and essential services by a range of modes
- Transport will need to support the recovery of the tourism industry. The downturn provides an opportunity to re-evaluate what infrastructure is required and where, and the scale and sequencing of growth and investment.

It is clear that despite the removal of immediate growth pressures which were the original driver for change, the case for investment in the Queenstown transport network remains strong. Furthermore, the current temporary reduction in demand represents an opportunity to make changes to the network with slightly reduced construction effects.

1.5 Changes since the PBC

Several one-off infrastructure investment packages have been announced for Queenstown by central government in response to different pressing issues, such as rapid growth and the economic downturn caused by the COVID-19 pandemic.

In isolation, the projects committed will not solve Queenstown's transport problems, and without further supporting investment in public transport services and demand management measures, could be left 'high and dry' without achieving any material benefits.

The Queenstown Business Case explores the additional investment required to ensure a fully integrated infrastructure package that unlocks the benefits intended by the already-committed funding. Non-infrastructure improvements, in areas such as Travel Demand Management and public transport services, are crucial to break Queenstown's traditional dependency on private car travel and ensure that investment in infrastructure is not undermined by continued growth in traffic volumes.

1.5.1 New Zealand Upgrade Programme

The NZ Upgrade Programme (Figure 8), announced while this business case was underway, was born out of a surplus in the central government budget of \$12bn. Queenstown received \$90m in funding to build on the recent success of the new bus service, with new public transport projects across the network. The package of investments was heavily influenced by the emerging findings of this business case.

As the package is funded through Crown investment, it is limited to assets on Crown land, and includes:

- Bus lanes on SH6 through Frankton
- Intersection upgrades (including SH6/SH6A) with bus priority on SH6A
- Upgraded bus hub on SH6
- Grant Road to Kawarau Falls improvements (from the GR2KF SSBC)
- New roundabout at Howards Drive (Lake Hayes Estate access)
- New underpass at Ladies Mile



Figure 8: New Zealand Upgrade Programme Queenstown

The package is intended to promote mode shift away from private cars by prioritising public transport and making active mode access safer and more convenient. This business case provides further definition of the projects that will make up the Queenstown NZ Upgrade Programme. Construction is expected to begin in late 2021.

1.5.2 Economic Stimulus Package

As part of the government's COVID Response and Recovery Fund, \$3bn has been allocated to infrastructure projects nationally, including \$708m for transport. Of this fund, \$85m is committed for Queenstown, namely for town centre streetscape improvements (\$35m) and Stage One of the Queenstown Arterial Route (\$50m).

The town centre streetscape improvements aim to enhance the amenity and quality of the public realm on Brecon Street, Beach Street, Rees Street and Park Street, completing the 'Gardens to Gondola' active mode route. The project has a target start before the end of 2020.

The Stage One Arterial project will provide a new route for traffic between Frankton Road and Shotover Street, effectively connecting and upgrading existing roads Melbourne Street and Henry Street. The project is intended to remove general traffic from the Stanley Street bus hub and enable land use development in the town centre. Fast Track Designation is underway for the full Arterial Route (Figure 4 – Interdependent Projects Section) and construction is expected to commence in July 2021.

1.5.3 Housing Infrastructure Fund

The Housing Infrastructure Fund was established by the Ministry of Housing and Urban Development to enable the delivery of core infrastructure supporting housing development in response to the national housing affordability crisis. The contestable fund is made up of \$1bn worth of 10-year interest-free loans for high growth areas.

Three projects have been approved for Queenstown:

- Kingston
- Quail Rise South
- Ladies Mile

Funding approved for Quail Rise South includes bus stop shelters, pedestrian/cycleway underpass and an arterial road connecting to SH6. Long term transport issues at Ladies Mile need to be addressed before that development is approved; at the time of writing, a second master planning exercise is underway.

1.5.4 Other Transport Investments and Actions

In March 2016, the \$8.2 million State Highway 6 east Glenda Drive Intersection Improvements Project was completed, providing for a four-lane alignment between Hardware Lane and Grant Road, including new roundabouts at Grant Road and Hawthorne Drive.

In early 2017, a \$1.36 million upgrade of the BP Roundabout was completed to provide two circulating lanes on the roundabout towards Queenstown and additional stacking and turning space on most approaches. This was designed to maximise the capacity of the roundabout in advance of more significant future changes.

In November 2017, a new bus network was implemented in Queenstown, replacing the previous commercially provided Connectabus network. The network was built around a frequent trunk spine service between Fernhill and Remarkables Park via Queenstown Town Centre, supported by a range of feeder services in a largely hub and spoke model centred on Frankton. More detail is provided in section 1.6.1.

In December 2017, the \$22 million Hawthorne Drive project was completed providing an eastern bypass of Frankton from State Highway 6 south to State Highway 6 east avoiding the often congested BP Roundabout.

In May 2018, the \$22 million two-lane Kawarau River Bridge was opened on State Highway 6 south, replacing the 1926 traffic-signal controlled single-lane wooden bridge.

A \$6.4 million upgrade of the intersection of State Highway 6 with Tucker Beach Road was completed in May 2019, addressing a significant safety issue for vehicles turning right out of Tucker Beach Road by providing an underpass and acceleration lane to join State Highway 6 westbound.

1.6 Economic Context

The environment around Queenstown echoes Tolkien's Middle Earth – deep hidden valleys, barren tussock lands, and remote mystical mountains. The magnitude of the dramatic natural scenery is matched only by the adrenaline-fuelled activities that have led to Queenstown's position as a global adventure tourism mecca. Such is the attraction of the area, up until now there has been little need for the local economy to diversify, and Queenstown is now notoriously reliant on the tourism industry.

1.6.1 Setting the Scene

Prior to the COVID-19 pandemic, tourism accounted for 64% of all jobs in the district⁵. Accommodation and food services contributed 17.3% of the district's GDP (compared to 2.2% nationally), while construction contributed 10.7% (compared to 6.4% nationally)⁶. These figures speak to the importance of tourism to the local economy, construction's share reflecting the rapid growth seen in the district.

Although vulnerable to economic shocks, such as the COVID-19 pandemic, Queenstown's contribution to the regional and national economy is unquestionable. Even in the year to August 2020, affected by the pandemic, Queenstown Lakes District ranked second in tourism spend (Figure 9). Queenstown is also New Zealand's most popular destination outside of Auckland (where numbers include transit through the international airport).

Prior to the pandemic, international visitors who come to New Zealand to visit Queenstown spent \$157–\$254 million per annum in the rest of the South Island (excluding Queenstown). This spending generates \$988 million–\$1.10 billion to the South Island's GDP, and 9,600–11,600 jobs in the South Island. New Zealand as a whole also benefits from the Queenstown visitor experience. Visitors who come to New Zealand to visit Queenstown spend a total of \$1.44–\$1.74 billion per annum nationally. This spending contributes \$1.3–\$1.6 billion to New Zealand's overall GDP and 13,700–17,000 jobs nationally⁷.

Economic performance in the district, as measured by GDP, has grown above national rates consistently since 2001 (Figure 10). Between 2013 and 2019, GDP growth in Queenstown was at least 2.1% higher than the national rate, reaching a peak gap of 7.4% in 2016.



Figure 9: Annual Tourist Spend by District YTD August 2020 (Source: MBIE)

⁵ [Economic impact of COVID-19 on Queenstown-Lakes](#), Infometrics (2020)

⁶ [Queenstown Lakes District Overview Annual Economic Profile](#), Infometrics (2019)

⁷ [Sustaining Tourism Growth in Queenstown](#), Martin Jenkins (2018)



Figure 10: Annual Average GDP Growth

1.6.2 Signs of Strain

Unabated growth in Queenstown has led to a commensurate rise in house prices, meaning home ownership is unrealistic for many locals, particularly those working in the service and tourism sectors (which make up 64% of the workforce). Even during the economic downturn caused by COVID-19, where unemployment has risen drastically, median house prices exceeded \$1 million⁸. The average house value to average annual earnings in 2018 was 20.6:1. Comparing this to ratios of 10:1 in Nelson and 16.6:1 in Auckland indicates the extent of the increasing crisis.

Pre-COVID, Queenstown ratepayers were facing an increasing burden to pay for infrastructure used by non-paying visitors. Among New Zealand's main tourist centres, Queenstown has an unparalleled ratio of 34 international tourists-to-residents. The overall number of international visitors to Queenstown in 2016 was higher than the number of international tourists who visited Christchurch, which has a resident population 10 times that of Queenstown. Historically, investment in infrastructure by government has been guided by the number of residents in a town or region, which in Queenstown's case has resulted in chronic under-investment. In line with the paragraph above, realistic alternatives to pay for much-needed infrastructure upgrades are limited. A visitor levy for Queenstown was backed by the Government in 2019 to help pay for investment in infrastructure, though this was parked in the wake of the COVID-19 pandemic⁹.

Capped Growth

Failure of central Government to intervene in Queenstown's transport problems will allow congestion to worsen (travel demand is forecast to double on SH6A by 2048), with associated degradation of liveability and the visitor experience. Ultimately, this will artificially cap growth, causing Queenstown to stagnate.

Visitor feedback already indicates that the single biggest negative, in an otherwise highly regarded visitor experience, is traffic issues. The risk of Queenstown being bypassed by visitors is materialising as the ability to travel around the district worsens.

The loss to the local economy caused by forecast 'unmet demand' has been calculated at \$750 million (refer to Technical Note 26: Effect of Transport Constraints on Tourism). Although some demand will disperse to other parts of the country, Queenstown's importance to the national tourist offering translates to a cost to the national economy of \$150 million.

1.6.3 Implications of COVID-19

An assessment of economic impacts caused by the COVID-19 pandemic by Infometrics¹⁰ forecast economic activity (in GDP) to contract by 23.3% in the year to March 2021 (compared to an 8.0% contraction nationally). Employment is projected to fall by 25.3% in the same period, translating to a loss of 7,900 jobs. In terms of total job losses, this figure is only beaten in the main centres. Unemployment is expected to reach 18.5%, up from

⁸ [Queenstown Real Estate Sales - Monthly Housing Statistics](#) (accessed September 2020)

⁹ [Visitor levy on hold](#), Otago Daily Time (April 2020)

¹⁰ [Economic Impacts of COVID-19 on the Queenstown-Lakes Economy – Early Estimates](#), Infometrics (May 2020)

1.1% pre-COVID and significantly above the national figure of 9.0%. The resulting economic cost is expected to be \$270m.

However, forecasts published by QLDC indicate a less dramatic downturn, with visitor and resident growth expected to return to pre-COVID levels in 3-5 years¹¹.

No significant changes are expected in the nature, scale and location of transport demand over the medium to long term with the 10-year outlook remains largely unchanged. Therefore, investment in public and active transport services to support the COVID-19 recovery is critical to enable a more effective and diverse travel choice. In particular, investment in public transport would play an important role in further strengthening mode shift that will influence the future of travel in Queenstown.

1.7 Transport Context

Queenstown's transport network operates around a spine of State Highway 6, connecting Frankton with the eastern corridor (towards Cromwell) the southern corridor (towards Kingston), and a spur to the town centre along SH6A (Frankton Road). Historic settlements Arthurs Point and Arrowtown are connected by Primary Collectors, Gorge Road and Malaghans Road, while most residential subdivisions are accessed from the highway by local roads (Figure 11).



Figure 11: Queenstown Road Network

Historically, Queenstown has been a rural town with a relatively low population and little traffic congestion. The public transport system was modest until 2017, when a new bus system was introduced. Ferries play a supplementary role, mainly carrying low numbers of tourists. A comprehensive trail network supports recreational cycling and walking and is being transitioned into a commuter network. This resulted in overwhelmingly car-oriented design throughout the district and has led to ingrained travel behaviour. Only

¹¹ [Queenstown Lakes District Population Projections Post-COVID](#) (September 2020)

following the recent tourism boom (post 2005), and associated increase in traffic volumes, has there been a need to provide alternative transport options.

1.7.1 Public Transport

A new bus network (Figure 12) was introduced in November 2017, comprising 4 routes operating at regular frequencies from 06:00 to 00:45, 7 days a week. Route 1 (Town Centre to Remarkables Park via Airport) runs on a 15-minute frequency all day while all other routes run on 60-minute frequencies, increasing to 30 minutes during peak hours, except Route 3 (Kelvin Heights to Frankton Flats).

In January 2020, following lobbying from the community, Route 4 was replaced by a peak-hour direct Lake Hayes to Town Centre service and Jacks Point to Frankton service, which now operate over all hours of service. The Fernhill route has also been extended to Sunshine Bay throughout the day. Due to limitations of existing ticketing data, the effect of the 2020 changes on patronage is not yet known.

In September 2020, the 'Bee Card', an integrated ticketing system, was introduced. The change to a tag on-tag off system will provide granular data on public transport users' origin destination movements, something that was lacking for this project. Cash fares were reduced from \$5 to \$4 and airport fares were reduced from \$10 to \$4. Additional changes to routes include use of Shearer's Road between Grant Road and Hawthorne Drive, removing the need for the precarious three-point turn in Five Mile Shopping Centre.

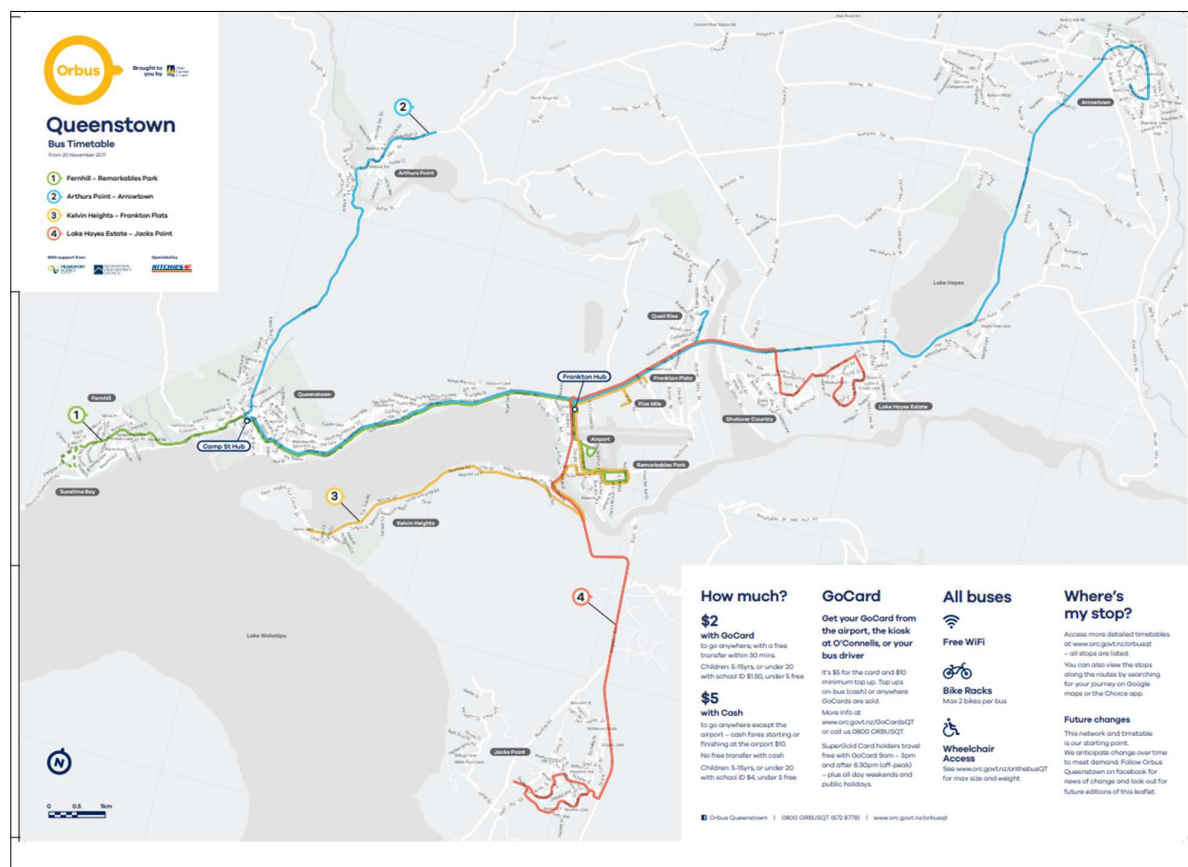


Figure 12: Queenstown Bus Routes

The introduction of a flat \$2 bus fare and increased parking charges in November 2017 caused a 192% increase in patronage between June 2017 and June 2018, highlighting the potential for step-change growth in public transport in Queenstown (refer to Figure 13).

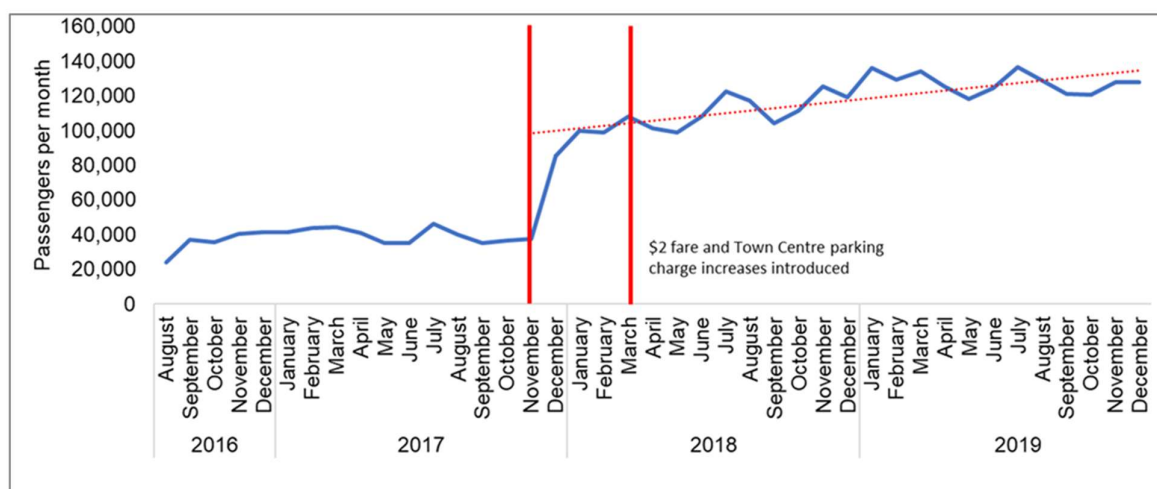


Figure 13: Wakatipu Bus Patronage (Source: ORC Bus Patronage Data via Email)

Following the initial step change, steady patronage growth continued between 2018 and 2020. Bus hub observations undertaken in November 2019 indicate that the system was reaching capacity¹² (pre-COVID – refer Section 1.4), with standing room only on peak hour buses. Further upgrades to hubs, route frequencies, transfer reliability and travel time reliability will be required to attract remaining latent demand and avoid deterring existing patronage as levels of service drop.

From November 2018, Go Orange has operated a scheduled ferry service on the Frankton Arm of Lake Wakatipu. The service currently operates on an hourly timetable with two vessels travelling in opposite directions around the lake, running from 07:30 to 18:30 (22:30 on Fridays and Saturdays). Tickets are \$9 for a single, \$15 for a return or \$49 for a 10-trip concession. According to Go Orange, the ferry service has been popular and reached a milestone of 100k trips by October 2019, 10 months after it began operating. ORC announced in January 2020 that the existing service would be subsidised in the short term while it planned a full funding arrangement with Way to Go partners.

Queenstown Ferries

The Lake Wakatipu Public Water Ferry Service DBC (Arup 2019) found that a subsidised Frankton Arm ferry service would deliver a BCR of 1.1, with expanded services to Jacks Point, Lake Hayes or Fernhill producing BCRs below 1. Patronage forecasts are low due to the lakeside being relatively inaccessible except in low density residential areas such as Kelvin Heights

1.7.2 Queenstown Town Centre

The Town Centre is effectively located at the 'end of the line', separated from other centres by mountains and the lake, making it difficult to serve with transport routes. It also happens to be the biggest source of employment in the district, and the primary destination for visitors due to its historic core, spectacular alpine scenery and concentration of tourist attractions. This combination of effects means that large numbers of people travel to the town centre, primarily by car, to spend time on foot enjoying the ambience, generating an increasingly large conflict between movement and place.

This conflict is exemplified by Shotover Street, the town's main thoroughfare (and



Figure 14: Shotover Street Looking East

¹² Stanley Street Bus Hub Observations Memo, WSP (November 2019)

state highway), serving up to 18,000 vehicles and 7,000 pedestrians per day. The road has zebra crossings, on-street parking, loading bays and even on-street dining, shown in Figure 14.

1.7.3 Frankton to Queenstown

The primary function of the Frankton to Queenstown corridor is providing movement between Queenstown's two main centres. It is the only highway providing access to Queenstown, and further afield to Glenorchy/ Mt Aspiring National Park. However, as a result of Queenstown's growth and minimal land availability, land use has developed along the route, with multiple accommodation providers and a residential population of up to 3,000 people. This has led to increasing demand to and from side roads and accesses along the state highway, resulting in increasing conflict.

The route is also inextricably linked to the performance of the town centre network. As the receiving environment, the town centre effectively caps the amount of traffic able to travel through the Frankton to Queenstown corridor. Similarly, uncontrolled amounts of traffic leaving the town centre can overload SH6A, particularly in the PM peak. The Frankton track along the edge of Lake Wakatipu provides walking and cycling access between Frankton and Queenstown and is proposed to be upgraded as part of the Wakatipu Active Travel Network. Access to the track is currently limited to a few points along the route requiring switchbacks or use of stairs.

1.7.4 Frankton and Ladies Mile

The recent increase in development in Frankton is closely linked to the value uplift in the town centre. Big box retail has thrived in Frankton in recent years, with over 80 businesses opening at the Queenstown Central and Five Mile retail centres.

Free and largely unrestricted parking drives increased car dependency across Frankton. This is exacerbated by dispersed land uses with poor connections due to severance caused by the airport. This severance makes it not only difficult to walk or cycle, but also difficult to serve the area effectively (and attractively) with public transport. A public transport hub is located at the main intersection of the eastern and southern corridors of SH6 – (the 'BP roundabout'). This hub still requires transfers for some trips but is well located to minimise additional travel time and delay. Despite Frankton being relatively flat with fewer competing demands for land, there are minimal active mode connections around the area, particularly between the Events centre and Five Mile retail centre.

