



QUEENSTOWN BUSINESS CASE

Assurance Process

s 9(2)(a)

25 NOVEMBER 2020

FINAL

Copyright information

Copyright ©. This copyright work is licensed under the Creative Commons Attribution 4.0 International licence. In essence, you are free to copy, distribute and adapt the work, as long as you attribute the work to the NZ Transport Agency and abide by the other licence terms. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

Disclaimer

The NZ Transport Agency has endeavoured to ensure material in this document is technically accurate and reflects legal requirements. However, the document does not override governing legislation. The NZ Transport Agency does not accept liability for any consequences arising from the use of this document. If the user of this document is unsure whether the material is correct, they should refer directly to the relevant legislation and contact the NZ Transport Agency.

More information

NZ Transport Agency

Published [month and year]

ISBN [number]

If you have further queries, call our contact centre on 0800 699 000 or write to us:

NZ Transport Agency
Private Bag 6995
Wellington 6141

This document is available on the NZ Transport Agency's website at <http://www.nzta.govt.nz>

Contents

QUEENSTOWN BUSINESS CASE	1
1 Assurance and Review process	4
1.1 QA During Project Development and Delivery	4
1.2 Internal Review of 7 th September Draft	4
1.3 External Review of 7 th September Draft	4
1.4 Independent Quality Assurance Review (IQA)	5
1.5 Next Steps	5

Appendices

Appendix A Stantec Internal Review (against IQA 16 Questions)	6
Appendix B QLDC Internal Feedback and Response	7
Appendix C ARUP Design Review and Response	8
Appendix D: AECOM Review and Response	9
Appendix E: QLDC Overall Review and Response	10
Appendix F: IQA Review and Response	11
Appendix G: Commute Review and Response	12
Appendix H: Flow Economic Review	13
Appendix I: EY Economic Review	14
Appendix J: Way to Go Board Comments and Responses	15

1 ASSURANCE AND REVIEW PROCESS

It is recognised that the Quality Control and Assurance process is important for a document of this nature. This appendix details the QA process that has been applied during the progression of this business case development; the responses to the Business Case iterations; and the peer reviews.

1.1 QA During Project Development and Delivery

All technical notes, drawings and plans, and assessments involving calculations are subject to either:

- Check and Review prior to release
- Review only where there is no technical/ factual content to 'check' per se.

For the release of this business case after Waka Kotahi's IQA review, all documents, Technical Notes, plans and cost estimates have been marked Final. It is recognised, however, that there may be a further review and updates required from the Way to Go Board, QLDC and/or ORC, prior to completion of the Business Case for Waka Kotahi Board delivery. It is not expected that these updates will change the technical content of the appendices, but rather the presentation of information in the Options and Case documents. In which case the "Final" status and date of delivery will mark them as updated from the "Final" documents delivered up to the 25th November 2020.

The Business Case was also subject to a Peer Review process during its development, by a Challenge Team. An independent Challenge Team provided review of the emerging programme. The team were given a presentation and briefing in February 2020. Subsequently, their issues and questions were responded to and presented to the W2G Board and are not presented separately as an Appendix to this report.

The Independent Challenge Team comprised of Pete Clark (Waka Kotahi), s 9(2)(a) (Price Waterhouse Cooper) and s 9(2)(a) (Mein Consulting Limited).

1.2 Internal Review of 7th September Draft

The business case main documents (Exec Sum, Strategic Context, Options Assessment, Preferred Option and the other Case documents), were subject to Internal review by two Senior Stantec personnel who had no connection with development of the business case. They reviewed the document against the 16 IQA questions and a general review of the Strategic Case.

Their summary document is the first Appendix to this to this document. Their specific track changes and comments are held on file and available for review if required.

The project team endeavoured to respond to the feedback in the re-writes of their sections for the IQA release of the document (8th October 2020).

1.3 External Review of 7th September Draft

1.3.1 Client reviews

The business case was subject to review by several forums following the 7th September 2020 Provisional Draft issue. Comments and feedback were provided from the following partner organisations:

- Waka Kotahi NZ Transport Agency (Tony Sizemore),
- Otago Regional Council (Garry Maloney)
- Queenstown Lakes District Council (Tony Pickard)

QLDC provided a table with their queries and a response for team commentary which is appended with the project teams' actions/thoughts.

Waka Kotahi provided general feedback discussion (through review calls) and track changes to a number of the documents, which the authors have considered in their updating and review.

In addition, and on behalf of QLDC, reviews were undertaken by:

- AECOM (business case documentation)
- ARUP (drawings)

AECOM and ARUP provided an excel spreadsheet with their comments, to which the project team authors have responded with point by point comments.

Appendices 2, 3 and 4 to this document contain the comments and project team responses to QLDC generally ARUP and AECOM respectively.

1.3.2 Review by Matt Roberts

Matthew Roberts of QLDC provided a comprehensive review of the suite of Business Case main documents, and the design plans. Unfortunately, Matt's comments were not viewed by the project team until the closing stages of the Post-IQA review. A number of Matt's concerns had been addressed throughout the review as a matter of responses to other reviews, but others have not, and the project team responses reflect this. Where there is an opportunity for further review and update, the project team will review Matt's comments and respond where appropriate.

Matt's comments and the project team response are Appendix 5.

1.4 Independent Quality Assurance Review (IQA)

The business case and all appendices were submitted for Waka Kotahi's IQA review on 8th October 2020. The documents were reviewed by the IQA team, and other review agencies as detailed below.

1.4.1 IQA Review

The IQA team provided a suite of comments. Each was considered and the how the project team has responded is detailed in Appendix 6.

1.4.2 Commute Review

Commute consultancy (s 9(2)(a)) provided an overall review of the main business case document. Commute made a few comments related to improvement of presentation and evidence, and the project team's comments are appended to the rear of his document. Appendix 7.

1.4.3 Economics Review

Both Ernst and Young, and Flow provided a review of the project economics (EY predominantly the non-transport WEB, and Flow transport economics). Both found the business cases work adequate. The project team has not developed any responses to their reviews, which are included in Appendices 8 and 9.

1.4.4 Way to Go Board Review

The Way to Go Board members reviewed the Summary Document (considered the key document for communication of the Business Case to a broader audience). Each member (Peter Clark – Waka Kotahi; Peter Hansby – QLDC; Kesh Keshaboina – Waka Kotahi and Gavin Palmer – ORC) provided comments in the document text. Appendix 10 includes the Summary Document with all annotations, and the response from Alan Kerr is similarly recorded as a comment. Turning the document into a PDF does not permit the content of the comments to be recorded, however the full word document is retained and can be reviewed when required.

1.5 Next Steps

As of 25 November, the business case documents have been fully reviewed and resubmitted for the next stage of the review process, which is believed to require the review and support of the respective Councils and Committees, before presentation to the Waka Kotahi Board in December. At this stage is it uncertain whether further update is required for completion to Waka Kotahi Board. It is understood a Modelling Peer Review is in process.

**APPENDIX A STANTEC INTERNAL REVIEW
(AGAINST IQA 16 QUESTIONS)**

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

REPORT

QUEENSTOWN BUSINESS CASE - REVIEW

PREPARED FOR [CLIENT NAME]

September 2020



QUALITY STATEMENT

BRANCH

AddressLn1, AddressLn2, AddressLn3, AddressLn4
PO Box No, PO Box Suburb, PO Box City
Telephone Number, Fax Number

REVISION SCHEDULE

Rev No.	Date	Description	Signature or Typed Name (documentation on file)			
			Prepared by	Checked by	Reviewed by	Approved by

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

1. Introduction

This independent review considers the following documents which were prepared for the Queenstown XX business case:

- r_Waka Kotahi Strategic Context_QTBC_Draft v1
- r_Waka Kotahi Options Assessment_QTBC_Draft v1
- r_Waka Kotahi Exec Summary_QTBC_Draft v1
- r_Waka Kotahi Preferred Option QTBC_Draft v1

The review focuses on the extent to which the business case meets the Waka Kotahi Investment Questions, and highlights any gaps. Gaps may be addressed in three different ways:

- accept that there is a gap but agree that it doesn't need to be filled;
- provide other sources/reports to address the gap; and
- undertake further analysis and investigations to address the gap.

Agreement of the above will assist Waka Kotahi and Queenstown Lakes District Council in developing the scope for the next stages.

2. Review

Comments have been added to each document reviewed. Some of the more significant comments are also summarised below, along with provision of other, more general, comments.

2.1 Covid-19 Questions

Investment Question	Currently Provided	Gap
Does Covid-19 affect the problem, benefits, or option/preferred solution selection?	In the main the problems (pre-Covid-19) were linked to rapid growth in visitor numbers, residents, development, economic activity and traffic. However, Covid-19 travel restrictions have led to economic contraction and widespread job losses. The business case states that it is expected that business as usual will resume in 2024. This is not certain. Different growth rates were tested in the traffic modelling. The benefits will not accrue if international visitor numbers do not return to pre-Covid levels.	Uncertainty log testing different possible future scenarios. There are still benefits that will be realised through immediate investment – however this would be in job creation and economic stimulus. An evaluation of these aspects would help to justify the investment.
Will Covid-19 impact the delivery of the proposed solution?	The business case suggests that the solution will be easier to implement now due to lighter traffic volumes due to the economic downturn. Temporary traffic management will be less disruptive given there are no international tourists.	Covid-19 may affect the attractiveness of public transport in the future. This is not touched on in the business case.

2.2 Executive Summary

Comments have been added to the Executive Summary document including suggestions for further improvements. The key action is to ensure that what is in the Executive Summary is also in the other documents, for consistency.

2.3 Strategic Case

Covid-19: Covid-19 travel restrictions have weakened the case for investment in the normal sense. I would recommend a re-read of the document to weave through comments about the effects of the travel restrictions, and I have tried to highlight places where a comment would help to clarify or strengthen the case. In general, the case presented still reads very much like a traditional business case – we have lots of visitor and residential growth and more is coming, the economy is booming, roads are becoming congested, we need to better manage travel demand. However, with Covid-19 travel restrictions this is not the case.

The case for investment, in my view, relates to:

1. Confirming shovel ready projects that will create jobs in construction and in public transport service improvements to support recovery of the Queenstown Economy post-covid. This will allow Queenstown to proactively prepare for a future when international visitors return, stimulating other economic activities and unlocking benefits quickly, at that time.
2. It is the ideal time now to progress these transport projects as the effects of disruption will be far less, as there are far less visitors and traffic compared to constructing when activity is at normal or increasing levels
3. Due to the economic downturn and high unemployment rate it is critical to provide better travel choices now, that are cheaper than driving, to ensure continued access for those who may have their incomes affected.

Background: The 'Background' section tends to dominate, and the investment story does not come through clearly. The background is complicated and difficult for someone outside the project to follow. A concise summary which draws out the main points with the remainder in an appendix could help a reader unfamiliar with the history to quickly understand what is important and of relevance to the project.

It is not clear where this business case sits on the continuum – is it a Programme Business Case? This should be stated in the title so the reviewer knows what to expect and how to assess the business case.

Strategic Alignment: The 'Strategic Alignment' is very detailed and could be summarised in a table with the detail in an appendix. It would be helpful to have some overall conclusion about where the alignment to organisations strategies/policies is strongest.

Uncertainty Log: There is no uncertainty log and this needs to be added. Different scenarios need to be considered as Covid-19 travel restrictions add considerable uncertainty.

Consideration has been given to the Waka Kotahi Investment Questions for the Strategic Case, with responses provided in the following table.

Investment Question	Currently Provided	Gap
Problem/Opportunity Statements		
Is it clear what the problem is that needs to be addressed (both the cause and the effect)?	Four problem statements provided for SH6A, Frankton/Ladies Mile. Three problem statements provided for Queenstown Town Centre. The primary problem appears to relate to growth in traffic causing congestion and access difficulties.	No
Is there evidence to confirm the cause and effect of the problem?	Evidence is provided to confirm: • Growth • Mode share	No evidence to confirm: • Scale of congestion e.g. intersection and link levels of service from traffic model • Rat running

Investment Question	Currently Provided	Gap
	- Alternative routes - Traffic volumes - Congestion - Travel time reliability - Crashes - Visitor satisfaction Evidence supports better integrated transport system providing more choice and reducing car dependence. Evidence weak around whether not acting would have negative consequences. It is not clear if there is a strong case for investment. Problem statements have not been tested or refined in light of evidence.	- Erosion of liveability due to transport problems - Threat to future tourism growth - Scale of resilience issue e.g. TREIS data and ONRC level of service assessment - Perception of safety suppressing active mode use e.g. survey data - Noise and air quality issues - Safety risk e.g. common metrics –high risk intersections, high collective risk roads - Transport issues are constraining expansion of centre and limiting economic opportunities - Resident's satisfaction with transport There are comments in the 'customer insights' section which could be used to strengthen the evidence sections. Test/refine problem statements in light of evidence. Build stronger case based on broader evidence base.
Does the problem need to be addressed at this time?	The case for acting now is made around rapidly increasing visitor and resident numbers, and a booming construction industry and economy.	This needs updating as the covid-19 travel restrictions mean that the urgent need to respond to growth has disappeared for the short-medium term. There is still a case to invest now but it is quite different (see comments in 2.1.1 above).
Is the problem specific to this investment (or should a broader perspective be taken)?	The problems are specific to this investment.	No – although many of the problems are common across NZ (e.g. urban sprawl, lack of integrated land use and transport planning) this is partly social and political and needs to be addressed at a higher level.
Benefits		
Have the benefits that will result from fixing the problem been adequately defined?	A set of 12 outcomes have been identified.	Explain the outcomes more fully, some are not clearly defined.
Are the benefits of high value to Waka Kotahi (furthering its objectives)?	When comparing the outcomes to the Strategic Alignment, some are clearly of high value.	Some are of higher value than others, but this does not come across. Consider the outcomes that have been articulated alongside the 'Strategic Alignment' section. This may help clarify which are benefits are of highest value.
Will the measures specified provide reasonable evidence that the benefits have been delivered?	The measures will provide adequate evidence that the benefits have been delivered.	Other KPIs that could be considered based on the narrative in the strategic case: - Perception of safety - Suppressed demand for active travel - Liveability surveys - Resident's satisfaction with aspects of the transport network - PT patronage

Investment Question	Currently Provided	Gap
Are the measures both attributable and quantifiable to this investment?	Most measures presented are measurable. Information is in Appendix B.	Move Appendix B into the main document so the details of the KPIs are clear to the reader. Most are attributable to this investment, but there will be other factors at play that may influence whether they are achieved or not e.g. travel time reliability could be achieved in the current climate because there are no international visitors.

2.4 Options Assessment

Investment Question	Currently Provided	Gap
Have a sufficient range of strategic alternatives and options been explored (demand, productivity and supply)?	A long list of options is provided – 240 options for Queenstown Town Centre, 140 for Frankton to Queenstown. These are in Appendix B. These included options identified previously. Excluded options are only listed for public transport priority 1.	Identify which options in Appendix B are demand, which are productivity, and which are supply. Land use planning options seem to be omitted – be clear if these have been excluded. They are top of Waka Kotahi Investment Hierarchy and need to be mentioned. Public transport will work best when integrated with land use, with residential intensification along high frequency public transport networks and key network hubs or interchanges. Provide full list of excluded options with rationale.
Is it clear what strategic alternatives and options are proposed and the rationale for their selection?	Queenstown Town Centre Programmes (9) are presented in the report. There is no logical flow explaining how the team got from the long list to short list and to recommended programme. It is not clear how the long list of options were grouped into programmes. It could appear the long list was generated and put to one side.	Identify which options are included in which of the 9 programmes or provide a summary overview of each programme so the reader can understand each programme.
Are the proposed alternatives and options the most effective response to the problem (comprehensive and balanced)?	Rationale for the preferred programme direction appears to be based around stakeholder preference and direction.	It would be helpful if the scored MCAs were included for the more significant items. This would help justify the choice. Land use planning system is missing but critical to achieve the right residential densities to support PT, and the right approach to parking provision in new developments.
Are the proposed programmes feasible?	Yes they have been assessed to be feasible at this stage.	No

2.5 Detailed programme of packages/activities intervention

Investment Question	Currently Provided	Gap
Consistent with the strategic alternatives and options, have a reasonable range of project options been analysed?	It is a difficult to follow how the options have evolved between the Options Assessment Report and the Preferred Option Report. A consistent multi-criteria analysis approach does not appear to have been used (unless it is in an Appendix) – instead advantages and disadvantage tables are used. This makes it more difficult to confirm alignment with the agreed project outcomes and understand which options contribute to which outcomes. I can see that different options have been considered for some locations. However, in the preferred option it would help if there was reference as to why some locations are proposed to have underpasses and some pedestrian signals. I am not clear whether overbridges were also considered or not.	Great transparency and clarity would be beneficial in demonstrating this requirement has been met.
Is the proposed solution specified clearly and fully (all business changes and any assets)?	The proposed solutions have a high level description and justification and drawings have been provided in an Appendix.	No
Is the proposed solution the best way to respond to the problem and deliver the expected benefits?	Some justification is provided.	It would be helpful to have reference throughout to the desired outcomes, demonstrating the proposed solution is best. See comments under 2.4 also.
Can the solution really be delivered (costs, risks, timeframes, governance, etc)?	I did not see any detailed assessment of risks or costs in the preferred option report or others I reviewed and this is a gap – unless they are covered later	Risks not adequately covered.

2.6 Economic, Commercial, Financial and Management Case

Investment Question	Comments
Economic Case - Does the preferred option optimise value for money?	Be more overt drawing line of sight linkage with case for change. What benefits are we quantifying, how do these link into the overall case and what is their materiality? How reliable are the outputs and what have we done to acknowledge this degree of reliability in other parts of the business case? Have not reviewed economic analysis.
Commercial Case - Is the proposed deal commercially viable?	Would like it presented in a more systematic way as you would in a procurement strategy making it more transparent where decisions have been made, responsibilities taken by whom, and where there are still unanswered questions and a range of options available alongside overall timing (so clear linkage through to the preferred option phases). Have not reviewed adequacy of property strategy. Have not reviewed adequacy of consenting strategy.

Investment Question	Comments
Financial Case - Is the investment proposal affordable?	Highlights that an SPV may be needed for some of the programme but does not really provide enough transparency on when this may be required, what particular elements it may be required for, and why it might be required. Also does not summarise costs in a way that it is easy to understand the elements that have more funding certainty compared to others.
Management Case - How can the proposal be delivered successfully?	Some really key information is in here, but it was hard to draw it out. For all of these sections, is there more tabulated information rather than narrative because of the scale and complexity of the programme? The business case should be more definitive on what the governance arrangements should be across the programme; essentially a proposal that the Client can either adopt or change to suit their own organisation.

3. Summary

Overall, the business case would benefit from being presented in a single, focused, and consistent document as it was difficult following the story when moving between different documents. This would really help in telling the investment story.

The Strategic Case needs to focus on better demonstrating the case for change by providing evidence to support the claims, and in summarising the overarching background and context. Currently this section is very unclear and challenging to someone who is not familiar with the project. Suggestions have been made within the document as to how this could be achieved.

The long list to short list process was somewhat unclear, as a clear rationale was not provided explaining how the team progressed from the two long lists to the preferred programme. It was unclear how the initial programmes were selected, and how/whether the long lists were used. In the absence of explanation, it appeared there may have been a strong reliance on 'stakeholder preference' in terms of the programme that was developed. No information was provided regarding scoring of the programmes with respect to one another against the criteria, which may help to justify the course of action. The detail is more thorough in later stages although it would be helpful to see the scored MCAs for the significant items.

It is not clear which options have been excluded. Land use/transport planning integration is talked about in the Executive Summary as being important, but there do not appear to be any specific options on this, but neither is it stated as excluded. This needs to be clarified as this should be in the initial focus of interventions.

The Economic, Commercial, Financial and Management Cases seemed reasonably comprehensive overall, but would be improved by:

- some more detail warranted in some areas
- clearer line of sight of preferred option packages for consistency through the documents
- consistent formatting of data to minimise amount of manual interpretation and flicking between sections needed by reader (so it is easier to see if there are information gaps), and
- reinforcement throughout on why we are doing this and how the 'why' of the business case is supported by the delivery of the solution. Note that the rationale and critical thinking behind a business case should not stop just because we are delivering the projects; there needs to be ongoing flexibility throughout to ensure overall programme outcomes are eventually delivered

Branch

AddressLn1, AddressLn2
AddressLn3, AddressLn4
PO Box No, PO Box Suburb
PO Box City
Telephone Number
Fax Number

Please visit www.stantec.com to learn more about how
Stantec design with community in mind.



APPENDIX B QLDC INTERNAL FEEDBACK AND RESPONSE

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Extract from QLDC Internal Staff Review		Project Team comment
23 September 2020		
Executive Summary	Overall the Executive summary provides a good overview, but there are a number of areas outlined below that need to be addressed. References for quotes needed (footnotes) e.g. "Insatiable desirability" is the term used by Queenstown Lakes District Council (QLDC) CEO Mike Theelen to describe the Queenstown conundrum of the attractiveness of the area..... And "The potential economic loss of failing to act has been estimated at \$750 million." What does 'high place quality' mean - Case for change para 3. "This is compounded by the high place quality of the historic core of Queenstown Town Centre attracting a large number of people, mostly by car". 3rd from last para pg 4 "There is no single solution or silver bullet will do it on its own" sentence needs a review. Diagram on Pg 5 - where is NLTF defined? Diagram on Pg 6 is not well presented and has numerous acronyms which will be lost on most readers. Diagram on Pg 8 introduces 'Vision Zero'. A footnote would help readers who are not familiar with Vision Zero. Diagram on Pg 9 Includes new acronyms and terms not defined e.g. MCA, los Diagram on Pg 9 - note that reference is made specifically to gondola (long term), rather than MRT. Is it intentional to narrow focus on gondola solution?	These points and others from other external review sources have been noted. The entire Executive Summary document has been completely rewritten.

	Diagram on Pg 9 - could the second Outcome under priority 3 be more clearly articulated? Typo in last bullet point of Page 10 "Improvements to the town centr;" I am surprised that the Preferred option assessment does not include Enhanced active mode routes, it includes Enhanced active mode facilities only. The first intervention pg 11 notes 'Project Manawa'. What is the scope and if this has changed recently, what are the implications? Also, does Project Manawa need to be defined (footnote?). Should it not be noted that funding through CIP has also been provided for design , consenting and land acquisition for stage 2? Should the stages be defined here (or referenced elsewhere)? The interventions do not appear to reference PT service improvements to support the network and facility improvements in the short to medium term. i.e. Bus frequency and improved routing. While this is inherent, I think it should be more clearly articulated (assuming it is costed?), otherwise it appears that there are no service improvements until 'longer term supporting measures' are implemented (first reference to upgrades to bus services). Map on Pg 13 is not particularly helpful here without the additional context and detail - annotation of the key elements would be useful. Why is there is no direct linkage from airport to lake/track, or improved Humphrey's to Hawthorne linkage? SH6 appears to continue to provide severance for active travel from development in Frankton. Pg 15 - I note that Investment Objective 1 provides for more clarity on 'operational regime' improvements for public transport that are not detailed in the initial summary. Pg 15 para 2. The following sentence requires more clarification "Vehicles servicing the businesses in the town centre will have more reliable travel times improving the efficiency of the supply chain." I assume this means that although we are providing options that limit the need for people to travel via the road network, the improvements to the road network are intended to enable more efficient and effective deliveries of product, raw materials etc...? OK this is	
--	--	--

	explained a little later. I note that Pg 15 appears to be the first mention of interventions that support 'those with mobility needs'. Should accessibility for all, be a standalone objective? Pg 15 para 3 It is not clear to me whether \$143m of benefits attributed to Objective 1, are \$143m reduction in the costs (of \$750m over 60 years) associated with limits to economic growth and development in Queenstown? In addition, over what timeframe are the \$143m in benefits realised? Pg 15 Objective 2, last paragraph, introduces the term 'offline public transport link'. There is no reference back to the earlier use of 'gondola' or MRT (usually the term used). Page 15 objective 3. There is no reference here to the liveability benefits of stage 3 of the arterial. Is the improvement in the VURT future assessment of Lake Esplanade (VURT rating 0 to VURT rating 40) attributed at least in part to arterials stage 3? Page 16 diagram introduces VURT which is undefined. It is also unclear what the assessment of the streets would be without intervention in the future. I assume current is now, without intervention and future is with intervention? Pg 18, the summary for 'commercial case' does not address commercial matters, beyond reference to an alliance.	
	Page 6 alignment of strategies - 30 Year Inf. Strategy should get a play here - its a legislative document	These points and others from other external review sources have been noted. The entire Executive Summary document has been completely rewritten.

	1. The paragraph below (second paragraph) should be removed “Insatiable desirability” is the term used by Queenstown Lakes District Council (QLDC) CEO Mike Theelen to describe the Queenstown conundrum of the attractiveness of the area driving significant growth which, in turn, generates housing affordability and transport challenges. This comment has been taken out of context and should not be used for an opening statement in this business case. Nor should the CE of a local authority be quoted in such manner. This sort of language reduces the overall integrity of the document. 2. What and where is the data source for this widely quoted \$750 Million?? 3. What and where is the data source for the 2024 tourism numbers to return?? Stats such as the above should be referenced. Overall quality of the summary is poor in terms of grammar.	These points and others from other external review sources have been noted. The entire Executive Summary document has been completely rewritten.
	In general: Lots of focus on economic benefits - how do the environmental, carbon, social, wellbeing benefits fit? Where does the Southern Corridor fit? And connection to Arthurs Point? Does it say why these are excluded? Good to see Land Use spatial planning is key part of the solution. Can give ourselves endless transit issues to solve if schools, supermarkets, office, and open space integration with residential is not well planned. Comment about the amazing rates of growth on uptake of public transport in QT. Is that relevant? It would have been off a very small base? Does the preferred program have a name? Is it stated in the exec summary?	These points and others from other external review sources have been noted. The entire Executive Summary document has been completely rewritten.

	'Serving public transport and tourist coaches'... and buses to the ski hills?, which can serve both residents and tourism.	
	I see the need to take these steps and work towards workable solutions; I believe the outlined will benefit the Town Centre and surrounds. Everyone has done a fantastic job on the work done so far, there has been a lot of effort and thoughts go into these plans. We will need to consider the effect that vehicles may become non-compliant further out of the CBD, which may require additional vehicles if officers are used and or technology ie CCTV or the likes to manage further afield. Possibility to re deploy CBD officers to other locations however consider the need for parking ambassadors still in the CBD to educate and offer guidance on options. we may need to consider, if we haven't already bikes / electric scooters etc being left on footpaths and how we will manage this as we don't have any legislation to enforce bikes in non-preferred places in the CBD and or at bus stops, ferry pick up locations etc.	These points and others from other external review sources have been noted. The entire Executive Summary document has been completely rewritten.
Strategic Case	Overall a sound evaluation of the options. There are a number of aspects that need to be addressed, many of which have already been highlighted through my comments on the executive summary The Options Assessment refers to Gondola, e.g. gondola and offline interchangeably. This needs to be consistent. 3.1.1 Were any options considered for airport to lake/Frankton track links via SH6 from North of Lucas place to McBride (through QAC owned land) and down through existing ROW to lakefront (access to Ferry)? Also (as referred later) a link via PT hub on QAC land opposite runway West of SH6? Pg 17. There is a statement that trackless tram has better 'mode penalty', to buses. I am not clear on why, particularly if it is single seat on a bus? pg 17. The % referenced in the table need to be defined/explained. Pg 17 table In general, it is not clear how combination options were assessed and evaluated. The approach appears to be transition from one mode to another, with options being evaluated on	<u>In general - Diagrams clarified.</u> P17 generally higher quality modes have a higher mode attractiveness factor while one seat rides perform better in travel times.

	their independent merits, rather than combined merits. e.g. active travel/bus options bus/ferry options, etc... Pg 18 Options development. Was any analysis undertaken of wider traffic inputs into the network e.g. Cromwell, and associated predicted growth? Pg 19, Option Development. Were some options excluded that could be considered through Public Works? What considerations were made to determine whether options were 'realistic'. Has this/will it be revisited in light of Covid-19? 3.1.3 Immediately opposite the end of the runway on the western side of SH6 QAC owns a number of properties (assumed to be a result of noise impacts). Was this location considered for a PT hub/link to lake through the existing ROW from McBride to Lake Ave? Page 23. The useful bus priority diagram is not well explained. How is the Transport Management Associations Role incorporated into the Management Case? (for review later). Page 30. The useful diagram is not well explained/introduced. Page 49 Figure 33 and 34. I am confused by the road hierarchy. Why would the arterial be a tertiary road?	P18 Transport modelling incorporates trips coming from outside of the study area P19 Not sure what is meant by public works 3.1.3. Detailed locations for hubs were considered but adjacent to Frankton Intersection was considered best. <u>While TDM is part of the strategic case, the details of how this would be implemented would best be in the management case. Of note is QLDC resistance to the TMA.</u>
	2. Strategic Case Part A / B– The strategic case provides a good overview of the differing elements feeding into the Queenstown Transport Business Case. A recurring theme in the review of existing documents is the need to accommodate extra growth. It is noted that the issue surrounding the constrained nature of Queenstown due to physical constraints places extra demand on the highway network. The assumption is the PT mode shift will ensure most of this growth is accommodated (refer to economic case below), but the question should be asked is the level of growth anticipated sustainable considering this location and does this portray a place	It wasn't within the scope of the BC to consider whether this growth per se is desirable – as this is largely within the control of QLDC as the land-use planning authority.

	where I would want to live in the next 30 years – the “growth” mindset should be balanced and the strategic case produces some inadequacies, when considering economic benefits referred to below and the achievement of mode shift to the extent forecasted. The level of growth to be sustainable requires a certain level of “gambling”. Extensive sensitivity should be incorporated into the growth mitigation. All planning should be done to a high standard (i.e. further master-planning), the models should be built and forecasting as accurately as possible and PT must be delivered to a truly high standard, accessible etc for this growth to pay off in a sustainable manner. Specific reference to the Queenstown Town Centre Arterials Business Case is made in s.4, however the provision of extra road anywhere in Queenstown at the potential expense of further investment in alternative modes should be approached with caution.. further highway capacity ultimately results in less PT usage. The calculation of BCR and Wider benefits should be considered fully in this context.	Argument for town centre arterials is not around traffic capacity but supporting a more public transport and active modes-oriented town centre.
	In terms of the big picture there is a high focus in increasing the road capacity, but in real terms that simply allows for more cars. The phrase "if you build it, they will come" springs to mind. Also is 30% non car mode share by 2045 slightly too late? Would 2030 or 2035 not be more achievable if much of the work is to be completed prior to 2030? There are 2020 population projections that were released at the end of July - these are more accurate in terms of the Covid 19 Recovery picture so perhaps should be utilised. Also the spatial plan will be utilising the 2020 projections. 1.6.6 the Southern Corridor. The Southern Corridor has been identified as one of the priority development areas in the Spatial plan. I am not sure where the housing numbers have come from but they are incorrect. "As of 2018, Jacks Point was the only residential area to the south with 280 households. By 2048, there are anticipated to be further developments at Hanley’s Farm and Homestead Bay, plus an approved Special Housing Area at Coneburn, constituting 2,370 dwellings in total." Suggest this is amended to:	Updated projections from QLDC used. Southern Corridor is outside of the scope area but best available information was used at the time the BC was written. . .

	As of 2018, Jacks Point was the only residential area to the south with 280 households. By 2050, there are anticipated to be further developments at Hanley's Farm, Homestead Bay, and an approved Special Housing Area at Coneburn, constituting 4,425 (the 2050 demand projections) dwellings in total. 1.8.4 the Spatial Plan. This diagram is the old strategic framework, the new one which has slightly different wording needs to be used. It would also be good some of the interdependencies in terms of the joint work programme 3.7.2 Technology. This seems rather limited in terms of the significant opportunities technology brings to transport solutions. According to the Intelligent Transport Solutions World Congress we are on the cusp of an extraordinary revolution in transportation, this document does not reflect potential opportunities to any great degree at all. 6. Summary. The sentence that reads "more transit oriented spatial planning active travel demand management" should be reworked to something more coherent Finally - the Spatial Plan key transport initiatives should be referenced throughout this document.	Spatial plan strengthened in the strategic case but the spatial plan developed while this BC was well progressed – we have done our best to integrate and cross-reference the Spatial Plan/ Whaiora. 3.7.2. Pathway to autonomous vehicles highly uncertain in NZ and adoption internationally is very slow. Current NZ thinking is around 2055 Summary comment noted
Economic Case	The review of the economic case in terms of the assessment of conventional (EEM) benefits has been mainly informed by outputs from the Queenstown Modelling Suite, which features a strategic traffic model, a bespoke public transport model and microsimulation models. The methodology of calculating the economic case through these means is deemed acceptable, however it should be noted that the existing strategic model has limitations that should be considered when considering the model outputs. The economic case identifies a potential cost benefit ratio of 2.69 for Phase 2. This represents a good rate of return on investment, however some caution should be applied when considering this. For this BCR to be realised, in addition to the infrastructure elements, the report states; "the	A comment has been added into the economic case – acknowledging that significant amount of further work is

	following public transport service improvements are assumed to form part of the NZUP package (acknowledging that these will not be funded through NZUP): ● Staged bus service improvements – introduced as demand changes require them ● Bus max core network ● Frankton Flats Loop ● Kelvin Heights to Quail Rise bus ● New bus fleet – introduced when required to meet demand ● New bus depot ● Bus Priority Lane Enforcement” The shift in demand as identified from the traffic modelling undertaken, requires a significant shift to Public Transport (60% by 2048). A significant amount of further work is required, including improvements to residential developments and pedestrian accessibility to bus stops, including improvements to bus stop infrastructure to realise such a modal shift. In order to ensure this switch to PT is realised, further guarantees should be obtained, such as QLDC taking control of Public Transport operations and ensuring the financial deliverability of more regular services etc. The report states “Staged bus service improvements - introduced as demand changes require them”, however it is likely that improvements will have to come first to enable modal shift and subsequent PT demand increase. Caution should also be considered when considering the Arterial Stage 1 and Subsequent stage calculations taking into account the BCR. The modelling takes into account the provision of car parking facilities for which funding is not yet guaranteed, e.g. Boundary Street Car Park and so any benefits associated with this should also be considered with due caution. It is now accepted that the funding of Stage 1 of the Arterial, through the CIP means this is considered as part of the “Do Minimum” Package of works, which is acceptable. Further works should be considered with greater scrutiny. The strategic TRACKS assignment model is acceptable for the current suite of business case work whilst the council develops a more modern and versatile strategic model, however the calculation of economic benefits (or otherwise) from such a model should be used with some degree of caution. Issues with the model assignment methodology, and the use of poor or sparse	required, including improvements to residential developments and pedestrian accessibility to bus stops, to realise a 60:40 modal split. The benefits from the model have been capped at 2048 as a means of reducing the risk of overstating benefits. Sensitivity analysis has also been undertaken to understand the BCR with a 20% reduction in overall benefits.
--	---	---

	data for the model calibration/validation and the calculation of demand matrices from dated household survey data, should all be considered when assessing the BCR and potential for error.	
Commercial Case	Nothing specific to note, however from reading it is clearly demonstrated the preferred package of works will result in a net benefit to the economy of Queenstown in the short-term, particularly with the CIP funding of Arterials Stage 1. This will provide a clear and necessary stimulus to the economy in Queenstown.	
Management Case	There remains uncertainty regarding R&Rs for delivery and this makes it difficult to finalise a Management Case. The current management case provides a high-level overview only and there are a number of implementation questions that aren't addressed. At this stage therefore the Management Case does not demonstrate a well structured delivery plan, with appropriate management and resource allocation. It is an outline only, as this is reflective of the current uncertainty regarding delivery models. Whilst roles for Governance are explained the responsibilities and associated processes are not defined. Change and contract management activities are not clearly set out. The processes, and associated escalation requirements for risk management are also not clearly outlined. In terms of specific comments: Section 1.1.1 acknowledges the NZUP PMO. Section 1.1.2 should also identify that QLDC also has a PMO. There is no reference to QLDC's PMO throughout the Case. Section 1.2 remains TBC and the table as well as the R&Rs will need to be defined and articulated. Table 5, section 1.2.1, references the opportunity for integration with QLDC's 3 Waters Programme. There are also interfaces with BP roundabout, Streetscapes projects and the active travel network. Section 1.3.1 states that traffic will be "banned" from Staneley Street. Should this state "limited"?	Agree – happy to receive more information from QLDC on R&R Accepted / updated Noted, not actioned, information to be provided Active travel is in the table. The other two are part of the scope of the project. Changed to restricted

	Paragraph 3 of section 1.3.1 states that a dedicated project is set up for a revocation agreement. Roles and responsibilities need to be defined.	Revocation will need to be a separate project – it is not at the moment.
	Section 1.3.2 states that it is anticipated that public transport services will be improved and increased in 2027. There will be improvements prior to 2027, on an ongoing basis. Should this state 'step change' improvements (as described elsewhere)?	Accepted/updated
	1.6.1 Key Stakeholders should include other Ministers as well as the Transport Minister (given funding mechanisms).	Accepted/updated
	Under Utilities and services, I am included for "water Strategy". This should state Programme Director QLDC PMO, and there should be wider reference to QLDC's PMO (which has an existing Governance and delivery framework).	Accepted/updated
	Section 1.7. Table 7 headed Project Assurance Deliverables, lists "items" that appear to be Governance milestones, rather than project assurance (acknowledging that Governance provides assurance)? What are the assurance activities?	Disagree. Consider table to be appropriate
	Section 1.7 There is no consideration of Technical Assurance beyond Safety Audit. Consideration should be given to within Programme Technical Assurance (Specification and Value for Money) and Technical Governance (outside Programme).	Accepted/updated
	Section 1.7 Table 7 includes Construction Assurance. Consideration/reference and detail should be provided in relation to various levels of construction assurance (inclusive of responsibilities for Health & safety) - MSQA (external provider) and Field assurance (QLDC?). Consideration should be given to 3 Lines of Defence (Contractor assurance, MSQA and Client assurance).	Accepted / updated
	Section 1.8 Consideration needs to be given to tolerance and governance - \$ tolerance (inc. contingency management), schedule tolerance, risk tolerance, scope tolerance, quality and benefit tolerances.	Accepted/updated

