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Queenstown Town Centre Arterials Business Case

QUEENSTOWN LAKES DISTRICT COUNCIL

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Queenstown Town Centre Arterials Business Case

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Rationale Limited	Project Manager:	Gavin Flynn
5 Arrow Lane	Prepared by:	Linda Cook
PO Box 226	Reviewed by:	Tom Lucas
Arrowtown 9351	Approved for issue by:	Edward Guy
Phone: +64 3 442 1156	Job number:	J000591

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Glossary of Terms

Abbreviation	Term
BCR	Benefit-Cost Ratio
CBD	Central Business District
EEM	Economic Evaluation Manual
FYRR	First Year Rate of Return
GPS	Government Policy Statement
HNO	Highways and Network Operations
IBC	Indicative Business Case
ILM	Investment Logic Map
KPI	Key Performance Indicator
LOS	Level of Service
LTMA	Land Transport Management Act
LTP	Long Term Plan
MCA	Multi-Criteria Analysis
MSQA	Management, Surveillance and Quality Assurance
NIP	National Infrastructure Plan
NLTF	National Land Transport Fund
NLTP	National Land Transport Programme
NOR	Notice of Requirement
NZTA (or the Agency)	New Zealand Transport Agency
ONRC	One Network Road Classification
ORC	Otago Regional Council
P&I	Planning and Investment
PBC	Programme Business Case
PC	Plan Change
PT	Public and Passenger Transport
QLDC	Queenstown Lakes District Council
RLTS	Regional Land Transport Strategy
RMA	Resource Management Act
SH(#)	State Highway (number)
WTS	Wakatipu Transport Strategy

Executive Summary

Document purpose

This Queenstown Town Centre Arterial Business Case is part of a Masterplan Programme for the Town Centre.

The Masterplan Programme brings together a set of other business cases to describe an integrated investment story. These business cases and frameworks are focused on:

- Public and Passenger Transport facilities
- Parking
- Town Centre Arterial Routes
- Spatial Framework and Public Realm
- Community and Civic Facilities, which includes development of a Community Heart.

Background

The Queenstown Lakes District Council is leading a multi-disciplinary team to identify and address the challenges facing the Town Centre through a Masterplan. The Masterplan is a 35-year vision that sets the direction for the future of the Queenstown Town Centre.

This Business Case explains the role that the Town Centre Arterials play in this.

The Case for Change (Strategic Case)

The need to address the town centre roads has been recognised since the 2005 Future Links Transport & Parking Strategy.

The need for investment in this area can be summed up in the following statements, supported by detailed evidence in the Business Case.

- In the next ten years, the Queenstown Lakes district is set to grow by 29% for residents, 25% for visitors and 24% for rating units. This growth will add extra pressure to the transport network.
- State Highway 6A, between Frankton and Queenstown town centre, is already operating at 88% of its theoretical capacity of 28,500 vehicles per day and it is expected to reach 100% by 2026.
- The extreme car dependence in the district is driving congestion, constraining public transport and reducing the appeal of the town centre.
- Town centre roads are nearing capacity in peak times and growth must be supported through increased uptake of public and passenger transport.
- Current arterials are preventing the town centre achieving its long-term potential.
- According to resident surveys, many commuters find that using their cars to travel into the town centre is cheaper and more convenient and rarely use public or passenger transport. Responses indicate that there is no incentive to use public transport which is considered expensive, unreliable and not convenient.
- Visitor surveys show that congestion, unreliable transport access and parking are negatively impacting their Queenstown experiences.

The Strategic Case for the Town Centre Arterials has shown that that considerable change has occurred since the 2014 Indicative Business Case for Inner Links. Council and stakeholders see this Town Centre Arterials project not as a ‘bypass route’ but a catalyst for positive interventions, that improve liveability and visitor experience, while reducing car dominance in the Town Centre. These positive interventions could include the following:

- Realising Shotover Street as Queenstown's busiest high street with less pedestrian-traffic conflicts and promoting a more vibrant town centre.
- Reimagining Stanley Street with a gateway development in the crown/council site and creating the capacity for greater priority for passenger & public transport buses.
- Greater pedestrian and cyclist connectivity as the town extends and redevelops.
- Progressively removing traffic from the core to allow a calmer atmosphere for residents, shoppers, workers and visitors.
- Enabling key strategic development sites to offer a range of housing within easy walking distance to the town centre.
- Improved access and mobility for all abilities.

Arterial route improvements will play a crucial role in improving town centre access while supporting (and benefiting from) integrated initiatives around parking reform, public realm upgrades, and public and passenger transport.

All of these things combine to ensure Queenstown can continue to deliver the positive experiences it is famous for as shown in the diagram below:

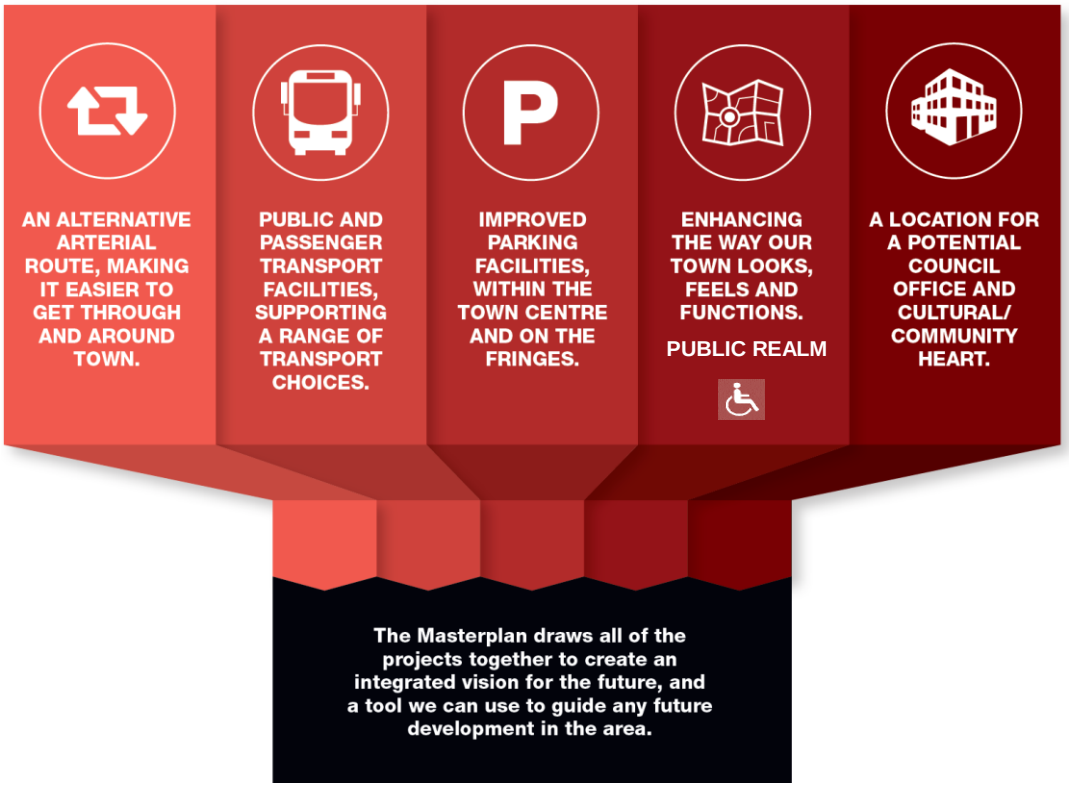


Figure A: How the masterplan projects come together to guide future development

The inter-dependent nature of these projects cannot be underestimated, and it is important to recognise the following key dependencies:

- New public and passenger transport facilities cannot succeed without dedicated space and priority access, which is provided by moving the arterial route away from Stanley Street.
- Public transport will not be successful if parking availability and pricing in the town centre are not better managed to encourage less car use.
- Proposed parking changes cannot succeed without moving the arterials away from the town centre to the new parking facilities and preventing the level of circling experienced in town today.

- The public spaces in the town centre cannot be improved without moving cars out of town and moving more people into public, passenger and active transport.

The Proposed Solution (the Economic Case)

The preferred option for the Arterial Route is shown in the drawing below. This will take through-traffic away from Shotover and Stanley Streets allowing them to develop their place-functions through the masterplanning exercise.

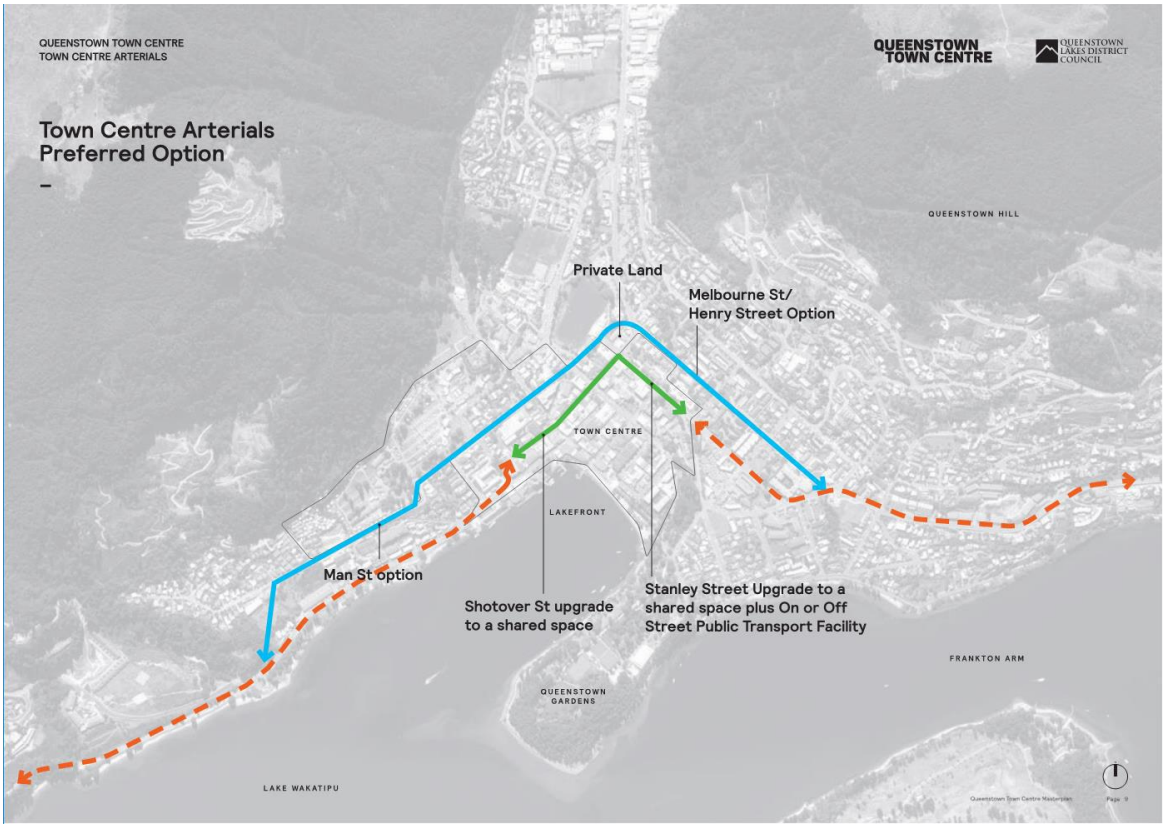


Figure B: Town Centre Arterials Preferred Option

The preferred option can be broken into 3 stages of implementation:

Stage 1: Replacement of Stanley Street

Stage 2: Intersection Henry Street and Memorial Link with Gorge Road

Stage 3: Replacement of Shotover Street

The preferred option can be further broken down as:

- Frankton Road to One Mile via Melbourne Street to Henry Street through public land to Memorial Street, Man Street, Thompson Street and a new link to One Mile.
- Using Isle Street to connect traffic to and from Gorge Road via Robins Road.
- Five (5) new traffic signal controlled intersections at:
    - Melbourne Street and Frankton Road
    - Henry Street and Gorge Road
    - Camp Street and Man Street
    - Brecon Street and Man Street
    - Hay Street and Man Street

- Shotover Street between Beach Street, Stanley Street and Lake Esplanade will be changed to a low speed environment with focus on pedestrians and commercial tourism activities.
- Stanley Street will be enhanced between Ballarat Street and Shotover Street to provide for on-street public transport facility.

Through recent workshops and design work, a new preferred option was selected that stands to provide stronger benefits and significantly reduced construction and operational costs. This option was developed and evaluated alongside a wide range of alternatives through a longlist and multiple multi-criteria analysis tools. The cost estimate for this section of the arterials has recently been revised to $47.7 million, which is roughly $50 million less than the previous estimate. As shown below, this new option (3B) introduces a new roundabout to provide better driving legibility, improve safety and operations, while catering for growth and improving land use outcomes.

Figure C: Stage 3 Preferred Option (3B)

The proposed new arterial route forms part of a wider Masterplan programme that achieved a Benefit Cost Ratio (BCR) of 1.7.

With the Benefit Cost Ratio (BCR) greater than 1 and the results alignment considered very high when the wider benefits, including non-monetised benefits, are taken into consideration, it is concluded that under the NZTA assessment framework, investment in this project is justified.

To should be noted that investment in a tailored modelling software package in the next phase that considers more of the Queenstown context such as the future pedestrian numbers/conflicts and public transport numbers, should show increases in the quantifiable benefits which could increase the BCR.

Results alignment under the NZTA Assessment framework is considered high, meeting all priorities as shown below:

GPS Priority	***Investment Objective***		
	Improved Access to and through the Town Centre	*Increased Economic Performance*	*Improved Liveability and Visitor Experience in the Town Centre*
Economic Growth and Productivity	√	√	√
Road Safety	√		√
Value for Money	√	√	√

The proposed Arterials route will support the objectives of the draft GPS:

- *Addresses Current and future demand for access to economic and social opportunities* through integration with other projects under the Queenstown Masterplan project. Removing the majority of traffic form Stanley and Shotover Streets will enable the activation of those streets and consequent improved economic performance as well as improved liveability and visitor experience
- *Provides appropriate transport choices* - design for the Arterials provides for separate cycleways and footpaths (some shared paths) as well as public transport enablers such as priority bus lanes. Integration with the parking and public transport business cases through the Masterplan will further facilitate better transport choices
- *Resilience* - meets future needs and endures shocks
- *Safe system, increasingly free of deaths and serious injury* – Appropriate design standards, proposed low speed zones and reduced pedestrian / traffic conflict through removing a large share of traffic from Shotover and Stanley Street
- *Mitigates the effects of land transport on the environment* – primarily through encouragement and facilitation of alternative mode choices so reducing traffic and congestion in the town centre.
- *Delivers the right infrastructure and services to the right level at the best cost* - demonstrated through this Business Case

Commercial Case

Statutory Planning

A programme approach to consenting and designation will need to be developed for the Masterplan through advice from QLDC planning and legal advisers. This can be progressed at a programme level during the detailed business cases.

A full statutory planning review is still required. The road alignment will likely be secured through a designation (process due to commence in July 2018) with the requirement for associated land use consents to be addressed concurrently. It is imperative that the designation process is notified as soon as possible to secure route and give commercial developers the correct land take requirements that they can then operate around.

Procurement

For the Arterials and other transport projects, the need will be to ensure that procurement processes align with the standards and requirements of NZTA, ORC and QLDC, in addition to involving representatives from each group in the tender planning and evaluation panels.

At this stage, QLDC is intending to lead the delivery of the arterials project and will lead the procurement process.

The current preference will be to undertake procurement on a traditional basis of design followed by construction. However, the option of alternative processes such design-build and / or an alliance type of approach is still to be considered.

Financial Case

The programme cost is currently estimated at $140 million.

The cost estimates below have been used to inform the QLDC Long Term Plan forecast.

TC Arterials	$139,684,000
Arterials Designation Cost	$500,000
Arterials Detailed Business Case including Preliminary Design	$200,000
Land Acquisition Transactional Costs (Property and Legal)	$1,850,000
Stage 1: Melbourne to Henry	$33,122,000
Stage 1: Melbourne to Henry (Private Land Purchase Costs)	$4,312,000
Stage 2: Henry to Man	$7,032,000
Stage 2: Henry to Man (Private Land Purchase Costs)	$6,035,000
Stage 2: Henry to Man - Memorial Hall Land & Building Purchase Cost	$8,290,000
Stage 2: Henry to Man - 71 Stanley St Land Purchase Cost	$2,500,000
Stage 2: Henry to Man - Council Office Land Purchase Cost	$3,300,000
Stage 2: Henry to Man - Squash Club Land Purchase Cost	$710,000
Stage 2: Henry to Man - Rugby Clubrooms Land Purchase Cost	$930,000
Stage 2: Recreation Ground (Infrastructure and edges relative to the new Memorial Centre)	$1,425,000
Stage 3: Man St	$15,116,000
Stage 3: Man St (Private Land Purchase Costs)	$50,000
Stage 3: Thompson St	$47,655,000
Stage 3: Thompson St (Private Land Purchase Costs)	$6,657,000

Provision is to be made for the design and construction of the Town Centre Arterials within its Long-Term Plan (LTP) to secure third party funding for the works from NZTA.

Given the significant cost of the full masterplan programme and the other infrastructure investments the Council is required to undertake in the coming decades (such as water treatment plants), QLDC is reaching its debt ceilings.

The feedback from the financial leaders in QLDC is that this programme can only be affordable if the organisation is willing to, and capable of working closely with NZTA, central government and the private sector to apply shared funding/development strategies.

Management Case

An alliance has been proposed with NZTA to oversee this programme as part of the wider masterplan. This would be supported by a standard governance structure for managing and delivering the project within QLDC.

For the Arterials, it is anticipated that a separate independent group will be established to oversee the delivery of this project.

Project Management, Benefits Management and Risk Management strategies have been developed and they will be tested and agreed in the detailed business case phase.

Next Steps

This business case seeks approval from decision-makers to take the project business case into the detailed planning phase. This detailed phase will build on the work done to date to confirm:

- strategic alignment
- value for money selections
- commercial strategies
- funding arrangements
- management strategies.

In order to address the challenges facing the Queenstown Town Centre in a timely manner and to be ready for the construction schedule which aligns with the QLDC and NZTA funding programme, the milestones below will need to be met.

- Development of the Detailed Business Cases from January to October 2018.
- Completion of the required designation processes from July 2018 to June 2020.
- Commence arterial construction in July 2020.

Summary of Recommendations

This Business Case demonstrates the value for money that can be provided through investing in road network improvements to enable greater public transport efficiency in Queenstown as part of an integrated masterplan programme. It is therefore recommended that investment continues in the following activities:

- The Queenstown Town Centre Arterials Indicative Business Case be accepted.
- Preliminary design be developed and the preferred option identified.

The ongoing development of the Business Case will be aligned with the Queenstown Town Centre Masterplan and its core projects.

The Business Case will also be developed in general alignment with other key documents such as the Queenstown Integrated Transport Programme Business Case, the Wakatipu Public Transport Programme Business Case and the Proposed District Plan which is scheduled for notification on November 2017.

PART 1 – THE CASE FOR THE PROJECT

1 Background

1.1 Introduction

Queenstown Lakes district is currently undergoing significant and unpredicted population, residential and tourism growth. This has resulted in rapid urban development and associated traffic growth tensions such as peak period congestion on the roads and a reduction in travel time reliability.

Queenstown International Airport is also expanding and increased visitor numbers are further adding to demand on the transport network.

The average daily traffic growth has risen by 10% over the last year and there was a 34% increase in traffic volumes between 2012 and 2016[1].

A through-route has been identified over the years as part of the overall solution to address the increased demand on the transportation network in Queenstown. 'Inner Links' was identified as the preferred option in the MWH 'Inner Queenstown Transportation Study – Final Scoping Report' in 2008.

Several studies and strategies since the early 2000s have confirmed the need for an alternative solution. This strategic case is effectively a review of the strategic case from the 2014 Scheme Assessment / Hybrid Indicative Business Case for Inner Links, and considers the significant residential, traffic and tourism growth since that assessment was undertaken.

1.2 2014 Strategic Case Review

The 2014 Indicative Business Case was not fully endorsed by NZTA. Consequently, QLDC and NZTA deferred Inner Links within the LTP, RLTP and NLTP while travel demand management measures were explored. The aim was to bring the modal split to 20% alternative mode use including walking, cycling and public transport. There is no evidence to suggest that this was successful.

The Point of Entry for this current business case was a review of the 2014 Strategic Case for the Arterials (then referred to as Inner Links) to incorporate changes since then.

The updated Strategic Case was issued to NZTA, QLDC and ORC, as investors in June 2017.

1.3 Strategic Context

The figure below identifies some of the key strategic studies and works completed to date that support the development of the town centre arterials (and specifically Inner Links in some cases). Refer to Section 2 for more detail on each of these reports.

[1] Abley Transportation Consultants May 2016 report: '*Eastern Access Road Updated Economic Analysis*'

QLDC Future Links Transport & Parking Strategy (2005)	Solutions were identified for the recognised roading and parking problems within the district.
Wakatipu Transportation Strategy (2007)	QLDC, NZTA and Otago Regional Council (ORC) developed the Wakatipu Strategy to deliver a "fully integrated transport system that meets the growth in travel demand in the Wakatipu Basin".
Inner Queenstown Transportation Study – Final Scoping Report (2008)	Key document in identifying options for Inner Links (see below).
Queenstown Inner Links Hybrid / Indicative Business Case (2014)	Scheme Assessment for Inner Links based around options identified in 2008 Scoping Report. Preferred route option identified (current format).
Council Decision June 2014	Recommendations • '*Agree in principle, subject to further work, that planning for Inner Links roading proposals is progressed alongside travel demand management measures for improving town centre access while deferring the need for road construction beyond 2018.*' (Not endorsed by NZTA) • *'Direct Planning and Infrastructure Group to prepare "…a property plan for the protection of the Melbourne Street - Henry Street and Henry Street - Man Street sections of the Inner Links route*."'
Queenstown Town Centre Transport Strategy (2015)	Identified short, medium and long-term projects, including Inner Links, to help achieve the strategy's goal of reducing the use of private vehicles in the CBD and increasing the use of public transport, walking and cycling.
Queenstown Town Centre Transport Strategy – the Next Steps (2016)	This strategy includes a series of initiatives towards reducing congestion and the reliance on private cars such as parking initiatives and traffic demand management measures.
Queenstown Town Centre Transport Programme Business Case (2016)	The *Queenstown Town Centre Transport PBC* identifies that business case planning for Inner Links is required so it can be progressed if parking and public transport initiatives "*fail to achieve the required mode shifts*".
Queenstown Integrated Transport Programme Business Case (June 2017)	NZTA, in association with QLDC and ORC developed this PBC to combine, at a high level, several existing programme business cases into an overarching document. The QITPBC has confirmed the need for change to address: • Rapid growth and development in the district. • Car dominance and the consequent congestion.

Figure 1: Development of the Town Centre Arterials (Inner Links) Project.

1.4 Work Completed to Date

1.4.1 Outline of Inner Links (2014)

The 2014 proposed Inner Links arterial route, as outlined in the 2014 Indicative Business Case, is shown below:

Figure 2: Indicative Inner Links Route (2014 Business Case)

The Inner Links route, as outlined in the 2014 Business Case / Scheme Assessment, comprised:

- Stage 1 - arterial road between the Melbourne Street / Frankton Road intersection to the Henry Street / Gorge Road intersection (**from 2031**).
- Stage 2 - arterial road between the Gorge Road / Henry Street intersection to Camp Street via a new direct route that connects Henry Street to Memorial Street (**from 2031**).
- Stage 3 - arterial route between Camp Street and One Mile Roundabout, along Thompson Street and either Man Street or Isle Street (at that stage recommended for implementation **post-2041**).

The 2012 model was updated from the original 2006 model and was based on district-wide land use forecasts and infrastructure assumptions at the time. The project has now been brought forward due to a higher growth rate and consequent changes in traffic modelling results.

The 2014 overall recommendation also included:

- Do minimum works comprising optimising the intersections along Stanley Street and Shotover Street to increase capacity (2013-2018).
- An undefined, but reasonably extensive, package of travel demand activities including parking measures, public transport pricing, car parking pricing, cycling, walking and public transport initiatives (2013-2031). The objective was a 20% reduction in vehicle trips on the network.

1.4.2 Council Decision June 2014

The QLDC recommendation on the preferred option for the then Inner Links project included four parts:

1. *Agree in principle, subject to further work, that planning for Inner Links roading proposals is progressed alongside travel demand management measures for improving town centre access while deferring the need for road construction beyond 2018.*

2. *Direct Planning and Infrastructure Group to report to the Council on the proposed town centre transport strategy by February 2015.*
3. *Approve the Inner Links project design comprising the following design elements:*
    a. *Henry Street to Man Street link to follow the direct alignment.*
    b. *12.5% gradient on Melbourne Street to Henry Street link.*
    c. *Maintain side street connection between Melbourne Street to Henry Street link and Sydney Street, Beetham Street (upper section), Ballarat Street (lower section).*
    d. *Henry Street / Shotover Street / Gorge Road intersection to be signalised and realigned to southern location option.*
    e. *Frankton Road / Melbourne Street intersection to be designed as an intersection with priority movement between the northern section of Frankton Road and Melbourne Street.*
4. *Direct Planning and Infrastructure Group to prepare, by February 2015 and in consultation with affected landowners, a property plan for the protection of the Melbourne Street to Henry Street section and the Henry Street to Man Street section of the Inner Links route*.

The Council report identified the objectives of the Inner Links project as:

- To bring traffic into the town centre.
- To allow through-traffic to avoid the town centre.
- To provide access to existing and planned car parks.
- To act as an arterial route, but to be an urban street and not an expressway.
- To support public transport.

2 Organisational Context

2.1 Project Governance

QLDC is the primary project partner, a key investor and project sponsor charged with leading the development of this business case.

NZTA is a project partner and key investor.

Other key stakeholders include but are not limited to:

- Otago Regional Council
- Downtown Queenstown
- Queenstown Chamber of Commerce
- Destination Queenstown
- Shaping Our Future
- Relevant government departments, for example the Ministry of Business, Innovation and Economic Development.

A governance structure has been developed for the Queenstown Town Centre Masterplan, incorporating the Town Centre Arterials, Public Transport and Parking Business Cases (refer Appendix 1).

This overall governance will ensure integration, consistency and a sharing of knowledge across the various business cases.

2.2 Queenstown Town Centre Masterplan

This Arterials Business case forms one part of the Queenstown Town Centre Masterplan programme. Therefore, it contributes to and would benefit from proposed changes introduced across other, related streams such as spatial framework, parking and public transport improvements.

2.2.1 Current Related Business Cases

There are numerous related business cases, strategies and projects being developed concurrently with the Arterials Business Case including the following:

- Queenstown Town Centre Masterplan (QLDC)
- Dependencies
    - Queenstown Integrated Transport Programme Business Case (NZTA).
    - Wakatipu Public Transport Programme Business Case (ORC).
- Urban Development
    - Spatial Framework / Urban Realm Framework.
    - Lakeview Development.
    - Community Heart which includes Project Connect - Queenstown Office – Indicative Business Case.
- Transport Projects
    - Queenstown Town Centre Parking Indicative Business Case.
    - Public and Passenger Transport Facilities Indicative Business Case.

It is intended that the Town Centre Arterials be developed in an integrated manner with these other projects as shown in the integration diagram given in Appendix 2.

2.2.2 Masterplan Business Case

The intent of the Masterplan is to create a place-based Queenstown Town Centre Masterplan to determine the collective vision and what is needed to support it. The masterplan will have the following objectives:

- Understand what the future holds for Queenstown town centre.
- Integration of the Queenstown town centre strategies, plans and projects such as the Proposed District Plan (August 2015), Plan Change 50, Queenstown Downtown Commercial Strategy (Downtown QT), Gorge Road SHA and the Town Centre Plan (2008) etc. as well as proposed private development.
- We know what's needed, we plan for it and get on with it.

2.2.3 Town Centre Parking Indicative Business Case

The intent of the Business Case is to understand Queenstown town centre's current and future parking needs to deliver on the town centre's overall vision and, from this, determine where parking should be delivered (bulk and location).

Integration with the Masterplan, Arterials Business Case and other Transport related business cases will enable QLDC to better address demand management, pricing, customer and stakeholder expectations etc.

2.2.4 Public and Passenger Transport Facilities Indicative Business Case

The intent of the Business Case is to determine what is required in the Queenstown town centre, to deliver quality public transport (PT) that is the first transport choice for residents and visitors.

Objectives:

- Assess if there is a need to invest in facilities/services to support tourism, recreational, educational and ecological outcomes.
- If there is a need to invest, identify which facilities, locations and services would be the preferred way forward.
- Determine the indicative feasibility of the preferred way forward

Given Queenstown's tourism focus the development and integration of commercial passenger transport facilities including inter-city transport and taxis facilities provision was also included in this business case.

Integration with other strategies, planning, programmes, projects and private activities will enable QLDC to better address demand management, pricing, customer and stakeholder expectations etc.

2.2.5 Queenstown Integrated Transport Programme Business Case (QITPBC), June 2017

NZTA, in association with QLDC and ORC developed this Programme Business Case to combine, at a high level, several existing programme business cases into an overarching document. The QITPBC has confirmed the need for change to address:

- Rapid growth and development in the district
- Car dominance and the consequent congestion

From a long-list of programme options, a short-list of four preferred programmes was developed to deliver on investment objectives of improving mode share and people throughout as well as travel time reliability.

The final recommended programme seeks to address the problems through the following key activities:

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

2.3 Alignment to Existing Strategies / Organisational Goals

Many strategies and studies have been developed for the Queenstown roading network since 2004, generally with the same theme and similar recommendations/proposals. However, the successful implementation of recommendations has been limited. This is partly due to the inability to demonstrate the benefits of these stand-alone projects and secure funding.

The Strategic Case demonstrates a clear link between the Town Centre Arterials objectives and the aims of the relevant regional and organisational strategies in the Wakatipu Basin / Queenstown area. Implementation of these various strategies (both those developed through QLDC and other entities) needs to be well-planned to ensure consistent timing and integration with other transport projects.

A demonstration of this alignment is demonstrated in the table below.

Strategy / Policy	Content	How the Town Centre Arterials Project Aligns
NATIONAL		
National Policy Statement on Urban Development Capacity (NPS-UDC) December 2016	The **NPS-UDC** directs local authorities to provide sufficient **development capacity** in their resource management plans for housing and business **growth** to meet demand. **Development capacity** refers to the amount of **development** allowed by zoning and regulations in plans that is supported by infrastructure. Queenstown Lakes District is classed as a high-growth urban area and as such is evaluating whether the current zoning and infrastructure is sufficient to meet the requirements of the NPS-UDC.	QLDC has recently extended its CBD zoning an additional 50% through Plan Change 50. It has also proposed plan changes to other town centre zoning such as one additional story to the residential zone and increasing the high density residential zone area. To ensure that the infrastructure is available for the developments resulting from the recent district plan changes and numerous other town centre development sites such as Council's Lakeview site, the soon to be vacated Wakatipu High School site and the Gorge Road SHA developments, QLDC's Housing Infrastructure Fund project includes Inner Links as an 'enabler'. This will address concern that the continual intensification of the town centre, particularly of visitor accommodation and worker housing, will place considerable strain on the roading system. The arterials project will also create the additional capacity needed to make public transport and cycling more attractive alternatives to service those development areas.
Government Policy Statement on Land Transport 2015/16 – 2024/25 *(NZTA currently engaging on the 2018/19-2027/28 draft document)*	The Government Policy Statement on Land Transport (GPS) sets out the government's priorities for expenditure from the National Land Transport Fund over the next 10 years. A key objective of the current GPS is '*A land transport system that addresses current and future demand for access to economic and social opportunities*'. One of the anticipated results for this objective is '*Support economic growth of regional New Zealand through the provision of better access to markets*'.	The identified objective strongly supports the required investment in the proposed Arterials to achieve the identified benefits of investment. The GPS enables targeted investment in regional route improvements outside of major metropolitan areas that provide links to key freight (in this case Otago and Southland) or tourist centres (Queenstown). Queenstown is NZ's premier tourist destination and key to tourism growth. Town centre arterial roads will activate land use that will drive economic outcomes. It also has the potential to activate public

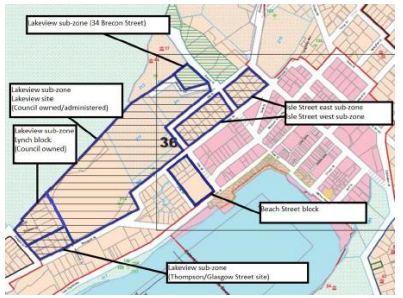
Strategy / Policy	Content	How the Town Centre Arterials Project Aligns
		transport, walking and cycling opportunities which will contribute to social outcomes including mobility. It may also unlock alternative uses for the existing town centre routes (i.e. Stanley and Shotover Streets) allowing the highest and best use of these streets.
National Land Transport Programme 2015-2018 (NLTP)	The NLTP contains all the land transport activities, including public transport, road maintenance and improvement, and walking and cycling activities, that the NZ Transport Agency anticipates funding over the next three years. The NLTP 2015–18 focuses on four themes, underpinned by the continued emphasis on value for money: • Encouraging economic growth and productivity. • Making journeys safer. • Shaping smart transport choices. • Effective and resilient networks.	Increasing public transport patronage in Queenstown is a priority under the NLTP and the Arterials will act as an enabler in delivering this priority. The Arterials, as part of the overall Masterplan will enable economic growth through unlocking alternative uses for the existing town centre routes (i.e. Stanley and Shotover Streets), allowing the highest and best use of these streets, Separation of a through-route will increase safety on the town centre roads with less pedestrian / cycle vs car conflict.
National Infrastructure Plan (NIP) 2015	The National Infrastructure Plan sets a vision that New Zealand's infrastructure is resilient and coordinated and contributes to a strong economy and living standards. Specifically, it calls for national, regional and local entities to work together to create an efficient and effective infrastructure network.	In keeping with the NIP (currently being updated), development of the Town Centre arterials will see local (QLDC), regional (ORC) and national (NZTA) entities working together to provide an efficient and integrated transport network in the Queenstown town centre.
NZTA Long Term Strategic View	The Strategic View included on the NZTA Planning and Investment Network, outlines issues in growth centres around NZ.	The Queenstown Business Case project is identified as an intervention to increase throughput, transport choice, travel time reliability
NZTA Statement of Intent 2015-2019	The NZTA Statement of Intent (SoI) sets out a series of outcomes identified to meet the NZTA Purpose of '*Creating Transport Solutions for a Thriving New Zealand*'. These include: • *Effective* - moves people and freight where they need to go in a timely manner. • *Efficient* - delivers the right infrastructure and services to the right level at the best cost. • *Safe and Responsible* - reduces the harms from transport.	

Strategy / Policy	Content	How the Town Centre Arterials Project Aligns
	• *Resilient* - meets future needs and endures shocks. Development of the Town Centre Arterials will work towards meeting these outcomes for Queenstown.	
NZTA: Planning for Quality Urban Spaces	It is anticipated that there will be a greater focus on People and Places Land Transport system develops into the future. Urban design is design that seeks to create desirable places for people to live, work and play. It involves the design and placement of buildings, roads, rail, open spaces, towns and cities. It focuses on the relationship between built form, land use and open space, natural features and human activity. Good urban design creates spaces that function well, have a distinctive identity and visual appeal. Urban design applies to all areas of the state highway network and is a multi-disciplinary approach to improve the quality of life for communities. Urban design, as it applies to state highway infrastructure in urban and rural settings, responds to the natural and built environment. It concerns the design of state highways in response to place and their contribution to the physical form, functioning and visual quality of the regions through which they pass and serve. As a signatory to the New Zealand Urban Design Protocol (external link), NZTA are committed to planning for, developing and promoting quality urban design. NZTA has committed to: • Transport networks fit in sensitively with the landform and the built, natural and community environments through which they pass. • All systems of movement along and across the transport corridor are integrated into the design of projects with good connections and access to communities. • Design contributes to the quality of public space and the road-user experience. Ref- Bridging the gap: NZTA urban design guidelines https://www.nzta.govt.nz/resources/bridging-the-gap/	

Strategy/Policy	Content	Alignment with the Town Centre Arterials Benefits
REGIONAL		
Wakatipu Transportation Strategy 2007 (WTS)	The Wakatipu Transport Strategy (WTS) was a joint initiative between NZTA, QLDC and the ORC. It aimed to deliver a fully-integrated land transport system (encompassing travel demand management through public land transport improvements and roading development, and parking management) that would meet the growth in travel demand. The strategy states 'as the number of people living, working and visiting the Wakatipu grows the demand for accessibility, mobility and general movement throughout the area will increase significantly, making transport a critical issue into the future'	The WTS recognises that without a strategy to address growth in travel demand, severe congestion and accessibility problems will develop. In particular, SH6A (Frankton Road) and Queenstown CBD. Development of the town centre arterials has the overall aim of addressing these problems, providing for alternative modes and public transport through the development of an appropriate road network in the town centre. This business case together with parallel works on the public transport and parking business cases, will provide for a safe and efficient movement of goods and people, provide travel choices and be sustainable.
Otago Southland Regional Land Transport Plans 2015-2021	This document sets the strategic direction for land transport in Otago and Southland. It lists the activities recommended by the Otago and Southland Regional Transport Committees (the RTCs) for funding from the National Land Transport Fund (NLTF) administered by the NZ Transport Agency (NZTA).	The '*Queenstown Town Centre Programme Business Case'* implementation is identified as a high priority project to identify measures to address the following problems: • increasing volumes of vehicle and pedestrian movement creates congestion with broad effects to the quality of life; • cars are the preferred mode into and around the town centre, which creates an inefficient use of road space and parking; • the tension from conflicting demands between pedestrians, cyclists and vehicles degrades the Queenstown experience. The business case will include significant initiatives affecting parking, public transport, cycling, walking and roading management with links to arterial routes.

Strategy/Policy	Content	Alignment with the Town Centre Arterials Benefits
Wakatipu Basin Public Transport Network Programme Business Case **Wakatipu Bus Network Review**	This PBC seeks to considerably lift the modal share of public transport by the introduction of a Public Transport Operating Model with Public Transport (PT) service improvements, parking changes, bus priority measures, marketing and fare structure review. The Wakatipu Bus Network review is also currently being carried out by Otago Regional Council.	To support this review and to ensure that the capacity benefits derived from the arterials project are optimised for public transport, a separate programme business case focused on planning for new public and passenger transport facilities is also being undertaken. One of the key problems identified from these studies was the inability of public transport to compete with the private car which is consequently contributing to traffic congestion. investment in the town centre should consider how it can contribute to overcoming this issue

Strategy / Policy	Content	Alignment with the Town Centre Arterials Benefits
DISTRICT		
Future Link Transport & Parking Strategy 2005	This district-wide parking and transportation study was undertaken to provide solutions for the recognised parking and roading problems experienced in the district. Future Link identifies three critical elements for Queenstown Transportation: 1. Eastern Corridor – SH6 and SH6A 2. Frankton Flats **3. Central Business District (CBD)** 4. Kelvin Heights Future Link also discusses an integrated strategy for transportation and parking.	for the CBD element, Future Link identifies alternative routes to ease congestion and redistributes traffic flows around the CBD as opposed to vehicles travelling through or along the boundary of the CBD. Stanley Street and Shotover Street (SH6A) suffer from being both part of the CBD and arterial routes. As such, the following measures should be adopted: • The focus should be on the development of a Melbourne Henry Link and Man Street Link. • Increase the priority for pedestrians in Shotover and Stanley Streets. Improve the urban environment, enhance the quality of the visitor experience. Adopt traffic calming measures and reduce volumes of traffic - this can be achieved by traffic being diverted through the Melbourne Henry Link and the Man Street Link.
QLDC Long Term Plan 2015-2025	For Infrastructure, QLDC's outcome is: *High performing infrastructure and services that:* • *meet current and future user needs and are fit for purpose* • *are cost effective and efficiently managed on a full life-cycle basis* • *are affordable for the District.*	The public consultation of the LTP was supported by QLDC's Infrastructure Strategy (developed under s101A of the Local Government Act 2002). In this document, development of the town centre arterials is supported through QLDC's response to addressing congestion in the Queenstown Town Centre - '*Establish a primary alternative route from Frankton Road to One Mile Roundabout, via Melbourne Street, Henry Street, Man Street and Thomson Street*'.

Strategy / Policy	Content	Alignment with the Town Centre Arterials Benefits
Queenstown Lakes District Plan **Plan Change 50 (PC50)**	The District Plan sets the objectives, policies and rules around activities in the district. Of relevance to this business case is Chapter 10 – *Town Centres and Plan Change 50* – which extends the Queenstown Town Centre Zone.	PC50 (now operative) provides for the expansion of the existing Queenstown Town Centre Zone (QTCZ) through the rezoning of approximately 14.5 hectares of land from High Density Residential Zone (HDRZ) to QTCZ or subzones of the same. This will impact on transportation networks. QLDC initiated PC50 to address the following: • The long-term future of the Lakeview site. • An identified need to expand the Queenstown town centre Zone to provide for and facilitate economic growth. • The prospect of developing a convention centre. PC50 evidence refers to the Inner Links project as part of the solution to manage increasing flows into the Queenstown town centre. The plan below shows the area to be rezoned[2]  **District Plan Review** - QLDC Planning and Development are currently reviewing the District Plan with Stage 1 hearings underway. The review will include the transport chapter with possible changes in the hierarchy of roads, parking policy (including pricing), controls and priority for enabling alternative modes.