The 'Ladies Mile' corridor also has well publicised traffic issues during the morning peak, with queues extending up to 2km from the Stalker Road roundabout. The large residential subdivisions of Lake Hayes Estate and Shotover Country are poorly served by public transport due to their circuitous layouts, restricting the potential catchment for public transport. This, in combination with free unrestricted parking in Frankton, leads to high mode share for car, in spite of long queues over the Shotover Bridge.

1.7.5 Queenstown Airport

Queenstown airport is somewhat a totem of tourism in the district: some see it as enabling economic prosperity, while others see it as unsustainable and environmentally damaging. In terms of generating road traffic, the airport's impact is often overstated, only accounting for approximately a third of all arrivals to the district (the remainder arriving by car)¹³, and most travel occurring outside of typical peak hours.

However, growth projections indicate a trebling of demand by 2035, leading to plans for expansion, or even relocation, both of which have been met with community resistance. As shown in Figure 15, annual passenger demand at Queenstown Airport is forecast to increase from 1.8 million in 2016 to 3.2 million in 2025, 6 million in 2035, and 7.1 million in 2045¹⁴. These forecasts were developed prior to the onset of the COVID-19 pandemic; however, the expectation is that growth will resume and are therefore still considered as relevant for longer term infrastructure planning.

¹³ [Understanding current and forecast visitor flows to the South Island](#) (2018)

¹⁴ [Queenstown Airport Masterplan](#) (2017)

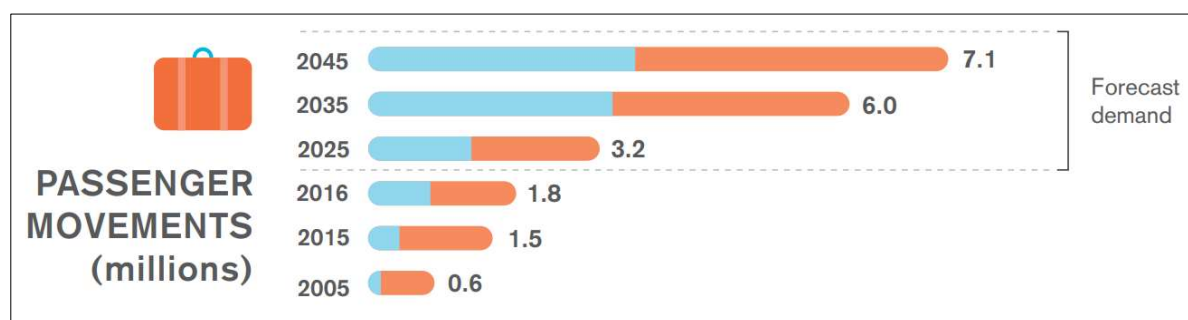


Figure 15: Queenstown Airport Forecast Passenger Movements (Source: Queenstown Airport Masterplan (2017))

Current noise boundaries under the District Plan are understood to allow for 2.6 - 2.7 million passengers per annum; expanding beyond this demand has been met with fierce resistance from the community. In addition to expanding noise boundaries, the airport is likely to require additional physical capacity to accommodate demand beyond 2025. This has been proposed to be provided by a new terminal along the southern edge of the runway.

The Queenstown Airport Masterplan was developed in 2017 to understand the speed of growth and consequent infrastructure requirements over the next 30 years. Additional social and economic impact assessments have been carried out¹⁵, testing alternative means of facilitating airline passenger growth. These include maintaining the status quo, expanding Queenstown airport, operating a dual Queenstown/Wanaka Airport, or creating a new 'Central Otago' Airport.

These assessments found that, accounting for both positive and negative feedback, stakeholders generally support maintaining the status quo and not increasing airport capacity. This option, if chosen, is likely to lead to increased visitor arrivals into Queenstown by road, as additional growth will be accommodated by airports further afield. Conversely, this may also lead to a decrease in the growth of tourism in Queenstown, with other destinations such as Dunedin or Christchurch absorbing demand.

In July 2020, Christchurch Airport announced they had spent up to \$45m on plans to establish a new international airport in Tarras. They have indicated that implementation would only occur when Queenstown airport reaches capacity, but this would accommodate forecast growth within the district.



While Wanaka is likely to absorb a higher proportion of visitors, due to being close to Tarras, visitor arrivals in Queenstown are increasingly likely to be by car.

1.8 Land Use and Spatial Planning Context

Prior to the COVID-19 pandemic, the rate of population growth in Queenstown outstripped the speed at which new housing was being built in the district, leading to a housing affordability crisis¹⁶. New housing subdivisions have sprung up around the district to meet demand, with multiple proposals at various stages of planning in the pipeline. Given Queenstown's 'insatiable desirability', demand is forecast to return to pre-pandemic levels¹⁷. At the time of writing, a spatial plan was under development for the Queenstown Lakes District. Development of this spatial plan has occurred in parallel with this business case and the two processes have informed each other.

Substantial growth is expected to continue in the long term throughout the Queenstown Lakes District, despite the recent downturn after a short-term slowdown caused by the COVID-19 pandemic. This section identifies

¹⁵ [Socio-Economic Impacts of Airport Infrastructure in the Queenstown Lakes District](#) (June 2020)

¹⁶ [Workers 'hot bed' as Queenstown housing crisis worsens](#), Stuff (September 2019)

¹⁷ [Queenstown Lakes District Population Projections Post-COVID](#) (September 2020)

planned and known proposed developments. Based on current growth projections, 3,715 dwellings are expected to be built in the Queenstown Lakes District by 2028, rising by another 12,312 dwellings by 2048.

1.8.1 Grow Well/Whaiora – Spatial Plan (ongoing)

The Spatial Plan for the Queenstown Lakes area was commissioned in response to rapid growth occurring in the district. It endeavoured to avoid past mistakes that have led to Queenstown's current land use/transport disconnect. A partnership between QLDC, Central Government and Kai Tahu, the spatial plan incorporates inputs from national, regional and district strategies. It recognises that growth in such a desirable location is inevitable and provides a mechanism for ensuring growth happens in a managed, integrated and sustainable fashion, rather than through ad hoc private developments.

The plan effectively provides strategic oversight for the district plan, which covers land use rules and environmental protection, and the 10-year plan, which sets out budgets for planned activities. It is a high-level vision intended to achieve the outcomes shown in Figure 16.

Ultimately, the spatial plan will define the roles of settlements throughout the district, and determine the infrastructure and connections needed to fulfil those roles. As the fundamental cause for travel (between residence, workplace, education, shopping and recreation), the spatial layout of the district's land use is inherently linked to the future transport network.

This project therefore needs to provide solutions that are aligned with the outcomes of the spatial plan. The spatial plan also recognises that transport infrastructure can equally drive land use change, such as around a Mass Rapid Transit route.



Figure 16: Grow Well/Whaiora – Spatial Plan Objectives

The impacts of COVID-19 on the spatial plan are not yet fully understood, but there is expected to be a reduction in growth, at least for the short term. Long term growth is not expected to be substantially different.

1.8.2 Ladies Mile

In recent times, Lake Hayes Estate and Shotover Country have been the primary source of affordable housing in Queenstown. However, as of 2018, the area is largely at capacity (at currently permitted densities), with 1,470 households completed of a projected total of 1,640.

Land along the Ladies Mile corridor has long been touted as a suitable area for development due to its flat, sunny, non-hazardous land and proximity to commercial areas in Frankton (Figure 17). However, in April 2019 councillors declined three applications to develop housing there, citing community concerns around congestion and visual impacts on the gateway into Queenstown.



Figure 17: Previous Ladies Mile Masterplan

Councillors since agreed a resolution stating that development was likely to occur regardless of council's position, and a Council-led process would ensure better and more integrated outcomes than an ad hoc series of private developments.

A master planning exercise (with associated business case) is now underway to enable a plan change and establish an implementation plan for infrastructure for the Ladies Mile corridor with the following objectives:

1. A land use solution is delivered in a timely, integrated, and organised manner, avoiding individual applications
2. Increased liveability, wellbeing, and community cohesion for existing and future residents of the Ladies Mile area.
3. Improved access to and from Ladies Mile with a transport network that can deliver its functions efficiently and effectively.
4. Supporting enhanced public transport and active travel provision and utilisation through land-use solutions.

Critical to achieving objectives for Ladies Mile will be a very high mode share to public and active transport.

1.8.3 Southern Corridor

In similar fashion to the Ladies Mile corridor, the southern corridor is being developed for housing due to its flat land and convenient access to SH6. Access to the south was vastly improved with the completion of the two-lane Kawarau Falls Bridge in 2018.

As of 2018, Jacks Point was the only residential area to the south with 280 households. By 2048, there are anticipated to be further developments at Hanley's Farm and Homestead Bay¹⁸, plus an approved Special Housing Area at Coneburn¹⁹, constituting 2,370 dwellings in total²⁰ (Figure 18).

Note that these are baseline projections while Grow Well/Whaiora has aspirations for up to 10,000 dwellings in the Southern Growth Area.

In addition to residential development, commercial and industrial growth is planned. Jacks Point Village and Homestead Bay have plans to develop new hotels, restaurants, shopping and a marina. A proposal for a new industrial area on the eastern side of SH6 is also being investigated.

Evidently, the southern corridor is expected to undergo significant change, with the Kawarau Falls Bridge likely to suffer similar transport issues to those experienced at the Shotover Bridge if not managed proactively. A Network Operating Framework has been developed to ensure land use and transport infrastructure is developed in an integrated way that supports best use of assets and space.

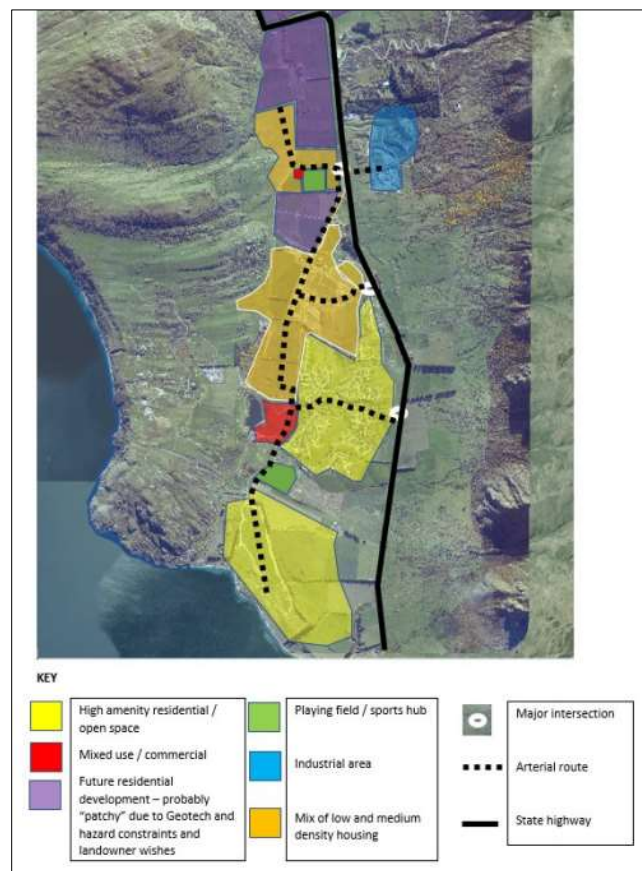


Figure 18 Coneburn Valley Development (Source: Expression of Interest for a Special Housing Area, February 2019)

¹⁸ [Homestead Bay Masterplan](#) (2018)

¹⁹ [Coneburn Special Housing Area Resource Consent Approval](#) (2020)

²⁰ [Queenstown Lakes District Population Projections](#) (December 2018) *Updated in September 2020 to include COVID-19 impacts and Spatial Plan outcomes

1.8.4 Town Centre

Several land development projects are planned (and are understood to be continuing post-COVID) within the Queenstown town centre, including (but not limited to) the following:

- **Lakeview:** Six hectares of land owned by the QLDC is set to be developed as a range of small commercial, residential and visitor accommodation activities²¹. A preferred bidder to complete this project was appointed in April 2019 by QLDC. This project is likely to be completed over a 10-year period and is expected to provide homes for over 1,500 residents.
- **Wakatipu High School Site:** Plans to redevelop the site to provide over 300 high density residential homes and supporting community spaces²². Of the 300 houses, 100 are expected to be KiwiBuild homes and the first group of homes are expected to be completed by 2022.
- **Man Street Hotel:** A five-star, five-storey hotel, featuring 47 studios, nine suites and one penthouse. This hotel will be constructed on top of the existing Man Street carpark.
- **Brecon Street Hotel:** 393 guest rooms, including a 73-space car park.

In the context of a thriving, rapidly expanding town, the amount of development planned at the heart of the district is relatively minor in comparison with more sprawling developments proposed for the periphery of the urban area. The amount of brownfield development (infill) proposed in the Town Centre is substantially smaller than the greenfield developments described above.

Figure 19 provides the current understanding of proposed land use development within the Town Centre.

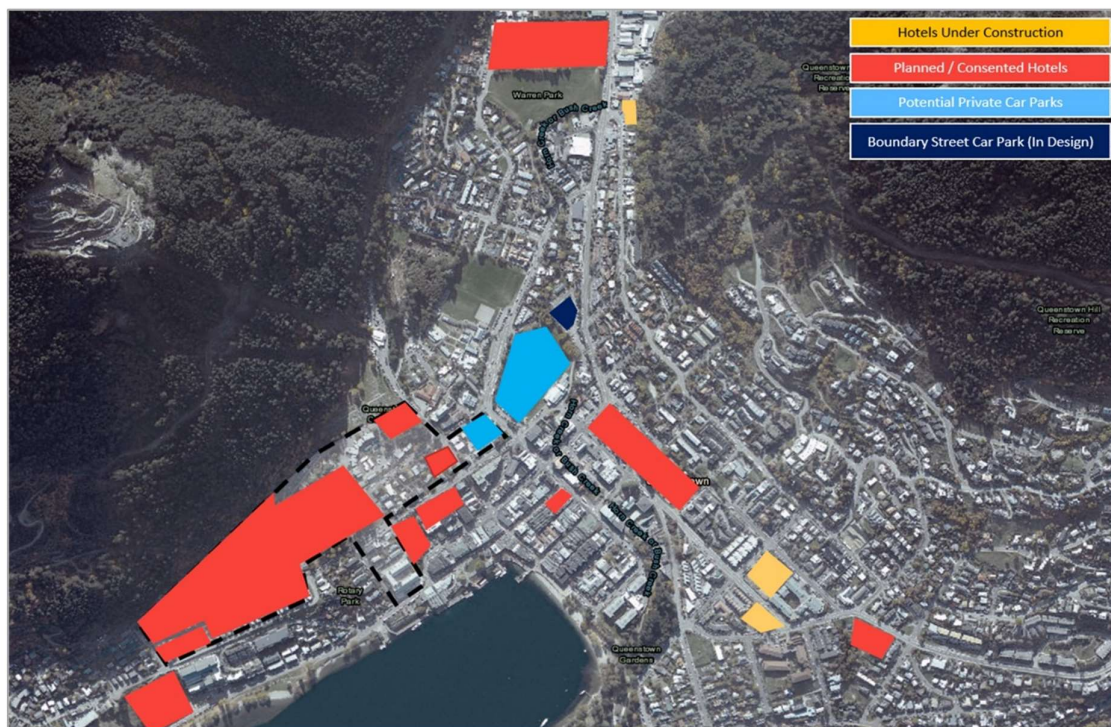


Figure 19: QTC Planned Developments (as of 2019)

1.8.5 Special Housing Areas

The designation of Special Housing Areas (SHA) is one of the tools available to fast-track the development of housing in the Queenstown Lakes district. SHAs act as a means of increasing housing supply and affordability

²¹ Lakeview Tenure Discussion

²² [Kiwibuild homes announced for Queenstown](#) (March 2019)

in regions, such as Queenstown, which are experiencing high levels of population growth. Eight SHAs have already been approved in Queenstown, resulting in approximately 1,120 residential sections/units. These are:

- Bridesdale – 136 sections (including two existing dwellings)
- Shotover Country – 101 sections
- Arrowtown Retirement Village – 195 apartments + aged bed care facility
- Queenstown Country Club – 332 apartments/villas plus 14 residential sections + aged bed care facility
- Onslow Road – 21 sections
- Arthurs Point Stage 1 (Bullendale) – 88 residential units (Consent obtained -SH160143)
- Business Mixed Use Zone (Gorge Road) – 143 units (Consent obtained -SH160147)
- Arthurs Point Stage 2 (Bullendale) - 92 residential units (No Consent yet)
- Coneburn – 600 homes (Consent obtained)

However, QLDC councillors declined all three Special Housing Areas in Ladies Mile (Laurel Hills, Flint's Park and Glenpanel), comprising 579 housing units, over concerns about traffic and transport infrastructure. The Coneburn SHA south of the Kawarau River, planned to have 600 housing units was, however, approved²³.

1.9 Masterplans

The Masterplans described here were developed with the intent of improving liveability outcomes; the Queenstown Business Case sought to identify transport solutions to enable those outcomes.

1.9.1 Queenstown Town Centre Masterplan (2017)

The Queenstown Town Centre Masterplan (parent project of the transport-focussed Town Centre Masterplan PBC) was undertaken to address a number of arising growth-related challenges with an integrated series of transport, amenity, liveability and land use projects, and give a clear direction to investment in infrastructure for the future.

It was identified that the fabric of the town centre was changing as a result of rapid growth in the tourism industry, reducing liveability for both residents and visitors. As tourist numbers grew, bringing with them economic opportunity, the town's offering started to be dominated by visitor-oriented shopping, dining and recreation. Residents, who have a lower price point and are less drawn in by tourist attractions, shifted to Frankton for day-to-day activities, leaving the heart of the town devoid of local authenticity, something that visitors regularly rate importantly in surveys of their overall experience.

To address these issues and reclaim the desired purpose of the town centre, the Masterplan identified a programme designed to improve access into and around the town centre, while creating an enhanced environment that meets the needs of both residents and visitors.

The masterplan identified the following 'next steps' (i.e. for the Queenstown Business Case):

- better understanding of costs and benefits for stage 3 of the arterial
- further testing of optimisation options for Stanley and Shotover Street traffic flows
- investigation of a public transport only programme in the masterplan programme
- an outline of how parking developments will be managed to ensure they play an integrated role in delivering the required transport outcomes
- an outline of how smart technology will be used to enhance transport experiences.

The intent of the Queenstown Business case has strong alignment with the QTC masterplan, aiming to give action to the vision and strategies within. A focus on public realm, public transport and walking and cycling

²³ <https://www.scene.co.nz/features/breaking-ladies-mile-shas-declined>

improvements throughout the town forms the core of both projects. Alignment between the projects, particularly in relation to option development, is presented in more detail in Part Bi of the Queenstown Business Case.

1.9.2 Project Manawa

A key component of the Masterplan was to develop a 'community heart', which has since become Project Manawa. Located on Stanley Street in central Queenstown between Ballarat Street and Gorge Road, the project is being developed in a collaboration between Kai Tahu and QLDC, and intends to provide a cultural and civic heart for the wider district, delivering a range of cultural and community facilities such as arts spaces, library, performance and visual arts centre, town square and commercial buildings. Proposals are also in place to rationalise council office space (currently dispersed in multiple buildings around Queenstown) into a central hub at the site. The project is at a conceptual stage so operational and site layout details are unavailable.

However, the precinct is a key interdependency with this project, as it shares a border with the potential Stanley Street public transport hub and will create a major new destination, changing travel patterns in the town centre. Pre-implementation following the Queenstown Business Case will need to ensure integration with more detailed plans when they are available.

1.9.3 Frankton Masterplan (2019)

The motives for developing the Frankton Masterplan were similar to those in the town centre. Since the Queenstown Masterplan was developed, Frankton emerged as a key economic centre for the district, and similar pressures on existing infrastructure, brought about by the unprecedented pace of development, became evident. The masterplan was commissioned to present an integrated programme of land use, environmental, amenity, cultural and transport projects designed to ensure that Frankton can continue to provide its function as a transport network, while enhancing the visitor experience and residents' quality of life.

Key facets of the master plan (Figure 20) include:

- Transport – an integrated system with universal access for all, particularly by improving active modes and public transport connections, with a view to enabling high frequency, high capacity public transport in the future
- Amenity – enhancing the arrival experience for visitors and enhancing green spaces, acknowledging 'ancestral landscapes' and expressing cultural values
- Land use integration – aligning with the Spatial Plan, identifying appropriate agglomerations of land use, such as the future public transport hub, events centre expansion and intensified residential while relocating rural infrastructure closer to the Rural Urban Boundary.

Of note, the masterplan also promotes converting the Frankton-Ladies Mile Highway to a 'high amenity urban arterial'. Given the current function of the road as a regionally important State Highway carrying up to 30,000 vehicles per day, this is likely to create conflicts between movement and place that will need to be carefully managed through design.