	Section 1.8 paragraph 2 states that any change in scope "at a significant level" will be reported to Governance. Significant-level needs to be defined and consideration should be given to the role of governance for significant changes, beyond receiving a report. Section 1.8 paragraph 3 states that "change control register will sit alongside the risk register and should be managed by the same person". Is that person the PM, or Project Controls/Controls Manager (or equivalent)? Section 1.9 references a Data Improvement Plan - Who is responsible for the data improvement plan? Section 1.10 Provides a summary of the Key Risks, but the approach to risk management is not outlined, neither are associated management or governance responsibilities.	Accepted/updated Accepted/updated Accepted / updated Risk management appendix update
	1.1 Government Structure - am assuming this is a typo and should be "governance" 1.2.1 The table in 1.2.1 needs to be updated to include a summary of the below: Town centre and SH6A corridor – A liveable, thriving and authentically New Zealand town centre Five Mile Urban Corridor – A mixed use, high-density, multi-modal urban corridor Ladies Mile – A new transit-oriented neighbourhood offering new housing choices Southern Transit Corridor – A string of centres centred on a new frequent public transport route	
Financial Case	The source of funding for PT OPEX costs and infrastructure improvements not already identified, as part of NLTF should be guaranteed early on before relying on PT mode shift estimates. At the current stage, ORC are in control of bus services and reduced frequency services of 1 hour are being retained, at ORC's discretion. Demand increases are almost entirely dependent on increases to frequency and for model results for future years to be accurate, OPEX funding needs to be guaranteed, along with extra CAPEX for PT infrastructure including accessibility to stops.	Noted. The updated draft includes PT OPEX and further detail has been provided on the elements seeking funding approval including PT infrastructure and OPEX funding
Please describe any technical	Severance of active travel by SH6 from Frankton Town Centre/Airport	

inputs you would like considered.		
	Is there any impact on the proposed State Highways Speed review and SH6 and SH6a dropping the speed limit	
Does any aspect of this business case affect or support Council projects you are involved in?	There are a number of proposed interventions that provide an opportunity for integrating QLDC 3 Waters infrastructure upgrades.	
	There is no acknowledgement of QLDC's PMO or its role in delivery of QLDC led projects	
	Potential future speed reductions in QT urban area	
Do you have any general comments on the detailed business case?	3. Recommended Options – The emerging preferred package contains a strong underlying Public Transport Response, which is encouraged. Arterial Stage 1 has been secured funding through the CIP and will provide economic stimulus to Queenstown. Further work to increase capacity should be balanced adequately with the need to provide a Public Transport Response, including the guarantee of funding to ensure this. Guarantees should be sought that the funding of further Stages of the Arterial, associated costs and car parking buildings are not at the expense of PT investment.	It is not the role nor the ability of the project team to determine guarantees related to funding. The funding comes from different sources which would speak to coordination between the funders to offer such guarantees.
	This detailed business case reads like a programme business case. Agree with the investment objectives but would expect more granularity within the management case in particular. The high growth areas of the spatial plan should be incorporated into the strategic case, as well as indicating alignment to the spatial plan. It is a shame that the newly released Land Transport Benefits Framework has not been utilised (I	

	am aware of the timelines on adoption), as apparently the new framework is broader in nature, particularly with the inclusion of details such as treasury's living standard framework. As a suggestion, it would be good to see a clearly described Benefits Management Strategy (unless I have missed it). This is a pre-requirement for any benefit realization plan.	
	General comments - the business case is unnecessarily large and indigestible, and the timeframe they have given us to review is far too short (nor particularly well aligned with our internal planning processes). At no stage has anyone from the DBC reached out (that I'm aware of) to assess whether the local component of the recommended option – or any option for that matter - is aligned with our own strategic direction, affordable for our community, of relative economic benefit compared to other ways we would spend the money, or consistent with community/elected-member sentiment.	This is an interesting series of comments: • The scope of work does not offer the opportunity for a convincing and robust business case to be presented in any smaller package. • The review process timeline was not set by the project team • There were multiple forums of interaction between the project team and QLDC

APPENDIX C ARUP DESIGN REVIEW AND RESPONSE

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Drawing Information			Arup Comments			Design Team Response
Drawing number	Sheet number	Drawing Name	Details:	Date Finalised:	Comment Author:	Response
SK-0001	Plan Sheet 1	Queenstown Town Centre Renderings	No on street cycle lane facilities for cyclists to safely access parking destinations provided under bus station and within public park on Athol Street from any surrounding streets. This includes for cyclists who will not be part of the official cycling network.	9/21/2020	s 9(2)(a)	Segregated cycleways are a big-city concept, and not needed in small town's center's. Segregated cycle facilities would displace pedestrians, as such cyclists are expected to share the road.
SK-0002	Plan Sheet 2	Queenstown Town Centre Renderings	Radius of corner of Athol and Ballarat Streets to accommodate coaches appears to create a pinch point for pedestrians.	9/21/2020	s 9(2)(a)	Athol Street is part of the Bus Hub, as such a bus must be used as the design vehicle. A lateral shift of the carriageway towards BAR 1876 can be considered in pre-implementation stage. Location looks narrow compared to the generous footway provided on both Athol and Ballarat streets, however 2.8 m is achieved at the pinch point.
SK-0003	Plan Sheet 3	Queenstown Town Centre Renderings	Private vehicle routing due to restricted access onto Stanley St results in potential conflict between pedestrians and cyclists on Ballarat and Camp Streets.	9/21/2020	s 9(2)(a)	Such potential conflict always exists, unless particular type of users is prohibited from accessing the public space. Stanley street will have restrictions put in place only once the Arterials are constructed, and the majority of the traffic is expected to be directed to use Arterials.
SK-0001	Plan Sheet 1	Queenstown Town Centre Renderings	The tapering at the entrance of Athol Street from Shotover Street unnecessarily reduces footpath width for pedestrians. A reduced lane width will still be able to accommodate buses turning in.	9/21/2020	s 9(2)(a)	To be considered in pre-implementation stage.
SK-0002	Plan Sheet 2	Queenstown Town Centre Renderings	There is potential for confusion of what modes the street is prioritising along Church Street with changing road and pavement types.	9/21/2020	s 9(2)(a)	The pavement change is similar to that used on Marine Parade. The pedestrian section between two lanes aims to funnel the pedestrians and give drivers a clear message that a pedestrian desire line across the corridor exists. The section adjacent to the underground car park attempts to limit the area used by vehicles i.e. drivers may try to overtake a vehicle turning/waiting to turn to the car park
SK-0002	Plan Sheet 2	Queenstown Town Centre Renderings	No safe pedestrian crossing between the Novotel and Church Lane on Earl Street.	9/21/2020	s 9(2)(a)	Existing bus stop needs to be retained. Relocation of the bus stop and provision of a crossing point can be considered in pre-implementation stage. Coordination with Novotel will be required to propose alternative drop-off facility.
SK-0002	Plan Sheet 2	Queenstown Town Centre Renderings	Some trees along Earl Street appear to block the sightlines of cars reversing from angled carparks.	9/21/2020	s 9(2)(a)	In low-speed environment limited visibility can offer increased safety benefits as users will adjust the behaviour to maintain comfortable level of risk (risk of homeostasis). Tree species with canopy starting at 1.5 m height should be selected during the pre-implementation stage.
SK-0002	Plan Sheet 2	Queenstown Town Centre Renderings	Not joining the two strategic ends of WATN along Camp Street with high quality cycle infrastructure seems like a missed opportunity. The existing separated cycleway between Church Street and Earl St is very short and treatment at either end (the roundabout and pedestrian crossing at the other) creates conflict points with vehicles and pedestrians.	9/21/2020	s 9(2)(a)	There is no existing segregated cycleway along Camp Street. The referred to WATN links serve as a connection between <i>Arthur's Point and Queenstown</i> and <i>Frankton and Queenstown</i> , and are a mean to allow residents to access town centre. It is undesirable to construct a cycle boulevard through the town centre as it would displace footways and on street mobility bays. Cyclists are expected to share the place in the town, the same way other users are.
SK-0002	Plan Sheet 2	Queenstown Town Centre Renderings	The priority at Marine Parade is for pedestrians given its waterfront location. The loading zone should be managed and use kept to a minimum to serve its primary function. Unclear how access is restricted and speed limits are managed at all times.	9/21/2020	s 9(2)(a)	Management and enforcement of parking, loading, etc is outside of the scope of this business case.
SK-0002	Plan Sheet 2	Queenstown Town Centre Renderings	Unclear what the use of the remaining parking on Marine Parade is for and whether sufficient accessibility parking has been provided.	9/22/2020	s 9(2)(a)	Management and enforcement of parking, loading, etc is outside of the scope of this business case.
SK-0003	Plan Sheet 3	Queenstown Town Centre Renderings	Unclear who the parking spaces are for on Camp Street. Parking space / taxi stand on the north side of the street contribute to the need to turn around at the roundabout.	9/21/2020	s 9(2)(a)	These are mobility bays, taxi stands, possible future charging stations, and drop-off areas.
SK-0003	Plan Sheet 3	Queenstown Town Centre Renderings	The intersection of Mall St/ Camp St/ Ballarat St prioritises vehicular movement and does not serve the natural desire lines of pedestrians connecting the Town Square and Mall as opposed to the current location directly in front of the mall.	9/21/2020	s 9(2)(a)	The mode separation is due to the significant traffic volumes reported by the model on Camp and Ballarat Streets. These vehicles attempt to access/egress from the Historic Core
SK-0004	Plan Sheet 4 - 5	Queenstown Town Centre Renderings	Unclear how have the over dimensional routes been selected. Shotover St and Stanley Street have been identified as being for over-dimensional vehicles however this conflicts with their proposed urban street design and does not have enough horizontal or vertical clearance with trees.	9/21/2020	s 9(2)(a)	It is unclear what alternative is being proposed. Shotover and Stanley Streets currently form the over dimension route. This route must be retained until all stages of Arterials are constructed. Clearance to be considered in pre-implementation stage.
SK-0005	Plan Sheet 5	Queenstown Town Centre Renderings	High potential for conflict between pedestrians and cyclists on Beach St (and vehicles on the western end facilitating one way car movement) given the design reflecting it intention as a pedestrian-oriented street, yet also being identified as a key strategic link for cyclists as part of the WATN.	9/21/2020	s 9(2)(a)	Beach street has been designed by BECA as part of Streetscape project which is in implementation stage. The design is shown on the drawings for the completeness requested by the Client. We cannot comment on this arrangement.

SK-0006	Plan Sheet 6	Queenstown Town Centre Renderings	Loading zone appears close to bus stop - may limit safe manoeuvrability of both.	9/21/2020	s 9(2)(a)	The proposed layout replicates existing arrangement with no known issues.
SK-0006	Plan Sheet 6	Queenstown Town Centre Renderings	Footpath is quite narrow behind bus stop on the Lake Street side of Beach Street. Potential to reconfigure the bus stop placement to allow for more space for pedestrians to wait.	9/21/2020	s 9(2)(a)	To be revisited in pre-implementation stage. 
SK-0006	Plan Sheet 6	Queenstown Town Centre Renderings	Pedestrian crossing on Shotover St prioritises vehicular traffic rather than enhancing visibility and safety of pedestrians.	9/21/2020	s 9(2)(a)	it is an intersection with Beach St. Due to the constrained alignment a signalised form was selected in consultation with Waka Kotahi and includes an all pedestrian phase.
SK-0006	Plan Sheet 6	Queenstown Town Centre Renderings	The bend on Shotover street is generous. If this is to cater for OD vehicles to turn the empty spaces will need deterrents for people to not park at this bend. Suggest tightening the corners more to help with deterring illegal parking.	9/21/2020	s 9(2)(a)	The bend referred to has the carriageway narrower than the existing scenario. Further, the carriageway allows for the bendi-bus swept paths. No illegal parking is currently observed. NSAAT provided.
SK-0007	Plan Sheet 7	Queenstown Town Centre Renderings	Pedestrians will not go up street to crossing on Brunswick St as design currently suggests. Instead they will cross dangerously. Suggest bringing crossing near to intersection.	9/21/2020	s 9(2)(a)	Crossing point as per WATN. Alternative crossing / intersection layout can be considered in pre-implementation stage.
SK-0007	Plan Sheet 7	Queenstown Town Centre Renderings	Visibility over the shoulder at the give way for the driver is limited with the current location of the stop line on Brunswick Street.	9/21/2020	s 9(2)(a)	No change form existing layout - no such issues are known. To be revisited in pre-implementation stage.
SK-0008	Plan Sheet 8	Queenstown Town Centre Renderings	Lake Esplanade is a key cycling and public transport route for the western suburbs however there is no infrastructure to support or prioritise either of these modes.	9/21/2020	s 9(2)(a)	The presented layout is one that has been requested by the Client.
SK-0011	Plan Sheet 11	Queenstown Town Centre Renderings	Potential risk of conflict of cars coming down hill and making left turn straight into pedestrian crossing as those approaching downhill from the new roundabout.	9/21/2020	s 9(2)(a)	Pedestrian crossings create a conflict by default. STOP control used at car park exits. To be revisited in pre-implementation stage - assess visibility of the crossing and whether additional enhancements are required e.g. beacons.
SK-0012	Plan Sheet 12	Queenstown Town Centre Renderings	Stanley Street is marked as a Public Transport Priority Route however no clear measures to support this. .	9/21/2020	s 9(2)(a)	Physical priority not required due to low volumes expected on Stanley Street
SK-0013	Plan Sheet 13-14	Queenstown Town Centre Renderings	Insufficient bus infrastructure on Stanley Street to the north of the Sydney Street intersection given width of street and function as a bus priority route.	9/21/2020	s 9(2)(a)	Physical priority not required due to low volumes expected on Stanley Street
SK-0015	Plan Sheet 15	Queenstown Town Centre Renderings	Cyclists appear underserved on this street where vehicular movements are prioritised. Unclear road markings on West Man Street.	9/21/2020	s 9(2)(a)	WATN requires a 5 m wide shared path on the hill-side of Man Street. No additional facilities are required.
SK-0015	Plan Sheet 15	Queenstown Town Centre Renderings	No provision for pedestrians to cross on the western side of the Brecon Street / Man Street intersection.	9/21/2020	s 9(2)(a)	Location has been designed by BECA as part of Streetscape project which is in implementation stage. The design is shown on the drawings for the completeness requested by the Client. We cannot comment on this arrangement.

SK-0016	Plan Sheet 16	Queenstown Town Centre Renderings	Insufficient priority for cyclists at this intersection	9/21/2020	s 9(2)(a)	Location has been designed by BECA as part of Streetscape project which is in implementation stage. The design is shown on the drawings for the completeness requested by the Client. We cannot comment on this arrangement.
SK-0016	Plan Sheet 16	Queenstown Town Centre Renderings	Exit point from car park potential conflicts with the main road traffic near intersection. Suggest moving this entry point to Camp Street	9/21/2020	s 9(2)(a)	Elevation difference prohibits such arrangement.
SK-0018	Plan Sheet 18	Queenstown Town Centre Renderings	Intersection seems large. Tighten up for pedestrian movements as much as possible and straighten west crossing so it is more perpendicular to the road.	9/21/2020	s 9(2)(a)	Straightening the crossing will increase crossing length. Realigning it as perpendicular will result in the intersection area being bigger. Opportunity to revise design in pre-implementation
SK-0018	Plan Sheet 19	Queenstown Town Centre Renderings	Insufficient priority for cyclists at Shotover / Henry St intersection and inconsistencies with sharrows.	9/21/2020	s 9(2)(a)	Cyclists are not the priority given the gradient on this route. No sharrows. This has been discussed with WK.
SK-0018	Plan Sheet 19	Queenstown Town Centre Renderings	The intersection at Shotover / Henry Street seems messy. Unclear how vehicles traveling northbound on Henry Street will merge once they've gone through intersection.	9/21/2020	s 9(2)(a)	opportunity to revise design in pre-implementation
SK-0019	Plan Sheet 19	Queenstown Town Centre Renderings	Insufficient provision for pedestrians at Shotover / Henry St intersection, particularly at entry and exit to lanes on northern side of Henry. Opportunities to tighten and straighten the intersection. Potential risk of people crossing Henry Street at end of Malaghan Street if nearby crossing is insufficient.	9/21/2020	s 9(2)(a)	opportunity to revise design in pre-implementation
SK-0019	Plan Sheet 19	Queenstown Town Centre Renderings	Need to understand how the pedestrian overpass from Ballarat Street will land on the south - cannot rely entirely on an elevator. Curvature of foot bridge without piers needs to be justified. From Ballarat St requires a slope of 1:14 to be DDA Compliant. Path needs to land in a footpath rather than a road. CPTED for trees and underpass need to be considered further.	9/21/2020	s 9(2)(a)	The adjacent roads have gradient steeper than 1:14, as such DDA compliant structure would be considered out of place. The overbridge is linked to Manawa development.
SK-0020	Plan Sheet 20	Queenstown Town Centre Renderings	No safe pedestrian crossing provided across Henry Street for those walking down Beetham Street.	9/21/2020	s 9(2)(a)	Noted - see new appendix
SK-0021	Plan Sheet 21	Queenstown Town Centre Renderings	Unclear whether intersection is signalised and pedestrians have a safe way to cross.	9/21/2020	s 9(2)(a)	it is signalised.
SK-0022	Plan Sheet 22	Queenstown Town Centre Renderings	Confirm no right turn from Melbourne Street onto Frankton Road.	9/21/2020	s 9(2)(a)	confirmed
SK-0022	Plan Sheet 22	Queenstown Town Centre Renderings	Confirm no left turn from Frankton onto Dublin Street - footpath very sharp	9/21/2020	s 9(2)(a)	confirmed
SK-0023	Plan Sheet 23	Queenstown Town Centre Renderings	Confirm how vehicles will manoeuvre in and out of carparks on Brecon Street pedestrians lane and potential conflict with cyclists and pedestrians will be managed. Tree appears to create tight space.	9/21/2020	s 9(2)(a)	Location has been designed by BECA as part of Streetscape project which is in implementation stage. The design is currently being revised. We cannot comment on this arrangement further.

SK-0024	Plan Sheet 24	Queenstown Town Centre Renderings	Confirm how vehicles crossing straight through Stop signs on Suburb Street are expected to cross safely. Consider operational value of bus lane - could narrow intersection and improve sightlines by removing bus lane and an additional lane to cross.	9/21/2020	s 9(2)(a)	Opportunity to revise design in pre-implementation Add a red box on other side of the road.
SK-0024	Plan Sheet 24	Queenstown Town Centre Renderings	Confirm if one median pedestrian crossing is sufficient for this length of road and how pedestrians will cross safely at all intersections.	9/21/2020	s 9(2)(a)	Existing layout has been upgraded. No coordination with the school has taken place. Final layout must be consulted and agreed with the school during the pre-implementation phase.
SK-0025	Plan Sheet 25	Queenstown Town Centre Renderings	Pedestrian safety zone appears to be short on Edgar Street.	9/21/2020	s 9(2)(a)	Existing layout has been upgraded. No coordination with the school has taken place. Final layout must be consulted and agreed with the school during the pre-implementation phase.
SK-0025	Plan Sheet 25	Queenstown Town Centre Renderings	No demarcated crossing provided for those entering school zone from the park to the east of Edgar Street (as there is to the north)	9/21/2020	s 9(2)(a)	Footway is on the southern side of the road. The steep re-vegetated area is not a designated pedestrian facility.
SK-0026	Plan Sheet 26	Queenstown Town Centre Renderings	Insufficient provision for pedestrians to cross at intersections. Mallaghan Street is particularly wide.	9/21/2020	s 9(2)(a)	Now outside of the scope
SK-0027	Plan Sheet 27	Queenstown Town Centre Renderings	On road Bus Stop near Boundary Street is in a very unusual position. Consider reworking this bus stop layout to allow better traffic flow and not stopping traffic behind the bus	9/21/2020	s 9(2)(a)	opportunity to revise design in pre-implementation
SK-0027	Plan Sheet 27	Queenstown Town Centre Renderings	Opportunities to tighten Boundary Street intersection to shorten distance for pedestrians to cross the road.	9/21/2020	s 9(2)(a)	Now outside of the scope
SK-0028	Plan Sheet 28	Queenstown Town Centre Renderings	Suggest an alternative design layout for this intersection here which is easier to follow for drivers and safer for pedestrians and car users. Currently no provision for vehicles turning right onto Robins Road will merge with those turning left from George Road.	9/21/2020	s 9(2)(a)	Location has been designed by BECA as part of WATN project. We cannot comment on this arrangement further.
SK-0028	Plan Sheet 28	Queenstown Town Centre Renderings	The left turning lane seems too wide, confusing lane markings at intersection.	9/21/2020	s 9(2)(a)	Location has been designed by BECA as part of WATN project. We cannot comment on this arrangement further.
SK-0029	Plan Sheet 29	Queenstown Town Centre Renderings	Pedestrian safety needs to be further considered, particularly across Halenstein Street where the road is very wide.	9/21/2020	s 9(2)(a)	Now outside of the scope. Only two signalised crossings, bus stops, and refreshed road markings are in scope.
SK-0029	Plan Sheet 29	Queenstown Town Centre Renderings	Unclear what the purpose is of the northbound right turn lane near Hylton Place	9/21/2020	s 9(2)(a)	Access to Caltex
SK-0029	Plan Sheet 29	Queenstown Town Centre Renderings	Footpath on Gorge Road opposite Hylton Place looks very narrow. Please check width is min limit as per standard	9/21/2020	s 9(2)(a)	Constrained environment. opportunity to revise design in pre-implementation

SK-0029	Plan Sheet 29	Queenstown Town Centre Renderings	Suggest an alternative design for right turns into Hylton and Hallenstein. A good example of an alternative design is attached beside this comment. This layout is located between Parker Avenue and Croydon Road in Auckland 	9/21/2020	§ 9(2)(a)	Constrained environment. Access and egress to/from Caltex needs maintained. Opportunity to revise design in pre-implementation
SK-0032	Plan Sheet 32	Queenstown Town Centre Renderings	Tree on corner of Isle Street appears very large. Confirm is will not block sight line especially for those turning left onto Brecon Street.	9/21/2020	§ 9(2)(a)	Location has been designed by BECA as part of Streetscape project which is in implementation stage. The design is shown on the drawings for the completeness requested by the Client. We cannot comment on this arrangement.
SK-0032	Plan Sheet 32	Queenstown Town Centre Renderings	Stop sign at Isle Street to the west could be more perpendicular to Brecon road to tighten intersection and improve sightlines.	9/21/2020	§ 9(2)(a)	Location has been designed by BECA as part of Streetscape project which is in implementation stage. The design is shown on the drawings for the completeness requested by the Client. We cannot comment on this arrangement.
SK-0033	Plan Sheet 33	Queenstown Town Centre Renderings	Potential for those turning right from Stop sign onto Brecon to block the road or turn onto pedestrians crossing. Opportunities to tighten intersection to improve safety.	9/21/2020	§ 9(2)(a)	Location has been designed by BECA as part of Streetscape project which is in implementation stage. The design is shown on the drawings for the completeness requested by the Client. We cannot comment on this arrangement.
SK-0035	Plan Sheet 35	Queenstown Town Centre Renderings	Pedestrian path on bend at Thompson Street implies people can cross here yet it is on a curve and there is no infrastructure to support safe crossing.	9/21/2020	§ 9(2)(a)	Location has been designed by BECA as part of Lake View. The design is shown on the drawings for the completeness requested by the Client. We cannot comment on this arrangement.
SK-0036	Plan Sheet 36	Queenstown Town Centre Renderings	Tighten intersection to improve pedestrian safety.	9/21/2020	§ 9(2)(a)	Location has been designed by BECA as part of Lake View. The design is shown on the drawings for the completeness requested by the Client. We cannot comment on this arrangement.
SK-0037	Plan Sheet 37	Queenstown Town Centre Renderings	Confirm if Glasgow Street enables right turn and maintains safety for cars and pedestrians.	9/21/2020	§ 9(2)(a)	Location has been designed by BECA as part of Lake View. The design is shown on the drawings for the completeness requested by the Client. We cannot comment on this arrangement.
SK-0037	Plan Sheet 37	Queenstown Town Centre Renderings	Give Way line on Brunswick Street is quite far back and will make it difficult for vehicles to see traffic on Thompson Street they are trying to merge with.	9/21/2020	§ 9(2)(a)	opportunity to revise design in pre-implementation. A raised table with a pedestrian crossing is located in the vicinity of this merge; this will enforce a low speed environment.
SK-0038	Plan Sheet 38	Queenstown Town Centre Renderings	Unclear how pedestrians will cross safely across Thompson Street, especially with cars coming down a steep street.	9/21/2020	§ 9(2)(a)	Location has been designed by BECA as part of Masterplan. The design is shown on the drawings for the completeness requested by the Client. We cannot comment on this arrangement.
SK-0040	Plan Sheet 40	Queenstown Town Centre Renderings	Line markings at roundabout to ensure people look right before crossing appear to be missing.	9/21/2020	§ 9(2)(a)	Location has been designed by BECA as part of Masterplan. The design is shown on the drawings for the completeness requested by the Client. We cannot comment on this arrangement.
SK-0041	Plan Sheet 42	Queenstown Town Centre Renderings	Unclear how the walking and cycling shared path connects with Te Araroa Trail path at the end of Park Street.	9/21/2020	§ 9(2)(a)	Location has been designed by BECA as part of Streetscape project which is in implementation stage. The design is shown on the drawings for the completeness requested by the Client. We cannot comment on this arrangement.

SK-0041, 0042 and 0043	Plan Sheet 41 to 43	Queenstown Town Centre Renderings	The existing parking layout will make manoeuvring tight, and challenging for cars on the road to pass each other safely.	9/21/2020	§ 9(2)(a)	Location has been designed by BECA as part of Streetscape project which is in implementation stage. The design is shown on the drawings for the completeness requested by the Client. We cannot comment on this arrangement.
SK-0001 to SK-0042	General Comment All Sheets	Queenstown Town Centre Renderings	Please ensure all Over Dimension Vehicle routes Traffic signals with overheads have a minimum 6.5m height.	9/21/2020	§ 9(2)(a)	To be considered in pre-implementation stage.
SK-0001 to SK-0042	General Comment All Sheets	Queenstown Town Centre Renderings	Ensure the median islands on these roads have socket signs and mountable kerbs for the Over dimension Vehicles routes.	9/21/2020	§ 9(2)(a)	To be considered in pre-implementation stage.
SK-0001 to SK-0042	General Comment All Sheets	Queenstown Town Centre Renderings	Make sure light posts are 1.5m away from kerb on the OD routes	9/21/2020	§ 9(2)(a)	To be considered in pre-implementation stage.
SK-0001 to SK-0042	General Comment All Sheets	Queenstown Town Centre Renderings	Intersection corner spaces will need improvement to allow more space for pedestrians to wait without having to move closer to the road when its busy to avoid other pedestrians.	9/21/2020	§ 9(2)(a)	To be considered in pre-implementation stage.
SK-0001 to SK-0042	General Comment All Sheets	Queenstown Town Centre Renderings	Red hatching on the bus stops - some have them while others don't. Not sure what this indicates whether they are new bus stops or signalling all bus lanes and stops in general.	9/21/2020	§ 9(2)(a)	To be considered in pre-implementation stage. Red Hatching is shown under PT only bus stops.
SK-0001 to SK-0042	General Comment All Sheets	Queenstown Town Centre Renderings	GENERAL NOTE: Cyclists seem underserved in general across all drawings, particularly at intersections.	9/21/2020	§ 9(2)(a)	To be considered in pre-implementation stage.
6-XT014.40-WSP-01-ZZ-DR-C-5102	General Comment All Sheets	SH 6/6A Concept Design - Plan View	In lane cycling infrastructure is not provided for across many side street intersections and cycling priority through the use of sharrows at crossings is not consistent.	9/21/2020	§ 9(2)(a)	In lane cycle markings are shown across side road intersections where applicable. There are no sharrows in the SH6A design.
6-XT014.40-WSP-01-ZZ-DR-C-5102	General Comment All Sheets	SH 6/6A Concept Design - Plan View	Confirm rationale for why cycling lane is provided out-bound from Queenstown Centre rather than inbound.	9/21/2020	§ 9(2)(a)	Cycle lane is provided outbound for road cyclist as there is no other facility on the hillside of SH6A. There is a bi-directional shared path on the lakeside of SH6A for cyclists to use and an on road cycle lane cannot be provided due to space/cost/property impacts. There is also the Frankton Track on the lakeside for cyclists who are commuting through from Frankton to Queenstown and vice versa.
6-XT014.40-WSP-01-ZZ-DR-C-5102	2	SH 6/6A Concept Design - Plan View	The Footpath seems to abruptly end past the bus shelters approaching Sugar Lane/Marina Drive. Bus Shelters on Sugar lane side is obstructing shared path. Suggest to move bus shelter behind the shared path also there is no provision of cycle box at the intersection	9/21/2020	§ 9(2)(a)	There is a connection to the footpath up to Marina Heights, however there is no continuous footpath on the hillside of SH6A east of Marina Drive due to topographical and geotechnical constraints (Oak Tree and Frankton landslides) and subsequently no demand. Location of the shelters behind the shared path will be considered during pre-implementation due to geotechnical, property and topographical constraints. Cycle boxes will be added.
6-XT014.40-WSP-01-ZZ-DR-C-5103	3	SH 6/6A Concept Design - Plan View	Footpath appears to discontinue near Middleton Road.	9/21/2020	§ 9(2)(a)	There is no continuous footpath east of the Middleton Road bus stop on the hillside of SH6A due to topographical and geotechnical constraints.
6-XT014.40-WSP-01-ZZ-DR-C-5105	5	SH 6/6A Concept Design - Plan View	The footpaths near Larch Hill Place and Rees Hotel are disconnected. Bus stop is close to driveway.	9/21/2020	§ 9(2)(a)	There is no continuous footpath between Larch Hill Place and The Rees Hotel on the hillside of SH6A due to topographical, geotechnical, property and cost constraints, however crossings are provided for people to cross to the lakeside and use the shared path. There is really no demand to walk between Larch Hill and Andrews Road with people coming down form Queenstown Hill from as far east as Goldfield Heights using Andrews Road to access SH6A. Unsure as to bus stop and driveway? Just east of Andrews Road? This is an existing bus stop and driveway proximity is okay.

6-XT014.40-WSP-01-ZZ-DR-C-5106	6	SH 6/6A Concept Design - Plan View	Consider alternate intersection treatment with Frankton/Hensman/Andrews, closing Andrews Road access and provide access through Hensman Road. Also consider moving the existing driveway at the intersection to a safer location.	9/21/2020	s 9(2)(a)	Closing of Andrews Road has been considered in the past and was most recently considered with QLDC's upgrade of the Andrews Road intersection and wasn't progressed. Connecting Andrews Road to Hensman Road has very challenging topographical and geotechnical issues and property impacts.
6-XT014.40-WSP-01-ZZ-DR-C-5107	7	SH 6/6A Concept Design - Plan View	Potential retaining wall along with barrier should be proposed along this stretch near 125 Frankston Road due to steep drop at edge of shared path.	9/21/2020	s 9(2)(a)	The proposed shared path will need to be retained along its majority with suitable safety barrier installed as along other existing sections.
6-XT014.40-WSP-01-ZZ-DR-C-5107	7	SH 6/6A Concept Design - Plan View	Potential visibility issue along this corner due to steep hill face.	9/21/2020	s 9(2)(a)	Unsure what this comment is relating to? There are existing access visibility issues that will be looked at during pre-implementation and improved where possible, e.g. with earthworks, vegetation removal, suitable access gradients, certain movements only.
6-XT014.40-WSP-01-ZZ-DR-C-5102 to 5108	2 to 8	SH 6/6A Concept Design - Plan View	Investigate widening the current road where the corridor allows to provide for more dedicated bus lanes - however this may provide more retaining works for neighbouring properties.	9/21/2020	s 9(2)(a)	Physical bus priority lanes are problematic due to a number of constraints, i.e. topography, geotechnical, property, cost and social and environmental impacts. Therefore the overall strategy of managing traffic and providing virtual and physical (where possible) bus priority provides consistent and reliable bus travel times along SH6A. The cost of providing further physical bus priority lanes for very minimal travel time savings outweighs the benefits. Refer to SH6A Virtual Priority Tech Note.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-6	Frankton Works Overview Plan - Concept Design	SH6 / SH6a intersection: New Zealand drivers have little experience of the use of Traffic signalised roundabout. There is a lot to take in and for those visiting Queenstown. This will be daunting for visitors to maneuverer through roundabout. Also this design takes up a considerable amount of land needlessly and can be easily addressed with a well designed signalised intersection.	9/21/2020	s 9(2)(a)	Disagree with comments relating to use of signalised roundabout by NZ drivers as movements are controlled by signals. Signalised roundabouts are the safest form of at grade intersection as evidenced by Austroads Safe System Infrastructure Assessments. However the signalised roundabout has now been replaced by a conventional signalised intersection based on direction by the client group.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-6	Frankton Works Overview Plan - Concept Design	SH6 / SH6a intersection: and approaches: Unclear how cyclists will safely use intersection and connect with cycling infrastructure on SH6A, as well as with pedestrian / shared paths (in blue). Opportunities to have continuous cycle lane given the amount of space here.	9/21/2020	s 9(2)(a)	Signalised roundabout has been replaced by a conventional signalised intersection based on direction by the client group. Cyclists heading west, who do not continue on-road, are directed to Gray St, which then connects down to the Frankton Track away from SH6A, although there is a connection back to SH6A via McBride St to join the Shared Path on SH6A. Cyclists heading eastbound will have their own on-road cycle lane consistent with the rest of SH6A and will be provided with off-road options as they approach the SH6/6A intersection.
6-XT014-64-WSP-01-ZZ-DR-C-0002	All	Frankton Works Overview Plan - Concept Design	In lane cycling infrastructure is not provided for across many side street intersections and cycling priority through the use of sharrowes at crossings is not consistent.	9/21/2020	s 9(2)(a)	In lane cycle markings are shown across side road intersections where applicable. There are no sharrowes in the SH6 designs.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-6	Frankton Works Overview Plan - Concept Design	Intersections along SH6 could be tightened to improve pedestrian safety and on road markings for pedestrians provided. Clarity on how pedestrians will cross SH6 at intersections is required. For any overbridge designs must be DDA compliant.	9/21/2020	s 9(2)(a)	Intersection design have been based on vehicle tracking as per RTS18 and predominantly 4-axle semi-trailer as required for State Highway design. This seems to be a general comment with no specific review intent? Pedestrians will cross SH6 intersections mostly via signals, or underpass where at grade facilities cannot be provided. There are no over bridges proposed as part of this business case, however accessibility requirements will be considered for all users in line with NZ requirements as part of the pre-implementation stage.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-6	Frankton Works Overview Plan - Concept Design	GENERAL NOTES: Suggest to establish a Road Safety Audit team to conduct the thorough review of this intersection functionality & safety	9/21/2020	s 9(2)(a)	Which intersection? Assuming SH6/6A? A peer review has been completed. The signalised roundabout has now been replaced by a conventional signalised intersection based on direction by the client group. A Road Design Safety Audit will be completed on designs as part of the pre-implementation stage as is standard practice. A Safe System Assessment, involving Waka Kotahi's Principal Safety Engineer, has been completed for all interventions as part of the business case and will also be addressed as part of the pre-implementation stage.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-6	Frankton Works Overview Plan - Concept Design	Potential conflict along SH6 heading south from the roundabout where two lanes merge into one that may cause traffic to back up into the roundabout. Further conflict may occur with buses and general traffic merging together and de-merging. Dedicated and continuous bus lane should be investigated.	9/21/2020	s 9(2)(a)	The signalised roundabout has now been replaced by a conventional signalised intersection based on direction by the client group. However, that signal control and co-ordination meant that any merges weren't flooded with traffic beyond capacity.

6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-6	Frankton Works Overview Plan - Concept Design	Footpath Connection Missing near the bus station 	9/21/2020	§ 9(2)(a)	This are is all footpath as part of the bus hub (which does only show up in the renders).
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-6	Frankton Works Overview Plan - Concept Design	Lanes coming out of the petrol station needs reviewing. Potential clashes with either bus or car coming from the right and having to cross an extra lane	9/21/2020	§ 9(2)(a)	The signalised roundabout has now been replaced by a conventional signalised intersection based on direction by the client group. However, the traffic was controlled to avoid any clashes.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-6	Frankton Works Overview Plan - Concept Design	Hansen Rd/ SH6 Intersection there is a footpath flaring upward. Is there supposed to be a crossing here? 	9/21/2020	§ 9(2)(a)	No crossing here (due to right turn conflict). Design will be amended.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-6	Frankton Works Overview Plan - Concept Design	Seems to be footpath disconnected in front of 60 Frankton-Ladies Mile Highway. 	9/21/2020	§ 9(2)(a)	Connecting paths have been removed following consultation with the neighboring landowner (the design did allow for a path along the frontage of the property).
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-6	Frankton Works Overview Plan - Concept Design	At Grant Rd/SH6 roundabout & Hawthorne/Sh6 roundabout, limited storage space available near stop line on circulating lane to stop bus, which will obstruct the exit lane of Southern approach of roundabout. Suggest to remove the signal and stop line on roundabout circulating lane.	9/21/2020	§ 9(2)(a)	Due to signal phasing no vehicles will be stopped at the circulating lane stop lines, apart from the odd vehicle that may make a U-turn around the roundabout. Therefore the signal and stop line need to remain.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-6	Frankton Works Overview Plan - Concept Design	At Grant Rd/SH6 roundabout & Hawthorne/Sh6 roundabout, Full signalised roundabouts would appear to offer some overall safety benefits, especially for cyclists, however the proposed design doesn't address the safety of cyclists or pedestrians to cross along SH-6. Suggest to provide signalised crossing of pedestrians in front of stop line rather than give way crossing for ped and cyclist.	9/21/2020	§ 9(2)(a)	Signalised pedestrian and cycle crossings are provided where possible, i.e. Hawthorne Road leg, SH6 west of Hawthorne Drive, Grant Road leg. Where signal crossings can't be provided at intersections other at grade signals or grade separated (underpass) options have been considered - refer to SH6 Frankton Eastern Corridor Tech Note.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-7	Frankton Works Overview Plan - Concept Design	Pedestrian crossing at Lucas Place is further away from intersection. Suggest to bring towards intersection and combined with signal phasing for safe crossing of pedestrians.	9/21/2020	§ 9(2)(a)	There is a pedestrian crossing at the Lucas Pl intersection? The midblock crossing between Lucas Pl and McBride St has since been removed.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-7	Frankton Works Overview Plan - Concept Design	Humphreys Street/SH6 Intersection Review left turn into Humphreys for vehicle/pedestrian conflict as crossing is set a slight distance away from intersection. Suggest to proposed ped crossing closer to intersection	9/21/2020	§ 9(2)(a)	All pedestrian crossings a fully protected for walk and clearance time, so no conflict. Pedestrian crossing is located for local topography.