[2] Taken from Paul Speedy (Manager Strategic Projects & Support) Evidence for PC50 5/2/16

Strategy / Policy	Content	Alignment with the Town Centre Arterials Benefits
Queenstown Town Centre Strategy 2009 (QTCS 2009)	The vision for the Queenstown town centre is '*Queenstown town centre is the thriving entertainment, cultural, civic and commercial heart to New Zealand's premier tourist destination'*. The working party that developed this strategy identified five key issues. The fifth issue was '*Easy access to the town centre is essential. However, the amenity of the town centre can be affected by traffic volumes, and the town centre is increasingly dominated by vehicle traffic*'. Inner Links, identiifed in the QTCS 2009, is to be developed as part of the overall town centre strategy / masteplan to ensure that the land use, urban design and transport planning aspects are fully integrated.	The strategy states '*The Council's Inner Links project identified a number of transportation issues facing Queenstown Town Centre including increasing congestion on Stanley and Shotover Streets, the adverse effects of traffic volume on the character and amenity of the town centre, and pressure on parking*'. Primarily, the town centre arterials should be developed to address the QTCS 2009 access objectives: Objective 8 – the town centre is easily accessible. Objective 9 – the primary reason for vehicles entering the town centre is because it is a destination not a through-route. Objectve 10 – The design of streets and the management of traffic in the town centre is prioritised towards pedestrians, creating more permeable and versatile spaces that balance vehicle and pedestrian movement, improved amenity and social spaces. The following statements are also made in the QTCS 2009: *As a consequence of its Inner Links Study (2008)[3] the Council has long term plans for a series of new road links that would allow greater segregation of through traffic from journeys starting or finishing in the town centre.* *The study recognised that the congestion effects of traffic growth could be managed and the amenity of the town centre enhanced, if the traffic capacity of Stanley St and Shotover St (roads that presently carry the bulk of town centre through traffic) was reduced at the same time new road links opened.* *The potential for this surplus 'capacity' to be used to improve the pedestrian environment in the town centre, and to enable bus services to receive greater priority, were seen as key advantages of the road links.*

Strategy / Policy	Content	Alignment with the Town Centre Arterials Benefits
2015 Queenstown Centre Transport Strategy (QTCTS)	The QTCTS recognises that the current transport arrangements within the CBD are unsatisfactory for all users, whether motorists, cyclists, pedestrians, or users of public transport. The goals of the strategy include proportionate reduction in the use of private motor vehicles as a means of transport into the CBD, and a corresponding increase in the use of public transport, cycling, and walking.	The strategy identifies a variety of short term and long-term projects that will help achieve these goals. Amongst those that could be considered for short term priority: • Development of the business case for construction of the first stage of an inner CBD bypass (from Melbourne Street through Henry Street), which may point to construction earlier than currently scheduled (2031). • Better-located public transport terminal within the CBD, scheduled for the medium term. • Progressive increase of QLDC-owned off-street carpark charges so that they are comparable to private carpark rates, thus removing the (effective) subsidy and improving the economic viability of an enhanced bus service. • Encouraging cycling through more cycleways; potentially sealing of the Frankton Track and providing greater availability of public showers. • Various improvements to the pedestrian flows within the CBD.
Queenstown Lakes Economic Development Strategy (Feb 2015)	One of the supporting priorities identified was for the future proofing of infrastructure, ensuring adequate investment to maintain quality. One major economic challenge includes the pressure on infrastructure including '*non-optimal traffic routes in the town centre*'.	Priority four of the strategy is to 'future proof infrastructure'. A survey undertaken by Carteblanche in 2014 (referenced in the Economic Development Strategy) identified roading as being the number one area needing improvements. Inner Links is specifically referred to as one of numerous projects related to improvements in the road network. '*Design work is being undertaken for the Inner Links project, a peripheral route around the Queenstown town centre that will be important in freeing up traffic through the centre'*

[3] Inner Queenstown Transportation Study – Final Scoping Report, Aug 2008, MWH

Strategy / Policy	Content	Alignment with the Town Centre Arterials Benefits
2016 Queenstown Town Centre Transport Strategy – the Next Steps	The goal of this strategy is to '*preserve and improve residential and visitor enjoyment of the town centre by reducing congestion and leading a necessary shift away from reliance on private cars*'.	The Strategy includes a series of initiatives that align with the development of the town centre arterials: • The town centre will be a friendly environment for pedestrians, with shared spaces and better connections. • Encourage more drivers to leave their vehicles outside the town centre, reducing congestion in the inner streets. • Public transport patronage increases. • Create a through-route between Melbourne Street and Henry Street to improve access to future parking; create a transport hub in Ballarat Street (specifically refers to the Inner Links). • Develop an integrated planning approach to transport.
OTHER		
The Queenstown Trails for the Future 2015-2025	This is a 10-year strategy for the expansion and ongoing maintenance of the Queenstown trails network in and around the Wakatipu Basin. The strategy acknowledges a major focus for the next decade on trails for commuting and connecting communities within the Wakatipu Basin as traffic congestion and population increases, recognising the need to invest in alternative forms of transport.	This document supports an integrated approach to transport. The strategy identifies the growth in the number of cyclists and joggers/walkers commuting to work and an opportunity to encourage and enable more local people to use walking and biking trails to get to/from work, school, shops and other local amenities.

Strategy / Policy	Content	Alignment with the Town Centre Arterials Benefits
Queenstown Lakes District on Foot, by Cycle Strategy 2008	The broad outcomes of this strategy are to 'see more people walking and cycling and greater satisfaction within the community with the ease, safety and security of walking and cycling in the district'. Issues identified included: • Traffic growth – requires action to protect and enhance walking and cycling. • Accessibility – with predicted growth, the design of the road environment will influence the choice and ability of people to walk and cycle. • Road safety and personal security – perceptions of safety are major inhibitors to increasing numbers of pedestrians and cyclists, especially school age.	Two of the targets set in the On Foot By Cycle Strategy related to an increase in alternative modes of transport as below: a) To increase the proportion of journey to work walking trips beyond 15% by 2011 (10% in 2006). b) To increase the proportion of journey to work cycling trips (as recorded by Census journey-to-work data) beyond 5% by 2016 (2% in 2006). The annual Traffic Survey undertaken by MWH does not demonstrate a significant move towards these walking and cycling targets. Development of the town centre arterials will provide capacity for alternative modes of transport including walking, cycling and public transport and to allow improved access to the town centre for all modes.

Strategy / Policy	Content	Alignment with the Town Centre Arterials Benefits
Queenstown Downtown Commercial Strategy (Downtown QT Association 2015)	Through a stakeholder-led initiative, this strategy aims to ensure that the downtown area develops strategically in alignment with the region's wider economic, social and tourism strategies.	The development of the town centre arterials, through integration with other town centre and transport business cases, will be able to address many of the issues identified in this strategy and help in the achievement of desired outcome related to accessibility, transport and parking: • Making the downtown area a more pleasant environment to work, relax, shop and dine by reducing congestion and encouraging the use of alternative transport options. • Improved facilities – develop a dedicated hub and amenities that lift the profile public transport services. • Transitional solutions – develop intermediate strategies that initiate behavioural change from commuters. • Longer term parking solutions - support strategies to reduce the number of vehicles coming into the town centre through park and ride developments. • Smart parking - leverage technology to provide greater visibility of availability, enhanced customer experience and pricing flexibility to support town centre business.

Strategy / Policy	Content	Alignment with the Town Centre Arterials Benefits
Queenstown Transport Taskforce Report – Shaping our Future (September 2016)	The Transport Taskforce is made up of volunteers from a broad range of local industry representatives and residents who want to see the transport network within Queenstown become a sustainable network over the next 30 years. The report identifies connectivity, choices and investment as desired outcomes: • Improvements in public transport are seen as the solution to congestion in the area. • Also, choices as an alternative to car travel, e.g. public transport, walking and cycling and water. • Connectivity, or access to where we want to go, is related to good spatial planning that provides more opportunities for choices, e.g. walking, cycling and public transport. Or, for those who need to use private cars, the infrastructure to be able to do so, such as parking etc. • Investment will relieve some of the peak congestion that is currently being experienced.	The report makes the following key recommendation: QLDC to lead the establishment of a single transport entity made up of the primary transport infrastructure providers (NZTA, QLDC, ORC) to oversee the planning, funding and implementation of future improvements to the transport system within the Queenstown Lakes District. The outcomes highlight the importance of an integrated approval.

3 Investment Objectives, Existing Arrangements and Business Needs

3.1 Town Centre Planning

Queenstown town centre strategic documents, including the *Town Centre Strategy* (2009), *Transport Strategy* (2016) and the *Inner Links* project (2014), have generally been developed as stand-alone documents and have not fully considered land-use, development and wider strategic goals.

This has led to Queenstown potentially missing out on investment opportunities. Public investors including New Zealand Transport Agency (NZTA), Otago Regional Council (ORC), Ministry of Business, Innovation and Employment (MBIE) and Queenstown Lakes District Council (QLDC) are not confident that these discrete solutions are the best fit.

Consequently, the strategies have not been implemented. This has led to the community becoming increasingly frustrated as problems, such as traffic congestion and finding parking spaces in the town centre become a common theme in resident and visitor surveys.

QLDC is now in the process of developing a Masterplan for the town centre. As part of the Town Centre Masterplan process, an Investment Logic Map (ILM) workshop was conducted with elected members, investor partners, iwi, town centre stakeholders and the Town Centre Advisory Group on the 27 March 2017. The purpose of the workshop was to commence setting the town centre vision by understanding the key problems and, if these problems were addressed, what benefits would be derived.

A key issue identified through the workshop was accessibility to the town centre and, until this is addressed, it will not be possible to prioritise the diminishing cultural and authenticity concerns.

Accordingly, the Town Centre Masterplan ILM developed from the workshop (see figure 3 below) has set the high-level benefits which the following town centre business cases will be measured against:

- Town Centre Arterials.
- Town Centre Parking.
- Public and Passenger Transport Facilities

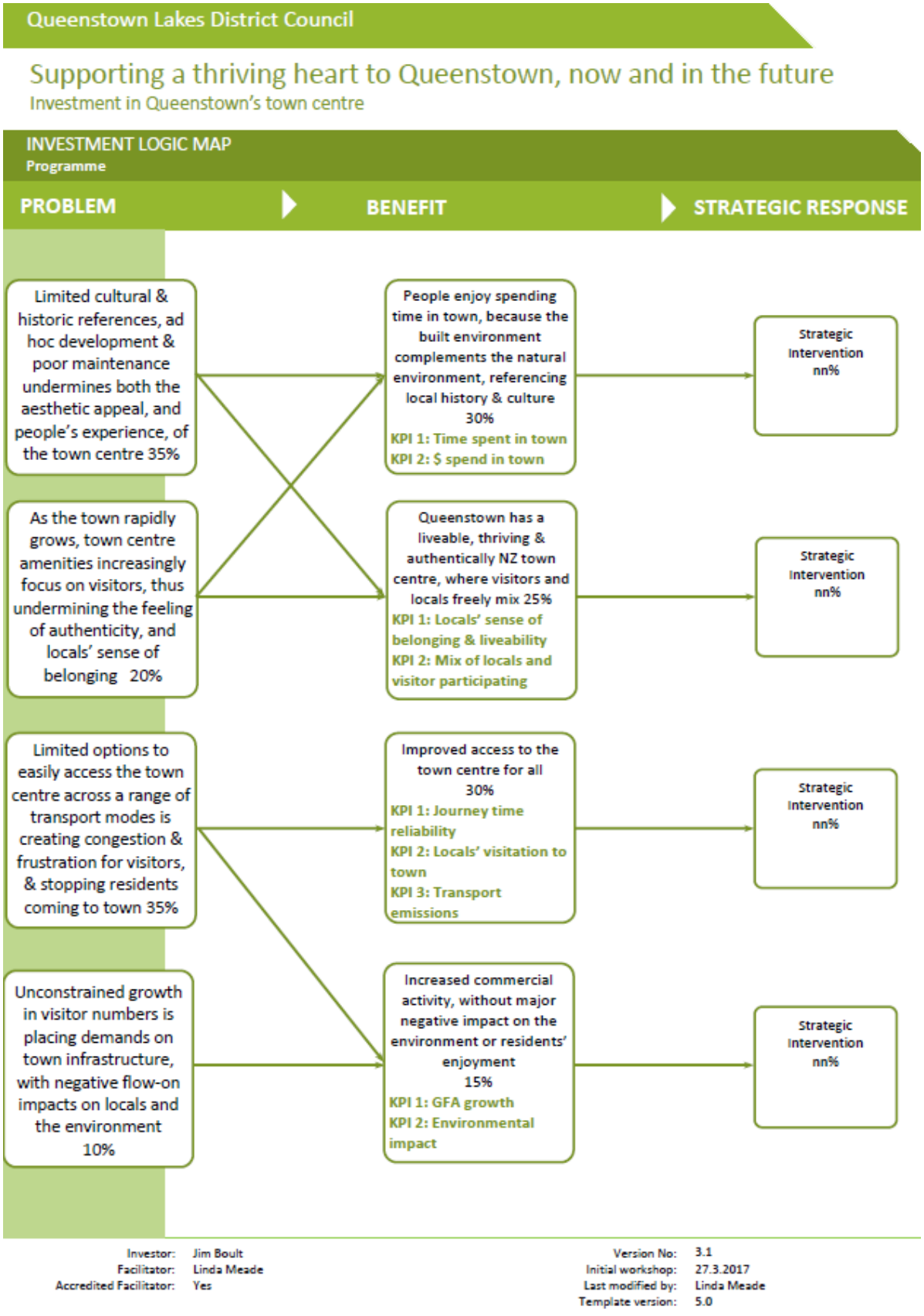


Figure 3: QLDC Masterplan ILM

3.2 Problem Statements – Arterials

Transport-related problem statements were identified in the 2014 IBC at both district and town centre levels.

As part of this business case, the problem statements have been reviewed through an Investment Logic Mapping workshop held with key stakeholders in November 2016 and then updated in May 2017. This enabled a better understanding of current issues and business needs.

The diagram below shows how 2014 problem statements relate to the current 2017 Arterials Problem Statements:

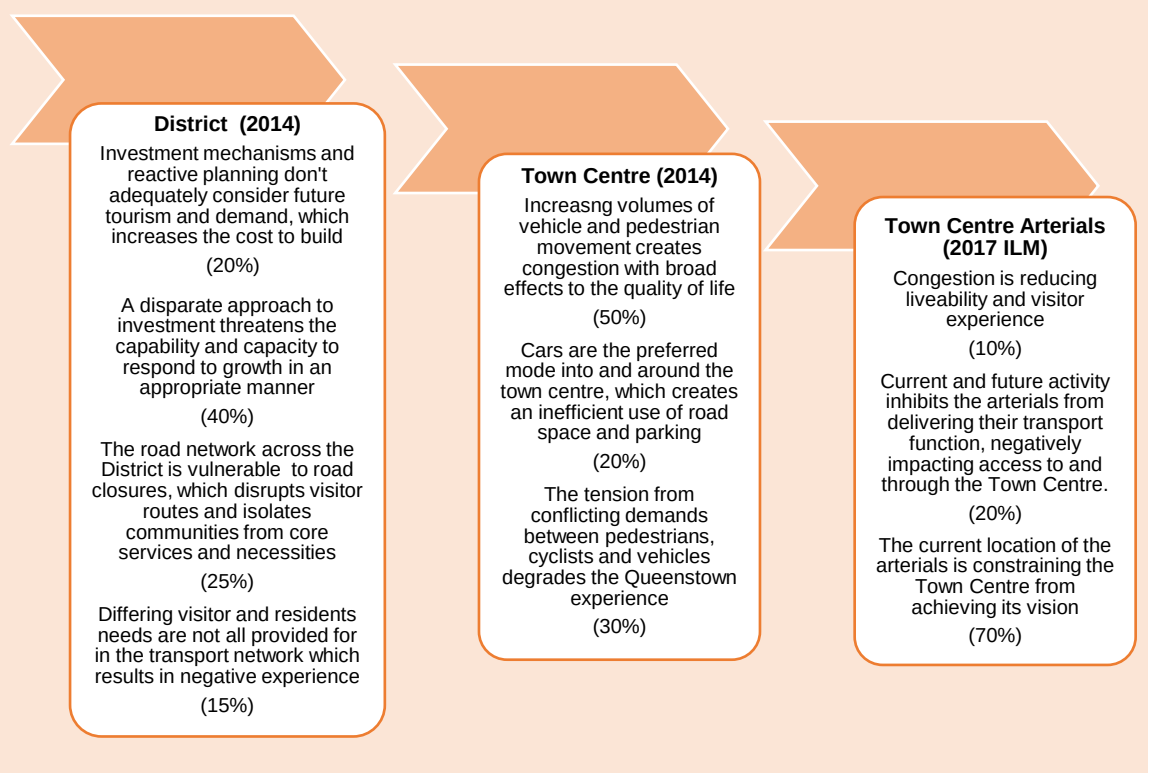


Figure 4: Queenstown Transportation ILMs – Problem Statements

The linkage between the Town Centre Arterials problem statements and the Queenstown Integrated PBC problem statements are shown below:

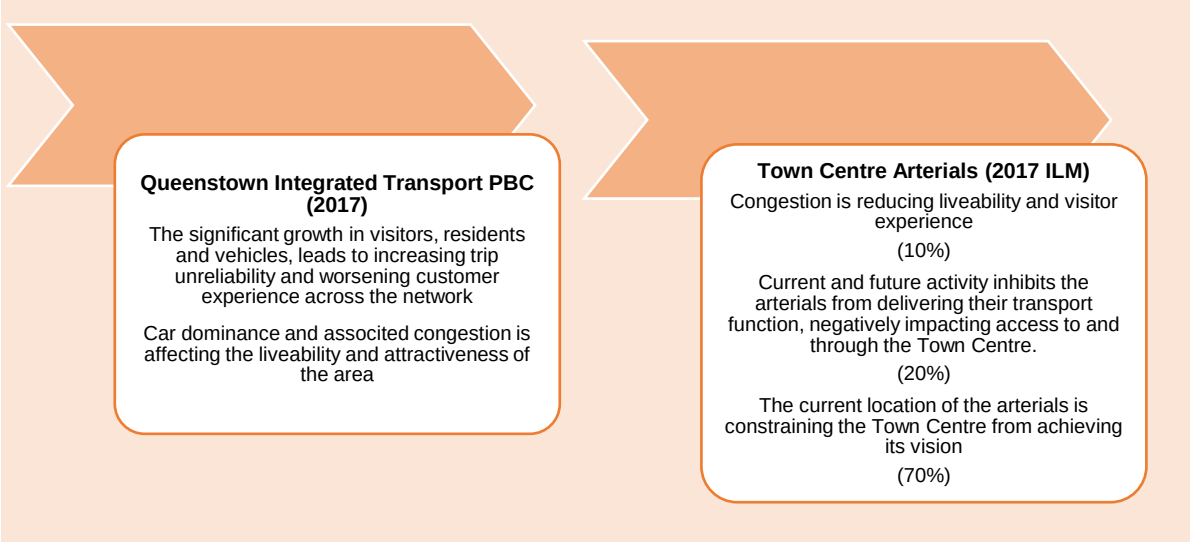


Figure 5: Queenstown Integrated Transport and Town Centre Arterials Problem Statements

Specific issues were identified during a parking stakeholder workshop in March 2017 as summarised in the table below:

Item	Issues	Discussion
Congestion **Arterials ILM Problem Statement 1 - Congestion is reducing liveability and visitor experience**		
1	It's going to be difficult to reduce car dominance	Encourage alternative mode choice to reduce volume of traffic. Buses and passenger transport are continually caught up in the congestion as they approach the town centre - little incentive to use PT. Cheap and free parking does not deter the use of private cars. Integration with PT, parking and masterplan business cases
2	We need more parking (40% Through – 40% Parking).	
3	Congestion.	

Item	Issues	Discussion
Arterial Function		
Arterials ILM Problem 2 - Current and future activity inhibits the arterials from delivering their transport function, negatively impacting access to and through the Town Centre		
4	Pedestrians are dominating the arterials.	Current SH6A / arterial passes through the town centre leading to constant conflict between pedestrians and traffic.
5	Safety	
6	Not carrying out the function as a road.	
7	Pedestrian activity is going to grow and make the transport function deteriorate.	
8	Can't use as a PT Hub/Facility.	Buses and passenger transport are continually caught up in the congestion as they approach the town centre with minimal capacity to provide bus priority lanes and measures. This results in little incentive to use PT.
9	Can't prioritise PT on current constrained network.	
10	Stanley / Esplanade – access function.	Stanley Street, Lake Esplanade and Gorge Road are the final access arterials into the town centre. Each of these has conflicts between pedestrians and cyclists and other vehicle users. These conflicts are as result of either not enough dedicated space being provided for those modes in the case of Gorge Road, speed and consistent pedestrian informal crossing on Lake Esplanade and the volume of traffic accessing Stanley Street versus pedestrians crossing safely.

Item	Issues	Discussion
Town centre Function **Arterials ILM Problem Statement 3 - The current location of the arterials is constraining the Town Centre from achieving its vision**		
11	Current arterials are preventing the town centre achieving its long-term potential.	The Town Centre Vision has been agreed as '***Supporting a thriving heart to Queenstown, now and into the future'*** The function of the arterials in their current location is preventing this vision being realised, primarily due to the volume of traffic and congestion. Congestion currently experienced on the arterials is a deterrent to people accessing the town centre with a consequent effect on the economic potential. Less people entering the town centre = less spending.
12	Investment uncertainty because the experience is compromised.	
13	Realising the town centre's potential is compromised.	
14	Severance is reducing the ability of the town centre to grow/intensify/activate other areas.	
15	Shotover Street's place function as our High Street is not functioning as it should.	
16	The economic value of Shotover / Stanley is not being realised (individuals, local and wider/national).	

Utilising the ILM approach, the problem statements, benefits to addressing them and the strategic responses required were agreed through workshop discussions.

The following *Queenstown Town Centre Arterials – Inner Links ILM*, developed in May 2017, reflects the issues above and the conversations from the stakeholder workshop held in March 2017

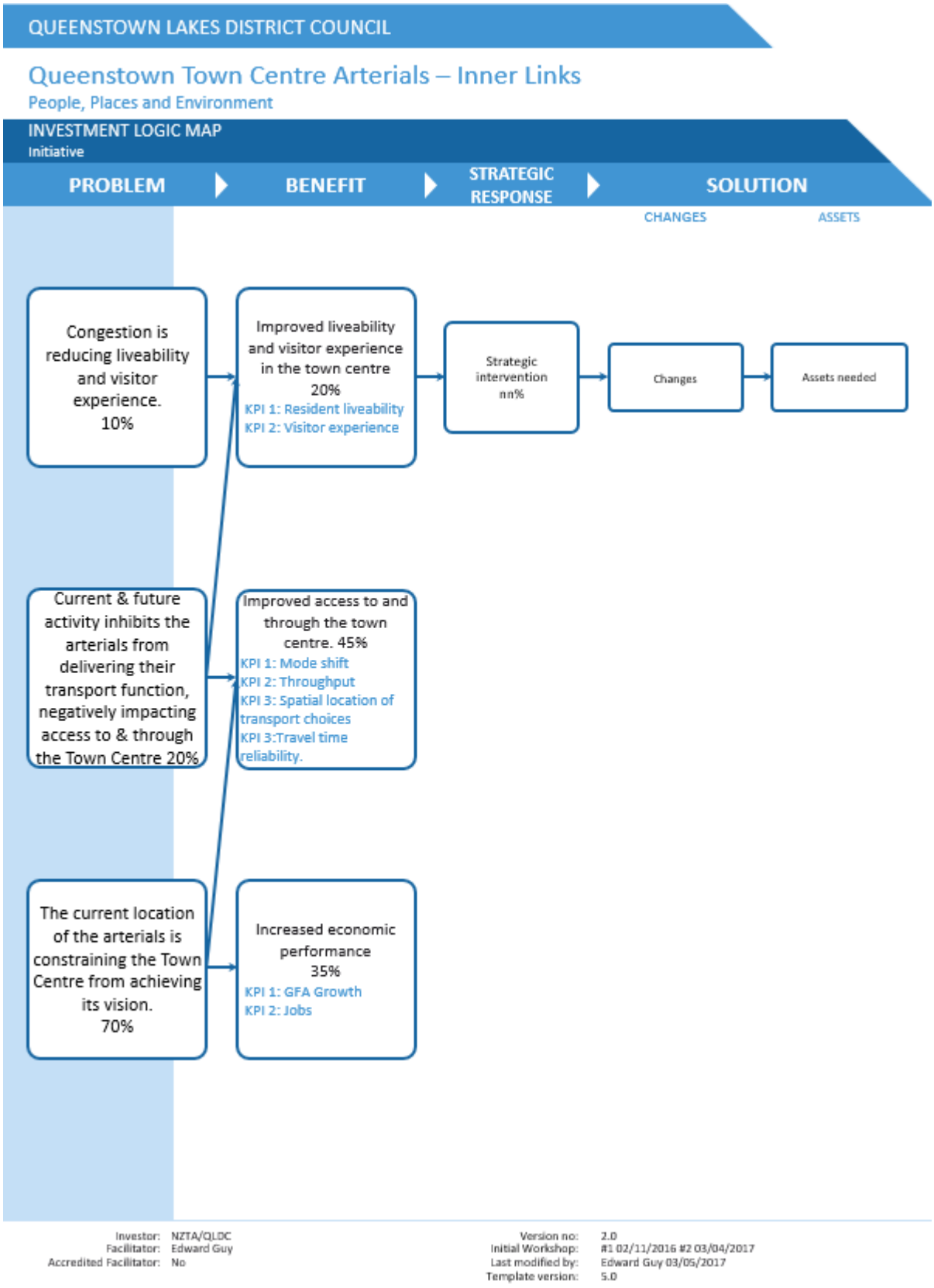


Figure 6: Town Centre Arterials ILM

3.3 Investment Objectives

Investment objectives/drivers allow investors to determine 'where they want to be'. As such, the objectives are generally in line with the NZTA Investment Assessment Framework.

Investment Objectives should also be SMART – Specific, Measurable, Achievable, Relevant and Time-constrained and, as such, should achieve the following:

- Reduce the cost of an existing service (economy).
- Improve the throughput of the existing service (efficiency).
- Improve the quality of the service (effectiveness).
- Replace elements of an existing service (re-procure)
- Meet statutory or organisational requirements (compliance).

The investment objectives for the QITPBC (2017) have been identified as follows:

- Increase mode share of alternative modes.
- Increase people throughput.
- Improve travel time reliability (general traffic).
- Improve public transport punctuality.
- Improve residents' satisfaction levels with the transport system in Queenstown.
- Improve visitors' satisfaction levels with the transport system in Queenstown.

The 2014 business case ILM investment objectives for Inner Links were as follows:

1. To improve access to the CBD for more people and goods.
2. To improve the functionality of the town centre network for all users.
3. Improved town centre liveability and visitor experience.

These have been reviewed in line with the identified benefits as part of this business case for the Town Centre Arterials, considering the recent objectives set for the QITPBC.

3.4 Arterials Investment Objectives

The investment objectives for this programme have been sourced through the identified ILM benefits for the town centre and the arterials project. The associated KPIs provide tangible measures and ensures that the objectives reflect SMART transport goals.

Investment Objectives	KPIs
Queenstown Masterplan – Specific to Transport (refer figure 7)	
Improved access to the town centre for all	• KPI 1: Journey time reliability • KPI 2: Locals' visitation to town • KPI 3: Transport emission
Town Centre Arterials (refer Fig 6)	
Improved access to and through the town (45%)	• KPI 1: Increased Mode Shift • KPI 2: Throughput • KPI 3: Spatial location of transport choices • KPI 4: Travel Time Reliability
Increased Economic Performance (35%)	• KPI 1: Increased Gross Floor Area • KPI 2: Increased Town Centre job numbers
Improved liveability and visitor experience in the town centre (20%)	• KPI 1: Resident Liveability • KPI 2: Visitor Experience

3.5 Existing Arrangements and Future Business Needs

For each of the investment objectives, a snapshot is outlined below of what the current state is and what the business gap is between the existing arrangements and the desired future state.

Investment Objective	Existing Arrangements	Business Needs
Improved liveability and visitor experience in the town centre (20%)	Destination Queenstown and QLDC measure visitor experience and resident satisfaction respectively through annual surveys. Although overall visitor experience continues to score very high in Queenstown (9/10in the 2016 Designation Queenstown survey), the lowest score across all the categories was traffic and parking 6.6/10. This suggests that visitors' least favourite experience in Queenstown is traffic and parking. Resident satisfaction surveys consistently raise parking, roading and traffic congestion as the three main areas that QLDC should look to improve. Since 2009, QLDC and stakeholder groups have indicated that they would like to reduce vehicle traffic in inner CBD streets and promote the concept of pedestrianisation / shared space. A one-year pedestrianised only zone trial has been created at Beach Street. Specific upgrades to the public realm / footpath have occurred in Church Street (2011), Shotover Street (2010) and Marine Parade (2016), reducing traffic speeds by placing some priority for pedestrians, with more informal crossing opportunities and slightly wider footpaths (i.e. the Fergburger parklet).	***To increase the liveability of the Queenstown Town Centre the residents and business owners need to see how the future growth of the town centre is being managed, what involvement they have in shaping its future and where the key public places of interest will be.*** The liveability of the town centre is currently being benchmarked by a ThinkPlace survey and Qrious data analysis. This evidence base is needed to support several business cases being developed including managing traffic growth, public transport, parking demand, spatial / public realm / open space priorities, cycleways, civic opportunities and strategic council & crown land holdings. There is a strong likelihood that further public private partnerships will be entertained. These have been very successful recently, such as the shared space paving design project on Marine Parade. To introduce the community and get them involved in the town centre future, a masterplan process has been initiated. This aims to bring all the business cases discussed above into a single clear story that highlights the interventions needed and discusses whether this investment is affordable and timely. One of the key components is to show visually how the public and private spaces will be better connected, how the key transport interventions will integrate with the town centre and demonstrate how the built form developments are continuing to shape the townscape. This will be captured in a spatial framework and aim to show how the recently rezoned (PC50) area, including Council's considerable land holding, will be tied into the existing CBD.

Investment Objective	Existing Arrangements	Business Needs
Improved access to and through the town centre (45%)	Traffic growth on the main arterial State Highway 6A to and through the town centre is growing at a rate of 10% per annum, with traffic congestion now occurring daily on Stanley Street and Shotover Street during the morning and evening peaks. The introduction of two sets of traffic lights on both streets has also increased the amount of queuing. There is currently no priority or dedicated space given to alternative modes (i.e. public transport, walking and cycling) within the arterials or town centre streets.	***The agencies responsible for Queenstown transport need to implement the strategic intentions cited in transport strategies dating back to 2005.*** The two consistent themes within Queenstown strategies is provision for alternative modes to and through the town centre and that the 'place function' of inner CBD streets is more important than the movement function. Business cases are required for enabling the following: • Bus and ferry public transport as priority modes into and out of the town centre utilising the existing roading network; • Dedicated, separated and safe cycleways that service all town centre accommodation and housing, and which connect with the established and future Queenstown Trails. Further analysis needs to be undertaken to determine the modal priority of Stanley Street and Shotover Street to establish its movement and place significance. This will form the basis of the future strategic role of these key streets. Whether there is evidence to suggest that place functions of high-density mixed-use, active edge and high pedestrian flows outweigh movement functions of throughput and goods should also be analysed.
Increased Economic Performance (35%)	There are still many areas of conflict between traffic and pedestrians, especially on Shotover Street where pedestrians struggle to cross safely. Shotover Street to Lake Esplanade forms both the prominent shopping high street and the only direct access to the residential areas of Fernhill, Sunshine Bay, Closeburn and Glenorchy.	Financial analysis on the economic returns that could be gained by the Council (increased CBD rates + additional outdoor public leased space), Businesses (increased attractiveness, footfall and 'linger time') and government with national economic return (GST takings, multiplier effect and export receipts) should be analysed. If there is evidence to suggest that the place function is the overriding function, then a feasible alternative route for both directness, movement of people and goods should continue to be explored.

4 Revisiting the Evidence

4.1 General

The evidence presented for the Strategic Case is all very much still current and relevant. Additional evidence has been identified since the Strategic Case was delivered in June 2017 which is also outlined below.

It is recognised that there are problems with the transportation network in Queenstown and that action is required to enable the network to effectively provide the following two functions:

- Access into the town centre.
- Arterial / through-road for traffic (not entering the town centre) but not as an expressway.

4.2 Previous Measures to Address Congestion

Traffic demand measures and public transport initiatives have been previously introduced to delay the need to construct a through-route (then Inner Links). There is little evidence to show success in the aim of reducing congestion and increasing alternative mode use by 20%[4].

It is noted, however, that even if the 20% alternative mode goal had been achieved, the sheer increase in numbers would still likely require some other form of intervention to divert vehicles away from the town centre.

The 2005 Future Links aim was also to improve use of public transport and reduce vehicle numbers by 5% by 2010 and by 10% by 2021. This aim has also not been achieved, and is unlikely to be.

Although not formally analysed, it is considered that the following factors have contributed to the ongoing issues:

- Continued growth in population and visitors and associated residential, commercial growth and consequently traffic growth.
- Free parking on the town centre fringe.
- Increase in bus fares twice in two years following removal of $3.2m subsidy with a consequent reduction in patronage.
- Lack of safe cycle facilities into the town centre.
- Lack of land use and transport integration between NZTA, QLDC, ORC, QAC and private enterprise.

The current method of an integrated approach has not been undertaken before with various initiatives being progressed separately with little effect in terms of a solution.

4.3 Population Growth

4.3.1 Current Projections

Rationale produced a report in December 2015 entitled *'QLDC Growth Projections 2015-2055'* to review and develop growth projections for QLDC. The report considered resident population, visitors, dwellings and rating units.

[4] Refer Annual survey, 'Queenstown and Wanaka Traffic Surveys' completed by MWH since 2009

The following graph and table shows the population change occurring in the Queenstown-Lakes District and the change in projections from 2004. During the Global Financial Crisis (2007-2012) the projections were downgraded (shown purple). However, since that time, there has been a considerable spike in both visitor numbers and residential growth partly driven from larger than expected immigration numbers.

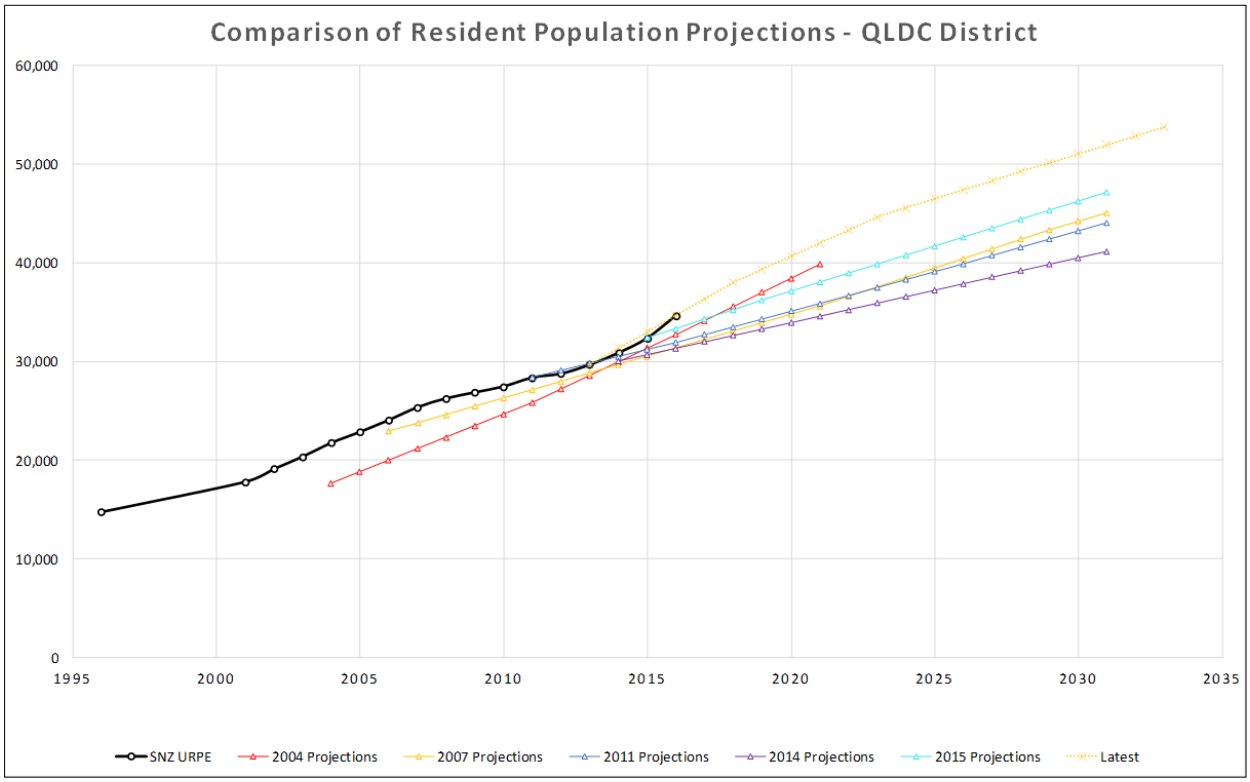


Figure 7: Comparison of Resident Population Projections - QLDC District 2004-2016

Table 1: QLDC Residential and Visitor Growth Predictions 2018-2048

Growth Variable	2018	2028	2048	Average annual growth (10 years)	Average annual growth (30 years)
Usually Resident Population	38,050	49,280	66,350	1,120	945
Residential Dwellings	19,720	24,670	31,600	500	400
Total Visitors (Peak)	79,300	99,750	126,375	2,045	1,570
Total Visitors (Average)	24,860	31,490	39,040	665	475
Total Rating Units	26,025	30,900	38,780	490	425

The table below, from the same report, shows the acute difference between the 2014 and 2015 predictions.

Table 2: Previous projections (2014) versus 2015 projections district-wide.

Output	2015 LTP Projections (Apr 2014)			2015 Projections (Dec 2015)		
	2015	2025	Change (2015-2025)	2015	2025	Change (2015-2025)
Usually Resident Population	30,700	37,300	6,600	32,400	41,700	9,300
Total Visitors (average day)	17,100	19,700	2,600	20,900	26,100	5,200
Total Visitors (peak day)	65,800	78,200	12,400	66,900	83,900	17,000
Total Dwellings	16,300	19,300	3,000	17,000	21,100	4,100
Total Rating Units	22,400	26,500	4,100	22,500	27,800	5,300

Current projections show that the following changes are expected over the next 10 years:

- A resident population increase of 29%.
- A total visitor increase of 25%.
- A 24% increase in the number of dwellings and rating units.

NB: Population continues to grow (both resident and visitor) at a higher rate than that predicted in 2014 and in earlier years.

4.4 Traffic Growth

4.4.1 General

Traffic growth = more congestion without intervention

The current land transport system is struggling to keep pace with growth, both resident and visitor, in Queenstown. The system is unable to respond quickly to the changing demands of surrounding land use, and to the growing pressures that are facing the network now and into the future.

The Queenstown Lakes District, and the wider South Island, is a desirable place for tourists. As Queenstown is the 'gateway' to the wider region it has become New Zealand's second largest vehicle hire port. With the continued increase of visitors and their use of rental vehicles and the growth of Queenstown Airport, including evening flights, this issue is expected to place further strain on the network, particularly within key seasonal peak periods.

4.4.2 Google Traffic

Google Traffic is a feature on Google Maps that displays traffic conditions in real time on major roads and highways. It works by analysing the GPS-determined locations transmitted to Google by many mobile phone users. By calculating the speed of users along a length of road, Google can generate a live traffic map.

Google traffic can be used to demonstrate the level of traffic typically experienced on Queenstown's key access roads.