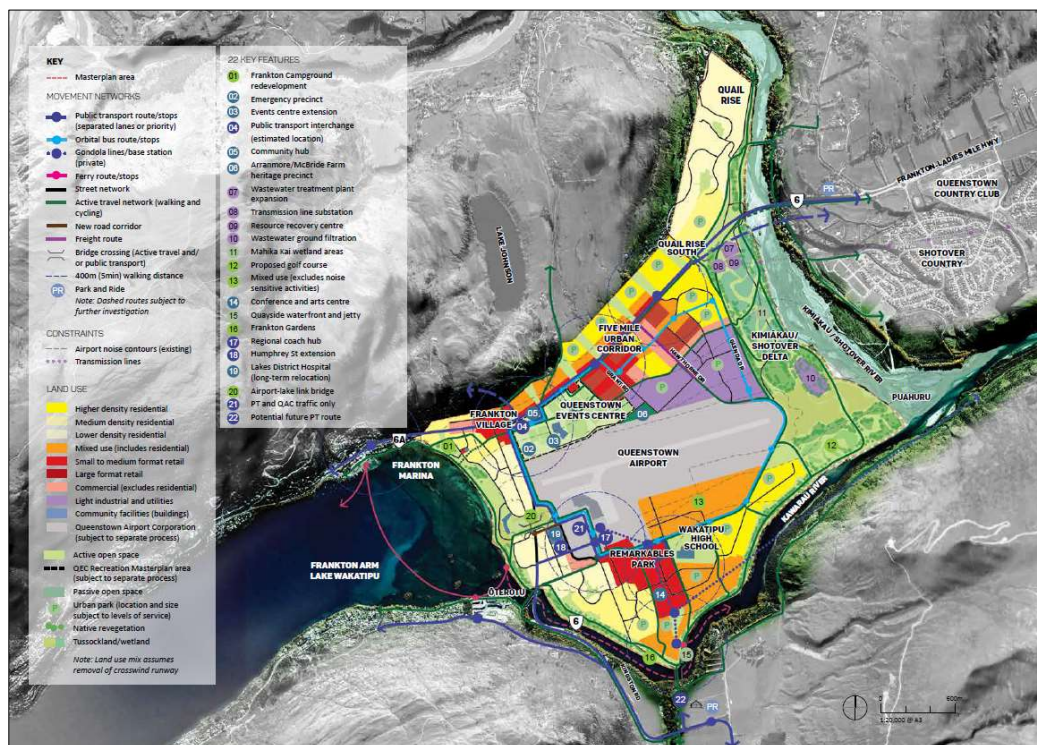


Figure 20: Frankton Masterplan Overview

The masterplan gives a vision for the development of land use in Frankton, and high level proposals as to transport provision for the area, some of which were developed in collaboration with the Queenstown business case team. Transport proposals from the Masterplan that have been considered in this project include:

- Regional coach hub at the airport
- New Humphrey Street link
- Active mode route between the airport and lakefront
- Public transport only bridge over the Kawarau River
- Orbital bus route

Waka Kotahi have indicated that they support the intent of the Masterplan but require detail from the Queenstown business cases before endorsing it. Integration of transport with proposed land use development, such as the proposed emergency services precinct at Frankton Golf Course, needs to be covered in more detail through this business case.

More contextual information on Frankton is available in Appendix A01.

1.10 Related Projects

This section presents previous and parallel projects that did not steer the strategic direction of this business case, but informed localised elements of optioneering.

1.10.1 Rapid Targeted Interventions

A suite of quick-win interventions was identified by the project team to resolve immediately pressing transport issues in the interim of major infrastructure projects being implemented. The programme of works comprised what would traditionally be classed as low cost, low risk projects, which were grouped to enable an integrated response to improve bus reliability and active mode accessibility while optimising the existing road network.

Interventions investigated included bus lanes, high occupancy vehicle lanes, Shotover Street signals, parking reduction, Stanley Street optimisation and shared paths. However, funding was unavailable at the time and the project was dropped. Many of the components are expected to form aspects of the Do Minimum scenario for the Queenstown Business Case.

1.10.2 Wakatipu Active Travel Network (WATN) SSBC

The WATN SSBC was one of the main activities of the QIT PBC recommended programme not to be directly addressed by the Queenstown Business Case. It identified a series of upgrades and connections to the existing network of trails and tracks to create a safe, integrated walking and cycling network for recreational and commuter use in the Wakatipu Basin.

The project focussed on network connections, linking previously disconnected areas, rather than localised gaps in existing provision. The Queenstown Business Case presents an opportunity to capitalise on committed network upgrades by further improving localised access to public transport and supporting broader mode shift targets identified in this business case. As described in The Three Pillars, supplementary non-car interventions will be critical in achieving the 40/60% mode share targets. The proposed active travel network for Queenstown is shown in Figure 21.

In October 2019, Waka Kotahi announced a \$14 investment in implementing the first stage of the network, which will include upgrades to a number of existing trails as well as several new trails, connecting key destinations such as Arrowtown, Arthurs Point, Kelvin Heights, Jacks Point, Lake Hayes Estate and Shotover Country, Fernhill, Frankton and Queenstown.

A key element of the programme is the proposal to seal and light the Frankton Trail on the lakeshore between Frankton and Queenstown, which will significantly increase the utility of this key recreational and commuting route, especially in winter when the hours of daylight are very short.

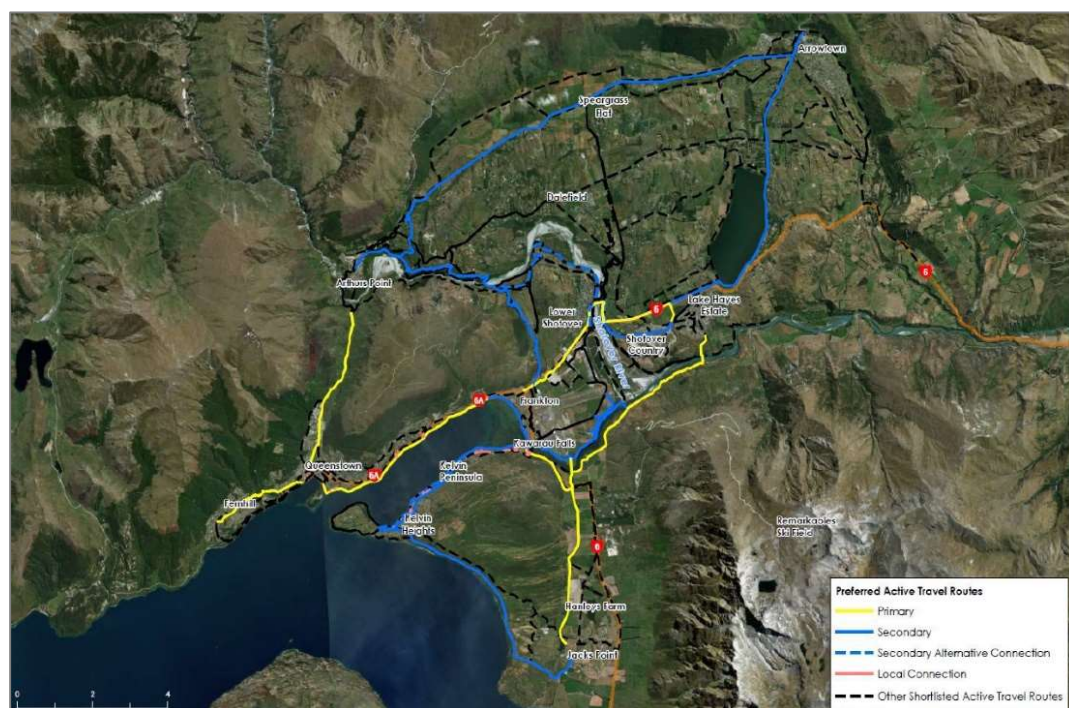


Figure 21: Active Travel Routes

1.10.3 Parallel Projects

Table 1 summarises other projects that stemmed from the QIT PBC or would influence optioneering for the Queenstown Business Case.

Table 1: Parallel Projects Summary

Project	Description	Relevance
Lake Wakatipu Public Water Ferry Service DBC (2019)	Investigated whether a ferry operation on Lake Wakatipu would be commercially viable long-term	Provided the case for investment in ferries as a component of the public transport network. Found that a subsidised Frankton Arm ferry service would achieve a BCR of 0.97, suggesting ferries are unlikely to form the Mass Rapid Transit option for this business case.
Wakatipu Basin Future Public Transport Demand/Capacity Analysis (2018)	Future demand for public transport was identified as a key gap in the modelling suite required to inform the Queenstown business case. A public transport model was established to forecast demand around the district for different high-capacity networks.	Tested the impact of a variety of parameters such as bus priority, parking management and fares on public transport mode shares. Provided demand forecasts for different modes of public transport to assist in selecting the high capacity public transport element of the business case preferred package.
Queenstown Parking Strategy (2019)	Sets out how parking will be managed and integrated with the wider transport system. Intended to promote mode shift and support amenity, a safe and efficient transport system and economic development of the town.	PT modelling indicated that parking is the single most sensitive parameter driving mode shift in Queenstown. The details of the parking strategy need to be developed in parallel with this business case to ensure equilibrium between carrot and stick measures.
Ladies Mile Housing Infrastructure Fund Integrated Transport Assessment (2018)	Assessed transport effects of a proposal to develop housing along Ladies Mile, testing various yield, build rate and growth rate scenarios to determine an appropriate transport infrastructure and services response.	Identified that, under growth rates observed at the time, any additional housing on Ladies Mile would result in traffic volumes over the capacity of the Shotover Bridge. Set out triggers for development, public transport interventions and levels of mode shift required to maintain network functionality.

2 STRATEGIC ALIGNMENT

The QIT PBC and QTC PBC established a clear strategic case for investment in Queenstown's transport network. This business case reviews and builds on previous work, updated as necessary to reflect new evidence and the implications of new transportation strategy; notably the Government Policy Statement (GPS) on Land Transport.

Investment in Queenstown's transport network aligns strongly with national, regional, and local policies as it supports safer transport, encourages mode shift, supports future growth, and improves customer levels of service. The strategic case presented in the QITPBC and QTCMPBC is still relevant, with the evidence base showing that identified problems have worsened, and that despite a brief respite brought about by COVID-19, they are expected to worsen again in the future.

This section outlines how this conclusion has been drawn, through a review of the following strategic documents:

- Queenstown Integrated Transport Programme Business Case
- National Strategies:
 - Government Policy Statement on Land Transport 2018/19-2027/28 and GPS 2021
 - Road to Zero: NZ's Road Safety Strategy 2020-2030
 - Arataki – Waka Kotahi's ten-year view on what is needed to deliver on the government's current priorities and long-term objectives for the land transport system
 - Keeping Cities Moving (2019) – Waka Kotahi plan to reduce car dependency and improve travel choice
 - National Policy Statement – Urban Development (2020) – Sets out national direction for urban development under the Resource Management Act.
- Regional Strategies:
 - Draft Otago/Southland Regional Land Transport Plan (2018-24)
 - Otago Regional Public Transport Plan (2014)
- Local Strategies:
 - Grow Well Whaiora Spatial Plan
 - QLDC District Plan
 - Better Ways to Go (Waka Kotahi, 2020) – the Queenstown mode shift plan

2.1 Queenstown Integrated Transport PBC (2017)

As described above, the strategic direction for this project primarily comes from the Queenstown Integrated Transport PBC. The problems identified for that project were:

- Significant growth in visitors, residents and vehicles, leads to increasing trip unreliability and worsening customer experience across the network.
- Car dominance and associated congestion is affecting the liveability and attractiveness of the area.

Evidence (presented in Section 3 Defining the Problems below) shows that visitor numbers, resident population and traffic volumes have all continued to grow at rapid rates since publication of the QIT PBC. Although the pandemic has slowed growth in the short term, visitor and resident numbers are expected to return to pre-COVID levels in 3-5 years. The respite brought by COVID-19 also presents an opportunity to 'catch up' with infrastructure and service provision in time to cater to the expected boom in latent demand from international tourists once borders reopen.

Similarly, residents have continued to voice frustrations about levels of congestion, and visitors overwhelmingly score transport as the worst aspect of their trip in satisfaction surveys. There has been some success in achieving mode shift away from cars, but this is occurring at a lower rate than overall traffic growth.

It can be concluded that evidence in the QIT PBC is still relevant and a strategic case exists for investment in transport for Queenstown.

2.2 Queenstown Town Centre Masterplan PBC (2017)

The transport PBC developed as part of the Queenstown Town Centre Masterplan sits beneath the QIT PBC in precedence but provides granularity on the strategy for the key town centre part of the network.

In progressing the project from a programme level to a detailed level through the QTC element of this business case, several aspects of the masterplan preferred package are expected to be omitted or changed, but the overall strategic direction is aligned.

Aspects of the programme in alignment are parking supply and management, public transport hub, public realm upgrades and walking and cycling improvements. There is some divergence in staging of the Queenstown Arterials project, public realm improvements and communications and technology. However, the bulk of the less-aligned elements have been funded through the Crown Infrastructure Partners economic stimulus package and will therefore not form part of this business case programme.

2.3 New Zealand Upgrade Programme and Crown Infrastructure Partner Stimulus (2019/2020)

The New Zealand Upgrade Programme is intended to give action to the GPS on Transport, reflecting the Government's policy for balanced transport with investment in road, rail, public transport and walking and cycling. In addition to providing safer and more sustainable travel choices, the programme aims to unlock housing development. The NZUP package for Queenstown comprises projects identified in the QIT PBC and through the optioneering phase of the Queenstown Business Case and is therefore directly aligned in strategy.

Funding unlocked through the Crown Infrastructure Partner stimulus package has fundamentally different strategic objectives, namely to stimulate the local economy in response to the economic downturn caused by COVID-19. The Queenstown Business Case package not only needs to accommodate the fast-tracked project while delivering on its original strategic objectives but ensure that the new project is supported by additional service and demand management interventions to prevent unintended consequences on the Town Centre network.

2.4 National Strategies

The national strategy for transport is largely dictated by the Government Policy Statement on Transport, which sets out funding priorities. Arataki then provides context with detail on regional issues and drivers for change, and identifies activities needed to deliver the Government's objectives for the Land Transport system.

2.4.1 Government Policy Statement on Land Transport (2018-2028)

The Government is seeking an effective, efficient, safe, secure, accessible, and resilient transport system that supports the growth of the economy to deliver greater prosperity, security, and opportunities for all New Zealanders. The two key areas of focus for transport are safety and access, with value for money and environment as supporting strategies. The policy promotes maximising value from limited resources. These elements are reflected in the Government Policy Statement, which sets out the Government's priorities for expenditure from the National Land Transport Fund over the next 10 years.

Table 2 sets out how investment in the Queenstown transport system would contribute to all priorities and objectives of the GPS.

Table 2: GPS Priorities and Objectives

Priorities	Objectives	Frankton to Queenstown, Frankton and Ladies Mile	Queenstown Town Centre
Access	Provides increased access to economic and social opportunities.	Greater efficiency of movement, and prioritising low-cost public transport, will provide equitable connections and access to employment, recreation and healthcare for Queenstown's broad range of network users. Improved centralised high capacity links will also help drive better land use integration.	Improved public transport and active travel options will improve Queenstown's liveability and visitor experience while providing affordable, convenient transport options to the employment centre.
	Is resilient.	Additional routes, as well as increased travel choice, will increase overall network resilience to network shocks and technological advances.	A transport system that provides mixed modes of transport will be better prepared for future needs. Failure to do so in the Town Centre will artificially cap growth.
	Enables transport choice and access.	Investment would allow residents and visitors to utilise public transport, walk or cycle to access employment, services (e.g. schools, shops, recreation) and accommodation in Frankton and the QTC.	Good access to multi-modal transport options will improve the experience for all road users through reduction in traffic volumes and parking demands.
Road Safety	A safe system that is free of death and serious injury.	Investment would improve the Infrastructure Risk Rating. Safety would improve for all road users including vulnerable road users (pedestrians, cyclists, impaired).	Reducing traffic volumes (through mode shift) leads to less congestion and parking demand. Roads will perform better and conflict between vehicles and other transport modes will reduce crashes resulting in safer roads.
Environment	Reduces greenhouse gas emissions, as well as adverse effects on the local environment and public health	Reduction in congestion due to lower traffic volumes (from reduced car travel and increased use of more sustainable, environmentally friendly modes) will reduce greenhouse gas emissions and improve public health through better air quality, stormwater and visual experiences.	
Value for Money	Delivers the right infrastructure and services to the right level at the best cost.	The business case approach will determine the right option at the best cost.	

Long Term Results

The relationship between the priorities, objectives, and long-term results are mapped out in the GPS. There are 11 long term results and 33 short-to-medium term results in the GPS. Table 3 summarises how investment in the Queenstown transport system will achieve the GPS' long term results.

Table 3: GPS Long-Term Results

Long Term (10+years)	Short to Medium-Term (3-6+years)	Relevance to Queenstown Business Case
Significant reduction in deaths and serious injuries	- State highways and local roads are safer for everyone. - Cycling and walking is safer.	Reducing traffic volumes leads to less congestion and parking demand. Roads will perform better and conflict between vehicles and other transport modes will reduce crashes.
Metropolitan and high growth urban areas are better connected and accessible	- A more accessible and better integrated transport network including public transport, walking and cycling - Improved land use and transport planning to create more liveable cities. - Improved throughput of people and goods in major metropolitan areas - Improved transport access to new and existing housing including provision of public transport services.	- Good access to multi-modal transport options will improve the experience for all road users. - Reduction in traffic volumes and parking demands.
Better access to markets, business areas, and supporting tourism	- Nationally important transport connections are maintained or improved to support areas of growth, changes in population, freight and tourism, and to improve safety. - Enhanced testing and deployment of intelligent transport systems and other technologies to make the best use of existing networks.	- Lower traffic volumes will improve connections and access to adjacent land use activity and support the development of any future adjacent land use. - Improved connections between Frankton and Queenstown. - Improved access to key tourism centres. - ITS to guide vehicles to available parking, reducing congestion.
Sustainable economic development of regional New Zealand is supported by safer and better transport connections	- Regional networks (including key regional freight routes) are safer, better connected and more resilient. - Improved transport connections (including local roads, public transport and active modes) on key regional tourist routes to make these routes safer for all.	- Provide a resilient network by providing alternative routes between Queenstown and Frankton. As well providing opportunities for mixed modes of transport for tourists and locals alike. - A transport system that provides mixed modes of transport can prepare the city for climate change and be more responsive to significant disruption.
Increased mode shift from private vehicle trips to walking, cycling and public transport	- A reduction in overall single occupant private vehicle travel in urban areas. - Improved good-quality, fit-for-purpose walking and cycling infrastructure. - Improved real and perceived safety for both pedestrians and cyclists. - Increased proportion of journeys made using public transport and active modes of travel (including children travelling to and from school).	- Providing multi-modal transport options will result in an overall reduction in single occupant private vehicles. - Reduction in congestion will result in pedestrian and cyclist safety.

Long Term (10+years)	Short to Medium-Term (3-6+years)	Relevance to Queenstown Business Case
More transport choice (including for people with less or limited access to transport)	Public transport is more accessible and affordable, especially for those reliant on it to reach social and economic opportunities (including people with disabilities, low-income people, and Super Gold cardholders)	Improved public transport and active travel options will improve Queenstown's liveability and visitor experience.
Improved network resilience for the most critical connections	- Improved resilience on routes where disruptions pose the highest economic and social costs - When disruption to the network occurs, impacts of disruption are reduced at the parts of the network that have the most economic and social importance	- Provide a resilient network by providing alternative routes between Queenstown and Frankton. As well providing opportunities for mixed modes of transport. - A transport system that provides mixed modes of transport can prepare the city for climate change and be more responsive to significant disruption.
Reduce greenhouse gas emissions from transport	Reduced greenhouse gas emissions from land transport using a whole-of system approach.	- Reduction in congestion due to lower traffic volumes will reduce greenhouse gas emissions. - Investment in public transport and active modes will encourage more sustainable and environmentally friendly travel choices.
Reduce transport's negative effects on the local environment and public health	- Reduced significant harmful effects of land transport-related noise. - Reduced significant harmful effects of land transport-related air pollution. - Reduced significant negative effects on water quality and biodiversity from construction and ongoing use of transport infrastructure. - Increased uptake of active travel modes such as walking and cycling to support environmental and public health objectives.	- Reduction in congestion due to lower traffic volumes will improve public health through better air quality, stormwater and visual experiences. - Improved public transport and active travel options will improve Queenstown's liveability and visitor experience.

Through the Government Policy Statement, the Government has committed to providing non-car transport choices that are accessible and affordable to all New Zealanders. This commitment will be actioned through Waka Kotahi's Arataki, which sets out a plan to reimagine New Zealand's transport system. This new direction, away from a purely roading infrastructure focus, is one of the reasons why the preferred programmes identified through this business case process may not necessarily align directly with that in the QTC Masterplan.

A summary of the GPS, Arataki and other relevant national and local strategies is provided in Appendix A02.

The Queenstown business case is a case study in the application of Arataki due to unique local constraints restricting the ability to provide 'traditional' transport interventions. Given the challenging terrain, low ratepayer base and highly seasonal demand, more efficient and effective solutions than simply building extra road capacity are needed. Arataki explicitly references a high need to transform urban mobility and improve urban form in Queenstown by:

- supporting delivery of the outcomes of the QITPBC
- supporting improvements to walking and cycling networks, with a focus on providing safe and efficient access to, and within, activity centres and schools, and connecting and expanding existing infrastructure to provide better connected networks
- supporting public transport services including on demand services where these provide a basic level of access to employment and essential services, more affordable transport choice, improve throughput on constrained corridors and help shape a more vibrant city

- working with QLDC to manage car-parking in the city centre, city fringe area and other key centres to increase uptake of public transport, walking and cycling for trips to these locations.
- working with QLDC and central government to implement the Queenstown Spatial Plan
- supporting further development where it supports relevant transport capacity enhancement measures
- working with QLDC to help ensure urban development occurs around corridors that have potential for public transport.

Keeping Cities Moving is Waka Kotahi's plan to improve travel choice and reduce car dependency. Its purpose is to improve the quality, quantity and performance of public transport facilities and services, and walking and cycling facilities, enabling more people to use them. This can involve both optimising the existing system (for example, through reallocating road space), investment in new infrastructure and services, and providing better connections between modes.

At a more local level, Better Ways to Go is Waka Kotahi's mode shift plan for Queenstown. This document found that "as a result of trip distances and the volumes of people involved, public transport has the greatest role to play in achieving the mode shifts necessary in the next twenty to thirty years if gridlock is to be avoided".

2.4.2 National Policy Statement – Urban Development (NPS-UD)

The NPS-UD sets out objectives and policies for urban development under the Resource Management Act (1991) that council are obliged to give effect to. QLDC is considered a tier 2 local authority for the purposes of the NPS-UD. Tier 2 councils, including QLDC, are required to give effect to the NPS-UD soon as practicable and not later than two years after the NPS-UD commencement date. That is, by 20 August 2022.

The most significant implications of this for Queenstown are included in the following policies:

Policy 5: Regional policy statements and district plans for urban environments enable heights and density of urban form commensurate with the greater of: the level of accessibility by existing or planned active or public transport to a range of commercial activities and community services.

Policy 6: Existing amenity values appreciated by some people are not, of themselves, an adverse effect

Policy 7: The requirement to set housing bottom lines in regional policy statements and district plans

Policy 11: After a transition period, QLDC will not be able to set minimum car parking rate requirements (except for accessible parking spaces).