6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-7	Frankton Works Overview Plan - Concept Design	Humphreys Street/SH6 Intersection - consider applying another cycle stop box in front of staging right turn. Confirm how bicyclists are intended to use this intersection in relation to surrounding streets and how conflict with pedestrians will be minimised.	9/21/2020	s 9(2)(a)	Cycle box on staging turn will be considered during pre-implementation stage. Cycle demand comes from Robertson St via an existing cut through at Southberg Ave. Shared path facilities will be updated and provided to minimise conflict. Cyclists will be encouraged to (and do) use the detuned Robertson St with the proposed Humphrey St link.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-7	Frankton Works Overview Plan - Concept Design	Proposed alignment should tie-in with the newly built Kawarau Bridge alignment	9/21/2020	s 9(2)(a)	Alignment ties into newly built Kawarau Falls Bridge (aerial photo is off a bit).
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-7	Frankton Works Overview Plan - Concept Design	Short section of cycle lane proposed from Kawarau Bridge to Humphrey St intersection. Has any consideration for Cycle lane through out this stretch of section from Kawarau bridge up to Lucas Pl roundabout.	9/21/2020	s 9(2)(a)	Yes. Design has been updated to include shared bus/cycle lane from Humphrey St to Lucas Pl, as well as a continuous and connecting off-road facilities.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-8	Frankton Works Overview Plan - Concept Design	Howards Dr/SH6 Roundabout: North-East corner Exit curve along Eastern approach of roundabout seems to be not large enough as per Austroads. Consider large exit curve.	9/21/2020	s 9(2)(a)	Roundabout design complies with Austroads and RTS18 tracking for 4-axle semi-trailer.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-8	Frankton Works Overview Plan - Concept Design	Howards Dr/SH6 Roundabout: Eastern approach of the roundabout geometry should be consider redesign to reduce the speed of entry to roundabout which will minimises the rear-end type crashes at this location and also reduces the potential risk of a fatal or serious injury to pedestrians and cyclists.	9/21/2020	s 9(2)(a)	Roundabout entry geometry complies with Austroads and other visual clues will be added to design to slow traffic. At grade pedestrian crossing facilities will likely be replaced with an underpass depending on the outcome of the Ladies Mile Masterplan and potential development on the north side of SH6.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-8	Frankton Works Overview Plan - Concept Design	Howards Dr/SH6 Roundabout: South-West corner Entry curve radii is too large. Suggest to reduce the radii to control the speed of entering traffic and consequently the safety performance of the roundabout.	9/21/2020	s 9(2)(a)	Roundabout design complies with Austroads and RTS18 tracking for 4-axle semi-trailer.
6-XT014-64-WSP-01-ZZ-DR-C-0002	Page-8	Frankton Works Overview Plan - Concept Design	Howards Dr/SH6 Roundabout: Proposed Northern approach of roundabout splitter island is not large enough to shelter pedestrians and could be improved to control entry speed and guide traffic onto the roundabout.	9/21/2020	s 9(2)(a)	Noted.
6-XT014-64-WSP-01-ZZ-DR-C-0002	All	Frankton Works Overview Plan - Concept Design	GENERAL NOTE: Please ensure storage spaces within median islands are suitable to cater to hold at least a person and pram.	9/21/2020	s 9(2)(a)	As above, minimum width is 2.0m.

APPENDIX D: AECOM REVIEW AND RESPONSE

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Executive Summary

ID	Section	Page	AECOM review comment	Problem	Project team response
1			The Executive Summary should target a public audience, however the approach followed is still quite technical and the history of this project not clearly conveyed.	Details of options	Noted - amended
2	Context	5	The document is lacking a clear statement indicating the level of this business case. What does 'Queenstown Transport Business case' mean? Is it a PBC, SSBC-IBC/DBC? Is it for implementation?	Gaps	Noted - updated
3	Context	6	The diagram is not clear. It is difficult to understand the process and read the text. Speaks more to the interrelationships rather than alignment.	Details of options	Noted
4	Case for change	4	Some unsubstantiated claims	Details of options	Noted
5	Problem, Benefits and IO	8	Image has typos and investment objectives are not fully formed. These are outcomes rather than SMART IOs.	Process errors	Noted
6	Preferred option assessment	10	IOs are not fully formed making it hard to provide an assessment of them. Missing the measures particularly.	Process errors	Noted
7	Preferred option assessment	10	IO1 speaks more to capacity rather than efficiency and reliability. Where is the evidence to support these statements? What are the outcomes and the level of change achieved? This is what the reader of the executive summary wants to know.	Details of options	
8	Overall	Throughout	Some typos and sentence construction could be improved.	Details of options	Noted

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Strategic Context

ID	Section	Page	AECOM review comment	Problem	PROJECT TEAM RESPONSE
1	1.4	10	Font used in Figure 5 is hard to read. This diagram needs further explanation. What is actually included in this business case? Timing of these projects/documents. What are completed documents, and what are in progress.	Gaps	Replace with Abley graphic. Refine and focus on directly relevant projects
2	1.5	11	This should be part of an Economic context section, developing the economic strand to the investment context.	Other	Noted and Economic context section added
3	1.6.1	12	Unclear what the last sentence in the 2nd paragraph relates to.	Other	Removed. Doesn't add to story
4	1.6.1	12	Bus patronage source reference missing	Statements not supported by evidence	Updated
5	1.6.1	12	Evidence to support claim that system is reaching capacity missing.	Statements not supported by evidence	Updated
6	1.6.2	13	What has informed Table1?	Evidence not supported	Updated, moved to Problems section
7	1.6.2	13	It is not clear if Table1 is about the types of customers in the system, or each customer's needs? Currently a hybrid. Need to describe clearly both the customer and their individual needs of the transport system in Queenstown.	Evidence not supported	Separated description and problems
8	1.6.6	15	Needs separate land use planning and development section - not part of transport context. The Spatial plan is	Other	Noted. Clarification text added
9	1.6.6	16	No evidence to support claim about future of Southern corridor	Statements not supported by evidence	Which bit? Referenced growth projections, masterplans and developers
10	1.6.6	17	Figure 12 missing source reference	Evidence not supported	Noted
11	1.6.6	18	Airport section to go up in transport context ahead of the land use discussion	Other	Updated
12	1.6.6	18	Missing source reference for arrivals information	Statements not supported by evidence	References QAC masterplan
13	1.6.6	18	Figure 13 missing source reference	Other	Noted
14	1.6.6	18	Airport social and economic impact assessments not supported or referenced.	Statements not supported by evidence	Reference added
15	1.6.6	18	Statement that arrivals to Queenstown increasingly likely to be by car not supported by evidence	Statements not supported by evidence	forecast to continue, visitors must arrive by other means
16	1.7	18	Section 1.7 Committed Funding does not fit well here in terms of the flow of the story. Should it not be in a section "What has changed since the PBC" or as part of the Strategic Policy Alignment section? Or	Other	This is a hot potato. Different people have moved it to different places in the report
17	1.8	20	This section needs an introduction to understand what a "Related project" is, and what does it mean to this BC.	Gaps	Updated
18			Needs graphic or flow chart with dates to inform the reader of how all the work wrapped up in this business case and the interrelationships of other workstreams. Its currently very confusing.	Gaps	Improved graphic and separate document (Biii) clarifies.
19	1.8	20	Figure 15 is hard to read and what do the coloured lines on the map represent?	Gaps	Removed.
20	1.8.2	20	This section is very confusing. Is the Queenstown Town Centre Masterplan 2017, different from the Queenstown Town Centre Masterplan PBC? What is the QTC DBC and Project Manawa? Are they related projects or part of this BC. Needs further explanation as connections are not clear at all! In section 3.8 Project Manawa is described as having a key interdependency with this project, yet no where in this document does it outline what it is (other than a community heart), who is running it, timeframes	Gaps	Noted. Clarification text added
21			The Ladie's Mile ITA is stated as key to the development of the options in the options assessment, but there is no mention of it in the Strategic case. Without reading it, I would expect it to be referred to somewhere.		Added to Related Projects
22	1.8.3	22	Date of this document/project	Gaps	Updated
23	1.8.4	23	Not clear if the Spatial plan is being developed or operative. Needs date and better explanation. If this BC needs to align with the outcomes of this plan, it should sit in the strategic alignment section, not related projects.	Other	Updated and added to Local Strategies (though dictated by national strategy)
24			It feels like there are a whole lot of packages of works to be included in this BC, but this is not adequately described anywhere. A structure diagram is needed to understand the history of the work packages and how each are going to be addressed as part of this DBC.	Gaps	Noted. Clarification text added
25	2.4	26	A change in government is a risk, not strategic alignment	Other	Moved to Constraints
26	2.4.1	27	Table 2. Make clear that this is speaking to the alignment of the programme to these priorities and objectives. Additional explanation required.	Gaps	Updated
27	2.4.1	28	Table 3 repetitive and would value from additional information/explanation.	Gaps	Noted - information is sufficient
28	2.4.2	30	Figure 19 too small to read	Other	Increased size
29	3	33	Major issue themes stated here are different to the key challenges introduced in Section 1.2.1. Why the difference? Confusing. Needs explanation.	Other	Updated section on key issues to clarify these are not problem statements

30	3.1	33	These are principles in relation to the solutions, not the problems.	Other	Removed.
31	3.1	33	Overall the problem statements are ok, but they are not mapped well to the benefits, KPIs and IO. Consider Access as the problem instead of Efficiency.	Process errors	Noted. Updated
31	3.1.3	33	Missing reference of evidence such as ILM to support the development of the problem statements. Would expect to be in an appendix.	Gaps	Noted. Added
32	3.2.1	34	Visitors rank transport issues as most negative aspect. Where is the evidence to support this?	Statements not supported by evidence	Reference added
33	3.3.1	36	Figures 23/24/25 missing source references	Gaps	Reference added
34	3.3.2	41	More information on reference to low incentive to take PT. The introduction of the \$2 fare and improved services surely was incentive. (And touted to be so successful in the Exec summary.	Statements not supported by evidence	Evidence added
35	3.3.2	41	Last four bullet points speak to safety, not efficiency	Other	Moved
36	3.3.4	43	Economic cost figures need supporting evidence	Statements not supported by evidence	Reference added
37	3.4.1	44	Figure 30 missing key	Other	Resolved
38	3.4.1	45	More quantitative data to support this. How many outages occur annually? Is there data to support this getting worse over time?	Statements not supported by evidence	Added TREIS data
39	3.5.1	46	Where is the evidence to support these statements and figures quoted?	Statements not supported by evidence	Added CAS reference
40	3.5.1	46	Reference to community engagement. Where is this engagement material?	Statements not supported by evidence	Reference added
41	3.5.1	46	Where is the evidence to support these statements and figures quoted?	Statements not supported by evidence	Reference added
42	3.5.1	46	Site observations? Are these anecdotal, or is there a report to support these findings?	Statements not supported by evidence	Reference added
43	3.5.1	46	Photos to illustrate some of these safety concerns would be useful.	Statements not supported by evidence	Evidence added
44	3.5.2	46	Broad, unsupported statement on traffic volume and congestion. This heading is also duplicated.	Statements not supported by evidence	Updated
45	3.5.2	47	Missing reference to support crash figures quoted.	Statements not supported by evidence	Reference added
46	3.5.3	47	Reference – where has this data come from?	Statements not supported by evidence	Reference added
47	3.5.3	47	Figure 33 needs reference and date of data.	Other	Reference added
48	3.5.4	47	Last bullet point needs clarity	Other	Updated
49	3		Liveability and attractiveness was considered a key problem and consequence to the transport issues in Queenstown in the PBC. Liveability is mentioned in Problem Statement 1, and is an investment objective, but the problems and evidence section contains no discussion	Gaps	Covered in Amenity problem
50	3		If a 'housing affordability crisis' really exists, does it not warrant a problem statement of its own. Then the benefits and investment objectives can be defined. Needs	Gaps	Stakeholders agreed not. Not explicitly relevant to WK business case
50	3.7.1	51	Reference the quoted figures? As a result of the is PT update, it would be good to evidence with what impact the increase in patronage on PT had on traffic volumes? Was a reduction in car use evident?	Gaps	Too many factors to disaggregate, data doesn't exist
51	3.8.2	52	This isn't political is it? More appropriate heading I would have thought would be "Conflicting organisational interests". Is this really a constraint? Is it not an opportunity for a programme to address multiple interrelated challenges in the region. Isn't this why these organisations are partnering this project?	Other	Updated but still argued political
52	3.8.3	53	This is an issue – may sit better in the land use context section 3.2.1, rather than here.	Other	Updated
53	3.8	52-53	What about other constraints such as historical, cultural, ecological, utility, or geotechnical constraints?	Gaps	Covered the ones we're aware of. Could have more detail on cultural integration?
54	4.1	55	Would be good to include a discussion on Economic outcomes. Especially when there is a lot of talk about the economic cost of not doing something.	Gaps	Economic context section added
55	4.1	55	Do investors also want to know the likely outcomes for other key community aspects such as liveability, environmental, sustainability and social benefits.	Fatal flaw	Agreed with stakeholders not to further complicate
55	4.2	55	IOs are weak and not SMART objectives. Do all the problem statements relate to all the IOs? Need to show each Problem statement with link to benefit and investment objective. It is not clear here what addresses what and the link to benefits of investing. Some of this is shown in Appendix C notes, but needs to be summarised better and brought through into the body of the report.	Gaps	ILM and discussion added
56	4.3	55	KPIs should be able to be directly linked to the outcomes and described in measures.	Fatal flaw	Updated
57	4.3	56	Tables are not complete in the Appendix B. A lot of baseline and expected results incomplete. Some KPIs in the appendix material are not in this table.	Gaps	Havent checked appendices

58	4.3	56	Given the emphasis on PT and active modes for this project it would be good to have a measure relating specifically to PT. Eg New PT users, or increased active	Gaps	In updated measures
59	4.3	56	Amenity: Should this not have a measure such as 'Reduction in traffic volumes on Town Centre roads.	Gaps	In updated measures
60	5.2	57	What are the key objectives, principles or messages and approach to engagement in this plan? Investors need to have an overview and go to the appendix for greater	Gaps	Section has been updated to be clearer.
61	5.3.1	60	Duplicate from bottom of section 5.3	Other	
62	General		No environmental context. Reference to QLDCs climate action plan is made in the options assessment, yet not in here. The Climate Action Plan is a key strategic document that needs to have the alignment demonstrated.	Gaps	Broad commentary provided
63	General		No economic context section. Plenty of mention of the economic cost to the community of not investing being used, but this is not explained anywhere in the case for change. Needs an economic context section to clearly convey the economic make up of the region, the economic impact of Covid etc.	Gaps	Economic context section added
64	General		Would benefit from a section near the front of the strategic document summarising 'why investment is needed?'	Gaps	Overarching compelling story added and infographic to come
65	General		Include a section around 1.4 that outlines to the investor what's changed since the proceeding PBC's.	Gaps	Updated
66	General		Linkage of ideas is poor.	Other	Noted
67			Missing the "so what"? Broad statements used without clarification of what this means for the people of Queenstown.		Addressed by other updates
68	General		Timings of interrelated projects missing.	Gaps	Updated
69	General		No need to have workshop minutes included in an appendix.	Other	
70	General		Sometimes referred to as Queenstown Transport Business Cases and sometimes Business case. Make consistently singular.	Other	Updated
71	General		Full check of acronym use required. In full the first time and then acronym for then.	Other	Noted
72	General		Consistency of bullet point punctuation.	Other	Noted
73	General		Check consistency of capitalisation	Other	Noted

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Options Assessment

ID	Section	Page	AECOM review comment	Problem	PROJECT TEAM RESPONSE
1	General		The programme has followed the option intervention hierarchisation of low cost first. It has a focus on developing a strong public transport network and priorities, as well as improving active transport network, to promote mode shift. Then the other options are secondary and are suggested as a means to achieve the first. However, there is a lack of evidence that supports the option assessment. It is not clear to understand what options have been tested and why.	Statements not supported by evidence	Updated commentary throughout to clarify prioritisation and three pillars approach
2	General		The document itself is very difficult to read. It is disorganised, not engaging and does not present a clear history that explains to the reader what has been done, why and how. It repeats the same arguments through the whole document and does not provide a clear conclusion.	Gaps	Difficult to arrange the option assessments with so many different approaches and level of detail. Have attempted to clarify, optioneering process now clearer and accompanied by diagrams
3	General		It is difficult for a reader that is not familiar with the study area to fully understand the what and the where. There is often no context presenting the targeted area or plan. Also, some figures and plans are very schematic or technical, not suitable for a non-technical reader.	Gaps	Haven't added maps due to time constraints but have added clarity on project areas
4	General		With regards to the options, on some occasions the document presents what we are seeking to improve with the tested option. However, there is no evidence supporting the statements. On other occasions, the document presents what options or opportunities would be good to pursue, but it does not specify what exactly can be done, how, where and when.	Statements not supported by evidence	Added NZUP context to clarify much of the programme is already committed, before some detailed analyses were complete. Details on implementation are in Part Bii
5	General		Options seems to be assessed individually, but not as part of a whole.	Fatal flaw	Developed as a whole, but assessed as individual packages. PT services and infrastructure had to be assessed together but other parts are completely different activities. Tony S happy with this approach
6	General		Most plans do not indicate where North is, with some of them having been rotated.	Other	Noted, not updated due to time
7	General		Need to include maps along the report showing the location of the options being assessed.	Other	Noted, not updated due to time
8	General		A description of the DoMin option is not provided	Gaps	Updated
9	Figure 1, 4, 5	6	Fonts are too small to be read comfortably	Other	Updated
10	2.4	11	Figure 5 reference is wrong. Should point to Figure 6	Other	Updated
11	2.4	11	Clarification and reference should be made on how the priorities were chosen.	Gaps	Updated, linked to ILM and shortlist assessment
12	2.4	11	Why these priorities? Rather than just agreeance these need to show the linkage back to the evidence, solving the problem, the benefits and investment objectives.	Gaps	Updated, linked to ILM and shortlist assessment
13	2.6	12, 13	Long list of options is available in Appendix B. The document would benefit from a list or table of all tested options, including a short description in the main document.	Evidence not supported	Added to main body of report
14	2.7.1	13	It is not clear to me how the long list to short list was made. What are the Strawman programmes? What does this mean? It is not clear how the long list – short list process was made. The document should provide: 1. Explanation of the different options being showed in the document. What options did they include? 2. How they were score? In what basis? 3. What was the outcome of the stakeholder workshop? 4. Why QTC Masterplan was scored 5? What were their flaws/benefits? Please add more detail to this section, so the reader can understand how the process has been made.	Statements not supported by evidence	Process and outcomes fleshed out with more detail
15	2.7.2	14	This section would benefit from a map	Other	Noted, not updated due to time
16	2.7.2	14	Please include clearer and more detailed explanation on how the options (and preferred) were selected.	Gaps	Updated, reference to evidence added
17	3.1.1	16	Please include reference.	Other	Not sure what this refers to
18	3.1.1	16	Are these the only options discounted from long list? Were there not options that were a fatal flaw in the first cut? Options that were eliminated need justification.	Gaps	First cut of longlist only identified interventions out of scope or covered elsewhere. PT network options were assessed separately in detail. Justification provided
19	3.1.1	17	How car V/C ratios were assessed? How is the congestion measured? How is the mode shift assessed? Why options with higher priority and faster and reliable TT would achieve mode shift?	Statements not supported by evidence	Updated with info from PT model
20	3.1.1	17	This section needs more context and evidence that supports the statements.	Statements not supported by evidence	Updated with evidence from MCA
21	3.1.1	17	What is the agreed assessment criteria? Please state.	Gaps	Updated
22	Table 3 Stanley St	20	"Scored poorly for feasibility, modal integration and alignment with the Masterplan without arterials being used for general traffic". Please explain this sentence. QTC Masterplan considered Stanley St as preferred location for the PT hub. Why did it score poorly against the Masterplan? Arterials are for general traffic, so why they are not used with this purpose? Where does general traffic go? Why is not feasible? Why has low integration? Please explain clearer what this sentence means. Provide evidence and references.	Statements not supported by evidence	Updated with more detail

23	3.1.3	21	Please state evaluation criteria.	Gaps	Updated
24	3.1.3	22	And explain how the option selection was made. Please include reference on HCPT service and infrastructure DBC. How does it relate to this DBC. This is not mentioned in the Strategic Case. Please explain or refer the reader to where it is explained.	Gaps	Updated with correct name - referring to MRT scope to IBC level
25	Table 4	22	What is the evaluation criteria? Is the gondola the preferred option? In the preferred options the gondola option is not clear.	Gaps	Updated and added clarifying statements
26	3.2.1	23	Please provide more detail on the different types of bus priorities. (eg difference between offline and full priority). The figure is difficult to understand. Suggestion to update it with a map background and legend.	Gaps	Added explanation paragraph but didn't add maps - point of schematic was to simplify and graphic would be too big
27	Table 5	24	Please complete with reason.	Gaps	Updated
28	Table 5	24	Why is not applicable?	Gaps	Updated
29	3.2.1	24	Affordability is based on a 4lane widening option. However, this has been disregarded. What is the affordability of the other options? Please state.	Gaps	Commentary on affordability of other options added
30	Table 5	24	Do min has been omitted due to not addressing problem statements. It should be tested against the IOs not the problem. This is why it is important to clearly map the link from problem to benefit to investment objectives.	Gaps	Updated - typo
31	3.2.1	25	Not available	Gaps	Not sure what this refers to
32	3.2.1	25	This explanation is not clear. Please provide more detail and evidence.	Statements not supported by evidence	Updated
33	3.2.2	26	More detail is needed. What specific options have been considered? How have they been assessed?	Statements not supported by evidence	Updated
34	4	28	What does it mean it was simplified? Why? Is this not the Virtual Priority option? Please clarify.	Gaps	Updated with reference to modelling assessments
35	4		What does this mean for the program? What are the implications?	Statements not supported by evidence	Not sure what this refers to
36	4.2	29	It will benefit from a map highlighting the intersections being assessed.	Gaps	Map provided in overarching section
37	New Marina Signals	29	This section is not clear. Please re-write with clearer statements and references. Also figures should refer to 20, not 21.	Gaps	Rewritten
38	4.3	30	This sentence is uncompleted. It lacks conclusion or conjugated verb.	Gaps	Updated
39	Figure 21		Include legend and N	Gaps	Updated
40	5	32	The text makes reference to TN 19, but this one is not available in the appendices	Gaps	Appendices
41	5.1.2	34	Reference to TN 35 SH6/SH6A Operation and Future Performance, which is not available in Appendices.	Gaps	Appendices
42	5.1.3	35	Please provide more detail on those 3 options.	Gaps	Updated with reference to new tech notes
43	5.1.5	37	What does this mean?	Statements not supported by evidence	Updated with reference
44	5		No reference to how the options have been assessed is made (not even in appendices), so it is not possible to assess how the options have been determined. Please provide evidence.	Statements not supported by evidence	Updated with reference to eastern/southern corridor tech notes
45	5.3.1	39	TN 29 Frankton Masterplan Alignment is not available	Gaps	Appendices
46	5.3.1	39	Please provide more detail on the objectives and outcomes of the workshop and how the options were evaluated.	Gaps	Not considered necessary - text to show alignment with masterplan
47	Active mode crossing assessment	41	Please provide a conclusion	Gaps	Added reference to assessment memo
48	6	43	Statement reads "As part of the Frankton and Ladies Mile Scope Expansion, it was identified that Ladies Mile presented a significant constraint on public transport uptake for a large proportion of Queenstown's population, thus restricting the ability to achieve mode shift targets". Need to add in WHY it is a constraint? Access?	Gaps	Updated
49	6	43	If all components of the Ladies Mile programme are committed through NZUP funding why are they in here. Needs explanation. Are they now in the Do min? Is this section for information/context only?	Statements not supported by evidence	Almost all of the infrastructure programme is in NZUP - statements added throughout to provide context
50	6.1.1	43	Have eastbound bus lanes been assessed?	Gaps	Updated
51	6		This section presents a lack of evidence. No references are being made to calculations, designs or assumptions, so it is difficult to understand how the assessment of options has been done.	Statements not supported by evidence	Added reference to Ladies Mile HIF and Ladies Mile tech note
52	7	46	There is no explanation of results, findings or assessment. Just reference to the Appendix. The Arterials section does not add any new information. Please provide detailed information on assessed options.	Gaps	Added clarifying context - much of Town Centre programme developed previously, our job to text/reconfirm. Reference added to Arterials tech notes
Appendix A Workshop Notes					
Appendix B Long List Options					
53	1	1	The document provides a list off all assessed options. I would have expected to also provide a description of the option and selecting process criteria assessment.	Statements not supported by evidence	Noted
Appendix C TN 30: High Capacity Public Transport					
54			This document is technically poor as it does not present enough evidence on the assessment that has been conducted. In addition, it is not clear if the gondola will proceed. Available information is confusing.	Statements not supported by evidence	Noted.
55	2.6	3	2.6 mentions ORC has agreed to fund a basic level of ferry service. There is also a Ferry DBC. But the Main Doc discounted the ferry option from the PT improvements, with only one ferry route in the preferred option. Please explain.	Details of options	Noted. Amended.

56		3	"There are challenges around fleet, but for example, Wellington is acquiring significantly more electric buses which will free up some of its current diesel bus fleet." Does this mean Queenstown can have Wellington diesel buses? Please explain.	Details of options	Noted.
57		3	4 Figure 3. How the forecast demand and capacity have been assessed? Please provide detail. Graph shows car demand descends from 2045, but text say 2039. Please rectify.	Statements not supported by evidence	Noted.
58		3	4 Although the doc is dated from Jul 2020, it seems it has not been updated to the latest outcomes/results from the assessment. - Figure 3 shows (green) "capacity with double-decker or articulated buses up to 2039 and with bi-articulated buses or trackless trams thereafter". Both having been removed from the optioneering due to geometry constraints. - "The mode shift numbers are modelled outputs based on a typical generalised cost model with the price and availability of parking in Queenstown Town Centre being a significant lever to mode change". What are the assumptions? Parking is one of the targets of the BC. Validity of the presented results will depend on assumptions, as they might no longer be current.	Statements not supported by evidence	Noted.
59		4	6 There is a ferry section to say that ferry option was dismissed. But above it mentions the ferry as a potential option (with funding).	Gaps	Noted.
60		5	Not enough evidence is provided in this section'	Statements not supported by evidence	
61		7	Frankton hub - the document states the need, how it should be and where should be located, also provides a solution to connect it to the airport. But there is no evidence on the work done of the options. Please include possible locations, designs, pros and cons, why we choose 1, reasons, feasibility. Also it ends with questions. This doc should be the reference doc for the study and it does not provide evidence.	Statements not supported by evidence	Noted.
Appendix D TN 12: Queenstown Public Transport Network Development					
62			The TN reviewed in May (Feb 2020) is more recent than the one presented in Appendix D (Sep 2019)	Gaps	Noted - no feedback received in May
Appendix E TN 18: Queenstown Lakeview Bus Service Analysis					
63			Same TN as the one reviewed in May (Oct 2019).	Gaps	Noted - no feedback received in May
Appendix Modelling TN (TBC)					
64			Not included	Gaps	Noted
Appendix G TN 11: Travel Demand Management					
65			Same TN as the one reviewed in May (Sep 2019).	Gaps	Noted - no feedback received in May
Appendix H Bus Stop Improvements (1 page)					
66			This is a list of proposed new bus stops between Queenstown and Frankton. It includes a brief reason on why these bus stops should be created; however, more information should be included: - Reason for preference for this bus stops and not others - Amenity - Catchment (more specific numbers that show that there is an assessment behind these "purposes") - Access	Statements not supported by evidence	Analysis/optioneering added to main body
67			Suggestion to add a map with the location of existing and new bus stops.	Other	In main body
Appendix I Bus Lane Improvements					
68			Frankton. It includes a brief reason on why these bus lanes should be created; however, more information should be included: - When it says "queues are expected to be significant", indicate why. - Reason for preference for this locations among others should be indicated - Show all the work behind these statements. This table could be easily go into the main report. More evidence on the work done and the results is needed.	Statements not supported by evidence	Analysis/optioneering added to main body
69			Suggestion to add a map with the location of existing and new bus lanes.	Gaps	In main body
Appendix J Intersection Improvements					
70			This is a list of proposed intersection upgrades. It includes a brief reason on why these should be created; however, more information should be included: - Problem we are willing to solve with the upgrade (reason why) (not in all) - Suggestion to include plans	Statements not supported by evidence	Analysis/optioneering added to main body
71			Suggestion to add a map with the location of the intersections being updated.	Gaps	In main body
Appendix K Active Mode Crossing Improvements					
72			This is a list of proposed active mode crossing improvements. It includes a brief reason on why these should be created; however, more evidence on how they have been assessed and decided should be included.	Statements not supported by evidence	Analysis/optioneering added to main body
73			Suggestion to add a map with the location of existing and new active transport crossing facilities.	Gaps	In main body
74			What is a "dummy" gap for buses? Please explain	Details of options	Haven't updated due to time
Appendix L TN 24: Arterials					
75			Same TN as the one reviewed in May (Apr 2020). Therefore highlighted problems have not been addressed.	Gaps	Noted - no feedback received in May
Appendix M TN 10: Parking					
76			Good TN. It presents the problem and how it will be solved. It also explains the differences between what has been agreed and what was proposed in the Masterplan and DBC. It is clear and easy to read. It says that the final outcomes might defer from what is presented as it still need to be refined, but in general it provides a good base.		Noted
77			Reference to "QTC Coach Management Technical Note", but is not available	Gaps	

Appendix N_TN 9: Movement and Place Review				
78		Document updated from last time. It is clear and well explained. Presents an evolution of the MP framework used in QTC, as well as the problems willing to be solved and targets to be achieved.		Noted - no change
79		Based on QTC only	Gaps	Noted - no change
80		The new MP framework considers only 1 place category and 3 movement. While this caters for the different mov priorities, how does it consider different place values? Do all 3 categories cater for high place value?	Details of options	Noted - no change
81		Traffic speed on Primary and Secondary link is defined as 30-40km/h. However, speed limits in QTC have been set to a min of 40km/h. Please explain.	Details of options	Noted - no change
Appendix O_TN 25: Pedestrian Wellbeing Benefits				
82		Same TN as the one reviewed in May (Mar 2020). A summary page has been added, but the rest of the document is the same.	Gaps	Noted - no feedback received in May
Appendix P_Proposed Speed Limits (1 page)				
83		Map with current and future speed changes. Information in the map contradicts other information in the BC. QTC speed will be 30km/h or 40km/h?	Gaps	Noted
Appendix Q_Community Engagement Material				

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Preferred Option

ID	Section	Page	AECOM review comment	Problem	PROJECT TEAM RESPONSE
1	General		The document itself is very difficult to read. It is disorganised, not engaging and does not present a clear history that explains to the reader what has been done, why and how. It repeats the same arguments through the whole document and does not provide a clear conclusion. It is difficult to understand what has exactly been assessed (or not). Some sections present an idea / intervention very clearly and in another section it is a "maybe". In general it exposes a problem and what is the expected outcome.	Evidence not supported	Noted. Changes made to layout
2	General		The document would highly benefit from plans showing the extend of the study area and the location of each intervention.	Gaps	Noted. Diagrams added
3	General		Would expect an assessment of the programme against the outcomes listed in the Strategic case section 4. This should be described in terms of the KPIs. Eg If the KPI is 'New PT users' The outcome is x number of new PT boardings at Airport = x, at Stanley	Gaps	KPIs are referenced in Section 4 and Appendix
4	1.1.2	5	It is unclear if Stage 1 of the Arterials has been considered as part of the DoMin option. If that is the case, they should not probably be listed as intervention for this BC.	Risks	Arterials Stage 1 as Do minimum intervention referred in Table 2
5	1.1.2	5	"An eastbound bus lane and signalling the existing roundabouts on SH6 will enable buses to travel unimpeded towards the Shotover Bridge. Bus priority onto the bridge is also being considered. The westbound direction along this section will also have a bus lane with priority through the intersections." Should not this be part of the Ladies Mile interventions?	Other	Yes. Moved to correct cell.
6	1.1.2	5	Technical Notes 12 states that buses are a better option than trackless trams: "Other higher capacity modes, such as trackless tram or bi-articulated buses have been ruled out due to capacity constraints in Queenstown Town Centre, short block lengths and tight corners." Uncertainty on what kind of vehicles will be used for the Public	Risks	Noted. To be clarified in next stage
7	1.1.2	5	Please state which is the preferred option as offline PT service. It is not clear if gondola will proceed.	Risks	Noted. Reference added
8	1.2.1	6	If funding has been made available for Stage 1 of the Arterials and QTC realm improvements, why are those part of the preferred options?	Risks	These interventions form part of the Queenstown Programme.
9	Table 2	7	Definition of Do Min option is not clear. Is this option being defined with only allocated funding? Does the allocated funding include an ITS package and interim hub improvements on Stanley Street? Those two interventions have not been mentioned before as being part of the DoMin option. Please explain.	Fatal flaws	Noted. Do-minimum package content updated.
10	Table 2	8	Some interventions described in the following tables are missing in Table 2: - All SH6 interventions - Some SH6A interventions - Frankton interventions At the beginning of this document the "Queenstown package" is	Gaps	Noted. Table updated
11	1.3	7	This section would benefit from a summary on the preferred off line option. From this paragraph it seems that the option has not fully been contemplated, that it is just a "maybe". More clarity on what has been assessed should be provided.	Details of options	Noted. Information added.
12	Figure 2	10	This figure is too small, and the text is very difficult to read (colour and size). Would suggest to add a map in a A3 page.	Other	Noted. Size increased
13	Table 4	10	Intervention purpose is not clear. Would suggest developing explanation to include What, Where and Why.	Statements not supported by evidence	Noted
14	Table 5	13	1st intervention: Should not this be located on Table 3 rather than Table 5?	Other	Tables have been updated to reflect new location diagrams
15	Table 5	13	This measure has not been mentioned before.	Risks	Noted
16	2.1	15	This section only describes ideas / actions that could be done. It should be expanded to include specific interventions, who and how will do them as well as an implementation plan (what, where, when,	Evidence not supported	This has not been developed further (as noted in TN22, dated Feb 20 2020)
17	2.1	16	Why the development of a new Single Stage Business Case for TDM is recommended? This section is based on the information provided in Technical Note 22, which at the same time is based on a "deeper" previous study in the area. It is confusing why it is necessary to undertake more studies. Please explain why the studies made up to date are not sufficient.	Risks	Statement considers Queenstown Lakes District mode shift plan referenced in NZTA 'keeping cities moving' and being developed to final endorsement by Way2Go and NZTA
18	2.2		This section only describes ideas / actions that could be done. It should be expanded to include specific interventions, who and how will do them as well as an implementation plan (what, where, when,	Evidence not supported	Noted. Section updated
19	2.2.2	17	This is poor. State what has been assessed and selected as preferred, not the likely outcomes of a potential VMS option.	Evidence not supported	Noted. VMS locations included in update
20	2.2.3	17	This section is poor and does not relate to any of the work done. Make reference on the Parking Strategy.	Evidence not supported	Noted. Section updated

21	2.3	17	Please refer to review comment above. TN 12 mentioned that articulated buses and trackless trams were not an option due to geometric constraints. Additionally, at this stage a decision on the type of vehicle type should have been already made. Please provide clarification on which kind of vehicle type will be used.	Risks	\\nzdu\1s01\projects\ 2012 Onwards\NZ Transport Agency\80510559 NZTA Qtn BC\F Reporting\8. Technical Notes\TN # 12 PT Story\200218 Queenstown Public Transport Network Development Story v3.docx does not refer to longer vehicles not being an option.
22	2.3	17	Why the development of a Detailed Business Case to assess public transport services to complement the already developed Technical Note 30 (High Capacity Public Transport) is recommended? My understanding is that the purpose of this BC was to assess those	Risks	Paragraph included in error. Removed.
23	2.4	18	This section should be a summary on what is described in Appendix G. The reader should not have to read the appendices to understand what are the interventions being considered. Appendices are just for reference. Please expand this sections.	Evidence not supported	Noted. updated
24	2.4	18	Those 3 typologies do not align with the ones described in TN 9, where a primary, secondary and tertiary are described. Please explain or update.	Gaps	Typology obtained from design philosophy statement. Report updated to reflect TN9.
25	2.4	18	This section would benefit from an explanation and a map showing the location of the interventions as well as the defined street	Statements not supported by evidence	
26	2.4	19	Please explain what the two assessed options at Lake Esplanade are and the preferred one.	Statements not supported by evidence	Report updated with preferred option
27	2.5	19	This section should provide a summary of the developed parking strategy, not an introduction of what we want to achieve with the parking strategy.	Statements not supported by evidence	Section updated
28	Table 6	20	Link narrative with the investment objectives, as those are what we are willing to achieve.	Evidence not supported	Noted
29	Table 6	20	Drivers user mode is missing.	Gaps	Updated
30	Table 6	20	Expand to include freight, as not all commerce vehicles include deliveries (Supermarket supplies, Waste services...)	Other	Updated
31	Table 6	20	Can we join them in Visitors?	Other	updated
32	4.1.1	23	Please state which documents are relevant and in which appendix can be found.	Other	Noted. Updated
33	4.2	26	Suggestion to reintroduce IOs. Also IO1 has three dot points, but only two have been considered.	Gaps	Noted. Updated
34	4.1	23	Suggestion to reintroduce KPI	Gaps	Noted. Updated
35	Table 7	23	Decreased risk of crashes as buses have their own lane and priority increase in number and surface of bus stops reduces the risk of crowds and potential accidents for PT users	Gaps	Updated to include
36	4.1.3	24	QTC. Please update	Other	Updated
37	Table 9	25	This intervention is new, has not been raised before. In addition, it does not seem the correct location for this statement.	Risks	unclear comment
38	4.1	23	The assessment lacks supporting evidence. Those statements have not been demonstrated in the document.	Evidence not supported	Evidence developed through previous assessment tables
39	4.2	26	Provide mark: High, Moderate, Low	Evidence not supported	Noted
40	5.2	30	Text suggests that the assessment profile was primarily undertaken using the Waka Kotahi's Investment Assessment Framework for the 2018-21 National Land Transport Programme. Additionally, it was done against the 2021 Draft GPS. However, Table 15 only shows GPS criteria. Please explain	Evidence not supported	Noted. The table 15 refers to priorities from both GPS priorities. The 2021 assessment was undertaken as a sensitivity test as it does not come into effect until July 2021
41	6.1	32	Why Ladies Mile is not included in this assessment?	4	Noted. Reference updated
Appendix D. TN 22: Travel demand management					
42			Same TN as the one reviewed in May (Feb 2020). Therefore highlighted problems have not been addressed.		noted
Appendix E. TN 36: Intelligent transport systems					
43	1	1	Error! Reference source not found Please update		noted - amended
44	1	1	"The successful implementation of ITS supports the investment objectives of the Frankton to Queenstown and Queenstown Town Centre Business Cases and help realise the mode shift required to keep the transport network operating effectively and efficiently." Please state why.		noted - amended
45	3.1	4	"The benefits of a successfully implemented TOC accrue from improved organisational and operational outcomes as well as providing an enhanced customer experience." Please provide reference.		noted - amended
46	3.1	4	Explain what is a Network Operating Plan (NOP) and why it is needed in Queenstown.		noted - amended