The red lines on the following diagrams demonstrate a very slow-moving section, with orange showing medium pace and green as relatively free flowing

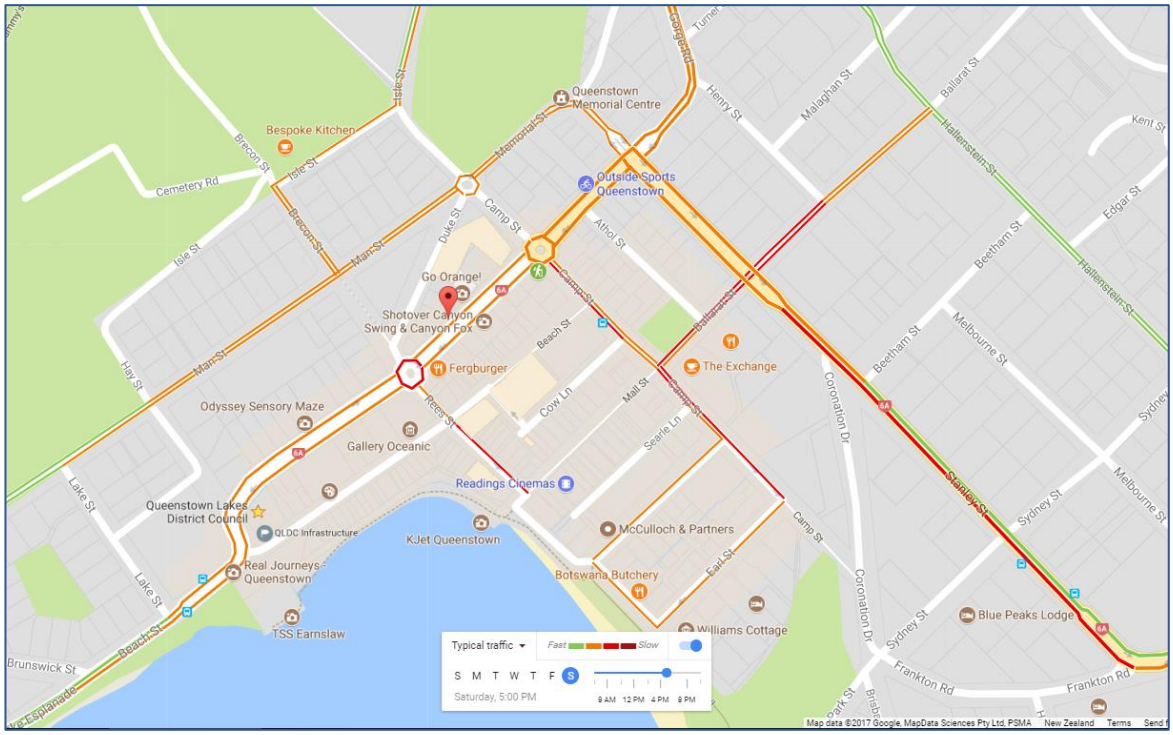


Fig 8 Typical Traffic Congestion 5pm Saturday (Source Google Maps)

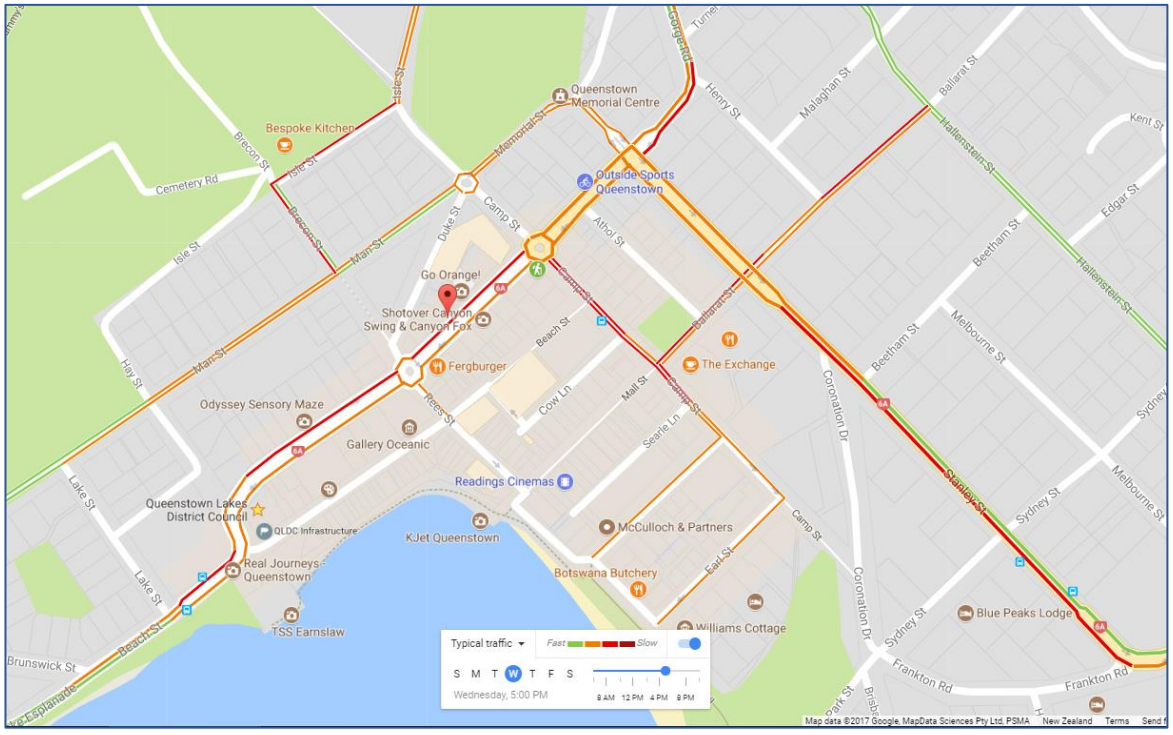


Fig 9 Typical Traffic Congestion 5pm Wednesday (Source Google Maps)

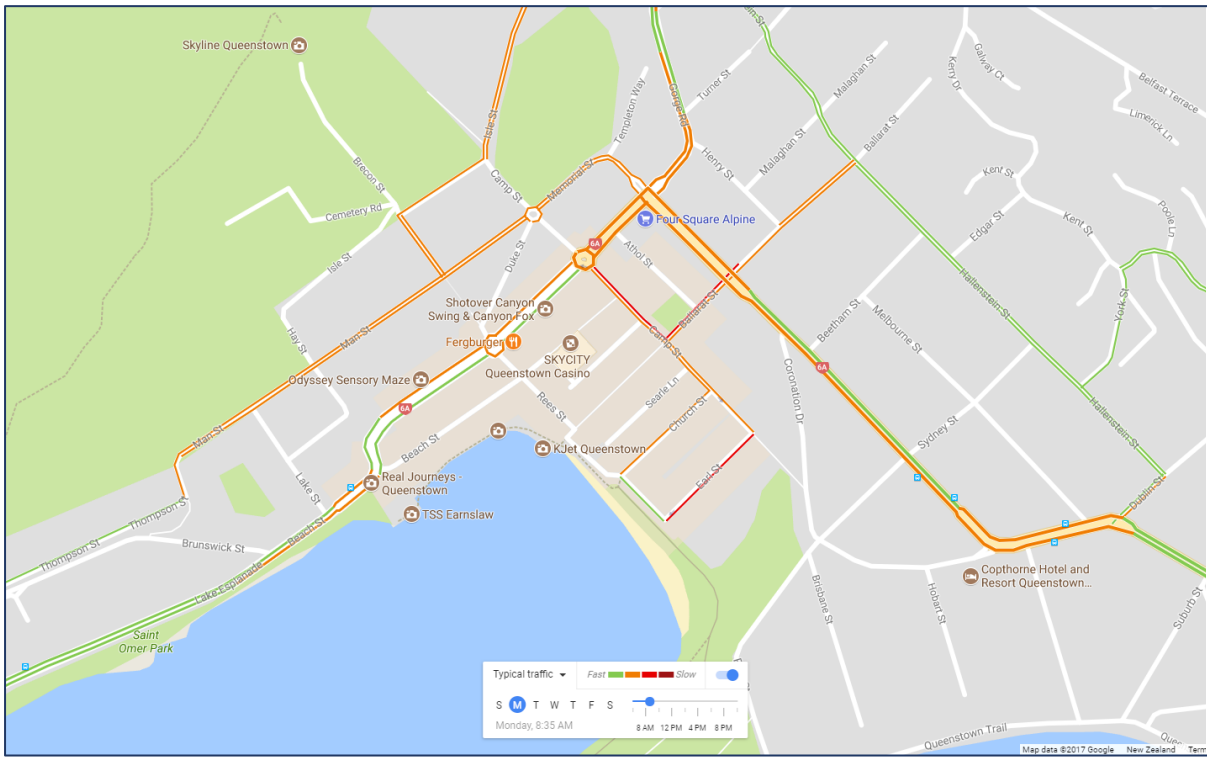


Fig 10 Typical Traffic Congestion 8.20am Monday (Source Google Maps)

4.4.3 Traffic Modelling

Further studies since the 2012 modelling with supporting computer/capacity models have been developed and support the need for intervention in relation to the town centre access.

The latest modelling results (Abley, Oct 2017) show continued predicted traffic growth with significant increased traffic volumes through to 2045. The images below show a predicted increase in traffic volumes and subsequent degradation of service levels under a do-minimum scenario.

Key to Levels of Service*:*

A
free-flow operations at average travel speeds

B
reasonably unimpeded operations at average travel speeds.

C
stable operations; ability to manoeuvre and change lanes may be more restricted than at LoS B

D
small increases in flow may cause substantial increases in delay and decreases in travel speed.

E
significant delays caused by a combination of adverse progression, high volumes and extensive delays at critical intersections.

F
extremely low flow speeds. Intersection congestion is likely at critical locations, with high delays, high volumes, and extensive queuing.

2016 PM Peak Level of Service Plot

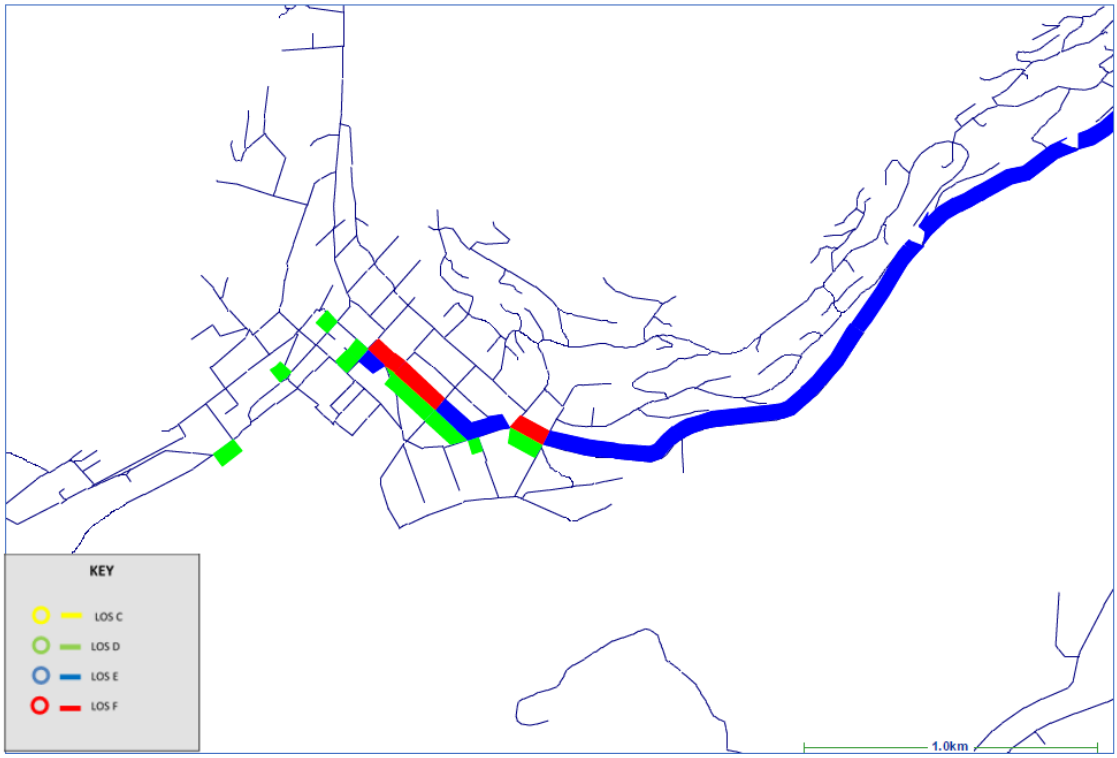


Figure 11: 2016 Level of service PM Peak

The 2017 Abley modelling showed significant degradation of levels of service through modelling a 'do minimum' scenario with no new arterials.

2025 PM Peak Level of Service Plot (Do Minimum no arterials)

Figure 12: 2025 PM Peak Level of service – do minimum (no arterials)

2045 PM Peak Level of Service Plot (Do Minimum no arterials)

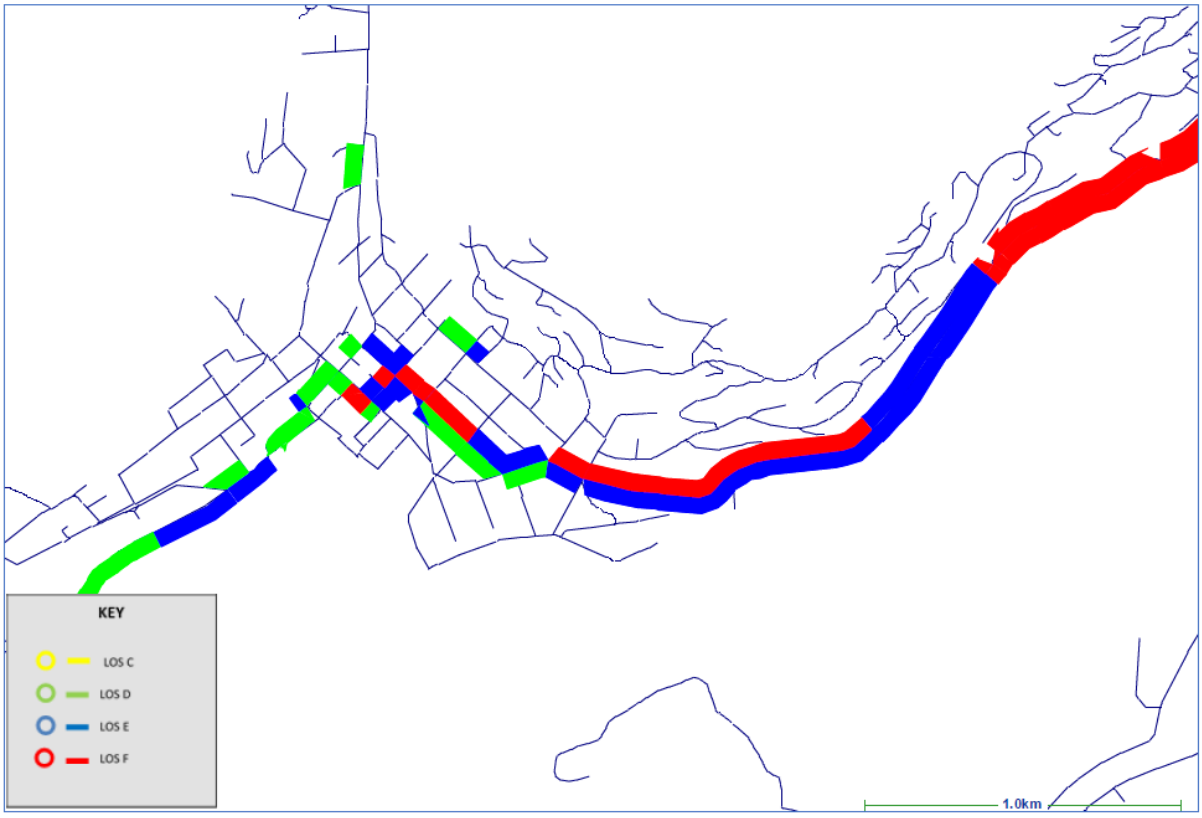


Figure 13: 2045 level of service plots under a do minimum scenario (no new arterials) - PM peak

4.4.4 Trip predictability and variability

Travel time survey data collected between December 2016 and July 2017 by Richard Young from Blip track demonstrates the variability and predictability of Queenstown travel routes by month as shown below. The key routes in the context of the Town Centre Masterplan work are the Stanley Street to Esplanade (orange) and Esplanade to Stanley Street (light blue) corridors.

Findings for Dublin St to Stanley St (the yellow plot):

- Dec/Jan average trips measured across each hour varied in time by up to 6 times slower than free flow (this meant the travel time varied significantly along that route).
- May trips varied in length by up to 2 times (twice as long as free flow).
- February and July trips vary by up to 4 times.
- Across the whole period the Predictability was that 9 out of 10 trips would be completed with a delay above the expected travel time by 65% -85%.

Findings for One Mile Roundabout to Stanley St (the light blue plot)

- Dec/Jan average trips measured across each hour varied in time by up to 3 times slower than free flow.
- February to July trips varied in length by up to 2 times (twice as long as free flow).
- Across the whole period the Predictability was that 9 out of 10 trips would be completed with a delay above the expected travel time of 75% -95%.

Findings summary:

- All routes into and out of Queenstown show low predictability – the travel time journeys at any time compared to what would be expected at that time.
- The Two key routes into Queenstown show high variability as well with travel time variability across the day exceeding 6 times longer than free flow from Dublin Street.

- Within the hour, travel time can vary by up to 90 percent longer than predicted.

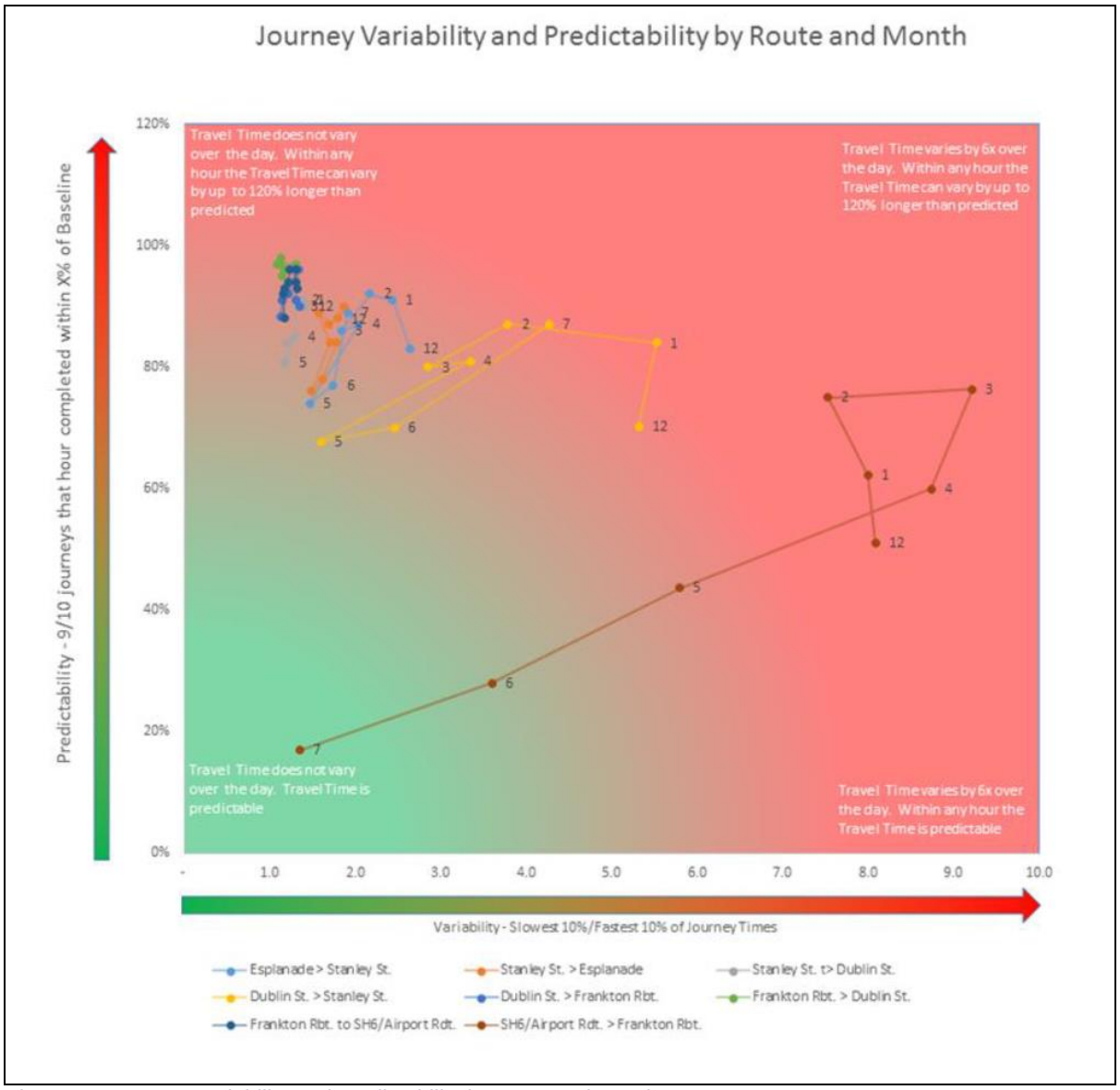


Figure 14: Journey variability and predictability by route and month

4.4.5 Current travel time reliability

Commercial GPS data is a valuable data source to monitor network performance on the Queenstown network. Evidence of travel time reliability was analysed using TomTom data sourced from the NZ Transport Agency historical data portal in the development of the Queenstown Integrated Transport Programme Business Case (QITPBC).

The 15th, 50th and 85th percentile travel times for evening peak week day trips between Lake Esplanade and State Highway 6/6A in March and December 2016 are presented below for each direction. These figures demonstrate the range of travel times during the 4pm - 6pm evening peak which is extensive (5-7-minute range) in both directions and worsens between the March 2016 and December 2016 surveys.

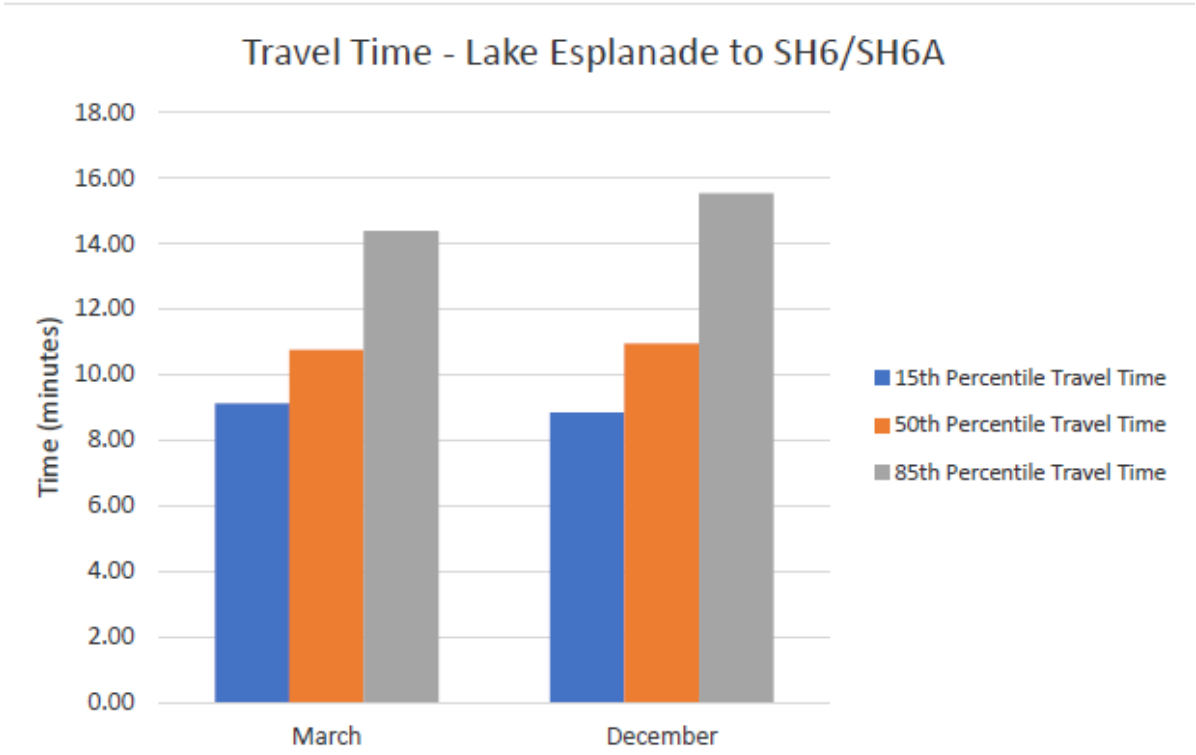


Figure 15: 2016 observed travel times from Lake Esplanade to SH6/SH6A

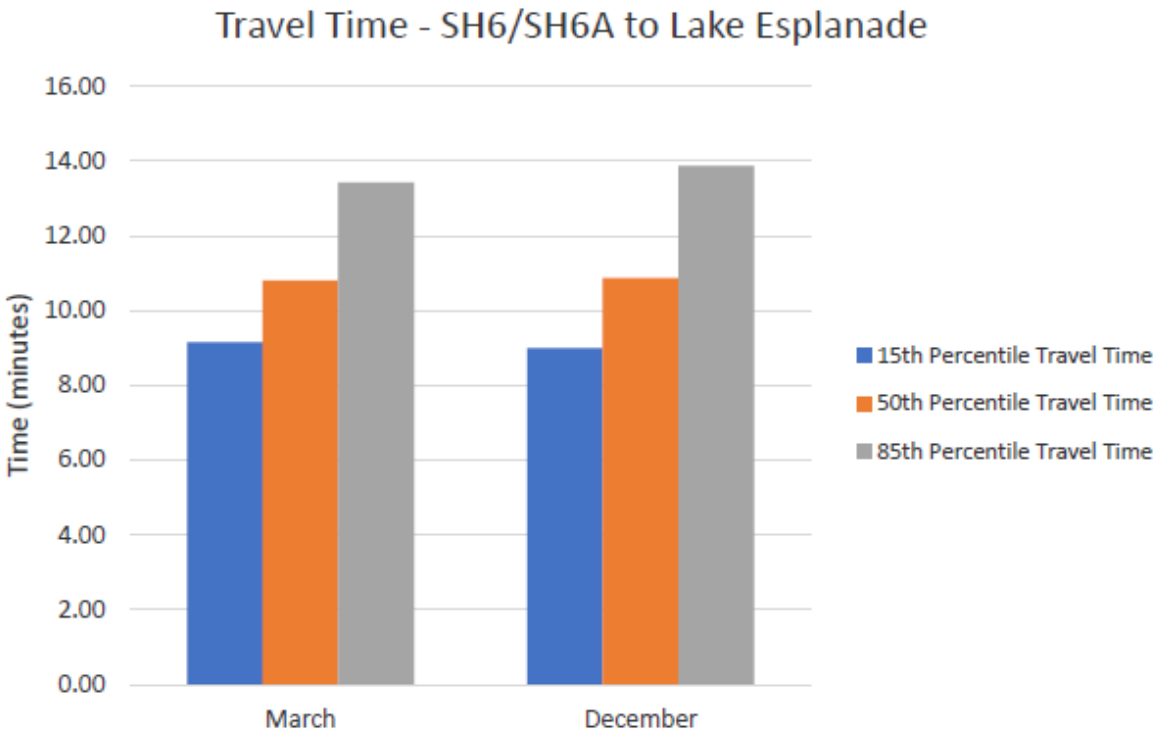


Figure 16: 2016 observed travel times from SH6/SH6A to Lake Esplanade

The following photos demonstrate the variable flow characteristics of Shotover Street. These photos were taken five minutes apart and demonstrate a significantly different environment between the two photographs. A greater understanding of this is sought, not just from a traffic/travel perspective but also from a liveability and visitor experience perspective.

Figure 17: Shotover Street - Variable Flow Conditions: 12.10 pm on 8 February 2017

Figure 18: Shotover Street - Variable Flow Conditions: 12.15 pm on 8 February 2017

Key locations showing significant congestion during morning and afternoon peak times are:

Morning Peak

- SH6 from Stalker Road to Glenda Drive
- Frankton Road
- Stanley Street
- Shotover River bridge
- Access to Glenda Drive
- Kawarau River Bridge
- Ballarat Street.

Evening Peak

- SH6 Tucker Beach Rd to Glenda Drive
- Glenda Drive
- Kawarau River Bridge
- SH6/SH6A intersection approaches
- Stanley Street.

Travel time reliability has reduced despite the implementation of various do-minimum, traffic demand measures and public transport initiatives.

4.5 Land Use Change & Future Growth

4.5.1 General

Any growth and consequent change in land-use will have an impact on the transport network with a need to appropriately provide access to the town centre as well as a bypass route for those not wanting to access the town centre.

This needs to be integrated with the need to provide for parking as well as consideration for alternative travel modes such as public and passenger transport, walking and cycling.

The District Plan Review has proposed up-zoning much of the existing town centre residential zones to high density residential. More significant changes have been proposed for the Gorge Road corridor with new mixed-use zoning (up to six floors in most areas) covering this large area.

There are several private developments planned for the town centre which, if they occur, will have a significant impact on the town centre in terms of attractions, accommodation and on the transport network.

4.5.2 Proposed District Plan – Future Transport Chapter Review

The Planning and Development Department are currently drafting up changes to the existing transport chapter of the Operative District Plan. The use of maximum / minimum parking requirements is being considered to promote alternative transport modes and begin to shift the reliance of the private car as the main form of transport choice.

The Proposed District Plan is due for notification from November 2017 to January 2018.

4.5.3 Plan Change 50

PC50 provides for the expansion of the existing Queenstown Town Centre Zone (QTCZ) through the rezoning of approximately 14.5 hectares of land from High Density Residential Zone (HDRZ) to QTCZ or subzones of the same. This will impact on transportation networks. The plan below shows the area to be rezoned.

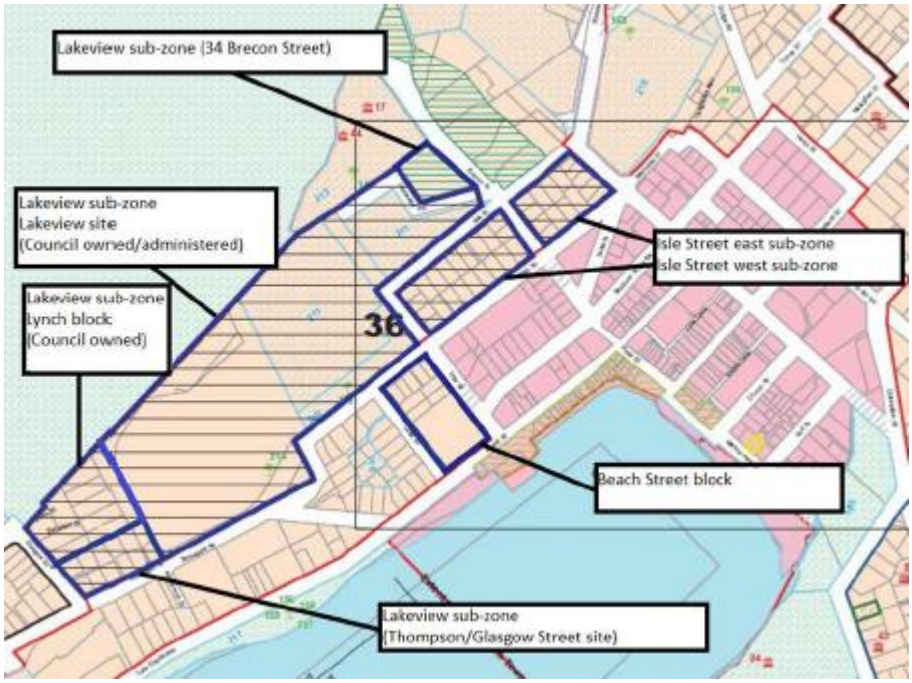


Figure 19: Plan Change 50 Outline Plan

QLDC initiated PC50 to address the following:

- The long-term future of the Lakeview site. This provides for an integrated commercial/mixed-use development, which could include visitor accommodation, high density residential accommodation, commercial activities (including retail and hospitality) public recreation space, and the option of a convention centre.
- An identified need to expand the Queenstown Town Centre Zone to provide for and facilitate economic growth.

PC 50 is already providing for growth in the town centre with several large private sites changing hands over the past 12-24 months and developments in planning stages. In addition, residential housing, hot pool attraction and hotels are all being considered by QLDC at present. Other potential large developments include two apartments blocks that have approved resource consent in the Gorge Road Special Housing area, further development of ski fields and tracks and a convention centre as well as capacity increases of the airport, which all need to be factored into traffic growth scenarios.

PC50 anticipated the construction of Inner Links in its 2014 format, together with do-minimum works and the implementation of traffic demand measures as part of the transport network.

4.5.4 Lakeview Development

QLDC Corporate Services have been pursuing several development options including a proposed convention centre, residential development, $25m hot pools attraction by Ngāi Tahu Tourism and hotel for the Lakeview land it owns. Transport projects, including the Town Centre Arterials, need to be mindful of the sequencing and timing of the proposed developments

Figure 20: Artist Impression of the Ngāi Tahu Tourism Hot Pools proposal

4.5.5 Private Development

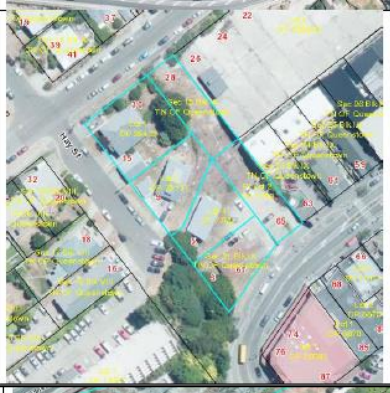
There are several private developments planned for the town centre, which, if they occur, will have a significant impact on the town centre in terms of attractions, accommodation and on the transport network.

There are several hotel developments at different stages including Jucy Snooze hotel/backpackers, which is currently in construction. This is a 256 bed five-storey accommodation development on the corner of Camp Street and Memorial Street; it is due to be completed by October 2017.

Figure 21: Artist's impression of the Camp Street Jucy Snooze Hotel - currently under construction.

Skyline Enterprises have recently submitted a resource consent for increasing the gondola capacity and enlarging their base and summit buildings

Figure 22: Skyline Gondola Proposed Base and Summit Buildings (Source: Urban Design Assessment 2016)

Frankton Road behind Pounamu apartments		125 visitor accommodation units
Corner of Man, Hay and Shotover Streets		55 hotel rooms, 48 apartments, 4 penthouses
		
Corner Stanley, Gorge, Shotover Roads, Queenstown		110 or more
Corner Stanley, Sydney, Melbourne, Queenstown		237 visitor accommodation units

Numerous hotel sites are available/vacant within walking distance of the town centre. Further deterioration of congestion can be expected once these are developed. Some examples of hotel sites are provided.

4.5.6 Modelling of Future Growth

Further modelling should be undertaken to allow for a range of likely scenarios and levels of development and consequent bottlenecks in the transportation network.

The potential effects of other, largely private, development should be considered as a sensitivity exercise in terms of effects on traffic demand.

Through PC50 and other initiatives, there is significant future growth planned in Queenstown.

All such development will put additional pressure on infrastructure including the roading network.

The level of current and predicted development provides confidence for investment in public and private development and infrastructure.

4.6 Modal Split

4.6.1 General

The annual survey, '*Queenstown and Wanaka Traffic Surveys'* completed by MWH since 2009, covers:

- modal split
- vehicle occupancy
- travel time survey
- parking.

The report(s) can be used to demonstrate changes in these criteria over the years.

4.6.2 Modal Split

The 2016 modal split surveys were taken over a four-hour period on Gorge Road, Lake Esplanade and Frankton Road.

The 2016 report concluded that *"…the overall proportions of the differing modes of travel remains consistent, with only minor variations from previous years"*.[5]

The information in Table 3 below is taken from the MWH report and shows the variation in mode for each year (over the four-hour period). It includes each of the survey locations and is evidence that travel demand management initiatives have not delivered the desired results.

Table 3: Queenstown Traffic Survey - Modal split, overall proportion of vehicles year-on-year.

Location	Time period	Car	Bus	Pedestrian	Cyclist
Gorge Road	**2016**	**94%**	**3%**	**2%**	**1%**
	2015	94%	2%	3%	1%
	2014	95%	2%	2%	1%
	2013	94%	4%	2%	1%
	2012	94%	2%	3%	1%
	2011	94%	2%	3%	1%
	2010	92%	4%	3%	1%
	2009	92%	3%	2%	1%
Frankton Road	**2016**	**93%**	**2%**	**4%**	**1%**
	2015	93%	2%	5%	1%
	2014	90%	2%	8%	1%
	2013	91%	2%	6%	1%
	2012	92%	1%	6%	1%
	2011	93%	2%	5%	1%
	2010	94%	1%	5%	0%
	2009	90%	2%	5%	2%
Lake Esplanade	**2016**	**80%**	**2%**	**18%**	**1%**
	2015	82%	3%	13%	2%
	2014	76%	2%	21%	1%
	2013	70%	2%	27%	1%
	2012	74%	2%	22%	2%
	2011	81%	1%	17%	2%
	2010	70%	2%	27%	1%
	2009	84%	3%	12%	2%
Overall average (year on year)		**88%**	**2%**	**9%**	**1%**

[5] Section 2.1.1 Summary of Results - 'Queenstown and Wanaka Traffic Surveys', MWH May 2016

There is minimal evidence to show that initiatives to encourage the use of alternative modes of transport to the car have been successful.

The goal of 20% diversion from private vehicle to alternative modes has not been achieved to date.

4.7 Projected future demand by mode

A number of short-term, intermediate and long-term proposals to improve regional public transport in the SH6A corridor have been developed.

Forecasts of future demand by mode has been undertaken for the SH6A corridor to inform the proposals for regional transport. The forecast has been prepared using a transportation model which includes land use growth forecasts for the two modelled years of 2025 and 2045 developed by Rationale consultants and approved by QLDC for planning purposes. The future road network for these future years includes current infrastructure which is under construction within the District such as the Kawarau Falls Bridge replacement but includes no improvements within the town centre other than local roading connections to provide access to the Lakeview site.

Public transport provision includes the changes recently proposed as part of the Wakatipu Basin Public Transport Detailed Business Case (DBC), and includes changes in routes, service frequency and the introduction of a $2 (or $5 for cash) flat fare.

The projected trend in demand shown below has informed the timescales suggested for the proposed improvements. The graphic below demonstrates this demand and highlights that a mass rapid transit solution may be required from as early as 2038 onwards.

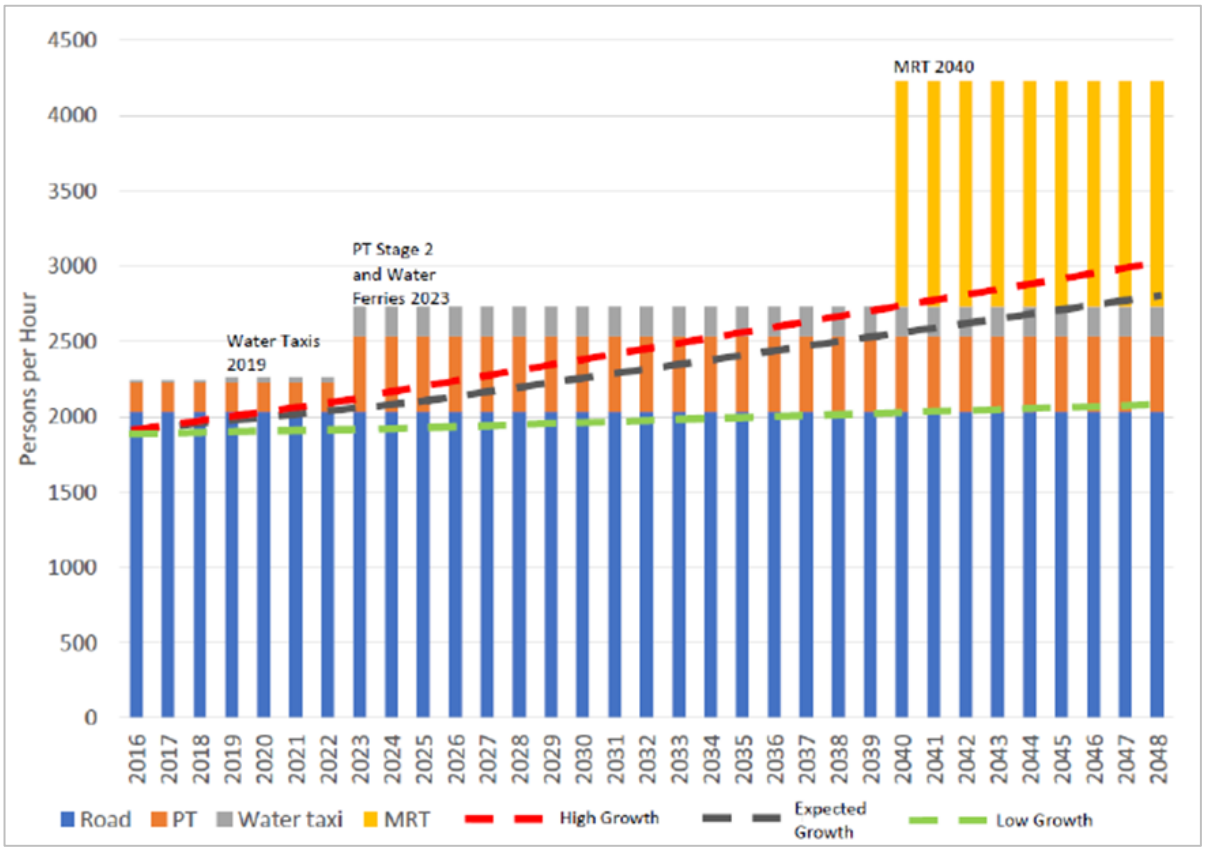


Figure 23: Projected Future Demand by Mode (Sourced from the Queenstown Masterplan Public and Passenger Transport Requirements report produced by Beca)

4.7.1 People movements by corridor

The delivery of the QITPBC recommended programme focuses on increasing the throughput of people on key corridors into and out of Queenstown town centre. The impact of programme implementation on mode share over future years and is shown graphically below. This demonstrates the total car occupants are held relatively constant while growth in person movement demand is expected to be met by increased uptake of alternative modes.