3 DEFINING THE PROBLEMS

Queenstown's transport problems are well documented in the studies and business cases preceding this project. This section sets out the process behind agreeing the problem statements, benefits statements and investment objectives for the Queenstown Business Case.

3.1 Investment Logic Map (ILM)

A facilitated Investment Logic Map workshop was held with stakeholders from Waka Kotahi, QLDC, ORC and the project team on 9th October 2018. The session began with a discussion framing the problems, objectives, key principles and desired outcomes of the project from each organisation's perspective. Based on this discussion, the group then agreed on a series of Problem Statements, Benefit Statements, potential Key Performance Indicators (KPIs) and Investment Objectives. Benefits and KPIs are addressed in more detail in Section 3.4.

Stakeholders agreed that the Queenstown Town Centre and Frankton to Queenstown project areas had sufficiently different problems to warrant separate problem and benefit maps, which are shown in Figure 22 and Figure 23. The progression of problem and benefit statements into Investment Objectives is explained in Section 3.3. The Frankton to Queenstown ILM was reviewed in February 2020 when the project scope was expanded to include Frankton and Ladies Mile and was determined to be aligned with the new project areas.

Queenstown Business Case (Queenstown Town Centre)

Providing a multi-modal transport system that delivers safe and reliable travel options, improving livability

Wakatipu Way to Go



INVESTMENT LOGIC MAP

Activity

PROBLEM

BENEFIT

Unattractive PT/active travel options, coupled with growth in resident and visitor numbers, will lead to increasing congestion and parking demand. This further discourages people from visiting the Town Centre, has negative environmental effects and reduces Queenstown's livability and visitor experience.

Roads performing both place and access functions introduce conflicts between vehicles and other modes, which increases the likelihood for injury and reduces the quality of the public realm.

Severance created by high traffic volumes on SH6a together with the effect of drivers searching for parking is devaluing the pedestrian/cyclist experience, constraining the expansion of the town centre and limiting economic and placemaking opportunities.

A desirable place to live and visit
KPI1: Quality of urban environment
KPI2: Transport related emissions and noise

More reliable travel times through the Town Centre
KPI1: Travel time reliability

Economic benefit with more visitors coming into Queenstown
KPI1: Network accessibility
KPI2: System occupancy

Increased number of walking and cycling trips
KPI1: Mode share
KPI2: Walking level of service
KPI3: Cycling level of service

Reduced number of crashes, injuries and deaths on the road
KPI1: Risk of death or serious injury

Opportunity for urban development
KPI1: Potential for urban development

Investor: Way to Go
Facilitator: Phil Peet
Accredited Facilitator: Yes

Version no: 1.1
Initial Workshop: 9/10/2018
Last modified by: Chris Baker 24/09/2020 (updating for inclusion in business case)
Template version: 5.0

Figure 22: Investment Logic Map for Queenstown Town Centre

Queenstown Business Case (Frankton, Frankton to Queenstown and Ladies Mile)

Providing a multi-modal transport system that delivers safe and reliable travel options, improving livability

Wakatipu Way to Go



INVESTMENT LOGIC MAP

Activity

PROBLEM

BENEFIT

Rapid growth, the high relative attractiveness of car travel over other modes and a lack of alternative routes are leading to increasing traffic volumes along SH6a. This is causing more congestion, longer / more unreliable travel times and rat-running, which limits opportunities for future tourism growth and reduces the liveability of Queenstown.

SH6a provides the only direct transport link between Queenstown and Frankton but is subject to landslides and is constrained in width. This means that the road is susceptible to delays caused by minor planned or unplanned disruptions, which creates severance between the two centres and makes access to essential services (i.e. emergency services and the airport) vulnerable.

High traffic volumes limit opportunities to safely cross or turn onto SH6a, increasing frustration for all road users and limiting access to PT/active travel modes. This raises the likelihood of injury or death, causes community severance and reduces the LOS for all road users.

High traffic volumes, limited connections to active travel routes and unattractive adjacent land use means that SH6a is not presenting as a high-quality gateway into Queenstown. This does not align with the community's aspiration for high levels of amenity and an enhanced place value for Queenstown.

Peak period travel times do not worsen

KPI1: Travel times
KPI2: Network accessibility
KPI3: System occupancy

More reliable travel times

KPI1: Travel time reliability

Economic benefit with more visitors coming into Queenstown

KPI1: Network accessibility
KPI2: System occupancy

Increased number of walking and cycling trips

KPI1: Mode share
KPI2: Walking level of service
KPI3: Cycling level of service

Reduced number of crashes, injuries and deaths on the road

KPI1: Risk of death or serious injury

Improved network resilience

KPI1: Network availability
KPI2: Natural hazard rating

Improved amenity value

KPI1: Quality of urban environment
KPI2: Transport related emissions and noise
KPI3: Potential for urban development

Investor: Way to Go
Facilitator: Phil Peet
Accredited Facilitator: Yes

Version no: 1.1
Initial Workshop: 9/10/2018
Last modified by: Chris Baker 24/09/2020 (updating for inclusion in business case)
Template version: 5.0

Figure 23: Investment Logic Map for Frankton to Queenstown

3.2 Problem Statements

3.2.1 Expanding on Previous Work

The QITPBC amalgamated and built on three previous Investment Logic Maps (ILMs) developed for the Queenstown Town Centre PBC, the Frankton Flats SBC and the Wakatipu Basin Public Transport PBC. Rather than reproducing a full ILM, the project adopted two problem statements:

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

These statements were reviewed and formed the basis of discussions on updated and more detailed problem statements for this business case.

The GR2KFB SSBC was an activity level business case stemming from the QITPBC that was paused and later integrated into the Queenstown Business Case (refer Section 1.3.3). This project adopted similar problem statements to the QITPBC:

1. The transport system is not providing for growth in a timely manner resulting in the increasingly inefficient movements of goods and people (70%).
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 (30%).

3.2.2 Frankton to Queenstown, Frankton and Ladies Mile

Four problem statements were developed for Frankton to Queenstown. Upon expansion of the scope to include Frankton and Ladies Mile, these statements were reviewed and found to be appropriate for the new areas:

1. **Efficiency.** Rapid growth, the high relative attractiveness of car travel over other modes and a lack of alternative arterial routes are leading to increasing traffic volumes along SH6A. This is causing more congestion, longer/more unreliable travel times and localised rat-running, which limits opportunities for future tourism growth and reduces the liveability of Queenstown.
2. **Resilience.** SH6A provides the only direct transport link between Queenstown and Frankton but is subject to landslides and is constrained in width. This means that the road is susceptible to delays caused by minor planned or unplanned disruptions, which creates severance between the two centres and makes access to essential services (i.e. emergency services and the airport) vulnerable.
3. **Safety.** High traffic volumes limit opportunities to safely cross or turn onto SH6A, increasing frustration for all road users and limiting access to PT/active travel modes. This raises the likelihood of injury or death, causes community severance and reduces the LOS for all road users.
4. **Amenity.** High traffic volumes, limited connections to active travel routes and unattractive adjacent land use means that SH6A is not presenting as a high-quality gateway into Queenstown. This does not align with the community's aspiration for high levels of amenity and an enhanced place value for Queenstown.

3.2.3 Queenstown Town Centre

Three problem statements were developed for Queenstown Town Centre:

1. **Efficiency.** Unattractive PT/active travel options, coupled with growth in resident and visitor numbers, will lead to increasing congestion and parking demand. This further discourages people from visiting the Town Centre, has negative environmental effects and reduces Queenstown's liveability and visitor experience.
2. **Safety.** Roads performing both place and access functions introduce conflicts between vehicles and other modes, which increases the likeliness for injury and reduces the quality of the public realm.
3. **Amenity.** High traffic volumes entering and circulating around the town centre is detracting from the place value of the area, reducing liveability and degrading the 'visitor experience'. The amount of road space

currently allocated to vehicle traffic constrains the ability to cater to increasing footfall and deliver improved placemaking.

3.2.4 Evolution of Problem Statements

The problem statements agreed for the Queenstown Business Case are essentially a refinement of previous iterations, providing more granular context to the problems that the project seeks to address.

As shown in Table 4, the problem statements are strongly aligned with the QIT PBC and the GR2KF SSBC. The previous statements identify rapid **growth** as the primary cause of inefficient movement and unreliable travel times, which are negatively affecting Queenstown's **liveability**. **Car dependency** was also recognised by both business cases as a key problem.

Problem statements for the Queenstown Business Case continue these themes, but also add resilience and safety to align with objectives of the Government Policy Statement on Transport. An amenity-specific statement has also been added to acknowledge the need to support non-transport outcomes in the Queenstown Town Centre and Frankton masterplans.

Table 4: Evolution of Business Case Problem Statement Themes

Problem Statement Themes				
QIT PBC	Significant growth leads to increasing trip unreliability and worsening customer experience		Car dominance and associated congestion is affecting liveability	
GR2KF SSBC	The system is not providing for growth resulting in inefficient movements of goods and people		The system favours cars which makes it difficult to encourage change	
Frankton to Queenstown	Rapid growth and attractiveness of car travel leading to increasing congestion and worsening liveability	<i>Only one arterial link between main centres susceptible to delays and severance</i>	High traffic volumes limit opportunities to safely cross or turn onto SH6A, limiting access to PT/active modes , raising likelihood of injury or death	High traffic volumes, limited connections to active travel routes and unattractive adjacent land use does not align with aspirations an enhanced place value
Queenstown Town Centre	Unattractive travel options, coupled with growth leading to increasing congestion and parking demand, reducing liveability		<i>Roads with multiple functions create conflict between modes, which increases the likeliness for injury</i>	High traffic volumes and allocation of road space in the town centre detracting from amenity

Italics indicates new problem statement themes

3.3 Investment Objectives

Given the interdependencies between the Frankton to Queenstown and Queenstown Town Centre project areas, a single suite of investment objectives was developed to guide optioneering and address the areas' different problems with a consistent approach. Draft objectives were initially discussed at a meeting with representatives from the project team and each of the Way to Go partner organisations on 31st October 2018 and confirmed at a workshop with the wider stakeholder group on 22nd February 2019.

As noted in Section 3.1, the Investment Objectives were reviewed in February 2020 following the addition of Frankton and Ladies Mile to the project scope and found to be appropriate for the new project areas. The Investment Objectives are shown in Figure 24.

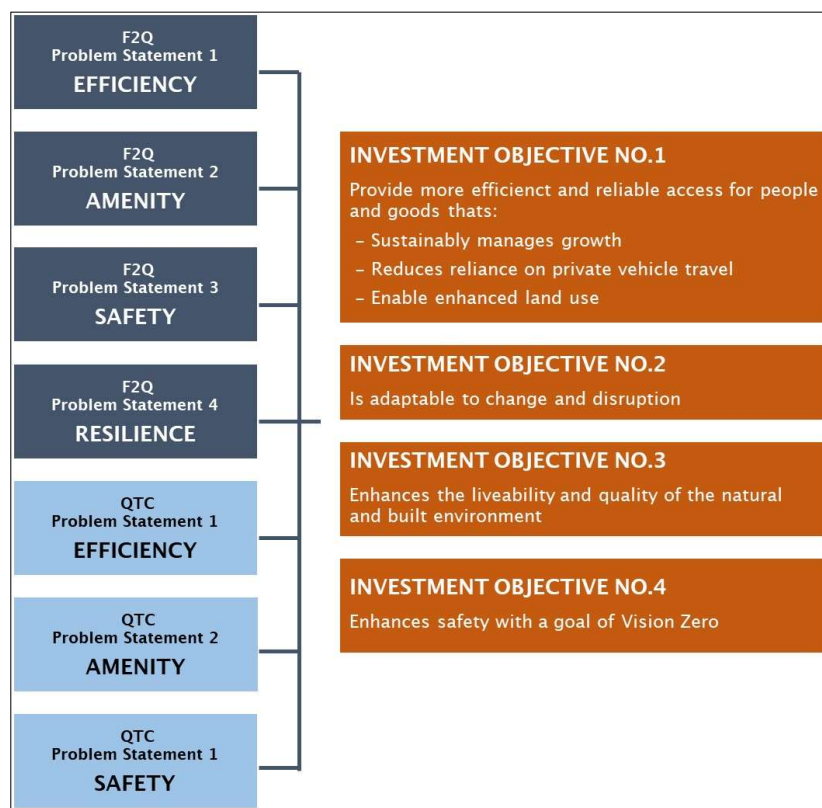


Figure 24: Investment Objectives

Investment Objective 1 initially focussed on increasing throughput of people and goods to address problems with congestion and travel time reliability covered by Problem Statement 1. The project team and Way to Go partners agreed that the objective should be more nuanced, emphasising the importance of providing more capacity in a sustainable manner (i.e. across multiple modes). The team also recognised the need to integrate transport and land use in the investment objectives (as the primary driver for travel demand); ‘enhanced land use’ was added to highlight the mutual benefit of improved transport links and higher density (and value) land use, such as that provided by Transit Oriented Developments.

Investment Objective 2 stemmed from Problem Statement 4 for Frankton to Queenstown, originally relating to short-term threats from natural hazards and network impact vulnerabilities on SH6A. This was tweaked to incorporate adaptability to long term changes both in terms of risks and opportunities, such as climate change and technological advances.

Investment Objective 3 addresses Problem Statement 2 and is intended to give action to non-transport objectives of the Queenstown Town Centre and Frankton masterplans, such as liveability, placemaking, urban design and amenity.

Investment Objective 4 relates to Problem Statement 3 and was included to specifically address objectives in national strategies such as the Government Policy Statement and Road to Zero.

3.4 Benefits of investment

3.4.1 Benefit Statements

At the ILM workshop on 9th October 2018, the project team and Way to Go representatives agreed that investing in addressing the identified problems (Section 3.2) would result in the following benefits:

Frankton to Queenstown, Frankton and Ladies Mile

- Peak period travel times do not worsen
- More reliable travel times
- Economic benefit with more visitors coming into Queenstown
- Increased number of walking and cycling trips
- Reduced number of crashes, injuries and deaths on the road
- Improved network resilience
- Improved amenity value

Queenstown Town Centre

- A desirable place to live and visit
- More reliable travel times through the Town Centre
- Economic benefit with more visitors coming into Queenstown
- Increased number of walking and cycling trips
- Reduced number of crashes, injuries and deaths on the road
- Opportunity for urban development

Benefit mapping with more detail in relation to the preferred option is explored in more detail in the Management Case.

3.4.2 Outcomes and Key Performance Indicators

Table 5 summarises how the Investment Objectives are intended to realise benefits, and how the benefits will be measured. Further details for each KPI, in terms of the measurement method, baseline and expected results are provided within Appendix A03, and expanded on in relation to the preferred option in the Management Case.

Table 5: Outcomes and Key Performance Indicators Mapping

Investment objective	Key performance indicator	Outcomes	Measure
Provide more efficient and reliable access for people and goods that: a. sustainably manages high growth b. reduces reliance on private vehicle travel c. is adaptable to change and disruption d. enhances the liveability and quality of the natural and built environment	Travel time reliability for all modes	Decrease the financial cost of using transport, better management of population and visitor growth	Average travel time variability
	Mode Share	Decrease the financial cost of using transport, reduce reliance on car travel	Number of pedestrians, cyclists and public transport boarding
	Network accessibility (population, including visitors within 15mins and 30mins (QTC))	Improved accessibility to town centre by sustainable modes	Total number of people within 15 or 30min to QTC by walk, cycle, PT
	System Occupancy (Network Productivity)	Increase vehicle occupancy	Number of passengers for general traffic and public transport
	Walking Quality of Service (LOS)	Improve the level of service for pedestrians in the Queenstown town centre	Quality of service metric based on Transport for London guidance (Pedestrian Comfort Level)

Investment objective	Key performance indicator	Outcomes	Measure
			– average LoS for two hour period
	Cycling Quality of Service (LOS)	Improve the level of service for cyclists	Percentage travel on cycle network classified as complying with defined level of service (facility type)
Is adaptable to change and disruption	Network availability	Improve resilience to natural hazards – availability of alternatives for high risk/risk impact routes	Percentage of high-risk, high-impact routes with a viable alternative
	Natural Hazard Rating/Risk/QRA	Improve resilience to natural hazards – level of service and risk	Average number of road closures from natural hazards
	Future ready	Improve network resilience and travel time reliability – network redundancy	Appropriate capacity in event of system disruption (including alternative routes, alternative modes, alternative destinations)
Enhances the liveability and quality of the natural and built environment	Quality of urban environment	Improve the amenity value of the built environment, people focused	Amenity rating
	Transport related emissions and noise	Reduce pollution and greenhouse emissions Reduce environmental noise, people focused	VKT proxy for tonnes of CO2 equivalents emitted Measure noise level in dB Laeq over 24h
	Potential for urban development	A transport system that encourages and enables development	People and goods throughput on SH6A
	Quality of life survey	Improved residents' satisfaction with the transport system and built environment	
Enhances safety with a goal of Vision Zero	Risk of death or serious injury	Support physical health, improved access for alternative transport modes	Mode share of active modes

4 EVIDENCE BASE

This section summarises the status of the evidence base, identifying changes since the QITPBC was published using updated datasets from transport modelling, traffic data, site investigations, customer insights and stakeholder workshops.

4.1 Customers' Problems

Queenstown's transport network caters to a complex set of demands from a broad range of users. It needs to provide for residents, visitors and freight, who have distinctly different needs, and the many subgroups within those categories.

The ability to understand the needs of customers is complicated by lacking or incomplete datasets. Privacy concerns restrict the ability to collect detailed origin and destination data, while the commercial sensitivity of industries like car hire and aviation means businesses are unwilling to share granular data on customer numbers and movements.

However, customer insights obtained through QITPBC, GR2KF SSBC and the Queenstown Town Centre Masterplan engagement provide a qualitative view of the types of customers travelling in Queenstown and their needs. These insights are summarised in Table 6. Sample portraits of different network users are given in Queenstown Integrated Transport Preliminary Business Case Liveability & Visitor Experience Insights.

Table 6: Customer Summary

Customer	Summary	Problems
Local residents	- Construction is Queenstown's second biggest industry and a large proportion of the population is employed as 'tradies', who need to carry tools and therefore cannot regularly use public transport or active modes. - Population density has shifted out of traditional centres in Frankton and the Town Centre to subdivisions on the edge of the urban area. - Transient seasonal workers make up a proportion of the resident population. These workers tend to be in low-paid jobs and rely on cheaper modes of transport	- The community regularly complains of unreliable travel times making it difficult to plan journeys and causing missed appointments. - While the mode share of public transport has increased through the introduction of the \$2 flat fare, buses currently offer no travel time benefit over cars - Subdivisions on the periphery of the urban area are almost entirely residential. Residents must travel for work, shopping, health care and recreation
Regional commuters	Increasing numbers are living further afield from the main centres due to high cost of living.	- There is currently minimal regional public transport, so most commuters travel by car. - Bottlenecks at the entry to Frankton cause significant delays and there are no opportunities to transfer to public transport. - Leads to unsustainable transport outcomes, with vehicle kilometres travelled increasing substantially
International visitors	- Queenstown is marketed as a self-drive destination (and is likely to be so again once the borders re-open). A large number of international visitors pick up a rental car from the airport (rentals make up 20%-25% of airport vehicle mode share²⁴). - Australia is the only country with direct flights to Queenstown. As such, other international visitors catch connecting flights from other centres or hire a car or campervan and arrive by road.	- The public transport network is not well advertised at the airport and can be hard to understand, discouraging visitors from using it. - Rental cars and taxis are prioritised over other transport options at the airport, with public transport access requiring a 'walk of shame' across the forecourt

²⁴ Queenstown Airport Road Transport Data Collection Report, WSP (2020)

Customer	Summary	Problems
Domestic visitors	- Anecdotally, many domestic visitors arrive by car from local regional towns, particularly for long weekends. - Following the closure of the borders due to COVID-19, demand for domestic travel into Queenstown increased 25% (during the July 2020 school holidays compared with the previous year²⁵). - New Zealand as a nation is generally reliant on car travel²⁶, which leads to most visitors hiring a car in Queenstown. - Visitor travel patterns vary between seasons. In winter, the primary attraction is the ski fields, which have dedicated buses providing transport up the hill for at least a portion of demand. In summer, campgrounds accommodate a much higher proportion of visitors.	- The prominence of car travel among regional visitors makes it difficult to promote alternative modes to this group without Park and Ride facilities. - Following COVID-19, the tourism sector is entirely dependent on the domestic market, which itself is largely driven by school holidays. Seasonal variability has become more prominent, with busier peaks and quieter off-peaks, making it difficult to provide an appropriate level of service year round. - Summer travel demands are harder to facilitate with non-car transport as popular activities and accommodation tend to be spread further afield closer to outdoor activities.
Commerce	State Highway 6 has been described as the 'lifeblood of the Queenstown economy'. It provides the only route for freight to service Town Centre businesses. It also facilitates tour operator trips to activities around Queenstown and further afield. Gorge Road provides access to Coronet Peak, Skippers Canyon and Shotover Jet, all of which require travel over the 101-year-old, one-lane Edith Cavell Bridge.	- As congestion and delays increase, freight companies have reported being able to complete fewer deliveries per day, which has flow-on effects in terms of increasing prices for businesses and customers - Tour operators have complained that Milford Sound coach drivers are exceeding logbook hours as a result of congestion. - The local economy is highly vulnerable to transport impacts with singular network events having the potential to disrupt almost the entire Queenstown economy, particularly if SH6A is closed.

4.2 Land Use

The transport problems identified here need to be understood within the context of the spatial development of land use, which itself creates the need for people to travel.

4.2.1 Causes

In recent years, the rate of growth in Queenstown has outstripped the speed at which appropriate housing and infrastructure could be planned and built. The lack of developable land (due to terrain and district plan height restrictions) exacerbates the issue, with only 12% of total growth in the district forecast to happen in the town centre²⁷. This has resulted in an ad hoc, largely private sector-led approach to housing, creating dispersed and disconnected developments that are difficult to serve effectively with transport. Figure 25 summarises the spatial distribution of land use and major trip generators in the Wakatipu basin.