47	ALL		This is a good informative note on what is ITS and which measures have been considered. However, it does not provide details on WHAT and WHERE needs to be done. For example, if SCATS Priority Engine software is a measure to be adopted, I would have expected to see a plan and a table showing the locations and what would the system achieve at each location and overall for the whole network. Same for the VMS and the parking management. In addition, for the parking management system there is a need to clearly explain what the writer is willing to install, where, how and how it will work and which benefits/outcomes will exactly bring. It mentions the system has a big cost (300-500k), but we don't actually		noted - amended
Appendix F TN 30: High Capacity Public Transport					
48			Same TN reviewed as part of the Option Assessment Appendices		Noted
Appendix G QTC design philosophy statement					
49	1.2	1	The document mentions there is a document recording the concept design philosophy for the F2Q SSBC. However, it is not provided in		No change - discussed with Reece
50	1.2	1	Please define what DPS means.		Definition added to abbreviations
51	1.3	8	"The DBC has redefined the lengths of Arterials Stage 2 and Stage 3."		Section updated
52	1.3		The definition of the arterials is not clear. It repeats the same arguments without apportioning anything new and telling what has been changed from the initial Masterplan design.		MATT N, discussed with Reece definition to be added to 2.5.2
53	2.4	9	Design objectives are not clear and not well framed / targeted.		MATT N, discussed with Reece
54	2.5.1	9	Maximum speed at the Town Centre will be posted and designed at 30km/h. HOWEVER, in the defined options it clearly said it will be 40km/h.		40 km/h Error corrected.
55	2.5.1	9	Why the design and posted speed of the Arterial will be different (50 vs 40)? Shouldn't this help drivers to travel faster?		in urban environment where most of the streets are straight this will have negligible affect on the operating speed, however will improve safety on steep gradients.
56	2.5.1	9	"The on-street parking is to be removed from Shotover Street, Stanley Street, and streets forming the Arterials; loading bays are proposed to be retained (although may be relocated)." The parking strategy does not expect to remove parking completely from Shotover Street and Stanley. In fact it estates 56 and 8 parking spaces respectively. Please explain		The reviewer used incorrect reference table to list parking provision (correct numbers are 24 and 8). Wording amended to be inclusive of parking stalls and parking strategy.
57	2.5.2	10	Defined MP framework (TN 9: Movement and Place Review) had primary, secondary and tertiary typologies (some of them with several designs or sub-typologies). Please explain why this is different.		DPS updated
58	2.5.2	10	A bus lane of 3.2m to be shared with cyclist is very narrow. Also 3.5m for traffic lane is generous... It does not have much sense that the traffic lane is wider than the bus lane.		Provision based on NZTA Cycle Network Guidance
59	2.5.3	11	Please indicate HOW and WHY the preferred street typologies outlined in the Masterplan have been modified.		Provision based on NZTA Cycle Network Guidance
60	Note 3		Indicate WHAT streets and WHY?		Note updated
61	2.5.5	15	"The proposed lane widths (3.2 m) allow for a 90% Passenger Vehicle. When turning it is expected that buses will temporarily encroach into the opposing lane. At signal-controlled intersections, the stop lines must be sufficiently set-back to allow for this intrusion, while on the non-controlled intersections the bus driver will have to judge the timing of the manoeuvre to ensure its safety." Have all this been considered in the intersection design? It seems like unnecessary risks that could be avoided with better		To be read in conjunction with Tables 2-2 and 2-3. The proposed is in line with the modern approach for town centres which reduces the length of pedestrian crossings, yet requires the occasional large vehicle to temporarily encroach onto opposing lane
62	2.5.6	15	Why mid-block ped crossing should not be encourage? What are the distances between signalised intersections? Do they cater for desired lines?		Re-worded. Opportunity to cross the road exists at signalised crossing points which are approx. 120 m apart.
63	2.5.7	15	This section would benefit from a map indicating the location of bus stops		Indicative map added
64		15	Indicate why those are the most suitable locations.		Additional criteria added to support location selection
65		15	Bus stop location should be part of PT assessment.		noted
66	2.5.8	16	"Most of the current on-street parking availability will be removed." Please make reference to the parking strategy study.		reference added
67	2.6.1.4	16	This section lists a number of suggested mid-ped crossings. In section 2.5.5 of the same documents it says that they should not be encourage.		see above. [62]
68		16	This section would benefit from a map indicating the location of ped crossings		Indicative map indicating the location of ped crossings added
69	2.8	18	This section would benefit from a map indicating the location of ped crossings		Indicative map indicating the location of signalized intersections added
Appendix H TN 10: Parking Strategy					
70			Same TN reviewed as part of the Option Assessment Appendices		noted

Economic Case

ID	Section	Page	AECOM review comment	Problem	PROJECT TEAM RESPONSE
1	General		The economics should be presented as a chapter within Part B of the business case document	Fatal flaws	Yes - the economics will be presented within Part B of the business case.
2	1.1	4	Full list of assumptions not included	Gaps	Refer to new section 1.5.1
3	1.3	6	Are these being measured? If so add a description of how. They appear to be more like the overall benefits of investing from the strategic case?	Gaps	Yes - these are more the overarching (holistic) benefits. Previously included as the intent was that this would be a standalone document (so there for context), but not required now as this will form part of one complete business case. Text/bullets have been removed to make the chapter more concise and relevant to the \$ benefits being reported.
4	1.3.	7	Each benefit component for each project in the package needs stating. A table outlining the benefit type (travel time/congestion/ trip reliability etc) by project and sum of package would be good for the reader to understand what percentage of the benefits come from what.	Gaps	A breakdown of the benefits that were derived from the TRACKS model have been included as a new appendix. These breakdown the relative benefits for each phase of the programme for VOC, emissions, congestion etc.
5	Table 1	7	What are the assumptions of these benefits. ie Are CO2 benefits 5% of VOC? What assumptions have been made with regards to the PT reliability benefits etc. Please state	Gaps	4% of VOC. List of assumptions included as part of the new section 1.5.1.
6	1.3.2	8	Safety, active mode and general road improvement benefits need stating. What are the \$	Statements not supported by evidence	Table 4 updated
7	1.3.3	8	Have safety, active mode and general road improvement benefits been calculated for anywhere else on the network?	Gaps	Safety was considered as part of the benefits calculation for Shotover/Stanley Streets
8	1.3.3	8	The lack of convergence of the Microsim is a concern and suggests that there are major delays. Need more information on how this has been de-risked and accounted for. Is this explained in the modelling report? If so, needs	Risks	Refer to the modelling report. Note that benefits were capped post 2048 to remove some potential risk around overstating benefits (due to high delays in the DM). Reference to appendix added
9	1.4.1	9	What is the value of the 'Unmet demand'? This is what the reader needs to know. Use the Tech note to give all the information regarding approach. Need to summarise here the findings of that work.	Gaps	Refer to the updated section 1.4
10	1.3.4	8	I'm confused why the active travel benefits for the Stanley Street and Shotover Street improvements been treated separately? But all other active mode benefits have been captured in the Active Travel Business case. Does the Active Travel BC assume all the improvements from this BC are in? I think this needs more information.	Gaps	Active travel benefits not considered as part of the economics (refer to 1.3.4). Only safety benefits considered for Stanley/Shotover
11	1.3.4	8	Check the Active Transport benefits. It was my understanding that the Active Travel BC was covering the Wakatipu Basin rather than Queenstown. Clarity required.	Other	As above, active travel benefits not considered as part of this economic evaluation.
12	1.4.2	9	What is the conclusion of the Pedestrian Amenity analysis. What is the value of this benefit that has been included? Please state.	Gaps	Unmet demand and pedestrian amenity benefits in Table 1.4 have been split. Also please refer to Section 1.4.2.
13	1.4.2	9	Check if the benefits of Stage 1 arterials has been removed as now in Do Minimum. The tech note in the appendix still refers to it being in.	Risks	Benefits of Arterials Stage 1 included within the DM. Reference to appendix added
14		10	Would benefit from some conclusions or observations regarding the benefits. What are the main sources of the benefits, PT, WEBS etc?. Help the reader have a better understanding the investment economics.	Other	Refer to Table 4.
15	1.6	11	Unclear if property costs have been included. Appendix C is empty.	Gaps	Property costs have been included.
16	1.6	11	Based on what is in the Financial Case, it would appear property/pre implementation and implementation costs have been omitted from this analysis.	Fatal flaws	Property costs have been included.
17	1.7	12	Needs further explanation on how PT fare revenue been accounted for? The fare revenue should be stated separately and included in the BCRG to reflect the net cost to government.	Gaps	Fare revenue based on \$2 average fare per customer (current average fare per customer in Queenstown is \$2.01). Agree that fare revenue should be separately identified and included in BCRG.
18	1.7	12	Benefits section should be all together before the costs are discussed.	Other	Report updated to discuss benefits prior to costs
19	1.7	12	Would like to see more information on how the benefits for the different stages of the arterials have been managed and accounted for. Have the stage one benefits been	Other	Refer to response to comment 13 and updated Table 4 (for breakdown of benefits)
20	1.8	13	Please show complete package BCR too.		Advice from the Waka Kotahi IQA was not to report the aggregated (complete package BCR) to maintain transparency around which elements of the programme deliver the strongest benefits/value for money
21	Table 5	13	Why are the costs in Table 5 different to the ones in Table 3? Table five should also include the Year of each phase.	Other	Table 3 and 5 now consistent (both 60 year NPV). First year of benefit also stated.
22	1.8	13	Please state BCRs as BCRg and BCRn correctly reflecting the PT revenue.	Gaps	BCRg and BCRn now reported.
23	1.9	14	Sensitivity analysis of 40 year analysis period and 6% discount factor missing. Should also include sensitivity testing of changes in Time) and the staging of each phase.	Gaps	Sensitivity analysis for 40 years and 6% included.
24	1.9	14	Does the sensitivity of the benefits include testing of WEBS? Would be good to see the sensitivity of WEBS tested separately as the WEBS will have different sensitivity to the transport benefits.	Gaps	Sensitivity analysis for +/- 50% of WEBS included

25	General		It would benefit from some additional context of the evolution of the analysis and then how the new Do Minimum components have been accounted for.	Gaps	Above changes to economic case help clarify the phasing and elements included within the Do Minimum.
----	---------	--	--	------	--

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Financial Case

ID	Section	Page	AECOM review comment	Problem	PROJECT TEAM RESPONSE
1	1.1	4	Would be good to include a high level discussion as to whether these costs are in line with the earlier business case estimates.	Other	Amended
2	1.1	4	The description of the Frankton PT hub works is not consistent with what is described in the Economic case	Other	Updated to align with other cases
3	1.1	4	How has contingency cost been handled? Please describe.	Gaps	Contingency costs for project elements covered in cost estimates
4	1.1	4	Cost estimate Appendix X is missing	Gaps	amended
5	1.2	4	The project expected cost is the only cost listed in the Economic case for each of the phases. Have the property and implementation costs been omitted from the BCR calculations in the Economic case? Or are the figures in the financial case wrong?	Fatal flaws	Project expected cost have been updated. Note property costs in the FC include only the additional costs above that already purchased/owned by QLDC. The economics case includes the full property costs
6	1.2	4	The timings and descriptions in Tables 2,4 and 6 are inconsistent with those given in the Preferred option report.	Fatal flaws	Amended to align with PO and economics reports
7	1.2	4	It would be useful if the cash flow graph for each phase/package showing the different cost components (property, preimplementation, implementation and contingency)	Details of options	Amended
8	1.2	4	Is the NZUP funding subject to a Business case?	Other	No - committed funding
9	1.2	4	Unclear if NZUP funding is committed or allocated. Please add additional detail. Be good to include a discussion on the conditions of each of these funding sources.	Other	Amended
10	1.3	4	It would be logical to include the CIP section first as this is the Do Minimum (or Phase 1) of the package. I'm not convinced it should be there at all, as it is the Do Minimum so I would expect it to be shown later in the cost share graphs as a committed/funded projects. Suggest there is the addition of a clear statement somewhere saying that it is shown for contextual purposes, but the Do Minimum is not part of this business case.	Other	Noted
11	1.5	9	Please explain 'fare box recovery', I think the reference is actually to fare revenue.	Other	These are the same things
12	1.6	9	Check the heading of this section. The section talks about potential funding sources rather than project revenues. Revenue suggests an ongoing stream of funds.	Other	Amended.
13	1.7	10	This section doesn't provide the level of detail or insight required by investors. It would be clearer for investors to see a pie chart of the total package cost with the split of funding organisations likely contribution. In addition, a graph representing the cost share of each organisation by phase would also be useful. Figure 5 should differentiate the committed/approved and non committed components allowing the funding gap to be understood.	Gaps	Amended to include this information
14	1.8	10	It would be good to include a discussion of which of these are being investigated further and what the likely value range of the cost savings opportunities could be. With implementation for some package components imminent, an understanding of the likelihood and timing of these to happen would be good. This feels more like a PBC level of discussion rather than DBC.	Details of options	Noted.
15	General		The financial case seems to be written like a programme business case rather than a SSBC/DBC. It discusses the delivery of a programme of works, rather than packages of work to a DBC level. The investor really wants to know how much each project/package costs each year and who is paying for it.	Other	Further information on costs by funder by year has been provided

Commercial Case

ID	Section	Page	AECOM review comment	Problem	PROJECT TEAM RESPONSE
1	1.3	5	How was this procurement process developed? When and how will a decision be made on a preferred approach? Why were other delivery models discounted?	Risks	Has been updated to reflect that alliance is now in procurement. Justification not included as this has not been provided by client.
2	1.4	6	Are there any consenting, environmental or geotechnical risks to consider?	Risks	Consenting in section 1.8. The full risk register will be appended.
3	Table 2	6	It would be good to see an additional column added to the end of this table showing the new level of risk/risk score after the suggested treatment strategy has been applied.	Risks	See full risk register
4	1.7	7	Property strategy missing from Appendix X	Gaps	To be appended
5	1.8	8	Unclear if the preliminary consenting strategies are the content of section 1.8 or whether they should be attached in an appendix. Would be good to understand if there will be a full consenting strategy done, and when this will occur.	Risks	Summarised in the section, and are in appendices
6	General		Would be good to include a summary of the level of confidence that an appropriate contractual/commercial arrangement can be defined to make the structure and risk transfer work in practice?	Risks	Unsure what this comment means or what it relates too.

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Management Case

ID	Section	Page	AECOM review comment	Problem	PROJECT TEAM RESPONSE
1	1.1	4	I'm still confused about what this BC is called. The governance structure lists what I think are legacy names of iterations of this BC, but not this business case – "The Queenstown Transport Business case"? Need consistency of naming throughout the document or it is confusing.	Other	Accepted/updated
2	1.1.1-1.1.3	5	As previously stated, there needs to be clarification if the NZUP and CIP funding requires a business case.	Other	Accepted/updated
3	1.1.1-1.1.3	5	Project descriptions and dates are different to those stated in the Financial and Preferred option sections. Need to be consistent.	Other	Accepted/updated
4	1.1.3	5	I am so confused about what is in each stage and what is a package or a project and it seems to differ across each of the documents.	Other	Accepted/updated
5	1.2.1	7	The inconsistent and interchangeable use of the terminology such as programme, package and projects is confusing. In the same paragraph it is referred to as both the Queenstown Package and programme.	Other	Accepted/updated
6	Table 5	7	This is a good table which should be used right up front in the strategic case to understand the related projects and interdependencies.	Other	Noted
7	Table 5	7	Would be good to add the a criticality rate of each of these projects to projects in this package.	Other	Noted - not actioned
8	1.3.4	10	Add in a reference to where the property strategy can be found	Gaps	Accepted/actioned
9	1.4	10	To be completed.	Gaps	Accepted/updated
10	Table 6	10	Additional context of what 'Business case update' means please	Other	Accepted/updated
11	1.6	11	Where can the reader find the Engagement strategy?	Other	Accepted - to be actioned
12	1.7	13	What are the assurance and acceptance processes for acceptance with the other funding organisations?	between the partners	Accepted/updated
13	1.7	13	The document would also benefit from some discussion and context of the risk for each organisation if there is misalignment or differing priorities/timings between organisations.	Other	Specific risk covers.
14	1.9	13	Concern that the benefits realisation are at programme level, rather than package of projects level suitable for a DBC. Different measures may well be more suited to some packages and projects than others.	Other	Accepted/updated
15	Table 8	16	This table is really good and needs to be brought through to the strategic case and also the outcomes shown in the preferred option assessment. The outcomes in here do not align with those stated in the Strategic case. Make sure there is clear mapping and consistency with the ILM.	Other	Noted
16	1.10	18	Where can the reader find the Risk Register?	Other	Risk register in later issue
17	1.10	18	This is a repeat of what is in Table 2 of the Commercial case. No need to repeat. This section would benefit from a discussion on what risks are left for the owners, the cost implications and HOW are they to be managed.	Gaps	Accepted/updated
18	1.10	18	Include a discussion on how issues will be managed (identified, logged, periodically reviewed and evaluated, escalated, reported, etc.) to ensure they are resolved and avoid negative impact on the project? What are the escalation triggers?	Gaps	Future issues management for next stages of project. Not actioned

APPENDIX E: QLDC OVERALL REVIEW AND RESPONSE

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

General

ID	Section	Page	Reviewer	Review comment	Project Team Response
1	Climate change	General	MR	Climate change is arguably the greatest challenge facing our transport system but is barely mentioned in this business case. Transport causes 50% of this district's emissions; in the 30 year time horizon of this business case, we need to effectively decarbonise transport, by law. QLDC has declared a climate emergency. It is essential to include consideration of climate change throughout. - The problems, objectives and programme are already aligned to good climate change outcomes - we just need to document it. This will add to the compelling investment story. - Information on current emissions and effects are provided here: https://www.qldc.govt.nz/your-council/our-vision-mission/climate-action-plan - Climate change effects should be considered as a constraint: https://www.qldc.govt.nz/media/tjgdjtuc/24-4-19_bodeker_final_report_qldc.pdf	Latest reporting iteration includes specific update on projected emissions changes as part of Preferred Option Assessment report. Climate change has been touched on a little more in the early part of the project documentation, but has not been reported as extensively throughout the report as requested
2	Missing elements		MR	- High level schedule of implementation - Full project risk assessment - Network Operating Framework for Queenstown	Implementation information is well reported in new updated sequencing report. Risk included in final edition. Network Operating framework was expected to have been provided to the project team, however in its absence, team developed "Network Operating Framework Lite" in the form of Movement and Place framework, to help prioritise interventions.
3	Peer reviews		MR	Please can we see the peer reviews? A road safety audit is required.	Completed reviews attached in latest edition QA document. Safety audit not yet completed.

Executive Summary

ID	Section	Page	Reviewer	Review comment	Project Team Response
1	Case for change	4	MR	Great, impassioned introduction, but it takes a while to get going. Could we have some punchy statements to start, i.e. what the purpose of the business case is?	Executive summary has been significantly worked over since original review copy. Intended to be more punchy now.

Strategic Context

ID	Section	Page	Reviewer	Review comment	Project Team Response
1	1.2 Background	6	MR	Organisational overview: It would be useful to include an overview of the Client organisation, to clarify how this project has arisen.	We believe that the reason the project has arisen is well articulated in the strategic case. Which has been noticeably updated since 7 Sep version. Note "Client organisation" is NZTA, but document reflects Way to Go Wakatipu also
2	1.5 Covid 19 Impacts	11	MR	QLDC have provided updated demand forecasts. We also have data on the economic impact and projected recovery: https://www.qldc.govt.nz/recovery/data-reports	We have used the QLDC forecasts for Covid recovery in the business case.
3	Figure 12 QTC Planned Developments		MR	Skyline development missing.	Aim was to give a flavour of the amount of development happening, not necessarily list every single development.
4	1.7.2 Economic Stimulus Package	19	MR	The correct title for this project is now Queenstown Town Centre Street Upgrades. As well as improving amenity, the purpose is to improve capacity and priority for pedestrians.	This was correct at the time of writing noting that things can or do shift but that the BC reflects the point in time when it was completed.
5	2.5 Local Strategies	31	MR	Key QLDC strategies to consider: - Vision Beyond 2050 https://www.qldc.govt.nz/your-council/our-vision-mission - Infrastructure Asset Management Strategy (from page 22) https://www.qldc.govt.nz/media/k1row5dx/qldc-10-year-plan-2018-2028-volume-2-21jun18.pdf - District Plan https://www.qldc.govt.nz/your-council/district-plan/proposed-district-plan - Frankton Network Operating Framework: part of the Frankton Integrated Transport Programme Business Case - Climate Action Plan https://www.qldc.govt.nz/your-council/our-vision-mission/climate-action-plan	The Strategic Case by its very nature looks at higher level national, regional and local strategies for its strategic context.

Strategic Context

ID	Section	Page	Reviewer	Review comment	Project Team Response
6	3.5 Safety	45	MR	There is a growing conflict between pedestrians and e-mobility users, particularly in constrained areas like Queenstown Town Centre and the Frankton Track. There are significant risks with the introduction of companies like Lime.	A range of pedestrian related conflicts were noted in the Strategic Case.
7	3.7.2 Future Technologies	50	MR	Changing technology needs to be considered as a constraint, as well as an opportunity. The following will significantly impact travel patterns over the time horizon of this business case: - Electric vehicle uptake - E-mobility - Mobility as a service - Autonomous vehicles - Forms of technology we haven't yet considered	The Strategic Case focused on the key network issues in the present but takes into account the evolution of technology, noting considerable uncertainty as to the rate of change. But in essence, the case is around non-car alternatives to meet the bulk of travel demand.
8	4.2 Investment Objectives	54	MR	Investment objectives need to be SMART to properly define the project. They are currently vague and it is unclear what success will look like.	Investment objectives were set at the outset of the project in 2018 and agreed by the project partners. Further work has been done to improve the KPI reporting to address this comment
9	Appendix B Key Performance Indicator Details	27	MR	Baselines and targets need to be specific and populated - even if they are estimates or placeholders at this point.	This work is being developed. Baselines updated in latest (Nov) edition of reporting.

Options Assessment

ID	Section	Page	Reviewer	Review comment	Project Team Response
1	Multi-criteria analysis evidence	Overall	MR	Please provide the multi-criteria analysis as evidence of decision making. High level tables are sufficient.	MCA and evidence provided in Tech notes (HCPT, PT Network Development Story, Evidence for Queenstown PT Network Options MCA). Acknowledge that the SH6A and hub MCA results are not included and we will look at this addition for the next iteration (noting Final Draft v2 has just been posted, and some review expected before fully finalising)
2	5.1.1 Overall Network Approach	32	MR	Please provide evidence to support the decision to not utilise Hawthorne Drive.	While Hawthorne Drive provides an alternate route around Frankton, it is not State Highway, is single lane. Directing traffic from a highway onto local roads, thus contradicting the road hierarchy and taking away signal green time from the highway, considered sufficient evidence for its omission.
3	5.3.2 Active Mode Crossings Assessment	41	MR	Where is this assessment provided?	The assessment has not been formally written up. Our assessment based on combination of modelling information (see Frankton tech notes) which show accommodation of pedestrian/active crossings, and the Deep dive workshops where underpasses were vocally disavowed by client group participants.
4	6.1.1 Westbound Bus Lanes	43	MR	Why was the Stalker Road bus lane omitted?	Not sure it was omitted, perhaps just needs clarification that westbound buses will enter highway at Howards Dr, primarily to service proposed P&R
5	7.2 Parking	47	MR	The QLDC Parking Strategy is draft only.	Noted, hence we developed the parking assessments to provide some guidance to considering parking.
6	7.3 Coaches	52	MR	Should overnight coach parking be included in the scope?	So far it hasn't been included in the scope. We started a conversation on this matter in June 2019, but it did not progress.
7	7.3 Coaches, Freight/Servicing, Taxis	53	MR	What is the projected demand for coaches, freight and taxis? Can the proposed supply meet this? Please provide evidence.	Query on level of supply of what. We have attempted to provide current or improved supply of parking/stops for these modes.

Options Assessment

ID	Section	Page	Reviewer	Review comment	Project Team Response
8	7.3 High and Single Occupancy Vehicles	53	MR	Did we ever consider the level of pedestrianisation of the historic core: detune for vehicles (current preferred option)/shared spaces throughout/full pedestrianisation (service vehicles only)? This is an opportunity to think big.	We would like to think we have covered this (may not be explicit enough) - narrowed roads, widened pathways, reduced parking and significant urban enhancement was felt to be quite "think big" by the project team.
9	8.1 Demand Management	56	MR	What input did QLDC have into the TDM Scoping Study? This is a key part of our work.	The TDM scoping study was derived from a Wakatipu wide business case investigation, which had QLDC participation. Our business case took the TDM study and refined somewhat to meet the expectations of our scope. Project was commissioned by WtG through Waka Kotahi. so unfortunately QLDC representation not reported in our business case.
10	Appendices H-K	144	MR	Really useful in understanding design intent. Please could you provide for the rest of the network?	Appendices H-K are Frankton and F2Q oriented. Additional detail is provided in other formats for the town centre, which covers our scope, but not presented in same format. Expectation is that additional detail will be covered in (recommended) subsequent PT services DBC.
11	Appendix M Parking	163	MR	What parking implementation measures are included in the scope of this business case, and what is QLDC expected to deliver separately?	This BC has not gone to the detail of parking implementation, and this project team has not considered that our scope would demand this level of detail. Expectations were that the parking strategy would contain such detail.
12	Appendix N: Movement and Place Review	182	MR	This is a great assessment to include, and extremely useful for the Town Centre. However, the movement/place hierarchy and typology appear to be non-standard and not intuitive. Can we align with the emerging One Network Framework (which QLDC are trialling for the town centre)?	Movement and Place framework was developed originally in July 2019, as there was no Network Operating Plan available. A bespoke framework was developed that responds to the particular challenges of Queenstown. It can be aligned with the One Network Framework in due course, but not as part of this business case delivery.

Options Assessment

ID	Section	Page	Reviewer	Review comment	Project Team Response
13	Appendix P: Proposed Speed Limits	225	MR	QLDC have agreed that speed limits within the urban boundary will drop to 40km/h. What will the speed limit on State Highways 6 and 6A be, including Ladies Mile and Frankton?	NZTA are pursuing their own review of their road network. NZTA have participated in the Council's speed limit review and it is anticipated that there will be some alignment with the QLDC review. This will be confirmed once the reviews are complete.

Preferred Option

ID	Section	Page	Reviewer	Review comment	Project Team Response
1	Overall		MR	It would be good to understand the plan for future recommended studies: especially timing and funding.	Report updated to include list of expected further technical assessment requirements. Timing and funding of these yet to be determined.
2	Table 2: Phased roll out of the Queenstown Package	7	MR	What is included in the NZUP programme? Table 2 indicates public transport services, street upgrades and travel demand management are included.	Sequencing Table updated to reflect appropriate funding stream
3	3.2 How it will all work	21	MR	Please can we have a more detailed map showing how the town centre will work? Some colours don't match.	Plan updated, so colours match, to the level of detail required for the business case. Further detail will be developed as the project moves into the next phase
4	Appendix E 3.2 Implementation	23	MR	In principle the recommendation to use WTOC is pragmatic, but how was this arrived at? What options were considered?	WTOC already oversee QT traffic operations. An alternative option for a dedicated TOC has been considered and is discussed in the implementation section.
5	Appendix E 4.4 Costs	25	MR	We need full cost estimates to support the business case.	Initial costings are provided. Once the technologies are confirmed a more detailed cost estimate can be undertaken
6	Appendix G 3. Signs and Markings	99	MR	QLDC are proposing to develop a district-wide signage strategy and wayfinding strategy over the next few years.	Noted

Economic Case

ID	Section	Page	Reviewer	Review comment	Project Team Response
1	Overall		MR	A good high level summary of a complex issue, however there are some missing sections: - Please provide detailed economic assessments in appendices - Full benefits appraisal	A new Appendix has been added which provides a breakdown of the benefits. Detailed economic assessment has been provided to peer review, however, it does not feature in the Case Report
2	1.9 Sensitivity Analysis	14	MR	Spatial Plan test: great result to see alignment of Spatial Plan and Business Case.	Noted
3	Appendices A and B: tourism constraint and pedestrian wellbeing		MR	Excellent pieces of analysis.	Noted

Commercial Case

ID	Section	Page	Reviewer	Review comment	Project Team Response
1	Overall		MR	While this high level section is easy to understand, I would expect it to be more specific to the particular projects to be delivered.	Yes, the commercial aspects of the business case have been moving quickly outside of the business case team hence the high level nature. Latest iteration will offer current understanding.
2	Overall		MR	Missing sections: - Market capacity to deliver - Consideration of operational phase	Agreed a market capacity analysis would be useful once the business case has been through funding approvals to understand what may come to the market and when.
3	1.4 Risk allocation and transfer	6	MR	Additional high level risks: Client/market capacity to deliver, climate change, rate and nature of growth, COVID-19.	Agree with the first risk, the others don't relate to the commercial case. Risk management has been expanded since this version.

Financial Case

ID	Section	Page	Reviewer	Review comment	Problem
1	Overall		MR	High level document is easy to understand but lacks the necessary detail for us to fully understand funding requirements.	Further detail has been provided in the final draft to ensure funding requirements are clear between the different organisations
2	1.1 Project Delivery Costs	4	MR	We need to compare funding requirements with Long Term Plan/National Land Transport Programme affordability, to determine if the requirements are affordable.	Noted
3	1.2-1.6	4	MR	Funding requirements are high level only. QLDC will need full cashflows (capital and operational) broken down by organisation and year to understand our funding requirements.	Provided in the final draft
4	1.6 Project Revenues	9	MR	Please could you provide more detail on co-funding of offline public transport?	This has not been actioned. Offline PT is too far in the future and too uncertain, at this stage, to seek this level of detail. In line with overseas examples, some form of sponsorship agreement could be reached, or it could be incorporated into a development
5	1.7 Funding Options	10	MR	The funding principle is vague. What is it based on?	The funding principles are based on discussions/ agreement between the funding partners
6	1.8 Alternative funding sources	11	MR	Useful list of possible alternative funding mechanisms, but we need to show how the project is affordable by proposing a mechanism and showing how it works.	This has not been actioned at this stage as it is acknowledged that further conversation will be required between the funding partners at the appropriate time.

Management Case

ID	Section	Page	Reviewer	Review comment	Problem
1	Overall		MR	Generally not enough detail for QLDC to be confident we can deliver. There's lots of good thinking, but what are our actual management processes going to be? For example, what QLDC teams are going to carry out project management and assurance?	The level of detail sought should realistically be for QLDC to determine - business case should not direct actions to that level of detail. Happy to discuss further
2	Table 6 Future stages of the preferred programme	10	MR	Table 6 is useful in showing the next steps. It would be helpful to have more detail on rough scope and costs.	An additional section has been added with high level description of scope
3	1.7 Assurance and acceptance	13	MR	Is a safety audit required for this business case?	That would be generally expected, yes. However the audit is for NZTA to commission and direct.
4	1.9 Benefits realisation management	16	MR	Benefits framework looks thorough. We will need a full plan for benefits management, including what additional data collection is required (and associated capital and operational costs).	Agreed, this is a recommendation of the business case but not within scope to deliver
5	1.11 Cost Management	19	MR	How will we manage cost increases? What level of contingency/optimism bias is allowed for? QLDC have a track record of cost increases as projects progress.	This is not an issue for QLDC alone. It is common that costs increase as more is known about design and construction. Can be managed through risk management and allowing appropriate contingencies
6	2.2 Post implementation monitoring	22	MR	Are annual surveys enough? We see significant variation across days and seasons due to weather. The trends we see in our modal split surveys are generally weather-related.	Annual surveys are appropriate for assessing the impact of investment. More regular monitoring may be useful from an operational point of view. Recommendations are made in latest version about obtaining monitoring data.
7	2.2 Post implementation monitoring	22	MR	Are there more innovative ways to collect data? Video analysis etc.	Yes, and should be researched through the benefits framework and data gathering plan

Plans

ID	Section	Page	Reviewer	Review comment	Project Team Response
1+B 5:G1 5G4 B5: G65	Overall		MR	Drawings are missing many elements that would be expected as part of a preliminary design: - Preliminary design of structures, especially bridges. For example, a blanket \$1.5 million cost estimate for the Ballarat Street overbridge is too high-level and a significant risk. - Preliminary design of intelligent transport solutions (variable messaging signage etc.) - Long sections	Note that the Business Case scope does not specify the extent to which design must be completed. We have aimed for adequate detail to reduce cost risk for the next stage, recognising that some estimates will be high level. In addition, Survey and Geotechnical investigations were not specified for this work, so designs could not progress to any great detail. In the case of the Ballarat Street overbridge, it is dependent upon Manawa for which no details exist. Some elements (such as ITS) can only be at high level in this stage of development
2	State Highway 6A				
3	SH6A bus stops		MR	It is great to see new bus stops. Some questions: - Which bus stops are designed to accommodate future articulated buses/trackless trams and tourist buses? Many look tight on space. - Some bus stops are less than 200m apart - too much stopping? - Some bus stops are only east or westbound, not a pair. It would be helpful to show some of this information on the drawings.	1. A number of key bus stops have been increased in length to accommodate a number of buses based on current and future demand with the current vehicle fleet, which could also accommodate longer vehicles (should they be introduced). It's likely that regional buses will shift out to Frankton so there won't be as much competition for space. 2. Bus stops are spaced where there is demand from Queenstown Hill current and future development within the physical constraints of the corridor. 3. Majority are a pair where physical/cost constraints allow, however bus stops pairs within close proximity (Middleton Road is the only single eastbound stop).
4	Sheet 1: Old Frankton traffic calming		MR	There are some references to old Frankton traffic calming - is that part of this project?	Yes Old Frankton traffic calming is part of the project, however cannot be funded through NZUP as it won't become a Crown asset.
5	Sheet 1: Frankton Village shared path		MR	Do the SH6A shared path and cycle facilities continue through the Frankton Village area? These are currently not shown.	Yes the shared path and cycle facilities connect to the existing facilities constructed as part of the Stage 1 works.
6	Sheet 2: Frankton Marina intersection		MR	What does the new intersection tie in with in the Marina, and who is responsible?	Work in progress with the Lakes Marina Developer and should be resolved shortly. Combination of NZUP and Marina Development.

Plans

ID	Section	Page	Reviewer	Review comment	Project Team Response
7	Sheet 3: SH6A cycle lane		MR	1.5m width with no shoulder is a safety risk where there are retaining walls. Is it possible to locally widen or provide a shoulder where there are retaining walls?	The 1.5m is to lip of kerb and there is a small shoulder behind the kerb to the toe of the retaining walls to provide and offset and is not a lot different from the current layout along Frankton Road, which is fine.
8	Sheet 2: SH6A intersections		MR	Why are there not pedestrian crossings on all legs? These are all desire lines, especially with the bus stops.	Pedestrian crossings cannot be provided on all legs at every intersection as there isn't capacity. Pedestrian phases are often run at the same time as non conflicting turn movements.
9	Sheet 4: Footpath Potters-Goldfield		MR	Great to have this new footpath, but only if it is an acceptable width.	A footpath of acceptable (TBC) width can be easily accommodated.
10	Sheet 7: SH6A shared path		MR	Fantastic facility. Please could you clarify what the 'challenging to widen' note means near the Frankton end?	There are a number of accesses to residences on the lake side of towards the Frankton end of SH6A, which will make this challenging to widen the path and maintain access from SH6A (potential alternative from the lakeside, but would require QLDC acceptance and approval).
11	Sheet 7: Oaks Club Shores pedestrian crossing		MR	Is it possible to move this west to align with the link from the Frankton Track? It is essential we provide crossing points at all links to the Frankton Track.	At Cecil Road? Too far away from the bus stop and likely to have visibility issues on the east approach.
12	Frankton/Ladies Mile				
13	Howards Drive roundabout	8	MR	What options have been considered for this intersection? The Ladies Mile Masterplan team have highlighted that a roundabout and underpasses do not match the future urban environment.	Assessing and urban environment for Ladies Mile was not part of the scope. The roundabout will likely be reduced to single lane. The current design came from the Ladies Mile HIF work in 2017.

Plans

ID	Section	Page	Reviewer	Review comment	Project Team Response
14	Frankton active travel	6	MR	The proposed design prioritises vehicles at the expense of active travel. Staggered crossings, large detours round roundabouts, indirect paths and a lack of mid-block crossings are not supportive of the Frankton Masterplan, Wakatipu Active Travel Network or the investment objectives. This work is a chance to make a statement about Queenstown's focus on active travel. For an urban arterial I suggest the following principles: - Protected crossings on all intersection legs - Shared paths on both sides of every road, as direct as the road itself - Clear pedestrian prioritisation at key intersections and gateways	See the Frankton Urban Integration Technical Note. These points have been considered and will come later as the corridor is urbanised. However there are constraints to providing protected crossings on all intersection legs due to capacity, which have significant impacts on the transport network.
15	Frankton bus stops	6	MR	Are these located in the bus lanes? I can't see them on the drawings. These are key to understanding how this network will function.	Yes bus stops are located in the bus lanes and these are marked on the drawings.
16	Hawthorne/Grant Road intersections	6	MR	Please could you provide some examples of signalised roundabouts working in an urban arterial setting?	Will provide examples separately.
17	SH6/6A intersection	6	MR	My preference is wavy arm guy: - Tried and tested - Better land use outcome - Simpler to provide high quality active travel - Simpler to navigate	Noted.
18	Frankton interim bus hub	6	MR	Please can we see a preliminary layout of the interim upgrade?	Design has been provided, along with render
19	Lucas Place pedestrian crossing	7	MR	What is the pedestrian crossing to the south of Lucas Place? - The active travel route towards McBride Street does not tie in with existing path/crossing - Great to see the path through the car park to the Sir Henry Wigley Drive roundabout - has this been agreed?	1. Pedestrian crossing to the south of Lucas Place is to connect bus stops. 2. Plan sets have been updated, however survey, which is still to come, will sort out tie-ins. 3. No this hasn't been agreed with QAC.