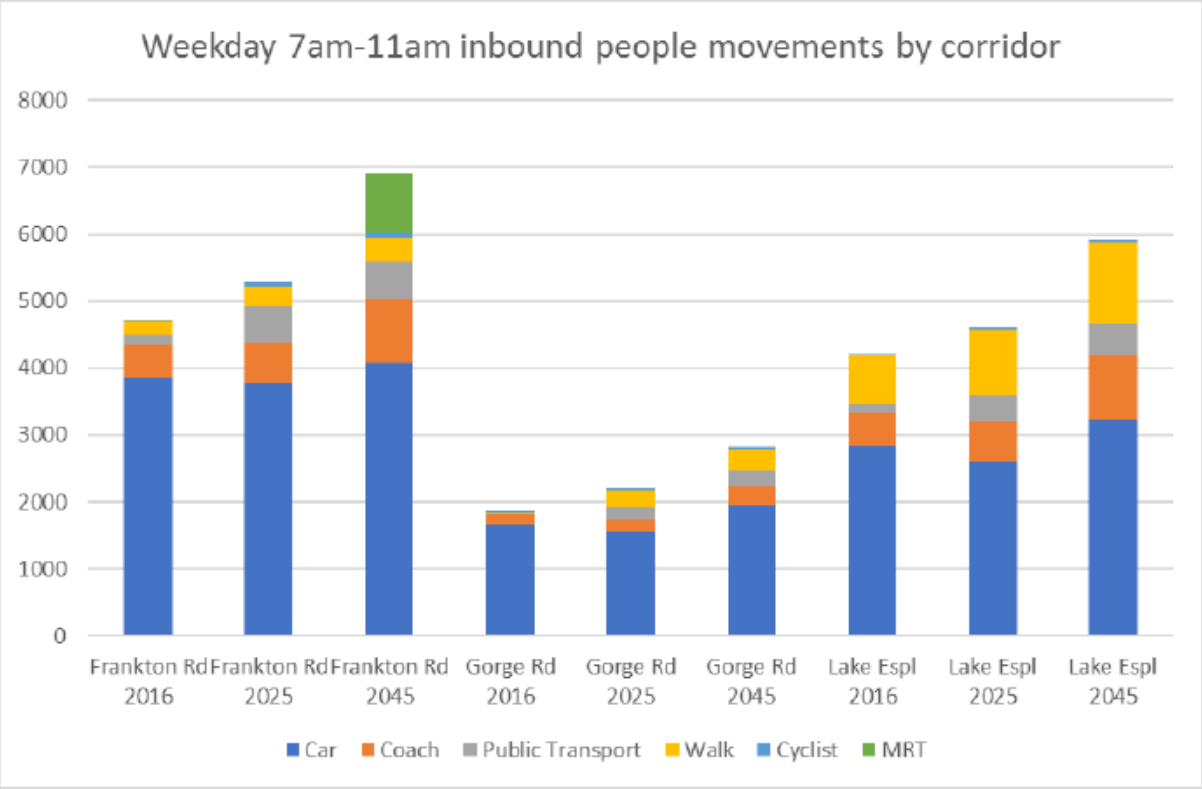


Figure 24: Morning peak people movements by corridor and mode in 2016, 2025 and 2045

4.8 Visitor and Resident Satisfaction Surveys

As noted in Section 3.4, visitor experience and liveability are outcomes expected from any investment. The following section considers the mechanisms available to measure performance and the progress to date.

4.8.1 Visitor Experience Survey

The Jul-Sep 2016 'Visitor Insights Programme – Visitor Experience – Queenstown' prepared by Angus and Associates provides an analysis of visitor satisfaction surveys, including visitors from New Zealand, Australia and other international locations.

The table below demonstrates that ***traffic and parking is consistently the lowest scoring aspect of any visitor experience***.

Experience vs expectations have also been surveyed. The New Zealand Visitor results have been shown only. Results are also available for Australian and Other International Visitors.

Table 4: Visitor Satisfaction Survey Results (source Q4 2016 (October – December) 'Visitor Insights Programme – Visitor Experience – Queenstown' prepared by Angus and Associates Ltd).

SATISFACTION

On a scale of 1 (not at all satisfied) to 10 (extremely satisfied), how satisfied are you with these aspects of your current experience in the Queenstown region?

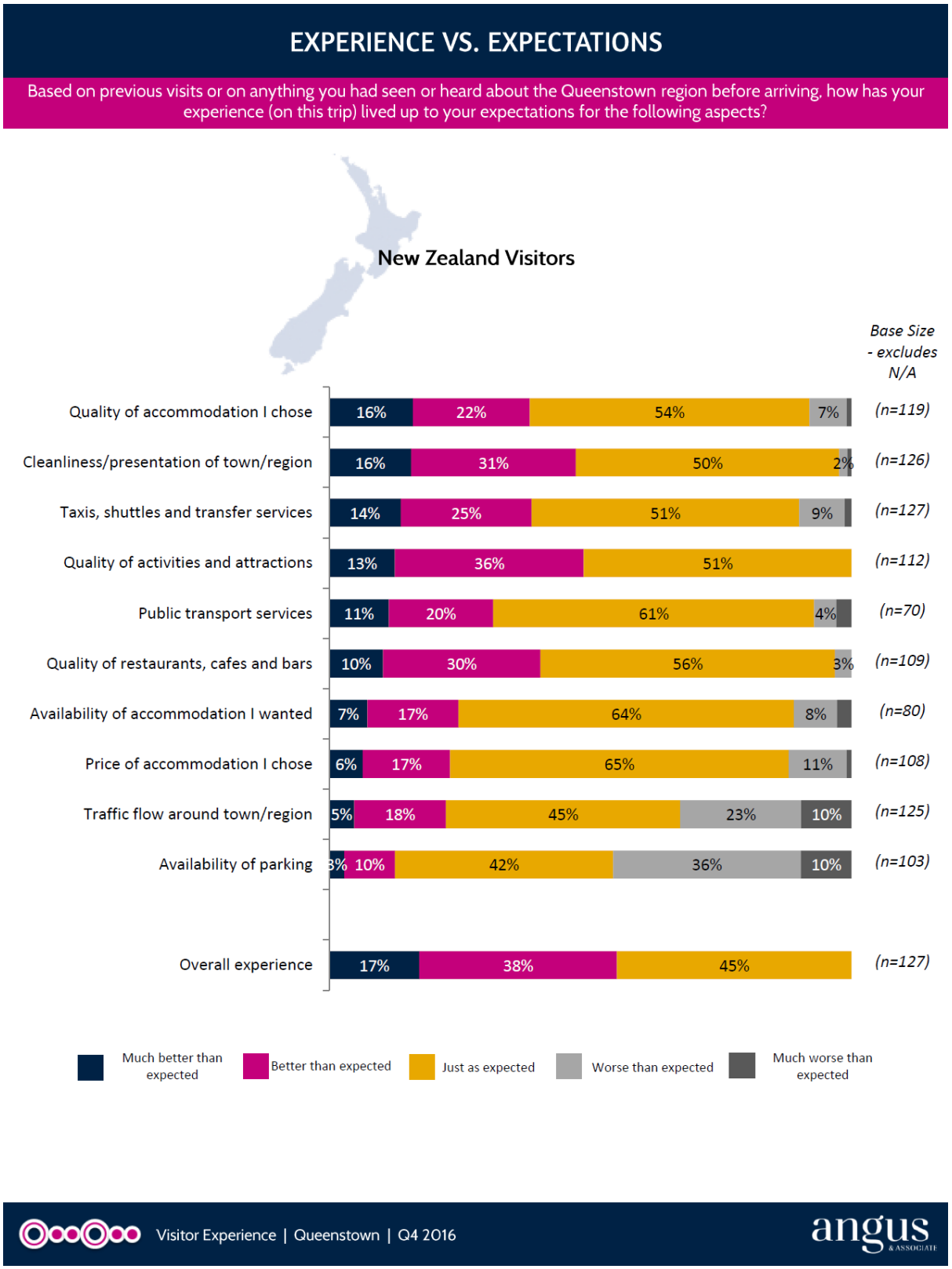
New Zealand	Q4 2014	Q4 2015	Q4 2016
Accommodation	8.3	8.4	8.3
Transport to Queenstown	8.3	8.0	8.0
Local transport options and services	7.7	7.4	7.6
Traffic and car parking	6.5*	5.9*	5.9
Public facilities (parks, toilets)			8.2
Natural environment	-	-	9.1
Cleanliness/presentation of town/region	8.6	8.4	8.6
Activities and attractions	8.7	8.5	8.6
Restaurants, cafes and bars in Queenstown	8.5	8.4	8.5
Overall experience in the Queenstown region	8.7	8.8	8.9
Australia	**Q4 2014**	**Q4 2015**	**Q4 2016**
Accommodation	8.9	8.5	8.8
Transport to Queenstown	8.6	8.8	8.8
Local transport options and services	8.0	7.2	8.3
Traffic and car parking	6.9*	6.8*	7.1
Public facilities (parks, toilets)			8.3
Natural environment	-	-	9.6
Cleanliness/presentation of town/region	9.2	9.1	9.2
Activities and attractions	9.0	9.1	9.1
Restaurants, cafes and bars in Queenstown	8.4	8.6	8.9
Overall experience in the Queenstown region	9.2	9.2	9.4
Other International	**Q4 2014**	**Q4 2015**	**Q4 2016**
Accommodation	8.0	8.1	8.4
Transport to Queenstown	8.5	8.4	8.9
Local transport options and services	8.1	7.4	8.4
Traffic and car parking	6.8*	6.8*	7.4
Public facilities (parks, toilets)			9.0
Natural environment	-	-	9.5
Cleanliness/presentation of town/region	8.9	9.0	9.3
Activities and attractions	8.6	8.6	9.1
Restaurants, cafes and bars in Queenstown	8.4	8.3	8.8
Overall experience in the Queenstown region	8.7	8.6	9.1

**Previously 'Parking and other public facilities'*

Visitor Experience | Queenstown | Q4 2016 angus & ASSOCIATE

Table 5: Visitor Experience vs. Expectations Results

(source: Q4 2016 (October – December) 'Visitor Insights Programme – Visitor Experience – Queenstown' prepared by Angus and Associates Ltd).



The survey shows that, based on feedback on a variety of factors in terms of 'experience' satisfaction, traffic and parking have the lowest satisfaction rating.

4.8.2 Qrious

Using cell phone information, Qrious can track the movement of people to provide an insight into the behaviour of visitors and locals visiting Queenstown and to profile those visitors. They were commissioned to analyse the attendance of the Queenstown CBD for 2 years from March 2015.

Some of the key findings are given below:

- Total visitor numbers are increasing for regional and international visitors but are remaining static for locals visiting. With an increasing population, this means that, as a proportion, less locals are visiting the town centre. This trend was identified within the Town Centre Masterplan ILM especially around the locals' sense of belong and ensuring the town centre remains authentic where visitors and locals mix. Additional cultural activities and facilities, improved accessibility would be some steps to attracting local visitors back into the town centre which makes it more of authentic experience for everyone.
- More international visitors travelled to Queenstown than domestic.
- International visitors are more seasonal than domestic visitors.
- The number of people living and working in the CBD has increased since June 2016.
- Locals that don't work or live in the area visit it more in summer compared to winter.
- International visitors spend more time in the CBD than domestic visitors.
- More than 60% of locals visit the CBD more than three times per month with approximately 10% visiting less than twice per month.
- Around 60% of locals living or working in the CBD spend at least six hours in the CBD per stay with approximately 20% spending less than two hours.

What does this mean for the Town Centre Arterials?

- *More visitors mean more traffic unless the use of alternative modes such as walking, cycling and the use of public / passenger transport is improved.*
- *The length of stay and reason for accessing the town centre varies and can play a role in determining the optimum roading solution.*

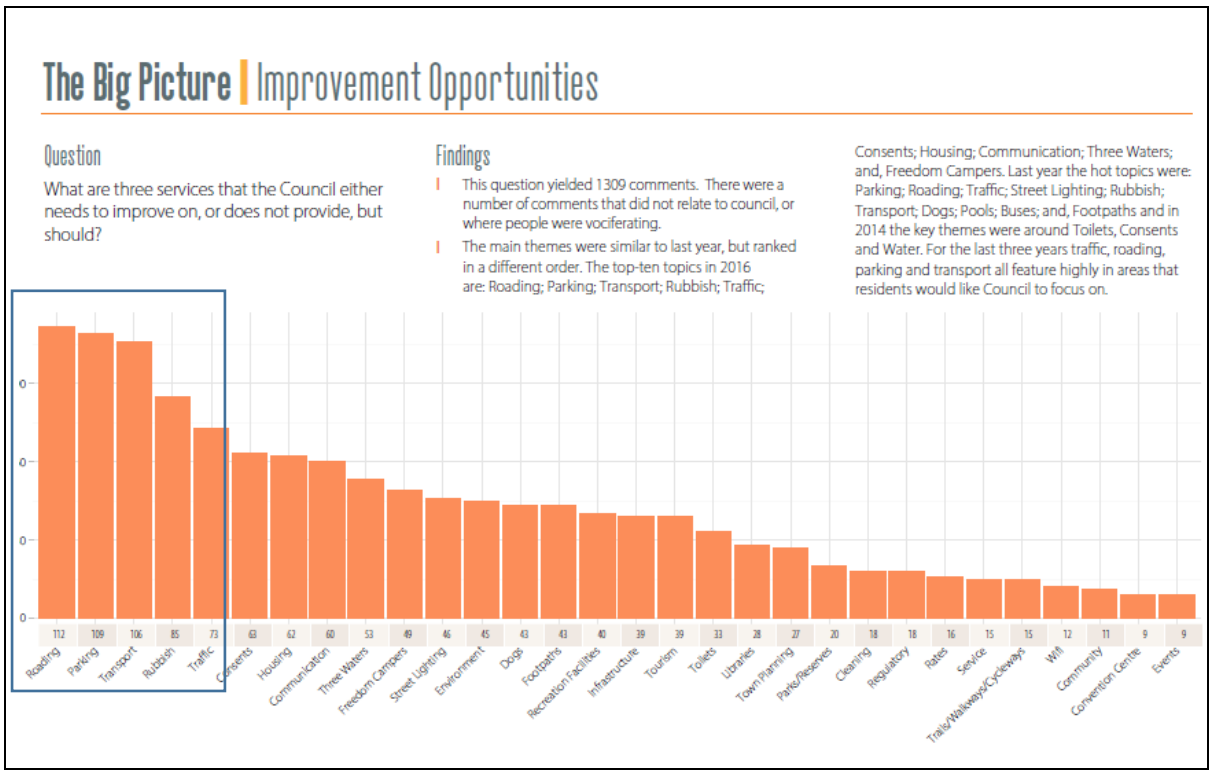
4.8.3 Ratepayer and Resident Survey

The current survey is not sufficiently detailed to assess town centre satisfaction, and more specifically parking, transportation and traffic satisfaction. The Liveability KPI can be assessed from this survey, however, it will require modification.

The 2016 'Queenstown Lakes Ratepayers and Residents Survey provides an analysis of activities undertaken by QLDC, identifying those areas seen to be requiring improvement across the district.

The table below demonstrates that ***roading, parking and transport are the three areas seen as the 'big improvement areas'***:

Table 6: The Big Picture – Improvement Opportunities – 'Queenstown Lakes District Ratepayers and Residents Survey 2016'



The survey shows that roading, parking and traffic has the lowest satisfaction rating

4.9 Initial Masterplan Engagement Results

Problem Statement (from ILM):

'Congestion is reducing liveability and visitor experience'

Community engagement continues to raise parking, congestion and public transport as areas that could be improved.

In March 2017, QLDC conducted several community engagement events and encouraged feedback across a wide variety of mediums including an online survey.

136 people responded to the survey on peoples' perceptions of what they liked about the town centre and what they think could be better.

The most common themes were:

- **Traffic congestion** with 57% of respondents saying that traffic congestion heading into and around town was an issue.
- **Cheaper and more efficient public transport options**, with 23% of respondents commenting on public transport and suggesting a ferry service.
- **Lack of parking options with** 65% of respondents saying that this was their main problem with the town centre

Below is a graphic of the other improvements suggested in the online survey feedback:

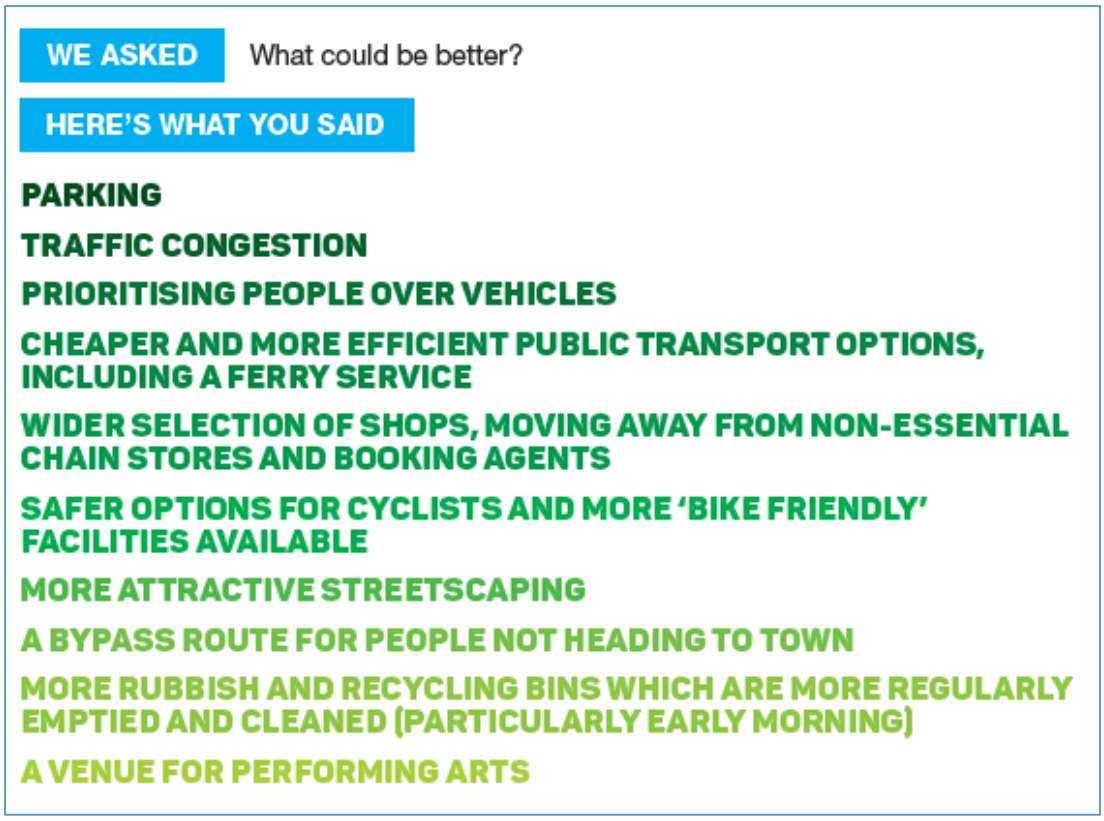


Figure 25: Masterplan Initial Engagement Online Survey - What could be better?

Improving the roading network would address several of the issues identified in the survey.

The Arterials project would lead to less congestion for alternative modes with bus priority measures including dedicated lanes and better connected, improved, and safer walking and cycling facilities

4.10 Masterplan Preferred Option Engagement

In July and August 2017, QLDC ran a 4-week engagement campaign aimed at educating the community on the work done to date and to gain feedback on the options selected. This campaign gained some very positive feedback across the programme, including general agreement that an arterial route would help achieve a more people-focussed town centre.

A snapshot of the feedback on the arterials is shown below.

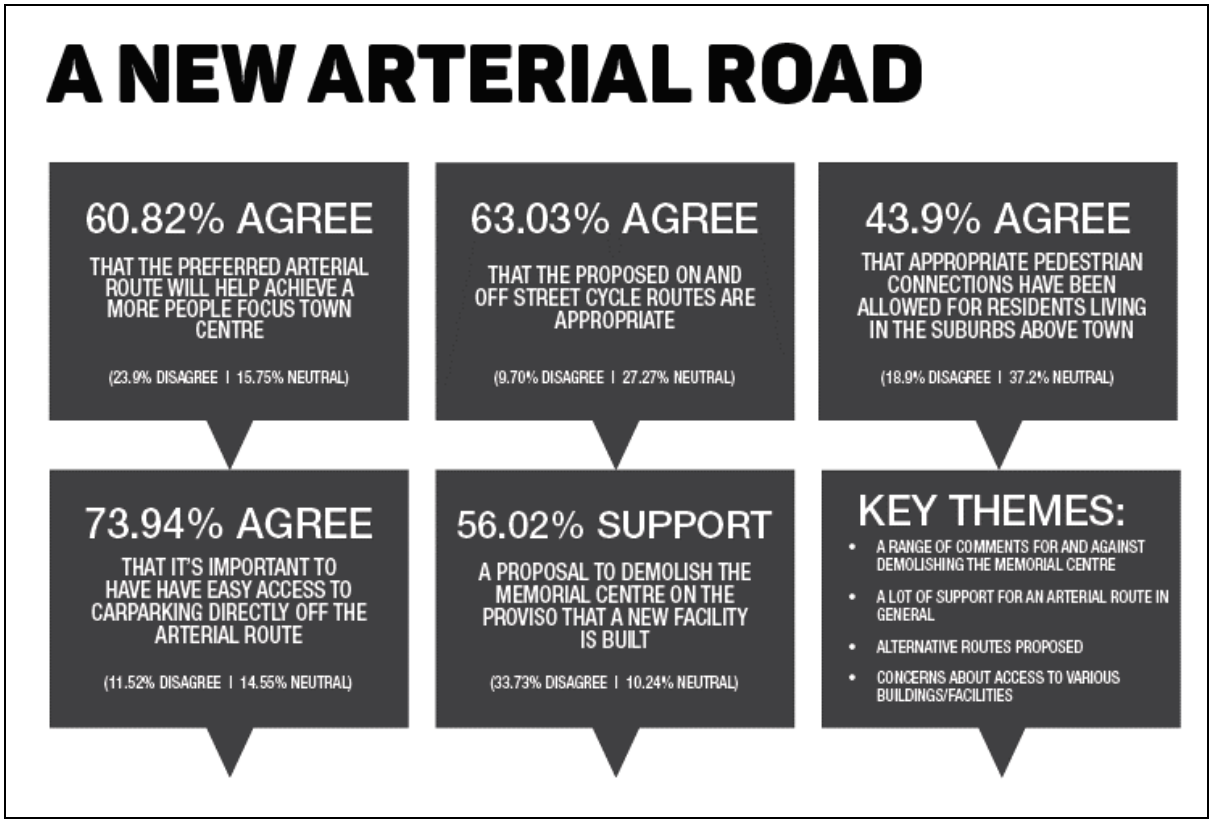


Figure 26: A summary of feedback on Arterial options

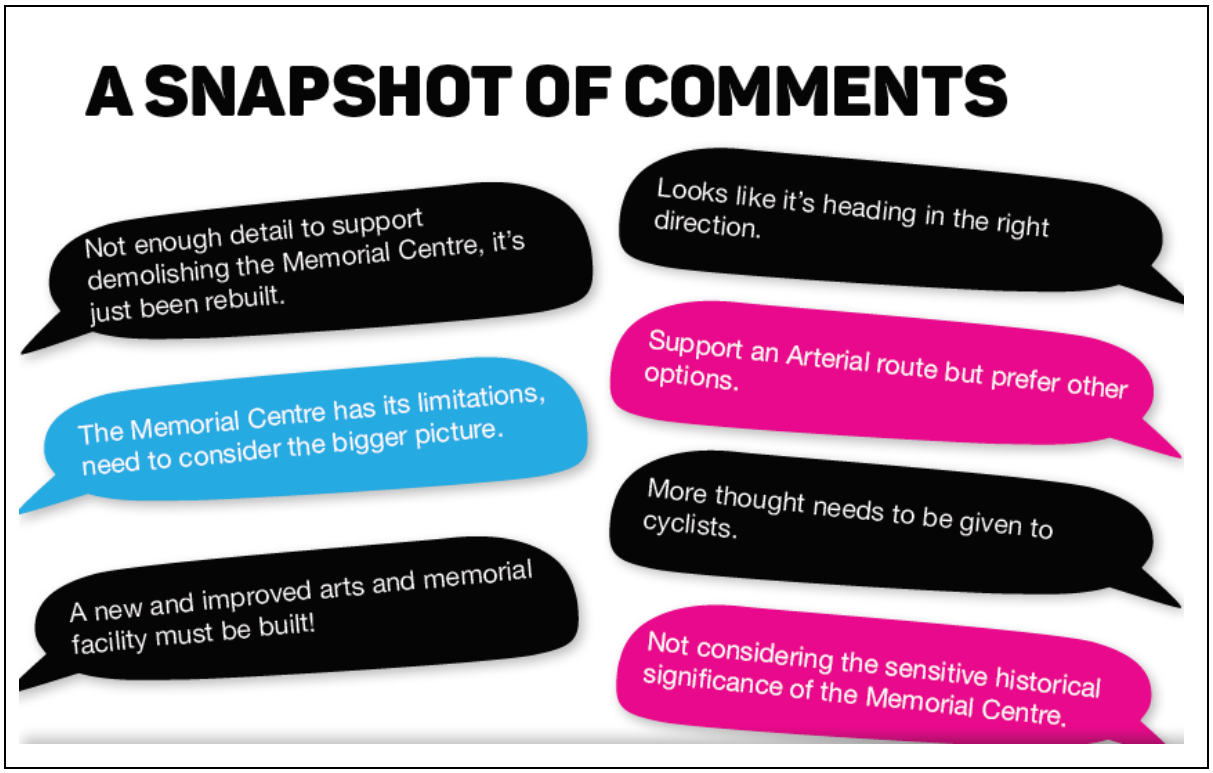


Figure 27: a snapshot of P&PT comments

4.11 Public Life Survey

A Public Life Survey was undertaken by Aitken Taylor in July 2017[6].

Public life surveys provide information on:

- where people walk and spend time - either as part of their daily activities or for recreational purposes
- how many people sit, stand or carry out other stationary activities in the city and where they do it, an indicator of the quality of a city's urban spaces

The Purpose of the survey was 'to provide a base-line regarding public life in the town centre and in turn can be used to inform strategies and initiatives within the Town Centre Masterplan'.

The figure below shows a snapshot of the findings of the survey, showing similar pedestrians movements at each of the surveyed locations on weekdays and weekend days.

[6] 2017 Queenstown Public Life Survey, Aitken Taylor

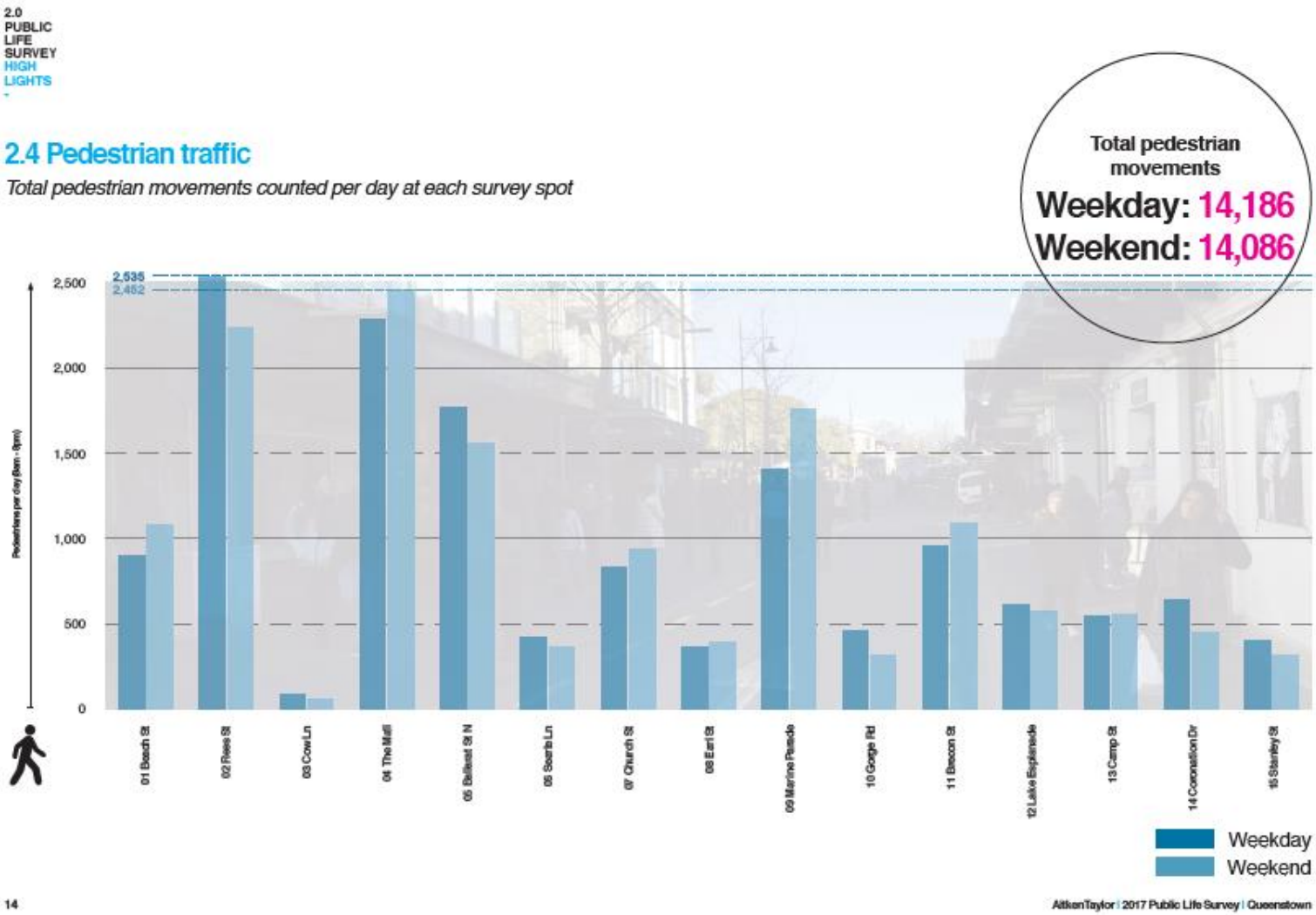


Figure 28: a snapshot of Pedestrian Movements

Recommendations from the survey included**:**

- *Detune vehicle movement in and around the town centre and lake front. Private motor vehicles dominate the landscape and the priority of movement afforded to these vehicles is at the expense of continuous and enjoyable walking links.*
- *The ability to walk with minimal interruptions is critical to accessibility and walkability. On high volume pedestrian streets, this is often restricted due to intense pedestrian traffic and limited physical space. Widening footpaths where possible, possibly through 'road diets' could dramatically improve this situation.*
- *Improve pedestrian accessibility and priority along 'feeder' routes such as Gorge Rd, Coronation Dr and upper Camp St. These 'feeder' routes account for 36% of all recorded pedestrian activity however many of these routes are poor quality, characterised by inconvenient crossings and/or long waiting times at intersections.*
- *Improve the pedestrian experience on high volume vehicle routes that are currently very car-biased (Rees St, Ballarat St North, Beach St, Church St). These are well utilised by pedestrians however little attention has been given to the pedestrian experience.*
- *Cycling - either from a commuting or recreational standpoint, cycling in Queenstown could become a viable mode of transport for moving to and around the town centre. Invitations to cycle are currently limited with an incomplete cycle network and little provision for cycle parking in the centre.*
- *Explore potential to accommodate more kerb side public seating. There is currently a lack of resting options in terms of public seating. While pedestrianised spaces such as The Mall and Queenstown Bay provide generous levels of public seating, much of the public space and subsequent public life occurs on the streets thus it is important to consider these for recreation, not simply movement.*
- *While the recorded temperature during the survey was cool there is still opportunity to encourage more kerbside dining with cafe tables and chairs. In areas that do accommodate these have been provided, such as near the lake front, were and outdoor cafe table/seating opportunities (road diets/footpath widening).*
- *Establish footpath zoning to reduce conflicts between street furniture and pedestrian movement, particularly on high pedestrian volume streets.*

4.12 Queenstown Airport Growth Forecasts

4.12.1 Growth

Queenstown Airport Corporation has recently released a Masterplan options document outlining plans for the future and expected growth levels. As the major gateway to the lower South Island and the key access to one New Zealand's most marketed regions, the airport plays a very significant role. In line with the ongoing visitor growth expected for the district, QAC is expecting consistent growth in passenger movements, as shown below.

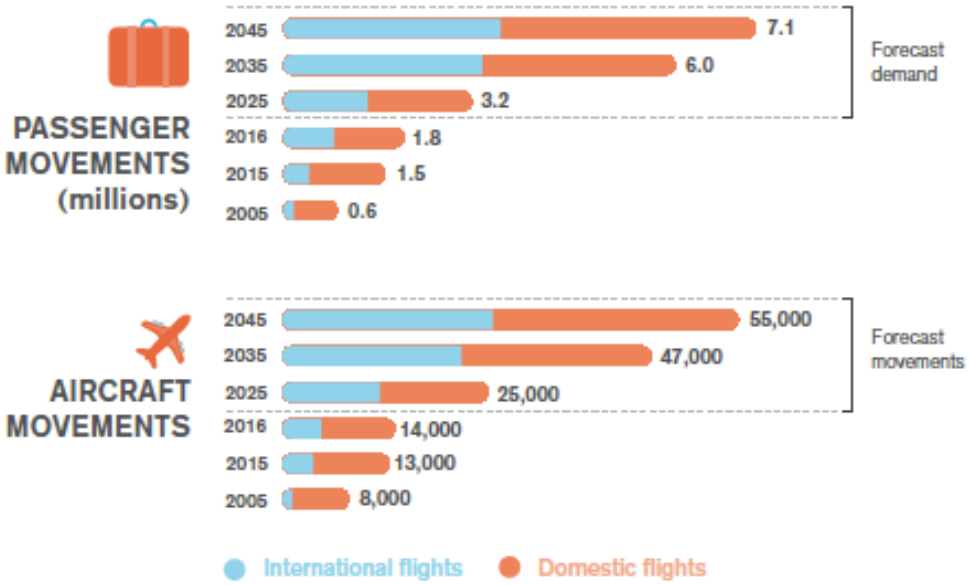


Figure 29: Passenger and aircraft movement forecasts for Queenstown Airport
(Source: Queenstown Airport Masterplan Options, August 2017)

The Masterplan options document also recognises the need for infrastructure growth in the district to help accommodate the level of growth expected, as shown below. The need for a regional Masterplan has been discussed in a briefing with QAC staff and should be investigated further in the Detailed Business Case.

DESTINATION INFRASTRUCTURE

- Current visitor and worker accommodation and transport issues need to be addressed.
- Regional infrastructure needs to keep pace with forecast population and visitor growth.
- A long-term master plan for the district is a critical success factor and needs to be developed in a collaborative way.

Figure 30: Snapshot of regional infrastructure requirements as noted by QAC in the Masterplan Options document
(Source: Queenstown Airport Masterplan Options, August 2017)

4.12.2 What this means for Transportation in the Queenstown Town Centre

Queenstown Airport is home to a large and dynamic rental car operation that is responding to growing demand form visitors. Whereas many international groups used to have a preference for coach travel around New Zealand, there has been a recent trend towards fly and drive holidays.

This has resulted in ***one third of arriving passengers using rental cars to explore the region***. Many of these visitors want to visit Queenstown town centre which potentially adds to congestion as traffic circulates and looks for parking. This has a negative effect on their experience and impression of the town centre and this may impact their flow on tourism activities across the region.

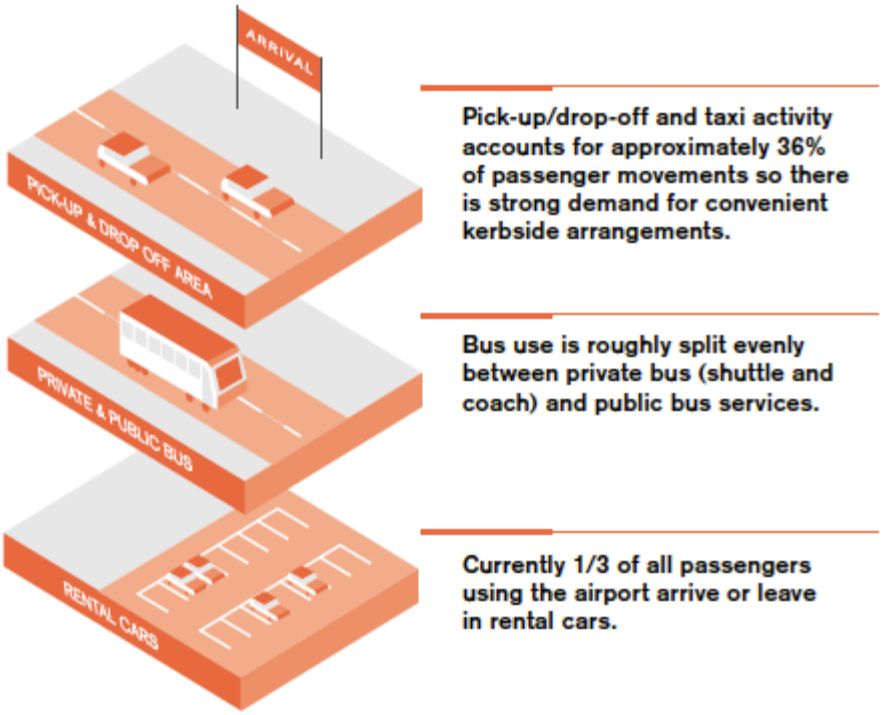


Figure 31: A snapshot of ground transport use for visitors at Queenstown Airport (Source: Queenstown Airport Masterplan Options, August 2017)

5 Business Scope and Key Service Requirements

5.1 Positive interventions

The Strategic Case for the Town Centre Arterials has shown that considerable change has occurred since the 2014 Indicative Business Case for Inner Links. Council and stakeholders see this Town Centre Arterials project not as a 'bypass route' but a catalyst for positive interventions, that improve liveability and visitor experience, while reducing car dominance in the Town Centre. These positive interventions could include the following:

- Realising Shotover Street as Queenstown's busiest high street with less pedestrian-traffic conflicts and promoting a more vibrant town centre.
- Reimagining Stanley Street with a gateway development in the crown/council site and creating the capacity for greater priority for passenger & public transport buses.
- Greater pedestrian and cyclist connectivity as the town extends and redevelops.
- Progressively removing traffic from the core to allow a calmer atmosphere for residents, shoppers, workers and visitors.
- Enabling key strategic development sites to offer a range of housing within easy walking distance to the town centre.

These positive interventions address more than just the pure transport objectives. This business case takes a wider more holistic perspective to the problem statements which were agreed at an Investment Logic Map workshop.

To tackle integration challenges and create a more unified vision for the town centre, QLDC has also embarked on a masterplan programme business case. This process aims to bring together all the transport business cases that are currently being worked on (Queenstown Integrated Transport, Arterials, Parking, Passenger and Public Transport, Wakatipu Bus Network review). These will be packaged into a spatial framework and a public realm framework and will underpin the masterplan.

5.2 Main Benefits

In meeting the Investment Objectives identified in Section 3.4 above, it is anticipated that the following key benefits will be realised:

Investment Objectives	Main Benefit Description	KPIs
Improved access to and through the town (45%)	• Reduced Town Centre congestion • Improved Travel Time Reliability • Easier access to and through the Town Centre via a range of transport choices. • Bus prioritisation and new public transport facilities. • Easier access to parking options on the fringes of town. • A new on-street public and passenger transport facility, flexible enough to provide for whatever the future might bring. • Better integration with cycle networks.	• KPI 1: Increased Mode Shift • KPI 2: Throughput • KPI 3: Spatial location of transport choices • KPI 4: Travel Time Reliability
Increased Economic Performance (35%)	• More opportunities for development within the Town Centre (on the fringes and Plan Change 50 site) to bring more diversity and boutique retail offerings. • Improved tourism operations and improved pedestrian connections along Shotover Street. • Better access for tourist operators providing passenger transport. • Better activation and use of the water front from Steamer Wharf along the Esplanade.	• KPI 1: Increased Gross Floor Area • KPI 2: Increased Town Centre job numbers
Improved liveability and visitor experience in the town centre (20%)	• Improved experience for pedestrians, including slower speed roads, shared spaces, and better connections to other areas of town. • Better activation and use of the water front from Steamer Wharf along the Esplanade. • Improved pedestrian connections between the waterfront, the town centre and the Mountain via the 'gardens to gondola" route	• KPI 1: Resident Liveability • KPI 2: Visitor Experience

5.2.1 Benefits Management Plan

The following Benefits Management Plan, developed in 2014 for the (then) Inner Links project, is still considered relevant in terms of KPIs and measures to monitor achievement / realisation of the benefits.