²⁵ [Air NZ boosts capacity on Queenstown flights above pre-COVID levels](#), Otago Daily Times (September 2020)

²⁶ [Commuting Time by Mode of Transport](#), EHINZ (2020)

²⁷ [Queenstown Lakes District Population Projections Post-COVID](#) (September 2020)

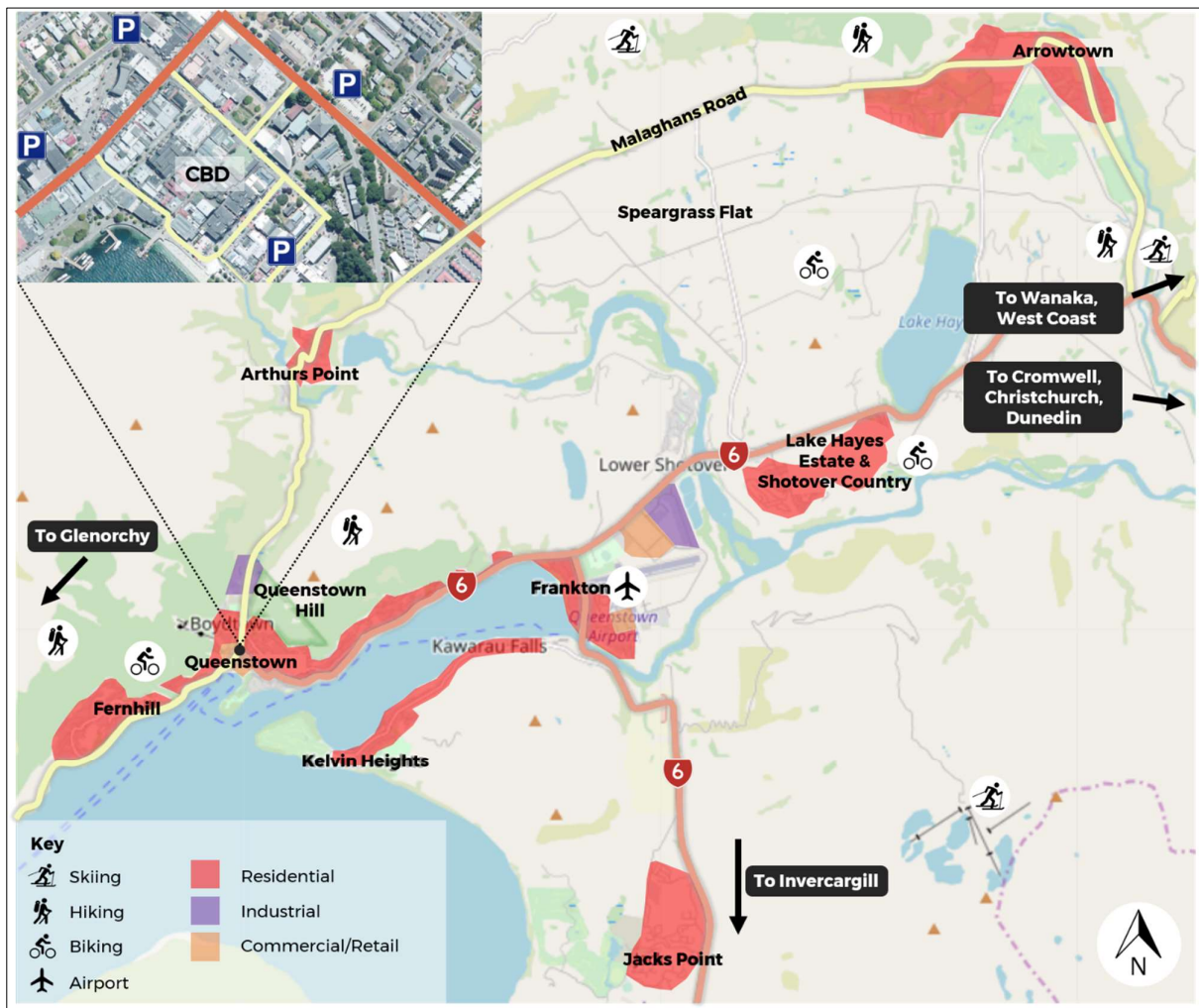


Figure 25: Land Use in the Wakatipu Basin

A lack of strategic oversight has seen land developed in suboptimal ways across the district. Continued value uplift and associated rent increases has caused a gradual relocation of 'everyday' shopping away from the town centre. Car-centric big box retail has sprung up across Frankton, where land is flat and comparatively cheap, while residents in the 1,500 houses in Lake Hayes Estate and Shotover Country must cross the Shotover Bridge to reach shops, community facilities or healthcare.

With sections of the road network now reaching capacity, the impact of disjointed land use and transport planning have come to bear. As communities increasingly complain of unreliable travel times causing missed appointments, and visitors ranking transport issues as the most negative aspect of their stay²⁸, it is evident that the quality of life of residents and the visitor experience is beginning to worsen.

4.2.2 Effects

The root cause of the transport effects described in this report is the need to travel, which is generated by the spatial distribution of land use. Existing land use in Queenstown is having the following effects on the transport system:

- The ease with which people can park outside destinations in Frankton, and the difficulty serving the same dispersed destinations with public transport and active modes, is encouraging continued use of private vehicles, and particularly single occupancy trips, among locals for most trip purposes

²⁸ [Visitor Insights Programme](#), Angus & Associates (Q3 2016 – Q2 2018)

- The reactive, as opposed to proactive, response to growth has led to longer trips, a larger proportion of which are by car, contributing significantly to congestion
- The reluctance to intensify land use in order to protect the existing natural environment and historic feel of the town may be having a counterproductive effect, in that low density development is sprawling throughout the district, occupying more land and creating an unsustainable long-distance transport system.

4.2.3 Consequences

The consequences of land use issues described above are having an impact on not only the transport system, but the lives and experiences of residents and visitors:

- Relentless economic growth in the town has caused house prices to soar (Queenstown had the highest median house price in the country prior to Covid-19), creating a housing affordability crisis. It has been reported that hospitality and tourism workers have been 'hot-bedding', whereby shared beds are rented, rather than rooms²⁹.
- Employers, including local bus service providers Ritchies, are increasingly reporting difficulty finding workers. The bus company has identified hiring sufficient drivers as a potential fatal flaw in any step-change expansion of the public transport network. Many workers live outside the district and commute to Queenstown by car, compounding the transport issues described elsewhere
- Residents, who have a lower price point and are less drawn in by the amenity of the town centre, are leaving the heart of the town devoid of local authenticity, something that visitors regularly rate importantly in terms of their overall experience.

4.3 Efficiency

Congestion on the network is beginning to limit the efficiency of the transport system. Journey times are becoming longer, and travel time reliability is decreasing. Being unable to predict journey times is having an impact on the liveability of Queenstown, with locals complaining of missed appointments, tour coach drivers exceeding legal hours and freight vehicles completing fewer deliveries per day. The capacity of the transport system is currently one of the biggest constraints on the growth of Queenstown in a broader sense.

However, it is acknowledged that increasing the general traffic capacity of a road can be counterproductive, particularly in areas with high latent demand, as travel time improvements can induce traffic, creating more congestion. Additionally, in a geographically constrained environment such as Queenstown, opportunities to upgrade road capacity are limited and expensive.

The viability of some of Queenstown's preeminent tourist offerings is under threat as congestion is beginning to push driver hours above legal limits. Trips to Milford Sound, the 'eighth wonder of the world', are a huge drawcard for visitors to the area, but require an 8-hour round trip by road. Any delays can take drivers above their permitted logbook hours. Getting coaches down SH6A, or establishing coach operations from Frankton, is key to preserving a major contributor to the local economy.

4.3.1 Causes

Sustained rapid growth in traffic volumes and the inability to provide additional capacity is the root cause of increasing inefficiency on the network. Compounding the issue, a history of car-oriented development has led to ingrained travel behaviour and low occupancy rates. Subdivisions have been retrofitted to accommodate public transport, but gaps remain in the catchment and routes are not supported by priority measures. The burgeoning public transport system has seen significant growth in mode share but is now reaching capacity, limiting the ability to take more cars off the road.

²⁹ <https://www.stuff.co.nz/business/115954442/workers-hot-bed-as-queenstown-housing-crisis-worsens> accessed on 7th October 2020

Resident and Visitor Growth

Queenstown's economy is heavily dependent on the tourism market, within which there has been significant recent growth. This growth has stimulated an increase in resident population, which is forecast to continue growing at a rate of 3.6% per annum to 2028, then 2.1% per annum to 2048. Figure 26 shows forecast growth in residents and visitors. Updated forecasts have been generated by QLDC to reflect changes caused by the COVID-19 pandemic. Long-term projections are similar to previous iterations, with a short-term reduction in growth offset by increased growth in 3-5 years.

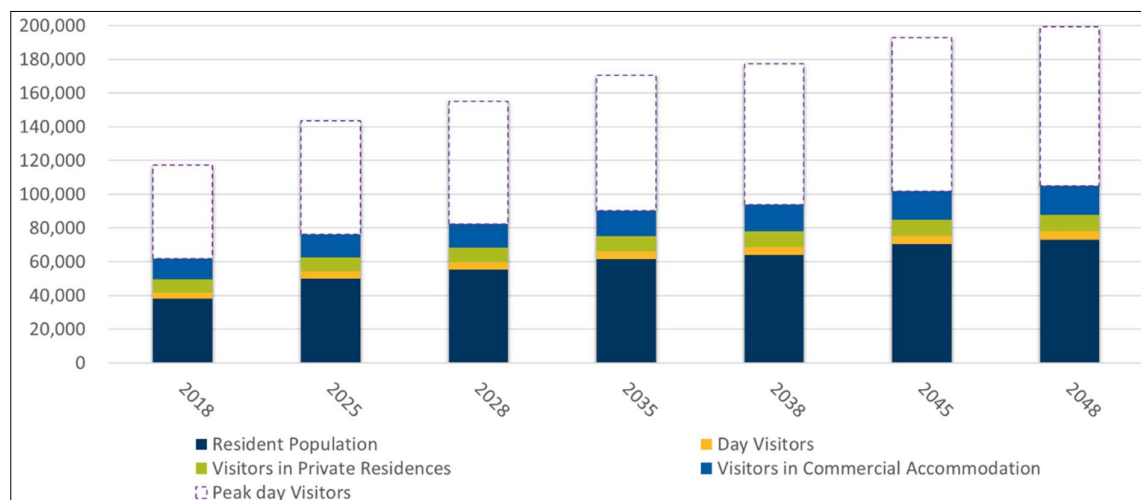


Figure 26: Queenstown Resident Population and Visitor Forecast (Source: QLDC Growth Projections³⁰)

In recent times, infrastructure has struggled to keep up with this surge in demand. The difference between peak demand and resident population highlights the scale of financial pressure on the ratepayer base to subsidise visitors' use of infrastructure.

As total resident population and visitor numbers increase, land use patterns are also changing. New and planned developments at Hanley's Farm, Coneburn and Homestead Bay will lead to increased traffic on the southern corridor, while proposed subdivisions on Ladies Mile have the potential to add 1,000 households to the eastern corridor. Frankton has become a commercial and retail hub due to development of the Queenstown Central and Five Mile precincts, changing trip patterns in the district and increasing the proportion of journeys with Frankton as a destination.

Traffic Growth

As a result of growth in population and visitor numbers, traffic volumes on the State Highway network in and around Queenstown have increased at a faster rate than anywhere else in the country (Figure 27) with the annual growth rate reaching 20% in 2016.

Compounding the effects of rapid growth on Queenstown's transport network is the seasonality of demand (Figure 28). Activity-driven peaks, such as those seen during the ski season, create chronic traffic issues at very specific times that are inefficient to design for, given their short duration.

Due to successful marketing strategies, demand is becoming more evenly spread throughout the year. However, less prominent shoulder seasons can also be attributed to

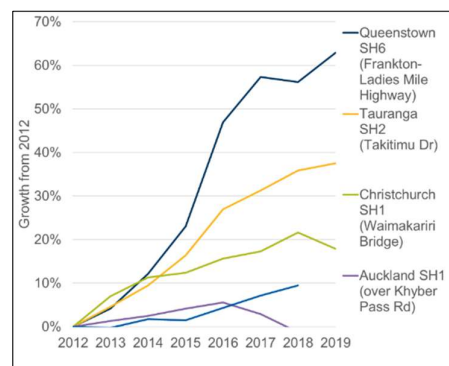


Figure 27: National AADT Growth Comparison (Source: Waka Kotahi Traffic Monitoring System)

³⁰ [Queenstown Lakes District Population Projections](#) (December 2018) *Updated in September 2020 to include COVID-19 impacts and Spatial Plan outcomes

capacity being reached during the winter and summer peaks, rather than a slowing of growth in demand.

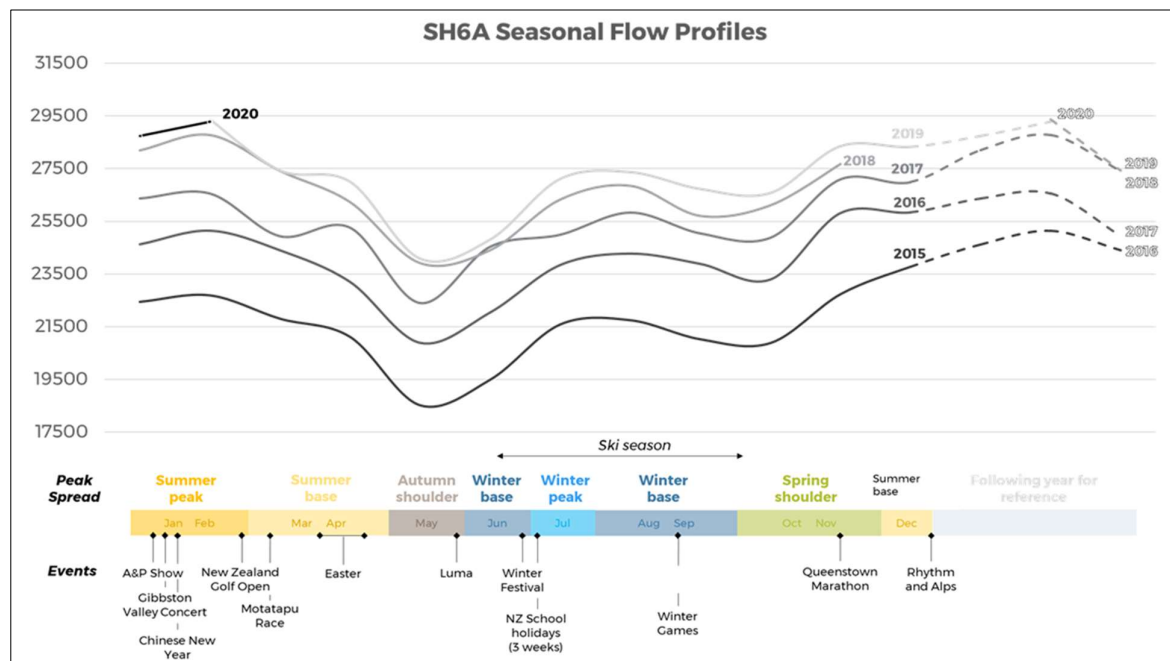


Figure 28: SH6A Seasonal Flow Profiles – Vehicles per Day (Source: Waka Kotahi Traffic Monitoring System)

Figure 28 shows the growth in daily traffic volumes on SH6A since 2015. Traffic demand is increasingly exceeding the current theoretical capacity of SH6A (28,500 vehicles per day³¹), which causes significant delays and unpredictable travel times during peaks.

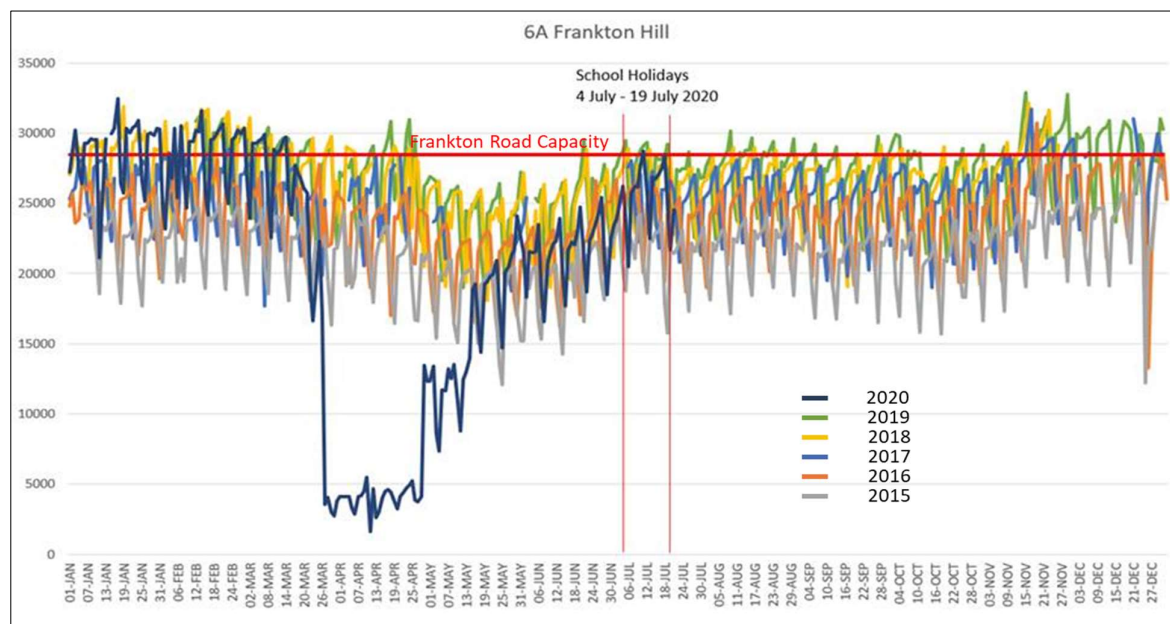


Figure 29: Daily Traffic Volumes Frankton Road

The capacity of SH6A has been measured at 1,450veh/hr westbound and 1,250veh/hr eastbound using the Waka Kotahi Traffic Monitoring System. Figure 29 shows that peak hour volumes on SH6A are reaching capacity for an increasing number of days each year. There were 140 recorded days in 2019 where practical capacity (90% of theoretical capacity, where queueing and delays begin to increase exponentially) was

³¹ QITPBC, Abley (2017)

exceeded, compared to just 29 days in 2015. Also evident is the temporal spread of peak demand, with high volumes being seen across longer periods of the day (Figure 30). Continued peak spreading will lead to more unreliable travel times outside of peak hours, impacting the less peak-driven tourist operations.

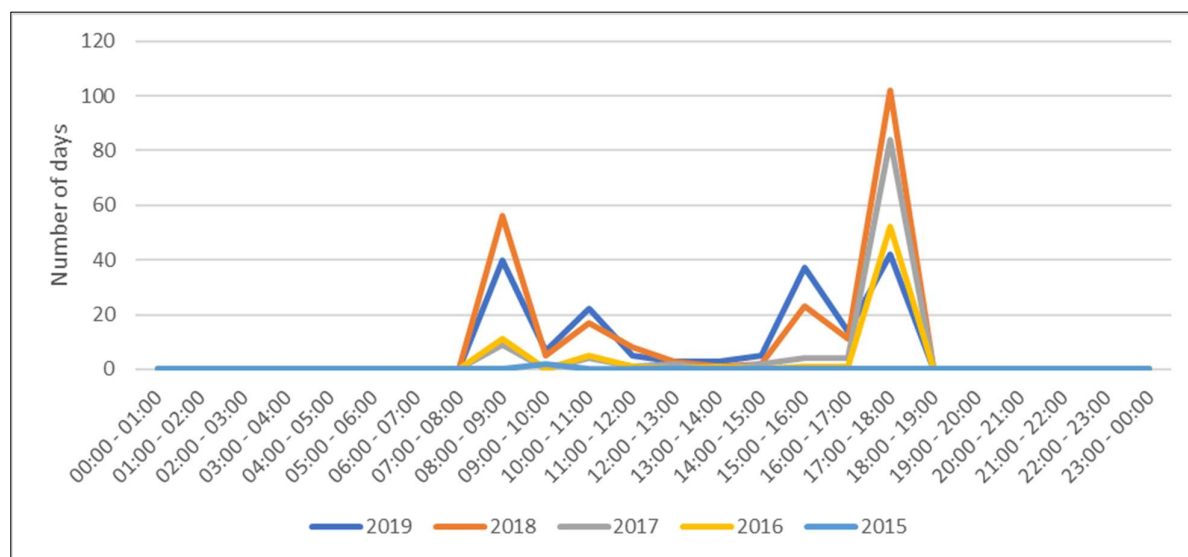


Figure 30: Occurrence of 90% capacity being exceeded on SH6A (Eastbound)

Limited Travel Choice

Queenstown has only recently experienced congestion problems. Historically, there has been no need for alternative travel options, as roads had spare capacity and it was possible to provide ample parking at most destinations without overloading the system. Only since the tourism boom and rapid growth, when infrastructure was unable to 'keep up', has there been a need to address car dominance in Queenstown.

Additionally, development in the district has occurred in an ad-hoc, dispersed fashion with long distances between residential, employment and recreation areas. The traditionally minimal public transport network did not meet the needs of residents or visitors and as a result, the town has developed a reliance on private vehicles. As shown in Figure 31, the private vehicle mode share on SH6A is approximately 80%.