Plans

ID	Section	Page	Reviewer	Review comment	Project Team Response
20	Humphrey/Lucas intersection	7	MR	Is a priority intersection sufficient?	Yes. Considered signalised roundabout but it was too small to provide required PT priority and constructing a larger roundabout was not practical. See SH6 Kawarau Road Technical Note.
21	Queenstown Town Centre				
22	Beach/Shotover intersection	SK-0006	MR	What is pedestrian crossing treatment - Barnes Dance?	please refer to the PDPS
23	Athol Street	SK-0001	MR	Is there adequate entry and exit taper for the bus stops?	The distance between bus stalls allows for the bus maneuvering . PT services further investigation will provide more info on bus selection, and detail design of stall length will need to follow.
24	Athol Street	SK-0001	MR	Is there still provision for the KFC drive-through?	The current arrangements would suggest this facility is not retained (as part of the goal to reduce vehicle trips within town centre). Given the timeframes for implementation, further review and design will inevitably need to occur.
25	Ballarat Street (south)	SK-0012	MR	There are some references to the Horne Creek bridge being replaced - is this proposed as part of this business case?	no
26	Brecon/Duke intersection	SK-0023	MR	We have agreed to proceed with the Beca/LandLAB shared space design. Please update accordingly.	We are not planning to further update the plans at this stage. Also noting timeframes involved, such an update would be wise to occur when implementation decisions have been made.
27	Camp Street plaza	SK-0003	MR	The plaza will provide good flow to the Village Green. However, there is a risk of confusion of priority with the adjacent Camp/Ballarat/Mall intersection. Is there anything you can do to mitigate?	Mitigation measures would be pragmatic to pick up at the next stage of design.
28	Lake Esplanade	SK-0007	MR	I suggest another pedestrian crossing point should be provided between Lake and Brunswick. This is a key desire line, especially with the Active Travel Network.	There are no issues with this in theory, however the fit will need to work in with the bus stops to be provided. Such a decision should be made at detail design investigations.

Plans

ID	Section	Page	Reviewer	Review comment	Project Team Response
29	Marine Parade	SK-0003	MR	Existing issues on Marine Parade: width of shared space, paving pattern and lack of street furniture create confusion of priority and high vehicle speeds. QLDC have discussed increased street furniture to create a slow speed environment.	We were directed to retain the Marine Parade. Any suggested changes are outside of scope. to be considered in Detailed Design
30	Shotover St	SK-0001	MR	Is it possible to provide a pedestrian crossing at the intersection with Athol Street?	An informal crossing is provided, however a conflict exists between the pedestrian desire line and providing priority to mass transport. Improvements to be considered in detailed design.
31	Shotover St	SK-0006	MR	Shotover Street s-curve: wide carriageway and wasted space encourages higher speeds. Is there anything we can do to better utilise the space, or is width needed for over-dimension vehicles?	Both, over dimension vehicles, and articulated buses will require overruns. An alternative was proposed where the lanes are AC while overrun areas are cobble, however this approach is no longer practical with the signaled Beach-Shotover intersection, The signals will have a slowing effect on vehicles.
32	Stanley St	SK-0001	MR	When are the Stanley/Shotover and Stanley/Ballarat intersections proposed to be converted to Barnes Dance?	The implementation/sequencing programme should provide this detail.
33	Gorge Rd	SK-0029	MR	The Wakatipu Active Travel Network route is not shown on Gorge Road.	Our plans show the widened path on the south side where our work will influence Gorge Road geometry. Where our design does not influence geometry, any current plans remain relevant.
34	Gorge Rd	SK-0029	MR	What was the outcome of the optioneering for Gorge/Hallenstein/Hylton?	The intersection is not intended to be signalised. Crossing points provided on Gorge Road, some distance from intersection.
35	Queenstown Town Centre Arterials				
36	Overall		MR	How have the retaining wall types been determined? What options have been considered?	Limited geotechnical data is available, no ground investigations nor survey was undertaken, and assumptions are made around ground levels in relation to Manawa. Therefore the selection reflects the most likely outcome based on the available right of way and the known parameters. Investigations followed by Detailed Design are required to determine the type and locations of retaining structures.

Plans

ID	Section	Page	Reviewer	Review comment	Project Team Response
37	Overall		Beca)	All proposed retaining walls to be shown on the drawings	as above. Walls are shown where we were able to confirm the need for them. Other locations may require retaining. Lengths shown are indicative only.
38	Safe System assessment recommendations	SK-0018	MR	The recommendation for raised tables at intersections in the Safe System Assessment (included in the Arterials handover document) has not been applied to the design.	We recognise that there may be inconsistencies in the design information, as a result of the haste for arterials hand over ahead of completion of our work.
39	Gorge/Henry intersection	SK-0019	MR	Can the design be modified to eliminate the following land take? - Corner of Turner Street: move Gorge Road approach south into area of wide road reserve - Sliver of 8 Henry Street (Plunket) and 2 Shotover Street: move Henry Street approach slightly north to avoid the need to reconstruct retaining walls and fences	These considerations would / should be considered during detailed design.
40	Gorge/Henry intersection	SK-0019	SH	Confirm that the left turn lane length is sufficient to eliminate blocking of the through lane. Investigate extending the left turn lane and realigning the through lane by reducing the flush median along Henry Street	Lane length is currently considered adequate based on modelling information.
41	Gorge/Henry intersection	SK-0019	MR	Please remove the limit line on the Gorge - Henry movement before the driveway exit.	Detailed positioning of limit lines can be determined during detailed design.
42	Gorge/Henry intersection	SK-0019		Please review the through movement design from Gorge Road to Henry Street to remove the merge as this will be confusing to drivers	Has been reviewed - see plan 19A
43	New cul-de-sacs	SK-0026	MR	What assessment has been made on the effects on the intersections of the roads to be converted to cul-de-sacs (e.g. Ballarat Street, Beetham Street, Malaghan Street)?	In essence the cul-de-sac intersections with other roads are unchanged from the current situation, other than reduced vehicle movements as they are no longer through movements. No other assessments
44	New cul-de-sacs	SK-0026		Confirm the cul-de-sac designs for Malaghan Street, Ballarat Street and Beetham Street meet QLDC design Standards and as appropriate redesign to comply.	these were designed to fit within the land constraints. QLDC will need to determine if compliant designs are to be pursued where land constraints may otherwise restrict this.

Plans

ID	Section	Page	Reviewer	Review comment	Project Team Response
45	Arterial side roads	SK-0019	MR	Is it possible to provide an accessible design (ramps etc.) from the side roads, including Malaghan Street, given the constraints? If not, we need to provide a clear plan for accessibility.	The gradient of side streets is prohibitive and the grade separation between arterial and sides streets is significant. These are not 'accessible' in the current sense of the word. It is questioned whether these streets, without the arterial, would be 'accessible' anyway.
46	Malaghan St	SK-0019	MR	Confirm if footpaths are required on both sides on Malaghan Road or at all as this road will be cal-de-saced	Our study has not determined whether footpaths are necessary on both sides. Footpaths have been drafted to provide some form of pedestrian accessibility (even where none exists now) using the available corridor. Detail design will need to decide whether two, one or any footpaths are provided.
47	Ballarat St	SK-0019	MR	What is the timing of Manawa and the overbridge, and do we need an interim pedestrian crossing facility?	Please contact Manawa Developer. The reason no at grade facility has been drafted is due to safety concerns, and we would apply this concern to the 'interim' question.
48	Melbourne Street	SK-0020	MR	There is 300m between the Ballarat and Sydney pedestrian crossings. This will lead to severance and informal, unsafe crossings in the flush median. The risk is exacerbated by the proximity of the school. I acknowledge the permeability assessment but this is a poor urban design/active travel outcome. - What is the maximum grade for an at-grade pedestrian crossing?	This has been thoroughly assessed, and the project team stand by the decisions made for the crossing positions.
49	Frankton/Melbourne /Dublin intersection	SK-0022	MR	Distance between the intersection and a number of driveways does not meet the District Plan requirements. Please mitigate.	These are existing driveways. QLDC will need to determine how it would manage the proximity of the driveways during the detail design phase and engagement. Our investigations did not get to this level of detail prior to handover.

Plans

ID	Section	Page	Reviewer	Review comment	Project Team Response
50	Frankton/Melbourne /Dublin intersection	SK-0022	MR	What trade-offs in performance have been considered to arrive at the current intersection? - No pedestrian crossing point on Frankton Road east leg means pedestrians from Dublin Street may need to cross three roads - this is a poor outcome. - Banned left turns from Frankton to Dublin will potential lead to lengthy circulation if drive misses Sydney Street. Please review analysis undertaken to determine proposed preferred intersection design.	This intersection has been thoroughly considered and assessed and is subject to considerable constraints. The team stands behind the current design as the best balance.
51	Melbourne St	SK-0021	MR	Concede the impact of reducing St Joseph School on-street parking from 11 spaces to 6 on Melbourne Street	This sort of decision should now be part of the arterial design process.
52	Melbourne Street vertical alignment	SK-0021	MR	Why is the alignment of Melbourne Street approximately 600mm above the current road survey between Sydney Street and Frankton Road	Note that the initial geometries were developed based on multiple sources of original information (no topo survey as part of this work). As the project has been handed over, it would be expected that survey would be part of detailed design and alignments updated.
53	Stages 2 & 3		MR	What is the assumption for services? Will all services be underground?	only 3 power poles within S 2&3 are within the scope. Remaining power poles are within Lake View, and it is unknown what is being proposed, please contact beca informal, dropped kerb. Barnes dance movements would accommodate crossing when no vehicles move.
54	Camp/Man intersection	SK-0016	MR	What is pedestrian crossing treatment for Duke Street leg?	Active Travel terminates at the car park. the path is indicatively shown. the Active Travel design will clash with the pump station.
55	Camp/Man intersection	SK-0016	MR	Active Travel Network not shown at Camp/Man intersection.	
56	Gorge/Templeton intersection	SK-0018	MR	Driveways are closer to the intersection than allowed in the District Plan. Please outline how this will be mitigated.	These are existing driveways. QLDC will need to determine how to consider this issue.
57	Man St	SK-0034	MR	Why is the alignment of Man Street upto 400mm above the current road surface between Hay Street and Camp Street	Note that the initial geometries were developed based on multiple sources of original information (no topo survey as part of this work). This issue would be addressed during detailed design, when survey info provided.

Plans

ID	Section	Page	Reviewer	Review comment	Project Team Response
58	Templeton Way	SK-0018		Review proposed 5% gradient upto Gorge Road. Queued truck, buses and coaches will reduce the capacity of the intersection due to the slow acceleration	There are a lot of decisions still to be made around Arterial 2 which will influence its size, gradient and position. It is not intended to review at this stage.
59	Stanley St	SK-0016		Confirm that Stanley Street intersection design meet the approach sight distance requirements for vehicle approaching from Camp Street	This intersection is 50m from camp street with clear lines of sight at the moment. Not sure understand the issue.
60	Camp St	SK-0016		Is the footpath wide enough on the east side of Camp Street to include retaining wall and fence	Proposed footpath does not follow the existing path. Realignment is required and shown on the drawings, and subsequently will require full design to include wall and fence.
61	Thompson Link	SK-0040	 MR	The business case needs to reconfirm the preferred option.	Our scope was to identify the preferred option, which we have done - it did not include a full suite of optioneering. We are comfortable the option shown (with refinements during detail design) is preferred.
62	One Mile roundabout	SK-0040	 MR	Path network needs to be reconciled, especially: - Connection to off-road path to petanque court - Connection to One Mile Track	Design at this stage is necessarily conceptual, and we are not sure this level of detail provides any greater information to support (or not) this configuration. This information can be considered in Detailed Design
63	Thompson/Stage 3 intersection	SK-0038	MR	Footpath along Arterial has a significant detour as it crosses Thompson Street.	Layout from Masterplan. We do not see better options at this stage of development.
64	Brunswick St	SK-0037	MR	Active Travel Network route not shown on Brunswick Street. First section has an extremely narrow footpath on the south side.	Active travel proposed raised tables are shown. No other works are proposed as part of ATN
65	Thompson St	SK-0036	 MR	Lakeview section is not up to date: - Isle Street intersection is now one-way out of Isle Street - Vertical alignment is incorrect - Narrow footpath on south side of S-curve needs to be removed	Acknowledge information presented may not be the latest. We have chosen to not update or modify our information as this section of Thompson Street is completely out of our control - it is unlikely any one is relying on our information for the latest configuration of Lakeview.

Plans

ID	Section	Page	Reviewer	Review comment	Project Team Response
66	One Mile roundabout	SK-0040		Please show the one Mile Creek, existing culvert under the existing roundabout and potential culvert under Thompson Street link.	Agree this information is currently not shown. As our scope was to identify preferred alignment only, and Stage 3 is so far out on the programme, this information can be shown on subsequent issues of the plans, as further design detail progresses.
67	Thompson St	SK-0038		Alignment of Thompson Street Link could be pushed south to reduce the impact on 62 Thompson Street if 38 -54 Brunswick Street is to be purchased	This is a possibility, and would be best resolved during more detailed design, when survey available.
68	Brunswick/ Thompson intersection	SK-0037		Significant safety concerns with this left turn design from Brunswick Street. Brunswick Street approach angle is greater than 70 degrees and thier is no merge lane. There is a high safety risk with vehcile traveling from Brunswichk Street to Thompson Street. Needs to be reinvestigated to develop an appropriate and safe connection	Acknowledge this is not a perfect design, but there are significant constraints and 70deg cannot be achieved. This will not be reinvestigated as part of this business case, but there is a case for further optioneering. Need to recognise the constraints imposed by Lakeview design proceeding without consideration of Art 3 and this intersection.
69	Thompson St	SK-0037		Why is the alignment of Thompson Street upto 1.3mm above the current road surface west of Glasgow Street and 0.9m below the current road surface between Glasgow Street and Lakeview connection. The vertical alignment of Thompson Street does not change.	Plans based on levels data from multiple sources. Vertical alignment will be resolved when topographical survey completed. At this stage we don't believe levels different is an issue at this stage of design process.

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

APPENDIX F: IQA REVIEW AND RESPONSE

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Feedback to Way to Go on Queenstown Business Case IQA

October 2020

Work required to fill gaps and improve the business case (particularly financial and management cases)

The Management Case has some shortcomings that need to be addressed prior to the completion of the business case documentation:

1. Other work programmes have different governance structures, e.g. the Spatial Plan is an initiative of a new Urban Growth Partnership between government, Kai Tahu and QLDC, and the Ladies Mile Masterplanning has its own governance structure. The Transport Governance Group provides another layer of governance. There needs to be visibility of these and their linkages.

Recommended Action to Resolve: Noted that governance structures are different, but there is not necessarily clarity about what they all are at this point. Will defer to Lead of W2G Management Team to provide some wording to recognise the differences and linking organisation.

Completed Action Taken: Added in a sentence paragraph 1.1, and into the risk table. It is also raised in the interdependencies table and section 1.3.

2. Project roles and responsibilities have not been completed in the Management Case for the Alliance nor non-Alliance projects.

Recommended Action to Resolve: Realistically, such roles and responsibilities cannot be identified at this time until they have been clearly defined with the projects/project organisations. Note this in the Cases.

Completed Action Taken: Table removed, and text added stating roles will be allocated following the award of the alliance contract.

3. Property Group has delivered a Property Strategy. Stage 2 upgrade to full bus hub facilities at Frankton requires a complex land acquisition on the eastern side of Kawarau River which is currently a golf course. The business case recommends a process is initiated to proceed with this as soon as possible but the case for a full offline facility has not been made with a clear evidence base. Further justification is required before any land acquisition process can be made, and this will need to be an update to the business case in the 2024-27 period.

Recommended Action to Resolve: Note that Property Group has not delivered a Property Strategy at this time. Where our Cases "recommend a process initiated to proceed with (Stage 2 Frankton Hub property) as soon as possible", we need to modify this statement, as we have not or should not. Record that PT Services and Infrastructure DBC will follow this Business Case, and justification will be recorded in there.

Completed Action Taken: Text has been updated in section 1.3.4 as per wording above.

4. Management Case – Sub-section 1.10. This sub-section should state why these other activities are outside of scope.

Recommended Action to Resolve: Note: it is the FINANCIAL CASE, section 1.10 that details out-of-scope activities. Each of the out of scope bullets to have a few additional words noting why out-of-scope.

Completed Action Taken: No action for management case. Financial case added comments

5. Opportunities around the public transport hub and Project Manawa in Stanley Street are uncertain. This opportunity needs to be considered as part of any pre-implementation phase for Stanley Street bus hub in 2024-27.

Recommended Action to Resolve: No further action.

6. The business case highlights the importance of acquiring a 2.5m strip of land from the Project Manawa site (critical dependency). There is no provision for this work set out in the Management Case therefore this issue will need to be part of the PT services DBC scope.

Recommended Action to Resolve: Several actions:

- The 2.5m hub is part of the Stanley Street hub improvement and can be part of the State Highway Improvement project for Stanley St work.
- Clarify that obtaining this strip of land is dependent on Manawa Stage 2 work before it can be built on, however, property can be obtained through the PWA process prior
- Note it is necessary for the access to the Playcentre to be closed before the hub can be properly operational
- Email enquiry to Manawa/Pickard as to whether there is any clarity about timeframe that might indicate when this property can be acquired.

Completed Action Taken: Section 1.3.2 updated reflecting the above comments.

7. Impact and alignment of the Queenstown Spatial Plan is mostly absent in the Strategic Case and Management Case. This has significant flow-on effects for the introduction of PT infrastructure on State Highway corridors ie infrastructure going in with land use plans not fully developed. How this risk will be managed needs to be clearer in the Management Case.

Recommended Action to Resolve: Several actions:

- Add integration with Spatial Plan to risk register
- Note in Cases (Management and Strategic) that SP preferred option has been modelled and integrated into the project, but also not SP has not been approved

Completed Action Taken: Updated text in table 6 - project integration and in table 10 - key risks. Explanatory text added in section 1.3.

8. An Engagement Strategy is attached as Appendix A06 but appears to be for the DBC phase only. Current communications announcements are being coordinated and operating effectively under Way to Go.

Recommended Action to Resolve: No further action.

9. Critical dependencies have been identified at a high level through the Preferred Programme Sequencing Report. It would be beneficial to clearly set out why the various activities are dependent on these other activities.

Recommended Action to Resolve: Provide some more detail around why these dependencies are dependencies.

Completed Action Taken: Team reviewed the table and consider the dependencies are appropriately described.

10. The Management Case would benefit from a clear scope for each additional business case phase eg SSBC/DBC and business case update/Pre-Implementation phase required to be able to implement any additional supporting improvement activities. Scope of future critical phases of business cases eg TDM SSBC and PT DBC has not been made, nor estimated costs of this work.

Recommended Action to Resolve: We're not entirely sure we need to provide a clear scope, however we should advise that the other cases "are envisaged to cover...." And add in a broad outline of the scope and what needs to be included in that future work.

Completed Action Taken: Added a new table 7 to cover the high level scope.

11. Waiting for Peer review of cost estimates (Appendix D05). No parallel cost estimate is required for NZUP/CIP non-NLTF funded projects. Our understanding is that the Alliance will fully review project costs that fall within the Alliance's scope.

Recommended Action to Resolve: Parallel cost estimation being done by Bond CM for NZUP (and a TOC for the full Alliance works). No other peer review is planned/intended.

Completed Action Taken: No modification to cases.

12. NZUP programme costs estimated in business case at \$106.2m, which is a \$16.2m funding shortfall (\$90m of central government funding has been approved). Unclear how this shortfall will be accommodated or whether a scope change is required, and if the latter what the impact will be on the project outcomes.

Recommended Action to Resolve: The higher estimated cost is known and needs to be acknowledged in the cases. Report that the higher cost is/will be presented to the NZUP Governance Group, who will provide direction on how to manage.

Completed Action Taken: Text added to section 1.1.1 as per above.

13. Not clear who is leading the TDM SSBC, scope and what the cost is.

Recommended Action to Resolve: Agreed that it is uncertain who is leading the TDM SSBC. Financial Case to recognise this uncertainty, and defer to W2G to give direction.

Completed Action Taken: Table 7 of management case allocates this to QLDC as the lead, scope added in new table 7.

14. Not clear who is leading the ITS component or scope but an estimate is \$5.3m for improved operations through WTOC, VMS and advanced parking management. WTOC changes and fixed VMS should be part of NZUP

Recommended Action to Resolve: As per above, need to recognise the uncertainty, and reflect that further work is required to understand where funding responsibility sits (as parts could be the responsibility of each of QLDC, Waka Kotahi and ORC), with overarching integration with W2G

Completed Action Taken: Not discussed in the management case.

15. Need to include the precise names for each intervention using Waka Kotahi's project naming guideline which is a requirement for 2021-24 NLTP.

Recommended Action to Resolve: Naming convention information received. To be incorporated in Cases.

Completed Action Taken: TBC

16. There is a risk around Otago Regional Council's ability to plan, operate and co-fund a step change in public transport provision envisaged in 2027-30. The Financial Case assumes BRT fleet, stops hubs (presumably Frankton hub as Town Centre assumes co-funding arrangement) will be 100 percent funded by Waka Kotahi. This has NOT been agreed, and it is proposed that this issue is considered - as part of the Public Transport Services Detailed Business Case scheduled for the 2021-24 period. TDM SSBC assumes this is funded 100 percent Waka Kotahi but this would be funded at normal FAR and be a Queenstown Lakes District Council-led activity. The Financial Case has also assumed incorrectly that Waka Kotahi will fund a TDM SSBC 100 percent when this is likely to be a QLDC-led activity with WK supporting at normal FAR.

Recommended Action to Resolve: Case authors to note our incorrect comments/assumptions (highlighted by this author). Discussion to be organised with Cases authors and Shaun and Tony Sizemore to clarify responsibilities and agencies and Case documents updated accordingly.

Completed Action Taken: Not applicable to the management case.

17. There is a risk around the different strands of governance of the various work programmes currently being delivered, i.e. the Way to Go, the Spatial Plan partnership and the Ladies Mile masterplanning all have different governance structures.

Recommended Action to Resolve: Governance mentioned in Para 1 above, and guidance will be provided by W2G.

Completed Action Taken: An additional paragraph has been added in section 1.1. A new risk has been added to Table 10, and additional text in section 1.3.

18. Would be helpful to have a single table with the capex and opex for each improvement activity (include by phase) with cash flows up to the end of 2029/30. What is the total cost of the programme, both capex and opex with and without the NZUP and CIP projects?

Recommended Action to Resolve: Table is under action and will be included as an Appendix to financial case.

Completed Action Taken: No action for the management case.

19. The Management Case would benefit from a clear understanding of when the network is approaching key travel demand triggers that can be used to determine the appropriate timeline and development of the supporting activities. The current proposed timeline for the implementation of activities is as below:

20. PT services improvements – staged implementation from 2024 onwards
21. Stanley/Shotover Streets improvements – 2024-27. It looks like this activity includes interim Stanley Street hub improvements coinciding with a reasonably substantial increase in PT services starting in 2024-27 (from existing capacity of 360 people per hour to 873 per hour), therefore should the interim Stanley Street hub improvements be included in PT services DBC?
22. Town Centre upgrades Stage 2 – implementation 2024-27 or when affordable and able to be prioritised. There is a question as to what Waka Kotahi will be able to fund eg level of amenity, and regional/commercial passenger transport hub in Athol Street does not currently fit within any current work category definition for funding.
23. Arterials Stage 2 – implementation 2027-30
24. Bus hub improvements (investigation only 2024-27 – therefore exclude from PT services DBC?) – implementation 2027-30.
25. Arterials Stage 3 (\$61m) and offline PT solution (\$262m) unlikely to be supportable at this stage – low BCR and too far in the future respectively. Costs different for Arterials Stage 3 in Financial and Management Cases \$118m vs \$61m

Recommended Action to Resolve: Seems to indicate that we need to clarify the triggers in the management cases. Can we turn our responses into triggers (i.e. demand/patronage etc) instead of/as well as years? However, need to note that the 2027 “trigger” is also alignment with the PTOM contract

Para 20: No comment

Para 21: should reflect that interim Stanley St hub is part of SH improvements. Should also separate Full Stanley hub justification from PT services DBC (but run in parallel).

Para 22: No comment

Para 23: Arterial 2 trigger is external factors as has BCR >1 so can happen anytime funding avail

Para 24: There is no defined Stanley Street hub trigger (no monetised current evaluation), but complements on benefits of Arterial Stg 1. There is an immediate trigger to realise the vision of a high quality experience for international visitors arriving in town centre. The trigger for the Frankton hub is essentially the point at which offline transport infrastructure needed.

Para 25: Clarify price difference (suspect with/without property). Current economic evaluations don't account for town centre vision of tourist experience by removing vehicles from town centre (goal might even conflict with hard economics)

Note whole trigger discussion shines a light on Monitoring and Benefits Realisation requirements.

Completed Action Taken: Project team agreed best for these triggers to be confirmed through the PT service DBC for the PT elements. Some commentary has been added in section 1.5.1

26. The Management Case is reasonably clear about the work required, key issues to manage and the timing of interventions to progress to the next phases of business cases and pre-implementation through to implementation for the NZUP and CIP versus “remainder of the preferred programme”. There is a heavy reliance on programme-level risks and interdependencies being managed through input into the relevant governance, delivery and project lead arrangements in Queenstown and overseen and coordinated through the Way to Go partnership. The Way to Go Programme Director will need to play a pivotal role in ensuring the multiple moving parts (land use development, spatial plans, transport improvement projects and other infrastructure implementation such as Queenstown's three waters programme) are coordinated and risks managed to deliver the best overall economic and social outcomes that can be achieved within the well canvassed challenges and constraints.

Recommended Action to Resolve: All the best to the W2G programme director.

Comments on business case robustness

27. The business case is predicated on the roading network being unable to accommodate future predicted growth, grinding to gridlock. Widespread road capacity upgrades are not proposed to meet this challenge,

with physical constraints and stakeholder feedback, as well as current Government land transport policy and funding settings all pointing to a public transport step change to manage the growth forecast in travel demand of residents and visitors.

Recommended Action to Resolve: No further action

28. Transport modelling identifies that unless there is a significant shift to public transport and active modes (a minimum of 40 percent of trips on SH6A PM peak in 2028 and a minimum of 60 percent of trips on SH6A PM peak in 2048 on pre-Covid forecasts), achieved through infrastructure and service provision supported by strong parking management and travel demand management approach, the network will breakdown and with it significant economic loss. The evidence for the cause and effects of the traffic growth are well known and adequately covered in the business case Strategic Context document.

Recommended Action to Resolve: No further action

29. The business case presents the most compelling case in relation to rapid visitor and residential growth resulting in significant traffic growth, congestion and unreliable travel times on the network. Future modelling for 2028 and 2048 indicates that a greater number of vehicles at existing mode shares will not be able to be accommodated on a physically constrained roading network resulting in gridlock. The connection between Frankton and Queenstown (SH6A) is already exceeding its theoretical capacity regularly e.g. 140 days were recorded in 2019 where this capacity was exceeded. Disparate and disconnected residential development on the periphery of urban boundaries and away from the key activities centres of Queenstown Town Centre and Frankton have exacerbated the roading capacity issues as residential growth and housing development in these locations has increased as a result of significant visitor growth. The data and evidence for safety, resilience and amenity is secondary and less compelling. Negative liveability and visitor experience effects rely on the previous evidence base provided in the Queenstown Integrated Transport Programme Business Case, Queenstown Town Centre Programme Business Case/Indicative Business Case, Frankton Masterplan, stakeholder and public consultation, and little new compelling evidence is presented. More use of existing and new level of service evidence by mode would have been beneficial, as well as more detailed impacts of visitor travel on the transport system and clearer analysis of customer survey information.

Recommended Action to Resolve: No further action

30. The business case presents a phased approach to delivery with activities scheduled in the current NLTP, the next NLTP and those that follow, with the potential for further investment after 2030. Unfunded (i.e. not funded by NZUP and CIP) activities signalled for the 2021-24 period are appropriately timed and should be progressed. The timing of the investments (NZUP and CIP aside) are scheduled to correspond with the forecasted timeframes for emergence of the problems. Covid-19 impacts on growth have complicated this picture somewhat, however there is flexibility in the next phases of development to establish a clearer picture of the required timing of future investments, such as for PT hubs, PT services and arterial stages 2 and 3.

Recommended Action to Resolve: No further action

31. The longer-term impacts of Covid-19 on economic, population and visitor growth are uncertain, but updated Queenstown Lakes District Council population projections indicate a short-term 3 to 5-year lull in growth then continuing to grow back towards the previous population projection trajectory. It is presumed that Queenstown will continue to be a place where people want to live and the eventual return of international visitors once border restrictions ease to what is undoubtedly New Zealand's premier tourism export earner and drawcard. Peak day population is predicted to grow from approximately 120,000 in 2018 to 200,000 in 2048.

Recommended Action to Resolve: No further action

32. With Central Government committed to \$90m of public transport-focussed transport infrastructure investment as part of the NZ Upgrade Programme and \$85m Stimulus Package for the Queenstown Town Centre Upgrades (walking and cycling) and Stage 1 of the Alternative roading link in the Queenstown Town Centre (taking some of the existing and future traffic off Stanley Street), there needs to be a focus on completing the job that these projects will start ie there is little benefit to providing public transport priority without a significant step-up in public transport service frequency and quality of

experience and facilities, although robust economic cases for the latter appear to present a challenge. First priorities include further investment in active travel in 2021-24 depending on affordability and prioritisation of activities by all investors, completing a travel demand management SSBC and completing a public transport services Detailed Business Case (high capacity public transport has only been investigated to Indicative Business Case level). There is also a need for further investigations for phase 2 bus hub improvements in Queenstown Town Centre and Frankton, as well as identifying the required increase in public transport services in 2024-27, and the subsequent expected "significant" step change in the provision of public transport services and operation in 2027-30, subject to a demonstrable level of travel demand.

Recommended Action to Resolve: No further action

33. This business case could be considered a "detailed programme business case" and is designed to address the highest priority transport issues in the Wakatipu transport system, with close alignment to Queenstown's whole-of-Government Spatial plan and location specific land use plans eg in Queenstown Town Centre, Frankton Masterplan and Ladies Mile Masterplan in development.

Recommended Action to Resolve: No further action

34. A broader perspective has been taken, but it is clear that additional work is required integrating the transport improvements with the direction and intent of the land use plans through the detailed design process, and more detailed business case work is required to understand and finalise the scope and priorities of the travel demand management interventions in the short term and across the life of the programme (2021-2030+), as well as the step change public transport service and infrastructure provisions and supporting measures requirements, and a clear implementation plan for Queenstown Lakes District Council's parking strategy. The latter needs to be a condition of funding.

Recommended Action to Resolve: No Business Case action. We recognise parking implementation plan required.

35. The business case has attempted to use some of the measures contained within Waka Kotahi's new Benefits Management Framework, but this business case predates the implementation of the new Framework so does not completely align to the Outcomes Framework categories nor related cluster of measures. Measures have been adequately defined as they relate to impact on system reliability and some aspects of impact on user experience of the transport system and impact on mode choice. Other measures are of interest but have a lower relevance to the critical problem areas with a robust supportive evidence base and it is unclear how the targets for these have been arrived at and why these levels have been set.

Recommended Action to Resolve: No further action

36. The business case does not utilise LoS analysis for walking and cycling which was produced for the Wakatipu Active Travel Network endorsed SSBC. There are limited measures relating to visitor and resident satisfaction of the transport system LoS and operation, which is a key part of the investment story for Queenstown. No measures have been adopted for parking management, which is a key lever in achieving the substantial/unprecedented mode shift targets.

Recommended Action to Resolve: the need for a Parking Implementation Plan is discussed later.

Completed Action Taken:

37. We strongly agree with the recommendation that a data improvement plan and final benefit realisation plan is delivered as soon as possible, and that this is coordinated and signed off by the Way to Go Board.

Recommended Action to Resolve: Shaun/Tony are checking on how/whether to take this further – where does this fit, how is it funded.

Completed Action Taken:

38. It is unfortunate that very limited baseline measurement has been completed to date and this will be a priority prior to construction commencement so that future performance can be benchmarked, notwithstanding the impacts that Covid-19 have already had on travel demand and behaviours during the development of the business case.

Recommended Action to Resolve: Note earlier point on monitoring

Completed Action Taken:

39. The benefits sought by this investment, if realised, will enhance safety, efficiency and effectiveness of the transport system in the Wakatipu, in the public interest.

Recommended Action to Resolve: No further action

40. Benefits will include enhanced safety, access, efficiency, resilience and liveability.
Recommended Action to Resolve: No further action
41. Whilst a DBC, the early stages of the business case did consider a range of strategic alternatives ranging from a strong car focus to a strong public transport focus. This reflected the large geographic area under consideration and the need to work at a network level of thinking in the first instance, building on previous work. There is evidence of bringing through the work from previous phases and thinking
Recommended Action to Resolve: No further action
42. The subsequent short-listing process and development of the preferred package at a network level was generally appropriate to the scale and complexity of the problems. Translating the network level response to detailed proposals at the street level is where complexity came into the process, made more difficult by decisions to integrate multiple business cases into one, followed by the need to integrate NZUP decisions and spatial plan direction into the business case and the onset of Covid-19 and further funding decisions made as a result of CIP economic stimulus funding. These CIP funding decisions were made in light of a broader set of goals (including employment creation) outside of those established in the business case process and this required a realignment of the preferred package.
Recommended Action to Resolve: No further action
43. At the strategic response level, options were wide ranging and assessed well in accordance with generally accepted MCA practice. It is clear that a public transport strategy emerged from the optioneering process, supported by multiple rounds of stakeholder and public engagement. Along with demand management (education, promotion and parking management) the public transport strategy clearly emerged as the only feasible, effective and affordable way forward to manage the projected growth in population and visitor numbers whilst maintaining a functioning transport system.
Recommended Action to Resolve: No further action
44. The programme is comprehensive and balanced but as stated elsewhere, the detail of the programme is sketchy in places with limited supporting justification and this may need to be tested further in later phases, with greater emphasis on PT customer levels of service realisation (frequency, access time, transit time and reliability) as a driving design philosophy if the ambitious mode shift goals are to be achieved.
Recommended Action to Resolve: No further action
45. The programmes are feasible provided Waka Kotahi, QLDC and ORC maintain a determination of purpose to deliver the essential components of the programme that will make active and shared modes the modes of choice to travel in and around the Wakatipu in the years to come. This includes delivering on the outcomes and vision of the Spatial Plan. This will also include courageous conversations with developers, businesses and residents around land use, transport rates, parking provisions and road space allocation so that other modes to the private car are available, affordable and become an easier and more preferential travel option for peak hour trips in particular.
Recommended Action to Resolve: No further action
46. The described (if not evident in concept designs) level of public transport performance sought from the investment is feasible but will require careful integration of land use development with PT service planning, infrastructure planning and technology investment to establish an operating plan that maximises seamless customer levels of service. Implementation of the plan will require strong collaboration between all funders and the service operator(s).
Recommended Action to Resolve: No further action
47. This will require a high degree of specialist capability in the design and operation of transit systems and care should be taken in the procurement of pre-implementation and implementation to secure the PT expertise and capacity required.
Recommended Action to Resolve: No further action
48. Convoluted and complex optioneering process due to the need to amalgamate a suite of existing business cases and land use plans in various stages of development to provide an integrated investment story and proposal for Queenstown. However, there is no doubt a wide

range of interventions have been considered (but clearly more work has been completed on the on-road infrastructure requirements). These were prioritised into a preferred programme option with stakeholder input and through an iterative process applying fatal flaws, engineering and funding constraints, intimate local network knowledge from WSP Opus, Waka Kotahi intervention hierarchy, other standard considerations and building on previous business case work, in particular Queenstown Integrated Transport Programme Business Case, Queenstown Town Centre Masterplan Programme Business Case/Indicative Business Case, Stanley Street Corridor Improvements and Grant Road to Kawarau Falls Bridge Detailed Business Cases.

Recommended Action to Resolve: No further action

49. Queenstown Town Centre interventions are fairly well specified (though the presentation of background supporting design work is limited) and SH6A is also fairly well described with a good explanation of how the preferred option was decided upon. Fundamentally the PT strategy is to maintain free flow of all (PT and general) traffic along SH6A by metering general traffic at the SH6/6A intersection, where the resultant traffic queues can be most effectively overcome by bus priority on approaches. SH6A is significantly constrained by adjacent geology and land use, making the provision of full bus priority unfeasible and unaffordable, though occasional priority facilities are recommended where feasible and affordable.

Recommended Action to Resolve: No further action

50. SH6 elements are generally clearly specified however there is limited documentation to explain the evolution of design thinking towards the preferred option. For example, the long-term preferred option at Frankton involves the development of a major new Frankton PT Hub on the east side of SH6 in the current golf course. This potentially introduces a considerable time penalty for through passengers yet there is no analysis of why this is desirable and how it functions in relation to the wider network. The Frankton design report (Appendix C7) presents images and explanations of the future layout but there is no real discourse on the drivers for it or discussion of alternatives. Perhaps this was litigated in the previous IBC but it does not appear to have been revisited as part of this SSBC other than around statements claiming its importance for integrating public and private passenger transport services. The long-term Frankton Hub should be considered in the context of the network planning proposed to be completed in the 2021-24 period via a PT Services DBC, along with a richer understanding of the Covid recovery trajectory, land use development staging and the emergence of a clearer picture of high priority origin-destination pairs to cater for with fast, reliable single seat bus journeys.

Recommended Action to Resolve: No further action

51. Identified infrastructure is well defined to concept/scheme design level, and multiple options and permutations have been tested through the transport model as well as sensitivity tests (different growth rates were tested in the modelling and land use changes; growth rates assume international visitor numbers will return to pre-Covid numbers from 2024), and in some cases higher where more detailed cost estimates were required.

Recommended Action to Resolve: No further action

52. The public transport services requirements are reasonably well understood for the 24-27 period (but more work is required on actual implementation requirements eg timetabling and procurement), but the step change envisaged from 2027 has only been developed to Indicative Business Case level, particularly for the rapid transit-light requirements, and more detailed work on the operational elements eg depots, vehicle and stop-types, lead agency, funding and procurement models and future Frankton and Queenstown bus hub upgrades are required through a proposed Detailed Business Case to be developed in 2021-24 period.