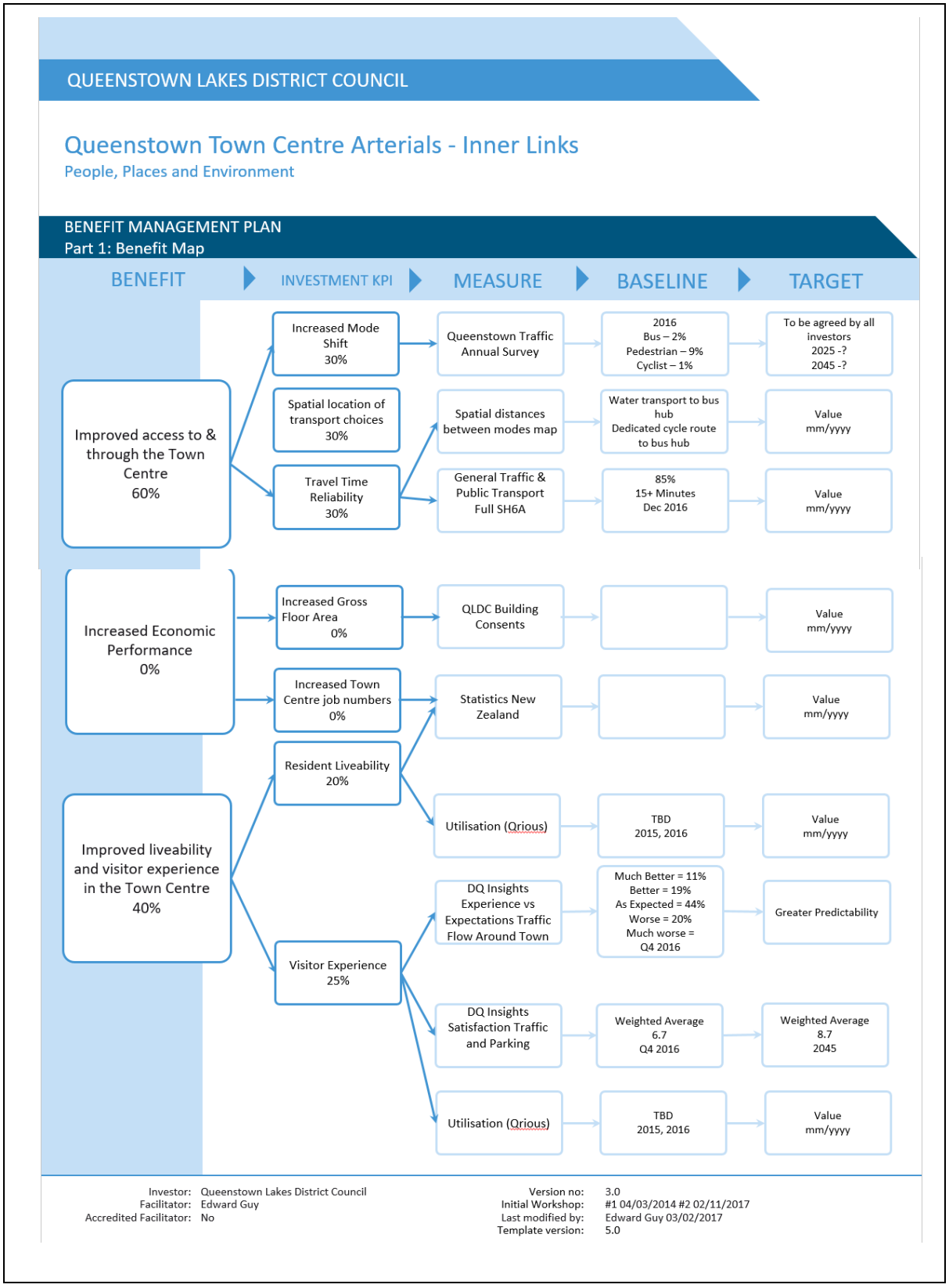


Figure 32: QLDC Arterials Benefits Management Plan

5.3 Risks

A workshop was held on 4 April 2017 with the wider project team to work through the major risks presented by the entire Masterplan Programme. This workshop produced an agreed risk assessment that will transfer into each project's risk management and forms part of the ongoing reporting for the Masterplan programme (shown below). This risk register has been updated each month and the most current version is shown in Appendix 10, as related to the Arterials Route.

Key risks identified in relation to the Arterials at this stage include:

Risk	Risk rating	Discussion
Arterials project does not meet stakeholder expectations	L	Ongoing consultation and engagement will reduce this risk.
Funding	H	Funding has not been secured to date.
Designation / consents	H	Designation / consent process yet to commence. Ongoing stakeholder and public engagement will reduce this risk.
Impact on Business Community	L	Project has been integrated with other town centre projects to maximise business potential, providing improved access and use of space.

5.4 Potential Constraints and Dependencies

Potential key economic, social, environmental, transport, stakeholder and other issues and constraints that could affect the scope of the project outcomes and outputs, should be considered as part of the business case.

For Queenstown, the following constraints and dependencies could potentially affect the Queenstown Town Centre Arterials Business Case:

Constraint	Discussion in relation to Arterials
Approval to proceed with other related business cases	Current approach is an integration of business cases under the umbrella of the masterplan using a place-based spatial framework to give each programme context and help coordinate and evaluate the interventions proposed across arterials, parking, public realm and public and passenger transport facilities. Approval of each individual business case will consequently impact on others.
The outcomes of the QITPBC	This business case must be informed by the overarching 'wider' business cases being developed. Programmes of works / projects should not be in conflict.
The impact of land-use changes through the Proposed District Plan.	District Plan currently under review; need to be aware of likely land use changes to enable appropriate service provisions to be developed.
The impact of major new development, tourist attractions, accommodation, etc.	Will have an impact on the service provisions required.
Cost and consequent funding approval	Investment needed to allow programmes to proceed.

6 Stakeholders

6.1 Project Stakeholders – Communication and Engagement

Given the scope of the Queenstown Masterplan project, a wide range of stakeholders and investment partners have been engaged formally since January 2017. The project team has sought to proactively engage with these individuals and groups at key times to test and challenge the project options for future development of the town centre, including potential parking changes.

A full database was created and will be further populated as people and groups register an interest in the project.

A stakeholder matrix that assesses the partner investors, external stakeholders and government ministers has been created for the Town Centre Arterials as a tool to inform engagement during the future stages of the business case.

Figure 33: Town Centre Arterials Stakeholder Matrix

This stakeholder matrix is also supported by a project governance structure that ensures engagements and relationships are managed through constant sharing of learnings and through the best mix of informal and informal engagements that leverage new and existing relationships.

6.2 Advisory Group

An independent Advisory Group has been set up to challenge thinking as the Queenstown Town Centre Masterplan is developed.

This group of highly skilled people bring local and national perspective to a challenging project.

Collectively the Advisory Group have a strong interest in the future of the Queenstown and enhancing the vibrancy of the town centre. They bring a diverse range of experience to the table in areas such as urban design, tourism, transportation, place making, environmental, community and commercial.

The group meets monthly, providing impartial advice to help guide the Masterplan programme, and assurance that what's being proposed will meet the needs of our partners, stakeholders and wider community.

6.3 Professional Engagement

QLDC has procured a suite of design technical resources through a single open tender engagement process to assist with implementing the new vision for the Queenstown Town Centre and to provide integrated design solutions for the various current town centre projects. Professional design and engineering inputs are required to prepare a spatial framework and concept/preliminary designs for the costs of the following projects to be quantified:

- Town Centre Arterials
- Town Centre Parking
- Public and Passenger Transport Facilities
- One QLDC Queenstown Office
- Queenstown Town Centre Spatial Framework & Design Guidelines

These five projects, all being developed using the Better Business Case and NZTA Business Case frameworks will feed into the new Town Centre Masterplan which will all form the basis for future funding applications in October 2017, including the Otago-Southland Regional Land Transport Plan (RLTP), National Transport Plan (NLTP) and the QLDC's Long Term Plan (2018-2028).

6.4 Engagement & Consultation

6.4.1 Engagement and Consultation to Date

Engagement activities have played a big role in informing the development of the ILM for the Town Centre Masterplan and the related transport business cases (Town Centre Arterials, Parking and Public and Passenger Transport Facilities) and the ensuing options assessment. A significant emphasis has been placed on engaging early and building ownership in the solutions ahead of sharing proposed options with a wider audience for feedback and refinement. A snapshot of engagement activities to date includes:

- Local information stands.
- Introductions to Council staff and businesses.
- A public online survey.
- Stakeholders Options Workshops (Apr 2017).
- Findings and Testing Workshops (May 2017).
- Weekly Downtown QT meeting.
- Advisory Group – briefings and workshops to confirm ILM and support the selection of preferred options.

6.4.2 Engagement Around Options

Stakeholder and community engagement around the Queenstown Town Centre Masterplan preferred options took place in July 2017, which provided valuable feedback for both the Masterplan and the related transport business cases. The feedback is summarised in the 'evidence' section (Section 4) and has informed potential enhancements to the options, while providing a more detailed view of any public or political risks that may affect the projects in their later stages.

Engagement Method	Details
QLDC Website	• All options and visuals are available on the website • Online interactive maps, where possible. • Full information portal • Online feedback form
Place-based engagement opportunities:	Utilised a range of ways to take the detail to the people. Options for discussion /agreement. • Drop in display area (Council office/memorial centre/arts centre • Attended Creative Queenstown Arts Market Including displays, interactive activities, handouts and ipads to make a submission. • Community BBQ / free coffee cart at Village Green. • Walking Tours for key stakeholders, led by QLDC. • Pop up engagement activities at various locations (including Frankton / Arrowtown etc)
Public Displays	• On site signage showing project options in the relevant town centre locations – call to action to provide feedback online • Queenstown and Arrowtown Library • Queenstown Events Centre • Gorge Road and Shotover Street Council office
Media	Media Advisories sent at key milestones. • Announcing community engagement sessions • Invite local journo to do a walkaround once shortlist of options available. • Engage with LWB tv to discuss possible video contribution/story. • Announcing any interim changes – always tying into the bigger picture.
Develop supporting material	• Infographics to help with understanding the process • Options flyers / posters • 3D modelling / physical models etc.
Display and Radio Advertising	Extensive advertising campaign print/online/radio.
Social media	• Continue to build social media community. • Use Facebook advertising to boost post reach – getting more of our posts onto more newsfeeds.
Scuttlebutt or consultation document	Cover and 6-8 pages showcasing options If the timing doesn't work for scuttlebutt, produce a standalone consultation document.
Internal comms	• Staff presentation / workshop on options • Team talk articles • Intranet/Family Hub posts
Elected member updates	• Include updated presentation/clinic/workshop sessions from the programme
Radio Interviews	Seek radio interviews throughout the engagement period to broaden community reach.
Interviews / surveys with key stakeholders	One-on-one interviews with interested parties. Promote the opportunity directly to relevant stakeholders. Interviews to be conducted by **Project leads,** supported by **the wider group of tier 3 managers** and other interested staff.

PART 2 – DEVELOPING THE OPTIONS

7 Alternatives and Options Assessment

7.1 Masterplan

The planning undertaken to develop the overall Masterplan project recognises the need to take a different and more informed stance to the interventions that have occurred in the past. Previous efforts in this area have experienced limited success due to the lack of integration with other programmes (such as Public Transport and Road Management changes) and the use and leverage of a spatial framework to guide each programme and its interface with the public realm.

Throughout the Queenstown Masterplan programme, the user experience has been prioritised through achieving a mix of congestion reduction, network efficiency, improved public realm, town centre enhancement and provision of adequate supply. This approach enables fresh thinking around how demand, supply and mode choices can be managed to deliver a better result for the Town Centre.

7.2 History of the Arterials Optioning

As noted previously, Inner Links has been identified since 2005 as part of an overall solution to improve the Queenstown transportation network.

7.2.1 Inner Queenstown Transportation Study – Final Scoping Report (MWH 2008)

This 2008 MWH report was the first to develop specific options for Inner Links.

The study recognised the issue of Stanley Street and Shotover Street being both arterial streets and part of the town centre street network.

- *An **arterial** street generally has the purpose of a **through-road.***
- *A **town centre street** would generally provide access **to the town centre.***

The study included several short, medium and long term works along the proposed Inner Links route with works in the Melbourne/Henry corridor and Henry Street to Man Street connection identified for construction before 2017.

The report considered both longlist and shortlist options.

Longlist options referred to in the 2008 MWH report were considered briefly as part of this strategic case to determine if conclusions on suitability are still valid:

2008 Longlist Options (MWH Report)	2016 Status
An alternative route via Melbourne Street, Henry Street, Man Street and Thompson Street.	This is effectively the proposed Inner Links route. Scheme Assessment / IBC completed in 2014 (led by AECOM).
An alternative route via Hallenstein Street, possibly with a new link between Dublin Street and Panorama Terrace.	This route was previously discarded as it is predominantly residential and very narrow in places.
A tunnel under Queenstown Bay connecting Frankton Road to the One Mile Roundabout.	Discarded in 2008 because of very high construction costs, major construction issues and major environmental issues.

The Inner Links alternative route via Melbourne Street, Henry Street, Man Street and Thompson Street was addressed in detail in the scoping report with various sub-options considered as part of the shortlist optioning exercise.

Recommendations in the MWH 2008 report were:

- Scheme assessment for:

- Melbourne Street to Henry Street section (referred to in 2014 IBC as Stage 1).
- Man Street and Thompson Street including the Thompson Street to One Mile Link (referred to as Stage 3 in the 2014 IBC)

- Town centre strategy to be developed
- Land use – protection of proposed corridor for roading and assessment of plan changes / consents
- Staging – approval of short, medium and long-term recommendations and provide for in the LTCCP
- Walking and Cycling – relevant strategies to be considered/implemented through options development

7.3 The Option Development Process

7.3.1 General

Building on the work completed to establish the ILM, Rationale and Beca worked with project stakeholders to guide the development of longlist options.

The diagram included in Appendix 3 demonstrates the 'collaborative business case development process' that has been used in the analysis of the long and short list options to determine the preferred option/s. for each business case.

Logical works programmes were assigned a level of ambition (from least to most), with the merits of each programme assessed using a detailed Multi Criteria Analysis (MCA).

The strategic options have been discussed at length with a range of stakeholder groups to ensure they represent the right options and support interventions to address the agreed problems.

7.3.2 Overall Design Objectives

As a group, the key stakeholders have identified the following overall design objectives for the town centre arterials[7]

- allow local and through traffic to avoid the existing heart of the Town Centre
- improve access to the town centre, community facilities and parking
- function as a 'bypass' and/or 'arterial' route, but is designed as a new urban street and not an expressway
- support public transport, walking and cycling to and through the town centre
- reduce traffic volumes within the heart/core of the city
- introduce traffic calming and amenity to Stanley and Shotover Streets
- increase priority and connectivity for pedestrians and cyclists
- improve the urban environment through appropriate street edges, built form and activation/land use
- enhance the quality of the visitor experience through design, amenity, legibility and wayfinding

These objectives will allow the town centre to grow.

7.4 Long List Option Assessment - Arterials

7.4.1 Development of Longlist Options

Using the strategic context provided by the relevant plans and priorities (see section 2), and the body of supporting evidence, a set of workshops was used to develop a long list of programme options that could address the agreed problems. Many options had been tabled in discussions over several years and with the investment objectives in mind, a collaborative approach was used to table all the possible interventions before developing a set of longlist programmes for the project team and stakeholder groups to discuss and refine.

[7] *Ref: Queenstown Masterplan – Queenstown Arterials Preliminary Design Report, Beca, September 2017*

20 options were developed (including the status quo and do-minimum), demonstrating the breadth of considerations created by Rationale and Beca in partnership with the project stakeholders.

In keeping with the NZTA business case option development approach, a Multi-Criteria Analysis (MCA) was undertaken to evaluate each of the Long-List options against Critical Success Factors and Investment Objectives to determine a shortlist of options to be taken through to the detailed analysis stage. The full MCA assessment for the longlist options is attached as Appendix 5.

7.4.2 Critical Success Factors (CSFs)

Each option was assessed against the **Critical Success Factors** (CSFs):

Strategic fit and business needs	How well the option meets Investment Objectives, related business needs and service requirements and integrates with other strategies, programmes and projects
Assessment of Environmental Effects (AEE)	To what extent the option impacts on several environmental criteria such as Construction Impacts, Safety, Heritage, Cultural, Urban Design, Landscape, Natural environment, Social, Human Health, Property, Transport System Integration and Economy – can be positive or negative effects.
Potential Value for Money	How well the project can optimise value for money (optimal mix of potential benefits, costs and risks)
Supplier capacity and capability	How well the option matches the ability of potential suppliers to deliver the required services and is likely to result in sustainable arrangements that optimises value for money
Potential affordability	How well the option can be met from likely available funding and matches funding constraints
Potential achievability	How well the option is likely to be delivered given the organisation's ability to respond to change required and matches the level of available skills required for successfully delivery.

QLDC engaged Beca to undertake an AEE to inform the decision making around the Arterials. This assessment applied the following methodology.

Having regard to the context and need to consider all potential effects of the options, Beca has assessed the effects against the following criteria:

- Construction Impacts
- Safety
- Heritage
- Cultural
- Urban Design
- Landscape
- Natural environment
- Social
- Human Health
- Property
- Transport System Integration
- Economy

Beca has used the criteria described above to assess each of the options. Each option has been given a score from + 3 to – 3 using the following from the draft guidance: To accompany each score is a brief explanation, which provides rationale for the score.

Effects criteria	Scoring (score after mitigation)
Significant adverse effect	-3
Moderate / major adverse effect	-2
Minor adverse effect	-1
Neutral / no change	0
Minor positive effect	1
Moderate / major positive effect	2
Significant positive effect	3

The draft assessment of effects was presented to staff from QLDC at a workshop. The purpose of the workshop was twofold:

1. To enable staff from Council to have input to the assessment and to have a sense of ownership of the document that they will take up to Council as part of the IBCs for approval; and
2. To test Beca's assessment with the project team and subject matter experts in Council.

A full Assessment of Effects for each of the longlist options is included as Appendix 11, prepared by Beca November 2017 with the results fed into the longlist MCA.

With regards to the Arterials assessment, the following high-level observations apply:

- The best option rating was option 16 - Melbourne Street/Frankton Road Intersection to One Mile via Private Land.
- Only slight less was option 17 - Combined Shotover Street and Stanley Street Preferred Arterial Replacement Options Melbourne Street/Frankton Road Intersection to One Mile via QLDC Site.
- Options 9 (New Man Street/Thompson Street/Isle Street Arterial – One Mile to Memorial Street/Robins Road) and 10 (Outer Boundary Arterial) indicated significant adverse effects in construction impacts and moderate/major adverse effects in urban design and property impacts.

The ratings applied in this spreadsheet informed the wider discussion and comparison of options through the treasury MCA tools used for this project. This assessment will be built upon during the Detailed Business Case, as shortlisted options are retested, and consenting applications are developed where required.

7.4.3 Assessment of Options

This long list was tested with the Town Centre Advisory Group and then with Queenstown Lakes District Mayor and Councillors.

The agreed longlist is shown in the table below with a full description and drawings of all options included in the Queenstown Masterplan -Queenstown Arterials Preliminary Design Report – Beca, September 2017, (Appendix 4).

No.	Programme name	Description	Discussion	Overall Assessment
DO NOTHING				
1	Status Quo – Do Nothing	No Investment	This option does not meet the investment objectives. Continued congestion would lead to continued decrease in satisfaction and visitor experience and Queenstown growth would be constrained.	Continue for VfM

No.	Programme name	Description	Discussion	Overall Assessment
DEMAND MANAGEMENT				
2	Do-Minimum - Travel Demand Management	Modal Shift Improvements - Improved Bus Service, Upgraded Camp Street Bus Station, on and off-street Parking Changes, Reduction of On Street All Day Parking close to the Town Centre	This option would partially address town centre access and mode shift but would be unlikely to encourage economic growth. This option does not fully demonstrate strategic fit with only short-term improvements in congestion relief.	Possible
3	Arterial Relief	Hallenstein Street Traffic Flow Improvements - Better accommodate traffic between Frankton Road and Gorge Road - No down grade of Stanley Street between Ballarat Street and Shotover Street.	This option will not improve liveability and visitor experience with continued congestion. It will provide short term relief for Stanley Street only. There is consequently no strategic fit.	Discount
4	Minor Arterial Upgrade	Arterial diverted to Duke Street and Memorial Street with Hallenstein Street upgrade to improve traffic flow to better accommodate traffic between Frankton Road and Gorge Road - Shotover Street between Rees Street and Stanley Street modified to a Shared Space (Greater pedestrianisation with vehicle speeds and capacity significantly reduced) and no down grade of Stanley Street between Ballarat Street and Shotover Street	This option will not improve liveability and visitor experience with continued congestion. It is also unlikely to encourage economic performance. It bypasses only a small section of Shotover Street. There is no strategic fit and value for money cannot be demonstrated.	Discount
5	Cordon Charging	Smarter Road Pricing to support modal shift	There is no strategic fit	Discount

No.	Programme name	Description	Discussion	Overall Assessment
REPLACEMENT OF SHOTOVER STREET – STAGE 3				
6	Shotover Street Arterial Support - Man St/Shotover St One-way Pair	New arterial using Memorial, Man and Thompson Streets with a one-way connection to One Mile roundabout with Shotover Street one-way between Beach Street and Stanley Street to allow narrowed to provide wider footpaths. Lake Esplanade traffic calmed to reduce traffic speeds.	One-way traffic will partially address access through the town but continued congestion will not address liveability / visitor experience or encourage economic performance. Value for money cannot be demonstrated.	Discount
7	Shotover Street Arterial Replacement Option 1 - New Man Street / Thompson Street Arterial link	New arterial using Memorial, Man and Thompson Streets with connection to One Mile Roundabout - Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced). Lake Esplanade traffic calmed to reduce traffic speeds	This option demonstrates realisation of all investment objectives and partially or fully meets the CSFs.	Preferred
8	Shotover Street Arterial Replacement Option 2- Isle Street Arterial - One Mile to Memorial Street	New arterial using Memorial, Man and Thompson Streets with connection to One Mile Roundabout - Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced). Lake Esplanade traffic calmed to reduce traffic speeds.	No strategic fit	Discount
9	Shotover Street Arterial Replacement Option 3 - New Man Street / Thompson Street/Isle Street Arterial - One Mile to Memorial Street/Robins Road	New arterial from Memorial Street to One Mile Roundabout using Man and Thompson Streets and Isle Street and Robins Road - Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced) Lake Esplanade traffic calmed to reduce traffic speeds	No strategic fit	Discount
10	Shotover Street Arterial Replacement Option 4 - Outer Boundary Arterial	New arterial aligned to the back of Lakeview Subdivision (PC50) at the base of Mt Ben Lomond with connection from Memorial Street to One Mile Roundabout, intersecting with Robins Road - Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced) Lake Esplanade traffic calmed to reduce traffic speeds.	This option will not allow improved access and does not achieve the CSFs of affordability and achievability.	Discount

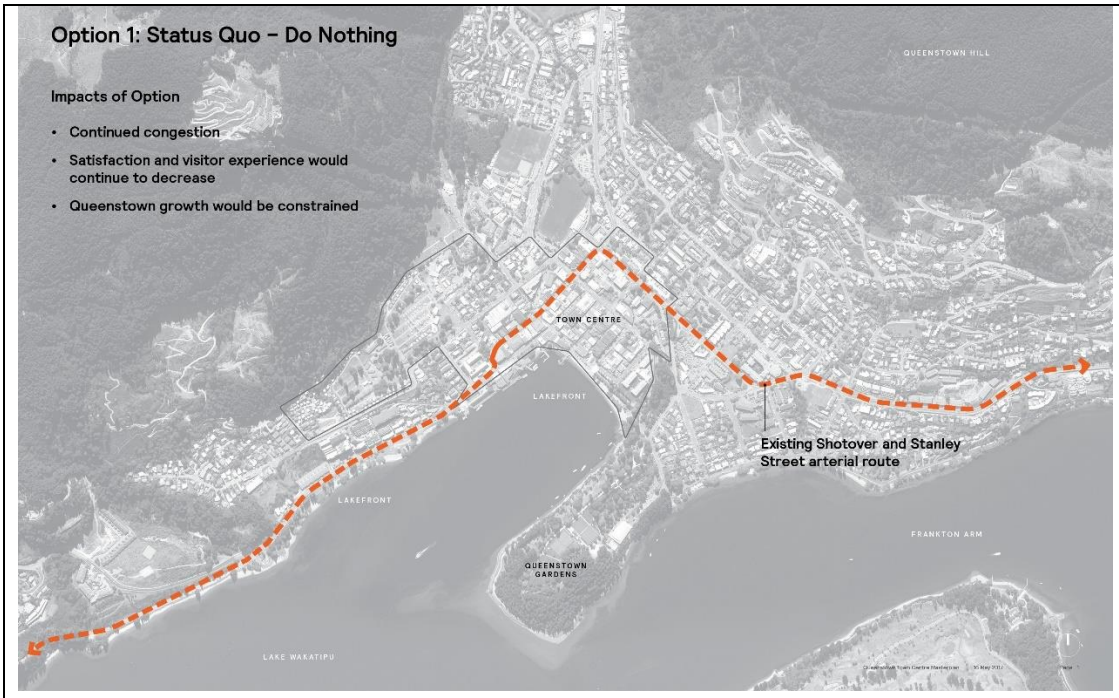
No.	Programme name	Description	Discussion	Overall Assessment
REPLACEMENT OF STANLEY STREET – STAGE 1				
11	Stanley Street Arterial Replacement Option 1 - Ballarat Car Park/Henry Street	Arterial diverted through the Ballarat Street carpark to Henry Street. New Traffic Signal controlled intersection at Stanley Street/Arterial Link and Henry Street/Gorge Road - Stanley Street downgraded between Ballarat Street and Shotover Street	This option will only partially meet the investment objectives	Discount
12	Stanley Street Arterial Replacement Option 2 - Coronation Dr/Henry St	New arterial using the Coronation Drive and Henry Street alignment through the Ballarat Street carpark. New Traffic Signal controlled intersection at Coronation Drive/Stanley Street/Arterial Link and Henry Street/Gorge Road - Stanley Street downgraded between Ballarat Street and Shotover Street	This option will only partially meet the investment objectives and does not demonstrate value for money	Discount
13	Stanley Street Arterial Support Option 3 - Melbourne St/Stanley St One-way Pair	New arterial Melbourne Street, Henry Street one-way between Beetham Street and Gorge Road with Stanley Street one-way between Shotover Street and Ballarat Street to support wider footpaths and narrow the carriageway	Does not meet the investment objectives for liveability or improved economic performance	Discount
14	Stanley Street Arterial Replacement Option 4 - Melbourne St/Henry St	New arterial using the alignment Melbourne Street to Henry Street. New Traffic Signal controlled intersection at Melbourne Street/Frankton Road and Henry Street/Gorge Road - Stanley Street downgraded between Ballarat Street and Shotover Street.	This option would allow for the town centre to expand, will provide for the downgrading of Stanley Street and will better provide for public transport facilities.	Preferred

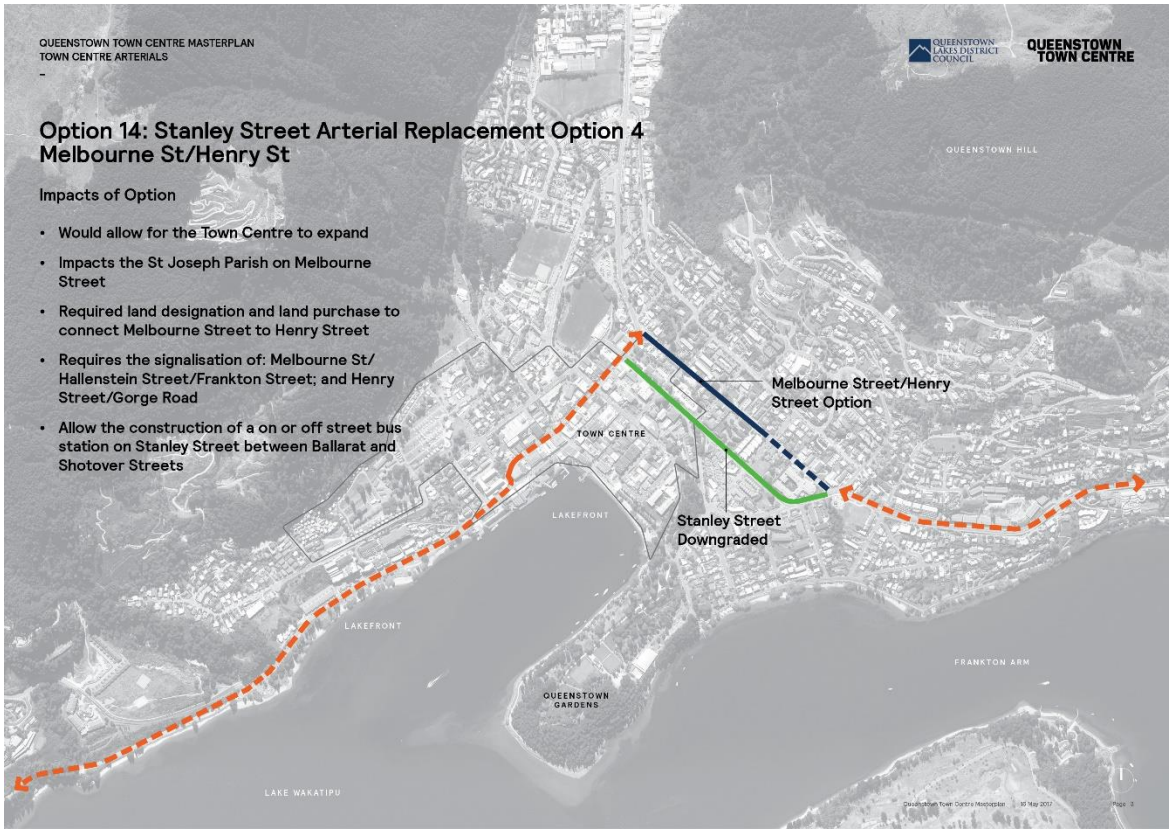
No.	Programme name	Description	Discussion	Overall Assessment
INTERSECTION HENRY STREET & MEMORIAL LINK WITH GORGE ROAD -STAGE 2				
15	Combined Shotover Street and Stanley Street Preferred Arterial Replacement options	New arterial to replace Shotover Street and Stanley Street. This will allow Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced), Stanley Street downgraded between Ballarat Street and Shotover Street.	A less ambitious option than Option 14 but allows for Shotover and Stanley Streets to be upgraded to a shared space	Possible
16	Combined Shotover Street and Stanley Street Preferred Arterial Replacement options - Melbourne St/Frankton Road intersection to One Mile Via QLDC Site	New arterial to replace Shotover Street and Stanley Street via QLDC Site. This will allow Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced), Stanley Street downgraded between Ballarat Street and Shotover Street and Gorge Road between Stanley Street and Henry Street, and Memorial Street between Shotover Street and Templeton Way to be closed.	This option will meet all investment objectives and at least partially all CSFs (but less than option 17)	Possible
17	Combined Shotover Street and Stanley Street Preferred Arterial Replacement options - Melbourne St/Frankton Road intersection to One Mile Via Private Land	New arterial to replace Shotover Street and Stanley Street via Private Land. This will allow Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (greater pedestrianisation with vehicle speeds and capacity significantly reduced), Stanley Street downgraded between Ballarat Street and Shotover Street between Stanley Street and Henry Street, and Memorial Street between Shotover Street and Templeton Way to be closed	This option will meet all investment objectives It will address congestion and allows Shotover Street to be upgraded to a shared space with Stanley Street upgraded to a shared space with provision for public transport facilities.	Preferred

No.	Programme name	Description	Discussion	Overall Assessment
ARTERIAL OPTIONS (COMBINATIONS)				
18	Stanley Street Arterial Replacement Only - Melbourne St/Henry St ***STAGE 1***	New arterial using the alignment Melbourne Street to Henry Street. New Traffic Signal controlled intersection at Melbourne Street/Frankton Road and Henry Street/Gorge Road - Stanley Street downgraded between Ballarat Street and Shotover Street. Shotover Street would remain the arterial connection to One Mile with capacity improvements at Camp St and Rees St intersections	Access and liveability investment objectives will not be met. No strategic fit	Discount
19	Stanley Street Arterial Replacement Only - Melbourne St to Man St ***STAGE 1 & 2***	New arterial using the alignment Melbourne Street to Man Street. New Traffic Signal controlled intersection at Melbourne Street/Frankton Road, Henry Street/Gorge Road and Man Street/Camp Street - Stanley Street downgraded between Ballarat Street and Shotover Street. Shotover Street would remain the arterial connection to One Mile with capacity improvements at Camp St and Rees St intersections. PC 50/ Lakeview and off-street parking would be better connected to Arterials.	Investment objectives will be fully or partially met as will CSFs. Option 21 better delivers on investment objectives, fully meeting all.	Possible
20	Shotover Arterial Replacement Only - New Man Street / Thompson Street Arterial link ***STAGE 3***	New arterial using Memorial, Man and Thompson Streets with connection to One Mile Roundabout - Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced). Lake Esplanade traffic calmed to reduce traffic speeds. Stanley Street would remain as an arterial connection to Frankton Road.	None of the investment objectives would be met if this option were implemented. No strategic fit.	Discount
21	Combined Shotover Street and Stanley Street Arterial Replacement ***STAGE 1,2 & 3***	New arterial to replace Shotover Street and Stanley Street. This will allow Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (greater pedestrianisation with vehicle speeds and capacity significantly reduced), Stanley Street downgraded between Ballarat Street and Shotover Street	Most favoured options in terms of meeting all investment objectives and all CSFs (potential value for money and AEE partial)	Preferred

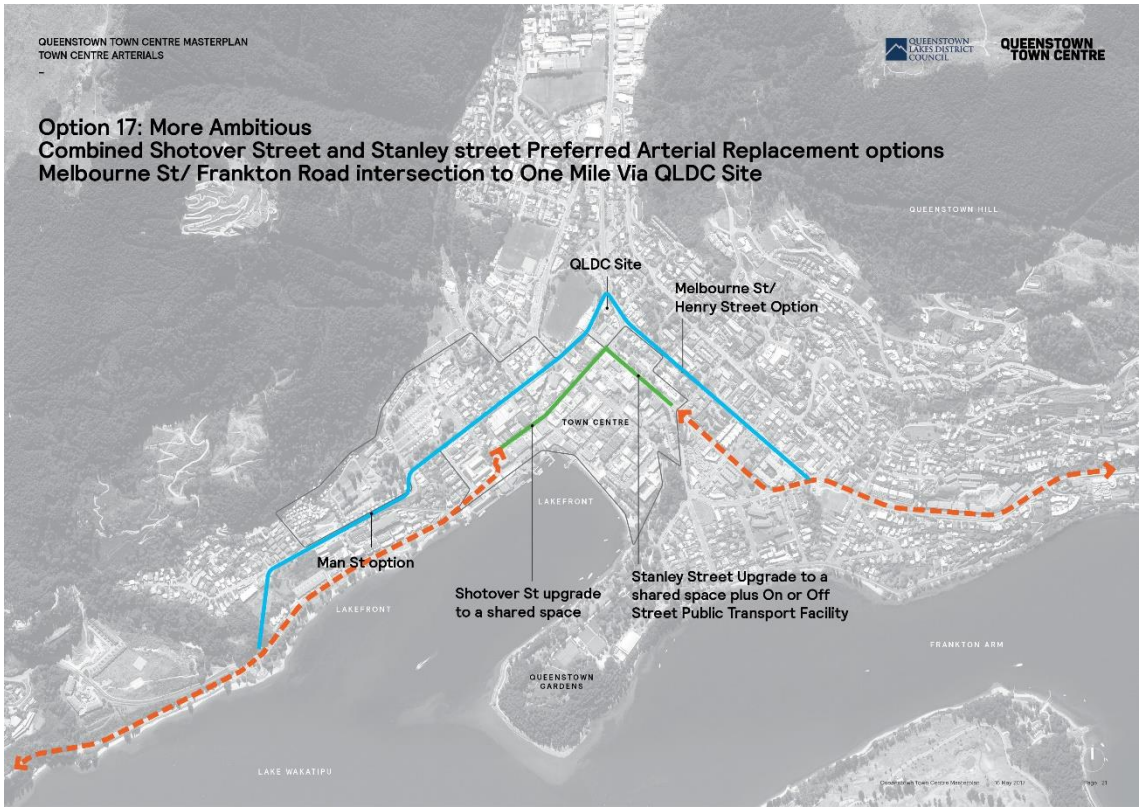
7.5 Preferred Way Forward

The drawings below outline the preferred way forward for arterials following the longlist assessments:






QUEENSTOWN TOWN CENTRE MASTERPLAN
TOWN CENTRE ARTERIALS
-
QUEENSTOWN LAKES DISTRICT COUNCIL
QUEENSTOWN TOWN CENTRE
Option 7: Shotover Street Arterial Replacement Option 1
New Man Street / Thompson Street Arterial link
Impacts of Option
• Requires connection from One Mile to Thompson St
• Requires additional land from PC50 to accommodate arterial configuration through S-curves
• Requires widening of Thompson Street
• Signalisation of Man St and Brecon St; and Man St and Camp St
• Upgrade to Shotover Street/Stanley Street/ Memorial Street Intersection
Shotover St changed to a low speed environment with a focus on pedestrians
Man St option
QUEENSTOWN HILL
TOWN CENTRE
LAKEFRONT
LAKEFRONT
FRANKTON ARM
QUEENSTOWN GARDENS
LAKE WAKATIPU



7.6 Man Street to Henry Street Connection

Due to its complexity, the Stage 2 options for connecting Stage 1 (Melbourne Street to Henry Street) with Stage 3 (Man Street to One Mile Roundabout) were further assessed through an MCA process (refer Appendix 7).

From the longlist, outlined below, the shortlist options were identified through assessment against the Investment Objectives.

The shortlisted options (shaded below) were then assessed against estimated costs, business needs, risks and dis-benefits.

Activity	Description	Discussion	Overall Ranking
1	Do Nothing		-
2	Upgrade of the existing network	Using existing streets with improvements	-
3	Utilise Boundary Street		-
4	Sweeping Curve Options - Retain Council Office and Memorial Hall	New arterial route from Melbourne Street to Henry Street, establishes a new road alignment between Camp Street and Gorge Road and a new signalised intersection	4
4.1	Sweeping Curve Options - Remove Council Office & Memorial Hall		2

Activity	Description	Discussion	Overall Ranking
4.2	Sweeping Curve Options - Retain the Council Office, Remove the Memorial Centre		1 Preferred option
5	Continuation of Grid System - Memorial St to Gorge Road - Retain the Council Office, Remove the Memorial Centre	New arterial route from Memorial Street to Henry Street – follows alignment of the existing paper road between Camp Street and Gorge Street. Requites removal of Memorial Hall but retains QLDC building	5
6	Continuation of Grid System - Memorial St to Gorge Road – Remove the Council Office, Retain the Memorial Centre	New arterial route from Memorial Street to Henry Street. Retains Memorial Hall and relocates library.	3
7	Continuation of Grid System - Memorial St to Gorge Road - Remove both the Council Office and the Memorial Centre	New arterial route from memorial Hall to Henry Street. Relocates both Memorial Hall and the library. Signalised intersections at Memorial / Gorge and Stanley / Henry	6
8	Overpass		-
9	Tunnel		-

7.7 Thompson Street Link (Stage 3)

QLDC has recently undertaken further design and options analysis to better understand the best alignment and connection configuration for the third stage of the arterial route between Thompson Street and One Mile intersection.

While stages 1 and 2 had been informed by previous design work (the 2014 Aecom design), the stage 3 alignment had not yet been properly investigated. For this reason, a nominal alignment had been included and a P95 cost estimate was created for this section, given the level of risk and uncertainty still present.

Through recent workshops and design work completed by Beca and Rationale, a new preferred option was selected that stands to provide stronger benefits and significantly reduced construction and operational costs. This option was developed and evaluated alongside a wide range of alternatives through a longlist and multiple multi-criteria analysis tools (refer Appendix 13).

The cost estimate for this section of the arterials has recently been revised to $47.7 million, which is roughly $50 million less than the previous estimate.

As shown below, this new option (3B) introduces a new roundabout to provide better driving legibility, improve safety and operations, while catering for growth and improving land use outcomes.

The preferred option (3B) is shown below:

The table below outlines the justification for the MCA scores attributed to the preferred option 3B:

Criteria	Score	Rationale
Business Needs		
Limited Severance – Better Connection	M	Provides a direct connection through to Glenorchy, good access to Fernhill, manages the flow well and can be well signposted. Only severance issue is if pedestrians and cyclists must negotiate roundabout to get into Lake Esplanade if underpass is not included.
Enhanced Public Spaces	M	The opportunity to better develop the public/green space alongside the lake. Opens up space for carparking accessed off Lake Esplanade.
Urban Design Outcomes	H	An improved gateway into the town centre with a good view to the water.
Meeting NZTA/Ausroads standards	H	Meets QLDC and Austroads standards. The roundabout has good capacity for the future, much bigger than existing, about the same size as the BP roundabout. Gradient up the hill is only 10% for a short section.