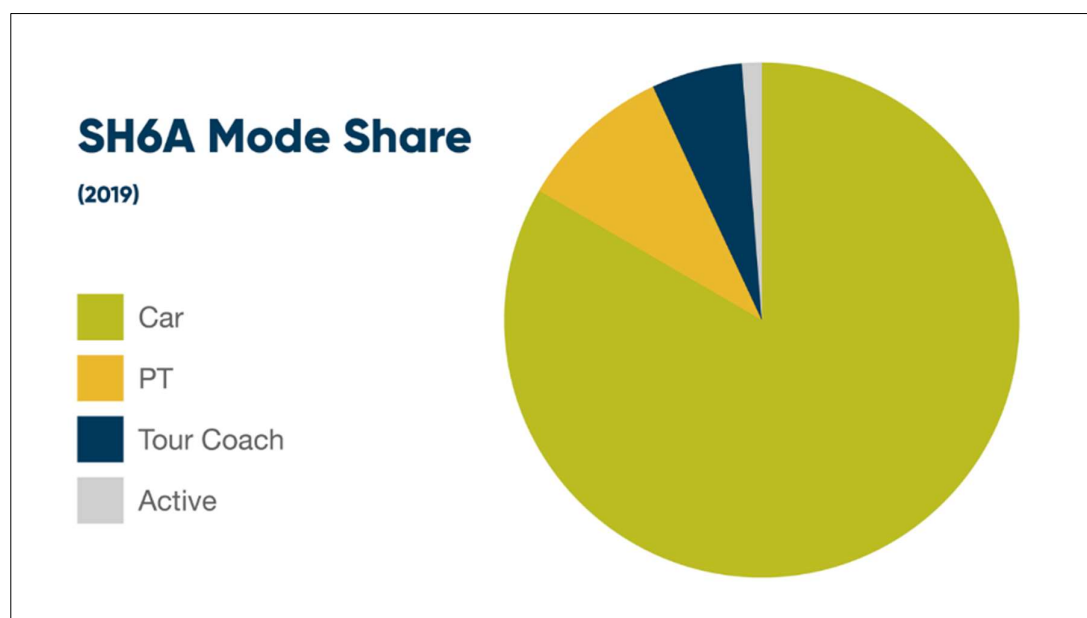


Figure 31: Mode Share on SH6A 2019 (Source: 2018 Census Journey to Work Data)

In addition to ingrained travel behaviour and land use issues described above, this high private vehicle mode share is driven by other factors including:

- Anecdotally, a high proportion of 'tradies' travel in single occupancy vehicles that carry their tools to work. Construction is Queenstown's second largest industry³², and these trips make up a significant portion of traffic volumes. Similarly, Real Estate agents have raised concerns over travel time reliability affecting their ability to travel around the district for work, even during off-peak hours³³.
- Self-drive holidays have become increasingly popular due to national and international advertising strategies and the dispersed nature of tourist destinations across the lower South Island. Promotional arrangements between tourism operators and rental car companies often incentivise people to rent vehicles to receive discounts on tourism activities, such as the Treble Cone and Jucy rentals deal, which makes it cheaper to rent a car to get a free ski pass than it is to buy a day pass up the mountain.
- Minimal incentive for arrivals at the airport to use public transport. The bus stop itself is located beyond the taxi rank and pick-up/drop-off, requiring a colloquial 'walk of shame' symbolising its lowly position in the transport hierarchy. Meanwhile, public transport information is difficult to find before travelling and physical wayfinding is minimal. The airport also applies a \$5 surcharge to bus users (\$10 total for a cash fare).

Active Modes

Relative to other areas, Queenstown has a highly active population with mountain biking, hiking and skiing a big drawcard for many choosing to live in the area. However, there are currently minimal provisions for commuters using active modes on the majority of roads in the district, and the existing active travel network is primarily geared towards recreational users. Indirect and unsafe routes, or a complete absence of footpaths and cycleways in places, means that walking or cycling is not a realistic commuting option for most residents (Figure 32).

Inconsistent rules in the District Plan result in different provisions for cycling in different parts of town. The lack of cycle facilities, and uncertainty as to whether destinations will have them is a major disincentive to commuter cycling.

Active Mode Shortcomings

A 15 minute, 4.5km cycle from Lake Hayes Estate to the Five Mile Centre by the most direct (but unsafe) route, becomes a 25 minute, 8km journey when using the nearest dedicated route, which also requires a substantial drop and climb.

The Frankton Track is an attractive end-to-end route between Frankton and Queenstown (and is proposed to be upgraded further through the WATN SSBC) but is separated from hillside suburbs by steep slopes, few access points and stairways that reduce its functionality as a local access route.

Arthurs Point is bisected by the Shotover River. The existing one-lane crossing effectively rules out use of the route for all but confident cyclists, though solutions are currently being investigated in the Arthurs Point Crossing SSBC.

The Frankton to Five Mile route has relatively gentle gradients, suitable for commuter cycling, but the existing level of service is an unsealed, narrow track running along the edge of the SH6, as shown in Figure 32.



Figure 32: Frankton to Five Mile Walking Route (Source: WSP)

³² Queenstown-Lakes District Annual Economic Profile, Infometrics (2019)

³³ Liveability & Visitor Experience Insights, ThinkPlace (2017)

Public Transport

As described in Section 1.7.1, public transport soared 192% year on year to June 2018 following the introduction of the \$2 flat fare, increased frequencies and routes, and increased parking charges. The success of the new bus service should be understood within the context of the low base patronage, which was 37,383 monthly users in November 2017. Prior to the Covid-19 pandemic, monthly patronage was hovering around 128,000 (December 2019 latest dataset available³⁴). Mode share data is not currently collected in Queenstown for people-trips (only vehicle-trips), but the Future Public Transport Demand model suggests this represents a public transport mode share of 6% on SH6A.

Site observations undertaken in November 2019 found that the bus service was nearing capacity, at least during peak periods³⁵. Several short-term opportunities for improvement were identified:

- Existing bus stops are basic with minimal facilities or shelters and no real time information. Bus stops do not have numbers or location information, which makes legibility more difficult, particularly for unfamiliar users. A programme of works is underway through QLDC to provide shelters, lighting, bins and ski racks but there is currently a lack of consistency across the network.
- Buses currently used on the network have substandard luggage storage available, particularly for routes that serve the airport, making it difficult to carry shopping, skis and suitcases.
- Different operators (Go Orange and K Jet) have proposed using ferries as a solution to public transport and congestion issues in Queenstown. However, the vehicles are substantially more expensive to operate than buses, and low accessibility to the lakeside means the catchment is significantly smaller. A Kelvin Heights to Queenstown Bay service is an obvious opportunity but is unlikely to attract material patronage beyond those areas³⁶. A Lake Hayes service operating with jet boats on the Kawarau River has been proposed by a local operator³⁷ but will need to address issues with a sufficiently large fleet of practical jet boat ferries, timetable pressures and pedestrian access of up to 2km from Lake Hayes Estate and Shotover Country.
- Bus priority is currently limited to one 50m strip of bus lane on Kawarau Road. Bus trips are therefore affected by the same congestion issues experienced by general traffic, meaning buses do not offer journey time benefits over cars.
- The Frankton Bus Hub is located centrally, but is isolated from many of the local destinations, meaning that many journeys require a transfer. Heading away from town, connecting services to Lake Hayes, Kelvin Heights and Jacks Point are infrequent with headways of up to 60 minutes, meaning delays to first leg trips can cause significant disruption for passengers. The hub is also a site with numerous conflicts between urban, regional, long distance, Milford Sound and tour buses, taxis, ubers, drop-offs and kiss-and-riders (Figure 33). Public transport stops at the hub and on SH6A are under pressure from private coach use, with up to 90 NZSki buses stopping per day in winter. Real Journeys coaches stopped at the Frankton hub for an average of 4 mins 49 seconds in 2019, potentially delaying public buses.

Public Transport in Frankton

Frankton is difficult to serve efficiently with public transport due to its dispersed destinations and severance caused by the airport. Meanwhile, public transport provision has not kept pace with rapid development of new commercial and retail centres. This has led to a situation where 'Hawthorne Drive has bus stops but no buses, and the Frankton-Ladies Mile Highway has buses but no bus stops'.



Figure 33: Congestion at Frankton Hub (Credit: Darren Davis)

³⁴ ORC Bus Patronage Data, by email (March 2020)

³⁵ Stanley Street Bus Hub Observations Memo, WSP (November 2019)

³⁶ Future Public Transport Demand Analysis, WSP (2018)

³⁷ [Queenstown jet-boat ferry service approved](#), Otago Daily Times (May 2020)

4.3.2 Contributing Factors

Other factors that contribute to the transport network efficiency issues above are outlined below:

- **Car-dependency.** 70% of people travel by car to work, with 50% of these trips in single occupancy vehicles³⁸. This is reflective of the low incentive to take public transport and the convenience of car travel.
- **Lack of appropriate alternative routes.** There is one alternative full route between Queenstown and Frankton via Gorge Road, which includes a 100-year-old one-way bridge, and one partial route via Queenstown Hill, which comprises narrow residential streets with on-street parking. Similarly, Frankton is cut off by the Shotover River and Kawarau River, with access restricted to two bridges.
- **Topographic and climatic constraints.** Steep gradients on the network affect mode choice, particularly due to snow and ice in the winter, as it is a relatively more comfortable journey to use a car than cycle or take a bus. This is accentuated by the fact that only the road carriageway, and not footpaths, are gritted to improve traction.
- **Increasing pedestrian and traffic movements.** Competing demands across all modes within constrained environments, such as the town centre, has caused significant congestion and intermodal conflict, particularly on Shotover Street where pedestrian crossing demands are very high.
- **Limited footpath widths.** Increasing densities of pedestrians are causing pedestrian levels of service to diminish. This is particularly acute around Fergburger, where, despite two parking spaces being converted into a parklet to improve pedestrian experience, significant congestion remains.
- **Insufficient pedestrian priority.** Crossing demand at the three zebra crossings on Shotover Street is very high and regularly causes traffic delays. Inconsistent crossing types with large distances between controlled crossings causes confusion among visitors, who assume they have priority and cross unsafely.
- **Vehicle access to facilities conflicting with pedestrians and cyclists.** Car parks, retailers and hotels require vehicle accessibility, which increases the number of movements to and from main roads. Tour operators also tend to have ad-hoc pick up/drop off locations that increase the number of conflict points.

4.3.3 Effects

Public Transport Reliability

Figure 34 and Figure 35 show how travel times along Frankton Road vary in the westbound and eastbound directions respectively. Areas in grey refer to the 50th to 90th percentile range, whilst the orange area refers to the 10th-50th percentile range. The 50th percentile is where the grey and orange areas meet.

³⁸ Way to Go Survey (April 2019)

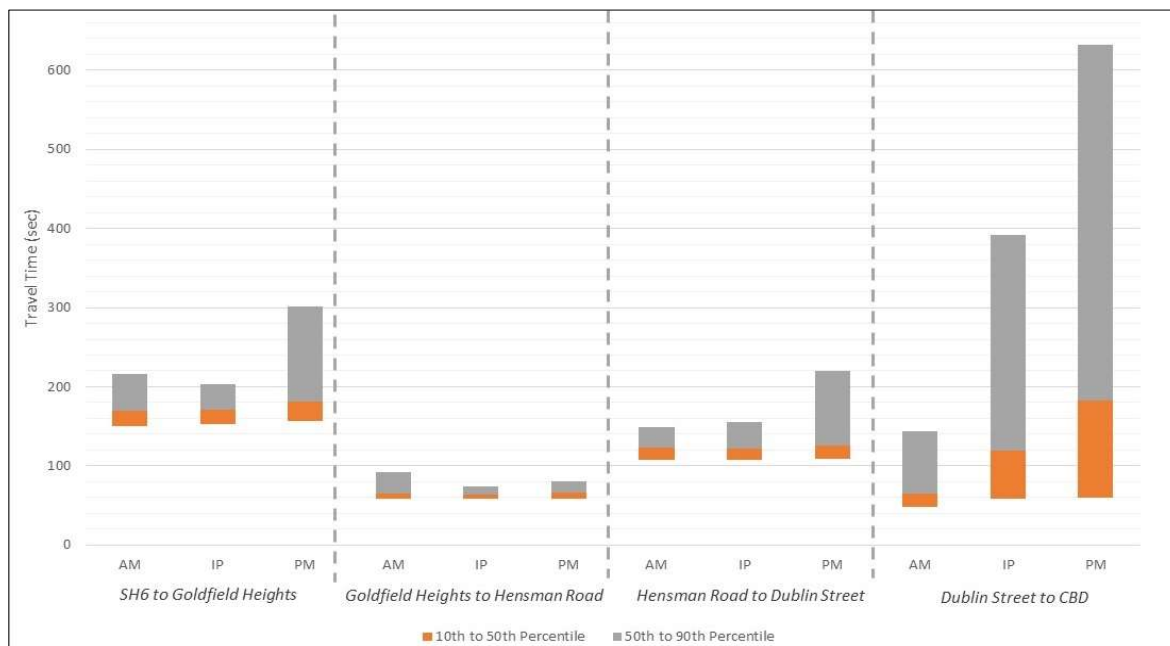


Figure 34: Daily Travel Time Variability – Westbound (Source: Bliptack)

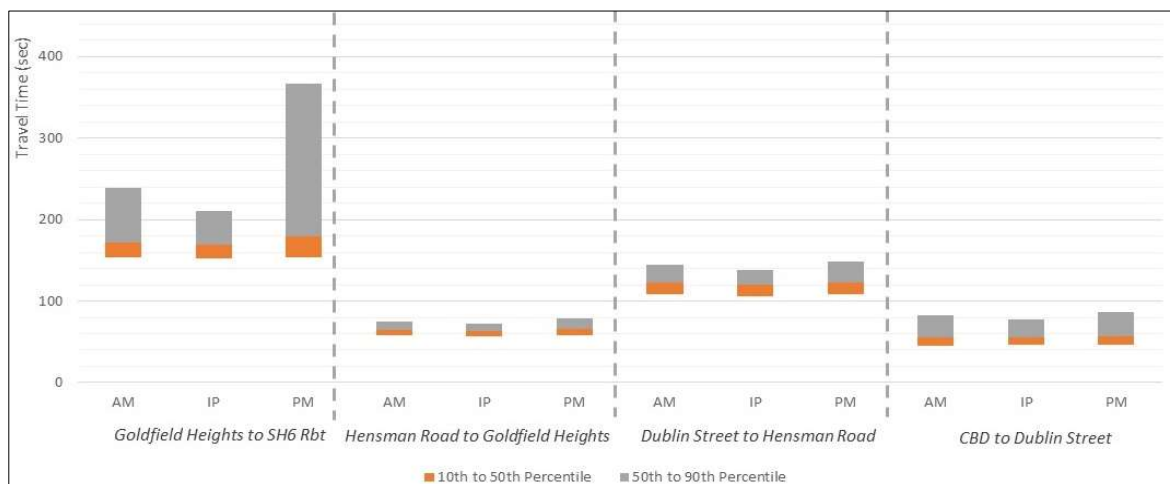


Figure 35: Daily Travel Time Variability – Eastbound (Source: Bliptack)

The data highlights the variability in bus travel times through the day and in individual peak periods. Travel times are particularly unreliable at the SH6/SH6A intersection and on entry to the town centre, where they vary by 9.5 minutes on a 700m stretch. The evening peak tends to produce unreliable travel times due to the combined activity peaks of commuters and tourists, particularly skiers in winter, while the 'traditional' interpeak is also unreliable due to tourism activity.

4.3.4 Consequences

The key consequences of poor network efficiency are:

- Increased reliance on the private car due to poor travel time reliability and customer experience on public transport, which perpetuates the cycle of congestion and negative knock-on environmental and liveability effects.
- People cannot reliably travel around the district, impacting their jobs and lifestyle. Similarly, Freight companies cannot make as many deliveries per day, which increases running costs that could be passed onto businesses and their customers
- Decreased vitality of the Town Centre caused by high traffic volumes and congestion in areas like Shotover Street, with high footfall of both visitors and residents.
- Diminishing visitor experiences. Research shows that visitors were least satisfied with traffic and car parking compared to all other aspects of their Queenstown visit in surveys carried out between Q3 2016 and Q2 2018. Experiencing chronic congestion and seas of rental cars on arrival to the airport belies the '100% Pure' messaging that undoubtedly brought many visitors to see Queenstown's environment.
- Congestion is beginning to spread throughout the day as peak spreading occurs, caused by congestion in the peak hours. A combination of people changing travel behaviour due to unreliable travel times in the peaks, and traffic simply not being able to pass through a bottleneck within the peak hour, leads to higher volumes in off-peak periods.
- Despite congestion creating travel time and reliability problems, it presents an opportunity to promote mode shift. Circumventing delays and queueing on capacity-constrained links by providing bus lanes is an effective way of encouraging people out of their cars.
- Increased risk that emergency services cannot get to their destination quickly enough.
- Increased severance between residential areas and the lakeshore as increased traffic clogs links and intersections. Congestion in the Town Centre is currently taking precedence over the pedestrian experience, with traffic signal phasing designed to optimise traffic movements.

Monetising the Consequence of Poor Efficiency

Impacts on the visitor experience has been monetised as described in Technical Note 26: Effect of Transport Constraints on Tourism (as referenced in the economic case). The longer-term constraint on economic growth due to visitors' inability to travel around the district efficiently has been calculated to be worth around \$750 million to the local economy and around \$170 million to the New Zealand economy. This value is effectively the opportunity cost of not being able to cater to demand, causing visitors to travel elsewhere instead.

One of the key consequences of the efficiency problem is that almost all future growth will need to be accommodated by non-car modes. Figure 36 shows that the car capacity of SH6A was all but reached by 2018. Without substantial travel behaviour change, the majority of growth above this point can only be catered by increasing road capacity over the entire network or by providing high capacity public transport. Based on the forecast levels of demand, **40% of trips on SH6A will need to be by non-car modes by 2028, rising to 60% by 2048**³⁹. The Future PT Demand Model also found that public transport infrastructure and service improvements alone would not achieve these targets, and a degree of demand management measures (shown as 'Active Modes' below) would be required to ensure a functioning network with equilibrium between capacity and demand.

³⁹ Wakatipu Basin Future Public Transport Demand Analysis Technical Note 3 – Land Use, Demand and Capacity, WSP (2019)



Figure 36: Peak Hour Mode Share Projections for SH6A (Source: Future PT Demand Model)

4.4 Resilience

Access between Frankton and the town centre is largely reliant on SH6A, which would be a critical lifeline in the event of a natural disaster. The only full alternative route, via Gorge Road, is restricted by the capacity of the one-way Edith Cavell bridge. The F2Q corridor is vulnerable to closures from crashes and natural hazards (primarily slips), while planned closures such as roadworks can cause significant delays, even when carried out at night. The evidence presented below represents the issues, however it is clear that resilience is to some extent a secondary problem and not the main driver for investment.

4.4.1 Causes

Queenstown's topography and winter weather make the road network susceptible to closures. The additional constraint of having few alternative routes mean that closures, planned or otherwise, can cause significant disruption.

Route Choice

Queenstown's topography has led to the road network being developed around singular routes from the east and south, with few opportunities for secondary routes. Figure 37 highlights the lack of alternative routes in the area, with access from the region primarily via State Highway 6, and the only alternative route being Malaghans Road between Arthurs Point and Arrowtown.



Figure 37: Queenstown Network Road Classification

Natural Hazards

The F2Q corridor is vulnerable to geological hazards including earthquakes, landslides and potentially liquefaction. Multiple landslides have occurred on Queenstown Hill, including the Frankton landslide that closed SH6A in 1999. The highway is critical from an emergency response perspective, providing the only major connection between the Town Centre and Frankton. Figure 38 provides an overview of the landslide risks that could impact the operation of the F2Q corridor.

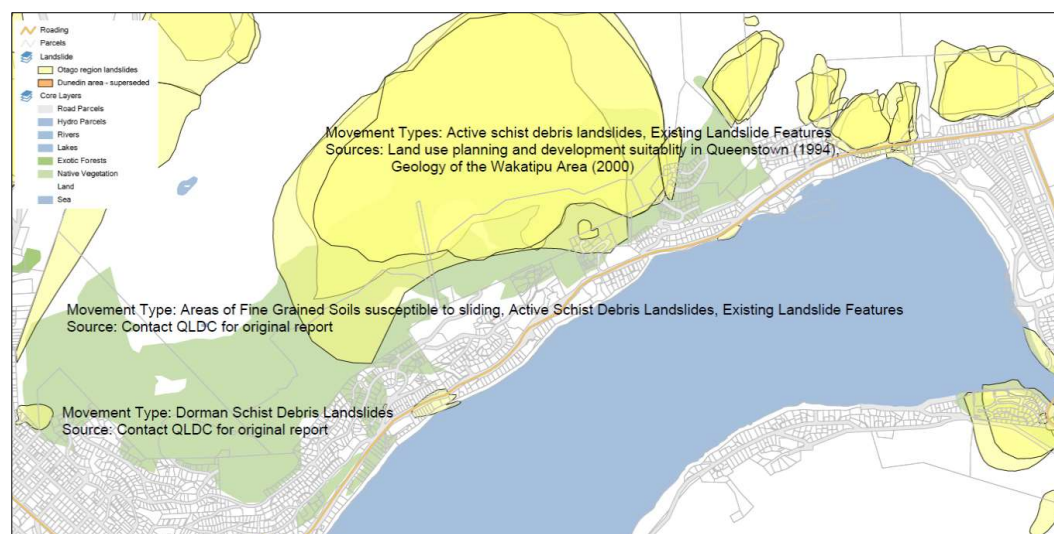


Figure 38: Geotechnical Risk Map Queenstown Hill

The corridor is also vulnerable to road closures from weather and public events. Snow and ice during winter make travel difficult and uncomfortable particularly for active modes; occasionally roads are closed or cannot be gritted in time for the morning commute. This has economic ramifications for the area as the winter economy is dependent on the transport network being safe and accessible through weather events.

Since 2010, there have been 55 cautions for crashes issued on SH6A through the Traffic Road Event Information System (TREIS). There have been an additional 21 instances of 'Delays' or 'Road Closed' for public events and maintenance. Figure 39 shows the duration of incidents recorded in TREIS over the past 10 years. The recording of incidents appears to drop off after 2016, though this is understood to be due to a change in reporting rather than reduction in incidents. The duration of major incidents such as roadworks, appears to be increasing over time. Full closures are only recorded for the annual Queenstown Marathon, though it is known that multiple crashes closed the road in early 2020. It is therefore difficult to ascertain the frequency of full road closures.