Recommended Action to Resolve: No further action

53. Likewise, a wide-ranging study on travel demand management measures has been scoped, and a list of potential interventions, but a Single Stage Business Case is required to scope and prioritise short term and ongoing interventions for implementation (eg policy, travel planning, wayfinding, transport management association).

Recommended Action to Resolve: No further action

54. Intelligent Transport Systems: Proposal is to continue to manage signals through WTOC, virtual priority provided via SH6A project through SCATS priority engine software and installed at signalised intersections on bus routes. Plus, four fixed VMS signs linked to TOC at key identified locations. It is not clear how these components will be developed and funded. It would make sense to include these as part

of NZUP, and this needs to be clarified with the Project Team. It is not clear how parking management technology will be developed and funded. The latter could be part of the scope of the TDM SSBC.

Recommended Action to Resolve: No further action

55. There is a slight disconnect between the needs of the prospective public transport customer, the conceptual design of the network of public transport services and the design of the infrastructure intended to support those services. Perhaps this was as a result of the numerous preceding business cases to align with, the need to integrate live and as yet incomplete parallel business cases and masterplans and the arrival of NZUP and CIP funding. The proposed Public Transport Services Detailed Business Case can resolve these issues and should be progressed urgently alongside NZUP projects pre-imp and the Park and Ride SSBC (currently being led by QLDC). This will ensure integration and alignment of land use, infrastructure and service planning. The following paragraphs highlight some of the concerns identified.

Recommended Action to Resolve: No further action

56. The stated PT network design philosophy of a single seat bus ride is a good one given the relatively short trip distances and travel times across the Wakatipu and the need for bus journeys to be as fast as possible in order to compete with the private vehicle and achieve the challenging mode shifts required. Yet, non-park and ride elements of the "bus max" network design force (what would be) large volumes of passengers to interchange between services or be subjected to circuitous routing. The consequent bus travel times, even with the benefit of relatively modest bus priority (see below) will remain un-competitive with private car travel, even late into the assessment period when congestion is forecast to worsen.

Recommended Action to Resolve: Recommend further discussion on this in the PT Services DBC

Completed Action Taken:

57. Further concerns are the reliance on park and ride to achieve the mode shift required. The detailed patronage demand analysis results indicate a very high reliance on park and ride (around one-third of all future peak direction PT trips) successfully capturing large volumes of car-based trips (dependant on limited town centre parking and higher fees) yet there is no evidence presented to show how this is going to be achieved or if it is realistic given the time sensitivity of people making short distance trips from the suburbs to Frankton and Queenstown. Park and ride is usually (most successfully) used to capture long distance inbound car trips on the urban fringe and not as an inner urban service. As a result there could be unintended consequences such as local congestion, safety issues, an increase in car trips and emissions and spill over car parking into neighbouring suburban streets. Cannibalisation of urban bus service patronage could also be a risk as the park and ride services sit within the urban network. There is a separate ongoing SSBC for park and ride being led by QLDC but there are no details provided on this and it would appear to be a critical missing piece of information upon which the success of the PT strategy hinges.

Recommended Action to Resolve: Include some commentary around current status of Park and Ride SSBC work and how it supports the overall functioning of the network in general (discuss with Reece as p n r included in modelling)

Completed Action Taken:

58. The bus priority interventions could be more comprehensive and by the business case's own admission, will become less effective over time as traffic volumes grow and block access and egress to / from the lanes. This will occur because there has been a design philosophy to essentially only provide bus priority to the extent that it appears necessary now and that also maintains acceptable general traffic levels of service. This is in conflict with the stated aim to achieve (unprecedented outside Auckland) an order of magnitude increase in public transport use over a short period of time. Examples include set back distances of bus lane terminations from limit lines that increase the risk of buses missing green phases and being delayed (e.g the SH6/6A intersection), bus lane terminations that require the bus to merge (give way) with general traffic rather than have priority over it (e.g. approaches to Shotover Bridge) and bus lanes that are discontinuous or missing where they could easily be provided to reduce the risk of spill over queues blocking buses getting into bus lanes. The SH6/6A intersection designs also assume a certain bus routing pattern in its priority lane configurations that may change as a result of long-term network planning.

Recommended Action to Resolve: Believe these issues should be dealt with in the pre-imp and specimen design. There is the ability to extend the bus lanes should queue lengths be exceeded.

Completed Action Taken:

59. In the context of all the above, the consultant team have used “Bus Rapid Transit” to characterise the level of service. However, aside from the potential for different types of buses in the future, the level of service experienced by passengers in the future is likely to fall far short of what BRT is commonly known for.

Recommended Action to Resolve: Discussed. Will retain the term – might not meet some definitions, but has elements thereof

Completed Action Taken:

60. The focus on road-based public transport solution with optimised existing network infrastructure (excepting the new arterials which may induce general traffic demand, but improve the quality of public transport operations by removing some/all traffic off Stanley Street and allowing for more space for pedestrian amenity) with supporting travel demand management and parking management measures is likely to be the most cost- effective response in the constrained topographical and outstanding natural landscape environment of Queenstown. Road-based public transport offers flexibility and can service outlying areas relatively cheaply, and ostensibly can accommodate projected growth for the next three decades. It does enable improved travel times and reliability for PT but these benefits gradually reduce as the network reaches severe over-capacity by 2048 and a new offline solution is considered the only feasible option from that point onwards. The focus on public transport also increases the throughput of SH6A by over 100% in the PM peak, and the virtual priority approach on SH6A provides 60 percent of the benefits at 5 percent of the cost compared to adding more lanes to SH6A.

Recommended Action to Resolve: No further action

61. It should be acknowledged that the long-term success of this mode shift strategy relies on a number of initiatives all being delivered in an aligned and integrated way. The physical measures like bus and bike lanes and hubs, and service measures like new vehicles and bus services, whilst costly, are in some respects the low hanging fruit. As the business case explains, parking supply and fees are a critical element for the success of the strategy, and these are a challenge in any jurisdiction. In Queenstown this challenge is likely to be especially pointed for QLDC given the significant impacts Covid-19 has had on the local economy. Accordingly, there needs be a concerted effort to maintain good relationships and collaboration at the governance level throughout implementation.

Recommended Action to Resolve: No further action

62. Preliminary design philosophy statements, referencing appropriate design standards, have been completed for Queenstown Town Centre works and the works proposed on SH6A and SH6. There are no form, function or standards issues flagged by the design team.

Recommended Action to Resolve: No further action

63. Safety audits on the concept designs have not been completed to date however a Safety in Design Register (Appendix C8) and Safe Systems Assessment (Appendix C9) have been completed. The safety in design register considers safety risks to workers and users during construction, operation, maintenance and decommissioning. The ‘operation’ sections consider generic safety risks to users during operation but they do not constitute a safety audit of the concept designs.

Recommended Action to Resolve: No further action

64. Safe System Assessments are presented in Appendix C9 and cover the town centre, SH6A and SH6. These do consider crash risks at specific locations across the network and make recommendations to further reduce crash risk. It is unclear if these are proposed to fulfil the role of concept design safety audits, as is appropriate for a project of this scale. This is unlikely however since the assessments were not completed by independent reviewers, a key requirement for safety audit.

Recommended Action to Resolve: No further action

65. Further advice has been sought from the local Waka Kotahi safety expert and project manager as to whether further safety consideration is needed at this time or if an exemption is to be sought for formal safety audits to be completed in the next phase.

Recommended Action to Resolve: No further action

Risks

- Infrastructure and services plans not being coordinated with land use plans in development. This could result in lock-in of sub-optimal service solutions not likely to achieve patronage gains.
- Mode shift to alternative modes, especially PT, relies on parking policies and management that meaningfully impact on mode choice, as well as step change levels of PT service investment. Both carry political risk.
- Not all parking facilities are in public ownership (e.g. Frankton Flats) and cannot be used to leverage mode shift unless private sector on board.

Recommended Action to Resolve: Risk elements will be added to risk register, where relevant (note latter point not a risk – it's a fact).

Completed Action Taken:

Comments on economic case robustness

[Comments to follow.]

Other comments: Strategic Case

1. 1.2 Has due consideration here been given to the Arataki Infometrics and MJ impacts of Covid -19 research that suggests a medium term (10 year) impact on economics and growth (ie not just short term).

Recommended Action to Resolve: We have included the QLDC projections but note considerable uncertainty about Covid-19 recovery, noting that a trigger based approach will be considered in the PT DBC as to the phasing of PT service improvements.

Completed Action Taken: No further action

2. 1.2 Para 2 – no mention here of congestion or emissions.

Recommended Action to Resolve: Add reference to congestion and emissions.

Completed Action Taken: Updated as above

3. 1.2 3rd to last para graph – role of integrated land use planning to address the issue (not mentioned). Also is the mode share matter just “non-car” or is it single occupancy (ie ride share in private vehicles will need to be a big part of the solution to reach the mode share target I feel).

Recommended Action to Resolve: There is a separate section on land use planning where this issue is well canvassed. Note that modelled bus volumes are very high, between Frankton and Queenstown, meaning that allowing carpools would significantly degrade bus performance and reliability.

Completed Action Taken: No modification to case.

4. 1.2.3 There exists a HIF DBC (only talks about the ITA – or have I got this wrong?).

Recommended Action to Resolve: Reference to HIF ITA already in document, clarified to include the HIF business case

Completed Action Taken: Updated as above

5. 1.8 Spatial Plan – could beef up this section with public info from the August Cabinet paper (link below)

<https://www.hud.govt.nz/assets/News-and-Resources/Proactive-Releases/Cabinet-paper-Urban-Growth-Partnership.pdf>

Recommended Action to Resolve: Grow Well/ Whaiora is well canvassed in section 1.8.1 noting that this work is not yet complete.

Completed Action Taken: No modification to cases.

6. Should make mention of the NPS-UD land use transport policy direction directions changes namely prohibiting minimum car parking requirements, requiring intensification commensurate with PT and walk cycle accessibility and responsive planning (which is a risk to the agreed growth patterns via the spatial plan).

Recommended Action to Resolve: Agreed and included in new section 2.4.2. Note intensification requirements around rapid transit don't apply in Queenstown as a tier 2 centre – but all relevant requirements, including around carparking, included in this new section.

Completed Action Taken: Updated as above

7. 1.8.2 Ladies Mile. This part should make mention of the Mode Share targets (as this urban area will need to do heavy lifting in terms of mode share – and has a good opportunity to do so in terms of land use and other interventions).

Recommended Action to Resolve: Agree. Make specific the need for Ladies Mile to achieve a very high public and active travel mode share

Completed Action Taken: Updated as above

8. 1.8.3 Southern Corridor is only reflecting base line and not the SP aspiration for up to 10,000 dwellings here (could allude to significantly more growth here in general).

Recommended Action to Resolve: Agree. Section updated to include the higher growth aspiration

Completed Action Taken: Updated as above

9. 2.0 National Strategies should include the MoT Outcomes Framework, Toitu (WK Sustainability action plan) <https://www.nzta.govt.nz/about-us/about-waka-kotahi-nz-transport-agency/environmental-and-social-responsibility/toitu-te-taiao-our-sustainability-action-plan/>, the Urban Growth Agenda and NPS-UD and they both provide for a high level of LUTI integration.

Recommended Action to Resolve: There is a separate appendix AO2 which explores national strategic context in more detail. We have focused in the core business case narrative on the key strategic drivers such as the GPS, Arataki, the Queenstown mode shift plan + new content on NPS-UD.

Completed Action Taken: Updated as above with new content on NPS-UD.

10. Regional Strategies should include the CAB paper principles for Spatial Plans and other QT related info on the QT spatial plan direction approved by Cabinet.

Recommended Action to Resolve: There is a separate appendix AO2 which explores regional strategic context in more detail. We believe that this section in the main business case more than adequately covers key regional strategies, noting that a great deal of previous strategic work has taken place.

Completed Action Taken: No modification to case.

Missing documents

The following documents were not provided:

- Economics peer review
- Review of cost estimates
- Risk Register
- Property Strategy.

Recommended Action to Resolve: Noted. Risk register follow this update review. All others in the hands of Waka Kotahi.
--

Completed Action Taken:

Chad Barker, Rob Woods, Graeme Belliss and Brian Waddell Waka Kotahi October 2020.

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

APPENDIX G: COMMUTE REVIEW AND RESPONSE

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Queenstown Business Case

Peer Review Report

2 November 2020

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982



4 Leek Street, Newmarket
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Project: Queenstown Business Case
Report title: Peer Review Report
Document reference: J00886 Peer Review Report
Date: 2 November 2020

Report Status	Prepared By	Reviewed By	Approved By
Final Report	s 9(2)(a)	s 9(2)(a)	s 9(2)(a)

Contents

1	Peer Review Summary Findings.....	1
2	Introduction.....	2
3	Approach to Review.....	3
3.1	Peer review guidance	3
3.2	Approach taken	5
4	Review Findings	6
4.1	Specific Criteria	6
4.2	Overall.....	12
5	Summary	12

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

1 PEER REVIEW SUMMARY FINDINGS

s 9(2)(a) from Commute was asked to undertake a review of the Queenstown Business Case in line with Waka Kotahi peer review guidelines. Overall, s 9(2)(a) considers that this business case **is fit for purpose and able to allow investors to make an informed decision on the programme.**

The Business Case has identified a programme for Queenstown that appropriately responds to the complexities and challenges of the study area. The investment case is made trickier by the recent COVID pandemic and the fundamental impact this has had on the region and the transport system. The Business Case acknowledges this and seeks to respond accordingly and is a programme that is scalable.

The recommended programme is based on sound analysis. The review notes that the Business Case is made up of a suite of documents and it is incredibly difficult for a reader to follow the thread of all of the separate documents and providing an overall document structure or reference system in the summary document could greatly enhance the readability of the Business Case.

There are a number of key risks associated with the business case (including demand uncertainty due to COVID and the criticality of mode shift assumptions) and showing these are understood through increased sensitivity analysis could assist in the case for investment (as the reviewer suspects that even with reduced demand or mode share that the case for investment would still be relatively strong), giving investors further confidence in the case for investment. These suggestions for consideration (in order of importance as considered by the reviewer) include:

1. Total programme BCR to provide overall economic performance of the programme
2. Provide and overall structure within the summary document showing how all of the different business case documents link together and where readers can find specific information to greatly improve the readability of the document
3. Greater emphasis on the importance of mode shift being achieved and importance of interventions to deliver these outcomes (such as TDM and PT services) and the criticality of investment in these areas to maximise the return on investment of the committed CIP and NZUP funding
4. Greater range of impacts of COVID and emphasis on need for early triggers for interventions
5. Enhanced sensitivity tests (and economic performance) if mode shift not achieved

2 INTRODUCTION

The Queenstown DBC was completed in early October 2020. The business case proposes a programme of interventions in the recommended package with a total capital cost in the hundreds of millions.

The Waka Kotahi business case guidelines require an independent review of business cases of this scale to be completed. This report summarised the approach and findings of this review.

The business case reviewer (s 9(2)(a)) notes that there are also a number of specialist peer reviewers that have been relied upon when undertaking this overarching business case review. s 9(2)(a) was requested to undertake this review. s 9(2)(a) is a leading business case proponent in New Zealand and was also the original Programme Director of Way to Go. In this role s 9(2)(a) was not involved in the development of the business case but it provides him with relevant knowledge of the programme.

The suite of business case documents provided via the Stantec download site were used in the period 12th to the 19th of October 2020.

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

3 APPROACH TO REVIEW

3.1 PEER REVIEW GUIDANCE

This review has been based on the Waka Kotahi guidance on what a business case peer review should consider¹. This includes consideration of the following:

- **Conformity**

The reviewer must first determine whether the project is eligible for funding in that it fits the description of one of the activity classes in the current Government Policy Statement on Land Transport (GPS).

The reviewer must ensure that the project evaluation conforms to the requirements of this Knowledge Base, including that it has been assessed by the applicant in conformance with Waka Kotahi's Investment Assessment Framework.

To check credibility, the reviewer must:

- o *Ensure the transport issue, priority or opportunity has been identified, is reasonable and is adequately described.*
- o *Critically assess the results of each stage of the project's economic efficiency evaluation, avoiding unnecessary detail where possible. The test as to the level of detail to consider is whether the conclusion reached in the report is a reasonable and a credible result from the information and data used in the analysis.*
- o *Assess the costs estimated for the project and consider how realistic these are, taking into account current market rates.*
- o *Identify the key benefits and determine whether they are realistic (eg are the travel time savings realistic or are excessive delays being forecast under congested conditions in the do-minimum?). Some quick 'back-of-the-envelope' calculations are necessary to check the level of forecast benefits.*
- o *Identify the factors or assumptions, particularly forecasted estimates that have a major influence on the evaluation. Describe each of these factors/assumptions and include a commentary on the sensitivity of the evaluation to each factor or assumption.*
- o *Highlight any significant areas of risk for costs and benefits.*

- **Choice of do-minimum**

The reviewer must assess the do-minimum as stated in the project report and must determine whether it is realistic, and does not represent another option to be considered in the analysis

- **Identification and selection of alternatives and options**

¹ <https://nzta.govt.nz/planning-and-investment/planning-and-investment-knowledge-base/201821-nltp/2018-21-nltp-investment-assessment-framework-iaf/peer-review-of-proposals/>

The reviewer must examine the evaluation and judge whether all feasible alternatives and options have been identified and considered adequately. These should include alternative transport modes, where applicable, and low cost options.

The reviewer needs to be satisfied that the process to select the preferred alternative and option(s) has been robust and includes incremental assessment where appropriate.

- **Results alignment rating**

The reviewer needs to be satisfied that the results alignment rating for the activity is correct.

- **Cost estimate**

The reviewer shall check compliance with parallel cost estimate process requirements, where applicable.

- **Cost–benefit appraisal rating**

The reviewer must determine whether the cost-benefit appraisal has conformed to all the relevant requirements of the Waka Kotahi Monetised benefits and costs manual (MBCM; from August 2020) and Economic evaluation manual (EEM; superseded August 2020). The reviewer must determine whether there are any outstanding issues not addressed in the project report.

If there is a departure from the requirements, or any defect or omission, the reviewer must comment on its significance.

Where the reviewer considers that there have been discrepancies and departures from procedure, or has concerns on cost and/or benefit estimation, the reviewer will determine the project benefit–cost ratio (BCR) and compare this with the applicant's calculations.

The reviewer must determine whether the options identified in the analysis are mutually exclusive options of the same project.

In special cases, other economic impacts may be considered (eg wider economic benefits). These are to be shown as sensitivity analyses, in addition to the MBCM (from August 2020) and EEM (superseded August 2020) procedure economic analysis.

Where supplementary (third party) funding is involved, a government BCR must be determined in addition to the national BCR.

- **Risk assessment, analysis and mitigation**

The reviewer must ensure that:

- o *risks have been assessed adequately in the applicant's evaluation*
- o *realistic mitigation measures have been considered*
- o *a full risk analysis has been undertaken for large/complex and high-risk projects.*

- **Sensitivity analysis**

The reviewer must consider whether the sensitivity of critical aspects of the project evaluation has been covered off adequately, paying particular attention to:

- o *key assumptions that underlie the project and its delivery of desired outcomes, in particular future growth and demand assumptions*

- o *information and data values that are 'out of the ordinary' or unusual*
- o *the sensitivity of the project's outcomes to the input parameters.*

This guidance has been used as the basis for reporting back on this business case

3.2 APPROACH TAKEN

The Queenstown Business Case documentation is extensive with multiple reports and files in separate files. The reviewer was given access to the project files and accessed these as part of the review.

Where issues or questions were identified that could likely be resolved readily (such as where to find certain information) the reviewer simply requested this before finalising this report.

Once all the information was obtained the reviewer completed the review and provided this report to the client for consideration.

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

4 REVIEW FINDINGS

When undertaking this review, the findings have been provided in two parts, being:

- Review against the specific criteria
- Overall review of document readability

The following sections summarise the findings of this review in these two parts.

4.1 SPECIFIC CRITERIA

Using the guidelines outlined in this report the table below summarises the findings of this peer review

Consideration	Review Findings
Conformity The reviewer must first determine whether the project is eligible for funding in that it fits the description of one of the activity classes in the current Government Policy Statement on Land Transport (GPS). The reviewer must ensure that the project evaluation conforms to the requirements of this Knowledge Base, including that it has been assessed by the applicant in conformance with Waka Kotahi's Investment Assessment Framework. To check credibility, the reviewer must: 1. Ensure the transport issue, priority or opportunity has been identified, is reasonable and is adequately described. 2. Critically assess the results of each stage of the project's economic efficiency evaluation, avoiding unnecessary detail where possible. The test as to the level of detail to consider is whether the conclusion reached in the report is a reasonable and a credible result from the information and data used in the analysis. 3. Assess the costs estimated for the project and consider how realistic these are, taking into account current market rates. 4. Identify the key benefits and determine whether they are realistic (eg are the travel time savings realistic or are excessive	The reviewer considered that the projects are eligible for consideration for NLTF funding as they fit within the activity classes identified in the GPS. In general, the Business Case is considered to have been undertaken in accordance with the Investment Assessment Framework. Comments on the specific areas for review are provided below: 1. The Business Case has appropriately identified problems, benefits, investment objectives and outcomes sought. These are appropriately evidenced. 2. Whilst this peer review has not undertaken a critical review of the BCR calculations (being done by others) it is noted that the BCR's are reported at a 'package level' (and are quite healthy which is encouraging) and there is no overall programme BCR. This would be useful to provide for two reasons: • If it is not provided it is likely that people will add up the individual package benefits and costs to give an overall programme BCR and this is likely to be misleading • It is usual to provide an overall programme BCR as this allows the investor to understand what the sum of the parts of the programme are when considering investment decisions It is also noted that the BCR sensitivity testing appears to be at the programme

delays being forecast under congested conditions in the do-minimum?). Some quick 'back-of-the-envelope' calculations are necessary to check the level of forecast benefits.

5. Identify the factors or assumptions, particularly forecasted estimates that have a major influence on the evaluation. Describe each of these factors/assumptions and include a commentary on the sensitivity of the evaluation to each factor or assumption.
6. Highlight any significant areas of risk for costs and benefits.

level (Table 6), not at the package level (table 5), which is inconsistent.

3. The costs are being reviewed by a specific cost estimation reviewer. This should confirm these numbers.
4. There are two key areas the reviewer has focused on, being the wider economics benefits and also the mode split assumptions.
The wider economic benefits associated with the programme are not insignificant. This is not necessarily surprising given the scale of the economic activity in Queenstown, however needs close scrutiny, given the forecast scale. It is understood that these costs have been peer reviewed by EY who consider them robust. The reviewer therefore considers them appropriate.

It is understood that the transport analysis is predicated/requires a significant mode shift to non-car modes and that is based on analysis but is effectively an assumption. This is critical to the benefits stream as this mode split reduces demand on the heavily congested transport network and is therefore likely to be a significant part of the benefits being claimed.

Understanding the sensitivity of the benefits to this assumption would be useful. The reviewer considers the approach for mode shift appropriate and the proposed TDM interventions critical, however it is such a critical assumption and understanding the risk associated with this assumption would be important for decision makers.

5. There are a number of critical assumptions or factors in the business case, with the reviewer considering the main ones to be:
 - Growth (and COVID)
 - Staging of interventions
 - Level of mode shift

Pre COVID, Queenstown growth was some of the highest in the country and driving considerable and sustained transport demands. COVID has changed that dramatically and there is

	considerable uncertainty on these forecasts moving forward. The business case indicates that the final assumed growth profile allows for a delay in the original forecast growth (due to COVID), but that growth will return to the high growth rates overtime. This could well occur, however there is considerable uncertainty around this and greater mention and testing of this uncertainty would provide a more informed basis for decision makers to make a decision. The intervention staging has been based on a number of factors, including demands, network performance and funding availability. All of these things will change over time and the timing needs to be flexible enough to deal with these. The business case acknowledges this challenge. If these timings changed considerably the assumed economic benefits may also change. It is noted that the programme proposed is scalable which goes some way to mitigate these risks. As outlined above, the mode shift assumed is significant and understanding the implications of not achieving this are important (and also helpful to make the case for the investment in TDM) for decision makers given the likely significant of this assumption. 6. The main area of risk for this business case relates to the demand forecasts and the related intervention staging and mode shift predictions as outlined above. These topics have been covered off in this review in point 5 above.
Choice of do-minimum The reviewer must assess the do-minimum as stated in the project report and must determine whether it is realistic, and does not represent another option to be considered in the analysis	It is understood that the Do Minimum does not include the CIP and NZUP projects. This makes sense to the reviewer as these interventions are key aspects of the package to address the identified problems and it was not until late in the development of this business case that funding was identified. These interventions are also significant and not 'Do Minimum' works.

	It is also understood that this funding was based in part on the work undertaken by the business case. It is considered that this approach to the Do Minimum is appropriate.
Identification and selection of alternatives and options The reviewer must examine the evaluation and judge whether all feasible alternatives and options have been identified and considered adequately. These should include alternative transport modes, where applicable, and low-cost options. The reviewer needs to be satisfied that the process to select the preferred alternative and option(s) has been robust and includes incremental assessment where appropriate.	A sound approach to option development has been undertaken. A wide range of options were initially identified, and this included stakeholder involvement. These options were then reduced down progressively through MCA analysis until a recommended package of interventions were identified. Importantly the level of option development and assessment increased as the projects were reduced, providing greater information upon which to base the recommended option.
Results alignment rating The reviewer needs to be satisfied that the results alignment rating for the activity is correct.	The reviewer has been through the results alignment assessment undertaken. This concludes that the majority of the projects assessed have been given a High rating with the exception of the Arterials Stage 2 which has been assessed as Medium. This rating combined with BCR has been used to give an IAF funding priority which has been correctly calculated. It is noted that a number of the projects have not been assessed. It is understood that this is on the basis of their stage of development (more detailed work required) and on advice from the Waka Kotahi IQA team. The reviewer considers the ratings appropriate. With regards to the Arterials Stage 2, the reviewer was unable to confirm if the Queenstown area has an endorsed High Priority RED programme. The reason this is important is that a case could be made for the national importance of Queenstown from a tourism perspective which could have this project pushes the case for a High rating.
Cost estimate	At the time of this review a review of the costs was being undertaken by an appropriate reviewer. This review was not complete at the

The reviewer shall check compliance with parallel cost estimate process requirements, where applicable.	time of this report being finalised and hence no comment on this issue is made in this review.
Cost–benefit appraisal rating The reviewer must determine whether the cost-benefit appraisal has conformed to all the relevant requirements of the Waka Kotahi Monetised benefits and costs manual (MBCM; from August 2020) and Economic evaluation manual (EEM; superseded August 2020). The reviewer must determine whether there are any outstanding issues not addressed in the project report. If there is a departure from the requirements, or any defect or omission, the reviewer must comment on its significance. Where the reviewer considers that there have been discrepancies and departures from procedure, or has concerns on cost and/or benefit estimation, the reviewer will determine the project benefit–cost ratio (BCR) and compare this with the applicant’s calculations. The reviewer must determine whether the options identified in the analysis are mutually exclusive options of the same project. In special cases, other economic impacts may be considered (eg wider economic benefits). These are to be shown as sensitivity analyses, in addition to the MBCM (from August 2020) and EEM (superseded August 2020) procedure economic analysis. Where supplementary (third party) funding is involved, a government BCR must be determined in addition to the national BCR.	A detailed review of the economics is being undertaken by a specific economics peer reviewer. It is understood that this review has concluded the economics are appropriately robust. The only comment from this reviewer is as mentioned above an overall programme level BCR is considered helpful for decision makers.
Risk assessment, analysis and mitigation The reviewer must ensure that:	The business case sets out a number of risks associated with the package. These are summarised in Table 10 of the Management Case and are generally focussed on decision

• risks have been assessed adequately in the applicant's evaluation • realistic mitigation measures have been considered • a full risk analysis has been undertaken for large/complex and high-risk projects.	making and funding risks. These are appropriately addressed in this table. A key underlying risk associated with this programme is not outlined in this table, being the demand side risk associated with COVID. Whilst not in this table, the risk is addressed throughout the business case. The risk relates to the demand assumptions (when demand will return) not occurring when assumed in the business case, or not occurring at the rate as assumed, this is the great unknown and uncertainty attached to this business case. To mitigate these risks some elements of the programme have trigger points. These are however relatively vague at this time. Firmer triggers would strengthen the management of this risk. The business case also makes the argument that there is an opportunity to undertake the works now whilst there is a window of opportunity with suppressed demand, which if funding was available has merit. The review considers that the business case uses the appropriate information, being the best forecasts of potential COVID impacts available. However the risks of the uncertainty, whilst outlined are not as prevalent as they could be given the potential impact these assumptions have on the findings of the business case, and the case for investment.
Sensitivity analysis The reviewer must consider whether the sensitivity of critical aspects of the project evaluation has been covered off adequately, paying particular attention to: • key assumptions that underlie the project and its delivery of desired outcomes, in particular future growth and demand assumptions • information and data values that are 'out of the ordinary' or unusual • the sensitivity of the project's outcomes to the input parameters.	A number of cost and benefit sensitivities have been undertaken within the business case. As outlined above a key risk for this business case relates to the demand forecasts and the likely response to COVID. There is considerable uncertainty associated with the COVID response. Another key risk relates the mode shift. The mode shift focus of the programme will mean the need to prioritise investment focussed on interventions that achieve these outcomes. This is proposed by the business case. It will also be important that the CIP and NZUP investment is supplemented by TDM measures

	and PT services to realise the benefits of this early investment. Sensitivity tests of different outcomes (less mode shift or a slower COVID recovery) would be helpful for decision makers, however the reviewer also acknowledges that this is difficult and simply making a further assumption and therefore also fraught. It is acknowledged that the proposed programme is scalable which reduces the impact of this uncertainty risk.
--	--

4.2 OVERALL

The reviewer also notes that whilst it is acknowledged that the business case is for a large number of interventions over a large area and there is therefore a significant amount of information, splitting the document as provided to the reviewer makes it very difficult to understand all elements of the business case.

Splitting the business case into manageable sections in itself is not an issue. However it is suggested that there needs to be more effort made to set out to the reader how all of the documents come together (probably in the summary report) so that a reader can relatively easily navigate to the sections they are most interested in.

5 SUMMARY

Based on the above review it is considered that the business case (assuming a satisfactory economics and cost peer review, which is understood to be the case) is fit for purpose.

The reviewer considers that the business case could be strengthened to give the strongest case for investment with consideration of the following (in order of importance as considered by the reviewer):

1. Total programme BCR to provide overall economic performance of the programme
2. Provide and overall structure within the summary document showing how all of the different business case documents link together and where readers can find specific information to greatly improve the readability of the document
3. Greater emphasis on the importance of mode shift being achieved and importance of interventions to deliver these outcomes (such as TDM and PT services) and the criticality of investment in these areas to maximise the return on investment of the committed CIP and NZUP funding
4. Greater range of impacts of COVID and emphasis on need for early triggers for interventions to manage this risk (or both growth coming back faster, or taking longer)
5. Enhanced sensitivity tests (and economic performance) if mode shift not achieved

s 9(2)(a)

Commute Transportation Consultants

Project Team Response

Based on the above review it is considered that the business case (assuming a satisfactory economics and cost peer review, which is understood to be the case) is fit for purpose.

The reviewer considers that the business case could be strengthened to give the strongest case for investment with consideration of the following (in order of importance as considered by the reviewer):

1. Total programme BCR to provide overall economic performance of the programme

Project Team Comment:

Project team has received various feedback suggesting an overall programme B/C should be both included and not included. There have been minor updates to costs, benefits and economics while this response is being prepared, however, immediately following the IQA submission, the economic situation was:

- The first column is the programme BCR for the foreseeable future, Combining all three columns would give an overall programme BCR.

NZUP + Bus Hub + Stan_Shot + Art 2 + Art 3	TC Improvement - Stage 2	Future Long Term Offline PT
\$25,050,825	\$0	
-\$251,956,098	\$0	
\$654,622,750	\$0	
\$115,101,566	\$20,742,561	\$186,751,988
\$542,819,042	\$20,742,561	\$186,751,988
\$427,153,040	\$13,776,417	\$84,053,753
\$56,739,465	\$135,434	\$24,671,482
\$483,892,505	\$13,911,851	\$108,725,235
1.90	1.49	1.72

2. Provide and overall structure within the summary document showing how all of the different business case documents link together and where readers can find specific information to greatly improve the readability of the document

Project Team Comment:

Business Case framework/structure document has been provided as part of summary document.

3. Greater emphasis on the importance of mode shift being achieved and importance of interventions to deliver these outcomes (such as TDM and PT services) and the criticality of investment in these areas to maximise the return on investment of the committed CIP and NZUP funding

Project Team Comment:

This is similar to IQA comments and the general reporting for the next iteration of the business case has tried to give more emphasis to mode shift achievement.

4. Greater range of impacts of COVID and emphasis on need for early triggers for interventions to manage this risk (or both growth coming back faster, or taking longer)

Project Team Comment:

The modelling used the QLDC COVID-19 growth sensitivity update that was provided through the Spatial Plan tests, which lowered the growth to 2028 and increased the growth through to 2048 to land us back at the same point. I don't think we need too many growth scenarios as they're all guesses but point about triggers is relevant and tied to data improvement plan and monitoring as noted in the business case and the IQA review.

5. Enhanced sensitivity tests (and economic performance) if mode shift not achieved

Project Team Comment:

Sensitivity testing around reduced mode share will require a run of suite of the models with different PT share(s). This was not done during the project delivery phase due to time pressures (note that the business case options were changing up to very late stages, with decisions on CIP

components, BP intersection configurations). To complete further model suite runs would require the model to assume *(say) a 50% reduction in mode shift numbers, and use this to:*

- run the Tracks again to get new road user charges
- re-calculate all the PT benefit streams.
- for the PT travel times, re-run Paramics models.

Not a particularly quick process. Should the further review process, or pre-implementation process require/seek this data, it can be completed, but it is not intended to do this for the project finalisation process.

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

APPENDIX H: FLOW ECONOMIC REVIEW

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

20 October 2020

Tony Sizemore
Waka Kotahi NZ Transport Agency
PO Box 5245
DUNEDIN 9058

Dear Tony

QUEENSTOWN BUSINESS CASE ECONOMIC EVALUATION

Flow Transportation Specialists Ltd (Flow) has been requested to peer review the transport economics associated with the Queenstown transport business cases. These include Queenstown Town Centre (QTC) and Frankton to Queenstown (F2Q).

As part of this review, we have been provided several documents. These include

- ♦ Waka Kotahi Queenstown Business Case, Economic Case Report, dated 7 October 2020
- ♦ Queenstown Economics (011020) spreadsheet.
- ♦ Queenstown Lakes District Model: Business Case Modelling Report, prepared by Abley, dated 10 September 2020
- ♦ Queenstown Business Case Transport Modelling, Future Modelling Option Report (FMOR), prepared by Stantec, dated 16 September 2020
- ♦ Wakatipu Basin Future Public Transport Demand Analysis, Technical Note 3b – Future Scenario Update (Sept 2020) prepared by WSP

We have liaised directly with those responsible for evaluating the business case, with matters identified being discussed. The outcome of these discussions and our view on the economic evaluation completed is set out below.

The scope of our economic review relates solely to the tangible economic benefits which have been derived from information predicted from the public transport and traffic models. Wider economic benefits associated with the programme are being reviewed by EY.

We note that the assessment of the programme and therefore our review of the economic evaluation is on the basis of pre Covid travel demand, travel patterns and therefore network operation. As per the project reporting, the Way 2 Go management team has undertaken the business case with the view that previous Covid travel demand and behaviour will resume at some point following the reopening of New Zealand's international borders.

1 ASSESSMENT SUMMARY

Following our review of the Queenstown Business Case, we are of the view that some level of risk exists with regard to the current evaluation. In noting this, we are of the view that there is sufficient confidence in the assessment to progress to the next stage, with greater detail being included during the next phase of the project. We note the following

- ♦ During the course of the evaluation, NZUP network changes have been placed into the Do Minimum scenario. As a result of this change, a traffic model scenario does not exist which reflects this assumption.
- ♦ Implementing NZUP infrastructure is likely to worsen network performance for general vehicles. As a result, some level of vehicle suppression and mode shift will likely occur prior to interventions associated with the Queenstown Business Case being introduced. This has not been captured within the assessment. It is likely that this omission will be small, based on the current bus network (pre Covid and post the Covid recovery) having limited residual capacity.
- ♦ A sizeable step change in demand exists between the Do Minimum and Option scenarios (either suppressed or induced demand), which suggests that a Variable Trip Matrix (VTM) assessment is required. Undertaking this assessment appears to be challenging based on the current modelling platforms being used. The assessment currently relies on individual modelling tools and the transfer of information between the platforms to derive economic outputs. Applying a VTM methodology using the platforms set up would be difficult when needing to model various scenarios to deliver a VTM assessment.
- ♦ Acknowledging this difficulty, we have reduced VOT and VOC benefits by 20% and 33% to assess the impact this could have on the reported benefit cost ratio. We have also corrected the evaluation by removing Farebox Recover benefits from the benefit stream, noting that these costs were determined to be double counted.
- ♦ The sensitivity analysis and corrections applied to the BCR indicate that each BCR remains above 1.0, which provides some degree of confidence in the programme (while appreciating some risks with the evaluation) that should be sufficient to allow the programme to advance to the next stage
- ♦ We support the possibility of investing in a new transport modelling platform (as currently being investigated by Way 2 Go) that could assess general vehicle and public transport demands within the single platform. This may be of greater use when assessing economic benefits attributed to projects with variable traffic demands. We would support the use of the new platform when progressing to the Detailed Business Case.

2 ECONOMIC APPROACH

2.1 Framework

As set out in the Economic Case report, the economic evaluation predates the release of Waka Kotahi's Monetised Benefits and Cost Manual (MBCM). As such, the economic evaluation and therefore this peer review focusses on the economic procedures set out in Waka Kotahi's Economic Evaluation Manual (EEM).

This approach is acceptable. The introduction of the Investment Decision Making Framework (IDMF) notes that any business case already underway at 30 June 2020 can continue to meet existing requirements. Only those starting on or after 1 July 2020 need to apply the new IDMF which includes the Benefits Framework, the Appraisal Summary Table and the MBCM and Non-Monetised Benefits Manual (NMBM).