Legibility/Driveability of the street network	H	Improved driveability that encourages traffic to intuitively move around the town centre on the new arterial alignment, as oppose to going into the town centre via Lake Esplanade.
Pedestrian Capacity – Walking and Cycling connectivity	M	Could connect into the existing Fernhill walking track and connect across using a pedestrian walkway underpass. This means if you are coming from Fernhill you could cross without going through the roundabout intersection.
Community Acceptance	H	High community acceptance due to appearing at this stage to not impinge on anyone's access, allows for growth, improves Fernhill Road safety issue and delivers a better land use optimisation.
Risks		
Technical	H	All high risk technically. Raises Lake Esplanade out of flood zone.
Operations (Network)	M	High maintenance costs due to de-icing over winter months. Would not be a much as options 3 and 3A though.
Financial	M	Rates well as there is no large bridging required. From a cost perspective, all '3' options should be medium without the extensive retaining walls required for other options.
Stakeholders/Public	L	Community would be happy as this option is intuitive, Queenstown context and does not leave a large visual impact. Roundabout is large enough to allow for additional traffic growth so thereby futureproofing for future generations.
Environment	H	Sensitivity around the watercourse and improvements to still encourage people to utilise the tracks.
Safety (Network)	L	Improves Fernhill Road access. Would need to consider road treatment on Lake Esplanade to slow traffic and parking considerations.
Economy	L	The opportunity to develop a new section of residential zoned land (currently D.O.C reserve), further offsetting the construction cost if able to claim development contributions. Improved gateway treatments & waymarking signage would need to encourage traffic to utilise Stage 3 connection to off-street carpark facilities.
Accessibility & Social Inclusion	M	Accessibility and social inclusion is improved especially for public transport users as this option provides the efficient route for Fernhill & town centre users (as buses turn around at Fernhill).

7.8 Shortlisted Options - Arterial

7.8.1 Outline

From the longlist, the following shortlist options were identified:

Option 1: Status Quo

Option 2: Stage 1 and 2 only

Option 3: Stage 1 and 3 only

Option 4: Stage 1, 2 and 3

Option 5: Option 4 but with stage 3 delayed

7.8.2 Assessment of Shortlist Options

The MCA evaluation process (refer Appendix 6) allowed the project team to refine the options from a long list of 21 to a shortlist of five including the status-quo and do-minimum options.

The MCA demonstrates the balance of factors that are considered to demonstrate that the selected options deliver against the investment objectives and critical success factors, provides a value for money solution and is affordable.

NZTA's 'Multi-Criteria Analysis for Transport Business Cases – Guidance Document' was used to undertake a detailed analysis of these options to, in turn, provide a preferred solution.

7.8.3 Outline Findings of Assessment

Status Quo

The status quo was included as a baseline but has been discounted on the basis of not meeting any of the investment objectives.

Implementability

All shortlisted options, other than the status quo, scored the same for technical, consentability and safety / design criteria. All options would require the same consent process with the same issues, design technicality and all would be designed to the same safety and design standards.

Operations for Option 2 would be less than Options 3, 4 and 5 with only Stanley Street relief.

The short list option 4 and option 5 carry the highest estimated costs to construct but they best meet customer and stakeholder expectations. Staging for Option 5 will have a slight negative effect on meeting those expectations with the delay in Stage 3 (Shotover Street relief)

Assessment of Effects

Other than the Status Quo which showed negative effects attributable to continued worsening congestion, safety incidents and levels of service. All options showed positive effects overall.

The full assessment for the short-listed options is included in Appendix 6. The table below shows a summary of the analysis.

	Option 1 Status Quo	Option 2 Do-Minimum Stanley Street Relief Demand Management	Option 3 Less Ambitious Stanley Street Relief Shotover Street Relief Demand Management No link	Option 4 Intermediate Stanley Street Relief Shotover Street Relief Demand Management Arterial Link	Option 5 Option 4 but staged
Cost Estimate	-	$113m	$114m	$139m	$139m
Delivery on Investment Objectives	Does not meet with any investment objectives	Unlikely to meet the liveability and visitor experience investment objectives as benefits limited.	Meets all investment objectives but not to the same extent as Options 4 and 5	Best meets all investment objectives	Meets all investment objectives but less well for liveability and economic performance than Option 4 due to the delay for Stage 3
Implementability	n/a	This is the least costly option but will only partially meet customer and stakeholder expectations	With no link, this option will not meet customer / stakeholder expectations.	This option is likely to best meet customer / stakeholder expectations. It is the most expensive option but the wider benefits are significant.	The same cost estimate range as Option 4 but staged with benefits consequently staged which will have a negative effect on meeting customer and stakeholder expectations.
Assessment of Effects on the Environment	Overall, effects will worsen as congestion continues to increase and alternative modes are not actively encouraged	Overall the effects on the environment are slightly improved with Stanley Street relief providing benefit in this area and some provision for public transport and walking / cycling	Overall effects are more positive than Option 2 but less than Options 4 and 5., the positive effects of reduced traffic on both Stanley Street and Shotover Street are reflected in the scores for system integration, economics and social and human health.	Overall, the effects for Option 4 are positive and scores the highest. This option best provides for system integration (alternative modes), social and human health effects and safety due to appropriate designs, provision for walking and cycling and significantly reduced pedestrian / traffic conflict.	Positive effects are similar to Option 4 but are delayed due to the staging and hence do not score as high.

	Option 1 Status Quo	Option 2 Do-Minimum Stanley Street Relief Demand Management	Option 3 Less Ambitious Stanley Street Relief Shotover Street Relief Demand Management No link	Option 4 Intermediate Stanley Street Relief Shotover Street Relief Demand Management Arterial Link	Option 5 Option 4 but staged
Summary	*The status quo option will not deliver on the identified benefits / investment objectives of the project. This option is included as a baseline only*	*Whilst this option will partially deliver on investment objectives to improve access to and through the town and also economic performance, it is unlikely to improve liveability and visitor experience as there will be adverse effects in other areas.'* *Cost is lower and implementation would typically be less complex than other options. However, the scores for assessments of effects was lower*	*Without a link, this option will not deliver on the objectives to the same extent as options 4 and 6.* *The BCR would be lower and effects less positive.*	*Stages 1,2 and 3* *Whilst Options 4 and 5 have the highest cost, the assessment of effects is considerably higher. In particular, this option demonstrated positive effects on safety, potential for economic growth and system integration (with other transport systems), as well as positive effects in relation to 'community criteria'*	*As 4 but Stage 3 delayed which would have slight negative effects over option 4 as benefits are not realised within the same timeframe*
Ranking	**5**	**4**	**3**	**1**	**2**

8 Preferred Option

8.1 Overview

8.1.1 Arterial Route

Following the MCA process for the shortlist options (refer Appendix 6 – Arterials Shortlist Options Assessment), the following assessment was determined:

Preferred option	***Option 4: Stages 1, 2 and 3***
2nd preferred option	*Option 5: Stages 1, 2 and 3, Stage 3 delayed*

The preferred option for the Arterial Route is shown in the drawing below and comprises three stages:

Stage 1: Replacement of Stanley Street

Stage 2: Intersection Henry Street and Man Link with Gorge Road

Stage 3: Replacement of Shotover Street

This will take through-traffic away from Shotover and Stanley Streets allowing them to develop their place-functions through the masterplanning exercise.

The wider economic benefits from removing traffic and making Shotover St a more attractive destination are expected to be significant.

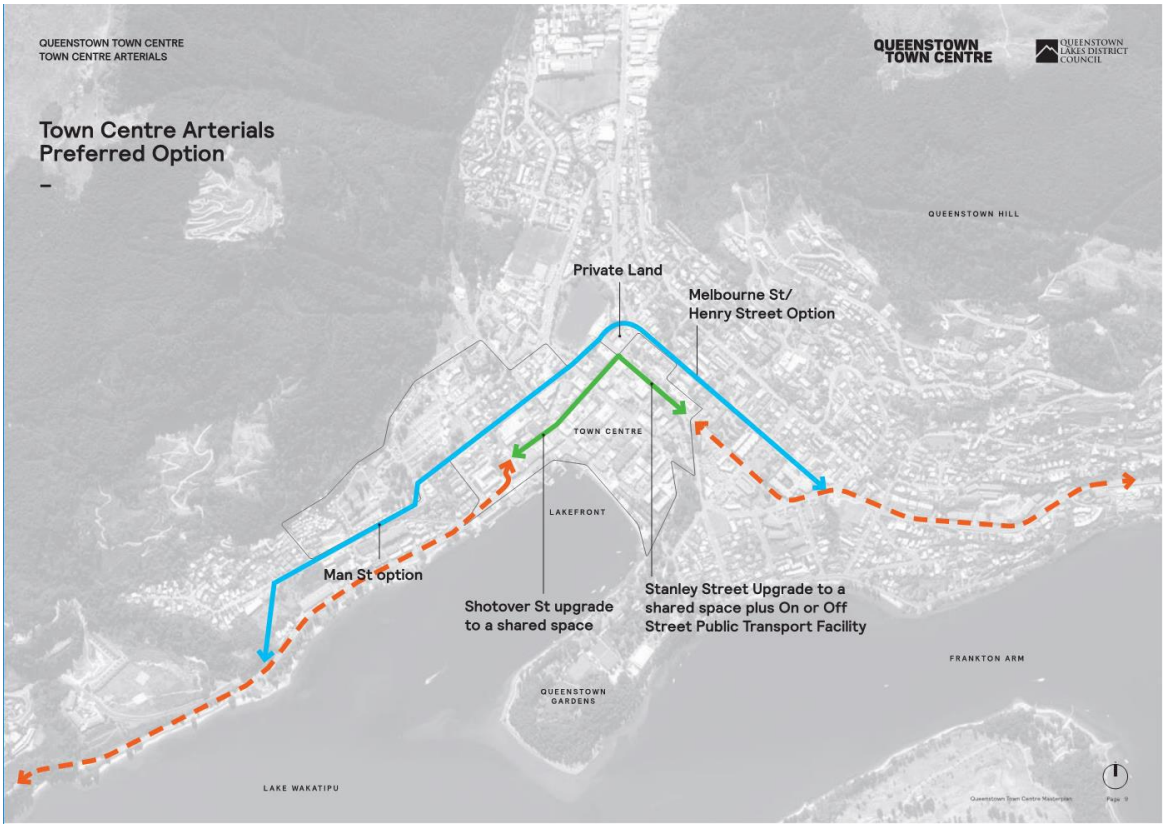


Figure 34: Town Centre Arterials Preferred Option

The preferred option can be further broken down as:

- Frankton Road to One Mile via Melbourne Street to Henry Street through private land to Memorial Street, Man Street, Thompson Street and a new link to One Mile.
- Using Isle Street to connect traffic to and from Gorge Road via Robins Road.

- Five (5) new traffic signal controlled intersections at:
    - Melbourne Street and Frankton Road
    - Henry Street and Gorge Road
    - Camp Street and Man Street
    - Brecon Street and Man Street
    - Hay Street and Man Street
- Shotover Street between Beach Street and Stanley Street will be changed to a low speed environment with focus on pedestrians and commercial tourism activities
- Lake Esplanade will be "traffic calmed" to reduce traffic speeds
- Stanley Street will be enhanced between Ballarat Street and Shotover Street to provide for on-street public transport facility

The preferred option has been broken into sections with various functional requirements as shown below[8]:

Section	Route Description	Functional Requirements
AA Thompson Link	New link from One-Mile roundabout to Thompson Street	• Posted speed limit proposed 50kph • One lane in each direction • Shoulder • Footpath on north side above the road connecting One Mile with Thompson Street

[8] Queenstown Masterplan – Queenstown Arterials Preliminary Design Report, Beca, 15th September 2017

Section	Route Description	Functional Requirements
BB Thompson	Existing Thompson Street, from Thompson Street Link to Man Street	• Posted speed limit proposed • 40km/h; • 5m shared path of the north side • and retain the existing footpath of • the south side; • Shoulders
CC Man	Existing Man Street, from Thompson Street to Isle Street	• Driveway access with painted central median to cater for turning movements • Posted speed limit proposed 40km/h; • Shared path of the north side and wide footpath of the south side; • On-street parking on one side; • Central median for pedestrian refuge at selected crossing points.
DD Man	Existing Man Street, from Hay Street to Camp Street	• Driveway access with painted central median to cater for turning movements; • Posted speed limit proposed 40km/h; • Shared path on the north side and wide footpath of the south side; • Central median for pedestrian refuge at selected crossing points
EE Memorial	New link, from Camp Street / Man Street intersection along the new Memorial Street link to Gorge Road intersection	• Posted speed limit proposed 40km/h; • Shared path of the north side and wide footpath of the south side; • No central median, centre line only; • On-street parking on the recreation ground side only.
FF Gorge	Gorge Street from New Memorial Street link to Henry	• Posted speed limit proposed 40km/h; • Footpath of both sides; • Solid median; • No on-street parking
GG Gorge/Shotover to Henry	Henry Street, from Gorge / Shotover intersection to Ballarat Street	• Driveway access with painted central median for turning movements; • Posted speed limit proposed 40km/h; • Footpath South side and part North side; • Limited on-street parking
HH Henry to Melbourne	New link between Ballarat Street and Beetham Street	• No driveways requiring access; • Posted speed limit proposed 40km/h; • Footpath South side only; • No on-street parking • Pedestrian overpass at Ballarat Street.

Section	Route Description	Functional Requirements
II Melbourne Street	Existing Melbourne Street, from Beetham Street to Sydney Street	• Driveway access with painted central median to cater for turning movements; • Posted speed limit proposed 40km/h; • Footpaths both sides; • On street parking both sides; • Central median for pedestrian refuge at selected crossing points
JJ Melbourne Street to Frankton Rd	Existing Melbourne Street, from Sydney Street to Frankton Road	• Driveway access with painted central solid median; • Posted speed limit proposed 50km/h; • Footpaths both sides; • On street parking both sides; • Central median for pedestrian refuge at selected crossing points

8.1.2 Integration with the Masterplan programme

The arterials preferred option integrates well with the spatial framework that brings together the proposed improvements in passenger and public transport, parking and public spaces. The image below shows how the arterials alignment enables capacity for the on street public transport facility in Stanley Street, supports the Community Heart development, the civic axis, the new parking buildings, enhanced walking and cycling access and general improvements to the town centre spaces.

Figure 35: How the arterials preferred options fits into the masterplan spatial framework

8.2 Preferred Option – Assessment

8.2.1 General

The detailed analysis looks at how well the preferred option can deliver against the critical success factors in addition to delivering a strong cost benefit ratio as part of an affordable solution.

8.2.2 Delivering against Critical Success Factors

CSF	How this solution delivers it
Strategic fit and business needs	The preferred option best meets all investment objectives with improved access to and through the town centre, improved economic performance through activation of Shotover and Stanley Streets and a consequent improvement in liveability and visitor experience.
Assessment of Environmental Effects (AEE)	To what extent the option impacts on several environmental criteria such as Construction Impacts, Safety, Heritage, Cultural, Urban Design, Landscape, Natural environment, Social, Human Health, Property, Transport System Integration and Economy – can be positive or negative effects.
Potential Value for Money	Value for money has been demonstrated through this business case with a balance between cost, potential benefits (the wider benefits) and risks.
Supplier capacity and capability	This CSF was not a differentiator. All options have a similar complexity and scale so supplier capacity required is similar. The technical requirements for each option are also similar so supplier capability requirements will be common across all options
Potential affordability	Whilst the preferred option has the highest estimate, the benefits are also considered the most significant. Funding options are being pursued as part of the overall masterplan project.
Potential achievability	All options will require a similar approach by Council to ensure the successful implementation.

8.2.3 Environmental and Social Responsibility Screen (ESR)

An Environmental and Special Responsibility Screen (ESR) was also completed by the project team for the preferred option and is included in Appendix 12. This NZTA screening process is a way of demonstrating that any potential environmental and social affects have bene considered and assessed.

Key findings of the ESR:

- The Route follows an existing road alignment (exception is where new road is created between Melbourne and Henry Streets & Thompson St and One Mile) – this means minimal impact on the natural environment and on any heritage and cultural features
- Horne Creek will be protected under the Resource Management Act with measures implemented to minimize and potential adverse effects
- There are residential properties along the proposed route, but any adverse effects related to this will be short term, through the construction period only.
- Effects on social cohesion will be positive especially with enabling greater capacity and reliability for public transport users. This enables people on low wages or studying to access their workplaces or education facilities to do so in a timely and reliable manner. Reduced traffic in the town centre will better provide for this along with proposed walkways.
- There are concerns around the possibility of the Memorial Centre having to be relocated but this will be done in consultation with the Community to ensure an acceptable solution to all parties
- As part of the Masterplan project, the Arterials will provide for enhanced walking and cycling opportunities and improved public and passenger transport facilities.

- Key wider benefits include the activation of Shotover and Stanley Streets which will improve economic development in the town center through removing the majority of traffic.
- The provision for better alternative mode use will lead to environmental and social effects.

8.2.4 Delivering against Investment Objectives

The tables below, coupled with the benefits mapping show how the preferred option delivers on these criteria.

Investment Objectives	KPIs	How this solution delivers it
Masterplan		
Improved access to the town centre for all (30%)	• KPI 1: Journey time reliability • KPI 2: Locals' visitation to town • KPI 3: Transport emission	• Reduced congestion through provision of a through route for traffic not wanting to access the town centre • Improved access for those wanting to visit the town centre • Improved provision for alternative modes – public transport, walking and cycling • Less congestion and uptake of alternative modes with consequent fewer vehicles = less transport emissions
Town Centre Arterials		
Improved access to and through the town centre (45%)	• KPI 1: Increased Mode Shift • KPI 3: Travel Time Reliability	• Separate routes for through traffic and traffic wanting to access the town centre • Improved pedestrian and cycling provisions • Less congestion will improve travel time reliability – this will also encourage the uptake of public and passenger transport
Increased Economic Performance (35%)	• KPI 1: Increased Gross Floor Area • KPI 2: Increased Town Centre job numbers	• Less congestion will attract more residents to the town centre as well as visitors from outside Queenstown • Improved use and activation of space through diversion of through traffic from the town centre
Improved liveability and visitor experience in the town centre (20%)	• KPI 1: Resident Liveability • KPI 2: Visitor Experience	• Shotover and Stanley Streets will no longer form the through-route as well as access to the town centre for visitors • Better amenity values • Activation of Shotover Street

8.3 Modelling Results

8.3.1 Outline of Methodology

The town centre modelling, undertaken by Abley Transportation Consultants, takes into consideration the likely uptake of public transport in alignment with the draft recommended programme from the Queenstown Integrated Transport PBC, and includes a range of inputs from the Masterplan PBC team including:

- introduction of new arterials and associated changes in parking availability
- parking supply, charges and time restrictions
- provision for a bus hub in the town centre with bus priority and improved passenger transport arrangements.

Refer Queenstown Town Centre Masterplan Modelling Report, Abley Transportation Consultants, 13th November 2017 (Appendix 8)

Two options have been assessed at 2025 and 2045 using the QLDC Tracks Transportation Model and a further option assessed at 2025 only.

The economic road user costs and benefits due to the mode shift resulting from the activities corresponding to each scenario are evaluated alongside the costs of the activities for two scenarios. These have been assessed in accordance with NZ Transport Agency Economic Evaluation Manual (EEM) 2016 full procedures

The transportation model:

- includes land use growth forecasts for the two modelled years of 2025 and 2045 developed by Rationale
- includes current infrastructure which is under construction within the District but no improvements within the town centre, other than local roading connections to provide access to the Lakeview site, in the future network model.

Public transport provision includes the changes recently proposed as part of the Wakatipu Basin Public Transport Detailed Business Case (DBC) and the QITPBC such as:

- changes in routes, service frequency and the introduction of a $2 (or $5 for cash) flat fare.
- Further bus service and fleet improvements, water taxi service, Frankton park and ride and public transport hub, and SH6A corridor improvements including bus priority by 2025
- Park and ride services introduced at other locations within the District, and the introduction of a Mass Rapid Transit corridor between Queenstown and Frankton by 2040.

8.3.2 Scenario 2

Initially, two scenarios were modelled for each of the future model years but Scenario 1 has since been discarded.

Scenario 2 provisions include:

- New arterials section 1, 2 and 3 from Frankton Road/Melbourne Street intersection to One Mile roundabout
- Removal of 312 car parks by 2025, and a further 170 by 2045 (due to arterials plus public realm parks)
- Bus hub on Stanley Street between Ballarat and Shotover
- Bus only link on Stanley Street between Ballarat and Shotover
- Addition of paid parking facilities
- Parking restrictions

Scenario 3

A further scenario was added to analyse the breakdown of benefits of each stage of the arterial route. This included developing a model used for analysing the arterials with only stages 1 and 2 (Henry to Melbourne and Melbourne to Camp Streets) of the town centre arterials in place (masterplan programme 3). Traffic volume plots and turning movement plots for this are included in Appendix 8.

The economic analysis determined that 96% of road user benefits are attributable to Stages 1 and 2 (Henry to Melbourne and Melbourne to Camp Streets) and only 4% of road user cost benefits to the Camp Street to One Mile section. It is noted that there are further benefits attributable to achieving a mode shift away from vehicle drivers and in particular related to public transport improvements.

Being a strategic model, the QLDC Tracks transportation model produces a conservative estimation of benefits as it is not able to reflect the potential level of congestion relating to pedestrian crossings and pedestrian vehicle interactions along the new arterial corridors.

8.3.3 Elasticities

To provide for likely responses to future public transport initiatives and changes in parking charges and supply, 'transport elasticities' have been applied to the model to allow 'what if' scenarios to be modelled. Refer to the report in Appendix 8 for background on the approach to elasticities.

8.3.4 Modelling outputs

The modelling produced these outputs, as shown in Appendix 8:

- 2025 and 2045 trips by mode including total parking availability as an outcome of the application of transport elasticities.
- 2025 and 2045 morning, interpeak and evening peak hour directional traffic flows.
- 2025 and 2045 morning, interpeak and evening peak hour turning movements at the following intersections, including:
    - Frankton/Dublin/Melbourne
    - Gorge/Henry/Shotover/New Arterial
    - Camp/Man/New Arterial
    - Camp/Shotover
    - Camp/Ballarat
    - Stanley/Ballarat
    - Man/Brecon
    - May/Hay
    - Brecon/Isle (east and west).
- 2025 and 2045 parking availability by parking type.
- 2025 and 2045 modelled travel times between SH6A/Suburb St.
- 2025 and 2045 road user cost and modelled accident benefits.

The table below shows the difference in modelled levels of service between the 'Do Nothing' option and Scenario 2 (refer to Queenstown Town Centre Masterplan Modelling Report, Abley November 2017 included in Appendix 8 for complete results).

Traffic flows are significantly reduced for 2025 and 2045 with the implementation of Scenario 2 when compared to the do nothing / status quo options. The tables below demonstrate this, in addition to the modelled travel times.

Table 7: Modelled levels of service comparing scenarios

PM Peak	2016	2025			2045		
		Do Minimum No Arterials	Scenario 2 No Arterials	Scenario 2 With Arterials	Do Minimum No Arterials	Scenario 2 No Arterials	Scenario 2 With Arterials
Frankton Road EB	E	E	E	D	F	E	E
Frankton Road WB	-	D	D	D	E	D	D
Frankton Road - Suburb St to Dublin St	D	E	D	D	E	E	E
Frankton Road - Dublin St to Suburb St	F	E	E	E	F	E	E
Frankton Road - Dublin St to Stanley St	-	-	-	-	D	-	-
Frankton Road - Stanley to Dublin St	E	E	D/E	-	E	E	-
Stanley St – Frankton Rd to Sydney St	D	D	D	-	D	D	-
Stanley St –Sydney St to Frankton Rd	E	E	E	-	E	E	-
Stanley St – Sydney St to Ballarat St	D/E	D/E	D/E	-	D/E	D/E	-
Stanley St –Ballarat St to Sydney St	F	F/E	F/E	-	F	E/F	-
Camp St – Shotover to Ballarat St	-	-	-	-	-	-	-
Camp St – Ballarat to Shotover St	D	E/D	E/D	-	F/D	E/F	-
Lake Esplanade – Beach to Brunswick	D	D	D	-	E	D/E	-
Lake Esplanade – Brunswick to Beach	-	-	-	-	D	-	-
Melbourne – Henry NB	-	-	-	-	-	-	D
Melbourne – Henry SB	-	-	-	D	-	-	D

Table 8: Modelled travel times comparing scenarios

Modelled travel times between SH6A/Suburb and One Mile Roundabout (Scenario 1)

Route	Direction	2025 AM	2025 PM	2045 AM	2045 PM
Arterial	WB	214.6	241.1	215.8	248
Arterial	EB	217.4	251.1	222.8	252.6
Stanley/Shotover	WB	258	284.1	259.2	290.2
Stanley/Shotover	EB	276.8	286.3	276.4	295

Modelled travel times between SH6A/Suburb and One Mile Roundabout (Scenario 2)

Route	Direction	2025 AM	2025 PM	2045 AM	2045 PM
Arterial	WB	215.2	234	214.9	237.5
Arterial	EB	218.9	242.3	217.5	245.3
Stanley/Shotover	WB	259	277.5	259.1	283.1
Stanley/Shotover	EB	274.6	286.3	276.9	293.2

Refer to Appendix 8 for diagrams to show the Scenario 2 Peak Hour Traffic Flows.

8.3.5 Next steps

QLDC intends to use more focused simulation software to better understand traffic flows in terms of cars and pedestrians and cyclists and how they interact. To do this, Council are considering using a combination of systems such as Aimsun (traffic) and Legion (pedestrian) to best understand this situation and how this influences the next phase of design.

8.4 Justifying Stage 3

8.4.1 The case for stage 3 of the arterial route

As shown through the option evaluation, there is significant value in delivering the proposed arterial route in its entirety to provide benefits across the whole masterplan programme. There has been some conjecture on the value of the third section of the arterial alignment (Man Street to One Mile roundabout) given the cost and construction complexity associated with this section.

QLDC has recently undertaken further design and options analysis to better understand the best alignment and connection configuration for the third stage of the arterial route between Thompson Street and one mile.

While stages 1 and 2 had been informed by previous design work (the 2014 Aecom design), the stage 3 alignment had not yet been fully investigated. For this reason, a nominal alignment had been included and a P95 cost estimate was created for this section, given the level of risk and uncertainty still present.

Through recent workshops and design work completed by Beca and Rationale, a new preferred option was selected that stands to provide stronger benefits and significantly reduced construction and operational costs. This option was developed and evaluated alongside a wide range of alternatives through a longlist and multiple multi-criteria analysis tools.

The cost estimate for this section of the arterials has recently been revised to $47.7 million, which is roughly $50 million less than the previous estimate.

The key consideration is the value of removing much of traffic from Shotover Street to reduce conflicts, support growth, improve walking connections and enable better use of public spaces alongside the lake.

In summary, this option provides the following benefits:

- Improved access to and through the town centre.
- Improved driveability and intuitive flow.
- An improved entry into the town centre with a good view to the water.
- Greater capacity for future growth.

- Improved safety and wayfinding.
- The opportunity better develops the public/green space alongside the lake.
- The opportunity to develop a new section of commercial land, further offsetting the construction cost.
- Improved driveability that encourages traffic to intuitively move around the town centre on the new arterial alignment, as oppose to going into the town centre via Lake Esplanade.
- Improved construction outcomes, including reduced need for large cuts and retaining walls and the ability to re-use fill in the construction process (reducing the need to move this off-site).
- This alignment supports better active transport outcomes through using existing bike paths and an underpass to allow people to cross the alignment without crossing the roundabout.
- This alignment allows for more 'daylighting' of the road, which helps reduce the level of winter icing.
- Allows for retention of trees to reduce the visual impact of the new road.
- It does not create and over dimension restrictions.
- No one (property or business) is cut off through its development.

From a purely economic appraisal perspective (as used in a BCR), the conventional benefits may be limited but the wider economic benefits from removing traffic and making Shotover St a more attractive destination are expected to be significant.

Wider economic benefits are impacts that can result from transport investment that have been used internationally to improve transport cost-benefit analysis. They can be thought of as impacts that are additional to the conventional benefits to transport users (illustrated in the following diagram).

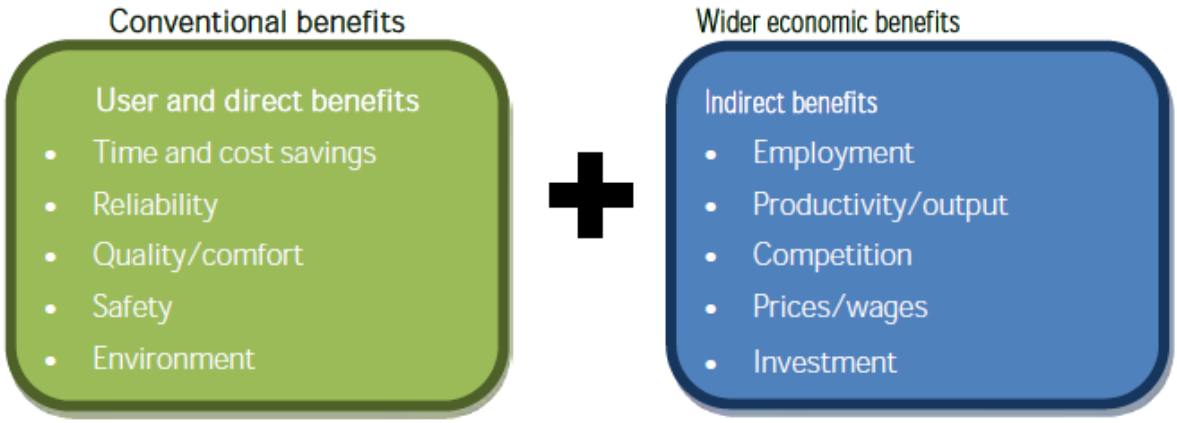


Figure 36: Direct and indirect benefits

Great care is required to ensure that the estimates for wider economic benefits are truly additional to conventional benefits to avoid double counting. As an example, business travel time savings can result in productivity and output increases. These are a direct user benefit and any wider economic benefits for increased productivity must be additional to these direct user benefits.

The following wider economic benefits are applicable in the New Zealand context:

- agglomeration where firms and workers cluster for some activities that are more efficient when spatially concentrated

The main output of the assessment is total productivity gains from agglomeration as the total net present value of benefits.

The required spatial concentration of economic activity for realising agglomeration benefits is only likely to occur in the major industrial and urban centres of New Zealand. It is only the large and complex urban transport activities that will provide the relevant conditions that justify an analysis of agglomeration benefits. It has therefore not been assessed in line with the EEM in this situation.

However, recent data suggests that wider economic benefits are being constrained at present in Queenstown and the town centre. This is evidenced below in Table 9 where the growth in employment in the town centre is lagging behind and the following chart where productivity growth has been declining in recent years.

Table 9: Distribution of employment by occupation

	Town Centre		Rest Central Q'town		Frankton		Total		Shares 2013		
	2013	2006-13	2013	2006-13	2013	2006-13	2013	2006-13	Town Centre	Rest Central	Frankton
Managers	537	69	489	39	324	114	1,440	240	37%	34%	23%
Professionals	384	51	393	87	333	150	1,155	318	33%	34%	29%
Community, Personal Service Workers	366	27	261	54	165	105	855	225	43%	31%	19%
Sales Workers	348	12	189	18	270	108	822	144	42%	23%	33%
Clerical & Admin.	267	-48	252	45	222	93	765	99	35%	33%	29%
Technicians & Trades	243	48	261	12	264	57	798	126	30%	33%	33%
Labourers	138	27	207	48	114	33	516	147	27%	40%	22%
Machinery Operators & Drivers	51	9	63	0	96	18	219	27	23%	29%	44%
Total Stated	2,343	195	2,322	306	1,839	669	6,996	1,299	33%	33%	26%

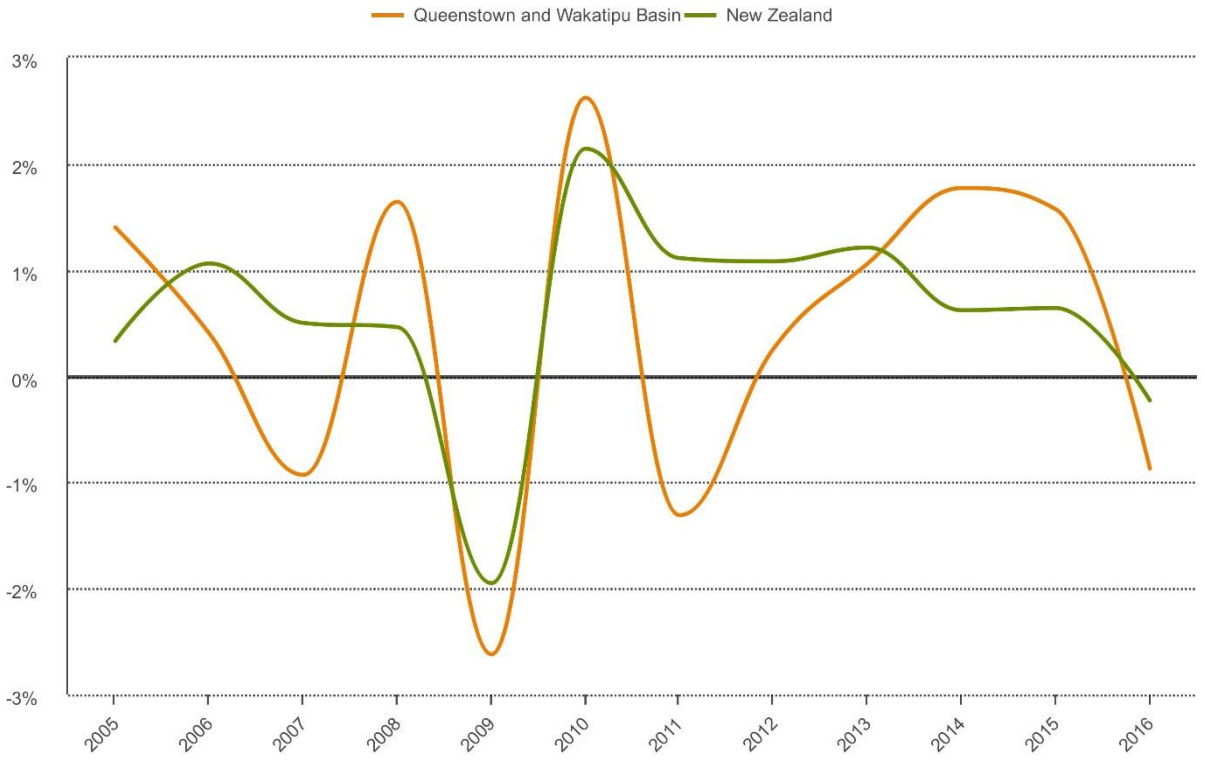


Figure 37: Productivity growth in Queenstown and Wakatipu Basin and New Zealand, 2004-2016

Productivity is a way of describing efficiency of production. Overall productivity is influenced by several factors such as labour and production inputs (such as machinery, technology and land).

This section measures labour productivity in the Queenstown and Wakatipu Basin and national economy using GDP per employed person (in constant 2010 prices) as a proxy for productivity. Growth in labour productivity over time can imply an increase in the efficiency and competitiveness of the economy.

If we were to assume that activating this area by removing traffic off Shotover Street resulted in employment growth in line with the rest of central Queenstown, this would be a 0.8% p.a. increase. Using the current productivity in the Queenstown and Wakatipu Basin of $70,391 GDP per filled job, this would equate to

around an extra $1.3 m GDP per annum. This is equivalent to an extra 2100 visitors being attracted to the town centre each year or an extra $31 per square meter of commercial land.

These are conservative estimates and the uplift could be significantly higher than this due to the attractiveness of Queenstown and people's willingness to invest here.

Total area = 42,303m²

Figure 38: Commercial frontage that can be better activated on Shotover Street

8.5 Arterials Preferred Option Risk

As shown in the MCA analysis, the preferred programme carries a balanced risk profile and compares well alongside the other options considered.

A list of recognised risk types has been discussed to generate a rating that should be further informed as the business case is developed, including cost and delivery time risk. This analysis was completed by Rationale and Beca in coordination with stakeholders from QLDC.

Risk types	Risk rating	Discussion
Technical	H	The preferred option includes several retaining walls with unknown ground conditions. Some complexity associated with some construction through land not currently road reserve – land purchase and unknown ground conditions. Designation / consent process yet to commence.
Operational	L	Standard road network in an urban environment.
Financial	H	Funding has not been secured to date.

Risk types	Risk rating	Discussion
Stakeholder/Public	H	Designation / consent process yet to commence. Ongoing stakeholder and public engagement will reduce this risk.
Environmental	M	Designation / consent process yet to commence. Noise and dust during construction as well as additional traffic noise on new through route.
Safety	L	Final design to be in accordance with relevant safety standards.
Economic	H	BCR ratings show a low economic efficiency against the NZTA assessment framework (range for the preferred option < 3).
Accessibility & Social Inclusion	L	Project has been integrated with other town centre projects to maximise public realm aspects of the town centre, providing improved access and use of space.
Impact on Business Community	L	Project has been integrated with other town centre projects to maximise business potential, providing improved access and use of space.

8.6 General Assessment of Preferred Option

Using the NZTA MCA Criteria as a guideline, the preferred option has been generally assessed as below:

IMPLEMENTABILITY	
Technical / Constructability	The road will generally be designed under AustRoads Guide to Road Design Parts 1 to 8 Some potentially complex issues related to retaining walls (limited geotechnical investigations to date) Working in a 'live' environment will require detailed planning to ensure 'buildability' of the solution – programming, affected party liaison, traffic management etc A full and detailed construction management plan will be required.
Statutory Requirements	A full statutory planning review is required. The road alignment will be secured through a designation (process due to commence imminently) Requirement for associated land use consents will also require consideration.
Safety	Safety considerations in the design include: • Posted speed limits to suit function of the corridor • Road design layout to AustRoads standards • Separated footpaths • Cycleway / shared path (walking and cycling) provisions • Bridge barriers / ridge edge protection (separate Bridge Design Statement) • Safety barriers / central medians etc as appropriate
Operability	Ongoing operation and maintenance of the completed solution will be routine for an urban environment.
Property Impacts	Land purchase will be required. Negotiations are underway with valuations being completed.

Non-Asset / Demand Management Solutions	One of the objectives of the Masterplan project is to encourage alternative forms of travel than the car. The Arterials project provides for this through the provision for bus priority measures, footpaths and cycleways. The route will also contribute to reduced congestion into and through the town centre which supports the Masterplan vision.
ASSESSMENT OF EFFECTS	
Environmental Impact	Overall environmental impact is not considered to be significant An ESR screening has been completed for the preferred option (Appendix 12) and addresses criterial such as natural environment, cultural and historic impact, human health, social and urban and landscape design This is already a built environment. Short term effects such as noise and dust will be addressed through a construction management plan.
Social Impact	One of the objectives of the project is to encourage alternative forms of travel than the car. Accordingly, walking and cycling provisions must be designed with safety, through separation, of users a key consideration as well as a layout that will be appealing to potential users. Integration with the other business cases to enable definition of place for the town centre.
System Integrations	The preferred option and its layout allows integration with proposed improvements in the public and passenger transport facilities as well as improvements in parking provisions. Separate walkways and cycleways (medium and high spec designs) will provide a safer environment for users and will encourage alternative mode use.
Economy	A key aim of the masterplan project is to provide for growth in the town centre The preferred arterials options will provide for this through reduced congestion, improved access to the town centre and allowing the town centre's functions to develop in accordance with the masterplan objectives. Activation of Shotover Street by removing much of traffic will facilitate wider economic benefits.

9 Economic Analysis of Preferred Option

9.1 General

Using the NZTA Assessment Framework, the preferred option is assessed for:

1. **Cost-benefit Appraisal** - how efficiently resources are used to deliver benefits from the proposed solution
2. **Results Alignment** - the alignment of the proposal's key transport issues identified in the strategic case with results sought under the GPS

9.2 Cost Estimates – Preferred Options

Current cost estimates for the preferred option are outlined in the table below and are included in full in Appendix 9:

TC Arterials	$139,684,000
Arterials Designation Cost	$500,000
Arterials Detailed Business Case including Preliminary Design	$200,000
Land Acquisition Transactional Costs (Property and Legal)	$1,850,000
Stage 1: Melbourne to Henry	$33,122,000
Stage 1: Melbourne to Henry (Private Land Purchase Costs)	$4,312,000
Stage 2: Henry to Man	$7,032,000
Stage 2: Henry to Man (Private Land Purchase Costs)	$6,035,000
Stage 2: Henry to Man - Memorial Centre Land & Building Purchase Cost	$8,290,000
Stage 2: Henry to Man - 71 Stanley St Land Purchase Cost	$2,500,000
Stage 2: Henry to Man - Council Office Land Purchase Cost	$3,300,000
Stage 2: Henry to Man - Squash Club Land Purchase Cost	$710,000
Stage 2: Henry to Man - Rugby Clubrooms Land Purchase Cost	$930,000
Stage 2: Recreation Ground (Infrastructure and edges relative to the new Memorial Centre)	$1,425,000
Stage 3: Man St	$15,116,000
Stage 3: Man St (Private Land Purchase Costs)	$50,000
Stage 3: Thompson St	$47,655,000
Stage 3: Thompson St (Private Land Purchase Costs)	$6,657,000

9.3 Benefit Cost Ratio

9.3.1 General

The modelling takes into consideration the likely uptake of public transport in alignment with the draft recommended programme from the Queenstown Integrated Transport PBC, and includes a range of inputs from the Masterplan PBC team including:

- introduction of new arterials and associated changes in parking availability
- parking supply changes, charges and time restrictions
- provision for a bus hub in the town centre with bus priority

The transportation model includes land use growth forecasts for the two modelled years of 2025 and 2045 developed by Rationale consultants and approved by QLDC for planning purposes. The future road network for these future years includes current infrastructure which is under construction within the District such as the Kawarau Falls Bridge replacement but includes no improvements within the town centre other than local roading connections to provide access to the Lakeview (PC50) site.