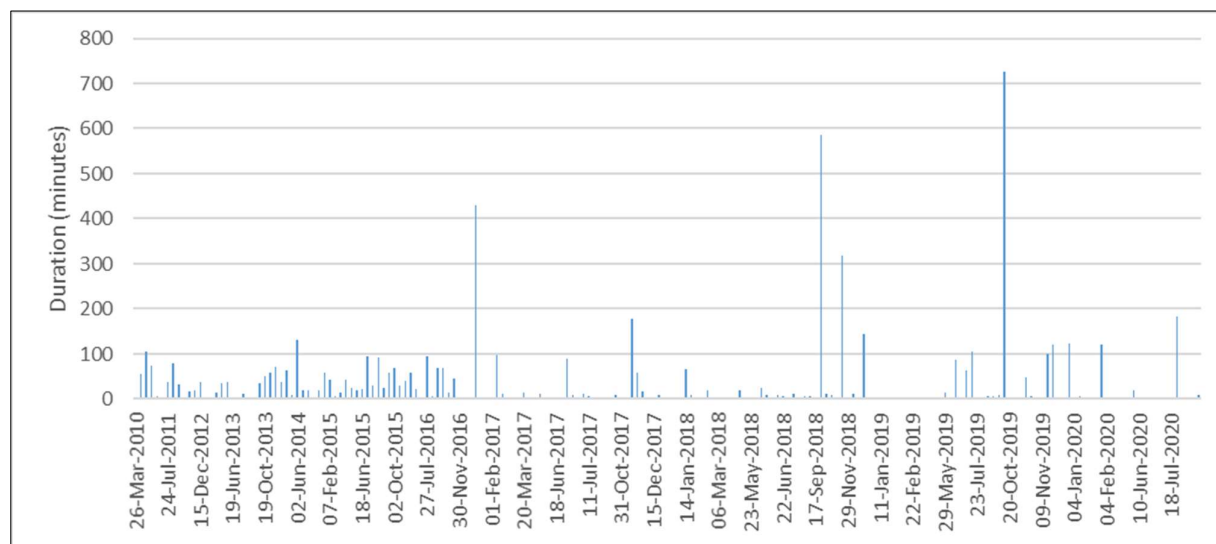


Figure 39: TREIS Incidents and Duration since 2010

Road closures

Due to the critical function of SH6A, roadworks must be carried out under certain conditions depending on the type of work being done. Works that require stop-go must be undertaken between 10pm and 5am, though they still cause queuing and delays. Lane shifts are permitted during the day but have been observed causing congestion due to high traffic volumes. While planned closures can be managed, unplanned closures generally cause gridlock on the network.

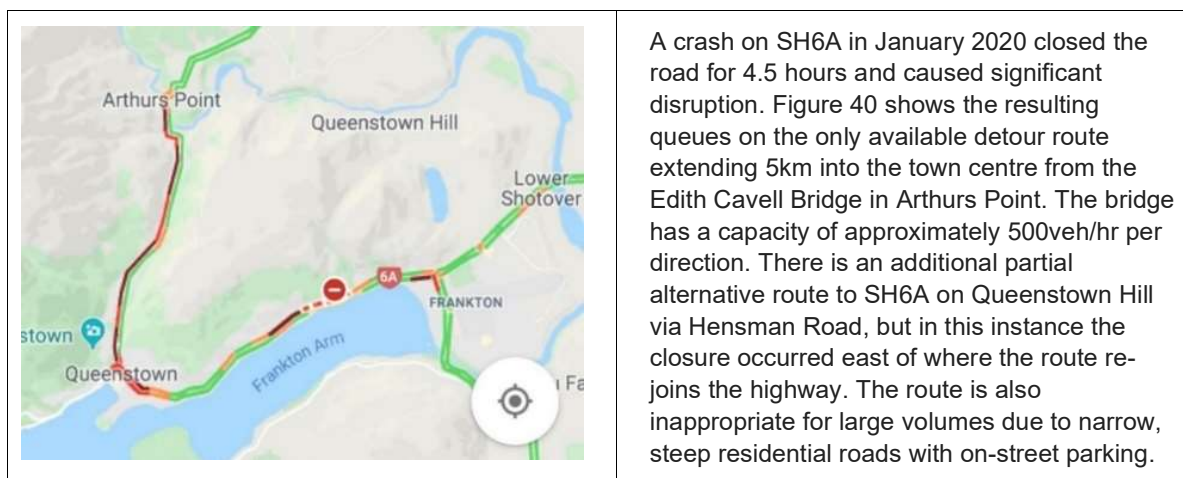


Figure 40: Congestion Following SH6A Crash (11th January 2020)

4.4.2 Effects

The key effects of poor network resilience are:

- In the event of a closure, traffic diverts onto the only alternative routes, which are not appropriate for large volumes of traffic.
- Large and unpredictable delays limit economic function in the area, frustrate locals and services providers, and restrict the ability of emergency services to respond to events, as identified in engagement for the QIT PBC.
- SH6A is the only viable route for transportation of goods into and out of the Town Centre, particularly for over dimension vehicles.

4.4.3 Consequences

The key consequences of poor network resilience are:

- The local economy is almost entirely dependent on the efficient functioning of a single corridor.
- Increased risk that emergency services cannot get to events quick enough.
- In the case of a large event, such as an earthquake, closure of SH6A will cut Queenstown off for an extended period. Evacuations, particularly of stranded tourists, will only increase in cost as visitor numbers grow and appropriate alternative routes are lacking.

4.5 Safety

Complaints received through Aspiring Highways (the Central Otago Network Operating Contract suppliers), and community engagement undertaken for the QIT PBC, GR2KF SSBC and Queenstown Business Case indicate that safety issues along SH6A are primarily related to perceived risk. A crash analysis undertaken for this project in August 2020 (summarised in Section 4.5.3) shows that crash history is typical for each of the project areas. As such, safety is something to be aware of and improvements should be made where possible, but improving safety is not the primary goal of this investment.

As for perceived risk, Queenstown is a traditionally car-oriented town and the majority of active mode facilities are unsuitable for current demands. Where they exist, footpaths and cycle lanes are generally narrow and do not have safe connections to the rest of the network. As a result, less-confident users are disinclined to walk or cycle.

While there is a crash history on the F2Q route, the majority of crashes are low severity. The road is median-separated, well lit, and has a low operating speed during peak hours (despite being posted as 70km/h) and as a result, the majority of crashes are rear-end or low-speed turning. However, 2 serious crashes occurred in January 2020, highlighting the inherent crash risk on the road.

The Queenstown Town Centre has also seen several crashes over the last five years, but whilst the percentage of crashes resulting in serious injuries is low (2.6%), all involved either pedestrians or cyclists. This raises the need for better facilities, particularly for pedestrians and cyclists within the town centre.

4.5.1 Causes

The primary causes for the safety issues facing Queenstown are limited access to cycle and walking facilities, increasing conflicted demands in developed areas such as Frankton and the Queenstown Town Centre, high traffic volumes increasing the level of driver risk taking and inadequate pedestrian facilities.

Entering and Exiting Side Roads

Increasing traffic volumes mean that there are less gaps for side road traffic to enter the main road, causing drivers to adopt unsafe behaviour. This is highlighted in the crash history, which indicates that approximately 11% of the crashes recorded within the study area during the past five-year period were crossing/turning type crashes, with over half of these crashes recorded during peak periods when traffic flows are high. Combined with high speeds, such as at the Howards Drive/SH6 intersection, this has the potential to cause high severity crashes.

In terms of the location of crashes, over 50% of all crossing/turning crashes were recorded along SH6A, suggesting that access to Queenstown Hill suburbs is becoming increasingly difficult. All intersections on SH6A are currently priority controlled, which means there is minimal vehicle platooning. This leads to an uninterrupted flow of traffic and very few gaps to pull into the traffic stream.

Inadequate Active Mode Facilities

Figure 41 highlights common problems with crossing provision along SH6A. The intersection throat is very wide and uphill pedestrians must look over their shoulder to see oncoming slip lane traffic that can legally travel at 70km/h. Footpaths are substandard at 1.3m wide and are not supported by formal drop kerbs or tactiles. Cyclists are directed to cycle through the full width of the intersection throat via an unmarked cycle lane (the green marking was added post-photo to show its location).



Figure 41: Inadequate Crossing Provision (Goldfield Heights/SH6A Intersection)

Community engagement undertaken in February 2019 (refer Appendix A04) raised concerns about insufficient access to cycling facilities on SH6A, inadequate separation between vehicular and cycling traffic and obstacles such as grates and manhole covers in cycle lanes. Several near miss reports were also submitted to Aspiring Highways, particularly regarding the wide crossing and high vehicle speeds at the SH6A/Goldfield Heights intersection. Figure 42 shows a summary of feedback provided.

The effect of inadequate pedestrian crossing and cycle facilities along SH6A is highlighted by the crash data (summarised in Section 4.5.3), which indicated that approximately 26% of the pedestrian crashes and 70% of the cyclist crashes recorded within the study area occurred on SH6A.

Site observations on Shotover Street (from Technical Note 25 – Pedestrian Wellbeing Benefits see Appendix B09), the primary commercial hub for tourist operators and shuttle services, highlighted several issues stemming from conflicting movement and place functions. High volumes of vehicles and pedestrians compete for space, with the street accommodating through traffic, on-street parking, loading and unloading, pedestrian crossings and even outside dining at Fergburger. Inconsistent crossing treatments leads to confusion around priority, particularly for international visitors unfamiliar with local road rules. Desire lines are also blocked by fencing.

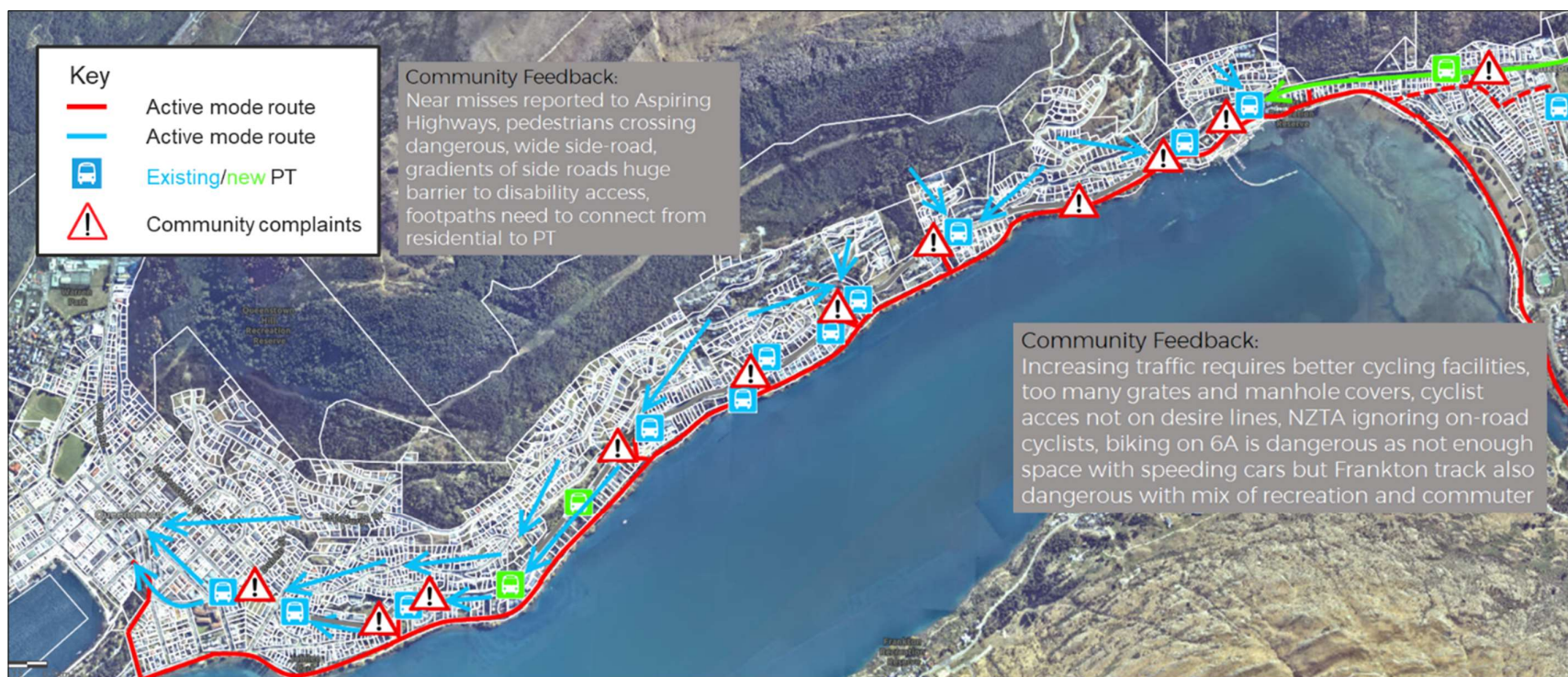


Figure 42: Community Feedback on Active Modes

4.5.2 Contributing Factors

Other key factors which influence the safety of the transport network are outlined below:

- **Traffic volume and congestion.** The crash rate may accelerate as suitable gaps in the traffic become more infrequent and drivers take unsafe manoeuvres as they become frustrated/LOS decreases.
- **Poor visitor observation/understanding/compliance with road rules.** By the very nature of the QTC being a premier tourist destination, many visitors come from places where the driving experience and road rules differ from those in New Zealand. An example is that most developed countries, but not New Zealand, require drivers to give way to pedestrians crossing parallel to traffic at all intersections, whether they are signalised or provide a zebra crossing. Three (50%) of the serious injury crashes in the crash analysis showed road users failing to follow the road rules.
- **Limited formal crossing points, unclear priorities and particularly confusion for international visitors.** While the 'heart' of the town centre has been partly pedestrianised, there is generally a lack of clarity and direction provided to all modes resulting in congestion and increased safety risks. This affects all modes and decreases the town centre sense of comfort for residents and visitors using active modes. 14% of all crashes in the town centre in the past five years involved pedestrians crossing the road.
- **Poor wayfinding increasing circulating traffic.** Circulating vehicles looking for car parks add to congestion. The higher the number of vehicles in the town centre, the greater the chance for conflict with another vehicle or a vulnerable road user.

4.5.3 Effects

The consequences of the current safety issues are summarised by way of crash history in Table 7. The crash analysis was undertaken in August 2020 for the years 2015-2019 (the last full 5 years) within the bounds described (the analysis therefore misses the 1 fatal and 1 serious crashes on SH6A in January 2020).

Table 7: Crash Analysis Summary

	Queenstown Town Centre	Frankton to Queenstown	Frankton	Ladies Mile
Total Reported Crashes	230	105	110	36
Death and Serious Injury Crashes	6 (no fatalities)	2 (no fatalities)	1 (no fatalities)	1 (1 fatal)
Overrepresented Crash Types	Rear end/obstruction, Pedestrian vs Vehicle	Rear end/obstruction, Crossing/turning	Rear end/obstruction, Pedestrian vs Vehicle	Crossing/turning, Overtaking, Lost control/head on

The crash analysis indicates:

- A high concentration of the rear-end type crashes on the approach to the SH6/SH6A (BP) roundabout.
- A high concentration of manoeuvring and pedestrian crossing crashes on SH6A, Shotover Street and Camp Street.
- Pedestrians are particularly at risk, constituting 20% of serious crashes.
- Low likelihood but high severity crashes on the high speed highway at Ladies Mile.

Figure 43 shows all reported crashes in each of the project areas in the last full five years (clockwise from top left – Queenstown Town Centre, Frankton and Ladies Mile and Frankton to Queenstown).

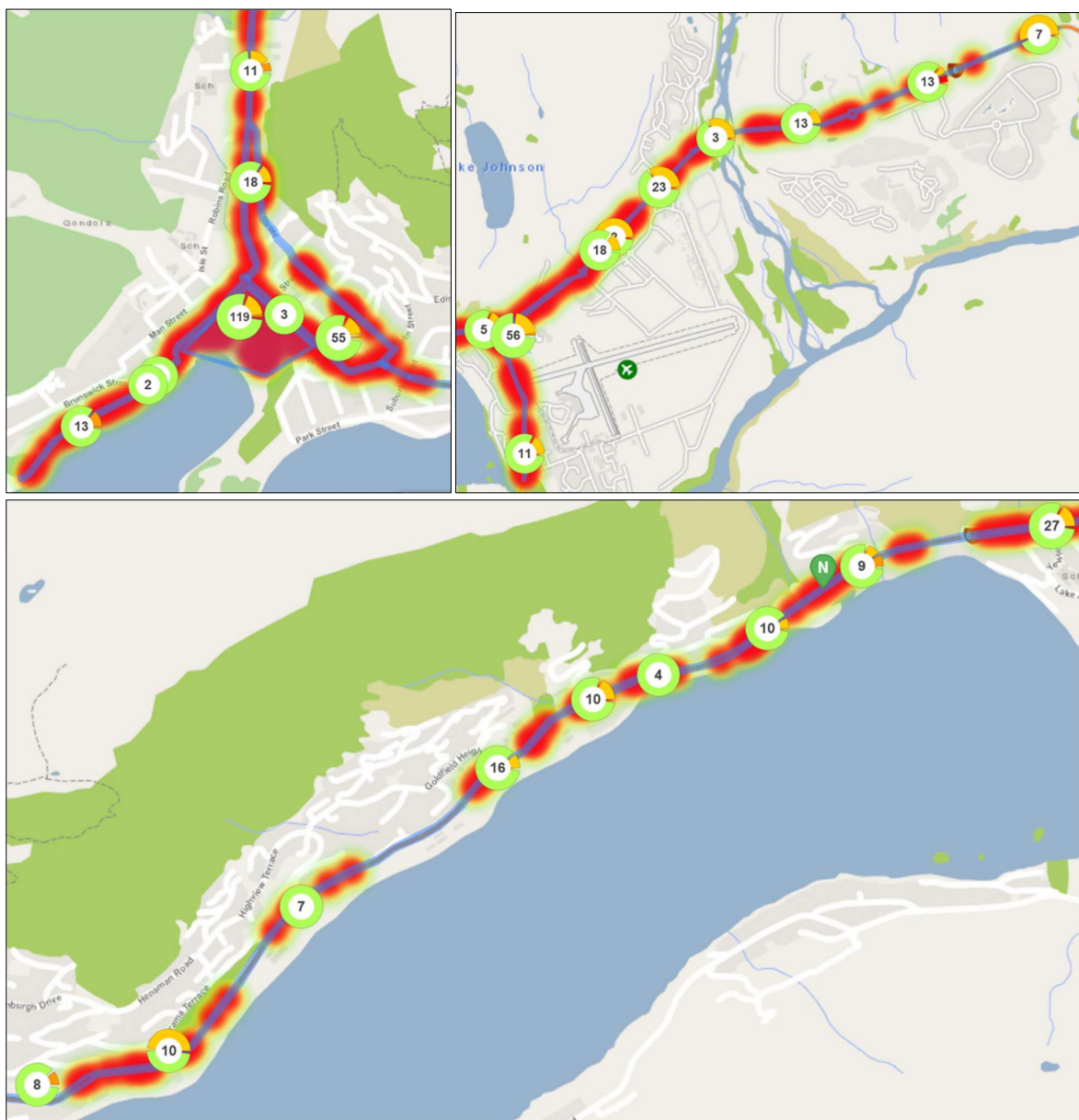


Figure 43: Fatal, Serious, Minor and Non-injury Crashes

4.5.4 Consequences

The key consequences of failing to address safety are:

- Increased number of deaths and serious injuries, particularly pedestrians and cyclists.
- Increased number of road closures caused by a crash.
- Damage to Queenstown's reputation as a safe place to live and holiday in.
- Decreased visitor experience over being caught up in, or witnessing, an incident.
- Discourages walking and cycling, through perceived safety risks.
- Increased cost of repairing the road or property damage in the event of a crash.

4.6 Amenity

4.6.1 Causes

Queenstown has a distinct character which is formed through interrelationships of the scale and form of many of the buildings, the layout of the streets and pedestrian linkages and proximity of the lakefront and mountains. The three principal road entry points also provide a strong sense of arrival into Queenstown, and the Town Centre is generally orientated towards Lake Wakatipu. The relocation of the town centre bus hub from Camp Street to Stanley Street has somewhat dampened the arrival experience but integrating with the planned community heart Project Manawa site will breathe life into the area.

The Town Centre should function as a place for locals and visitors alike. However, as tourist numbers have grown, the town's offering has started to be dominated by visitor-oriented shopping, dining and recreation, which can take away a feeling of authenticity and locals' sense of belonging.

This has significant impacts on the Town Centre economy with a preference by locals to shop in Frankton over the Queenstown Town Centre and a feeling by locals that the Town Centre belongs to visitors and not to them. This 'sense of place' is the main cause of the perceived amenity issue.

Amenity Assessment

Amenity refers to the quality of facilities and the overall feel of the public realm. It is possible to assess the quality of the urban environment by considering factors such as traffic volumes, speed, the amount of street furniture, tree canopy coverage, the percentage of green space, allocation of space to active modes and footpath material. The amenity values are based on a methodology, scoring scale and formula that was developed (and validated) for the Waka Kotahi 'Let's Get Welly Moving' project.

Figure 44 provides results from an assessment using a modified version of the Valuing the Urban Realm Tool (VURT), previously used in London and Auckland. This scored 17 street attributes for moving and static pedestrians on affected streets. The map provides a guide as to where opportunities are for extending the realm of high amenity back from the lakeshore. This assessment will be revisited as part of the wider traffic modelling assessment and will look to reflect feedback from the community.

The assessment has identified that the levels of amenity are high along the pedestrianised streets (after 10:00) of Beach Street and Mall Street. There is a correlation between traffic and amenity, which affects the ratings for SH6A and Stanley Street.



Figure 44: Amenity Assessment (Current State)

The other key factors which influence amenity are outlined below:

- **Congestion.** Queued vehicles spoil the vistas offered by the Wakatipu Basin and vehicles stuck in congested traffic are not afforded an aesthetically pleasing corridor to wait.

- **Utilitarian appearance of Frankton Road.** There are few roadside features on Frankton Road, and there is a lack of tree and amenity planting. Instead the corridor is lined with overbearing and untidy retaining walls.
- **Access vs place functions.** Several roads perform both place and access functions, where the domination of vehicles in areas of high pedestrian activity takes away from the amenity value of the local surroundings.
- **High vehicle volumes and congestion.**
- **Lack of legibility and wayfinding.**

4.6.2 Effects

The effects of suppressed amenity values are:

- Ratepayers and residents feel that the town centre belongs to visitors and not them.
- Locals have a preference to shop in Frankton rather than the Town Centre.
- Reduces the appeal of walking and cycling journeys.
- Reduces Queenstown's "wow" factor.
- Reduces the visitor experience.