Appreciating the above, we note that the economic evaluation uses the more recent evaluation period and discount rate (60 years and 4%), rather than the EEM evaluation period and discount rate (40 years and 6%). The 60 year evaluation period is generally that being considered by the funders at this time, and as such is acceptable.

2.2 Inputs to economic assessment

The key inputs to the economic evaluation are sourced from the Queenstown Lakes District Strategic TRACKS Transportation model (general road users) and the public transport model (public transport users). The micro-simulation model for Queenstown (Queenstown Transport Model (QTM)) has not been used to inform the economic evaluation. This is due to the unstable outputs generated by the micro-simulation model, given the high level of congestion present in the forecast Do Minimum models.

As set out in Section 1.3.3 of the Economic Case, the TRACKS model does present some limitations, relating to the representation of queues and delays as predicted in the micro-simulation model.

We have reviewed the predicted delay changes reflected in the TRACKS model. We note that the delay differences predicted (in TRACKS) about the network are generally less than 90 seconds. We agree with the evaluator that the economic benefits, particularly those predicted in the forecast years for the Do Minimum, may be understated, given the inability for TRACKS to reflect delays associated with queuing. The flip side of this, however, is that TRACKS may also be underestimating possible delays associated with the project options, in particular along the State Highway, with the Paramics model visualisations showing heavy volumes along this Arterial route.

Nevertheless, we are comfortable with the approach taken to use the TRACKS outputs to inform the economic evaluation.

2.3 NZUP – Do minimum

The evaluation of the business case has been made somewhat complex due to a rethink (during the course of the evaluation) on where NZ Upgrade Programme (NZUP) intervention costs and benefits/dis-benefits should lie. We provide a conversation around how the NZUP costs and benefits are captured in the evaluation below.

The descriptions of the options tested, as set out in the economic case and traffic modelling report are as follows:

1. Phase 1 (Do Minimum). Model Scenario 1 includes the Arterial Stage 1 investment and other committed projects about Queenstown.

2. Phase 2 (Phase 1 plus NZUP). Model Scenario 3 includes the projects listed above in Phase 1 and includes NZUP infrastructure plus improvements to public transport services.

There are two significant differences in Phase 2 when compared to Phase 1. The first relates to infrastructure, being NZUP, which will have effects on the network performance, with the second being the change to public transport services and the expected mode shift from private vehicles to PT.

The project now proposes that NZUP infrastructure costs are incurred in the Do Minimum (Phase 1). Public transport service levels however are not part of the NZUP works, with this element being captured within the business case. We support the placement of NZUP network changes being included as part of the Do Minimum in that these interventions are now committed and are being delivered through a separate process. By doing so however, the evaluation has created a slight issue in that a modelled scenario that specifically reflects the new Do Minimum (committed works, NZUP network changes and Stage 1 Arterial) does not exist.

An updated Do minimum model (if created) would be based on Phase 2 (Scenario 3 network) but without the public transport service improvements. This updated Do Minimum scenario would therefore include the NZUP interventions, such that the benefits and costs associated with NZUP are excluded from the Queenstown Business Case assessment. We would expect to see the following transport characteristics in this scenario

- ♦ Increase in delay to general road users within the network, and as such
- ♦ Some potential mode shift to public transport, noting that the changes introduced by NZUP interventions will reduce vehicle capacity in lieu of public transport, safety and amenity improvements. We understand that the level of mode shift may be minor based on there being limited residual capacity on the public transport system (pre Covid and post the return to pre Covid conditions)

Should an updated Do Minimum be created, it would likely provide a network that performs much worse than Phase 1 (as currently presented) which is currently used in the evaluation. Because of this, we would suggest that the use of the existing Phase 1 model as a Do Minimum is acceptable and presents a conservative assessment.

This however presents a secondary issue, related to how projects with differing demands are evaluated. This is discussed further below.

2.4 Variable demands

There is a difference in demand sets applied to the Do Minimum (which includes NZUP network changes, but no change in PT service levels) and the subsequent options (which include an improvement in PT service levels and therefore reduction in general traffic demand).

Transport economics is typically completed using two methods, being either a Fixed Trip Matrix (FTM) approach or a Variable Trip Matrix (VTM) approach. Given the type of traffic models available at this time, as well as time constraints associated with this business case, the FTM approach has been used. FTM evaluations however generally rely on travel demands being consistent, with the only difference between the Do Minimum and option scenarios being limited to the route of travel, as set out in A11.12 of the EEM.

The issue with applying a FTM approach for this evaluation is that a sizeable step change in demand exists (either suppressed or induced demand), which then suggests that some form of VTM assessment is required.

As there are inconsistent demand sets between the Do Minimum and option scenarios, the economics currently reports

- ♦ a significant benefit to general vehicles, resulting from a reduction in vehicles on the network through mode shift to public transport
- ♦ a significant dis-benefit to public transport, being a result of a sizeable increase in public transport demand.

We have looked into the impact of the FTM outcomes presented, as it carries through the entire evaluation, and in some respects, the benefit cost ratios are being driven by the large benefits being predicted for general vehicles.

We asked whether TRACKS has the ability to undertake a VTM economic approach as set out in EEM A11.12. We were informed that this is not possible, with timeframes also being a factor. We also note that having two separate platforms, being TRACKS for general vehicles and the PT model for public transport, adds a further complication when seeking to obtain outputs that have all modes converge.

To try and gauge the impact of the different demands being used we asked for two sensitivity tests to be completed for the PM Peak (2028), being

- ♦ Do Minimum demand on the Option Network
- ♦ Option demand on the Do Minimum Network

While not strictly following the cross-load procedure in the EEM, the above tests provide outputs which allow a proxy cross-load test to be checked for general traffic when coupled with the existing outputs, being

- ♦ Do Minimum demand on the Do Minimum Network
- ♦ Option demand on the Option Network

The result from this evaluation was a switch from a positive benefit stream, to a negative benefit stream for general traffic. This highlighted our perceived risk with the current FTM procedure. Our assessment however should not be read as presenting negative benefits, but a reduction in the level of benefits currently presented.

Appreciating the work that has been completed to date, our preference would have been for the evaluation to be based on a VTM method between Phase 1 and Phase 2, with the subsequent phases (Phase 3 onwards) being assessed using the FTM method to derive benefits, given that demand through these phases would be similar/constant to Phase 2. We appreciate however that this is not possible.

To appreciate the sensitivity of the evaluation, we have considered the impacts on the BCR if general vehicle travel times and vehicle operating costs and public transport benefits were to reduce by 20% and 33% (a third). The effects are set out below.

Table 1: Reduction in VOT&VOC Benefits

	DM (inc. Art S1) + NZUP PT Enabling	NZUP + Stan_Shot	NZUP + Bus Hub + Stan_Shot	NZUP + Bus Hub + Stan_Shot + Art 2	NZUP + Bus Hub + Stan_Shot + Art 2 + Art 3
20% Reduction in VOT&VOC	3.9	3.6	2.5	2.1	1.6
33% Reduction in VOT&VOC	3.4	3.2	2.2	1.9	1.4

The results indicate that each scenario continues to achieve a BCR above 1.0.

2.5 Assessment platform

We understand that the 'Way 2 Go' project team are currently looking into the merits of investing in a new model platform for the Queenstown area. Having the ability to assess general vehicle and public transport demands within the single platform and having the ability to evaluate mode shift would give greater confidence in the economic evaluation. We would support this investment and its use in the next phases of this project, being the Detailed Business Case.

3 ANNUALISATION FACTOR

Table 1-2 of the Economic Case report provides a summary of the factors used to annualise the traffic modelling outputs. Following our initial review, we requested further information on how the annualisation factors have been calculated, noting that the factors need to be cognisant of the period that the model represents (ie peak season) and that delays may not change linearly with changes in flows.

A revised set of values was provided, with factors being updated due to the initial values capturing traffic volumes from an older data source. We have reviewed the spreadsheet provided, and we note the following

- ◆ Annualisation factors have been based on 2018 information
- ◆ Factors are based on annual totals being divided by the March (peak season) totals
- ◆ For 2018, the 7-8am period reflects 75% of the peak hour. We accept this period being captured within the annualisation calculations on the basis that it captures peak spreading which is apparent today and will become more apparent in the future.
- ◆ We note that aside from 7-8am, the two-way traffic volume on SH6A is generally consistent (at around 1,200 vehicles per hour) between 8am and 7pm at night.
- ◆ While the typical daily volumes across the year for SH6A are lighter than those experienced in March (the period modelled), the differences are relatively small, being 1% lighter for the AM, 5% lighter for the interpeak and 2% lighter than the PM.

We are satisfied with the methodology used to annualise benefits.

4 COST ESTIMATES

Cost estimates have been summarised in Section 1.6.1, as well as in the supporting economic spreadsheet. While not being specified within the economic spreadsheets, we understand that the costs used in the evaluation relate to Expected Estimate Costs. A 95th percentile cost is typically used to provide a higher range, and this issue was raised with the project team.

When raising this with the project team, it was confirmed that the Expected Estimate has been used, with a sensitivity test being undertaken on the Expected Estimate cost, based on $\pm 20\%$. While not strictly a 95th Percentile Estimate, the sensitivity test, provided in Table 6 is considered sufficient by the project team and client.

5 FAREBOX RECOVERY

When assessing project benefits, we note that Farebox Recovery is included in the project benefit summary. In questioning this with the project team, they confirmed that farebox recovery had been double counted, with farebox recovery costs also being captured within the OPEX cost assessment. We have taken the evaluator's feedback on this matter, as the detail that sits behind the OPEX costs used in the evaluation has not been made available.

We have therefore removed the Farebox Recovery costs from the benefit stream, with the resulting BCRs being presented below, when coupled with the benefit reduction discussed above.

Table 2: Reduction in VOT&VOC Benefits and Removal of Farebox Recovery Costs from Benefit Stream

	DM (inc. Art S1) + NZUP PT Enabling	NZUP + Stan_Shot	NZUP + Bus Hub + Stan_Shot	NZUP + Bus Hub + Stan_Shot + Art 2	NZUP + Bus Hub + Stan_Shot + Art 2 + Art 3
20% Reduction in VOT&VOC	2.9	2.8	1.9	1.7	1.3
33% Reduction in VOT&VOC	2.6	2.5	1.7	1.5	1.2

The sensitivity analysis and corrections applied to the BCR show that each BCR remains above 1.0, which provides some degree of confidence in the programme (while appreciating some risks with the evaluation) that should be sufficient to allow the programme to advance to the next stage.

Should you wish to discuss any of the above further, please contact us directly.

Yours sincerely

s 9(2)(a)

SENIOR ASSOCIATE

s 9(2)(a)

DIRECTOR

Reference: P:\NZTA\149 Queenstown Transport Modelling-NZTA 2017 Independent Professional Advisors\reporting\L3A201016_QT Economic Review.docx s 9(2)(a)

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

APPENDIX I: KEY ECONOMIC REVIEW

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Frankton to Queenstown / Queenstown Town Centre Programme Business Case

Peer Review

October 2020

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982



EY

Building a better
working world

Contents

Transmittal Letter	1
1 Programme Business Case Peer Review	1
1.1 Purpose	1
1.2 Summary Comments	2
2 Review of Methodology.....	4
2.1 Overview of methodology	4
2.2 Pedestrian amenity benefits	5
2.3 Unmet Demand	5
3 Detailed Review	6

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

Transmittal Letter

Frankton to Queenstown / Queenstown Town Centre Programme Business Case Peer Review

29 October 2020

Tony Sizemore
Waka Kotahi, New Zealand Transport Agency
PO Box 5245, DUNEDIN 9058

Dear Tony,

In accordance with the IPA Contract, dated 14 August 2020 ("Contract"), EY has been engaged to undertake a peer review of work by Queenstown Lakes District Council (QLDC), Waka Kotahi, New Zealand Transport Agency (NZTA) and supporting advisors. The focus of the peer review was to assess the completeness and adequacy of Wider Economic Benefit (WEB) analysis. Our findings are outlined in this peer review report (the "Report"), setting out our assessment of data, methodology and analytical tools applied.

In summary, we are of the view that WEB analysis is robust and defensible, with underlying methodologies aligned to NZTA guidance. Where data specified in NZTA guidance is not available, prudent and evidence-based alternatives have been drawn upon to ensure that benefit estimates are not overstated. The technical notes available provide a comprehensive explanation of WEB-related methodologies, including key assumptions and proxy measures.

Appended to this Report is the findings of Flow Transportation Specialists Ltd, focussed on the modelling of conventional transport benefits. The results of Flow's assessment is not repeated in this document; hence the two reports should be considered in parallel in order to obtain a complete picture of peer review results.

Purpose of the Report and restrictions on its use

The Report may only be relied upon by the NZTA pursuant to the terms referred to in the Contract. Any commercial decisions taken by NZTA are not within the scope of our duty of care and in making such decisions you should take into account the limitations of the scope of our work and other factors, commercial and otherwise, which you should be aware of from sources other than our work.

EY disclaims all liability to any party other than the NZTA for all costs, loss, damage and liability that the third party may suffer or incur arising from or relating to or in any way connected with the provision of the deliverables to the third party without our prior written consent. If others choose to rely in any way on the Report, they do so entirely at their own risk. If the NZTA wishes to provide a third party with copies of the Report, then our prior written consent must be obtained.

If you would like to clarify any aspect of the report or discuss other related matters then please do not hesitate to contact me.

Yours faithfully

s 9(2)(a)

Partner, Strategy and Transactions

1 Programme Business Case Peer Review

1.1 Purpose

Queenstown Lakes District Council (QLDC), Otago Regional Council (ORC) and the Waka Kotahi New Zealand Transport Agency (NZTA) requested that EY complete a peer review of the Frankton to Queenstown and Queenstown Town Centre Business Case with a focus on Wider Economic Benefits (WEBs).

The purpose of the peer review is to assess the completeness and adequacy of the existing WEBs analysis, identify areas of future investigation, and provide an indication of the relative importance of the WEBs to the analysis provided in the case.

Peer Review is intended to consider the range of factors that will have significant influence on land use and trip behaviour in the region, including:

- ▶ Efficiency upgrades to SH6A, with prioritisation of public transport
- ▶ Inclusion of a public transport Hub on Stanley Street
- ▶ Integration with a water-based transport system
- ▶ Removal of traffic from the town centre
- ▶ Enhanced amenity and liveability within the town centre.

This Report is prepared solely for the purpose of reviewing the October 2020 Queenstown Business Case and should not be relied upon for any other purpose. In addition to the draft business case document we have assessed the methodological papers prepared by Stantec et al and their underpinning calculations. We have not reviewed wider models and forecasts such as the Queenstown Modelling Suite and QLDC demographic data.

1.2 Summary Comments

WEB analysis underpinning the draft business case is robust and defensible. Waka Kotahi options assessment frameworks have been correctly applied, for example taking account of the latest recommended discount rate (4%). Reliable and appropriate data sources have been drawn upon, for example QLDC population and tourism forecasts.

The draft business case notes that its assessment methodology is based on the 2018 Economic Evaluation Manual (EEM), rather than the more recent Monetised Benefits and Costs Manual (MBCM). This is a justifiable decision, given that Waka Kotahi Investment Decision Making guidance states that the EEM remains acceptable for business cases commenced prior to the publication of the MBCM in August 2020.

Overall, WEB analysis is consistent with Waka Kotahi guidance. In some cases, data recommended by this guidance is not directly available, for example direct estimates of the impacts of SH6 reaching traffic capacity in the medium term. Other calculations require a degree of judgement, for example the timetable for the return of international tourists to Queenstown. These complexities inescapably introduce a degree of subjectivity, such that alternative modelling assumptions would also be valid (e.g. taking a time-based, rather than tourism- and GDP-based, approach to estimating SH6 capacity constraint impacts).

We are comfortable that sensible and evidence-based assumptions have been applied in all cases where methodology and / or input data choices were not straightforward. This includes expert judgement in the case of pedestrian traffic volumes outside of business hours and updating pedestrian welfare monetisation factors. Key uncertainties and sensitivities are explicitly considered within the technical notes, so could easily be referenced within the Economic Case should this be of interest to decision makers.

Analysis of network constraint impacts, in particular, includes a number of conservative assumptions to ensure that benefits are not overstated. One example is excluding local residents from traffic-related estimates, despite New Zealanders making up a significant proportion of road users. WEB monetised estimates, as stated in the draft economic case, are therefore likely to represent the lower-bound of benefits that can be expected.

The unmet demand technical note¹ identifies a number of additional avenues of economic impact that could lead to increased benefits, were further analysis to be performed. Agglomeration benefits, for example, could be meaningful if the programme is successful in enabling higher density, higher amenity development in Queenstown.

¹ NZTA Contract 2018235 - F2Q SSBC & QTC DBC
Technical Note # 26: Effect of Transport Constraint on Tourism, 7 September 2020

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

2 Review of Methodology

2.1 Overview of methodology

Options evaluation within the draft Economics Case has been carried out incrementally, in accordance with the full procedures of the Economic Evaluation Manual (EEM). Investment options are assessed against a Do Minimum using a 60-year analysis period and a 4% discount rate. A 40-year analysis period and 6% discount rate has also been tested as part of the sensitivity analysis.

The development of the business case pre-dates the release of Waka Kotahi's Monetised Benefits and Costs Manual (31 August 2020), hence it is not necessary for the more recent guidance to be applied. While a full reconciliation between the EEM and WBCM is out of scope for this peer review, we did not identify any differences between the two manuals that would have significant impact on option assessment results.

The Frankton to Queenstown / Queenstown Town Centre Programme involves a phased roll-out of 8 phases. The identified project benefits are split into two categories. Phase 1 represents the Do Minimum, and includes preliminary town centre improvements through the New Zealand Upgrade Programme. The interaction between these phases is described in more detail in the Flow Economic Evaluation.

The Economic Case excludes benefits that are expected to be captured as part of other business cases. Namely parking charges, as part of the Parking Strategy, and walking and cycling benefits, captured as part of the Active Travel Business Case. This likely represents a conservative assumption, as PT and demand management projects regularly create benefits greater than the sum of their parts.

Analysis seeks to explore and quantify a number of improvements to the Queenstown land transport network. These include:

- ▶ Providing more efficient and reliable access for people and goods
- ▶ Sustainably managing high growth, allowing the town to grow by unblocking the existing bottlenecks
- ▶ Enabling enhanced land use. This will facilitate the delivery of the Spatial Plan and Queenstown and Frankton Masterplans by enabling higher density, higher amenity development
- ▶ Reducing reliance on private vehicles which will encourage a move towards more sustainable forms of transport
- ▶ Increasing adaptability to change and disruption. The network will be more resilient to both short lived network events such as crashes. It will also be more flexible to accommodate future technological and unforeseen demand changes.
- ▶ Enhancing the liveability and quality of the natural and build environment. The network will contribute to the delivery of a built environment that complements the globally renowned natural environment of Queenstown.

The draft Economic Case considers 'Standard' and 'Wider' impacts in turn. The former consists of travel time, congestion, reliability, operating costs, crash costs, greenhouse gas emissions and public transport frequency. The latter is split into two categories, unlocking "unmet demand" and Pedestrian amenity benefits. Agglomeration, imperfect competition and labour supply impacts are considered but ultimately judged to be low, and hence not quantified.

The remainder of this section focusses on the two categories of WEBs quantified in the draft Economic Case. Additional commentary on the standard benefits and traffic modelling can be found within section three, as well as the appended Flow report.

2.2 Pedestrian amenity benefits

This analysis seeks to recognise the benefits to pedestrians of an improved town centre environment (i.e. amenity and wellbeing values). This includes three components:

- ▶ More people in the town centre than otherwise there would be without the improvements
- ▶ Higher retail spending due to improved wellbeing
- ▶ Higher property values on or near the improved streets, due to higher anticipated spending.

Key inputs include the Pedestrian Environment Review System (PERS) for scoring changes to street quality and the “Valuing the Urban Realm Tool” (VURT) for converting these scores to a dollar value. Contemporary Waka Kotahi research is applied to ensure that monetised values are appropriate. We understand that Transport Agency experts were consulted in the development of this methodology and confirmed that a 4x multiplier was consistent with best practice.

Analysis by Stantec et al takes account of the significant uncertainty in pedestrian growth rates in the medium term, an important consideration in light of ongoing COVID-19 travel restrictions. A conservative approach has been applied to estimate late-evening and early-morning pedestrian volumes, making use of recent head count data.

Overall the analysis of pedestrian amenity benefits is clear, robust and consistent with published guidance. While ambiguity exists in the most appropriate treatment of international visitor welfare, we accept the arguments put forward in the Stantec et al technical paper. Namely that improvements to tourist utility will ultimately benefit New Zealanders in the form of additional spending, either in the short-term via consumption decisions or the medium-term via recommendations and investment.

2.3 Unmet Demand

This analysis seeks to estimate the cost of constrained network capacity, specifically the impact of a key local highway (SH6) being unable to meet demand in the medium to long term. Benefit calculations involve six steps:

- ▶ Estimate unmet travel demand
- ▶ Convert to foregone international tourism spending and associated GDP for Queenstown
- ▶ Deduct other incremental costs (e.g. hotel construction costs) to get an estimate of net Queenstown benefits that would be foregone
- ▶ Estimate the incremental NZ effect, taking into account any offsetting increased international spending that would otherwise occur elsewhere in the country should less tourists switch their travel away from Queenstown
- ▶ Consider the extent that the above calculated benefits are either additional to other measures of benefit or instead represent double counting
- ▶ Consider to what extent benefits are attributable to interventions on SH6A and the supporting transport network

While presented as a WEB within the draft Economic Case, unmet demand could just as easily be framed as a ‘standard’ transport benefit. This is because, fundamentally, complex analysis of network constraints is necessary due to modelling constraints. Specifically, a stable (convergent) long-term result could not be produced without removing microsimulation, and relying on a high-level (strategic) model. The inability to recognise a ‘bottleneck’ within the do minimum means that derived benefits are likely to be understated, particularly for those elements of the programme that increase overall network capacity. In our view this **strengthens** the argument for including unmet demand within the analysis of programme benefits.

Fundamental to the argument that SH6 will act as bottleneck to Queenstown travel in the medium-term is accurate forecasts of capacity and growth. Spreadsheets provided by Anthony Byett confirmed that extensive and robust analysis has performed. Constraints are calculated on a daily basis (i.e. recognising that some periods of the calendar year are busier than others) and extensive sensitivity analysis is demonstrated.

Consistent with pedestrian amenity benefits, we note that a number of conservative assumptions are applied to calculate unmet demand benefits. For example, non-tourists are excluded from the group negatively affected by the do minimum, and it is assumed that significant numbers of people will shift to public transport as SH6 traffic grows over time. Three of the six steps involve subtracting offsetting benefits, for example impacts that could be attributed to other projects and other parts of the transport network.

Our primary concern, upon initial review of the unmet demand methodology, was its dependency on international tourism as a source of economic benefit. This appeared to contradict NZTA guidance stating that “*Tourism benefits must not be included in any BCR calculation, even as a sensitivity test, or added to the quantum of traditional transport WEBs*”. Subsequent conversations clarified that tourism is not being directly monetised as a benefit, but instead is used as a proxy for travel demand volumes. As noted above, unmet demand could just as easily be framed as a ‘standard’ benefit and be calculated using value of time factors. We recommend that this point be highlighted if the programme team ever presents their results to Treasury or Investment Decision Making Assurance officials in future.

Despite the complexity of workings, we believe the unmet demand analysis to be structurally and logically sound. It is consistent with published guidance and results likely err on the side of caution as a result of conservative assumptions. Our review of the underlying spreadsheet did not identify any material errors.

3 Detailed Review

This section provides some detailed comments on the methodology and suggestions for future sensitivity analysis. Technical comments are based on the two methodological papers drafted by Stantec et al, as well as underlying spreadsheets provided by Anthony Byett.

Review of Analysis & Methodology	
Key Point	EY Comments
Description of unmet demand / tourism benefits	▶ The approach to Pedestrian Amenity Benefits is explicitly in line with Waka Kotahi guidance, whereas Unlocking Unmet Demand is less clear. In particular the MBCA notes that ‘<i>Tourism benefits must not be included in any BCR calculation, even as a sensitivity test, or added to the quantum of traditional transport WEBs.</i>’ ▶ This is a potential communications risk rather than a methodological problem. This is because tourism is not being directly monetised within the WEB analysis, but instead is used as a proxy for travel demand volumes. ▶ The programme team may wish to clarify this section of the technical note, to avoid any risk of misinterpretation, before presenting detailed analysis to external parties.
Description of productivity benefits within unmet demand	▶ The technical note states that “<i>more spending in Queenstown [could] translate into a productivity increase for NZ</i>”. This could be interpreted as arguing for a change to annual productivity growth, whereas it’s actually referring to a static value-added conversion. ▶ The programme team may wish to clarify this section of the explanation before presenting detailed analysis to external parties.

Review of Analysis & Methodology	
Key Point	EY Comments
Updates to Waka Kotahi Guidance (EEM - > MBCA)	▶ While a full reconciliation between the EEM and WBCM is out of scope for this peer review, we did not identify any differences between the two manuals that would have significant impact on option assessment results. ▶ One of the key changes implemented by the Investment Decision Making Review in 2020 was greater recognition of non-monetised benefits. Publications clarified that social, economic and environmental outcomes should influence the choice of preferred option, whether or not a 'dollar figure' could be produced. ▶ The programme team may wish to consider whether any Queenstown-related benefits fall into this category, and therefore could receive for attention in follow-up assessment.
Agglomeration benefits	▶ Stantec et al. have judged the potential for agglomeration benefits to be low, despite the draft Economic Case noting that investment has the potential to enable higher density, higher amenity development. We would appreciate an opportunity to better understand Stantec's reasoning and ensure you are not missing out on a source of value.
Conservative assumptions within WEB analysis	▶ Underlying WEB analysis errs on the side of caution in many of its data input and modelling methodology choices. ▶ Local residents are, for example, excluded from the group negatively affected by a SH6 bottleneck, and it is assumed that significant numbers of people will shift to public transport as SH6 traffic grows over time. Pedestrian welfare calculations similarly take a cautious approach to estimating volumes and growth over time.
Conventional economic benefits	▶ The draft economic case implies that carbon dioxide impacts have been considered, but the health impacts of other pollutants have not. A shift from private to public transport will likely have positive implications for nitrous oxide and particulate matter emissions, over and above greenhouse gas savings. Subsequent analysis may wish to take account of these EEM / MBCM benefit categories.
Interaction with other business cases	▶ Parking charges (income) and Walking and cycling benefits are excluded from the scope of Frankton to Queenstown / Queenstown Town Centre Programme Business Case impacts. ▶ This represents a conservative assumption if synergies exist between the projects and programme. Parking charges, for example, may complement other initiatives to encourage mode shift away from private vehicle travel. ▶ Future analysis may wish to explore the potential for these interventions to support one another, and determine whether they could lead to outputs that are greater than the sum of their parts.
Uncertainty within population forecasts	▶ As population and tourism are key drivers of WEBs, it should be highlighted that significant uncertainty exists in light of COVID-19. ▶ Technical documentation demonstrates that adequate sensitivity analysis has been undertaken, such that a range of possible outcomes can be quantified. ▶ The programme team should nevertheless be aware that benefit values could change considerably as new population and tourism forecasts are released.

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

APPENDIX J: WAY TO GO BOARD COMMENTS AND RESPONSES

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982



QUEENSTOWN BUSINESS CASE

Summary Report

ALAN KERR

2 OCTOBER 2020

FINAL DRAFT

Copyright information

Copyright ©. This copyright work is licensed under the Creative Commons Attribution 4.0 International licence. In essence, you are free to copy, distribute and adapt the work, as long as you attribute the work to the NZ Transport Agency and abide by the other licence terms. To view a copy of this licence, visit

<http://creativecommons.org/licenses/by/4.0/>.

Disclaimer

The NZ Transport Agency has endeavoured to ensure material in this document is technically accurate and reflects legal requirements. However, the document does not override governing legislation. The NZ Transport Agency does not accept liability for any consequences arising from the use of this document. If the user of this document is unsure whether the material is correct, they should refer directly to the relevant legislation and contact the NZ Transport Agency.

More information

NZ Transport Agency

Published [month and year]

ISBN [number]

If you have further queries, call our contact centre on 0800 699 000 or write to us:

NZ Transport Agency

Private Bag 6995

Wellington 6141

This document is available on the NZ Transport Agency's website at <http://www.nzta.govt.nz>

Rev	Date	Description	Initials			
			Prepared by	Checked by	Reviewed by	Approved by
1	07/09/20	V1 (Provisional Draft)	AK	DD	AK	AK
2	25/09/20	V2 (Final Draft)	AK	DD	SH	AK

Contents

QUEENSTOWN BUSINESS CASE	1
1 Executive Summary	6
1.1 Overview.....	6
1.2 Assurance Process	7
1.3 Business Case Composition	7
1.4 Business Case Geographic Extent	8
1.5 Case for Change	9
1.6 Option Development and Assessment.....	11
1.7 Emerging Programmes	12
1.8 Preferred Option Assessment	12
1.9 Preferred Programme.....	15
1.10 Performance of preferred programme against objectives.....	17
1.11 Sequencing.....	18
1.12 Funding.....	21
1.13 Commercial Case.....	22
1.14 Management case.....	22
1.15 Summary	23

List of Tables

Table 1: Sequencing of Interventions	19
--	----

List of Figures

Figure 1: Queenstown Business Case composition	8
Figure 2: Project Extent.....	8
Figure 3: Queenstown Resident and Visitor Growth numbers.....	10
Figure 4: People per hour along SH6A.....	10
Figure 5: Problem Statements and Investment Objectives	11
Figure 6: Development of the Preferred Programme	12
Figure 7: Three pillars of investment	13
Figure 8: Programme of Interventions by Funding Period.....	14
Figure 9: Mapped Programme of Interventions	15
Figure 10: Amenity Assessment (current and potential future)	18
Figure 11: Expenditure Profile.....	21
Figure 12: Funding by Source	22

ABBREVIATIONS

Abbreviation	Full Name
ADT	Average Daily Traffic
BCR	Benefit Cost Ratio
bn	billion
BRT	Bus Rapid Transit
CAPEX	Capital Expenditure
CBD	Central Business District
CCT	Closed circuit television
CIP	Crown Infrastructure Partners
COVID-19	2019 novel coronavirus
DBC	Detailed Business Case
DSI	Death and Serious injury
EECA	Energy Efficiency and Conservation Authority
EV	Electric Vehicle
F2Q	Frankton to Queenstown
GPS	Government Policy Statement
GR2KF	Grant Road to Kawarau Falls
HOV/SOV	High Occupancy Vehicle/Single Occupancy Vehicle
IBC	Indicative Business Case
ITS	Intelligent Transport Systems
KPI	Key Performance Indicator
LCLR	Low Cost Low Risk
LOS	Level of Service
M	Millions (where adjoining monetary value)
MCA	Multi criteria analysis
MOT	Ministry of Transport
MRT	Mass Rapid Transit
NLTF	National Land Transport Fund
NLTP	National Land Transport Programme
NZUP	New Zealand Upgrade Programme

Abbreviation	Full Name
OPEX	Operational Expenditure
ORC	Otago Regional Council
PBC	Programme Business Case
PPP	public/private partnerships
PT	Public Transport
QIT	Queenstown Integrated Transport
QLDC	Queenstown Lakes District Council
QRA	Quantitative Risk Assessment
QTC	Queenstown Town Centre
RLTP	Regional Land Transport Plan
RMA	Resource Management Act
RTC	Regional Transport Committee
SC	Strategic Case
SH	State Highway
SHA	Special Housing Area
SPSV	Small passenger service vehicles
SPV	Special Purpose Vehicle
SSBC	Single Stage Business Case
tbc	To be confirmed
TDM	Travel Demand Management
TMA	Travel Management Association
VKT	Vehicle kilometres travelled
vpd	Vehicles per day
Waka Kotahi	Waka Kotahi NZ Transport Agency
WATN	Wakatipu Active Travel Network
WTOC	Wellington Transport Operations Centre
W2G	Way to Go

1 EXECUTIVE SUMMARY

1.1 Overview [KK1]

1. The purpose of this business case, referred to as the Queenstown Business Case, is to provide a more detailed assessment of options developing on previous work undertaken, with evidence that the preferred programme provides the best feasible option that will deliver the outcomes identified in the Strategic Case, and that it is affordable.
2. The Queenstown area is one of New Zealand's fastest growing regions, driven by population growth, the tourism industry and supporting activities. This growth is placing increasing pressure on the infrastructure of the area and, in particular, the transport system.
3. As part of the planning to address transport challenges a number of studies and investigations have been undertaken by Waka Kotahi NZ Transport Agency (Waka Kotahi [PH2] [KA3]), Queenstown Lakes District Council (QLDC) and Otago Regional Council (ORC [GP4] [KA5]).
4. Most recently this has included the development of the Queenstown Integrated Transport (QIT) Programme Business Case (Waka Kotahi, June 2017) [PH6] [KA7], Queenstown Town Centre (QTC) Masterplan Programme Business Case (QLDC November 2017) and associated Indicative Business Cases for the arterial roads, public and passenger transport and parking infrastructure.
5. These business cases identified a number of transport interventions to address the transport challenges facing the area. This business case is the next step in the business case process. [PH8] [KA9]
6. Two Business Cases were required to address the interventions identified in the above Programme Business Cases (and subsequent Indicative Business Cases for Queenstown Town Centre), being:
 - Frankton to Queenstown (F2Q) Single Stage Business Case
 - Queenstown Town Centre (QTC) Detailed Business Case.
7. These business cases also required potential High Capacity Passenger Transport options to be identified, particularly applicable for SH6A (without the detailed development of these options). This was to ensure that SH6A interventions are appropriately sized, and if the long-term solution for the corridor is to provide for these solutions. [KK10] [PH11] [KA12]
8. A single contract was developed for the delivery of the Single Stage Business Case and Detailed Business [PH13] [KA14] Case. The Frankton to Queenstown Single Stage Business Case was to be developed straight from the Programme Business Case, and therefore requires a greater level of optioneering and analysis of shortlisted options to identify the preferred interventions identified in the Programme Business Case. The Queenstown Town Centre Detailed Business Case is a Detailed Business Case, with Indicative Business Cases completed for the public transport elements identified. These business cases have been amalgamated to form this one single Queenstown Business Case with an integrated programme [PH15] [KA16] of interventions. [KK17]
9. As the Queenstown Business Case developed, several changes occurred which had implications for the programme and scope of works.
 - a. It was recognised that Frankton [KK18] had a key role to play in growth and network connectivity (in particular the SH6 / SH6A (BP) intersection) and that a connected network-wide response would be required to avoid misalignment between packages and to maximise the benefits. The geographic extent was expanded to include Frankton and Ladies Mile.
 - b. Funding was secured for infrastructure through:
 - The New Zealand Upgrade Programme (NZUP), a \$6.8 billion investment to get New Zealand NZ cities moving, to save lives and boost productivity in growth areas. Queenstown was allocated \$90M funding for SH6A corridor improvements, Ladies Mile corridor improvements and SH6 Grant Road to Kawarau Falls Bridge improvements.

- Crown Infrastructure Partners “shovel ready” key infrastructure projects for projects that would add significant value to the nation’s economic recovery from COVID-19. Queenstown was allocated \$50M towards Stage 1 of the town centre arterials and \$35M towards the streetscape component of the Queenstown Town Centre transformation.
10. These factors have been included in the Queenstown Business Case, which has been compiled as a single document to report on the integrated programme of works.
11. The Queenstown Business Case is seeking approval for the recommended option [GP19][KA20] in the next phase in the next period (2021-24), and support for the remainder of the programme. The next phase in the next period of the programme includes:
- the Frankton to Queenstown package proceeding from Single Stage Business Case to Pre-implementation (including the NZ Upgrade Programme)
 - the Queenstown Town Centre package proceeding from the Detailed Business Case to Pre-implementation (including the CIP funded Stage 1 of the Arterial and streetscape improvements)
 - the Public Transport Services package proceeding from an Indicative Business Case to Detailed Business Case
 - Support that Travel Demand Management and behavioural change initiatives can proceed from a Scoping Study to Single Stage Business Case.

1.2 Assurance Process

13. The assurance process undertaken for the Queenstown Business Case is as follows:
- Independent Challenge Team review of the emerging programme by Pete Clark (Waka Kotahi), s 9(2)(a) (Price Waterhouse Cooper) and s 9(2)(a) (Mein Consulting Limited), February 2020 [PC21][KA22]
 - Modelling Peer Review s 9(2)(a), Flow Transportation Specialists), September 2020
 - Economics Peer Review s 9(2)(a), Ernst and Young), September 2020
 - Review of the draft Queenstown Business Case (Tony Sizemore (Waka Kotahi), Tony Pickard (QLDC), Garry Maloney (ORC), AECOM (business case documentation only), ARUP (drawings only).
 - Independent Quality Assurance Review (Waka Kotahi) – to be undertaken early October 2020 [PH23][KA24].

1.3 Business Case Composition

14. The Queenstown Business Case is comprised of the [KK25] culmination of many planning studies at different levels of detail as presented in Figure 1. The level of detail of the Queenstown Business Case is as follows:
- The Queenstown Town Centre Detailed Business Case builds on the work undertaken through the Queenstown Integrated Transport Programme Business Case, Queenstown Town Centre Masterplan Programme Business Case and associated Indicative Business Cases for the arterial corridor, public and passenger transport facilities and parking infrastructure.
 - The Frankton to Queenstown Single Stage Business Case confirms and develops an activity and how it will be implemented.
 - High Capacity Passenger Transport has been prepared to an Indicative Business Case level, where solutions are long-listed then short-listed. As the high capacity passenger transport options have an impact on the design of the town centre and Frankton to Queenstown elements, a preferred network of improvements has been identified from the short list.



Figure 1: Queenstown Business Case composition [KK26]

1.4 Business Case Geographic Extent

15. The Queenstown Business Case covers the Wakatipu Basin. As stated above, the extents originally comprised Queenstown Town Centre and the Frankton to Queenstown corridor, with the objective of developing investment cases for each geographic area. The geographic extents of the project were expanded to include Frankton and Ladies Mile as presented in Figure 2.