The economic benefits and costs of the new arterials included within each scenario have been assessed in accordance with NZ Transport Agency Economic Evaluation Manual (EEM) 2016 full procedures.

9.3.2 Assumptions and Benefits

The NZTA Economic Evaluation Manual (EEM) was used as the basis for the EAR Economic Evaluation.

The following assumptions have been made:

- 6% discounting rate over 40-year evaluation horizon
- Update factors applied to July 2016 benefits and costs
- Start of construction year is 2017/18 with up to seven years to construct

The BCR provides for the following benefits:

- travel time costs
- vehicle operating costs
- additional congestion costs
- travel time reliability (estimated to be 5% of travel time costs)
- accident costs based on transport model methodology
- emissions (Carbon dioxide as a function of vehicle operating costs)

9.3.3 Results – Preferred Option

In assessing value for money, all of the economic, environmental, social and distributional impacts of a programme are consolidated to determine the extent to which a programme's benefits outweigh its costs.

Economic analysis has been undertaken following the full procedures from NZ Transport Agency's Economic Evaluation Manual (EEM) 2016. The content below is sourced directly from the "Queenstown Town Centre Masterplan Modelling and Economic Evaluation" report produced by Abley Transportation consultants for QLDC. This is included as Appendix 15. In the economic analysis, the following assumptions have been made:

- 6% discounting rate over 40-year evaluation horizon.
- Update factors applied to July 2016 benefits and costs.
- Start of construction year is 2017/18 with seven years to construct.

Five of the programmes from the short list of programmes developed in the Queenstown Town Centre Masterplan IBC have been evaluated. A simplified summary of the inclusions of each programme are shown in the table below.

Programme	Arterials	PT	Parking
Programme 1 Status Quo	Status Quo	Do Minimum	Do Minimum
Programme 2 Do Minimum	No Arterials	Multiple on street bus facilities and dedicated on street Coach facilities	Parking technology
Programme 3 Least Ambitious	Stages One and Two	11 bay dedicated Off street PT Hub	One car park appropriate supply
Programme 4 Intermediate	Stages One and Three	New Stanley St 6 bay on street PT facility	Redevelop existing sites
Programme 6 Ambitious	Stages One, Two and Three	Stanley St on street PT facility reduced traffic	Multiple new and upgraded off-street facilities

Table 10: A simplified summary of Masterplan programme inclusions

9.3.4 Road user cost benefits

The analysis includes the following benefits:

- travel time costs and additional congestion cost
- vehicle operating costs
- travel time reliability (estimated to be 5% of travel time costs)
- accident costs based on transport model methodology
- emissions (Carbon dioxide costs taken as 4% of vehicle operating costs).

9.3.5 Other benefits

In addition to the total network operating cost benefits, the BCR analysis was expanded to include the following additional public transport (PT) user benefits (refer EEM Manual):

- Public transport reliability improvement benefits (EEM A4.1(b) and assumes 3% work travel, 37% commuting and 60% other purposes as agreed with peer reviewer in the absence of Queenstown guidance)
- Public transport travel time benefits
- Road reduction benefits
- Increased service frequency benefit
- Infrastructure benefits.

The infrastructure benefit is calculated based on attributing a typical user's in-vehicle time equivalent value, for the facility. The EEM provides guidance that a public transport station could be valued at up to three minutes based on the level of comfort and services provided to uses. A value of two has been assigned to the most ambitious programme PT Hub (included in programme 4 and 6) acknowledging the proposed high-quality facility. Seventy five percent of this benefit has been included for programme 3 and no infrastructure benefit is included for programme 2 to reflect the relative quality and convenience.

The PT increased service frequency benefit has been included for programmes 3,4 and 6 recognising the increased benefits of moving from a 15 minute to 6-minute service frequency on Frankton Road.

Public transport reliability benefits and road reduction benefits have been calculated for programme 6 using the EEM formula. It is estimated that Programme 4 and programme 3 would deliver 50% and 25% of each of these benefits respectively based on the extent to which traffic congestion on the key arterials in the town centre is likely to be relieved under each scenario.

The EEM states the criteria for claiming agglomeration benefits to be "The required spatial concentration of economic activity for realising agglomeration benefits is only likely to occur in the major industrial and urban centres of New Zealand. It is only the large and complex urban transport activities that will provide the relevant conditions that justify an analysis of agglomeration benefits". We understand the Roads of National Significance projects are the only projects agglomeration benefits have been calculated for to date following the EEM procedures.

The NZTA procedures for calculating agglomeration benefits are quite complex and involve considerable analysis. It is not entirely clear on how well the NZTA procedure will convert to monetised benefits for this project. There is some likelihood that the outputs will be marginal as the benefits are attributable to growth and are not necessarily attributable to the transport interventions in isolation.

Due to this uncertainty to the appropriateness it is our recommendation that the IBC clearly state that there may be agglomeration benefits, but it has been chosen not to enumerate them and on this basis the BCR analysis provides a conservative approach.

Public transport and other benefits include network operating cost benefits, such as:

- vehicle operating costs
- vehicle emissions
- in vehicle time cost
- additional congestion cost
- accident costs
- travel time reliability costs.

9.3.6 Costs and programme BCR

Cost estimates and staging for each programme including all land acquisition costs (including QLDC owned land) were received from Rationale. Estimations for the additional capital and operational expenditure to move from a 15 minute to 6-minute PT service frequency on Frankton Road have also been included. It has been assumed that the increased service frequency would require six additional vehicles three in each direction for the peak 10 hours of the day). Diesel vehicle cost estimates have been used for the low-cost estimate and electric vehicles the higher cost estimate. Indicative variable contract rates for in service kilometres ($2 per km) and hours ($35 per hour) have been used to provide an estimate of additional operational costs associated with the increased service frequency.

The resultant discounted benefits, costs and programme BCRs are shown in the table below. The BCR shown for the preferred programme (6) is shown below as 1.7.

Table 11: Programme BCR analysis

Base Option	Programme	Upper Programme Cost ($)	Expected Cost ($)	Lower Programme Cost ($)	Programme Benefit ($)	Programme BCR
1	2	6,292,057	6,292,057	4,840,157	30,552,808	4.9
1	3	125,852,862	107,077,915	92,773,386	216,005,414	2.0
1	4	142,387,338	112,779,443	89,755,410	167,605,129	1.5
1	6	166,965,929	135,586,422	111,079,272	230,417,532	1.7

9.3.7 Incremental BCR Analysis

An incremental cost benefit analysis of the five alternative programmes has been undertaken following the procedures in A19 of the EEM to identify the optimal programme from an investment perspective.

An incremental analysis has been undertaken to assess the incremental value of each programme, and the results are shown below. The programmes were ranked and labelled 1 to 6 in order of increasing cost.

Starting with programme one, the next higher-cost programme, (programme 2) was compared to calculate the incremental BCR between the programmes. This was repeated for programme 2 to 3 and 3 to 4.

A BCR of 1 was considered to be the target BCR as it represents a positive return on investment. As the incremental BCR of programme 4 was less than 1, the incremental BCR between programme 3 and 6 was calculated.

Table 12: Incremental BCR analysis

Base Option	Incremental Option	Upper Incremental Cost ($)	Expected Cost ($)	Lower Incremental Cost ($)	Incremental Benefit ($)	Incremental BCR	Preferred Option
1	2	6,292,057	6,292,057	4,840,157	30,552,808	4.9	2
2	3	119,560,804	100,785,857	87,933,229	185,452,606	1.8	3
3	4	16,534,476	5,701,529	-3,017,975	-48,400,286	-8.5	3
3	6	41,113,068	28,508,507	18,305,886	14,412,117	0.5	3

The incremental analysis shows that programme 3 is the preferred option as the incremental BCR from programme 3 to 4 and programme 3 to 6 is less than the target BCR of 1. **However, it is noted that the economic benefits associated with programme 6 are highly conservative and more should be done in the detailed business case to better capture and account for the wider economic benefits (particularly those provided by the third stage of the arterials).**

Programme 5 from the IBC is identical to programme 6 in terms of infrastructure but differs in that the new arterials are proposed to be staged on a 'just-in-time' basis to maximise benefits. The timing of infrastructure to derive Programme 5 has not been addressed in this assessment.

The programme 6 analysis is considered to be highly conservative as a significant quantum of benefits associated with the delivery of Stage 3 of the Arterials in programme 6 are not tangible. Specifically, no benefits have been attributed to the provision of coach parking in Shotover Street and Duke Street which is made available as a direct consequence of building Stage 3 of the Arterials.

9.3.8 Peer review of the programme transport model

Peer reviews have been used to test the approach used to model transport and economic benefits in this programme. The first peer review was completed by John Row of Beca and the second review was undertaken by Graeme Bellis of NZTA. These peer reviews have been used to refine the transport modelling and economic appraisal of the programme options and Abley have used this feedback to refine and re-issue their report (the outputs of which are shown above).

In addition to ensuring the modelling was being undertaken correctly, the reviewers noted the need for a more advanced model to be developed to provide the level of analysis required for the detailed business case phase. This supports QLDC's current investigations into the best scope and objectives for a more advanced modelling tool.

The peer report completed by Beca is included as Appendix 18 and the initial comments from Graeme Bellis in a recent email to the project team are included below.

"My observations on the economic evaluations carried out for the IBC work are as follows:

1. The procedures used generally are in accordance with the requirements of the Economic Evaluation Manual, and at a level of detail that is appropriate for the IBC stage.

2. The incremental BCR analysis has now been carried out correctly, and supports programme 3 as a preferred option. I understand that recent review of predicted construction costs may change this position. In any event, this can be confirmed at the next level of the investigation, but should be included in the IBC work, as any further analysis required should be trivial.

3. I still have concerns over the predicted public transport patronage, and the consequent level of private traffic on the network in the future. This is due to:

> *a. Initial incorrect application of elasticity methodology in the IBC that has a flow-on effect to other assumptions and conclusions made in the subsequent analysis,*

b. The high levels of uncertainty in the variables and relationships that contribute to both the overall level and mode shares of future trip-making. Because of the high level of uncertainty in these aspects, there will need to be wide-ranging scenario and sensitivity testing in the DBC,

c. The high level of sensitivity of traffic flows on the network, and hence performance of future development options, to the level of PT patronage.

4. Peer reviews of the modelling and economic analysis have highlighted the inability of the current strategic modelling to provide the level of detailed information that will be needed to clearly differentiate options that will be compared at the DBC stage. This will have implications for both operational and economic analyses. Given the high levels of predicted growth in Queenstown, careful thought needs to be given to a choice of models, to ensure that they have appropriate levels of sensitivity to critical predicted variables.

I hope these comments help in shaping the next stage".

9.4 Results Alignment

The NZTA Results Alignment process assesses how important the proposal is to the Government Policy on Land Transport (GPS).

9.4.1 How well the Preferred Option Aligns with the GPS

A key objective of the draft GPS 2018 is '*A land transport system that addresses current and future demand for access to economic and social opportunities'*, which supports the Town Centre Arterials proposal.

The preferred option is consistent with key objectives of the GPS and, if implemented, is predicted to improve the capacity and effectiveness of the land transport network through Queenstown so driving economic outcomes. It has the potential to activate transport, walking, cycling and economic opportunities which will contribute to social outcomes.

GPS Objective	How the Preferred Option Aligns
Addresses Current and future demand for access to economic and social opportunities	The proposed Arterials route, as part of the Masterplan project for Queenstown, aims to provide both for traffic that wants to enter the town centre as well as providing for through-traffic. It is prosed to integrate the Arterials project with other transport related projects as well as the Masterplan to enable the vision for Queenstown to be realised. Removing the majority of traffic form Stanley and Shotover Streets will enable the activation of those streets and consequent improved economic performance as well as improved liveability and visitor experience.
Provides appropriate transport choices	The design for the Arterials provides for separate cycleways and footpaths (some shared paths) as well as public transport enablers such as priority bus lanes. The integration with the parking and public transport business cases through the Masterplan will further facilitate better transport choices.
Is resilient	A resilient land transport system meets future needs and endures shocks. The proposed Arterial route provides for future predicted growth in Queenstown to address current problems associated with the roading network in the town centre. The route will be deigned to appropriate design standards

Is a safe system, increasingly free of deaths and serious injury	Appropriate design standards will be applied with regards to safety provisions. Low speed zones (40kph) are proposed in some areas. Such measures together with the removal of the majority of traffic from Shotover and Stanley Street will further improve safety statistics through significantly reduced pedestrian / traffic conflict.
Mitigates the effects of land transport on the environment	Encouragement and facilitation of alternative mode choices will reduce the number of vehicles in the town centre and consequently reduce congestion and the associated adverse effects. The statutory planning process will also ensure adverse effects on the environment associated with the route will be eliminated, isolated and mitigated. Beca has completed an Assessment of Environmental Effects on the longlist options which demonstrates that the preferred option scores well on the majority of factors considered.
Delivers the right infrastructure and services to the right level at the best cost	This is demonstrated through this Business Case.

The identified investment objectives are significant with regards to GPS priorities as shown below:

GPS Priority	***Investment Objective***		
	Improved Access to and through the Town Centre	*Increased Economic Performance*	*Improved Liveability and Visitor Experience in the Town Centre*
Economic Growth and Productivity	√	√	√
Road Safety	√		√
Value for Money	√	√	√

9.4.2 How well the Preferred Option is significant in relation to the scale of the gap to the appropriate customer level of service or performance measure

Current system performance expectations or customer levels of service are not being met.

The identified benefits will deliver an improvement in levels of service or system performance.

Evidence shows that there is significant under performance in all these customer service areas resulting in performance lower than its classification and the gap to the appropriate service levels or system performance significantly impacts on the customer experience.

The proposed arterials will address these gaps through:

Safety	It is envisaged that safety will be improved through appropriate design including separate cycleways / footpaths, constructed medians etc. Reduced speed environments along Shotover and Stanley Streets will further improve safety, primarily in relation to reduced traffic / pedestrian conflict.
Journey Time Reliability	Reduced congestion = improved journey time reliability
Matching capacity and demand	The overall masterplan exercise addresses capacity and demand in relation to not only the arterials but parking facilities and public / passenger transport facilities.
Economic Growth	Activating this area by removing traffic off Shotover and Stanley street will result in economic growth and employment growth in line with the rest of central Queenstown
Tourism	A key objective is for improved visitor experience

9.4.3 How well the Preferred Option Addresses a capacity and demand mismatch for journeys in major urban and high growth urban areas

The arterials will support 'transport access required to enable housing development in high growth urban areas'. The new arterials will unlock Lakeview development and Gorge Rd Special Housing Area.

The draft 2018/19 GPS (NZTA currently engaging on the draft) focuses on assisting high growth areas by supporting the Housing Infrastructure Fund, for which Queenstown Lakes is currently developing detailed business cases after approval in principle to indicative business cases

9.4.4 Addresses intermodal connections that need addressing

The overall Masterplan will integrate the various transport related projects to better provide for intermodal connections.

This will include a central bus hub, cycleways and footpaths

9.4.5 Is significant as part of an end to end journey

The Arterials project forms part of an integrated approach to traffic issues and the development of a Masterplan for Queenstown. Alignment with the business cases for town centre parking, public and passenger transport and the masterplan is clearly established through the role that an arterial route can play in supporting the uptake of public, passenger and active transport modes, as well as changes in parking facilities to collectively contribute to reduced congestion in the area

9.4.6 Is significant from a national perspective (given local, regional, national perspectives)

This project is needed to support economic growth, not only for Queenstown but for the South Island.

Queenstown has been recognised as an area of High Growth with the consequent dependence on provision of appropriate infrastructure to enable and facilitate that growth

9.4.7 Non-monetised Benefits and Additional Benefits

The conventional benefits may be limited but the wider economic benefits from removing traffic and making Shotover St a more attractive destination are expected to be significant.

Integration of this Business Case with other transport related business cases under the Masterplan will enable significant wider benefits, primarily centred around meeting the vison for the town centre. These include:

- Enabling pedestrians to walk with even more freedom along Shotover St.

- More space and less congestion to allow new and existing passenger transport stops and routes around Camp, Duke and Shotover Streets to operate more efficiently.
- To enable the development and activation of Lake Esplanade as a key destination for recreation and associated activities.
- To activate the commercial frontage onto Shotover Street providing improved economic performance and employment

Part 3: Readiness & Assurance

10 Commercial Case

10.1 General

The key purpose of the Commercial Case is to provide evidence of the commercial viability of the project, including the consenting and procurement strategies that will be used to engage the market.

The desired output is to engage service providers to deliver the specified works for the preferred route that will ensure delivery of the Investment Objectives determined at the Strategic Case stage.

To ensure this:

- A robust process must be followed to determine the preferred route and design/specification for that route.
- A procurement process must be in place to ensure that suitable service providers, capable of delivering to the required specification, are in place for both the design and construction phases of the project.
- Property purchases and affected party approvals must be complete to enable the road to be constructed in the preferred location and to the desired specification.
- Planning approvals must be in place to comply with the Resource Management Act.

10.2 Consenting Strategy

10.2.1 Masterplan

A programme approach to consenting and designation management strategy will need to be developed through advice from QLDC planning and legal advisers. This can be progressed at a programme level during the detailed business cases. There may be some shared risk during this process, but the onus will be on proactively planning to secure the right use and consents to ensure the implementation schedule can proceed with positive momentum

10.2.2 Arterials

Designation

Designations are often used by both NZTA and local authorities as a planning mechanism to manage road development and networks. A designation enables a requiring authority (in this case QLDC) to do anything that is consistent with a designation's purpose, subject to relevant conditions of the Notice of Requirement (NOR). Designations also ensure that no other party can do anything that might be inconsistent with the purpose of the designation.

A designation may provide greater flexibility to accommodate minor changes in construction and design, provided the works remain in the designated corridor and have the same intent as outlined in the NOR.

Through the NOR process, greater weight is also attached to the public benefit element of the project or work. Consideration of the objectives of the requiring authority, and whether the designation is reasonably necessary to achieve those objectives, is a key factor in decision making.

QLDC are likely to pursue the option of a designation of the Arterials but the overall process is still to be confirmed.

Initial estimates are that the process, including appeals through the Environment Court, will be a minimum of two years.

The high-level assessment of environmental impacts has been completed by Beca and will be used as a basis for developing the structure of the designation.

Resource Consents

The arterials route is located within the Town Centre zone under the District Plan.

The need for land use consents will be assessed as the design process develops.

10.3 Procurement Strategy

10.3.1 General

Across the masterplan programme, there is a general desire, where relevant, to enable the private sector to partner with QLDC, NZTA and ORC in delivering the required products and services. This approach supports a desire to keep the programme affordable for QLDC, while enabling a level of innovation from private partners.

For each of the projects that sit under the Masterplan, including the Arterials, two main phases have been scoped. The first is aimed at obtaining the services required to complete planning through the detailed business cases and the second is about getting the products and services required for implementation.

It will be important to make clear decisions for the overall implementation of the Masterplan about what is managed at a programme versus a project level, while ensuring the appropriate governance and resources are in place to do this effectively.

10.3.2 Design Consultants

Beca was engaged in March 2017 as a design services consultant as a multi-disciplinary team of design consultants for the Queenstown Town Centre Masterplan Programme.

The multi-disciplinary design team includes consultants with expertise in masterplanning, urban design, architecture, structural, civil, traffic and transportation engineering and experience relative to the masterplan and other related projects including the Arterials and transport related projects.

A Procurement Plan (Jan 2017) proposed a single multi-disciplinary team, which the respondents compiled in one tender submission, be procured through a single stage Request for Proposal (RFP) Open Tender process. This selection process was chosen to:

- Optimise the activity output within the limited delivery timeframe
- Support a collaborative and integrated approach across the projects and overarching masterplan
- Minimise the number of suppliers across the full programme thereby reducing time and cost
- Have flexibility through the negotiation process to tailor the contract to obtain best value for money

10.3.3 Arterials

For the Arterials and other transport projects, procurement processes must align with the standards and requirements of NZTA, ORC and QLDC, in addition to involving representatives from each group in the tender planning and evaluation panels.

At this stage, QLDC is intending to lead the delivery of the arterials project and the procurement process.

The current preference will be to undertake procurement on a traditional basis of design followed by construction. However, the option of alternative processes such design-build and / or an alliance type of approach is still to be considered.

10.4 Implementation Strategy

The Arterials will form part of the overall Masterplan development.

The masterplan programme will guide the timing for the commercial activities. With this in mind, it will be important move swiftly to agree a process around significant lead time items, such as detailed business case development, funding approvals, procurement, designation and consenting

For the Arterials, the implementation strategy and programme will need to consider:

- New arterials and associated elements within the alignment, including cycling and pedestrian elements, bus priority, smart signage and all typical elements.
- Transition of existing arterials to other use

- Demolition and construction of replacement buildings (some of which occur in other projects)

The current proposal is that the Arterials works be progressed to the following construction dates:

Stage 1 – Melbourne Street to Henry Street	2020/21 – 2021/22
Stage 2 – Henry Street to Man Street	2021/22 – 2022/23
Stage 3 – Man Street and Thompson Street (to One-Mile)	2022/23 – 2023/24

A full programme of works for the Masterplan workstreams is shown below and shows how each project interrelates with others in terms of delivering the town centre objectives.

QUEENSTOWN TOWN CENTRE MASTERPLAN

PROPOSED CONSTRUCTION SEQUENCING SCHEDULE (LTP Deferred Programme)

16 October 2017

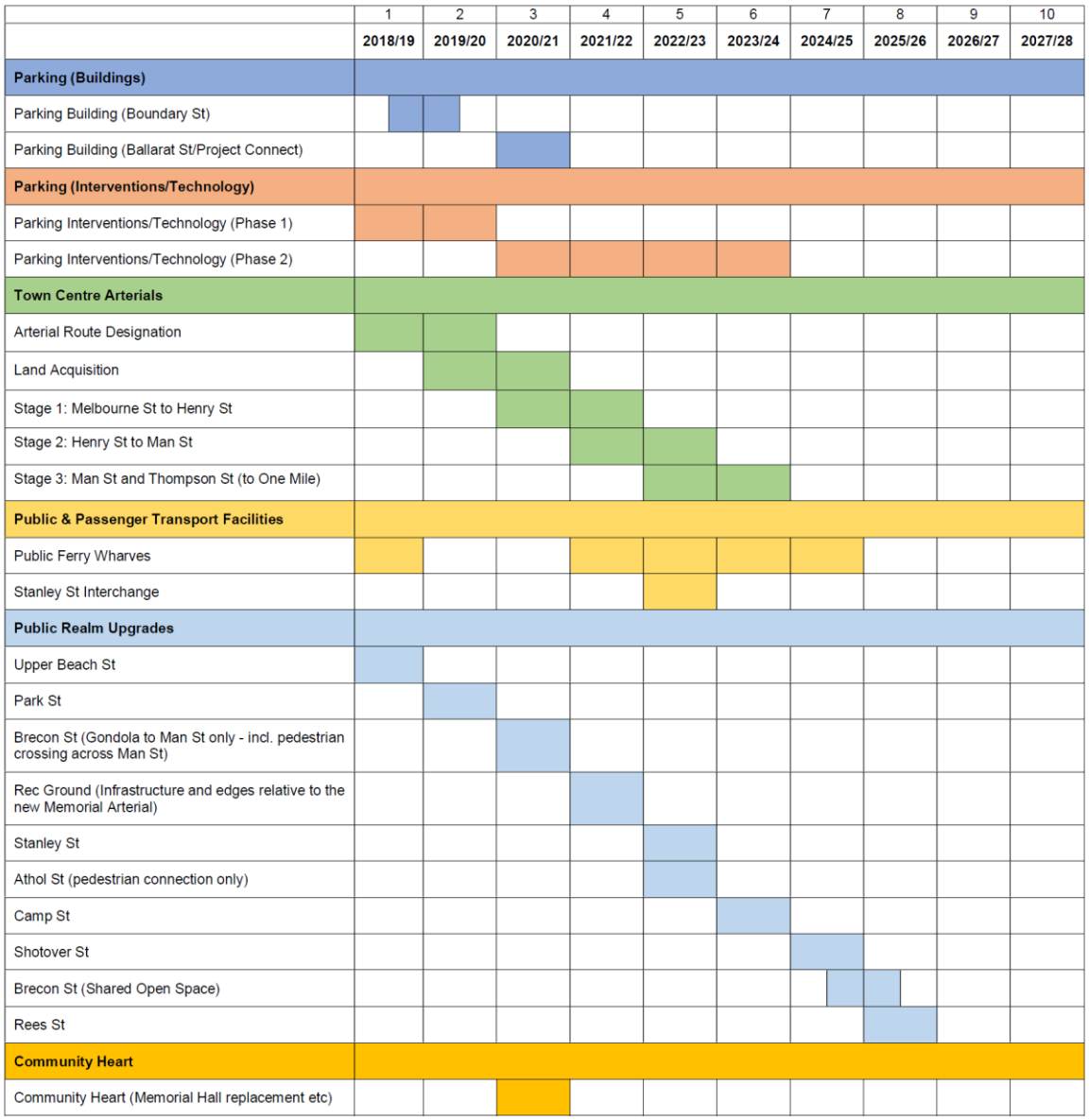


Figure 39: Queenstown Town Centre Masterplan Construction Schedule

The following assumptions have been made in terms of project implementation:

- QLDC to design, procure and deliver the new arterials in coordination with NZTA
- NZTA funding rate will be normal FAR
- QLDC to manage the transition of Stanley and Shotover (as much as possible this is done together)
- No delays to designation approval process

10.5 Property acquisition

Properties have already been identified for use through the indicative planning completed through each of the projects.

The required property acquisition should follow the standard QLDC process, while meeting the needs of NZTA and ORC in relation to transport developments. Where QLDC already own the sites required, the next logical step will be to work through land use designations to ensure any required use changes can be proactively managed. Where consents and purchases are required, such as for the arterial upgrade and the mass transit corridor, this should be proactively managed through advice from QLDC's planning, commercial and legal advisers

10.6 Contract Management

The best form of contract for each project or stage of the project is still to be confirmed.

This will be determined through advice from QLDC procurement and commercial advisers, noting that in each instance a balance will be struck between protecting the interests of QLDC, NZTA and ORC, while not applying unnecessary constraints on suppliers.

10.7 Risk allocation

Risk sharing should occur when the private sector is better placed to manage it than QLDC and its partners. During the detailed planning phase, it is expected that QLDC will retain the programme risk and each project's risks will be fed into this.

As the Masterplan programme progresses, it will be important to keep the risk register updated and outline risk management strategies in a detailed plan. It will also be important to clarify the split between risks managed at a project level versus programme risks during the implementation phase.

This should be tested in the detailed business case, including identifying the opportunity for risk sharing in each of the following areas:

- design
- construction
- transition and implementation
- availability and performance
- operating
- revenue
- termination
- control
- financing
- legislative
- residual value.

11 Financial Case

11.1 General

The Financial Case will look to develop the financial model to be used for the Town Centre Arterials.

It will assess the affordability of the proposal, its funding arrangements and technical accounting issues.

The Economic Case includes the financial evaluation for the arterials, showing the benefits of implementing the scheme by way of a Benefit Cost Ratio (BCR) analysis.

11.2 Project Delivery Costs

Current cost estimates (Sept 2017) for the preferred option are outlined in the table below:

TC Arterials	$139,684,000
Arterials Designation Cost	$500,000
Arterials Detailed Business Case including Preliminary Design	$200,000
Land Acquisition Transactional Costs (Property and Legal)	$1,850,000
Stage 1: Melbourne to Henry	$33,122,000
Stage 1: Melbourne to Henry (Private Land Purchase Costs)	$4,312,000
Stage 2: Henry to Man	$7,032,000
Stage 2: Henry to Man (Private Land Purchase Costs)	$6,035,000
Stage 2: Henry to Man - Memorial Hall Land & Building Purchase Cost	$8,290,000
Stage 2: Henry to Man - 71 Stanley St Land Purchase Cost	$2,500,000
Stage 2: Henry to Man - Council Office Land Purchase Cost	$3,300,000
Stage 2: Henry to Man - Squash Club Land Purchase Cost	$710,000
Stage 2: Henry to Man - Rugby Clubrooms Land Purchase Cost	$930,000
Stage 2: Recreation Ground (Infrastructure and edges relative to the new Memorial Centre)	$1,425,000
Stage 3: Man St	$15,116,000
Stage 3: Man St (Private Land Purchase Costs)	$50,000
Stage 3: Thompson St	$47,655,000
Stage 3: Thompson St (Private Land Purchase Costs)	$6,657,000

11.2.1 Ongoing Maintenance and Operations Costs

Post-implementation costs allow for ongoing maintenance and operations costs.

A detailed estimate of maintenance costs has not been completed at this time.

However, given the length of the proposed route and the total length of the existing QLDC roading network, maintenance costs are predicted to have little if any significant effect on the total maintenance costs across the district.

11.3 Overall affordability

The proposed split of the costs for the Arterials are as below:

2018/19	$700,000
2019/20	$36,736,000
2020/21	$16,147,000
2021/22	$24,046,000
2022/23	$ 32,674,000
2023/24	$29,382,000
Arterials Total:	**$139,684,000**

QLDC has used the initial costings to test the affordability of the programme as part of the Council's Long-Term Plan budget forecast. Given the significant cost of the full masterplan programme and the other infrastructure investments the Council is required to undertake in the coming decades (such as water treatment plants), QLDC is reaching its debt ceilings.

The feedback from the financial leaders in QLDC is that this programme can only be affordable if the organisation is willing to, and capable of working closely with NZTA, central government and the private sector to apply shared funding/development strategies. For this reason, the project business cases reflect a mix of recommended funding and development partnership activities, as explained below.

11.4 Funding sources

It is proposed that the funding required to deliver the Town Centre Arterials project is provided from the sources shown below. Funding levels have not been agreed and they should be confirmed through the detailed business case preparation.

Project area	Proposed funding partner/s	Details of non-QLDC contributions
Town Centre Arterials	• NZTA • Central Government • QLDC	It is proposed that stages 1 and 2 are fully funded as per normal State Highway contributions. Stage 3 may be progressed at normal FAR of 51%. The LTP costings have been loaded at the normal FAR rate so this may need to be adjusted as the funding levels are agreed. This will be discussed further during the detailed business case development. Early discussions have been held with Central Government and a contribution may be agreed if the right level of national significance can be demonstrated.

11.5 Financial Risk

There are several financial risks associated with this project, the key ones being:

NZTA does not Approve the Requested Funding Application:	• The construction of the route will be delayed or may not progress. • Lower design specification which will likely compromise the investment objectives and the national and community requirements. • Only do-minimum option completed which will fail to deliver on the investment objectives and the national and community requirements.
Delays in NZTA Funding Approval:	• Delays in funding approval will delay the commencement of the physical works and the completion of the road, delaying economic development and the success of the overall Masterplan project.
Split NZTA Funding:	• Will affect cashflow for the project. • May require construction contract to be split (e.g. staging) which will lead to delays as well as additional construction and project management costs.
Construction Costs exceed Estimate	• Will likely require additional approval processes through NZTA and will delay commencement and/or completion of the road. • May compromise design specification if negotiations with preferred supplier unsuccessful

Wider project risks are captured in the risk register included in Appendix 10.

12 Management Case

12.1 General

The Management Case addresses how the project will be delivered. It considers:

- governance and management
- project management and assurance
- risk management
- communications and stakeholder management
- benefits measurement.

12.2 Organisational Overview

NZTA and QLDC are together responsible for the planning, development, operation and maintenance of the land transport network throughout the Queenstown Lakes District, with assistance from ORC regarding future strategy and passenger transport.

The primary public agency partners involved in planning and implementation of the Town Centre Arterials are QLDC and NZTA as detailed in Section 6.

12.3 Governance & Management

12.3.1 Masterplan Delivery

A highly effective governance structure has been used to guide the Masterplan programme to date. This will need to evolve as the programme moves into detailed planning. It will be important to maintain strong governance and direction as the programme transitions through the detailed planning and delivery stages for each project as well as the overall implementation.

Given the scale of the wider Masterplan programme and the developments planned for the district, a logical discussion has emerged between the investor partners around a more unified approach to planning and delivering through an integrated approach.

As reflected in the recent Queenstown Integrated Transport Programme Business Case (QITPBC) and the proposed Town Centre Masterplan Programme Business Case (TCMPBC), there is a well-supported assertion that targeted work programmes delivered within a single agency cannot deliver the required solutions effectively.

In the next 10 years, the investment partners (QLDC, ORC, NZTA) are collectively seeking to deliver in the order of $200-300 million worth of transport, parking and public realm road reserve projects. The scale and complexity of these plans demonstrate a real need to work in a highly integrated way to ensure that each activity provides support to and gains benefit from other programme actions. Equally, the community and commercial audiences deserve to see a unified plan with a proactive and respectful approach to engagement that is not complicated by varied approaches.

The changes to the investor partners approach is to see each other as partners not stakeholders and applying a multi-customer centric way of system thinking.

A copy of the Governance Structure, which is still subject to being amended, is included in Appendix 1.

12.3.2 Arterials Delivery

QLDC is the primary project partner, a key investor and project sponsor charged with leading the development of this project.

NZTA is a project partner and key investor.

Other key stakeholders include but are not limited to:

- Otago Regional Council

- Downtown Queenstown
- Queenstown Chamber of Commerce
- Destination Queenstown
- Relevant government departments, for example the Ministry of Business, Innovation and Employment.

It is anticipated that, for the delivery of the construction phase, an independent group will be established with seconded representatives from each of the parent organisations.

12.4 Project management and assurance

12.4.1 Project Management Structure

At a project level, it may also be useful to adopt a standard a localised governance structure for detailed planning and delivery, as shown below. This will need to be tested and refined during the detailed planning phase and as the wider programme collaboration model is agreed.

12.4.2 Reporting Framework

It is expected that formal reporting to QLDC will be on a monthly basis and in alignment with QLDC standards (and NZTA or MBIE standards where they play a significant investment role).

The format of such reporting will be as agreed with the Project Sponsor but is likely to be a consolidated report of all delivery aspects including but not limited to the following topics:

- Executive Summary.
- Project Risks.
- Health & Safety.
- Programme & Milestones.
- Consent & Consultation.
- Design Status.
- Contractor Report.
- Financial.

12.4.3 Project Management Plans

Project Management Plans (PMP) are developed within each business case to outline ‘how the project will be delivered’. The PMP typically identifies:

- project’s goals and objectives
- scope definition
- key personnel with roles and responsibilities
- delivery programme
- procurement of services
- cost estimating and budget
- risk management including identifying and ‘treating’ risks
- RMA processes / procedures / compliance
- quality management / assurance
- communications plan including project partners and all key stakeholders
- project closure.

The PMP for the Arterials project will be prepared to meet NZTA requirements.

The PMP is a 'live document', which is continually reviewed and updated over the project life. Significant changes to the project's key deliverables will be documented.

The PMP will include a Construction Management Plan to outline how the works be built to minimise short-term impact on the functioning of the town centre.

12.4.4 Assurance and Acceptance

There will be key stages and documents that will require formal review and acceptance. These are identified in the table below:

Project Management Plan:	Project review and acceptance required.
Supplier Engagement:	• Tender Evaluation Teams to be selected from appropriately qualified personnel with no conflict of interest in the process. • Contractor/s will be procured in general accordance with the QLDC Procurement Manual. • Qualified tender evaluators to be used as far as possible. • Tender Evaluation Recommendation to be submitted for approval in accordance with QLDC procedures and NZTA requirements.
Preliminary and Final Designs / Documentation:	• To follow normal internal review procedures of relevant organisation. • Preliminary and final designs, and documentation to be submitted to Project Manager for approval.
Budget / Cost Estimates:	• To follow normal internal review procedures. • To be updated monthly with reporting, once construction commences. • Project Manager to review and confirm budgets monthly. • Any significant deviations to be reported to Project Control Group as appropriate.
Construction:	• QA requirements to be outlined in contract documentation. • Contractor to submit QA plan prior to commencing physical works – to include QA procedures for construction as well as identification and rectification of faults

12.4.5 Monitoring Change, Cost and Programme

The project will be monitored throughout for any changes that may impact on cost and programme as below:

Change Management:	Process for monitoring and assessing actual or potential changes that may impact on project delivery in terms of time, budget and quality/specification.	The Project Manager will develop systems to address actual or potential changes for pre-implementation and implementation stages to ensure they do not negatively impact on the project outcomes, delivery timeframe or forecast budget. This will include: • Identification of actual or potential change • Monitoring / recording of the actual or potential change and the likely impact. • Review of the change for implications on time, budget and specification. • Approval process, does approval need to be sought from PCG.
Cost Management:	Process for tracking and managing actual costs to ensure they stay in line with the project budget whilst meeting time and specification/quality requirements.	
Programme Management:	Process for tracking and managing progress to ensure completion to time whilst meeting budget and specification/quality requirements.	

12.5 Risk Management

A detailed risk register has been developed to address current and future risks as the Masterplan Programme moves through the detailed planning and delivery stages. This is included as Appendix 10. This register has been updated through several recent workshops. Under the direction of the Senior Responsible Officer, the register is currently managed by Gareth Noble. It is recommended that Gareth retain the nominal role of Risk Manager for the programme and the projects until each project moves into the implementation phase.

The risk register is intended to be continuously updated and reviewed throughout the course of the project. It is also recommended that a Risk Management Plan be developed to look across the programme and inform the management of risk at a project level. Each project detailed business case should include a risk management plan and register that demonstrates integration with the programme.

12.6 Communications and Stakeholder Engagement

It will be important to continue the level of transparency that has been a big feature of the Masterplan programme to date. The extensive engagement undertaken so far has been a huge contributor to the successful development of the programme options and the feedback received recently will help shape the options as they move into the detailed planning phase. Importantly, providing plenty of notice ahead of changes will be critical, particularly around parking pricing changes and shifts from free to paid parking for expanded areas.

A formal consultation period is scheduled for March 2018 and this will focus on the full draft masterplan programme following the refinement that is set to occur between October 2017 and March 2018.

As done during the indicative business case development, leveraging governance and stakeholder groups will be a key part of informing and engaging a wide audience, alongside regular main stream updates (such as the QLDC website, social media channels and monthly newsletter). Key groups to regularly inform and gain guidance from will be:

- the proposed Alliance
- QLDC Executive Leadership Team
- QLDC Councilors
- the Transport Advisory Group
- a Stakeholder Adviser Group (in its current or revised form)
- community and business groups noted in this project's stakeholder matrix.

12.7 Benefits Management

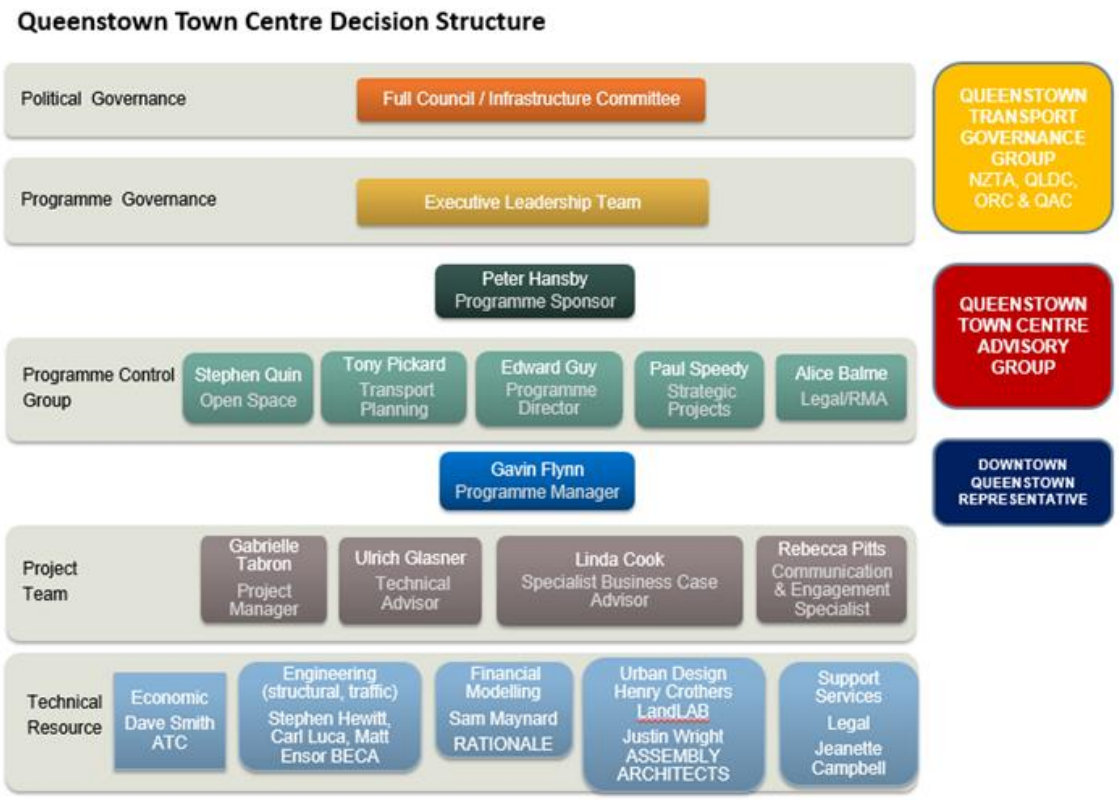
The benefits map shown in section 5.2.1 demonstrates the way the agreed benefits will be measured. Work is underway to establish the baselines and validate the measurement types. This map will be used to generate a benefit register for regular reporting and a benefits management plan to show how benefits will be monitored and managed throughout the programme delivery. These items will be completed as part of the detailed business plan and should be integrated into the Masterplan programme.