4.6.3 Consequences

The key consequences of poor amenity are:

- The absence of an arrival experience for Queenstown or Frankton may have negative long-term effects in terms of visitor satisfaction and future tourism growth.
- Queued traffic generates air pollution and a negative safety perception for pedestrians and cyclists.
- Health and well-being consequences from people not engaging in active transport mode options.
- No defining character or thresholds that identify where the 'town centre' starts and ends.
- No clear purposes for streets and spaces.
- Negative environmental effects (pollution, noise, air quality).

4.7 Implications of failing to address the problems

As indicated above, the problems identified are real, supported by evidence and increasing. Failing to act now will result in these problems continuing to intensify. Modelling (as reported in the option assessment report) of the do minimum, even with the CIP and NZUP infrastructure elements in place indicates levels of traffic that cannot be accommodated on the network resulting in gridlock (to the extent that the model blocks rendering outputs largely meaningless). This demonstrates the need to invest in the remaining two pillars of travel behaviour change and PT services.

As reported above, the consequences of failing to act effectively will be a constraint to the economic vitality, attractiveness and liveability of Queenstown. This will not only cost the Queenstown economy, it will cost the national economy because of the significance of Queenstown as a draw for tourists. The COVID-19 pandemic represents an opportunity to make significant improvements that will mean that growth can continue and in a more sustainable way when tourism recovers.

4.8 Opportunities

4.8.1 Public Transport Network

An opportunity exists to optimise the existing public transport service through low-cost rapid interventions. This could include physical improvements (bus priority), and better integration between walking and cycling links to bus stops. Simple improvements to legibility, wayfinding and quality of service would make the bus system vastly more accessible to unfamiliar users.

Changes to services, including increased frequency of peak hour services and an integrated ticketing system, are already being rolled out and are expected to further improve patronage. There has been a 192% increase in patronage since the introduction of \$2 fares. Whilst this is a strong rise in percentage terms, the absolute rise was from a relatively low base; it does however highlight the potential for a step change in patronage in Queenstown. Therefore, there is good potential for further mode shift with improvements to public transport services and facilities.

In the future, public transport may include expanded ferry services and/or a form of high capacity public transport. There is an opportunity to ensure that options are sufficiently agile to accommodate a range of possible scenarios for these future travel modes. There is also opportunity to provide significantly higher capacity by encouraging a shift away from private vehicles thus reducing car dominance. This could be achieved through a variety of 'carrot and stick' initiatives.

During site observations, the project team identified several minor issues that, when combined, could discourage some users from making public transport trips in the future. Wayfinding on the network is currently lacking; minimal information on using public transport is provided at the airport – only recently was “airport” added to destination displays, while the Arrowtown to Queenstown bus still displays “Arthurs Point”. The Route 1 bus currently does a double loop around Remarkables Park before returning to the airport, the stop it left just prior. Cumulatively, these shortcomings are likely to dissuade visitors from using public transport.

4.8.2 Future Technologies

There is an opportunity to anticipate, and even advocate for, potential technology advances in option development to future-proof the transport system. Technological advances may have dual benefits, both reducing demand and increasing capacity or efficiency.

Several future technologies are in various stages of development, including mobility-as-a-service, electric vehicles, self-driving vehicles and bus-tram hybrids. All of these have the potential to revolutionise how people travel. Solutions implemented in the short-term may become obsolete or even more critical, depending on successful technologies.

4.8.3 Cycling and Walking

Cycling as a transport mode is experiencing rapid growth nationwide. Queenstown has already experienced significant growth in cycling tourism associated with development of the Queenstown Cycle Trails. Given the prominence of cycling in the recreational lives of many locals, there is considerable potential for increased commuter cycling as well.

The SH6A route has relatively gentle gradients, suitable for commuter cycling with the appropriate level of infrastructure. There is an opportunity to provide complimentary cycling infrastructure on SH6A and Frankton Track. Improving the public transport network also delivers active transport benefits, as most trips begin and end with a walking trip.

4.8.4 Land Use Changes

Integrated land use planning can help optimise the use of the finite developable space available in the QTC and on the F2Q corridor and reduce the existing dependency on private car travel. An opportunity exists to promote spatial planning as travel demand management, reducing the need to build capacity later. High Capacity Public Transport options provide the opportunity to enable development and build density around the transport network.

Although the significant residential and visitor growth is having a substantial impact on the Town Centre, it also provides the financial and physical drivers to improve the economic, social and environmental aspects of the town including:

- Diversification of commercial, retail and civic opportunities.
- Increased population, and densities, that can further enhance the viability and demand for higher quality facilities, social infrastructure and public transport services enhancing connectivity and environmental outcomes through reduced reliance on the private car.
- Community Heart (Project Manawa) – this development, focusing on the Stanley and Ballarat Street areas could unlock a new approach to integrated land use planning and operation through combining new community facilities such as library and performing arts venue with commercial activities including office developments as well as a public transport facility.
- Stimulate technologically innovative approaches to transport such as the introduction of electric vehicles/buses or low/zero emission zones.

Through a rebalancing of transport modes with a focus on people, rather than mode type, more active travel options will be encouraged and result in greater investment in the public realm, both scale and quality, e.g., through streetscape renewal or the prioritising of public transport services rather than parking facilities.

4.8.5 Quality of the Public Realm

There is an opportunity to provide a fitting gateway for visitors to both Queenstown and New Zealand, while improving liveability and sense of place for locals. Currently there is a disconnect between the welcoming experience for visitors at the airport, and the journey to their destination in Queenstown. Heavy traffic through Frankton and on SH6A does not currently appeal to the character of the destination.

4.8.6 Behaviour change

The relative success of the Orbus bus network implementation demonstrates a desire to change travel behaviour. Improvements in public transport services are only part of the solution, however. Other mechanisms to encourage a positive change in travel behaviour can be implemented to enhance the effectiveness of the PT services and to maximise the value of the CIP and NZUP investment in infrastructure. These mechanisms could either work to entice people onto public transport or active modes (“carrot” measures) or by disincentivising private car use (“stick” measures).

4.9 Constraints

4.9.1 Committed Funding

With funding for Stage 1 of the Queenstown Arterial Route now committed, the project will form part of the Queenstown business cases’ “Do Minimum”. Although the project is in part intended to enable public transport and amenity outcomes, which meet objectives of the Queenstown Business Case, it will also provide more capacity for general traffic and thereby incentivise travel by car. This incentive will need to be offset by services and demand management interventions to deliver on established mode shift targets.

The NZ Upgrade Programme also has funding committed and the infrastructure provided will also form part of the business case “Do Minimum”. It comprises several infrastructure interventions identified in the QIT PBC and developed through the early stages of the Queenstown Business Case. The committed infrastructure projects alone will be ineffectual at achieving mode shift targets or delivering the project’s Investment Objectives; the Queenstown Business Case needs to develop a complementary package of services and demand management (and supplementary infrastructure) interventions in order to achieve the Investment Objectives and capitalise on funding committed through NZUP, which would otherwise be wasted.

The ‘community heart’, which has since become Project Manawa, is a key interdependency with this project, as it borders the proposed future public transport hub and will create a major new destination, changing travel patterns in the town centre. Designs through this business case will need to integrate with, what will be, a key feature of the town centre.

4.9.2 Political Constraints

The key stakeholders in the project, namely QLDC, ORC and Waka Kotahi, have distinct responsibilities and competing motivators in terms of project outcomes. For example, QLDC are under pressure to address housing

affordability, while ORC is responsible for providing an economical and commercially viable public transport network. Conflicts may arise where solutions do not satisfy each organisation's objectives.

The 2017 election led to a significant change in the approach to the national transport strategy. Generally speaking, focus shifted from investment in road infrastructure to mode neutrality, recognising the roles of public transport and active modes, which has heavily influenced the direction of the Queenstown Business Case. A change in Government at the 2020 election (or future elections) may lead to these policies and objectives changing again under the next Government Policy Statement.

4.9.3 Land Use, Population and Visitor Growth

Tied to the uncertain rate of population, visitor and vehicle growth, there is uncertainty around future land use in the region. Due to the current high demand for housing, proposals for development can appear with little warning, while Special Housing Areas and Housing Infrastructure Fund developments can be fast-tracked, circumventing the rigour of usual planning requirements. While the Queenstown Business Case seeks to address problems surrounding this issue, there are certain elements of growth that it cannot influence, such as the insatiable desirability of Queenstown.

While the new district plan is designed to control development, there are examples of hotels being built in residential zoned areas. This leads to uncertainty in future land use (and therefore traffic demand projections) and limits the ability to provide timely and adequate infrastructure.

Restrictions on building heights limit the value of commercial space that could be used to offset costs associated with new transport infrastructure. Transport Oriented Developments could be located at transport nodes to utilise the economic potential provided by the high volume of foot traffic. Additionally, the existing height restrictions limit the ability to densify population around transport hubs or provide mixed use land zoning to reduce people's travel distances and choice of other modes such as active travel.

4.9.4 Lack of Data

An absence of some datasets can make defining problems challenging. Particularly constraining is the understanding of visitor travel behaviour and the ratio of visitor trips to resident trips. Existing information on bus operations is largely limited to revenue, though more detailed information is expected to be available following implementation of the integrated ticketing system.

4.9.5 Physical Constraints

The F2Q corridor is physically constrained by Queenstown Hill to the north and Lake Wakatipu to the south, an environment not conducive to multiple route options and easy construction. Development has intensified on both sides of SH6A, further reducing the feasibility of physical interventions. Queenstown Hill and SH6A are also susceptible to landslides and any construction of physical improvements is likely to be costly due to property and construction costs.

The topography of the areas means that it is unlikely that the F2Q corridor can provide 'all things to all people' and the competing demand with limited space will mean that some trade-offs will be required.

4.9.6 Funding

While one-off funding streams have been approved for big ticket infrastructure projects such as NZUP and Stage 1 Arterials, the remainder of any preferred package will need to be funded primarily through the National Land Transport Fund. In addition to being as being fully subscribed, the fund is under stress due to the loss of revenue from Road User Charges and Fuel Excise Duty during the COVID-19 lockdown.

As well as limited funding being available, there are uncertainties surrounding funding sources external to the NLTF. Visitor levies and bed taxes have been a common theme for discussion in the district and could provide a revenue stream for investment in infrastructure. However, nothing has been agreed and the impacts of COVID-19 are not fully understood.

4.10 Case Studies

Though largely unique in a New Zealand context, the issues facing Queenstown are typical of resort towns worldwide: high seasonal demand, low ratepayer base and a largely car-based transport system. Table 8 summarises how some resort towns have succeeded in addressing similar issues, indicating that Queenstown could do the same.

Table 8: Resort Town Transport Planning Case Studies

Location	Description
Zermatt, Switzerland 	Zermatt has been car free since 1961. Only electromobiles (fabricated at the resort), electric buses, horse-drawn carriages and trains are used for transport. Visitors can park their car at Tasch and travel the remaining 5 km by train. Two, three, and five day passes allows unlimited travel on 761 km of rail network and a 50% discount on a range of funiculars, cable cars and sports and recreational facilities. A bike ticket allows travel on a bike tour through the valley and a train on the way back.
Colorado, USA 	Boulder, Colorado employs an integrated philosophy whereby parking revenues are invested in Travel Demand Management (TDM) measures. Aspen, a Colorado resort community, began charging for on-street parking in 1995 and has implemented a pricing system where fees are highest in the centre and decline with distance from the core. They have now also established a residential parking permit system. Revenue collected contributes to providing alternative transport including eight free transit routes, carpool permits and HOV lanes. Breckenridge, a Colorado resort community, has a comprehensive parking pricing scheme; any profit is dedicated to transport and public realm improvements, including free public transport passes for downtown employees.
Whistler, British Colombia, Canada 	Whistler has adopted a programme of education and enforcement, which has increased compliance with parking restrictions. The vehicles of repeat offenders are towed, rather than issued with tickets. With the increased enforcement, officers are writing less tickets and street “pay and display” revenue has increased by a reported 45 percent. Plans are underway to enable ski lift passes to include the public transport system. Whistler has also created a parking communication strategy targeting tourists through the local tv station to provide information on where and how to park, with additional information provided to hotel guests.

5 STAKEHOLDER ENGAGEMENT

5.1 Workshops

The following stakeholder workshops helped to shape this business case:

- **Workshop 1: Project Inception.** The purpose of this workshop (18th/19th September 2018) was to clarify the scope of the project, agree the programme for delivery and key deliverables, establish the workshop process and identify key risks going forward.
- **Workshop 2: Problems, Opportunities and Constraints.** The purpose of this workshop (9th October 2018) was to review the evidence base for both projects and confirm the problems, benefits and investment objectives. Initial conversations around the long list were also held.
- **Workshop 3: Long-List.** The purpose of this workshop (4th /5th December 2018) was to define the long-list of options and establish the multi-criteria assessment criteria, against which the long-list will be assessed.
- **Workshop 4: Long-List to Short-List.** The purpose of this workshop (22nd February 2019) was to develop various 'strawman' programmes and discuss potential phasing of individual initiatives.
- **Workshop 5: Short List to Preferred Option.** The purpose of this workshop was to confirm the preferred option (this workshop was held remotely on 18th March 2020 due to COVID-19 mobility restrictions)

Stakeholders were identified from a cross section of local businesses and special interest groups. The workshops notes are provided within Appendix A05.

5.2 Communications and Engagement Plan

The project **Communications and Engagement Plan** is provided within Appendix A06 along with a list of the key stakeholders and project team members.

5.3 Community Consultation

In order to gain a better understanding of the transport issues and opportunities, the following community consultation open day sessions were held:

Table 9: Consultation Events

Event	Date	Time
Remarkables Market	Saturday 26 January 2019	9am - 2pm
Queenstown Airport	Friday 16 and Sunday 18 November 2018	10am - 1pm
Creative Queenstown Arts and Crafts Markets	Saturday 2 February 2019	9am - 4.30pm
Camp Street Bus Hub	Wednesday 17 April 2019	1pm – 5pm
Frankton Hub	Thursday 18 April 2019	9am – 1pm

The sessions provided an opportunity for locals, visitors and transport network users who are familiar with this area to share their knowledge which could then be incorporated into the option development.

The key questions asked as part of the consultation included:



Tell us about your experiences using the car on the Frankton to Queenstown corridor and around the town centre? Where do you park?



Tell us about your experiences using public transport to travel along the Frankton to Queenstown corridor and around the town centre?



Tell us about your experiences cycling along the Frankton to Queenstown corridor and around the town centre?



Tell us about your experiences walking along the Frankton to Queenstown corridor and around the town centre?



What could be improved?



Do you have any other comments?

The events were promoted through Waka Kotahi and QLDC websites and social media channels and media advisory on local papers. Further feedback was received via the **Waka Kotahi's Social Pinpoint**, which provided an online platform with a map to allow the community to add comments. In total, responses from 349 people were gathered via the online portal, and discussions were held with over 230 people who attended the events held at the Airport and the markets.

5.3.1 Customer Insights

Table 10 provides a summary of the consultation feedback received.

Table 10: Custom Insight Feedback

Mode	Area	Feedback
Walking	Queenstown Town Centre	- Narrow footpaths which are often congested. - Drivers parking vehicles over the kerb or large vehicles and vehicles with bikes reduces the footpath space available for pedestrians. - Walkways are dangerous during winter months due to shading by plants and muddy surfaces. - Pedestrianise Marine Parade and the Town Centre. - The current large intersection layouts and road design provide no consideration for pedestrians crossing. No signage provided to indicate pedestrian priority. - Pedestrian access up/down the hill provides a footpath only on one side of the road with unmarked stairs at some places. There are no provisions for mobility impaired pedestrians, and no signs to direct pedestrians. - Some crossing points in town with pedestrian priority are conflicting with the need to keep traffic moving. - More footpaths are required. - Need streetlights, designed for the footpath, for safe use after dark.
	Frankton to Queenstown	- Difficult to cross SH6A, particularly when accessing bus stops. - Potential for crashes as some pedestrians fail to look before crossing or look in the incorrect direction (i.e. visitors). High traffic speed creates difficulty when crossing and drivers suddenly stopping to let pedestrians cross could result in rear-end collisions. - A new footpath/track along SH6 past Queenstown Events Centre and Golf Centre to Five Mile. - More footpaths. - Streetlights, designed for the footpath, for safe use after dark.
Cyclists	Queenstown Town Centre	- More and better signage on cycle trails towards the town centre. - Cycle lanes from other suburbs into town (Kelvin Heights; Gorge Road). - More on-street bike parking. - Bike friendly Town centre. - E-bikes to be introduced.
	Frankton to Queenstown	- Cycling feels dangerous on SH6A – especially crossing. - Sealed tracks. - Cycle lanes separated from traffic. - More commuter routes needed as existing trails are for recreational purposes. - Trail congestion at peak times.

Mode	Area	Feedback
		- Shared paths are too narrow to be shared. - Ferries that you can take a bike. - E-bikes.
Bus	All	- Using the bus services is easier, quicker and low price. - Buses on some routes are often too full. - Too many non-public bus services. - Bus services are sometimes unreliable. - Public transport needs to be enhanced and given priority in heavy traffic times. (e.g. Express bus lanes) - Extended service hours by providing buses earlier and later in the day. - Remove commercial bus parking from town centre. - Small buses or shuttle to feed the bus services to places such as Jacks Point. - More covered bus stops. - More bus services along SH6A. - Electric buses. - More bike racks on buses. - Extra buses for large events and school bus services. - More frequent bus services into town from outer areas including Jacks Point, Lake Hayes Estate, Kelvin Heights, Arthurs Point and Shotover Country.
	Queenstown Town Centre	- Bus parks should be relocated out of the town centre - Provide Queenstown Hill bus service. - More direct buses from suburbs to Queenstown Town Centre. - Run the bus from Arrowtown to Queenstown Town Centre through Arthurs Point. - Remove golf course and create bus hub and park and ride at this location.
	Frankton to Queenstown	- Provide a non-stop route straight from Kelvin Heights to Queenstown Town Centre. - Tourist coaches clogging up the road. - Express buses between Queenstown and Frankton. - Park and Ride in Frankton.
Other Public Transport	All	- Public funded / subsidised ferry service. - More ferries from Kelvin Heights. - Increase the water taxi ferry service during peak hours and later into the evening. - Ferry with parking infrastructure at terminals. - Tram or monorail to and in QTC - Create a loop encompassing Town, Arthurs Point, Lake Hayes, Shotover Country, Five Mile, Frankton and back to town. - The main transport interchange (or bus interchange) to be located close to the ferry terminal to ensure passengers can easily switch modes.
Car	Queenstown Town Centre	- A car free TC to provide a pedestrianised space. - A bypass around the town centre (e.g. Fernhill to Frankton). 30km/h speed limit through the town centre. - Safety calming measures (speed humps) to encourage low travel speeds. - All on-street parking on Shotover Street to be removed to create more pedestrian friendly space. This will reduce the traffic congestion created by drivers parallel parking or searching for parking within this section. - Limited parking is currently an issue. - Increase the cost of parking in town to encourage the use of public transport.
	Frankton to Queenstown	- Accessing Frankton Road from side streets is difficult, with these intersections considered dangerous. - Traffic congestion caused due to lanes merging. Shotover Bridge is considered a major bottle neck. - Four-laning the Queenstown to Frankton corridor is likely to address efficiency issues.

Mode	Area	Feedback
		Whilst some feedback indicated that the existing 70km/h speed limit is considered appropriate along this corridor, others suggested a 50km/h speed limit to improve safety for drivers turning into/out of Frankton Road, pedestrians and cyclists travelling within this corridor.
Other	All	- No provisions for motorhomes. - Wayfinding and signage are poor in places. - Park and Ride facilities - A transit map for all walking/cycling access routes between QTC and Frankton would be helpful.

A more detailed summary of the feedback is presented within a separate report provided within Appendix A04.

5.3.2 Wordles

During the community open days sessions members of the public were asked to answer the following questions in as few words as possible:

1. Describe the greatest challenge for transport today
2. Describe your ideal future transport situation.

The main issues identified during the open days were generally consistent with those identified as part of the wider consultation exercise (via websites and media). The key issue themes were around safety crossing roads, public transport reliability, inadequate cycling provisions and congestion.

Figure 45 provides an overview of the feedback ('wordles') relating to the QTC and F2Q area, where the bigger the word the more important the issue is for the community.



Figure 45: Future Transport Desires – Wordles

The community desires for the transport future for Queenstown focus clearly around enabling safe pedestrian crossings and improving the active and public transport infrastructure.

6 SUMMARY

This document has demonstrated how an insatiable growth in the number of visitors has been accompanied by a commensurate increase in residents to service this growth. With spatial and topographical constraints, this growth combined with housing and land supply constraints have caused Queenstown to have New Zealand's most unaffordable housing market. In addition, the growth has led to very significant growth in the demand to travel with very few roads to accommodate this growth, and little provision for alternatives such as public transport, walking and cycling. The high place quality of the historic core of Queenstown Town Centre is being eroded as large numbers of people visit mostly by car, due to lack of mode choice. The irony is that the "insatiable desirability" of the town centre and Queenstown as a whole risk being overwhelmed by car-dominated travel patterns which threaten that very place quality.

A different pathway is therefore clearly needed for Queenstown to retain its place as the jewel in New Zealand's tourism crown. This will be achieved through a targeted investment in the three pillars – PT service improvements supported by infrastructure that encourages mode shift and travel demand management initiatives. The next sections will set out the interventions identified to deliver on the investment objectives.

Now is the time to address these challenges. The current, and temporary, drop in travel associated with COVID-19 provides the opportunity to address well-known transport challenges at a time when they are less acute, meaning that construction would have less overall impact on the transport network, and put Queenstown in a good place for the projected full return of visitors by 2024. Investment will also create much needed jobs for residents.

In the longer term, the evidence presented around growth, network capacity and poor mode choice supports the case for investment to ensure Queenstown remains an attractive, well-managed resort that is a pleasure to visit and which can continue to compete on an international stage. There is also a risk of not acting – which may cause Queenstown to stagnate resulting in negative economic and reputational outcomes for the area and the rest of New Zealand. Visitor feedback already indicates that traffic congestion is the single biggest negative in an otherwise very highly regarded visitor destination with the consequent risk of Queenstown being bypassed by visitors.