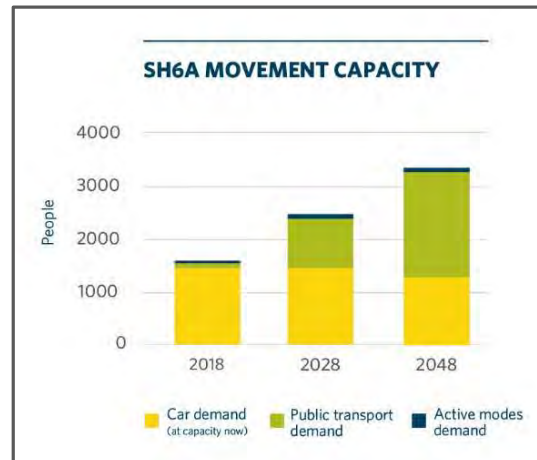
Figure 2: Project Extent [KK27]

1.5 Case for Change

16. There is a compelling Case for Change and investment in improving the multi modal transport network in Queenstown. Evidence suggests there is a problem, and the scale of the problem is significant. Key stakeholders are aligned and behind the need to address the agreed problems.

17. The Case for Change and scale of the problem is presented [KK28] below:

- Residential and visitor growth remains strong which will increase travel demand on the current network. Peak day population is forecast to grow from approximately 120,000 in 2018 to 200,000 in 2048 (refer to Figure 3). While COVID-19 has undoubtedly had a significant impact on visitor numbers, this is a temporary phenomenon with QLDC projecting that Queenstown will be back to pre-COVID visitor numbers by 2024 [PC29] [KA30] [KK31].
- Parts of the network are already at capacity. SH6A practical capacity was exceeded on 140 days in 2019. Without remedy, the level of service will further decline – peak spreading will occur, travel time reliability will deteriorate and increasingly significant congestion will result [PC32] [KA33].
- Peak hour people trips are forecast to double [PC34] [KA35] on the topographically constrained SH6A, from approximately 1,500 (in 2028) to more than 3,000 (2048) (refer to Figure 4). SH6A is already at capacity at certain times of the day.
- Travel in Queenstown is predominately by private car (i.e. private car trips make up 84% of trips on SH6A). This is not sustainable from the perspectives of resident and visitor growth, efficiency, amenity, safety and resilience [PC36] [KA37] [KK38]. Left unchecked, the road network would be over capacity for much of the day, and it is estimated than Queenstown Town Centre would require an additional 3,000 car parking spaces should the current mode share [KK39] continue into the future.
- Total emissions are forecast to increase from 178,535 total annual emissions (Co2-e) in 2018 to 227,939 in 2028 in a Do-minimum situation. The liveability of Queenstown will be reduced [GP40] [KA41] as will be the quality of the natural environment, which is a key factor in Queenstown's appeal. The provision of more sustainable travel options to the private car, coupled with behavioural change will be critical to enhance [GP42] [KA43] Queenstown's natural environment.
- Evidence shows that Queenstown Town Centre is becoming degraded in a way that threatens the cherished liveability, local resident appeal and rich visitor experience that people expect from Queenstown. Queenstown's rapid and organic growth has created a situation where the needs of the private motor vehicle are taking priority over people and the much-needed balance of transport across public, passenger and active modes cannot occur at anywhere near the required level. At the heart of this situation is the need to ensure that the experience the Town Centre provides is attractive enough to bring locals back to town and keep the visitors coming to the district.
- It is estimated that there will be between a \$670M to \$1.2 billion loss to the Queenstown economy, over a 40 year period, through visitors travelling elsewhere should Queenstown not be invested in beyond the Do-Minimum scenario. [PC44] [KA45] [KK46]



18. Investment in Queenstown's transport network supports safer transport, encourages mode shift by providing alternative choices to the private vehicle, supports future growth, and improves customer levels of service. This business case is strongly aligned with national, regional, and local policies and is consistent with both the current Government Policy Statement on Land Transport (GPS 2018) and the new GPS 2021-24. [PC47][KA48]

Problems, Benefits, Opportunities and Investment Objectives

19. The preceding Queenstown Integrated Transport Programme Business Case identified rapid growth and car dominance as the two fundamental transport problems. The problem statements and benefits for this business case were developed from the investment objectives agreed as part of the Queenstown Integrated Transport Programme Business Case and were confirmed through stakeholder workshops. These investment objectives are consistent for all aspects of the Queenstown transport business cases.
20. The Queenstown Integrated Transport Programme Business Case problem statements were retested during an October 2018 workshop with Waka Kotahi, QLDC, ORC and other key stakeholders. It was agreed that, although they remained applicable, they should be modified for the purposes of the F2Q and QTC business cases. Stakeholders also agreed that Queenstown Town Centre has sufficiently unique problems to warrant separate statements, while Frankton to Queenstown, Frankton and Ladies Mile share consistent themes [PC49][KA50]. The following Problem Statements were agreed for the respective areas:

Frankton to Queenstown, Frankton and Ladies Mile

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

Queenstown Town Centre (QTC)

25. **Efficiency:** Unattractive [GP51][KA52] PT/active travel options, coupled with growth in resident and visitor numbers, will lead to increasing congestion and parking demand. This further discourages people from visiting the Town Centre, has negative environmental effects and reduces Queenstown's liveability and visitor experience.
26. **Amenity:** Severance created by high traffic volumes on SH6A together with the effect of drivers searching for parking is devaluing the pedestrian/cyclist experience, constraining the expansion of the town centre and limiting economic and placemaking opportunities.
27. **Safety:** Roads performing both place and access functions introduce conflicts between vehicles and other modes, which increases the likeliness for injury and reduces the quality of the public realm.
28. Although these problem statements were developed separately for each of the two areas, there was enough commonality to create a common set of investment objectives, as shown in Figure 5 below.

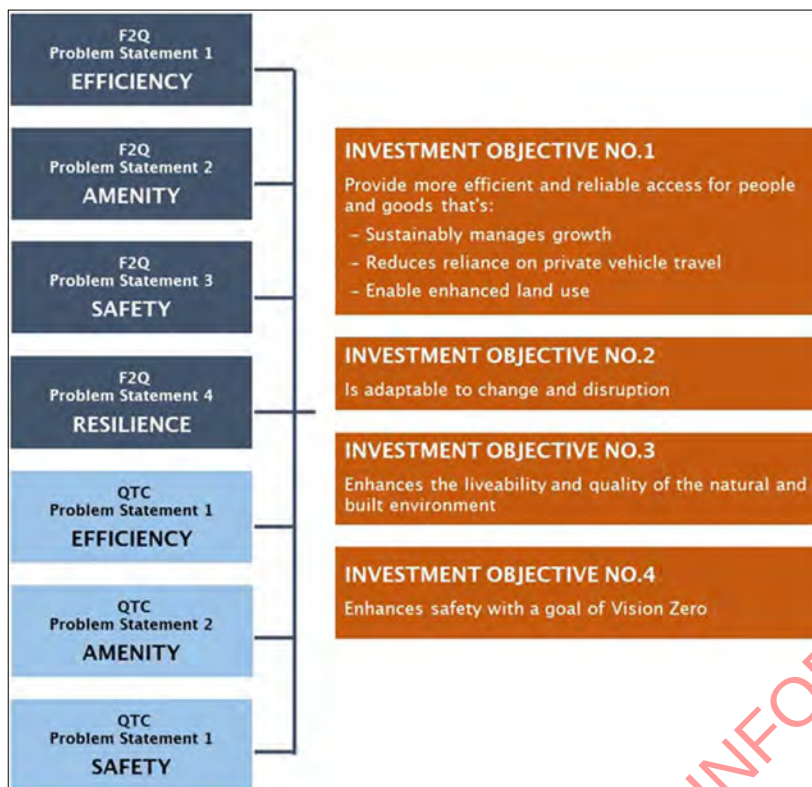


Figure 5: Problem Statements and Investment Objectives

1.6 Option Development and Assessment

29. The development of the recommended programme involved an iterative optioneering process alongside stakeholders representing local iwi, businesses, and community groups, as follows:

- More than 300 options were put forward (240 ideas for Queenstown Town Centre and 140 ideas for Frankton to Queenstown).
- These ideas were tested and distilled into nine packages.
- The scope was extended to bring in Frankton. 13 options that were initially identified for the SH6/SH6A intersection as part of the Grant Road to Kawarau Falls Bridge Indicative Business Case, July 2017 were retested along with the Investment objectives in July 2020 – one further option was added.
- The emerging [KK53] programme was tested through Councillor meetings and also stakeholder and public engagement (August 2020).
- The recommended programme was developed.

The process is shown in Figure 6. [KK54]

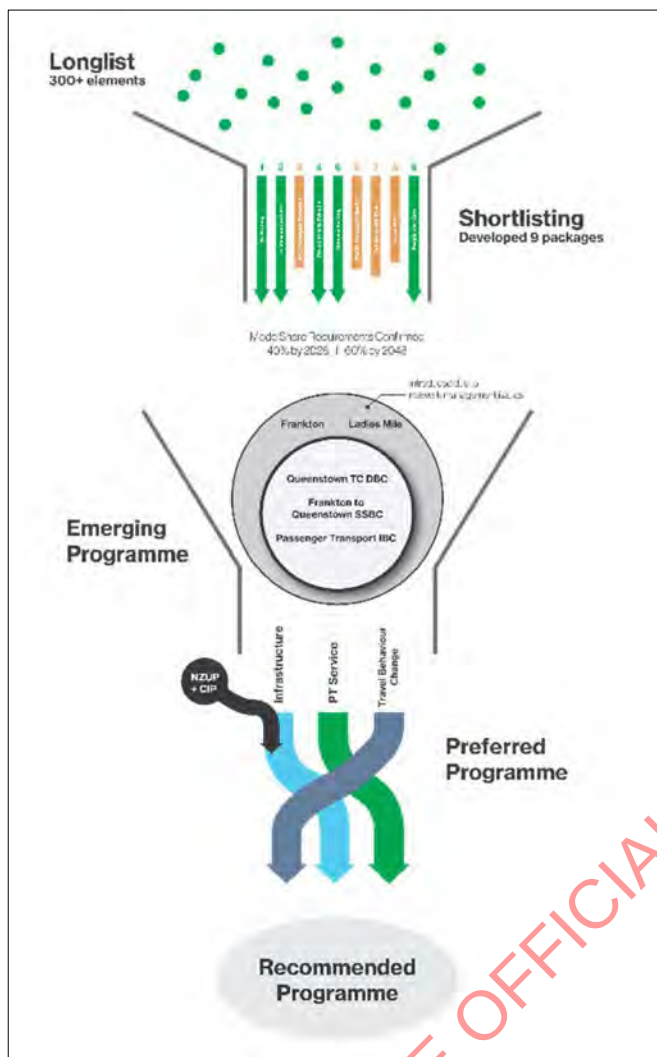


Figure 6: Development of the Preferred Programme

1.7 Emerging Programmes

30. As demonstrated in the case for change above, the current rate of traffic growth is not sustainable. In order to support the ongoing development of the area, a significant shift to non-car modes of transport is required [GP55][KA56]. Modelling demonstrates that 40% of people will need to travel by non-car modes during peak periods on the key route between Frankton and Queenstown by 2028. This number increases to 60% by 2048 if growth continues. [KK57] This ambitious target has been the key determinant in the development of the emerging programmes.
31. The programme emerging from the optioneering processes was publicly consulted on during August 2020. This, coupled with further technical assessment, allowed the preferred programme to be identified.
32. This engagement showed general support for the proposed interventions, noting that some questions were raised about specific interventions that will need to be considered further as the interventions progress to the next stage. This includes more detailed consideration of Town Centre parking requirements as well as park-and-ride, are currently being developed to a greater detail by QLDC.

1.8 Preferred Option Assessment

33. The optioneering and engagement processes have demonstrated that the mechanism to deliver on the investment objectives will need to include a wide range of initiatives focussed on shifting the current

reliance on the private vehicle, providing users with choice. It is therefore important that investment is distributed to infrastructure and non-infrastructure as identified through the 'three pillars of investment' (Figure 7) described below:

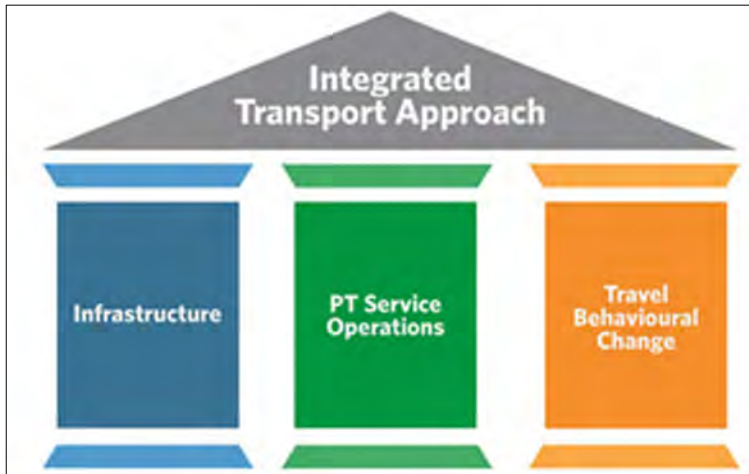


Figure 7: Three pillars of investment

- Targeted infrastructure investment – Urban realm improvements to the town centre facilitated by the Crown Infrastructure Partner investment and the interventions identified in the active travel business case[KK58], improvements to SH6 and SH6A facilitated by NZ Upgrade Programme investment.
 - Public Transport services – A high quality Bus Rapid Transit (BRT) system providing increased public transport services, and improved public transport facilities (fleet and stops), leveraging off the public transport priority provided through the NZUP investment.[KA60]
 - Travel Behaviour Change mechanisms – A suite of interventions that encourage the uptake of more sustainable transport modes through more proactive parking management and other Travel Demand Management tools[PH61][KA62].
34. The analysis demonstrates that the interventions need to be built around a step change in public transport, provided through a high capacity, high priority BRT spine [PH63][KA64]that links the key development areas [KK65]identified through the spatial planning process. Feeder networks of public transport and active modes are also provided. This needs to be supported by the infrastructure and behaviour change aspects for it to be successful.[KK66]
35. The preferred programme also includes a future suite of interventions that could be implemented at a later date when required, or as funding becomes available. The interventions that make up the preferred programme are presented by funding period in Figure 8 and set out in a map in Figure 9.

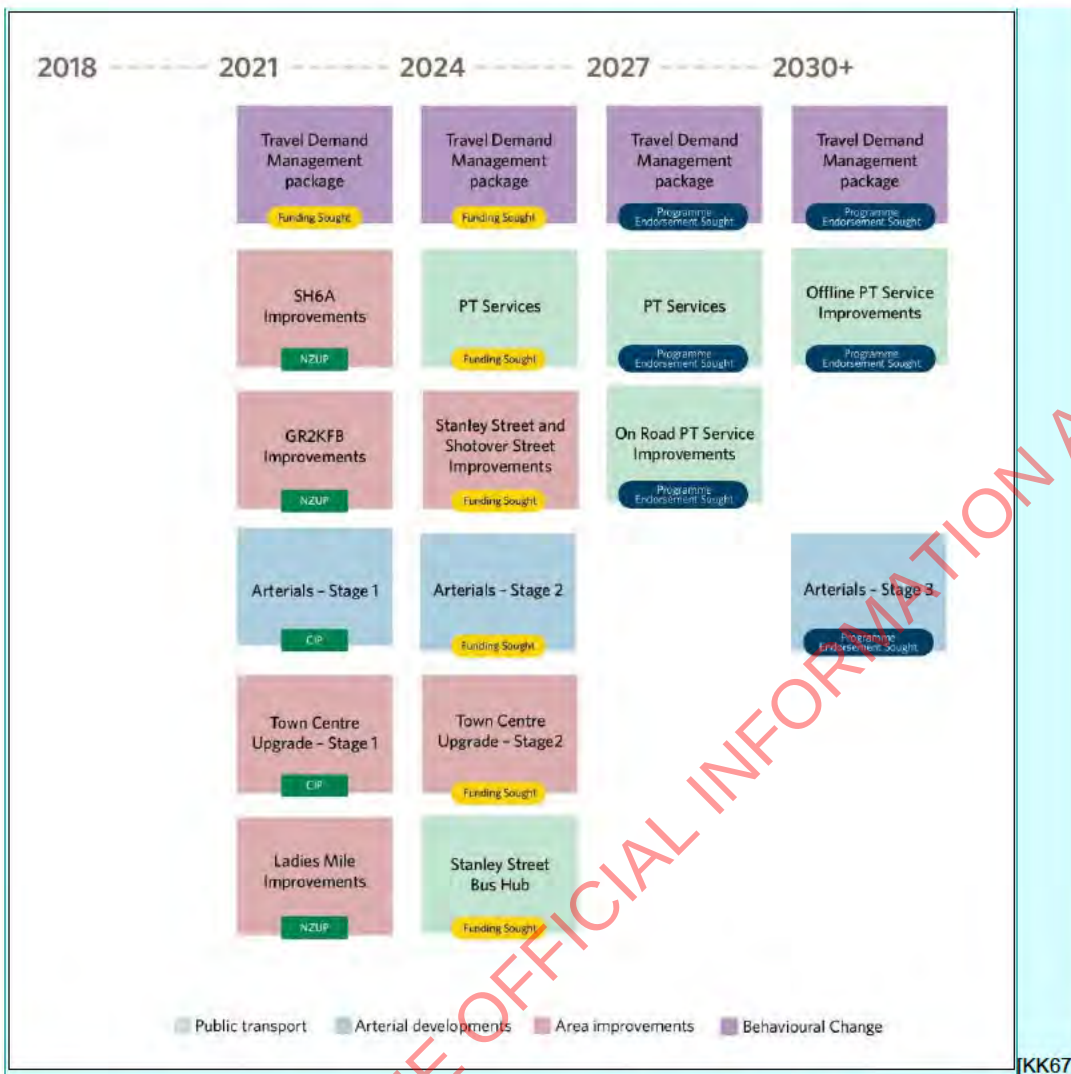


Figure 8: Programme of Interventions by Funding Period



Figure 9: Mapped Programme of Interventions [PH82][KA83][GP84][KA85][PH86][KA87]

1.9 Preferred Programme [PC88][PH89][KA90][PC91][KA92][GP93][KA94]

Infrastructure Committed – Town Centre (CIP/NZUP funded [PH95][KA96])

- 36. The first stage of the arterial corridor to remove general traffic from Stanley Street (between Shotover Street and Ballarat Street). This will improve pedestrian experience and safety, and provide better connections between Project Manawa, the historic core of the town centre and the lake.
- 37. Town Centre streetscape upgrades to improve pedestrian and cyclist facilities and encourage a slower street environment creating a calmer and more enjoyable experience for everyone.

Infrastructure Committed – SH6A Corridor Improvements (NZ Upgrade Programme funded)

- 38. Targeted priority for PT implemented between the SH6/SH6A intersection and SH6A/Marina Drive intersection.
- 39. Key intersections signalised with PT priority.

Infrastructure Committed - SH6 Ladies Mile Corridor Improvements (NZ Upgrade Programme funded)

- 40. Westbound PT lane along SH6 - Ladies Mile. Bus priority onto the Shotover bridge is being considered.
- 41. Howards Drive roundabout access and safety improvements

Infrastructure Committed - SH6 Improvements (NZ Upgrade Programme funded)

- 42. Improvements to the SH6A/SH6 intersection

43. The SH6 link to the east will include bus lanes in both directions and signalling the existing intersections.
44. The SH6 link to the south will include a northbound bus lane and signalling the existing intersections.
45. Upgrade to the existing Frankton hub[GP97][KA98].
46. A series of town centre upgrades to improve pedestrian and cyclist facilities, supporting the significant increase in expected active mode usage while encouraging a slower street environment creating a calmer and more enjoyable experience for everyone. Some of these upgrades are provided as part of the Do Minimum, the remaining elements are included as part of the preferred programme.
47. Urban realm improvements along Stanley Street and Shotover Street. This will pave the way for revocation of these sections of SH6A and also provide improvements to the transport hub on Stanley Street, acting as the principal gateway into the town centre.

Infrastructure recommended (unfunded)

48. An upgraded[GP99][KA100] transport hub at Stanley Street, acting as the principal gateway into the town centre[KK101]..
49. An extension to the arterial route (Stage 2 and 3[KK102]) that reduces general traffic in the town centre – particularly on Stanley Street and Shotover Street. This will further improve pedestrian experience and safety, and provide better connections between Project Manawa, the historic core of the town centre and the lake. The second stage of the arterial route extends from Gorge Road to Hay Street and is covered by this business case. The third stage connects through to One Mile Roundabout in the longer term.
50. A widened shared path along the lakeside of Frankton Road provides improved connectivity for pedestrians and cyclists, and improved travel choice.
51. Improved first and last mile connectivity to the bus stops and hubs across the BRT network improves access to the PT services.

Public Transport Services (unfunded)

52. Enhanced public transport fleet, stop and depot facilities to deliver higher capacity and higher frequency BRT services. The fleet will be upgraded incrementally with a view to delivering highly efficient and environmentally friendly bi-articulated “trackless tram” style vehicles as demand increases.[PH103][KA104]
53. Ferry services that complement the bus services[GP105][KA106].
54. Further upgrades to the bus hubs in Frankton and Queenstown Town Centre in the longer term to provide improved connectivity with regional and tourist coach services. A network of enhanced BRT station stops will be provided with enhanced first mile/last mile connectivity.
55. Further upgrades to bus services to provide connector services to key residential and development areas, as required through the delivery of the spatial plan.
56. Future offline public transport services that provide a further step change in capacity along with additional resilience and experiential benefits.

Travel Behavioural Change (unfunded)

57. Travel Demand Management to encourage people to use more sustainable and higher capacity forms of transport.
58. Improved parking management in both Queenstown Town Centre and Frankton to reduce circulating traffic volumes.
59. Improved use of technology for transport network operations management and customer information[GP107][KA108].

1.10 Performance of preferred programme against objectives [GP109][KA110]

60. The preferred programme performs well against all four investment objectives and provides numerous multi-modal benefits across all transport user modes. [PC111][KA112]

Investment Objective 1 – Provides more efficient and reliable access for people and goods

61. Fundamentally, the preferred programme delivers a step change in capacity across the network. A focus on more efficient modes of transport (PT and active modes) means that more people can move around with less delay. The focus on PT services improves the capacity of the core route between Frankton and Queenstown by over 100%.
62. By 2028, the preferred programme network is able to incorporate around 15% more growth than the existing network and still deliver travel time savings of around 21% for Public Transport for the journey between Lake Hayes Estate and Queenstown. The proposed BRT services will deliver significant travel time reliability benefits for public transport users. The priority measures will allow the public transport services to run reliably to schedule and the service frequency increases will deliver a “turn up and go” service for the Wakatipu Basin. Due to the nature of the improvements, there will also be some reliability improvements for motorists – particularly those travelling between Frankton and Queenstown and accessing Frankton Road from the residential areas to the north. Vehicles servicing the businesses in the town centre will have more reliable travel times improving the efficiency of the supply chain.
63. Although increasing levels of traffic congestion (as demonstrated in the do minimum modelling) would force mode shift, this represents a negative and “blunt stick” approach. Through the implementation of the preferred programme, people will be enticed onto the alternative modes through a step change in provision, capacity and amenity. This will be accompanied by an effective travel demand management package (incorporating QLDC’s new town centre parking management approach). This will allow capacity on the traffic network to be freed up for the people who really need to use it (local businesses, servicing vehicles, those with mobility needs etc).
64. The additional capacity provided across the network, coupled with the town centre urban realm improvements will present opportunities to stimulate development. Analysis of wider economic benefits indicates that the preferred programme could deliver \$143M of benefits that would manifest themselves as land use development or intensification [GP113][KA114].

Investment Objective 2 – Adaptable to change and disruption

65. The onset of the COVID-19 pandemic has demonstrated the importance of adaptability. Although the working assumption is that growth will return to previous levels relatively quickly, there is now a great deal more uncertainty. As such, the preferred programme has been developed to be scalable. The core infrastructure elements delivered through the CIP and NZUP investment enable public transport services to be improved incrementally and in a way that meets demand and growth requirements.
66. The emerging spatial plan for the Queenstown Lakes District is well aligned with the preferred programme. As land use becomes more structured and focussed on key transport nodes, the services can be modified to maximise the potential of these nodes to become transit oriented developments.
67. The preferred programme also provides improved resilience to unplanned events. Dedicated provision for public transport across Frankton, coupled with investment in the active travel network and improved information provision will provide people with more travel choice. Delays caused by accidents will therefore have a lower impact [GP115][KA116].
68. Longer term, the provision of an offline public transport link between Frankton and Queenstown will deliver an alternative corridor that provides full separation from the road network.

Investment Objective 3 – Enhanced liveability and quality of the natural and built environment

69. The streetscape and urban realm improvements in the town centre will deliver significant amenity improvements that will have a positive effect on town centre businesses. Analysis has been undertaken using two (similar) amenity assessment tools and both demonstrate that the quality of the urban realm in

the town centre will improve (see below – green coloured streets indicate areas of higher amenity). The graphics in Figure 10 indicate that the current urban fabric is highly variable and this will be improved.



Figure 10: Amenity Assessment (current and potential future)

70. It is important to note that the enhanced liveability and quality of the natural and built environment will not be limited to the Queenstown Town centre. Corridor improvements along SH6 and SH6A will assist with the delivery of the urban realm improvements envisioned in the Frankton Masterplan. High quality public transport facilities and vehicles will also improve the look and feel of the corridor.

Investment Objective 4 – Safety improvements

71. Intersection improvements coupled with improvements to infrastructure for pedestrians and cyclists will deliver improved safety outcomes. A focus on public transport will also encourage more people to use an inherently safer form of transport.

1.11 Sequencing^[KK117]

72. The following table demonstrates the proposed sequencing for the interventions. This sequencing has been developed in a way that maximises the benefits provided by the committed projects through short term improvements in PT services that pave the way for the implementation of BRT services from 2027. Behaviour change components will be required to match the PT service improvements to maximise mode shift and maximise overall network efficiency. The table demonstrates the degree to which the interventions deliver economic benefit (through the Benefit Cost Ratio calculations) and alignment with national and local^{[GP118][KA119]} strategies.

Table 1: Sequencing of Interventions

Element	Lead Organisation	Dependencies (Description and Completion Date)	Trigger Points	Activity Class	IAF Assessment Profile	Capital Cost [GP120] [KA121]	IAF Funding Priority	DBC Preferred Programme Status	NLTP Period for Implementation [GP122] [KA123]	Project Team Response: Comment....
SH6A Improvements GR2KFB Improvements Ladies Mile Improvements	Waka Kotahi	Requires mode shift otherwise whole network breaks down	None – committed activity	NZUP - committed activity	None – committed activity	\$106M	None – committed activity	Committed Activity – No approvals required	21-24	
Arterials – Stage 1, Town Centre Upgrade – Stage 1	QLDC	Arterials requires design inputs from Project Manawa, e.g. retaining levels, access, pedestrian overbridge	None – committed activity	CIP – committed activity	None – committed activity	\$120M	None – committed activity	Committed Activity – No approvals required	21-24	
Travel Demand Management package	QLDC / ORC / Waka Kotahi	PT Services and Infrastructure, NZUP and Active Travel to help with mode shift	Monitoring of transport activity required	Promotion of road safety and demand management	Results Alignment: H CBA: M BCR = 4.7*	\$1.8M	4	Recommended Option – Funding approval required	Ongoing activity over multiple periods	
PT Services Improvements	ORC	NZUP funded infrastructure, TDM	Small variations within existing contract	Public Transport Continuous Programme	Results Alignment: H CBA: M BCR = 4.7	\$0.75M [PC124] [KA125]	4	Recommended Option – Funding approval required	21-24 for further investigation, staged implementation from 24-27	
On Road PT Service Improvements	ORC	NZUP funded infrastructure, TDM, Stanley Street Hub, Frankton Hub	Various demand triggers will require a step-change in service improvements	Public Transport improvements	Results Alignment: H CBA: M BCR = 4.6	\$80M [PC126] [KA127]	4	Recommended Option – Funding approval required	Staged implementation over multiple periods starting 27-30	
Stanley Street and Shotover Street Improvements	Waka Kotahi	NZUP and CIP funded infrastructure, Project Manawa site clearance work along Stanley Street	Immediate benefits – dependencies provide trigger points	Local road, regional and state highway improvements	Results Alignment: H CBA: L BCR=2.0	\$19M	5	Recommended Option – Funding approval required for Pre-imp and property	24-27	
Town Centre Upgrade – Stage 2	QLDC	Town Centre Upgrade – Stage 1	Immediate benefits	Walking and Cycling improvements	Results Alignment: H CBA: L BCR = 1.5	\$17M	5	Recommended Option – Funding approval required for Pre-imp	24-27	
Arterial Stage 2	QLDC	Replacement of memorial hall, which becomes Performing Arts Centre at Project Manawa	Immediate benefits – dependencies provide trigger points	Local road, regional and state highway improvements	Results Alignment: M CBA: L BCR = 0.9 (1.1 with QLDC property costs discounted)	\$43M (excluding the rebuild of the Memorial Hall)	6	Recommended Option – Funding approval required for Pre-imp and Property phases	Further investigation 24-27, pre-implementation and Implementation 27-30	
Stanley Street Bus Hub	QLDC / ORC / Developer	Stanley Street and Shotover Street Improvements, revocation of State Highway	Likely funding trigger required – to be confirmed through further investigation	Public transport improvements	BCR = -0.1 [PC128] [KA129]	\$45M [KK130]	Not required	Other supporting activities – for endorsement	Further investigation 24-27	
Frankton Transport Hub (on golf course)	QLDC / ORC / Developer	Relocation of golf course, integration of Frankton Masterplan and Events Centre Masterplan	Triggered once upgraded existing hub capacity is reached	Public transport improvements	BCR = -0.1 [KK131]	\$25M	Not required	Other supporting activities – for endorsement	Further investigation 24-27	
Project Team Response: Comment....										

Arterial Stage 3	QLDC	None	Low BCR – no trigger points have been identified	Local road, regional and state highway improvements	BCR = 0.2	\$118M	Not required	Other activities – for later re-evaluation	Further investigation beyond 2030
Offline PT Service Improvements	Waka Kotahi/ORC	Future proofed/protected corridor and terminal locations	Demand trigger – once on road capacity is reached	Public transport improvements	BCR = 1.7	\$262M	Not required	Other activities – for later re-evaluation	Further investigation beyond 2030

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

1.12 Funding

73. In addition to the committed funding already provided by the NZUP and CIP investments, costs for the preferred programme have been split based on the following assumptions:

- Infrastructure - the remaining town centre improvements, including the remaining stages of the arterial corridor will be funded through a combination of the National Land Transport Fund (NLTF) and local share (Council[GP132][KA133]).
- Infrastructure – the improvements to Shotover and Stanley Street, will be fully funded by Waka Kotahi through the NLTF.
- Infrastructure - The final stages of the town centre public transport hub development will be funded through a combination of the NLTF and Council[GP134][KA135] funding.
- PT Services – BRT fleet, stops, hubs and the depot will be fully funded through the NLTF[GP136][KA137].
- PT Services – The BRT services will be provided as part of the ORC continuous programme. A PT Services DBC will be required to confirm future PT Services funding.
- Travel behaviour change – A suite of behaviour change interventions will be provided, predominately by Council[GP138][KA139]. A Single Stage Business Case will be required to further develop a Travel Demand Management Plan implementation programme.

38. Based on current estimates, the total anticipated cash flows for the investment proposal over its intended life span are summarised in Figure 11 below[GP140]. The costs will be spread over an extended period and are based on the implementation staging identified below. A breakdown of costs by funding sources is in Figure 12.[PC141][KA142]

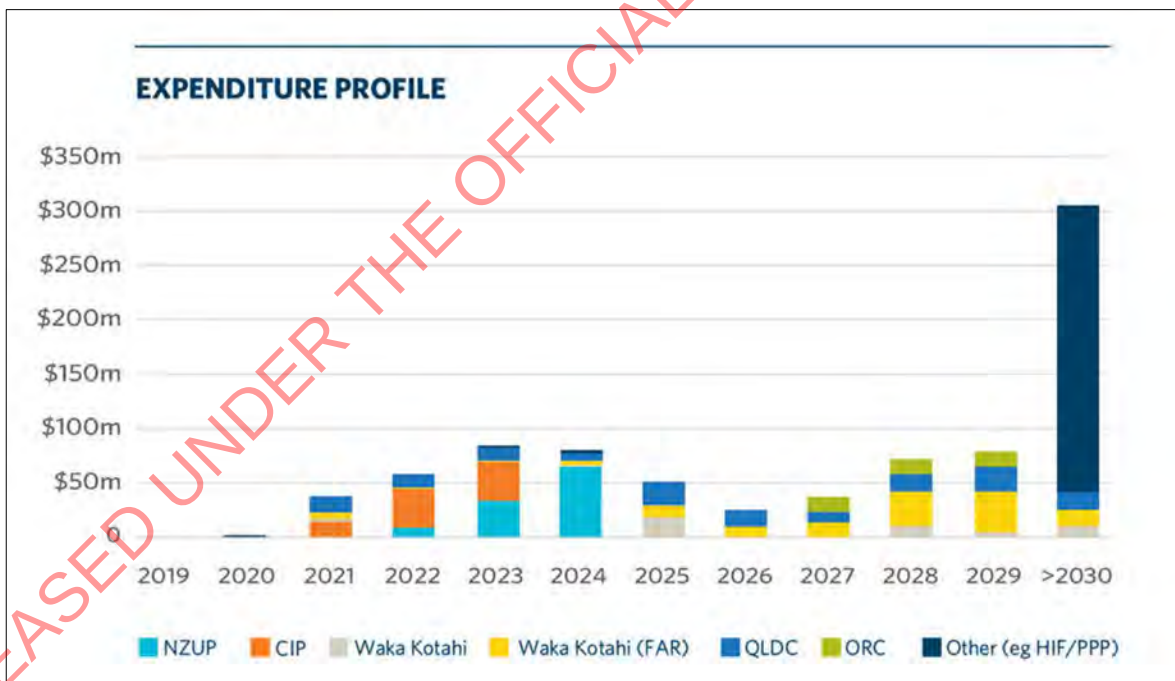


Figure 11: Expenditure Profile[GP143][KA144]

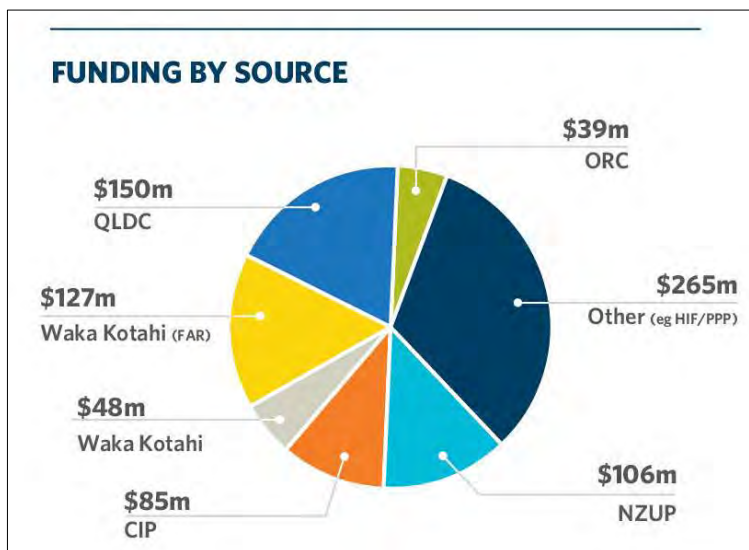


Figure 12: Funding by Source [GP145][KA146]

1.13 Commercial Case

75. The implementation of the programme has two parts – those already committed and funded, and those that are not. Implementation decisions on parts that are funded (outside the direct control of this business case) may impact on how the remainder of the programme is delivered.
76. An Alliance approach has been agreed between Waka Kotahi and QLDC for construction. A tender will be let and a preferred supplier secured Quarter 4 2020.
77. Property purchase will be on the critical path for the delivery of the programme.
78. One of 37 consent locations in the NZ Upgrade Programme has been identified as complex, the remaining consents are split between having some challenges and being straight forward. No complex issues were identified in the strategies for the remaining programmes [KK147].

1.14 Management case

79. The next stages of work from the business case are well understood. Appropriate governance, plans and processes are already in place to help ensure the successful delivery of the programme. The existing governance structure can continue on through to the next stages of the business case.
80. The New Zealand Upgrade Programme and the Crown Infrastructure Partners Stimulus Package are approved packages of work with allocated funding and will form their own governance structures [KK148] under an Alliance.
81. The remainder of the preferred programme will be delivered as individual projects but remain subject to funding approval. The roles and responsibilities for the programme and the packages are clearly defined.
82. Interdependencies and remaining outstanding issues are clearly described, to ensure that they are carefully managed into the next stages. Understanding interdependencies within the programme and also with other projects that are delivered by the partners is a key issue for delivery.
83. The management case identifies the next stage for each of the projects, which organisation is responsible, the timing for delivery and approval/funding status. The case demonstrates that the programme can be reasonably delivered.
84. Quality assurance processes for the key items are clearly defined to ensure that quality continues, supported by change control approaches, and clear identification and treatment strategies for risks.

85. A benefits realisation plan sets a programme to monitor the key performance indicators to demonstrate that the investment objectives have been achieved.

1.15 Summary

86. The proposed interventions identified in these business cases maximise the benefits of the committed investment in the NZ Upgrade Programme projects, as well as the Crown Infrastructure Partners investment in town centre improvements and will deliver transformational change for Queenstown. The significance and effectiveness of these changes, as demonstrated through these business cases has been carefully tested through a robust review process. The analysis, process and design has been reviewed internally within the project team, externally by the Way 2 Go management team and designated external peer reviewers, and by an independent specialist challenge team.
87. These business cases present a compelling case for investment in a suite of multi modal transport interventions built around the three pillars of targeted infrastructure improvements, BRT services and behaviour change. Together, they will allow the Queenstown Lakes District to continue to grow sustainably and continue to be a highly desirable place to live, work and play.
88. In summary, the proposed interventions will deliver the following key benefits:
- Corridor capacity increases in excess of 100% on the most constrained parts of the network will allow the Queenstown area to continue the grow and flourish as a tourist destination of international standing and a high quality place to live. This is estimated to unlock between \$670M and \$1.2 billion of economic growth.
 - The delivery of a BRT based transport system, coupled with travel demand management measures, will improve travel times across the network by over 20[GP149][KA150]%, along with significant reliability improvements.[KK151] The suite of improvements in the town centre will increase the quality of the built environment stimulating development.
 - Safety and access improvements across the network.
87. With the COVID-19 pandemic temporarily suppressing demand across the network, now is the time to act. There is an unprecedented opportunity to reset the approach to transport planning and operations in Queenstown in a way that will facilitate more sustainable levels of growth into the future.