12.8 Next Steps

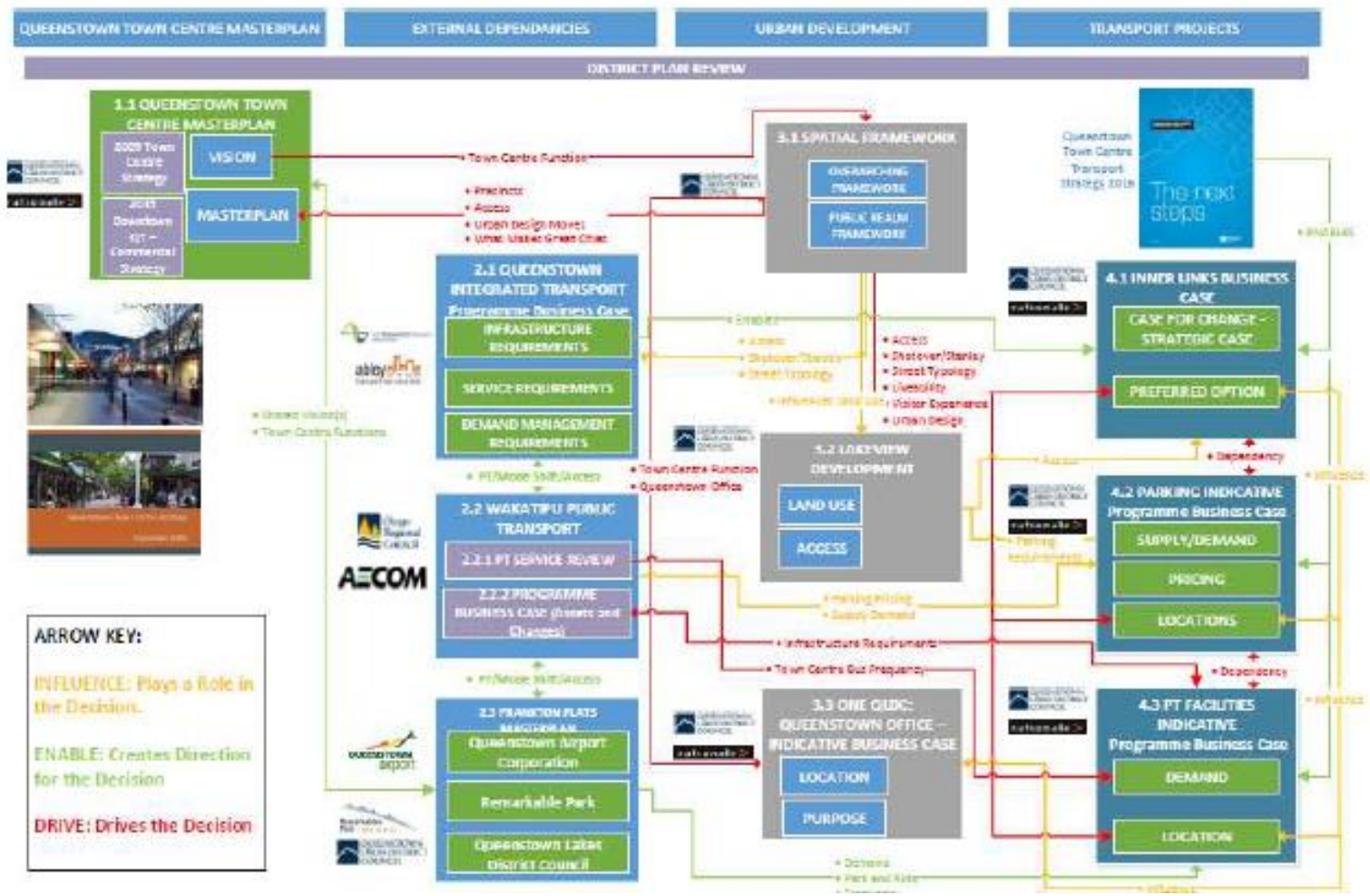
This business case seeks approval from decision-makers to take the project business case into the detailed planning phase. This detailed phase will build on the work done to date to confirm:

- strategic alignment
- value for money selections
- commercial strategies
- funding arrangements
- management strategies.

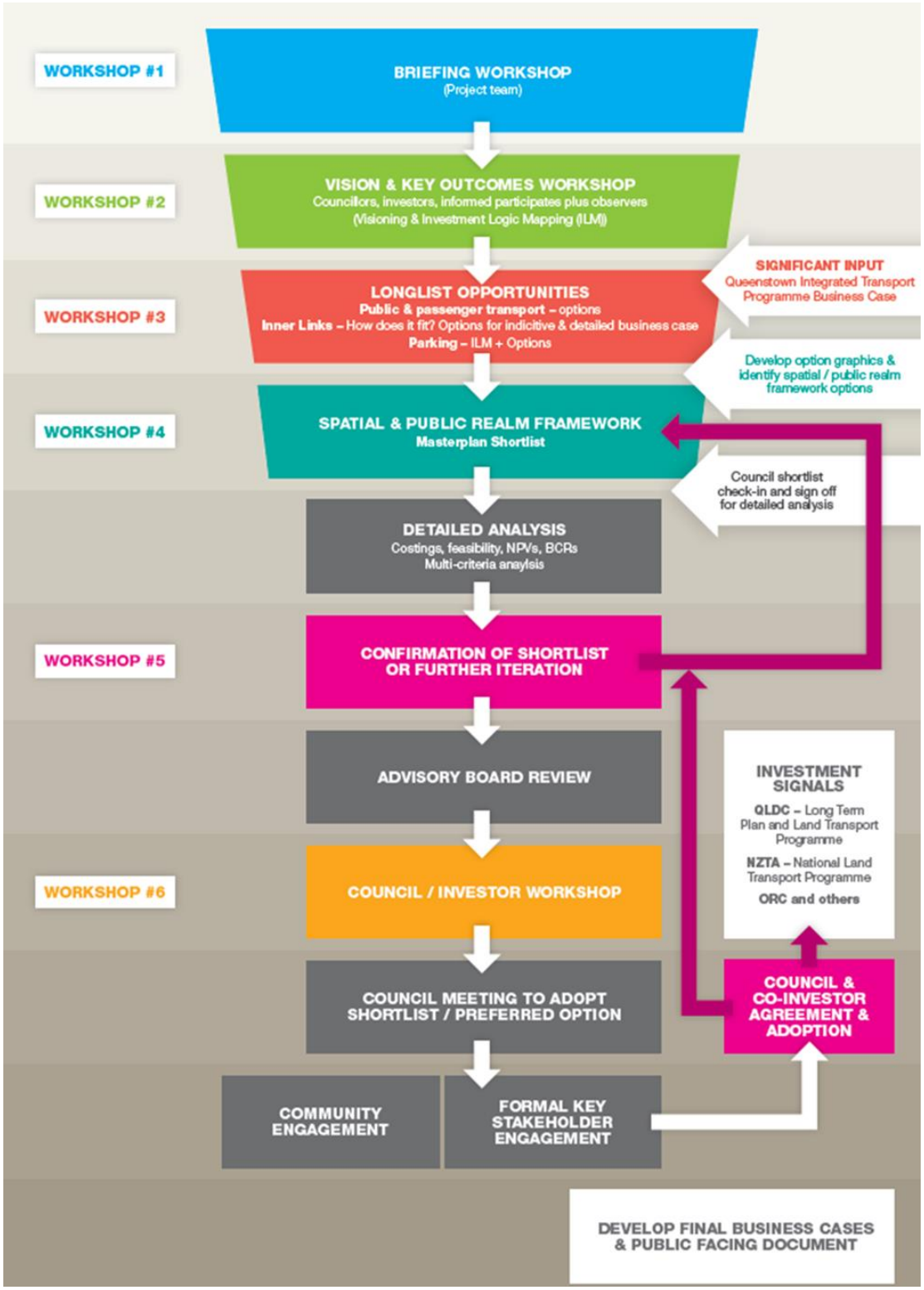
Appendix 1: Queenstown Town Centre Decision Structure



Appendix 2: Project Integration Diagram



Appendix 3: Queenstown Town Centre Masterplan – Project Flow Diagram



Appendix 4: Queenstown Masterplan – Queenstown Arterials Preliminary Design Report (Beca, September 2017)

Appendix 5: Queenstown Town Centre Masterplan Arterials Longlist Options Assessment

Queenstown Town Centre Masterplan Arterial Long List

Longlist Options Assessment

	Scope Options																				
	Demand					Shotover Street - Stage 3					Stanley Street - Stage 1				Intersection - Stage 2			Arterials			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Description of Option:	**Status Quo - Do Nothing**	**Do-Minimum - Travel Demand Management**	**Arterial Relief**	**Minor Arterial Upgrade**	**Cordon Charging**	**Shotover Street Arterial Support - Man St/Shotover St One-way Pair**	**Shotover Street Arterial Replacement Option 1 - New Man Street / Thompson Street Arterial link**	**Shotover Street Arterial Replacement Option 2- Isle Street Arterial - One Mile to Memorial Street**	**Shotover Street Arterial Replacement Option 3 - New Man Street / Thompson Street/Isle Street Arterial - One Mile to Memorial Street/Robins Road**	**Shotover Street Arterial Replacement Option 4 - Outer Boundary Arterial**	**Stanley Street Arterial Replacement Option 1 - Ballarat Car Park/Henry Street**	**Stanley Street Arterial Replacement Option 2 - Coronation Dr/Henry St**	**Stanley Street Arterial Support Option 3 - Melbourne St/Stanley St One-way Pair**	**Stanley Street Arterial Replacement Option 4 - Melbourne St/Henry St**	**Combined Shotover Street and Stanley Street Preferred Arterial Replacement options**	**Combined Shotover Street and Stanley Street Preferred Arterial Replacement options - Melbourne St/Frankton Road intersection to One Mile Via QLDC Site**	**Combined Shotover Street and Stanley Street Preferred Arterial Replacement options - Melbourne St/Frankton Road intersection to One Mile Via Private Land**	**Stanley Street Arterial Replacement Only - Melbourne St to Henry St**	**Stanley Street Arterial Replacement Only - Melbourne St to Man St**	**ShotoverArterial Replacement Only - New Man Street / Thompson Street Arterial link**	**Combined Shotover Street and Stanley Street Arterial Replacement**
Detail Description	No Investment	Modal Shift Improvements - Improved Bus Service, Upgraded Camp Street Bus Station, On and Off Street Parking Changes, Reduction of On Street All Day Parking close to the Town Centre	Hallenstein Street Traffic Flow Improvements - Better accommodate traffic between Frankton Road and Gorge Road - No down grade of Stanley Street between Ballarat Street and Shotover Street	Arterial diverted to Duke Street and Memorial Street with Hallenstein Street upgrade to improve traffic flow to better accommodate traffic between Frankton Road and Gorge Road - Shotover Street between Rees Street and Stanley Street modified to a Shared Space (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced) and no down grade of Stanley Street between Ballarat Street and Shotover Street	Smarter Road Pricing to support modal shift	New arterial using Memorial, Man and Thompson Streets with a one-way connection to One Mile roundabout with Shotover Street one-way between Beach Street and Stanley Street to allow narrowed to provide wider footpaths. Lake Esplanade traffic calmed to reduce traffic speeds.	New arterial using Memorial, Man and Thompson Streets with connection to One Mile Roundabout - Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced). Lake Esplanade traffic calmed to reduce traffic speeds.	New arterial using Memorial, Man and Thompson Streets with connection to One Mile Roundabout - Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced). Lake Esplanade traffic calmed to reduce traffic speeds.	New arterial from Memorial Street to One Mile Roundabout using Man and Thompson Streets and Isle Street and Robins Road - Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced) Lake Esplanade traffic calmed to reduce traffic speeds.	New arterial aligned to the back of Lakeview Subdivision (PC50) at the base of Mt Ben Lomond with connection from Memorial Street to One Mile Roundabout, intersecting with Robins Road - Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced) Lake Esplanade traffic calmed to reduce traffic speeds.	Arterial diverted through the Ballarat Street carpark to Henry Street. New Traffic Signal controlled intersection at Stanley Street/Arterial Link and Henry Street/Gorge Road - Stanley Street downgraded between Ballarat Street and Shotover Street	New arterial using the Coronation Drive and Henry Street alignment through the Ballarat Street carpark. New Traffic Signal controlled intersection at Coronation Drive/Stanley Street/Arterial Link and Henry Street/Gorge Road - Stanley Street downgraded between Ballarat Street and Shotover Street	New arterial Melbourne Street, Henry Street one-way between Beetham Street and Gorge Road with Stanley Street one-way between Shotover Street and Ballarat Street to support wider footpaths and narrow the carriageway	New arterial using the alignment Melbourne Street to Henry Street. New Traffic Signal controlled intersection at Melbourne Street/Frankton Road and Henry Street/Gorge Road - Stanley Street downgraded between Ballarat Street and Shotover Street	New arterial to replace Shotover Street and Stanley Street. This will allow Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced), Stanley Street downgraded between Ballarat Street and Shotover Street	New arterial to replace Shotover Street and Stanley Street via QLDC Site. This will allow Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians(Greater Pedestrianisation with vehicle speeds and capacity significantly reduced). Lake Esplanade traffic calmed to reduce traffic speeds. Stanley Street downgraded between Ballarat Street and Shotover Street. Gorge Road between Stanley Street and Henry Street, and Memorial Street between Shotover Street and Templeton Way to be closed or modified.	New arterial to replace Shotover Street and Stanley Street via Private Land. his will allow Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians(Greater Pedestrianisation with vehicle speeds and capacity significantly reduced). Lake Esplanade traffic calmed to reduce traffic speeds. Stanley Street downgraded between Ballarat Street and Shotover Street. Gorge Road between Stanley Street and Henry Street, and Memorial Street between Shotover Street and Templeton Way to be closed or modified.	New arterial using the alignment Melbourne Street to Henry Street. New Traffic Signal controlled intersection at Melbourne Street/Frankton Road and Henry Street/Gorge Road - Stanley Street downgraded between Ballarat Street and Shotover Street. Shotover Street would remain the arterial connection to One Mile with capacity improvements at Camp St and Rees St intersections	New arterial using the alignment Melbourne Street to Man Street. New Traffic Signal controlled intersection at Melbourne Street/Frankton Road, Henry Street/Gorge Road and Man Street/Camp Street - Stanley Street downgraded between Ballarat Street and Shotover Street. Shotover Street would remain the arterial connection to One Mile with capacity improvements at Camp St and Rees St intersections. PC 50/ Lakeview and off street parking would be better connected to Arterials.	New arterial using Memorial, Man and Thompson Streets with connection to One Mile Roundabout - Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced). Lake Esplanade traffic calmed to reduce traffic speeds. Stanley Street would remain as an arterial connection to Frankton Road.	New arterial to replace Shotover Street and Stanley Street. This will allow Shotover Street between Beach Street and Stanley Street changed to a low speed environment with focus on pedestrians (Greater Pedestrianisation with vehicle speeds and capacity significantly reduced), Stanley Street downgraded between Ballarat Street and Shotover Street
Investment Objectives																					
Improved access to and through the Town Centre - 30% KPI 1: Increased modal shift by Bus, Cycle and Walking KPI 2: Increased Person Trips throughput KPI 3: Travel Time Savings and Reduced Variability in vehicle trips KPI 4: Spatial location of Transport Choices	No	Partial	Partial	Partial [2]	Yes [3]	Partial	Yes	Partial	Yes	No	Partial	Partial	Partial	Partial	Partial	Yes	Yes	No	Yes	No	Yes
Improved Liveability and Visitor Experience in the Town Centre - 55% KPI 1: Liveability within the Town Centre and by surrounding residents KPI 2: Visitor Experience within the Town Centre KPI 3: Greater Mobility Choices within the Town Centre	No	Partial	No [1]	No	Partial	No	Yes	Yes	Yes	Yes	Partial	Partial	No	Partial	Partial	Yes	Yes	No	Partial	No	Yes
Increased Economic Performance of the Town Centre- 15% KPI 1: Increased Commercial GFA of the Town Centre KPI 2: More Jobs within the Town Centre	No	No	No	No	No	No	Yes	Yes	Yes	Partial [4]	Partial	Partial	No	Yes	Partial	Yes	Yes	Partial	Partial	No	Yes
Critical Success Factors (as these CSFs are c	No																				
Strategic fit and business needs - *Masterplan ILM Wording*	No	Partial [7]	No	No	No	Partial	Yes	No [8]	No [8]	Partial	Partial	Partial	Partial	Yes	Partial	Yes	Yes	No	Partial	No	Yes
Assessment of Environmental Effects - *includes Construction Impacts, Safety, Heritage, Cultural, Urban Design, Landscape, Natural environment,*	Partial	Partial	Partial	Partial	Partial	Partial	Partial	Partial	No [8]	No	Partial	Partial	Partial	Partial	Partial	Partial	Partial	Partial	Partial	Partial	Partial
Potential value for money - *Optimises public value (Social, Economic and environmental, in thers of the potential costs, benefits and risks*	No	Partial	Yes	No	Yes	No	Partial	Partial	Partial	No	Partial [5]	No	Partial	Partial	Partial	Partial	Partial	Partial	Partial	Partial	Partial
Supplier capacity and capability - *Matches the ability of potential suppliers to deliver the required infrastructure*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Partial	Partial	Yes	Yes	Yes	Yes	Yes
Potential affordability - *is funding available? Timing?*	Yes	Yes	Yes	Yes	Yes	Partial	Partial	Partial	Partial	No	Yes	Yes	Partial	Partial	Partial	Partial	Partial	Yes	Yes	Yes	Yes
Potential achievability - *ability and skills to deliver (QLDC/NZTA), land acquisition and consenting.*	Yes	Yes	Partial	No	Partial	Partial	Yes	Partial	Yes	No	Partial [6]	Partial [6]	Partial	Yes	Yes	Partial	Yes	Yes	Yes	Yes	Yes
Summary of Advantages and Disadvantages:																					
Overall Assessment:	Continued for VFM	Possible	Discount	Discount	Discount	Discount	Preferred	Discount	Discount	Discount	Discount	Discount	Discount	Preferred	Possible	Possible	Preferred	Discount	Possible	Discount	Preferred
Shortlisted options:																					
Status Quo option	Status Quo - Do Nothing					Status Quo - Do Nothing					Status Quo - Do Nothing				Status Quo - Do Nothing			Status Quo - Do Nothing			
Do Min - Stages 1 & 2 only	Do-Minimum - Travel Demand Management					Status Quo - Do Nothing					Stanley Street Arterial Replacement Option 4 - Melbourne St/Henry St				Combined Shotover Street and Stanley Street Preferred Arterial Replacement options - Melbourne St/Frankton Road intersection to One Mile Via Private Land			Stanley Street Arterial Replacement Only - Melbourne St to Man St			
Less Ambitious - Stages 1 & 3 only - no link	Do-Minimum - Travel Demand Management					Shotover Street Arterial Replacement Option 1 - New Man Street / Thompson Street Arterial link					Stanley Street Arterial Replacement Option 4 - Melbourne St/Henry St				Combined Shotover Street and Stanley Street Preferred Arterial Replacement options			Combined Shotover Street and Stanley Street Arterial Replacement			
Preferred - Stages 1,2 & 3 - link via private land	Do-Minimum - Travel Demand Management					Shotover Street Arterial Replacement Option 1 - New Man Street / Thompson Street Arterial link					Stanley Street Arterial Replacement Option 4 - Melbourne St/Henry St				Combined Shotover Street and Stanley Street Preferred Arterial Replacement options - Melbourne St/Frankton Road intersection to One Mile Via Private Land			Combined Shotover Street and Stanley Street Arterial Replacement			
Most Ambitious - Stages 1,2 & 3 - link via QLDC land	Do-Minimum - Travel Demand Management					Shotover Street Arterial Replacement Option 1 - New Man Street / Thompson Street Arterial link					Stanley Street Arterial Replacement Option 4 - Melbourne St/Henry St				Combined Shotover Street and Stanley Street Preferred Arterial Replacement options - Melbourne St/Frankton Road intersection to One Mile Via QLDC Site			Combined Shotover Street and Stanley Street Arterial Replacement			

Appendix 6: Queenstown Town Centre Masterplan Arterials Shortlist Options Assessment

			Strategic options			
		Option 1	Option 2	Option 3	Option 4	Option 5
Strategic Interventions		Status Quo option	Do Min - Stages 1 & 2 only	Less Ambitious - Stages 1 & 3 only - no link	Preferred - Stages 1,2 & 3	Option 4 but staged to maximise benefits and funding
Demand management			34%	34%	25%	25%
Stage 1 - Stanley St relief			33%	33%	25%	25%
Stage 2 - Arterial link - Henry to Man			33%		25%	25%
Stage 3 - Shotover St relief				33%	25%	25%
	Total	0%	100%	100%	100%	100%

NOTES

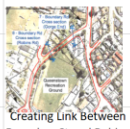
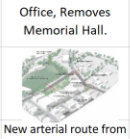
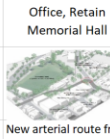
1 The range of strategic interventions that could respond to the identified problem and deliver the KPIs for the expected benefits are listed in the left-hand column.
2 Against the listed strategic interventions a spread of strategic options are structured to provide genuine alternative strategic responses to the problem.
3 Strategic options should be titled to reflect the underlying strategy.
4 The shaded boxes indicate which interventions are used in each option and the percentage (%) indicates the relative importance of each specific intervention within the option.
5 This is a balance of two factors: the importance of the intervention in delivering the KPIs and the likely effort/cost involved.

			Strategic options				
			Option 1	Option 2	Option 3	Option 4	Option 5
Benefits			Status Quo option	Do Min - Stages 1 & 2 only	Less Ambitious - Stages 1 & 3 only - no link	Preferred - Stages 1,2 & 3	Option 4 but staged to maximise benefits and funding
Full benefit to be delivered		33%	0.00	0.12	0.57	1.00	0.77
Benefit 1	Improved access to and through the Town Centre - 30%	30%	0	2	1	3	3
Benefit 2	Improved Liveability and Visitor Experience in the Town Centre - 55%	55%	0	-1	2	3	2
Benefit 3	Increased Economic Performance of the Town Centre- 15%	15%	0	2	2	3	2
Cost							
Investment cost (Range)			$n mil - $n mil	$65m - $99m	$108m - $184m	$134m - $224m	$134m - $224m
Operational costs if significant (Range)			$n mil - $n mil pa	$n mil - $n mil pa	$n mil - $n mil pa	$n mil - $n mil pa	$n mil - $n mil pa
Time							
(Range)			mm-mm	mm-mm	mm-mm	mm-mm	mm-mm
Implementability		33%	-0.33	-0.33	-1.17	-0.33	-0.50
Technical			0	-2	-2	-2	-2
Consentability			0	-1	-1	-1	-1
Safety and design			0	-1	-1	-1	-1
Operational/Maintenance			0	-1	-2	-2	-2
Financial			0	2	0	1	2
Stakeholders/Customers			-2	1	-1	3	1
Assessment of Effects		33%	-0.56	0.44	1.00	1.33	0.78
Safety			0	1	2	3	2
Cultural			0	-1	0	-1	-1
Built Environment			0	2	1	2	2
Natural Environment			0	-1	-1	-2	-2
Social			-1	1	2	3	2
Human Health			0	1	2	3	2
Property			0	-2	-1	-2	-2
System Integration			-2	1	2	3	2
Economics			-2	2	2	3	2
Ranking		100%	-0.30	0.08	0.13	0.67	0.35
1-3			5	4	3	1	2

Appendix 7: Man Street to Henry Street Connection – MCA

Queenstown Town Centre Arterials
Henry - Man Street Connection

Investor: NZTA/QLDC
Facilitator: Edward Guy
Initial Workshop: 3/04/2017
Version No.: 1.0
Last Modified by: Tom Lucas 08/09/2017

			Activity options									
			Activity 1	Activity 2	Activity 3	Activity 4	Activity 4.1	Activity 4.2	Activity 5	Activity 6	Activity 7	Activity 8	Activity 9
Outcome: Network Performance & Capability			**Do Nothing**	**Do a bit more**	**Boundary Street**	**Sweeping Curve Options -** Retain Council Office and Memorial Hall	**Sweeping Curve Options -** Removes Council Office & Memorial Hall	**Sweeping Curve Options -** Retain Council Office, Removes Memorial Hall	**Continuation of Grid System - Memorial St to Gorge Road -** Retains Council Office, Removes Memorial Hall.	**Continuation of Grid System - Memorial St to Gorge Road -** Removes Council Office, Retain Memorial Hall	**Continuation of Grid System - Memorial St to Gorge Road -** Removes both Council Office and Memorial Hall	**Overpass**	**Tunnel**
							Pink	Yellow					
	DESCRIPTION		Existing layout of the block between Shotover Street and the Recreation Ground.	Using existing streets with improvements creating a chicane feature. May require nominal land purchase. Compare Beach St, Parnell Rise, Stanley St, The Strand	Creating Link Between Boundary St and Robins Rd. Land Status.	New arterial route from Memorial Street to Henry Street. This option establishes a new road alignment between Camp Street and Gorge Road and a new signalised intersection. Retains both the Library and Memorial Hall.			New arterial route from Memorial Street to Henry Street following the alignment of the existing paper road between Camp Street and Gorge Road. This option retains the requires the removal of the Memorial Hall but retains the existing QLDC building.	New arterial route from Memorial Street to Henry Street. This option retains the Memorial Hall and relocates the Library.	New arterial route from Memorial Street to Henry Street. This option relocates both the Library and the Memorial Hall. Signalised intersections at Memorial and Gorge Road Intersection and Stanley and Henry Street.		
		Relative Importance of objective	0%	12%	0%	60%	74%	76%	70%	40%	60%	27%	50%
Investment Objective 1	Improved liveability and visitor experience in the town centre	55%	0%	10%	0%	60%	75%	80%	70%	40%	70%	15%	50%
Investment Objective 2	Improved access to and through the town centre.	30%	0%	20%	0%	70%	80%	80%	70%	40%	40%	50%	50%
Investment Objective 3	Increased economic performance	15%	0%	5%	0%	40%	60%	50%	70%	40%	65%	25%	50%
Cost													
Net Land & Building Costs - Private			$ -	$ -	$ -	$ 7,730,000	$ 1,590,000	$ 5,310,000	$ -	$ -	$ -	$ -	$ -
Net Land & Building Costs - QLDC			$ -	$ -	$ -	$ -	$ 15,110,000	$ 14,710,000	$ 17,310,000	$ 9,300,000	$ 26,610,000	$ -	$ -
Re-Development Costs Elsewhere			$ -	$ -	$ -	$ -	$ 31,140,250	$ 25,015,250	$ 25,015,250	$ 6,125,000	$ 31,140,250	$ -	$ -
Pre-implementation costs			$ -	$ -	$ -	$ 448,846	$ 448,846	$ 448,846	$ 1,274,604	$ 466,333	$ 1,105,906	$ -	$ -
Implementation costs			$ -	$ -	$ -	$ 6,583,354	$ 6,583,354	$ 6,583,354	$ 18,694,996	$ 6,839,849	$ 16,220,658	$ -	$ -
Operational costs if significant (Range)													
Total Cost			**$ -**	**$ -**	**$ -**	**$ 14,762,200**	**$ 54,872,450**	**$ 52,067,450**	**$ 62,294,850**	**$ 22,731,182**	**$ 75,076,815**	**$ -**	**$ -**
Revenue/Income/Asset Sales													
Land & Building - QLDC			$ -	$ -	$ -	$ -	$ 7,706,100	$ 7,502,100	$ 8,828,100	$ 4,743,000	$ 13,571,100	$ -	$ -
Net Cost to QLDC													
Net Cost to QLDC			**$ -**	**$ -**	**$ -**	**$ 14,762,200**	**$ 47,166,350**	**$ 44,565,350**	**$ 53,466,750**	**$ 17,988,182**	**$ 61,505,715**	**$ -**	**$ -**
Time													
To end of construction						5yrs			5-10yrs	3yrs	5-10yrs	5Yrs	5-10yrs
Business Needs													
Limit Severance			L	L	L	L	M	M	M	L	M	H	H
Enhanced Public Space			L	L	L	M	H	H	M	M	H	L	H
Urban Design Outcomes			L	L	L	L	M	M	M	M	M	L	H
Built Form Outcomes			L	L	L	L	M	M	H	L	H	L	H
Meeting NZTA/AUSROADS Standards			L	L	M	M	M	M	H	M	H	H	H
Legibility/Drivability of the Street Network			L	L	L	H	H	H	H	H	H	H	H
Supports Recreation Ground - Expanded Recreational Activity			L	L	M	L	L	L	H	H	H	H	H
Pedestrian Capacity			L	L	M	M	H	H	H	M	H	H	H
Limit Environmental Impacts (Protected Trees, Horne Creek)			H	H	M	H	H	H	L	H	L	L	M
Civic Heart, Community Facilities			M	M	M	L	M	M	H	L	H	M	M
Community Acceptance			L	L	L	M	M	M	M	M	M	L	H
Risks													
Technical			L	L	M	M	M	M	H	M	H	H	H
Operational (Network)			H	H	H	L	L	L	L	L	L	M	H
Financial			L	L	M	M	M	M	H	M	H	H	H
Stakeholder/Public			H	H	H	H	H	H	H	H	H	H	H
Environmental			L	L	M	M	M	M	H	M	H	H	H
Safety (Network)			M	M	M	M	M	M	L	M	L	M	L
Economic			H	H	H	M	M	M	L	M	L	L	L
Accessibility & Social Inclusion			M	M	M	M	M	M	L	M	L	L	L
other													
Dis-benefits													
New Squash Club			L	L	L	L	L	L	H	L	H	<insert description>	<insert description>
New Rugby Club Rooms			L	L	L	L	L	L	H	L	M	<insert description>	<insert description>
Indicative Activity Profile:			<insert profile>	<insert profile>	<insert profile>	<insert profile>	<insert profile>	<insert profile>	<insert profile>	<insert profile>	<insert profile>	<insert profile>	<insert profile>
Ranking													
Score			0.00	0.00	0.00	0.32	0.36	0.38	0.27	0.33	0.26	0.00	0.00
			#N/A	**#N/A**	**#N/A**	**4**	**2**	**1**	**5**	**3**	**6**	**#N/A**	**#N/A**
Overall Assessment:													

Appendix 8: Queenstown Town Centre Masterplan Modelling Report

(Abley Transportation Consultants - 13 November 2017)

Appendix 9: Cost Estimates

Appendix 10: Queenstown Masterplan Arterials Risks

Risk Event – Description	Causal Factor – Probable Cause	Consequence	Mitigation in place	Intended Mitigation	Risk Score/ Risk Owner
Arterials: There is a threat that the option assessment does not meet stakeholder/partner expectations.	▪ Lack of visibility of option assessment; speed at which programme is moving ▪ Changing the status of the highway status. ▪ If there are certain users who can no longer use it. E.g. cyclists. ▪ The preferred option does not provide for future development (hotels, etc.) ▪ Failure to adequately forecast future use.	▪ Option falls over / doesn't getting funding. ▪ Implications on wider network and spatial planning.	▪ Engagement process underway (NZTA, ORC, affected parties) ▪ Workshop held with NZTA to clarify expectations, roles and responsibilities (16 August 2017) ▪ NZTA Process Gap Analysis completed for agreed Indicative Business Case.	▪ Additional engagement needed with NZTA to define roles and responsibilities for delivery and funding ▪ Include PT benefits (i.e. gondola landing) within MCA for Stage 2 Option 4.1 to justify as the preferred option.	▪ H ▪ PH/UG ▪ Project team ▪
Arterials: There is a threat that demand exceeds the design capacity sooner than we anticipated.	▪ Assumptions used in the modelling are incorrect.	▪ The public will perceive that we have not solved the problem.	▪ Modelling future demand ▪ Using outcomes for design ▪ Ensure public/passenger transport project is delivered	▪ Plan for rapid transport system	▪ M ▪ Beca ▪ Project team
Arterials: There is a threat that giving traffic an alternative route undermines the economic activity of *the town centre.	▪ Less traffic through flow the CBD. ▪ People perceive that business will relocate to the alternative route.	▪ Business owners are not supportive of the Arterial Project. ▪ Negative media.	▪ Master planning to incorporate spatial frame work Engagement process underway	▪ Develop staging plan, shared space design based on public life survey data	▪ M ▪ Project team

Risk Event – Description	Causal Factor – Probable Cause	Consequence	Mitigation in place	Intended Mitigation	Risk Score/ Risk Owner
Arterials: There is a threat that the design does not meet NZTA's and stakeholders/partners expectations	▪ NZTA are a funding partner ▪ Limited engagement during detailed concept development (due to time). ▪ Land requirements are being reduced to make the Project viable.	▪ The option does not receive stakeholder support. ▪ Rework. ▪ Lack of funding. ▪ Implications on wider network and spatial planning	▪ Engagement process underway (NZTA, ORC, affected parties) ▪ Follow NZTA design requirements (best design to achieve objectives and funding).	▪ Additional engagement needed with NZTA to define roles and responsibilities for delivery and funding ▪ Ensure public/passenger transport project is delivered ▪ NZTA Process Gap Analysis to be completed to support Detailed Business Case ▪ One on one engagement with affected property owners needed	▪ M ▪ PH/UG ▪ Project team
Arterials: There is a threat that residents will oppose the option assessment.	▪ The proposed route is closer to affected residents and community groups (noise and traffic volume). ▪ Potential land take requirements. ▪ The Wakatipu Rugby Club, the Memorial Hall, RSA may need to be relocated.	▪ The option does not receive stakeholder support. ▪ Loss of political support. ▪ Rework.	▪ Engagement process underway (NZTA, ORC, affected parties). ▪ Rigorous options analysis ▪	▪ One on one engagement with affected property owners/parties needed ▪ ELT agreement that the preferred Stage 2 Option 4.1 will include removal of the protected Wellingtonian tree. ▪ Reconsider shortlisted options (e.g. double T intersection) within the DBC.	▪ H ▪ PH/UG ▪ Project team

Risk Event – Description	Causal Factor – Probable Cause	Consequence	Mitigation in place	Intended Mitigation	Risk Score/ Risk Owner
Arterials: There is a threat that the land may not be able to be purchased at a reasonable cost and in timely manner.	▪ Developers and owners of existing properties ▪ New District Plan changes zoning.	▪ Increased costs. ▪ Project delays. ▪ Rework.	▪ Engagement process underway with affected parties underway ▪ Balance land take with residual land for development.	▪ Progress one on one engagement with affected property owners/parties ▪ Prepare options/route alignment to eliminate risk	▪ H ▪ PH/UG Project team

Appendix 11: Assessment of Effects for the Town Centre Arterials and Public and Passenger Transport Facilities

Beca Ltd November 2017

Appendix 12: Environmental and Social Responsibility (ESR) Screen

ENVIRONMENTAL AND SOCIAL RESPONSIBILITY SCREEN V2.FEBRUARY 2016

NZ TRANSPORT AGENCY

Use to assess options in the Indicative Business Case

[illegible]

PROJECT LOCATION:	PROJECT PURPOSE:	DATE:	OPTION DESCRIPTION:
Queenstown Town Centre	MasterPlan	October 2017	Arterial Roads, Stages 1, 2 and 3

CATEGORY		QUESTION	ANSWER		USEFUL INFORMATION SOURCES
GENERAL	G1	[illegible]	Rural [ ] / [illegible] [ ] / [illegible] [ ]	Commercial [x] / Residential [x] / [illegible] [ ]	[illegible]
	G2	[illegible]	Y [ ]	N [x]	
	G3	[illegible]	[illegible] [x]	[illegible] [ ]	
NATURAL ENVIRONMENT	NE1	[illegible]	Y [ ]	N [x]	[illegible]
	NE2	[illegible]	Y [x]	N [ ]	[illegible]
	NE3	[illegible]	Y [ ]	N [x]	[illegible]
	NE4	[illegible]	Y [ ]	N [x]	[illegible]
	NE5	[illegible]	Y [ ]	N [x]	
CULTURAL AND HISTORIC HERITAGE	CH1	[illegible]	Y [ ]	N [x]	[illegible]
	CH2	[illegible]	Y [ ]	N [x]	
	CH3	[illegible]	Y [x]	N [ ]	
	CH4	[illegible]	Y [ ]	N [x]	
	CH5	[illegible]	Y [x]	N [ ]	
HUMAN HEALTH	HH1	[illegible]	[illegible] [ ] / Arterial [x]	[illegible] [ ] / [illegible] [ ]	[illegible]
	HH2	[illegible]	Y [ ]	N [x]	
	HH3	[illegible]	Y [x]	N [ ]	
	HH4	[illegible]	Y [ ]	N [x]	
		[illegible]	Y [x]	N [ ]	
SOCIAL	S1	[illegible]	Y [x]	N [ ]	[illegible]
		[illegible]: Memorial Hall & QLDC Gorge Road office			
	S2	[illegible]	Y [x]	N [ ]	
URBAN AND LANDSCAPE DESIGN	ULD1	[illegible]	Y [x]	N [ ]	[illegible]
	ULD2	[illegible]	Y [x]	N [ ]	
	ULD3	[illegible]	Y [x]	N [ ]	
	ULD4	[illegible]	Y [x]	N [ ]	

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Answers and Comments	Refer to [redacted] to help complete this part.

1. Summarize the potential environmental and social risks/impacts associated with this option. Consider short and long term risks and impacts.

NATURAL ENVIRONMENT	The Route generally follows the existing road alignment (other than a short section of unformed road between Melbourne and Henry Streets. This will minimise any impact. There are no outstanding natural features or landscapes in the area of interest. There are no known areas of potential natural hazards Horne Creek is within the identified site of the Arterial but will be protected through design and resource consent as required under the District and Regional Plans
CULTURAL AND HISTORIC HERITAGE	There are a number of protected sites (as identified in the District Plan) within 100m of the Arterial route as listed. There will be no impact on these buildings (with many more than a block away from the road alignment) although for sites adjacent to the road, protective measures will ensure their security with regards to retaining walls in the vicinity for example. There are also a number of protected trees alongside the identified route. Section 13 of the District Plan will apply with regards to the protection of heritage buildings and trees The route follows the existing alignment of the road which will minimise any impact
[illegible]	Following an existing route through Queenstown, there are residential properties along its route - impacts will be short term during construction. There will be benefits associated with reduced congestion and consequent reduced pollution Evidence for Plan Change 50 identified a HAIL site in the Lakeview sub-zone area - previous activities included the holiday park workshop, bulk storage of diesel, electrical transformers, historical use of the site as a cricket field and the maintenance of holiday park camping areas' - an assessment for PC50 concluded that 'it is highly unlikely there are contaminants in the sites' soils that present a risk to human health from the development and subsequent use of the land for high density residential, parks and recreation or commercial/industrial/outdoor activity'
SOCIAL	Affects on community cohesion and accessibility will be highly positive due to a significant reduction of traffic in the town centre through the provision of a through-route. As part of the Masterplan, this is a key consideration in the assessment of options. The preferred option does impact on the Memorial Hall but if the final design requires its removal, a new facility will be constructed in consultation with the community. Options are also being considered for a single site for QLDC offices.

The responses above will be used in the BC assessment of options summary table: MCA of the Option.

URBAN AND LANDSCAPE DESIGN	As part of the Queenstown Town Centre Masterplan, the proposed Arterials Route will deliver considerable benefits related to the alternative modes of public transport, walking and cycling. Links will be provided to the Queenstown Trails The proposal will enhance economic opportunities within the town centre with low speed environments, a reduction of traffic with through-traffic by-passing the town centre and rationalisation of parking facilities. Enhancement of the town centre is to be addressed in the Masterplan and Spatial Framework with the benefit of increased resident and visitor satisfaction.

Incorporate the relevant comments from above into the economy, social and geography sections of the BC assessment of options summary table.

2. What are the environmental, social integration, landscape design or urban design benefits or opportunities presented by this option? Particularly record opportunities that could be lost if not considered early in the design process.

Significant wider benefits have been identified as part of the business case.
The proposed arterial route is to be integrated under the Queenstown Masterplan with proposals for improved public transport facilities and rationalisation of parking facilities (separate business cases) and a spatial framework to facilitate urban design to meet Council's vision for a vibrant town centre.
The key wider benefits include the activation of Stanley and Shotover Streets with consequent improved economic and social opportunities through removal of the majority of traffic.
The provision of improved public transport and better provision for walking and cycling will encourage the use of alternative transport modes with environmental and social benefits.

3. Are there any impacts, risks or opportunities which require preliminary technical assessments to help understand risks or opportunities? Is further information required to support the development of the detailed business case or can it be left until the detailed business case/pre-implementation?

Geotechnical assessments will be required with a number of retaining walls proposed along the route
Some probe investigations have been undertaken to determine feasibility of options.

Completed by	
Reviewed by NZTA Project Manager	
Incorporated results into BC assessment of options summary table?	Yes / No

Appendix 13: Town Centre Arterials - Thompson Street Link Preliminary Design Report

Appendix 14: Queenstown Town Centre Masterplan – Wakatipu Transport Model Peer Review